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Thermochemical plots using JCZS2i piece-wise curve fits

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Thermochemical Plots Using JCZS2i Piecewise Curve Fits

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Abstract

This report presents plots of specific heat, enthalpy, entropy, and Gibbs free energy for 1439 species in the JCZS2i database. Included in this set of species are 496 condensed-phase species and 943 gas-phase species. The gas phase species contain 80 anions and 112 cations for a total of 192 ions. The JCZS2i database is used in conjunction with the TIGER thermochemical code to predict thermodynamic states from ambient conditions to high temperatures and pressures. Predictions from the TIGER code using the JCZS2i database can be used in shock physics codes where temperatures may be as high as 20,000 K and ions may be present. Such high temperatures were not considered in the original JCZS database, and extrapolations made for these temperatures were unrealistic. For example, specific heat would sometimes go negative at high temperatures which fails the definition of specific heat. The JCZS2i database is a new version of the JCZS database that is being created to address these inaccuracies. The purpose of the current report is to visualize the high temperature extrapolations to insure that the specific heat, enthalpy, entropy, and Gibbs free energy predictions are reasonable up to 20,000 K.

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FFe, F ₂ Fe, F ₃ Fe.....	399	Mg, Mg ⁺ , Mg ₂	446
FTi, F ₂ Ti, F ₃ Ti, F ₄ Ti	400	MgH, MgO, MgOH,	
FZr, F ₂ Zr, F ₃ Zr, F ₄ Zr.....	401	MgOH ⁺ , Mg(OH) ₂	447
FCo, F ₂ Co, FHg, F ₂ Hg.....	402	MgF, MgF ⁺ , MgF ₂ , MgF ₂ ⁺ ,	
FO, F ₂ O, FO ₂ —FOO,		Mg ₂ F ₄	448
FO ₂ —OFO	403	MgBr, MgBr ₂ , MgCl, MgCl ⁺ ,	
FW, F ₄ OW, F ₆ W	404	MgCl ₂	449
FPS, F ₃ PS, F ₁₀ S ₂ , FS ₂ F	405	MgI, MgI ₂ , MgN, MgS	450
FOTi, F ₂ OTi, F ₂ OSi.....	406	Mn, Mn ⁺ , MnS	451
FCN, FMo, FI, e ⁻	407	Mo, Mo ⁺ , Mo ⁻	452
Fe, Fe ⁺ , Fe ⁻	408	MoBr, MoBr ₂ , MoBr ₃ , MoBr ₄	453
FeCl, FeCl ₂ , FeCl ₃ , Fe ₂ Cl ₄ ,		MoO, MoO ₂ , MoO ₃ , MoO ₃ ⁻	454
Fe ₂ Cl ₆	409	N, N ⁺ , N ⁻ , N ₂ , N ₂ ⁻ , N ₂ ⁺ , N ₃	455
FeI ₂ , Fe ₂ I ₄	410	ND, ND ₂ , ND ₃ , N ₂ D ₂	456
FeO, FeS, Fe(OH) ₂ , Fe(CO) ₅	411	NF, NF ₂ , NF ₃ , N ₂ F ₂ , N ₂ F ₄	457
H, H ⁺ , H ⁻ , H ₂ , H ₂ ⁺ , H ₂ ⁻	412	NH, NH ⁺ , NH ₂ , NH ₃ , N ₂ H ₂ ,	
H ₂ O, H ₂ O ⁺ , H ₂ O ₂ , HO ₂ , HO ₂ ⁻	413	N ₂ H ₄	458
H ₂ MoO ₄ , H ₂ O ₄ W, H ₂ S, H ₂ SO ₄	414	N ₂ O, N ₂ O ⁺ , N ₂ O ₃ , N ₂ O ₄ , N ₂ O ₅	459
H ₃ BO ₃ , H ₃ B ₃ O ₃ , H ₃ B ₃ O ₆	415	Na, Na ⁺ , Na ⁻ , Na ₂	460
HBO, HBO ⁺ , HBO ₂	416	NaCl, Na ₂ Cl ₂ , Na ₂ O ₂ H ₂	461
Hf, He, He ⁺ , Hg, Hg ⁺	417	NaBr, Na ₂ Br ₂ , Na ₂ SO ₄	462
HF, HCl, HBr, HI	418	NaF, Na ₂ F ₂ , NaAlF ₄	463
HBS, HBS ⁺ , HCN	419	NaBO ₂ , NaCN	464

NaO, NaH, NaOH, NaOH ⁺	465
Nb, Nb ⁺ , Nb ⁻	466
NbO, NbO ₂ , NCO.....	467
Ne, Ne ⁺	468
Ni, Ni ⁺ , Ni ⁻	469
NiCl, NiCl ₂ , NiS.....	470
NO, NO ⁺ , NO ₂ , NO ₂ ⁻ , NO ₃ , NO ₃ ⁻	471
NOCl, NO ₂ Cl, NbCl ₅	472
NOF, NO ₂ F, NO ₃ F, NOF ₃	473
NCN, NOI, NS.....	474
O, O ⁺ , O ⁻	475
O ₂ , O ₂ ⁺ , O ₂ ⁻ , O ₃	476
OD, OD ⁻	477
OH, OH ⁻ , OH ⁺ , OHSi	478
P, P ⁻ , P ⁺ , P ₂ , P ₄	479
O ₈ W ₃ , P ₄ S ₃ , P ₄ O ₆ , P ₄ O ₁₀	480
Pb, Pb ⁺ , Pb ⁻ , Pb ₂	481
PbBr, PbBr ₂ , PbBr ₄	482
PbCl, PbCl ₂ , PbCl ₄	483
PbF, PbF ₂ , PbF ₄	484
PbI, PbI ₂ , PbI ₄	485
PbO, PbS	486
PCl, PCl ₃ , PCl ₅	487
PF, PF ⁺ , PF ⁻	488
PF ₂ , PF ₂ ⁻ , PF ₃ , PF ₅	489
PH, PH ₂ , PH ₂ ⁻ , PH ₃	490
PO, PO ⁻ , PO ₂ , PO ₂ ⁻	491
POF ₂ Cl, POFCl ₂ , POCl ₃ , PFCl ₄	492
PN, POF ₃ , PS, RbK.....	493
S, S ⁺ , S ⁻ , S ₂ , S ₂ ⁻	494
SCl, SCl ₂ , SCl ₂ ⁺ , S ₂ Cl ₂	495
S ₈ , S ₂ O, SD.....	496
SF, SF ⁺ , SF ⁻	497
SF ₂ , SF ₂ ⁺ , SF ₂ ⁻ , S ₂ F ₂	498
SF ₃ , SF ₃ ⁺ , SF ₃ ⁻	499
SF ₄ , SF ₄ ⁻ , SF ₄ ⁺	500
SF ₅ , SF ₅ ⁺ , SF ₅ ⁻ , SF ₆ , SF ₆ ⁻	501
SH, SH ⁻ , Si, Si ⁻ , Si ⁺	502
Si ₂ , Si ₂ C, Si ₂ N, Si ₃	503
SiBr, SiBr ₂ , SiBr ₃ , SiBr ₄	504
SiCl, SiCl ₂ , SiCl ₃	505
SiF, SiF ₂ , SiF ₃ , SiF ₄	506
SiC, SiC ₂ , SiH, SiH ⁺	507
SiH ₂ Br ₂ , SiHBr ₃ , SiH ₃ Br	508
SiH ₂ Cl ₂ , SiHCl ₃ , SiH ₃ Cl.....	509
SiH ₂ F ₂ , SiHF ₃ , SiH ₃ F	510
SiH ₂ I ₂ , SiHI ₃ , SiH ₃ I, SiH ₄	511
SiI, SiI ₂ , SiN, SiS.....	512
SiO, SiO ₂ , SiOH	513
Sn, Sn ⁺ , Sn ⁻	514
SnF, SnF ₂ , Sn.....	515
SO, SO ⁻ , SO ₂ , SO ₂ ⁻	516
SO ₂ Cl ₂ , SO ₂ F ₂ , SO ₂ FCl, SO ₃ , SOF ₂	517
Sr, Sr ⁺	518
Sr(OH) ₂ , SrBr, SrBr ₂	519
SrCl, SrCl ⁺ , SrCl ₂	520
SrF, SrF ⁺ , SrF ₂	521
SrI, SrI ₂ , SrS.....	522
SrO, SrO ⁺ , SrOH, SrOH ⁺	523
Ta, Ta ⁺ , Ta ⁻	524
TaO, TaO ₂ , TaCl ₅	525
Ti, Ti ⁺ , Ti ⁻	526
TiCl, TiCl ₂ , TiCl ₃ , TiCl ₄	527
TiO, TiO ⁺ , TiO ₂ , TiOCl, TiOCl ₂	528
UF, UF ₂ , UF ₃ , UF ₄ , UF ₅ , UF ₆	529
UF ⁺ , UF ₂ ⁺ , UF ₃ ⁺ , UF ₄ ⁺ , UF ₅ ⁺	530
UF ⁻ , UF ₂ ⁻ , UF ₃ ⁻ , UF ₄ ⁻ , UF ₅ ⁻ , UF ₆ ⁻	531
U, V, V ⁺ , V ⁻	532
VN, VO, VO ₂	533
W, W ⁺ , W ⁻	534
WO, WO ₂ , WO ₂ Cl ₂ , WOCl ₄ , WCl ₆	535
WO ₃ , WO ₃ ⁻ , (WO ₃) ₂ , (WO ₃) ₃ , (WO ₃) ₄	536
Xe, Xe ⁺	537
Zn, Zn ⁺	538
Zr, Zr ⁺ , Zr ⁻	539
ZrN, ZrO, ZrO ⁺ , ZrO ₂	540
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1. Executive Summary

We have been working on improving a database of constant pressure specific heat for use with the thermochemical equilibrium code TIGER¹. This program has primarily been used to calculate detonation and expansion states in condensed explosives. For these calculations, temperatures rarely exceed 4,000 K. Recently, TIGER has been implemented into a shock physics code, where temperatures can exceed 10,000 K.

In previous versions of TIGER, specific heat fits were compiled into a database known as the JCZS² database, with specific heat fits good to 6000 K. The form of the specific heat fits were polynomial. Extrapolation of specific heat above 6,000 K with these polynomials were erratic and sometimes go negative. For example, the extrapolated specific heat of CO₂ at 20,000 K was predicted to be significantly different from newer NASA extrapolations³ as shown in Figure 1.

Figure 1. Dimensionless specific heat for CO₂ gas.

¹ Cowperthwaite M. and Zwisler W. H., *TIGER Computer Program Documentation*, SRI Publication No. Z106, Stanford Research Institute, Menlo Park CA (1973).

² Hobbs M. L., Baer M. R., and McGee B. C., "JCZS: An Intermolecular Potential Database for Performign Accurate Detonation and Expansion Calculations," *Propellants, Explosives, Pyrotechnics*, **24**, 269 (1999).

³ Zehe M. J., Gordon S., McBride B. J., *CAP: A Computer Code for Generating Tabular Thermodynamic Functions from NASA Lewis Coefficients*, NASA report TP-2001-210959/REV1, Glen Research Center, Cleveland, Ohio (February 2002).

The JANAF data⁴ for CO₂ are shown in Figure 1. Clearly, new specific heat fits were needed for the JCZS. The new database will be referred to as the JCZS2i database. The “JCZ” stands for Jacobs, Cowperthwaite, and Zwisler. The “S” stands for “Sandia.” The “2” stands for the second version and the “i” stands for ions. The JCZS2i database has 496 condensed species and 943 gaseous species. The older JCZS database did not consider ions; however, the gaseous species in the new database contain 80 anions and 112 cations.

The remainder of this report gives a derivation of the equations used to plot the dimensionless thermodynamic variables specific heat (C_p/R), enthalpy (h/RT), entropy (S/R), and Gibbs’ free energy (μ/RT), a discussion of plot organization, extrapolation issues, summary and conclusions. The plots are hyperlinked to the list of figures. One can quickly view a plot by double clicking on the page number of the desired plot.

2. Equation Derivation

The JCZS2i database contains coefficients that can be used to determine the dimensionless specific heat at 1 bar at temperatures ranging from about 100 K to 20,000 K. There are currently three temperature dependent functions that can be used to calculate the specific heat. Two of these forms are polynomials and will be referred to as the “NASA” and “TIGER” polynomials. The third form is based on three Einstein harmonic oscillators and will be referred to as “Einstein”. The three specific heat functions are:

NASA⁵:

$$C_p^o/R = a_1 T^{-2} + a_2 T^{-1} + a_3 + a_4 T + a_5 T^2 + a_6 T^3 + a_7 T^4 \quad [1]$$

TIGER⁶:

$$C_p/R = a_1 + a_2 \theta + a_3 \theta^2 + a_4 \theta^3 + a_5 \theta^{-1} + a_6 \theta^{-2} + a_7 \theta^{-3} \quad [2]$$

⁴ Chase M. W. Jr., Davies C. A., Downey J. R. Jr., Frurip D. J., McDonald R. A., and Syverud A. N., “JANAF Thermochemical Tables Third Edition,” *Journal of Physical and Chemical Reference Data*, **14**, (1985).

⁵ McBride B. J. and Gordon S., *Computer Program for Calculation of Complex Chemical equilibrium Compositions and Applications: II. User’s Manual and Program Description*, NASA Reference Publication 1311 (June 1996).

⁶ Cowperthwaite M. and Zwisler W. H., *VOLUME IV User’s Guide for the Tiger Computer Program*, Stanford Research institute, Menlo Park, CA, p. IV-C-28 (1974).

Einstein⁷

$$C_p^o/R = C_v^o/R + \left(\frac{L}{R}\right) \left(\frac{\partial \nu}{\partial T}\right)_p \left(\frac{\partial \rho}{\partial T}\right)_v = \frac{a_1 \left(\frac{a_4}{T}\right)^2 \exp\left(\frac{a_4}{T}\right)}{\left[\exp\left(\frac{a_4}{T}\right) - 1\right]^2} + \frac{a_2 \left(\frac{a_5}{T}\right)^2 \exp\left(\frac{a_5}{T}\right)}{\left[\exp\left(\frac{a_5}{T}\right) - 1\right]^2} + \frac{a_3 \left(\frac{a_6}{T}\right)^2 \exp\left(\frac{a_6}{T}\right)}{\left[\exp\left(\frac{a_6}{T}\right) - 1\right]^2} + a_7. \quad [3]$$

The enthalpy and entropy at 1 bar can be obtained as a function of temperature by solving the following two equations:

$$h = \int C_p dT \text{ and } S = \int \frac{C_p}{T} dT. \quad [4]$$

Equation [4] can be solved by integration of the specific heats as given in Equations [1]-[4]. The integration constants (a_8 and a_9) can be obtained by assuming that the enthalpy and entropy at the reference temperature (298.15 K) is equal to the heat of formation (ΔH_{f298}^o) and entropy of formation at 298.15 K (S_{298}^o), respectively. After substituting equations [1]-[3] into the equations in [4] the enthalpy and entropy for the three specific heat functions are:

NASA:

$$H^o/RT = -a_1 T^{-2} + a_2 \frac{\ln T}{T} + a_3 + a_4 \frac{T}{2} + a_5 \frac{T^2}{3} + a_6 \frac{T^3}{4} + a_7 \frac{T^4}{5} + a_8/T \quad [5]$$

$$S^o/R = -a_1 \frac{T^{-2}}{2} - a_2 T^{-1} + a_3 \ln T + a_4 T + a_5 \frac{T^2}{2} + a_6 \frac{T^3}{3} + a_7 \frac{T^4}{4} + a_9 \quad [6]$$

TIGER:

$$H^o/RT = a_1 + \frac{a_2}{2} \theta + \frac{a_3}{3} \theta^2 + \frac{a_4}{4} \theta^3 + a_5 \theta^{-1} \ln(\theta) - a_6 \theta^{-2} - \frac{a_7}{2} \theta^{-3} + a_8/RT \quad [7]$$

$$S^o/R = a_1 \ln(\theta) + a_2 \theta + \frac{a_3}{2} \theta^2 + \frac{a_4}{3} \theta^3 - a_5 \theta^{-1} - \frac{a_6}{2} \theta^{-2} - \frac{a_7}{3} \theta^{-3} + \frac{a_9}{R} \quad [8]$$

$$a_8 = \Delta H_{f298}^o - 298.15R \left[a_1 + \frac{a_2}{2} X + \frac{a_3}{3} X^2 + \frac{a_4}{4} X^3 + a_5 X^{-1} \log X - a_6 X^{-2} - \frac{1}{2} a_7 X^{-3} \right] \quad [9]$$

$$a_9 = S_{298}^o - R \left[a_1 \log X + a_2 X + \frac{a_3}{2} X^2 + \frac{a_4}{3} X^3 - a_5 X^{-1} - \frac{a_6}{2} X^{-2} - \frac{a_7}{3} X^{-3} \right] \quad [10]$$

with $\theta = T(K)/1000$ and $X = 0.29815$

Einstein:

$$H^o/RT = \frac{\frac{a_1}{T} a_4}{\exp\left(\frac{a_4}{T}\right) - 1} + \frac{\frac{a_2}{T} a_5}{\exp\left(\frac{a_5}{T}\right) - 1} + \frac{\frac{a_3}{T} a_6}{\exp\left(\frac{a_6}{T}\right) - 1} + a_7 + \frac{a_8}{T} \quad [11]$$

$$S^o/R = a_1 \left[\frac{a_4 \left(\frac{1}{\exp\left(\frac{a_4}{T}\right) - 1} + 1 \right)}{T} - \ln\left(\exp\left(\frac{a_4}{T}\right) - 1\right) \right] + a_2 \left[\frac{a_5 \left(\frac{1}{\exp\left(\frac{a_5}{T}\right) - 1} + 1 \right)}{T} - \ln\left(\exp\left(\frac{a_5}{T}\right) - 1\right) \right] + a_3 \left[\frac{a_6 \left(\frac{1}{\exp\left(\frac{a_6}{T}\right) - 1} + 1 \right)}{T} - \ln\left(\exp\left(\frac{a_6}{T}\right) - 1\right) \right] + a_7 \ln T + a_9$$

⁷ Fried L. E., Howard W. M., and Souers P. C., *CHEETAH 2.0 User's Manual*, Lawrence Livermore National Laboratory Report UCRL—MA-117541 Rev. 5 (1998).

[12]

Only the integrations constants for the “TIGER” form are given in Equations [9] and [10]. The integrations constants for the “NASA” and “Einstein” forms can be obtained in a similar manner. The dimensionless Gibb’s free energy is found from the dimensionless entropy and enthalpy:

$$\mu/RT = h/RT - S/R. \quad [13]$$

3. Organization of Plots

Each plot is organized into identical patterns to maintain consistency throughout the report. Specific heat is shown in the top left corner, enthalpy in the top right corner, entropy in the bottom left corner, and Gibb’s free energy in the bottom right corner. The x-axis of the condensed phase plots is primarily plotted using a log scale from 90-20,000 K. The x-axis of the gas phase ranges between 75-20,000 Kelvin. It is important to note that the lowest valid value for the fits are approximately 100 K. The y-axis varies based on the data to utilize the graph as much as possible.

The graphs are plotted in two main sections: *Condensed Phases* and *Gas Phase*. The *Condensed Phase section* includes all the condensed species (liquids and solids) listed in the JCZS2i database. If the condensed species also has a gas phase in the JCZS2i database, the gas phase was included in this section. The plots in the *Condensed Phases* section are not as thick as in the *Gas Phase* section. The differences in the line thickness will help the reader know quickly whether the plot is for a condensed species or for a gas species. The final section, *Gas Phases*, includes all the gas-phase species listed in the JCZS2i database. This does include the species shown in their gas form during the *Condensed Phases* section and so some of the gas phased species are included twice in this report.

Originally the species were listed in Alphabetical order; however, in order to present the data in a more organized fashion, we tried to group similar species in each section. For example, one section of graphs includes AlFCl , AlFCl_2 , and AlF_2Cl (gas section) because of similar and consistent elements included throughout the species. Also, BI , BI_2 , and BI_3 (gas section) were considered similar and placed on the same graph because only Boron and Iodine are present in the species. If we had data or fits for species with multiple phases, they were similarly grouped together. For instances, AlBr_3 (condensed section) has its own unique section because all three phases (solid, liquid, and gas) were present. Finally, gas species that had data for their ions, like Al and AlO , were clustered together.

Unfortunately, there were still some species that didn't appear to fall into any of these categories. Consequently, we group these species without any logical connection aside from them being generally in alphabetical order. For instances, Al_4C_3 (S), $\text{Al}_6\text{BeO}_{10}$ (S)(L), and $\text{Al}_6\text{O}_{13}\text{Si}_2$ (S) were grouped together because they didn't fit into any common category.

4. Extrapolation Issues

The main purpose of this report is to ensure the accuracy of the JCZS2I fits compared to the JANNAF data as well as evaluate the extrapolation out to high temperatures (20,000 K). The gas phase species extrapolate nicely out to high temperature, but the extrapolations for the condensed phase species needed additional work. NASA recently calculated the specific heats for the monatomic and some of the polyatomic species out to 20,000 K. For other gas species, the specific heats were extrapolated to high temperatures linearly using the specific heat at the highest known temperature and the following values of C_p/R at 1×10^6 K depending on the number of atoms in the molecule. For example, the dimensionless specific heat for monatomic gases, diatomic gases, and polyatomic gases were assumed to be 2.5, 4.5, and $3 \times N - 1.75$, where N represents the number of atoms in the molecule.

We could not find any similar method to extrapolate the condensed species. We decided to extrapolate the condensed species specific heat by holding the specific heat constant at the highest temperature interval. This seemed to be a logical extrapolation method for liquid species, however, the solid species specific heat may continue to increase. Without data, we felt that a constant specific heat would be the safest extrapolation method, especially when we extrapolate out to temperatures as high as 20,000 K.

The specific heat fits are only accurate to temperatures above 100 K. This lower limit is probably acceptable since we normally are concerned with much higher temperatures. Nevertheless, a suggestion of improvement would be to hold the fit a constant slope until it reaches the origin of the graph. This suggestion is based off the theoretical idea that specific heat is 0 at 0 Kelvin.⁸

There also seems to be problems with the solids and liquid fits becoming constant part way through the data, and in some cases the fits simply not matching the data very well. More work should be devoted to the condensed specific heat to ensure they match known data. This additional work should be done simultaneously with addition work on the condensed phase equation of state, which is beyond the scope of the current work.

⁸ At absolute zero, energy is assumed to be zero ($U = 0$). Since $C_v = (dU/dT)$ at constant volume then C_v should be zero at 0 K.

While putting these graphs together we observed that some of the data for enthalpy and gibbs free energy increases slightly as with temperature for solid, liquid, and gas phases (see Al (S) (L) (G), Ni₃S₂ (S) (L) and Ni₃S₄ (S)). Different phase changes could be a possibility of the cause of this since all materials undergo a various phase changes with increased temperature. Again, more work is necessary to capture these phase changes, but should probably be done simultaneously with the condensed phase equation of state.

One major issue that needs to be addressed in future studies occurs frequently amongst solid and liquids of the same species. As mentioned earlier, to correct the NASA fits for extreme temperatures, we simply held the fit constant at the maximum valid data point for all condensed species. We noticed two potential problems with how accurately the fits match the data: 1) the solid fit becomes constant prior to the maximum data point and 2) the liquid fit is held constant across the entire graph. Interestingly, in such cases, the liquid data follows the solid fit until it reaches the liquid fit and then holds constant along the liquid fit (see AlCl₃ (L) (S) and B₂O₃ (L) (S) as examples).

One possible explanation for the constant specific heat being held constant at the wrong temperature is a coding error. Another possible explanation is the JANNAF data is different than the NASA fits, causing slight variations in the data. Because of this, both the code to create the constants and the references for all data and fit files have been included in the appendix.

Finally, there are overall some fits that do not match the data very well such as B₂ (G) and B₂O (G). This is expected when data files and fit files come from different sources. Further study needs to be done to correct these errors. The reference tables in the appendix for all the species fits will hopefully help in this pursuit.

5. Summary and Conclusions

This report presents plots of dimensionless specific heat, enthalpy, entropy, and Gibb's free energy using curve fits for the new JCZS2i database. Data for these thermochemical properties from the JANAF tables have also been plotted on these plots. We have found that the fits are acceptable and that the extrapolations out to 20,000 K are also reasonable. The condensed phase specific heats fits are fairly good, but there are issues related to the extrapolations. We suggest that the thermochemical properties for the condensed-phase species be reinvestigated along with the condensed-phase equation of state. If available phase diagrams should be predicted in conjunction with the selection of the condensed equation of state. The melting point and boiling points should also be reproduced using the TIGER code.

6. Condensed Species Plots

Ag

Al

$\text{Al}(\text{OH})_3$, Al_2MgO_4 , Al_2O_3

Al_2S_3 , Al_2SiO_5

Al_4C_3 , $\text{Al}_6\text{BeO}_{10}$, $\text{Al}_6\text{O}_{13}\text{Si}_2$

AlBr₃

AlCl_3

AlCl_4K , AlCl_6K_3

AlF₃

AlH_3 , AlH_4Li , AlI_3

AlN, B

$B_2Be_3O_6$, $B_3H_4O_4$, B_2Mg

B_2O_4Pb , B_2S_3 , B_2Zr

$B_3O_3H_3$, B_4C , $B_4K_2O_7$

$B_4Li_2O_7$, B_4Mg , $B_4Na_2O_7$

B_4O_7Pb , $B_6K_2O_{10}$, $B_6Li_2O_{10}$

$B_6Na_2O_{10}$, $B_6O_{10}Pb$, $B_8K_2O_{13}$, $B_8Li_2O_{13}$

$B_{10}H_{14}$, $B_{10}O_{17}Pb_2$

Ba

Ba(OH)_2

BaBr₂

BaCl_2

$\text{BaCO}_3, \text{BaF}_2$

BaH_2 , BaI_2

BaO

BaS

BaSO_4 , Be, $\text{Be}(\text{OH})_2$

Be_2C , $\text{Be}_2\text{O}_4\text{Si}$, Be_3N_2

BeAl_2O_4 , BeBr_2

BeCl₂

BeCO_3 , BeF_2

BeF₃Li

$\text{BeF}_4\text{Li}_2, \text{BeI}_2$

BeO

BeO₄W, BeS

BeSO₄, BF₄K

BH_4K , BH_4Li , BH_4Na

Bi, Bi₂O₃, BiF₃, BiO

BN, Br₂

Br₂Fe

Br_2Ti , Br_3Ti

Br_2Zr , Br_3Zr

Br_4Ti , Br_4Zr

Br₅Nb

Br₅W

Br_6W , C

C_2Cr_3 , C_2Li_3 , C_2Mg

C_3Cr_7 , C_3Mg_2 , C_4NiO_4

C_6Cr_{23} , Ca

Ca(OH)_2 , CaBr_2

CaCl₂

CaCO_3 , CaF_2

CaH_2 , CaI_2

CaMgC_2O_6 , CaO

CaS, CaSO₄

CCuN, Cd

Cl_2Co

Cl_2Hg_2 , Cl_2W

Cl_2Zr

Cl_3Zr , Cl_4Mo

Cl_4W , Cl_4Zr

Cl₅Mo

Cl_5W

Cl_6Mo , ClKO_4

ClLiO_4 , ClNaO_4

CNb, Co

Co_3O_4 , CoF_2

CoF_3 , CoO , CoO_4S

Cr

Cr₂N, Cr₂O₃

CrN, Cs

Cs_2CO_3 , Cs_2O

Cs_2O_2 , Cs_2SO_4

CsBO₂, CsBr

CsCl

CsF

CsH, CsI

CsNO_2 , CsNO_3

CsO_2 , CsOH

Cu

$\text{Cu}(\text{OH})_2$, $\text{Cu}_2\text{O}_5\text{S}$, Cu_2S

CuBr, CuBr₂, CuCl

CuCl_2 , CuF

CuF_2

CuI, CuO, CuS

CuSO_4 , F_2Hg

F_2Hg_2 , F_6Mo

$F_6W, Fe_{.947}O$

Fe

Fe(OH)_2 , Fe(OH)_3 , Fe(CO)_5

$\text{Fe}_2(\text{SO}_4)_3$, Fe_2O_3 , Fe_3O_4

FeCl_2

FeCl_3

FeF_2 , FeF_3

Fe_2

FeOCl, FeS

FeS_2 , FeSO_4 , Ga, Ga_2O_3

GaBr_3 , GaCl_3 , GaF_3

GaI_3 , Ge, GeO_2

GeS, GeS₂

H₂O

$\text{H}_2\text{O}_4\text{W}$, H_2SO_4

H_2Ti , H_3BO_3

H_3PO_4 , H_4IN , H_4SO_5

H_6SO_6 , H_8SO_7 , H_{10}SO_8 , $\text{H}_{15}\text{SO}_{11}$

Hf

HBO₂, Hg

Hg_2Br_2 , Hg_2I_2

HgBr_2

HgCl₂

HgI₂

HgO, I₂

I_2Mo, I_2Ti

I_2Zr

I_3Mo , I_3Ti , I_3Zr

I_4Mo , I_4Si

I_4Ti , I_4Zr

ICI

In, In₂O₃, INa

InBr, InBr₃, InCl

$\text{InCl}_3, \text{InF}_3$

InI, InI₂, InI₃

K, K(HF₂)

K_2CO_3 , K_2O , K_2O_2

K_2S , $K_2Si_2O_5$

$\text{K}_2\text{SiO}_3, \text{K}_2\text{SO}_4$

$K_3Al_2Cl_9$, K_3AlF_6 , $KAlO_2$

KBO₂

KBr

KCl

KCN

KF

KH, KI

KNO_2 , KNO_3 , KO_2

KOH

Li

Li_2CO_3 , Li_2O

Li_2O_2 , $\text{Li}_2\text{O}_3\text{Ti}$

$\text{Li}_2\text{O}_5\text{Si}_2$, Li_2SO_4

Li_3AlF_6 , Li_3N

LiAlO_2 , LiBO_2

LiBr

LiCl

LiF

LiH

Lil

$\text{LiNO}_2, \text{LiNO}_3$

LiOH

Mg

Mg(OH)_2

Mg_2Si , Mg_2SiO_4

Mg_2TiO_4 , Mg_3N_2

$\text{Mg}_3\text{O}_8\text{P}$, MgAl_2O_4

MgBr₂

MgCl₂

MgCO_3 , MgF_2

MgH_2 , MgI_2

MgO

MgO₄W, MgS

MgSiO_3 , MgSO_4

MgTi_2O_5 , MgTiO_3

Mn, Mn₂O₃

Mn_3C , Mn_3O_4 , Mn_7C_3 , MnC_2

MnCO₃, MnF₂, MnF₃, MnO

MnO_2 , MnS , MnS_2

Mo

Mo_2S_3 , MoS_2

MoBr₂, MoBr₃, MoBr₄

MoO_2 , MoO_3

N_5P_3 , Na

$\text{Na}_2\text{CO}_3, \text{Na}_2\text{O}$

$\text{Na}_2\text{O}_3\text{Si}$, $\text{Na}_2\text{O}_5\text{Si}_2$

Na_2O_2 , Na_2S

Na_2SO_3 , Na_2SO_4

Na_3AlCl_6 , Na_3AlF_6

$\text{Na}_5\text{Al}_3\text{F}_{14}$, NaAlCl_4 , NaAlO_2

NaBO₂

NaBr

NaCl

NaCN

NaF

NaH

NaI, NaO₂

$\text{NaNO}_2, \text{NaNO}_3$

NaOH

Nb

Nb_2O_5 , NbOCl_3

NbO

NbO_2

NH_4Cl , NH_4F

Ni

Ni_3S_2 , Ni_3S_4

NiS

NiS_2 , NV_2

O_3PbSi , $\text{O}_4\text{Pb}_2\text{Si}$

P

Pb

Pb_2O_3 , Pb_3O_4

PbBr₂

PbCl_2

PbF₂

PbI_2

PbO

PbO₂, Rb

PbS

Rb_2CO_3 , Rb_2O , Rb_2O_2

Rb_2SO_4 , RbBO_2

RbBr, RbCl, RbF

RbH, RbI

RbNO_2 , RbNO_3

RbO₂, RbOH

S

$\text{S}_2\text{Cl}_2, \text{Sc}$

Sc_2O_3 , ScI_2

Si

$\text{Si}_2\text{N}_2\text{O}$, Si_3N_4 , SiC

SiLi_2O_3

SiO₂

SiS

SiS₂, Sn

SnBr₂, SnBr₄

SnCl_2 , SnCl_4

SnF_2

$\text{SnI}_2, \text{SnI}_4$

SnO

SnO_2 , SnS , SnS_2

Sr

$\text{Sr}(\text{OH})_2$

SrBr_2

SrCl_2

SrCO_3 , SrH_2

SrF_2 (s)

SrI_2

SrO

SrS, SrSO₄

Ta

Ta_2O_5 , TaC

Ti

Th, Ti₂O₃

Ti_3O_5 , Ti_4O_7

TiB, TiB₂

TiC, TiCl₂

TiCl₃, TiCl₄

TiF₃, TiF₄

TiN

TiO

TiO₂

U

U_3O_8 , U_4O_9 , UO_2F_2

UF_3

UF_4

UF_5

UF_6

UO_2, UO_3

V

V_2O_3, V_2O_4

VCl_2 , VCl_3 , VN

VO

W

WC, WNa₂O₄, WO₂Cl₂

WCl₆

WO_2 , WO_3

WOCl_4

WOF₄

Zn

ZnO, ZnSO₄

Zr

ZrC, ZrSiO₄

ZrF_2

ZrF₃, ZrF₄

ZrN

ZrO₂

7. Gas Species Plots

Ag, Ag⁺, Ag⁻

AIC, AIS, AII, AlI₃, AlN

Al, Al⁺, Al⁻

Al_2Br_6 , Al_2F_6 , Al_2I_6

Al_2O , Al_2O^+ , Al_2O_2 , Al_2O_2^+

AlBO_2 , AlBr , AlBr_3

AlCl , AlCl^+ , AlCl_2 , AlCl_3

AlFCl , AlFCl_2 , AlF_2Cl

AlF , AlF^+ , AlF_2 , AlF_2^- , AlF_3

$\text{AlO}, \text{AlO}^+, \text{AlO}^-, \text{AlO}_2, \text{AlO}_2^-$

AlOCl , AlOF , AlOF_2 , AlOF_2^-

AlH, AlOH, B₅H₉, B₁₀H₁₄

Ar, Ar⁺

B, B⁺, B⁻, B₂

B₂BeO₄, B₂F₄O, B₂H₆

B(OH)_2 , $\text{B}_2(\text{OH})_4$, B_2Cl_4 , B_2F_4

B_2O , B_2O_2 , B_2O_3

$\text{B}_3\text{O}_3\text{Cl}_3$, $\text{B}_3\text{O}_3\text{F}_3$, $\text{B}_3\text{F}_2\text{HO}_3$, $\text{B}_3\text{FH}_2\text{O}_3$

Ba, Ba⁺

BaS, BeS, BS

BaBr, BaBr₂, BaCl⁺, BaCl, BaCl₂

BaF, BaF⁺, BaF₂, BaI, BaI₂

BaO, BaO⁺, BaOH, BaOH⁺, Ba(OH)₂

BBeO₂, BeClF, BeF₃Li

BBrF, BBrF₂, BBrCl, BBrCl₂, BBrO

BBr, BBr₂, BBr₂Cl, BBr₂F, BBr₂H, BBr₃

BCl , BCl^+ , BCl_2 , BCl_2^+ , BCl_3

BeN, BN, BrN, BrNO

Be_2O , Be_2O_2 , Be_3O_3 , Be_4O_4 , Be_5O_5 , Be_6O_6

BeF, BeF₂, BeBr, BeBr₂, BeI, BeI₂

BeCl, BeCl₂, Be₂Cl₄

BeH, BeH⁺, BeH₂, Be(OH)₂

BeO, BeOH, BeOH⁺

BF, BF₂, BF₂⁺, BF₂⁻, BF₃

BF_2OH , BF_4K , BFCl , BFCl_2

BH, BH₂, BH₃

BI, BI₂, BI₃

BiF, BiF₃, Bi, Bi₂

$\text{BO}, \text{BO}^-, \text{BO}_2, \text{BO}_2^-$

BOCl, BOF, BOF₂, BOH

$\text{Br}, \text{Br}^+, \text{Br}^-, \text{Br}_2$

Br_3P , Br_3OP , Br_3PS

Br_5Nb , Br_5W , Br_6W

BrCl, BrI, BrP

BrF, BrF₃, BrF₅, BrF₅S

Br_2Fe , Br_4Fe_2 , Br_4Mg_2

BrW, BrTi, BrZr, BrHg

Br_2Ti , Br_3Ti , Br_4Ti

Br_2Zr , Br_3Zr , Br_4Zr

$C, C^+, C^-, C_2, C_2^+, C_2^-$

C_2Be , C_2HCl , C_2HF , C_3H_8

C_2Cl , C_2Cl_2 , C_2Cl_4 , C_2Cl_6

C_2F_2 , C_2F_3N , C_2F_4 , C_2F_6

C_2H , C_2H_2 —Acetylene, C_2H_2 —Vinylidene

C_2H_4 , C_2H_4O —Ethylen-O, C_2H_6

C_2N_2 , C_2N_2Na , C_4N_2

C_2O , C_3O_2 , C_4NIO_4

C_3, C_4, C_5

Ca, Ca⁺, Ca₂

CaBr, CaBr₂, CaCl, CaCl₂, CaCl⁺

CaF, CaF⁺, CaF₂, CaI, CaI₂

CaO , CaO^+ , CaOH , CaOH^+ , Ca(OH)_2

CaS, CBr, CBr₄, CBrN

CCl, CCl₂, CCl₃, CCl₄

CCN, CeS₂, Cs

CF, CF₂, CF₃, CF₄

$\text{CF}^+, \text{CF}_2^+, \text{CF}_3^+$

CF₃Br, CF₃I, CF₄O, CF₈S

CF_2Cl_2 , CF_3Cl , CFCl_3

CH , CH^+ , CH_2 , CH_3 , CH_4

CH₃CN, CHBr₃, CHP, CIN

$\text{CH}_3\text{Cl}_3\text{Si}$, $\text{CH}_3\text{F}_3\text{Si}$, CH_3OH , CH_3CHO —Ethanal

CHCl, CHCl₃, CH₃Cl, CH₂Cl₂, CH₂Cl₂—COOH

CHF, CHF₃, CH₃F, CH₂F₂

CH_2FCl , CHF_2Cl , CHFCl_2

$\text{Cl}, \text{Cl}^+, \text{Cl}^-, \text{Cl}_2$

ClCo , Cl_2Co , Cl_3Co , Cl_4Co_2

ClF, ClF₃, ClF₅, ClF₅S

Cl_3FSi , ClF_3Si , ClFLi_2 , ClFMg

ClHg, Cl₂Hg, Cl₄Mg₂

Cl_4Mo , Cl_5Mo , Cl_6Mo , Cl_2MoO_2

ClO, ClO₂, Cl₂O

Cl_3PS , ClCN , ClI , ClLiO , ClS_2

ClW, Cl₂W, Cl₄W, Cl₅W, Cl₁₀W

ClZr, Cl₂Zr, Cl₃Zr, Cl₄Zr

CN, CN⁺, CN⁻, C₂N, CN₂

CO, CO⁺, CO₂, CO₂⁺

Co, Co⁺, Co⁻

COCl, COCl₂, COF₂, COFCl, COHF, COS

$\text{Cr}, \text{Cr}^+, \text{Cr}^-$

CrO , CrO_2 , CrO_3 , CrO_3^-

CP, CrN

Cs, Cs⁻, Cs⁺, Cs₂

CsCl, CsF, Cs₂Cl₂, Cs₂F₂

Cs_2O , Cs_2O^+ , $\text{Cs}_2\text{O}_2\text{H}_2$, Cs_2SO_4

CsO, CsOH

$\text{Cu}, \text{Cu}^+, \text{Cu}^-, \text{Cu}_2$

CuO, CuF, CuF₂, CuCl, Cu₃Cl₃

$D, D^-, D^+, D_2, D_2^-, D_2^+$

D_2O , D_2O_2 , DO_2 , DO_2^-

D_2S , DBr , DCI , DF , $DOCl$

F, F^-, F^+, F_2

F_2Mo , F_3Mo , F_4Mo , F_4MoO

F₅Mo, F₆Mo, F₁₀Mo₂, F₁₅Mo₃

FFe, F₂Fe, F₃Fe

FTi, F₂Ti, F₃Ti, F₄Ti

FZr, F₂Zr, F₃Zr, F₄Zr

FCo, F₂Co, FHg, F₂Hg

FO, F₂O, FO₂—FOO, FO₂—OFO

FW, F₄OW, F₆W

FPS, F₃PS, F₁₀S₂, FS₂F

FOTi, F₂OTi, F₂OSi

FCN, FMo, FI, e^-

Fe, Fe⁺, Fe⁻

FeCl, FeCl₂, FeCl₃, Fe₂Cl₄, Fe₂Cl₆

$\text{FeI}_2, \text{Fe}_2\text{I}_4$

FeO, FeS, Fe(OH)₂, Fe(CO)₅

$\text{H}, \text{H}^+, \text{H}^-, \text{H}_2, \text{H}_2^+, \text{H}_2^-$

H_2MoO_4 , $\text{H}_2\text{O}_4\text{W}$, H_2S , H_2SO_4

H_3BO_3 , $\text{H}_3\text{B}_3\text{O}_3$, $\text{H}_3\text{B}_3\text{O}_6$

HBO, HBO⁺, HBO₂

Hf, He, He⁺, Hg, Hg⁺

HF, HCl, HBr, HI

HBS, HBS⁺, HCN

HCO, HCO+, HCOOH, HCHO—Formaldehy

HD, HD⁺, HDO, HDO₂

HgBr_2 , Hgl , Hgl_2 , HgO , HHg

HNO, HNO₂, HNO₃

HNC, HNCO, HOCl, HOF

HPb, HZr

HAIO, HAIO₂, Be₂OF₂

l, l^+, Γ

IMo, I₂Mo, I₃Mo, I₄Mo

ITi , ITi_2 , ITi_3 , ITi_4

I_2Zr , I_3Zr , I_4Zr

I_3Si , I_4Si , IF_5 , IF_7

K, K⁺, K⁻, K₂, K₂⁺

KCl, K₂Cl₂, KBr, K₂Br₂

KF, K₂F₂, KI, K₂I₂

KO, KH, KOH, K₂O₂H₂

$K_2C_2N_2$, K_2SO_4 , KBO_2 , KCN

Kr, Kr⁺

Li, Li⁻, Li⁺, Li₂, Li₂⁺

LiCl , Li_2Cl_2 , Li_3Cl_3

LiF, Li₂F₂, Li₃F₃

LiBr, Li₂Br₂, LiI, Li₂I₂

LiO , LiO_2 , Li_2O , Li_2O^+ , Li_2O_2

Li_2SO_4 , LiAlF_4 , LiBO_2

LiH, LiN, LiNaO, Li₂O₂H₂

LiOH, LiOF, LiON

Mg, Mg⁺, Mg₂

MgH, MgO, MgOH, MgOH⁺, Mg(OH)₂

MgF, MgF⁺, MgF₂, MgF₂⁺, Mg₂F₄

MgBr, MgBr₂, MgCl, MgCl⁺, MgCl₂

MgI, MgI₂, MgN, MgS

Mn, Mn⁺, MnS

Mo, Mo⁺, Mo⁻

MoBr, MoBr₂, MoBr₃, MoBr₄

MoO, MoO₂, MoO₃, MoO₃⁻

$N, N^+, N^-, N_2, N_2^-, N_2^+, N_3$

ND, ND₂, ND₃, N₂D₂

NF, NF₂, NF₃, N₂F₂, N₂F₄

NH, NH⁺, NH₂, NH₃, N₂H₂, N₂H₄

N_2O , N_2O^+ , N_2O_3 , N_2O_4 , N_2O_5

Na, Na⁺, Na⁻, Na₂

NaCl , Na_2Cl_2 , $\text{Na}_2\text{O}_2\text{H}_2$

NaBr, Na₂Br₂, Na₂SO₄

NaF, Na₂F₂, NaAlF₄

NaBO₂, NaCN

NaO, NaH, NaOH, NaOH⁺

Nb, Nb⁺, Nb⁻

NbO, NbO₂, NCO

Ne, Ne⁺

Ni, Ni⁺, Ni⁻

NiCl, NiCl₂, NiS

NO, NO⁺, NO₂, NO₂⁻, NO₃, NO₃⁻

NOCl, NO₂Cl, NbCl₅

NOF, NO₂F, NO₃F, NOF₃

NCN, NOI, NS

$0, 0^+, 0^-$

$\text{O}_2, \text{O}_2^+, \text{O}_2^-, \text{O}_3$

OD, OD⁻

OH, OH⁻, OH⁺, OHSi

P, P^-, P^+, P_2, P_4

O_8W_3 , P_4S_3 , P_4O_6 , P_4O_{10}

Pb, Pb⁺, Pb⁻, Pb₂

PbBr, PbBr₂, PbBr₄

PbCl, PbCl₂, PbCl₄

PbF, PbF₂, PbF₄

PbI, PbI₂, PbI₄

PbO, PbS

PCl, PCl₃, PCl₅

PF, PF⁺, PF⁻

PF_2 , PF_2^- , PF_3 , PF_5

PH, PH₂, PH₂⁻, PH₃

PO, PO⁻, PO₂, PO₂⁻

POF_2Cl , POFCl_2 , POCl_3 , PFCl_4

PN, POF_3 , PS, RbK

S, S^+, S^-, S_2, S_2^-

SCI, SCI₂, SCI₂⁺, S₂Cl₂

S_8 , S_2O , SD

SF, SF⁺, SF⁻

$\text{SF}_2, \text{SF}_2^+, \text{SF}_2^-, \text{S}_2\text{F}_2$

$\text{SF}_3, \text{SF}_3^+, \text{SF}_3^-$

$\text{SF}_4, \text{SF}_4^-, \text{SF}_4^+$

SF_5 , SF_5^+ , SF_5^- , SF_6 , SF_6^-

SH, SH⁻, Si, Si⁻, Si⁺

Si_2 , Si_2C , Si_2N , Si_3

SiBr, SiBr₂, SiBr₃, SiBr₄

SiCl , SiCl_2 , SiCl_3

SiF , SiF_2 , SiF_3 , SiF_4

SiC, SiC₂, SiH, SiH⁺

SiH_2Br_2 , SiHBr_3 , SiH_3Br

SiH_2Cl_2 , SiHCl_3 , SiH_3Cl

SiH_2F_2 , SiHF_3 , SiH_3F

SiH_2I_2 , SiHI_3 , SiH_3I , SiH_4

SiI, SiI₂, SiN, SiS

SiO, SiO₂, SiOH

Sn, Sn⁺, Sn⁻

SnF, SnF₂, Sn

$\text{SO}, \text{SO}^-, \text{SO}_2, \text{SO}_2^-$

SO_2Cl_2 , SO_2F_2 , SO_2FCl , SO_3 , SOF_2

Sr, Sr^+

$\text{Sr}(\text{OH})_2$, SrBr , SrBr_2

SrCl , SrCl^+ , SrCl_2

SrF , SrF^+ , SrF_2

SrI, SrI₂, SrS

SrO , SrO^+ , SrOH , SrOH^+

Ta, Ta⁺, Ta⁻

TaO, TaO₂, TaCl₅

Ti, Ti⁺, Ti⁻

TiCl, TiCl₂, TiCl₃, TiCl₄

TiO, TiO⁺, TiO₂, TiOCl, TiOCl₂

UF, UF₂, UF₃, UF₄, UF₅, UF₆

$\text{UF}^+, \text{UF}_2^+, \text{UF}_3^+, \text{UF}_4^+, \text{UF}_5^+$

UF^- , UF_2^- , UF_3^- , UF_4^- , UF_5^- , UF_6^-

U, V, V^+, V^-

VN, VO, VO₂

W, W+, W-

WO, WO₂, WO₂Cl₂, WOCl₄, WCl₆

WO_3 , WO_3^- , $(\text{WO}_3)_2$, $(\text{WO}_3)_3$, $(\text{WO}_3)_4$

Xe, Xe^+

Zn, Zn⁺

Zr, Zr+, Zr-

ZrN, ZrO, ZrO⁺, ZrO₂

Appendix A: Coefficients for specific heat curves

This appendix contains the coefficients for the specific heat curve fits, which are plotted as lines in the current report. The first line of each of the species starts with either the keyword “gas” or the keyword “condensed.” The name of the species, the molecular weight of the species in g/mol, and the symbols and stoichiometry of the species follow the keyword. Each atom is taken to be a positive ion. Thus, the number of electrons needed to make a species neutral is the sum of the stoichiometry for each atom.

The second line starts with either the keyword “cpg” or “cpc” followed by a keyword that represents the type of fit for the specific heat. This keyword can be either “nasa,” “tiger,” or “Einstein.” The specific heat for each of these forms are:

NASA:

$$C_p^\circ / R = a_1 T^{-2} + a_2 T^{-1} + a_3 + a_4 T + a_5 T^2 + a_6 T^3 + a_7 T^4 \quad [\text{A-1}]$$

TIGER:

$$C_p / R = a_1 + a_2 \theta + a_3 \theta^2 + a_4 \theta^3 + a_5 \theta^{-1} + a_6 \theta^{-2} + a_7 \theta^{-3} \quad [\text{A-2}]$$

Einstein

$$C_p^\circ / R = C_v^\circ / R + \left(\frac{1}{R} \right) \left(\frac{\partial \mathcal{V}}{\partial T} \right)_p \left(\frac{\partial \mathcal{P}}{\partial T} \right)_V = \frac{a_1 \left(\frac{a_4}{T} \right)^2 \exp\left(\frac{a_4}{T} \right)}{\left[\exp\left(\frac{a_4}{T} \right) - 1 \right]^2} + \frac{a_2 \left(\frac{a_5}{T} \right)^2 \exp\left(\frac{a_5}{T} \right)}{\left[\exp\left(\frac{a_5}{T} \right) - 1 \right]^2} + \frac{a_3 \left(\frac{a_6}{T} \right)^2 \exp\left(\frac{a_6}{T} \right)}{\left[\exp\left(\frac{a_6}{T} \right) - 1 \right]^2} + a_7 \quad [\text{A-3}]$$

For gas species, the integer following the specific heat form keyword tells the number of intervals in the piecewise specific heat fit. The third line gives the temperature intervals corresponding to the piecewise fits. The fourth and subsequent lines give the coefficients for the specific heat fits.

For condensed species the second line is different since the condensed entries can be either solid, liquid, or both phases. The second line starts with “cpc” followed by the form keyword (“nasa,” “tiger,” or “Einstein”), followed by the keyword “tot” representing the total number of temperature intervals, followed by an integer representing the total number of temperature intervals, followed by the keyword “liq,” followed by an integer that represents the number of liquid intervals, followed by the keyword “sol,” followed by an integer representing the total number of solid phases. Following the integer that represents the total number of solid phases are integers that represent the number of intervals for each solid phase. Here are two examples that represent a gas species entry and a condensed species entry:

```
gas, h2o, 18.0153, h, 2, o, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
a11, a12, a13 | Coefficients for first interval
```

```

a14, a15, a16 | with temperatures ranging between
a17, a18, a19 | 200 and 1000 K.
a21, a22, a23 | Coefficients for second interval
a24, a25, a26 | with temperatures ranging between
a27, a28, a29 | 1000 and 6000 K.
a31, a32, a33 | Coefficients for third interval
a34, a35, a36 | with temperature ranging between
a37, a38, a39 | 6000 and 20000 K.

condensed, h2o(c), 18.0153, h, 2, o, 1
cpc, nasa, tot, 5, liq, 3, sol, 1, 2
200.0, 273.15, 273.2, 298.15, 500.0, 10000.
a11, a12, a13 | Coefficients for first solid interval
a14, a15, a16 | with temperatures ranging between
a17, a18, a19 | 200 and 273.15 K.
a21, a22, a23 | Coefficients for second solid interval
a24, a25, a26 | with temperatures ranging between
a27, a28, a29 | 273.15 and 273.2 K.
a31, a32, a33 | Coefficients for first liquid interval
a34, a35, a36 | with temperature ranging between
a37, a38, a39 | 273.2 and 298.15 K.
a41, a42, a43 | Coefficients for second liquid interval
a44, a45, a46 | with temperature ranging between
a47, a48, a49 | 298.15 and 500 K.
a51, a52, a53 | Coefficients for second liquid interval
a54, a55, a56 | with temperature ranging between
a47, a58, a59 | 500 and 20000 K.

```

Here are species in the JCZS2i library:

```

gas, e-, 5.4858E-4, e, 1
cpg, nasa, 1
200, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.453750000E+02, -1.172081224E+01

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gas, ag, 107.8682, ag, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.352002370E+04, 6.562819350E+00
-3.309926370E+05, 9.820086420E+02, 1.381179917E+00
6.170899990E-04, -1.688114600E-07, 2.008826848E-11
-5.627285655E-16, 2.726719171E+04, 1.456862733E+01
-3.717441500E+08, 2.758069172E+05, -7.385982610E+01
9.606158720E-03, -5.393935740E-07, 1.358856730E-11
-1.272610104E-16, -2.107724971E+06, 6.628374570E+02

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gas, ag+, 107.8677, ag, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
3.691132750E+06, -4.316983000E+04, 2.028445385E+02
-4.658413740E-01, 5.586200510E-04, -3.154880975E-07
6.578702060E-11, 3.371574470E+05, -1.142924427E+03
-5.327432350E+07, 1.310710631E+05, -1.098820208E+02
4.826002760E-02, -1.093661557E-05, 1.263835910E-09
-5.852542535E-14, -7.439122510E+05, 8.446266190E+02
-2.119469170E+08, 1.159621936E+05, -2.220792532E+01
2.938747589E-03, -1.822389545E-07, 5.823925360E-12
-7.455184012E-17, -8.068014150E+05, 2.271702823E+02

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gas, ag-, 107.8687, ag, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.766565919E+04, 5.869679800E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00

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0.000000000E+00, 1.766565919E+04, 5.869679800E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.766565919E+04, 5.869679800E+00

gas, al, 26.9815, al, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
5.006608890E+03, 1.861304407E+01, 2.412531111E+00
1.987604647E-04, -2.432362152E-07, 1.538281506E-10
-3.944375734E-14, 3.887412680E+04, 6.086585765E+00
-2.920820938E+04, 1.167751876E+02, 2.356906505E+00
7.737231520E-05, -1.529455262E-08, -9.971670260E-13
5.053278264E-16, 3.823288650E+04, 6.600920155E+00
-5.040682320E+08, 3.802322650E+05, -1.082347159E+02
1.549444292E-02, -1.070103856E-06, 3.592110900E-11
-4.696039394E-16, -2.901050501E+06, 9.491883160E+02

gas, al_i, 26.9815, al_i, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
5.006608890E+03, 1.861304407E+01, 2.412531111E+00
1.987604647E-04, -2.432362152E-07, 1.538281506E-10
-3.944375734E-14, 3.887412680E+04, 6.086585765E+00
-2.920820938E+04, 1.167751876E+02, 2.356906505E+00
7.737231520E-05, -1.529455262E-08, -9.971670260E-13
5.053278264E-16, 3.823288650E+04, 6.600920155E+00
-5.040682320E+08, 3.802322650E+05, -1.082347159E+02
1.549444292E-02, -1.070103856E-06, 3.592110900E-11
-4.696039394E-16, -2.901050501E+06, 9.491883160E+02

gas, al+, 26.9810, al, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.090644788E+05, 3.791005780E+00
-4.181183250E+03, -9.948557270E+00, 2.548615878E+00
-5.878760040E-05, 3.132291294E-08, -7.748894630E-12
7.274447690E-16, 1.091011485E+05, 3.488667290E+00
-9.080958540E+08, 5.509673040E+05, -1.279244177E+02
1.510503026E-02, -8.932051950E-07, 2.719381070E-11
-3.367986284E-16, -4.268693020E+06, 1.141245444E+03

gas, al-, 26.9821, al, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
2.910801723E+04, -3.836983750E+02, 4.655142800E+00
-6.045821840E-03, 8.577259640E-06, -5.476260000E-09
1.322714061E-12, 3.490616980E+04, -5.957097700E+00
6.339814320E+05, -2.383438463E+03, 5.469971130E+00
-1.299840355E-03, 2.888305470E-07, -3.253240510E-11
1.472436088E-15, 4.780306540E+04, -1.536906816E+01
5.901212850E+06, -2.296000877E+03, 3.072774844E+00
-6.894714790E-05, 4.413313240E-09, -1.445353715E-13
1.905752608E-18, 5.241871250E+04, 1.451781383E+00

gas, albr, 106.8855, al, 1, br, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
8.176158640E+03, -2.516942718E+02, 5.403296330E+00
-1.747212920E-03, 2.077304770E-06, -1.261267579E-09
3.166335970E-13, 1.635024429E+03, -2.323594886E+00
-6.103395600E+05, 2.010066834E+03, 1.769617961E+00
1.929888914E-03, -6.641047830E-07, 1.172854627E-10
-7.178742760E-15, -1.217812867E+04, 2.204450764E+01
0.000000000E+00, 0.000000000E+00, 5.797028014E+00
-1.297028014E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.972347904E+03, -7.566669493E+00

gas, albr3, 266.6935, al, 1, br, 3, e, 4

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cpg, nasa, 3
200, 1000, 6000, 20000
4.718948840E+04, -1.053853163E+03, 1.350747168E+01
-6.639869930E-03, 7.269276830E-06, -4.278049490E-09
1.045573281E-12, -4.699440330E+04, -3.667936780E+01
-8.935527440E+04, -2.678035134E+01, 1.002063997E+01
-8.458764400E-06, 1.904243317E-09, -2.215195785E-13
1.038219389E-17, -5.249247640E+04, -1.579666403E+01
0.000000000E+00, 0.000000000E+00, 9.995575206E+00
2.544247943E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.263552917E+04, -1.560349664E+01

gas, alc, 38.9922, al, 1, c, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
4.139921880E+04, -5.858677890E+02, 5.962445720E+00
-2.006064322E-03, 1.665566136E-06, -7.121649210E-10
1.271188744E-13, 8.383436110E+04, -8.002165050E+00
1.937001487E+06, -6.749117790E+03, 1.347525643E+01
-5.850802650E-03, 1.926461091E-06, -2.585922351E-10
1.222659806E-14, 1.225363649E+05, -6.152244872E+01
0.000000000E+00, 0.000000000E+00, 6.654668755E+00
-2.154668755E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 7.308346364E+04, -1.616150688E+01

gas, alcl, 62.4345, al, 1, cl, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.380881392E+04, -4.457159420E+02, 5.992853990E+00
-2.777300261E-03, 3.101582418E-06, -1.815268376E-09
4.414662340E-13, -5.202736030E+03, -7.383298016E+00
-8.993461220E+05, 2.765942061E+03, 1.003500696E+00
2.267806833E-03, -7.280541600E-07, 1.182380673E-10
-6.660498130E-15, -2.496164448E+04, 2.616925480E+01
0.000000000E+00, 0.000000000E+00, 5.751325353E+00
-1.251325353E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.286247321E+04, -8.718501731E+00

gas, alcl+, 62.4340, al, 1, cl, 1, e, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
3.469955220E+04, -5.479900030E+02, 6.106011130E+00
-2.674711519E-03, 2.696426573E-06, -1.463885068E-09
3.358729060E-13, 1.051719510E+05, -7.816586372E+00
-7.547240820E+05, 1.251545253E+03, 4.442424910E+00
-9.786116430E-04, 6.347511330E-07, -1.158320344E-10
6.870022460E-15, 9.318332700E+04, 4.047521108E+00
0.000000000E+00, 0.000000000E+00, 5.499247319E+00
-9.992473193E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 9.911575452E+04, -5.898602805E+00

gas, alcl2, 97.8875, al, 1, cl, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
5.340545950E+04, -9.678057980E+02, 1.006252671E+01
-5.539528450E-03, 5.823420560E-06, -3.306542450E-09
7.831562100E-13, -2.607627110E+04, -2.393364216E+01
4.303453060E+05, -1.552370585E+03, 8.760657420E+00
-9.467450060E-04, 2.401844880E-07, -2.427836709E-11
8.390123470E-16, -2.145884709E+04, -1.803641668E+01
0.000000000E+00, 0.000000000E+00, 7.323729646E+00
-7.372964559E-08, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.272203423E+04, -8.116000206E+00

gas, alcl3, 133.3405, al, 1, cl, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
7.750600970E+04, -1.440779717E+03, 1.401744141E+01
-6.381631240E-03, 5.871674720E-06, -2.908872278E-09
5.994050890E-13, -6.579343180E+04, -4.494017799E+01
-1.378630916E+05, -5.579207290E+01, 1.004190387E+01

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-1.682165339E-05, 3.724664660E-09, -4.275526780E-13
1.982341329E-17, -7.343407470E+04, -2.045130429E+01
0.000000000E+00, 0.000000000E+00, 9.993735849E+00
2.562641515E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.375437771E+04, -2.008083698E+01

gas, alf, 45.9799, al, 1, f, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
3.020771686E+04, -3.080986949E+02, 3.886413140E+00
3.564343690E-03, -5.858471280E-06, 4.388109920E-09
-1.256906273E-12, -3.117572862E+04, 2.032567172E+00
-7.111229050E+05, 1.903013316E+03, 2.191607179E+00
1.421471467E-03, -4.179634770E-07, 6.153804400E-11
-2.945403999E-15, -4.540728960E+04, 1.613163743E+01
0.000000000E+00, 0.000000000E+00, 5.451851310E+00
-9.518513101E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.742705815E+04, -8.050571054E+00

gas, alf+, 45.9794, al, 1, f, 1, e, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
3.643038120E+04, -2.524634478E+02, 3.105310486E+00
5.733270430E-03, -8.839786990E-06, 6.343579590E-09
-1.645011685E-12, 8.370237450E+04, 6.764015580E+00
1.505101126E+06, -2.236668821E+03, 3.098216724E+00
3.115413930E-03, -1.168427068E-06, 1.773587168E-10
-9.665841380E-15, 9.885083850E+04, 5.991894590E+00
0.000000000E+00, 0.000000000E+00, 5.183006523E+00
-6.830065232E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 8.102821981E+04, -4.489901663E+00

gas, alfc1, 81.4329, al, 1, f, 1, cl, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
4.104779480E+04, -5.769646420E+02, 6.562642700E+00
4.106285840E-03, -7.213921120E-06, 5.486401450E-09
-1.580656193E-12, -5.114828700E+04, -6.041227053E+00
6.970636350E+04, -6.224485910E+02, 7.573475410E+00
-2.236155999E-04, 2.382317949E-08, 4.443785760E-12
-5.486977850E-16, -5.100943200E+04, -1.091164505E+01
0.000000000E+00, 0.000000000E+00, 7.236274168E+00
1.372583191E-08, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.613645012E+04, -8.646168816E+00

gas, alfc12, 116.8859, al, 1, f, 1, cl, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
6.955607340E+04, -1.188857902E+03, 1.156672590E+01
4.574959490E-04, -3.407372830E-06, 3.356822540E-09
-1.085329228E-12, -9.162049260E+04, -3.206065081E+01
-1.720360526E+05, -1.193340759E+02, 1.008894431E+01
-3.550993810E-05, 7.830952610E-09, -8.961734230E-13
4.145330260E-17, -9.804185470E+04, -2.127046859E+01
0.000000000E+00, 0.000000000E+00, 9.991731594E+00
2.582684062E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.877394542E+04, -2.052723244E+01

gas, alf2, 64.9783, al, 1, f, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
2.994951991E+04, -2.194199915E+02, 3.416748760E+00
1.272953936E-02, -1.883312206E-05, 1.330702256E-08
-3.680118630E-12, -7.607537650E+04, 8.759626916E+00
-2.146896245E+05, 3.096840150E+01, 6.816399620E+00
1.820129379E-04, -7.793677440E-08, 1.472534201E-11
-8.803695300E-16, -7.884002680E+04, -7.915370474E+00
0.000000000E+00, 0.000000000E+00, 7.141012205E+00
1.089877949E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.941782718E+04, -1.027797539E+01

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gas, alf2-, 64.9789, al, 1, f, 2, e, 4
  cpg, nasa, 3
  298.15, 1000, 6000, 20000
  1.233369037E+05, -1.348195504E+03, 8.611178050E+00
  2.245141297E-04, -2.424673201E-06, 2.214132430E-09
-6.602713960E-13, -9.708437460E+04, -2.192617549E+01
-1.590076965E+05, -2.060486516E+02, 7.155289380E+00
-6.260167690E-05, 1.391935746E-08, -1.603901265E-12
  7.461508520E-17, -1.040479429E+05, -1.122696648E+01
  0.000000000E+00, 0.000000000E+00, 6.990720666E+00
  2.592793341E-07, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -1.053594787E+05, -9.976671549E+00

gas, alf2cl, 100.4313, al, 1, f, 2, cl, 1, e, 4
  cpg, nasa, 3
  200, 1000, 6000, 20000
  5.677412090E+04, -8.869829470E+02, 8.752746550E+00
  8.195791200E-03, -1.380480934E-05, 1.032703706E-08
-2.948968416E-12, -1.177936778E+05, -1.858347360E+01
-2.115422988E+05, -1.959188681E+02, 1.014576850E+01
-5.813219350E-05, 1.281071982E-08, -1.465366277E-12
  6.776002450E-17, -1.227153110E+05, -2.359853398E+01
  0.000000000E+00, 0.000000000E+00, 9.989366005E+00
  2.606339952E-07, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -1.239441354E+05, -2.240563307E+01

gas, alf3, 83.9767, al, 1, f, 3, e, 4
  cpg, nasa, 3
  200, 1000, 6000, 20000
  4.410263520E+04, -5.667495740E+02, 5.833072850E+00
  1.603535069E-02, -2.413263602E-05, 1.714106160E-08
-4.747543200E-12, -1.443349991E+05, -5.461613658E+00
-2.493972160E+05, -2.911202519E+02, 1.021662932E+01
-8.642985970E-05, 1.905713108E-08, -2.181058411E-12
  1.009055287E-16, -1.475694276E+05, -2.703983244E+01
  0.000000000E+00, 0.000000000E+00, 9.986744554E+00
  2.632554460E-07, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -1.494192550E+05, -2.528943578E+01

gas, alh, 27.9895, al, 1, h, 1, e, 2
  cpg, nasa, 3
  200, 1000, 6000, 20000
-3.759114030E+04, 5.089002230E+02, 1.128086896E+00
  3.988660910E-03, -2.150790303E-07, -2.176790819E-09
  1.020805902E-12, 2.644431827E+04, 1.650021856E+01
  6.802018430E+06, -2.178416933E+04, 3.032713047E+01
-1.503343597E-02, 4.492142360E-06, -6.178450370E-10
  3.115205260E-14, 1.658301221E+05, -1.876766425E+02
  0.000000000E+00, 0.000000000E+00, 5.325374100E+00
-8.253741003E-07, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, 2.630842763E+04, -1.036595054E+01

gas, ali, 153.8860, al, 1, i, 1, e, 2
  cpg, nasa, 3
  200, 1000, 6000, 20000
  1.870854131E+03, -1.543184003E+02, 5.074391880E+00
-1.120584830E-03, 1.386302156E-06, -8.540782280E-10
  2.180358492E-13, 7.517443690E+03, 6.688267622E-01
  4.752817920E+05, -1.198028588E+03, 5.433685360E+00
-1.004479306E-04, -1.005928846E-07, 4.568173190E-11
-3.960201360E-15, 1.464627816E+04, -3.141199746E+00
  0.000000000E+00, 0.000000000E+00, 5.765611569E+00
-1.265611569E-06, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, 1.767246452E+03, -6.235512780E+00

gas, ali3, 407.6949, al, 1, i, 3, e, 4
  cpg, nasa, 3
  200, 1000, 6000, 20000
  2.706032439E+04, -7.559936810E+02, 1.271396349E+01
-5.466884090E-03, 6.297618920E-06, -3.864209610E-09
  9.774132440E-13, -2.220966921E+04, -2.847883861E+01

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-6.357427470E+04, -1.578772280E+01, 1.001249733E+01
-5.228673120E-06, 1.196173520E-09, -1.409194490E-13
6.671276390E-18, -2.611455525E+04, -1.247999813E+01
0.000000000E+00, 0.000000000E+00, 9.996476531E+00
2.535234688E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.619301805E+04, -1.235645745E+01

gas, aln, 40.9882, al, 1, n, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.716645079E+04, -2.543491110E+02, 3.538987720E+00
5.296256160E-03, -9.845700610E-06, 8.452209040E-09
-2.592304568E-12, 5.309994910E+04, 5.399435220E+00
3.821214220E+06, -1.067776595E+04, 1.449174222E+01
-3.727227130E-03, 7.922770960E-07, -8.086892210E-11
2.893539736E-15, 1.205236340E+05, -7.288585119E+01
0.000000000E+00, 0.000000000E+00, 5.263795172E+00
-7.637951724E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.062917801E+04, -3.863482313E+00

gas, alo, 42.9809, al, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-7.683391100E+03, 2.957969549E+02, 4.808108440E-01
1.169224855E-02, -1.595428871E-05, 1.060766814E-08
-2.647888708E-12, 5.843672170E+03, 2.160997839E+01
1.565721161E+04, 3.855741010E+03, -5.926079780E+00
9.050960420E-03, -2.930661549E-06, 4.238529070E-10
-2.280655341E-14, -1.331694655E+04, 6.830663436E+01
4.165661210E+07, -3.768608760E+04, 1.547867956E+01
-9.568730340E-04, 2.493109541E-08, 6.688940290E-14
-8.998673700E-18, 2.957786517E+05, -9.427715804E+01

gas, alo+, 42.9804, al, 1, o, 1, e, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
2.829178513E+04, -4.179087100E+02, 5.313299870E+00
-1.410883046E-03, 2.526524021E-06, -2.005474816E-09
5.762553550E-13, 1.203648109E+05, -3.410565930E+00
2.710846446E+04, -6.998653420E+02, 5.787815840E+00
-6.871895460E-04, 2.075047303E-07, -2.655281004E-11
1.283129660E-15, 1.218682226E+05, -7.051035880E+00
0.000000000E+00, 0.000000000E+00, 4.949181806E+00
-4.491818056E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.167784467E+05, -1.520484365E+00

gas, alo-, 42.9815, al, 1, o, 1, e, 3
cpg, nasa, 3
298.15, 1000, 6000, 20000
2.078075267E+04, 2.859351226E+00, 1.901912370E+00
7.301045660E-03, -9.139769870E-06, 5.652983190E-09
-1.396787103E-12, -3.359267730E+04, 1.296339858E+01
-6.971948290E+04, -2.320553036E+02, 4.672784330E+00
-4.266447040E-05, 1.632506336E-08, -1.727134051E-12
8.136840640E-17, -3.307718930E+04, -2.155922595E+00
0.000000000E+00, 0.000000000E+00, 4.697464539E+00
-1.974645392E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.525446801E+04, -2.389925412E+00

gas, alocl, 78.4339, al, 1, o, 1, cl, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-5.144627790E+03, -5.886297070E+01, 4.452316930E+00
9.288235090E-03, -1.246894823E-05, 8.178073540E-09
-2.130739934E-12, -3.759683650E+04, 2.476862818E+00
-1.258027706E+05, -2.420565961E+02, 7.681130020E+00
-7.268741700E-05, 1.611337534E-08, 1.852889749E-12
8.607278220E-17, -3.754326050E+04, -1.475818320E+01
0.000000000E+00, 0.000000000E+00, 8.299320175E+00
-1.049320175E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.273233528E+04, -2.007253973E+01

gas, alof, 61.9793, al, 1, o, 1, f, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
7.030578360E+03, -1.154575430E+02, 3.378823590E+00
1.283929158E-02, -1.749748388E-05, 1.162605473E-08
-3.064218613E-12, -6.959381700E+04, 5.994804586E+00
-1.641020297E+05, -3.277770290E+02, 7.744519740E+00
-9.788649440E-05, 2.165743208E-08, -2.486541919E-12
1.153633944E-16, -6.974085090E+04, -1.717253748E+01
0.000000000E+00, 0.000000000E+00, 7.491547624E+00
-2.415476243E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.187166933E+04, -1.525258331E+01

gas, alof2, 80.9777, al, 1, o, 1, f, 2, e, 4
cpg, nasa, 3
298.15, 1000, 6000, 20000
4.756085290E+04, -6.124318360E+02, 6.050223660E+00
1.559291479E-02, -2.366136797E-05, 1.688366194E-08
-4.690583100E-12, -9.171827490E+04, -4.956258224E+00
-2.496681413E+05, -2.837821503E+02, 1.021108125E+01
-8.418303430E-05, 1.855520828E-08, -2.122974022E-12
9.819319100E-17, -9.521804190E+04, -2.522534812E+01
0.000000000E+00, 0.000000000E+00, 9.986855410E+00
2.631445897E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.701903226E+04, -2.351765034E+01

gas, alof2-, 80.9783, al, 1, o, 1, f, 2, e, 5
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.540605112E+05, -1.928054597E+03, 1.255806423E+01
-4.904035370E-04, -2.341783347E-06, 2.415138600E-09
-7.471809250E-13, -1.091430174E+05, -4.265821750E+01
-2.389881459E+05, -2.880143725E+02, 1.021700240E+01
-8.747062000E-05, 1.944846334E-08, -2.241045051E-12
1.042591053E-16, -1.190576566E+05, -2.600779629E+01
0.000000000E+00, 0.000000000E+00, 9.987159431E+00
2.628405687E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.208872205E+05, -2.426085604E+01

gas, aloh, 43.9889, al, 1, o, 1, h, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
5.876493180E+04, -9.449422690E+02, 7.820599180E+00
5.858888470E-04, -4.083666810E-06, 4.587229340E-09
-1.563936726E-12, -1.993283011E+04, -2.065043885E+01
7.882068110E+05, -2.263671626E+03, 7.823954880E+00
1.821171456E-04, -8.263729320E-08, 1.265414876E-11
-6.875972530E-16, -1.039808093E+04, -2.209032458E+01
0.000000000E+00, 0.000000000E+00, 7.429578793E+00
-1.795787927E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.749398802E+04, -1.799848644E+01

gas, alo2, 58.9803, al, 1, o, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
4.338480450E+04, -4.735292260E+02, 6.001717670E+00
7.094420880E-03, -1.129107996E-05, 8.252691680E-09
-2.327652976E-12, -3.826145800E+03, -4.830022480E+00
1.187216642E+05, -8.335625400E+02, 8.309301190E+00
-3.538667220E-04, 5.967069460E-08, 4.014897700E-14
-3.515702520E-16, -2.033107586E+03, -1.715063884E+01
0.000000000E+00, 0.000000000E+00, 7.754681821E+00
-5.046818210E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.574748426E+03, -1.334555906E+01

gas, alo2-, 58.9809, al, 1, o, 2, e, 4
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.178678641E+05, -1.507186304E+03, 9.524749750E+00
-5.207989020E-04, -1.586902345E-06, 1.700455028E-09

-5.301419770E-13, -4.825469270E+04, -3.081215859E+01
-1.872410758E+05, -2.338853263E+02, 7.676070020E+00
-7.093570300E-05, 1.576717569E-08, -1.816494162E-12
8.449707960E-17, -5.594640560E+04, -1.773751567E+01
0.000000000E+00, 0.000000000E+00, 7.492492529E+00
-2.424925295E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.744279805E+04, -1.634265975E+01

gas, als, 59.0465, al, 1, s, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.611742801E+04, -3.470673890E+02, 4.436204590E+00
3.340168210E-03, -8.410199670E-06, 8.508185110E-09
-2.780868507E-12, 2.863779062E+04, 7.522705491E-01
8.909844290E+06, -2.507677454E+04, 2.893456134E+01
-9.839766820E-03, 2.045319809E-06, -2.087970890E-10
8.152792520E-15, 1.885761615E+05, -1.786036457E+02
0.000000000E+00, 0.000000000E+00, 5.064743136E+00
-5.647431361E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.734068168E+04, -1.503437143E+00

gas, al2br6, 533.3871, al, 2, br, 6, e, 8
cpg, nasa, 3
200, 1000, 6000, 20000
6.483319700E+04, -1.947687811E+03, 2.886989822E+01
-1.365825785E-02, 1.557883731E-05, -9.486942000E-09
2.385519396E-12, -1.101526833E+05, -1.025934782E+02
-1.731829490E+05, -4.342299780E+01, 2.203414210E+01
-1.421187503E-05, 3.238631340E-09, -3.803879760E-13
1.796525455E-17, -1.202338355E+05, -6.201054950E+01
0.000000000E+00, 0.000000000E+00, 2.199299089E+01
2.570091133E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.204583880E+05, -6.169299656E+01

gas, al2f6, 167.9535, al, 2, f, 6, e, 8
cpg, nasa, 3
200, 1000, 6000, 20000
1.915061289E+05, -3.168240250E+03, 2.245374802E+01
1.271532036E-02, -2.488697302E-05, 1.955252096E-08
-5.712084890E-12, -3.049962550E+05, -9.396473101E+01
-5.852982610E+05, -5.450571990E+02, 2.240686320E+01
-1.627323704E-04, 3.595225040E-08, -4.121201440E-12
1.909095384E-16, -3.219683910E+05, -8.589867941E+01
0.000000000E+00, 0.000000000E+00, 2.197322746E+01
2.767725441E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.253947293E+05, -8.259307301E+01

gas, al2i6, 815.3899, al, 2, i, 6, e, 8
cpg, nasa, 3
200, 1000, 6000, 20000
2.587571514E+04, -1.280719742E+03, 2.677715820E+01
-9.913018470E-03, 1.168760413E-05, -7.303918530E-09
1.874532749E-12, -5.891105550E+04, -8.330209321E+01
-1.210112399E+05, -2.467542774E+01, 2.201992650E+01
-8.462022590E-06, 1.957831901E-09, -2.326573151E-13
1.108910373E-17, -6.548523750E+04, -5.528536481E+01
0.000000000E+00, 0.000000000E+00, 2.199474831E+01
2.552516935E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.560274628E+04, -5.509075459E+01

gas, al2o, 69.9625, al, 2, o, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
7.776530700E+03, -1.294235361E+02, 4.912509520E+00
8.604223450E-03, -1.217703648E-05, 8.314634870E-09
-2.237722201E-12, -1.886512879E+04, -2.806368311E-02
-1.171074351E+05, -1.783009166E+02, 7.633215360E+00
-5.335931770E-05, 1.180702791E-08, -1.355444579E-12
6.287323890E-17, -1.947580149E+04, -1.415764167E+01
0.000000000E+00, 0.000000000E+00, 7.495322277E+00
-2.453222770E-07, 0.000000000E+00, 0.000000000E+00

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0.000000000E+00, -2.062738603E+04, -1.311007400E+01

gas, al2o+, 69.9619, al, 2, o, 1, e, 2
  cpg, nasa, 3
    200, 1000, 6000, 20000
    6.828925720E+04, -9.098504170E+02, 8.896563010E+00
    -7.772554380E-04, -4.034655620E-07, 6.977315050E-10
    -2.417262484E-13, 8.085007550E+04, -2.176216731E+01
    -1.102225105E+05, -1.214571732E+02, 7.591595950E+00
    -3.694539160E-05, 8.218520320E-09, -9.473649720E-13
    4.408621350E-17, 7.614943580E+04, -1.282233856E+01
    0.000000000E+00, 0.000000000E+00, 7.496469449E+00
    -2.464694488E-07, 0.000000000E+00, 0.000000000E+00
    0.000000000E+00, 7.537471625E+04, -1.209919694E+01

gas, al2o2, 85.9619, al, 2, o, 2, e, 4
  cpg, nasa, 3
    200, 1000, 6000, 20000
    -1.940560042E+04, 2.508489836E+02, 3.621403790E+00
    1.951385302E-02, -2.560329071E-05, 1.662721576E-08
    -4.312396200E-12, -5.172697280E+04, 9.923995945E+00
    -1.940611656E+05, -4.609752430E+02, 1.084375637E+01
    -1.376042893E-04, 3.044733119E-08, -3.496193920E-12
    1.622305079E-16, -4.963055780E+04, -2.946538090E+01
    0.000000000E+00, 0.000000000E+00, 1.048851873E+01
    -2.385187258E-07, 0.000000000E+00, 0.000000000E+00
    0.000000000E+00, -5.263789130E+04, -2.677076721E+01

gas, al2o2+, 85.9613, al, 2, o, 2, e, 3
  cpg, nasa, 3
    298.15, 1000, 6000, 20000
    8.292034990E+04, -1.757427015E+03, 1.525328567E+01
    -8.983131330E-03, 8.953954500E-06, -4.840586200E-09
    1.096696856E-12, 7.311677140E+04, -5.517092550E+01
    -1.652005184E+05, -6.021606970E+01, 1.004626917E+01
    -1.892194088E-05, 4.253301200E-09, -4.942390420E-13
    2.314507373E-17, 6.386219000E+04, -2.345753361E+01
    0.000000000E+00, 0.000000000E+00, 9.992929412E+00
    2.570705880E-07, 0.000000000E+00, 0.000000000E+00
    0.000000000E+00, 6.352278863E+04, -2.304777399E+01

gas, ar, 39.9480, ar, 1, e, 1
  cpg, nasa, 3
    200, 1000, 6000, 20000
    0.000000000E+00, 0.000000000E+00, 2.500000000E+00
    0.000000000E+00, 0.000000000E+00, 0.000000000E+00
    0.000000000E+00, -7.453750000E+02, 4.379674910E+00
    2.010538475E+01, -5.992661070E-02, 2.500069401E+00
    -3.992141160E-08, 1.205272140E-11, -1.819015576E-15
    1.078576636E-19, -7.449939610E+02, 4.379180110E+00
    -9.951265080E+08, 6.458887260E+05, -1.675894697E+02
    2.319933363E-02, -1.721080911E-06, 6.531938460E-11
    -9.740147729E-16, -5.078300340E+06, 1.465298484E+03

gas, ar+, 39.9475, ar, 1
  cpg, nasa, 3
    298.15, 1000, 6000, 20000
    -5.731209170E+04, 7.930791470E+02, -1.717121217E+00
    1.044184018E-02, -1.180207501E-05, 6.528134780E-09
    -1.447558130E-12, 1.790572230E+05, 2.949150950E+01
    -3.835965400E+05, 8.162019700E+02, 2.301342628E+00
    -4.952983770E-06, 1.205108477E-08, -2.185050286E-12
    1.265493898E-16, 1.771811455E+05, 7.947507480E+00
    1.006884827E+07, -6.624361280E+03, 4.446908200E+00
    -3.017567664E-04, 2.612882069E-08, -1.201637769E-12
    2.299206903E-17, 2.349504137E+05, -1.032262257E+01

gas, b, 10.8110, b, 1, e, 1
  cpg, nasa, 3
    200, 1000, 6000, 20000
    1.182394638E+02, -7.009916910E-02, 2.500236159E+00

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-4.584213700E-07, 5.123185830E-10, -3.057217674E-13
7.533815325E-17, 6.848359080E+04, 4.209501920E+00
-1.072659610E+05, 3.225307160E+02, 2.126407232E+00
2.106579339E-04, -5.937129160E-08, 7.377427990E-12
-2.282443381E-16, 6.643413100E+04, 6.877069670E+00
-4.150001310E+08, 2.329576796E+05, -4.720913710E+01
4.877655960E-03, -2.069413791E-07, 3.233519090E-12
-1.824076527E-18, -1.802904743E+06, 4.439617640E+02

gas, b+, 10.8105, b, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
7.849791190E-02, -8.947480950E-04, 2.500004085E+00
-9.577271230E-09, 1.218136411E-11, -7.986752520E-15
2.113769829E-18, 1.655080260E+05, 2.419053631E+00
-8.911548030E+03, 4.587790090E+00, 2.531500086E+00
-4.903949100E-05, 2.853326582E-08, -7.382175910E-12
7.120721560E-16, 1.654526303E+05, 2.238669780E+00
-7.977322890E+08, 4.734044940E+05, -1.055286044E+02
1.170310076E-02, -6.075531110E-07, 1.484174716E-11
-1.328323987E-16, -3.609116960E+06, 9.497399750E+02

gas, b-, 10.8115, b, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
2.201568105E+01, -4.740468880E-03, 2.500014238E+00
-2.497056599E-08, 2.556360708E-11, -1.415274780E-14
3.271770710E-18, 6.451791880E+04, 4.616367290E+00
2.118018248E+01, 2.070697496E-04, 2.499999729E+00
1.456693631E-10, -3.888571760E-14, 5.090598630E-18
-2.601566168E-22, 6.451789140E+04, 4.616455830E+00
-1.311386485E+02, 9.028908800E-02, 2.499978572E+00
2.606391052E-09, -1.716068068E-13, 5.810865540E-18
-7.925029090E-23, 6.451717400E+04, 4.616640300E+00

gas, bbr, 90.7150, b, 1, br, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
3.796093500E+04, -4.976096020E+02, 5.267008200E+00
-3.742840190E-05, -1.131544370E-06, 1.261945702E-09
-4.288811880E-13, 3.038125367E+04, -4.353407330E+00
2.536858027E+05, -6.405909500E+02, 4.666823470E+00
4.175486390E-04, -2.963714868E-07, 7.519119540E-11
-4.835368320E-15, 3.189084340E+04, -8.255870910E-01
0.000000000E+00, 0.000000000E+00, 6.389018423E+00
-1.889018423E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.899567558E+04, -1.467555982E+01

gas, bbr2, 170.6190, b, 1, br, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
6.516550710E+04, -9.029590760E+02, 8.063817800E+00
1.129849010E-03, -4.195482390E-06, 3.965658770E-09
-1.283029835E-12, 1.470466408E+04, -1.336453164E+01
-4.191633370E+05, 4.157688470E+02, 7.148169830E+00
-5.689590750E-04, 3.195441770E-07, -5.553176990E-11
3.191136760E-15, 6.118982050E+03, -5.502759620E+00
0.000000000E+00, 0.000000000E+00, 7.437633880E+00
-1.876338796E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 7.808902770E+03, -8.709622067E+00

gas, bbr3, 250.5230, b, 1, br, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
3.968073690E+04, -6.331087160E+02, 8.054551570E+00
9.777571300E-03, -1.614866025E-05, 1.216119883E-08
-3.516539610E-12, -2.366723308E+04, -1.106099390E+01
-1.901046795E+05, -1.503627687E+02, 1.01099896E+01
-4.323095110E-05, 9.409696190E-09, -1.065218470E-12
4.883048770E-17, -2.742553062E+04, -1.997496003E+01
0.000000000E+00, 0.000000000E+00, 9.990662265E+00

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2.593377346E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.836042615E+04, -1.906152974E+01

gas, bcl, 46.2640, b, 1, cl, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.202458989E+04, -1.700511155E+02, 3.066075869E+00
5.595070180E-03, -8.460870410E-06, 6.084733410E-09
-1.702889433E-12, 2.197402537E+04, 6.388978917E+00
-7.421262540E+04, 2.638090127E+02, 3.600227650E+00
1.018866266E-03, -4.666184120E-07, 9.849002030E-11
-6.468818170E-15, 1.912726480E+04, 5.235317877E+00
0.000000000E+00, 0.000000000E+00, 5.855457905E+00
-1.355457905E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.452118836E+04, -1.170944512E+01

gas, bcl+, 46.2635, b, 1, cl, 1, e, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
6.514405420E+04, -6.845541010E+02, 5.527276820E+00
-4.458357450E-04, -4.557728840E-07, 6.370858160E-10
-2.134366120E-13, 1.509424507E+05, -6.918246393E+00
-2.169423542E+05, 3.589975160E+02, 4.035208370E+00
3.274452430E-04, -8.634578450E-08, 1.207061044E-11
-5.262253270E-16, 1.445477224E+05, 3.488222017E+00
0.000000000E+00, 0.000000000E+00, 4.872738592E+00
-3.727385916E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.454581217E+05, -2.743433615E+00

gas, bcl2, 81.7170, b, 1, cl, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
3.598879420E+04, -3.602826500E+02, 4.157685450E+00
1.152877450E-02, -1.816567395E-05, 1.341714418E-08
-3.840822860E-12, -6.765107050E+03, 5.182311874E+00
3.501403130E+05, -1.662203590E+03, 8.839534720E+00
-9.772544110E-04, 2.467356248E-07, -2.501151018E-11
8.722954560E-16, 5.682909440E+02, -2.148348344E+01
0.000000000E+00, 0.000000000E+00, 7.319609303E+00
-6.960930285E-08, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.140237477E+04, -1.092877155E+01

gas, bcl2+, 81.7165, b, 1, cl, 2, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
8.065956240E+04, -1.149602601E+03, 1.016765297E+01
-3.586494910E-03, 2.837145924E-06, -1.225075731E-09
2.224794198E-13, 8.478617410E+04, -2.937256994E+01
3.029293331E+05, -1.305533159E+03, 8.920390060E+00
-7.289919640E-04, 1.727833266E-07, -1.523567337E-11
4.226911440E-16, 8.653415770E+04, -2.267466616E+01
0.000000000E+00, 0.000000000E+00, 7.817772789E+00
-5.677727889E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 7.679164330E+04, -1.508951126E+01

gas, bcl3, 117.1700, b, 1, cl, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
2.392970339E+04, -4.140378860E+02, 5.488035260E+00
1.648395682E-02, -2.456196216E-05, 1.743876340E-08
-4.845222140E-12, -4.839469840E+04, -1.675355198E+00
-2.417408819E+05, -2.921539509E+02, 1.021668480E+01
-8.623637100E-05, 1.897792088E-08, -2.168726841E-12
1.002154013E-16, -5.074834440E+04, -2.546862377E+01
0.000000000E+00, 0.000000000E+00, 9.986920059E+00
2.630799412E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.260845573E+04, -2.371880485E+01

gas, bf, 29.8094, b, 1, f, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000

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-5.238954730E+04, 8.118476640E+02, -1.141614903E+00
1.161249417E-02, -1.175212617E-05, 6.019232780E-09
-1.238293129E-12, -1.774541998E+04, 3.005086287E+01
-3.746389780E+05, 5.604493910E+02, 3.609186110E+00
6.187216930E-04, -1.778938770E-07, 2.426601527E-11
-9.394651580E-16, -1.819179292E+04, 3.716609290E+00
0.000000000E+00, 0.000000000E+00, 5.027415235E+00
-5.274152345E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.702383256E+04, -6.753329556E+00

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gas, bfcl, 65.2624, b, 1, f, 1, cl, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-2.363512735E+04, 4.383168980E+02, 3.918095720E-01
1.719990692E-02, -2.139592424E-05, 1.337389186E-08
-3.371164690E-12, -3.687166590E+04, 2.668102752E+01
-1.086309561E+05, -5.233438480E+02, 7.297504740E+00
-3.054410701E-05, -3.154598306E-08, 1.052290533E-11
-7.615432260E-16, -3.305891210E+04, -1.186586595E+01
0.000000000E+00, 0.000000000E+00, 7.173873981E+00
7.612601918E-08, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.744926558E+04, -1.094224551E+01

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gas, bfcl2, 100.7154, b, 1, f, 1, cl, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
4.402551240E+03, -1.571398929E+02, 4.016322310E+00
1.743396078E-02, -2.252789060E-05, 1.433673443E-08
-3.648755580E-12, -7.822452620E+04, 6.886094746E+00
-2.233613309E+05, -6.440602960E+02, 1.047861848E+01
-1.911892367E-04, 4.224887790E-08, -4.847266920E-12
2.247974725E-16, -7.740626480E+04, -2.814630564E+01
0.000000000E+00, 0.000000000E+00, 9.981612344E+00
2.683876562E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.161524062E+04, -2.437658259E+01

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gas, bf2, 48.8078, b, 1, f, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-6.787651760E+04, 1.085903536E+03, -3.023320961E+00
2.326503687E-02, -2.641444147E-05, 1.515620683E-08
-3.518559180E-12, -6.640918250E+04, 4.431968310E+01
-1.153091296E+05, -8.109800120E+02, 7.602709230E+00
-2.409209242E-04, 5.328471860E-08, -6.118797940E-12
2.839984178E-16, -5.796222170E+04, -1.655644047E+01
0.000000000E+00, 0.000000000E+00, 6.981859942E+00
2.681400582E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.331875997E+04, -1.185513549E+01

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gas, bf2+, 48.8073, b, 1, f, 2, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-2.938356477E+04, 2.955698598E+02, 1.894274526E+00
1.280508319E-02, -1.388757254E-05, 7.624366750E-09
-1.706339371E-12, 3.598992440E+04, 1.384803311E+01
-1.769409966E+05, -5.343685180E+02, 7.728052910E+00
-1.958622052E-06, -2.419680893E-08, 5.732533810E-12
-3.216354230E-16, 3.908745050E+04, -1.936560315E+01
0.000000000E+00, 0.000000000E+00, 7.574574853E+00
-3.245748527E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.497461266E+04, -1.807571388E+01

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gas, bf2-, 48.8084, b, 1, f, 2, e, 4
cpg, nasa, 3
298.15, 1000, 6000, 20000
2.109765318E+04, 1.439564600E+02, 2.604646296E-01
1.817373751E-02, -2.241565287E-05, 1.369712886E-08
-3.355952680E-12, -8.971801780E+04, 2.351692604E+01
-1.709920627E+05, -6.156219790E+02, 7.458871370E+00
-1.836703248E-04, 4.064363960E-08, -4.667700950E-12
2.166264840E-16, -8.741404530E+04, -1.620604664E+01

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0.000000000E+00, 0.000000000E+00, 6.983593081E+00
2.664069193E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.144944609E+04, -1.260429996E+01

gas, bf2oh, 65.8151, b, 1, f, 2, o, 1, h, 1, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
-7.522521650E+03, 4.367121690E+02, -3.128973474E+00
4.323957680E-02, -5.785494040E-05, 3.885858130E-08
-1.038574523E-11, -1.344259458E+05, 4.139170550E+01
5.760759250E+05, -3.611900190E+03, 1.446897640E+01
-3.028293733E-04, 2.764337508E-08, -1.905493170E-13
-8.694971940E-17, -1.133589041E+05, -5.896981510E+01
0.000000000E+00, 0.000000000E+00, 1.290526652E+01
3.447334826E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.391582095E+05, -4.613567075E+01

gas, bf3, 67.8062, b, 1, f, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
3.465584000E+03, 2.133198651E+01, 1.641245191E+00
1.993755064E-02, -2.150119930E-05, 1.145669081E-08
-2.442285789E-12, -1.379455591E+05, 1.625533544E+01
-1.819767014E+05, -1.405347931E+03, 1.103412258E+01
-4.104591050E-04, 9.031277570E-08, -1.033057360E-11
4.780551830E-16, -1.323136863E+05, -3.738386080E+01
0.000000000E+00, 0.000000000E+00, 9.969822868E+00
2.801771316E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.416178253E+05, -2.931593480E+01

gas, bh, 11.8189, b, 1, h, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.063082550E+04, -3.682502520E+02, 6.071337870E+00
-8.728321070E-03, 1.458566459E-05, -1.036840401E-08
2.779462579E-12, 5.460459920E+04, -1.300392582E+01
-1.098531663E+06, -1.745890126E+02, 8.442426810E+00
-5.440196670E-03, 2.718307052E-06, -4.839812210E-10
2.868523222E-14, 5.016735670E+04, -2.971030686E+01
0.000000000E+00, 0.000000000E+00, 6.247288678E+00
-1.747288678E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.762981084E+04, -1.982311678E+01

gas, bh2, 12.8269, b, 1, h, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
2.812557296E+04, -3.000083489E+02, 4.824221000E+00
-2.186429819E-04, 1.485457398E-06, 3.893739680E-10
-6.331629390E-13, 3.991988420E+04, -5.042682850E+00
1.360117365E+06, -4.917704490E+03, 9.758971030E+00
-7.415870640E-04, 1.269760019E-07, -1.187742442E-11
4.682552510E-16, 6.890292660E+04, -4.190490120E+01
0.000000000E+00, 0.000000000E+00, 7.139419988E+00
1.105800122E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.428356349E+04, -2.118342907E+01

gas, bh3, 13.8348, b, 1, h, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
-6.619635070E+04, 1.262658391E+03, -4.654355900E+00
2.461795131E-02, -2.501537437E-05, 1.562330756E-08
-4.323949480E-12, 5.667587980E+03, 4.666504620E+01
1.855778950E+06, -8.002492370E+03, 1.505692199E+01
-1.790456689E-03, 3.612511100E-07, -3.866035910E-11
1.698508879E-15, 5.967537070E+04, -7.994046160E+01
0.000000000E+00, 0.000000000E+00, 9.885465236E+00
3.645347641E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.667876890E+03, -4.011895962E+01

gas, bi, 137.7155, b, 1, i, 1, e, 2
cpg, nasa, 3

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200, 1000, 6000, 20000
3.517449530E+04, -5.445819300E+02, 6.027511010E+00
-2.387237926E-03, 2.244796277E-06, -1.110001347E-09
2.280204403E-13, 4.071910130E+04, -7.288049840E+00
2.132872626E+06, -6.283684960E+03, 1.123964343E+01
-3.258856750E-03, 7.064282150E-07, -4.230068930E-11
-4.208078470E-16, 7.797634810E+04, -4.664042610E+01
0.000000000E+00, 0.000000000E+00, 6.459324393E+00
-1.959324393E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.951658769E+04, -1.404398060E+01

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gas, bi2, 264.6199, b, 1, i, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
6.640975900E+04, -1.044411994E+03, 9.734197240E+00
-3.952557540E-03, 3.165567780E-06, -1.273764644E-09
1.879968132E-13, 3.205750890E+04, -2.012407058E+01
-3.924022230E+05, 4.422902350E+02, 7.129623580E+00
-5.619634060E-04, 3.180760520E-07, -5.537079720E-11
3.183959700E-15, 2.291972638E+04, -3.201793240E+00
0.000000000E+00, 0.000000000E+00, 7.438848661E+00
-1.888486614E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.477857623E+04, -6.560539268E+00

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gas, bi3, 391.5244, b, 1, i, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
6.243114890E+04, -1.002408628E+03, 1.106650075E+01
1.609588058E-03, -5.147250250E-06, 4.732514020E-09
-1.512999796E-12, 5.160348150E+03, -2.420687643E+01
-1.506176506E+05, -8.167210610E+01, 1.005937867E+01
-2.319396215E-05, 5.019966730E-09, -5.654349630E-13
2.580651348E-17, -4.261687910E+02, -1.617962779E+01
0.000000000E+00, 0.000000000E+00, 9.992906587E+00
2.570934129E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.164890769E+02, -1.566834593E+01

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gas, bn, 24.8177, b, 1, n, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-4.569707580E+04, 6.704286070E+02, 3.615089080E-02
7.339487510E-03, -4.969033490E-06, 1.229031380E-09
6.340281520E-14, 6.485465080E+04, 2.539869896E+01
-2.276932705E+05, -1.025649298E+02, 4.414586810E+00
2.561670989E-04, -1.612994942E-08, -6.526052930E-13
5.749466120E-17, 6.784465130E+04, -6.778568656E-01
0.000000000E+00, 0.000000000E+00, 5.285757137E+00
-7.819757136E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.510507973E+04, -7.013340674E+00

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gas, bo, 26.8104, b, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-1.166216822E+04, 9.217579390E+01, 3.655498490E+00
-3.118542920E-03, 9.008329830E-06, -8.017789990E-09
2.472952292E-12, 8.738284780E+02, 4.482847390E+00
1.788600589E+04, -6.309019630E+02, 4.574528400E+00
1.988001643E-04, -9.702963480E-08, 1.870854291E-11
-1.030218131E-15, 4.841311090E+03, -3.398890580E+00
-1.592699514E+08, 1.210955629E+05, -3.136823502E+01
5.110037760E-03, -3.461020740E-07, 1.148046833E-11
-1.504899225E-16, -9.345065760E+05, 3.026123907E+02

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gas, bo-, 26.8109, b, 1, o, 1, e, 3
cpg, nasa, 3
298.15, 1000, 6000, 20000
-8.242023210E+04, 9.203636900E+02, -2.302659981E-01
6.229904120E-03, -3.157624391E-06, 1.184578107E-10
2.819228693E-13, -3.911141220E+04, 2.599226838E+01
2.122804369E+05, -1.262124688E+03, 5.383167310E+00
-3.181049100E-04, 7.288988250E-08, -8.141708920E-12

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3.715364390E-16, -2.706892261E+04, -9.773753670E+00
0.000000000E+00, 0.000000000E+00, 4.617724630E+00
-1.177246301E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.602731696E+04, -3.969098476E+00

gas, boc1, 62.2634, b, 1, o, 1, cl, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
7.052380640E+04, -1.315301429E+03, 1.130087727E+01
-1.207112050E-02, 1.880516131E-05, -1.373823975E-08
3.854890160E-12, -3.355399100E+04, -3.698462517E+01
1.557148487E+05, -1.446254968E+03, 8.509448050E+00
-3.859007380E-04, 8.262268820E-08, -9.261027460E-12
4.219998010E-16, -3.203589040E+04, -2.372713292E+01
0.000000000E+00, 0.000000000E+00, 7.479651032E+00
-2.296510319E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.180230201E+04, -1.588640296E+01

gas, bof, 45.8088, b, 1, o, 1, f, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
7.226802650E+04, -1.131386630E+03, 8.816054520E+00
-4.627694570E-03, 7.801299580E-06, -5.681205840E-09
1.534732094E-12, -6.711116010E+04, -2.547957229E+01
1.937020297E+05, -1.739112297E+03, 8.695650860E+00
-4.518895570E-04, 9.591019080E-08, -1.067806769E-11
4.840007660E-16, -6.330152390E+04, -2.702458617E+01
0.000000000E+00, 0.000000000E+00, 7.474759880E+00
-2.247598802E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.506930332E+04, -1.771187532E+01

gas, bof2, 64.8072, b, 1, o, 1, f, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
7.227794130E+03, 2.148783624E+01, 1.157840301E+00
2.250585296E-02, -2.610731536E-05, 1.508824929E-08
-3.518364850E-12, -1.013995733E+05, 2.010127136E+01
-2.205028861E+05, -1.254238690E+03, 1.092551380E+01
-3.680144000E-04, 8.107164940E-08, -9.281275060E-12
4.297549300E-16, -9.680447580E+04, -3.482853330E+01
0.000000000E+00, 0.000000000E+00, 9.971377156E+00
2.786228442E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.050850673E+05, -2.759538483E+01

gas, boh, 27.8183, b, 1, o, 1, h, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-7.521410270E+04, 1.391444703E+03, -5.630330180E+00
2.966358811E-02, -3.830835180E-05, 2.550606424E-08
-6.795857210E-12, -8.341300280E+03, 5.517690040E+01
8.447498570E+05, -3.016982887E+03, 8.083864700E+00
-1.609855388E-04, -2.191830959E-09, 3.127133119E-12
-2.376665451E-16, 1.647698495E+04, -2.603227947E+01
0.000000000E+00, 0.000000000E+00, 6.925176314E+00
3.248236855E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.375789734E+03, -1.632032044E+01

gas, bo2, 42.8098, b, 1, o, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-4.141090640E+04, 7.198854610E+02, -1.477629435E+00
2.277415194E-02, -2.786326934E-05, 1.718462069E-08
-4.278991440E-12, -4.177657690E+04, 3.258458010E+01
-3.834452340E+04, -9.563261140E+02, 8.200962780E+00
-2.062130802E-04, 9.872288990E-09, 8.158366760E-12
-7.527519660E-16, -3.423564020E+04, -2.224772278E+01
0.000000000E+00, 0.000000000E+00, 7.949471392E+00
-6.994713917E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.255568343E+04, -2.061181917E+01

gas, bo2-, 42.8103, b, 1, o, 2, e, 4

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cpg, nasa, 3
298.15, 1000, 6000, 20000
5.324279690E+04, -7.326313030E+02, 5.902470000E+00
2.437465200E-03, -4.878803950E-07, -8.475724760E-10
4.080781180E-13, -8.344293680E+04, -1.053931911E+01
1.199226372E+05, -1.715766982E+03, 8.701038220E+00
-4.601242120E-04, 9.867011870E-08, -1.107288516E-11
5.050183240E-16, -7.825789690E+04, -2.839356505E+01
0.000000000E+00, 0.000000000E+00, 7.473891142E+00
-2.238911421E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.981750923E+04, -1.905064696E+01
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gas, b(oh)2, 44.8257, b, 1, o, 2, h, 2, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
1.491659222E+03, 3.648184840E+02, -2.906006389E+00
4.136834460E-02, -5.782584220E-05, 4.069783560E-08
-1.126499791E-11, -5.375483660E+04, 3.888535180E+01
1.557023406E+06, -5.784710760E+03, 1.487391235E+01
-1.821804765E-04, -3.803541640E-08, 1.030332746E-11
-6.685889830E-16, -1.806810301E+04, -6.590268900E+01
0.000000000E+00, 0.000000000E+00, 1.284729789E+01
4.027021125E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.021865539E+04, -4.858455328E+01
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gas, bs, 42.8760, b, 1, s, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-3.839490100E+04, 6.989417490E+02, -1.213980460E+00
1.396391264E-02, -1.689881284E-05, 1.038889985E-08
-2.582063989E-12, 2.865685472E+04, 3.154819945E+01
1.358760165E+06, -4.364035960E+03, 9.034307590E+00
-2.114548699E-03, 4.189275310E-07, -1.354787322E-11
-1.360684605E-15, 5.913065450E+04, -3.336696868E+01
0.000000000E+00, 0.000000000E+00, 6.058372897E+00
-1.558372897E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.441811618E+04, -1.332286835E+01
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```
gas, b2, 21.6220, b, 2, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-1.516418096E+05, 2.630168946E+03, -1.381358321E+01
5.216225190E-02, -6.930494740E-05, 4.469410390E-08
-1.128496456E-11, 8.995251050E+04, 9.813118490E+01
1.094594495E+06, -2.602735739E+03, 6.909456210E+00
-6.405949890E-04, 1.951732355E-07, -2.555902119E-11
1.053557323E-15, 1.187807611E+05, -1.949045025E+01
0.000000000E+00, 0.000000000E+00, 5.539638411E+00
-1.039638411E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.000725437E+05, -8.978224333E+00
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gas, b2cl4, 163.4340, b, 2, cl, 4, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
4.285555130E+04, -7.280748810E+02, 9.315763670E+00
2.331629623E-02, -3.511247610E-05, 2.464057658E-08
-6.735479960E-12, -5.819023240E+04, -1.622083878E+01
-6.427987030E+05, 5.078562990E+02, 1.486725022E+01
2.026983515E-06, 6.272718810E-09, -1.218822573E-12
7.241208410E-17, -6.820066000E+04, -4.139110669E+01
0.000000000E+00, 0.000000000E+00, 1.499506799E+01
1.254932012E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.425908069E+04, -4.252552667E+01
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gas, b2f4, 97.6156, b, 2, f, 4, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
-5.971695640E+04, 8.189425440E+02, -6.437671290E-01
3.858966070E-02, -4.313053190E-05, 2.404463223E-08
-5.393559350E-12, -1.790041225E+05, 3.552179970E+01
3.855865890E+04, -2.928842655E+03, 1.792063736E+01
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-9.523998270E-04, 1.614708845E-07, -1.428613504E-11
5.218739670E-16, -1.613051924E+05, -7.184803250E+01
0.000000000E+00, 0.000000000E+00, 1.511585952E+01
1.134140479E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.793172588E+05, -5.063446386E+01

gas, b2h6, 27.6696, b, 2, h, 6, e, 8
cpg, nasa, 3
200, 1000, 6000, 20000
-1.052844558E+04, 1.041795556E+03, -8.960518860E+00
5.492480880E-02, -5.305197050E-05, 3.011904756E-08
-7.688768300E-12, -9.259374350E+02, 6.812592430E+01
2.835765414E+06, -1.567600163E+04, 3.226122330E+01
-3.738609730E-03, 7.718806460E-07, -8.414454540E-11
3.752223380E-15, 9.358378550E+04, -1.920223395E+02
0.000000000E+00, 0.000000000E+00, 2.176814104E+01
4.818589605E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.345957288E+04, -1.115477191E+02

gas, b2o, 37.6214, b, 2, o, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-5.699546760E+04, 1.018000465E+03, -2.636481947E+00
2.746009279E-02, -3.632432720E-05, 2.406890217E-08
-6.384129720E-12, 1.703874394E+04, 3.855346110E+01
-1.628723220E+05, -3.876289810E+02, 7.787723520E+00
-1.146822108E-04, 2.528097612E-08, -2.893783941E-12
1.339210475E-16, 2.263035354E+04, -1.908513011E+01
0.000000000E+00, 0.000000000E+00, 7.490564065E+00
-2.405640649E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.009924028E+04, -1.682967444E+01

gas, b2o2, 53.6208, b, 2, o, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
8.174391690E+04, -1.732702797E+03, 1.605560926E+01
-2.160057288E-02, 3.566854570E-05, -2.660198794E-08
7.531833240E-12, -4.899632900E+04, -6.172702390E+01
4.605789660E+05, -2.990079203E+03, 1.256764079E+01
-7.850974950E-04, 1.672537624E-07, -1.867694780E-11
8.486190670E-16, -4.015748150E+04, -4.874413710E+01
0.000000000E+00, 0.000000000E+00, 1.045948509E+01
-2.094850893E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.041482058E+04, -3.268080389E+01

gas, b2o3, 69.6202, b, 2, o, 3, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
7.379611910E+04, -1.263620592E+03, 1.072681512E+01
3.841383720E-04, 5.976058380E-06, -6.552891350E-09
2.123951064E-12, -9.628183140E+04, -3.088078011E+01
3.905035300E+05, -3.691348210E+03, 1.555502598E+01
-9.707645510E-04, 2.068887872E-07, -2.310858356E-11
1.050136734E-15, -8.263054410E+04, -6.390863440E+01
0.000000000E+00, 0.000000000E+00, 1.294173118E+01
3.082688228E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.075661239E+05, -4.399044914E+01

gas, b2(oh)4, 89.6514, b, 2, o, 4, h, 4, e, 10
cpg, nasa, 3
200, 1000, 6000, 20000
-1.728717249E+04, 8.495913480E+02, -8.715959570E+00
9.362362610E-02, -1.278784165E-04, 8.813671160E-08
-2.400605571E-11, -1.564337133E+05, 7.120169310E+01
2.983925656E+06, -1.207469577E+04, 3.162610570E+01
-5.163682440E-04, -4.232093970E-08, 1.671977280E-11
-1.156366726E-15, -8.280976970E+04, -1.653010498E+02
0.000000000E+00, 0.000000000E+00, 2.718118670E+01
1.068813296E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.704237204E+05, -1.276986440E+02

gas, b3o3cl3, 186.7902, b, 3, o, 3, cl, 3, e, 9
cpg, nasa, 3
200, 1000, 6000, 20000
-4.284452800E+04, 1.005623966E+03, -4.556519630E+00
8.117967140E-02, -1.038385803E-04, 6.621422330E-08
-1.695748504E-11, -2.040907277E+05, 5.466113803E+01
-7.414059810E+05, -2.527447455E+03, 2.687263667E+01
-7.463389360E-04, 1.646334110E-07, -1.886231553E-11
8.737926310E-16, -1.923509858E+05, -1.185636255E+02
0.000000000E+00, 0.000000000E+00, 2.493586025E+01
3.141397463E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.089329438E+05, -1.038745669E+02

gas, b3o3f3, 137.4264, b, 3, o, 3, f, 3, e, 9
cpg, nasa, 3
200, 1000, 6000, 20000
-7.251549780E+04, 1.400996228E+03, -7.906716200E+00
8.217161850E-02, -9.633152660E-05, 5.668194260E-08
-1.349024305E-11, -2.953461728E+05, 7.001536830E+01
-6.629822910E+05, -3.784946870E+03, 2.779526578E+01
-1.112096232E-03, 2.450806704E-07, -2.806484980E-11
1.299750466E-15, -2.748865475E+05, -1.315605015E+02
0.000000000E+00, 0.000000000E+00, 2.491682185E+01
3.331781525E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.998821485E+05, -1.097420779E+02

gas, b5h9, 63.1265, b, 5, h, 9, e, 14
cpg, nasa, 3
200, 1000, 6000, 20000
8.998473720E+04, 1.042533357E+02, -1.195549834E+01
1.007310686E-01, -9.866680210E-05, 5.295535180E-08
-1.232119583E-11, 8.374341780E+03, 7.663090480E+01
3.169017620E+06, -2.282503203E+04, 5.512008980E+01
-5.563411420E-03, 1.157837073E-06, -1.270332301E-10
5.694262030E-15, 1.334452571E+05, -3.371060460E+02
0.000000000E+00, 0.000000000E+00, 3.964255338E+01
6.074466202E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.187551734E+04, -2.185433293E+02

gas, ba, 137.3270, ba, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
2.222563526E+03, -3.407977850E+01, 2.706751118E+00
-6.382894490E-04, 1.063003846E-06, -9.102624270E-10
3.148062219E-13, 2.166549702E+04, 5.102545880E+00
-1.926579228E+07, 6.006501040E+04, -6.633964130E+01
3.507565930E-02, -7.807601830E-06, 8.085126800E-10
-3.199486918E-14, -3.589663720E+05, 5.007583400E+02
3.483452070E+08, -2.925558261E+05, 9.774888490E+01
-1.345477126E-02, 9.567239790E-07, -3.380662310E-11
4.727390540E-16, 2.250335260E+06, -7.968444410E+02

gas, ba+, 137.3265, ba, 1
cpg, nasa, 3
200, 1000, 6000, 20000
-5.423167550E+04, 6.744680780E+02, -8.940272500E-01
8.796642950E-03, -1.222812901E-05, 8.387953870E-09
-2.037964358E-12, 7.941774640E+04, 2.607063698E+01
8.794971850E+06, -1.951817883E+04, 1.485542861E+01
-9.404233500E-04, -7.031257790E-07, 1.667412753E-10
-1.070117310E-14, 2.146800732E+05, -9.228264190E+01
-1.055569557E+08, 4.530799570E+04, -5.410673220E-01
-7.531497600E-04, 1.295568595E-07, -6.013388590E-12
8.846178515E-17, -3.000874708E+05, 4.370610780E+01

gas, babr, 217.2310, ba, 1, br, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-6.912557440E+02, -6.245500160E+01, 4.796677650E+00
-6.838004940E-04, 1.043947680E-06, -7.441224300E-10
2.172187003E-13, -1.011349165E+04, 5.196454870E+00

-1.056014042E+06, 1.034740207E+03, 6.735729380E+00
-3.784026300E-03, 1.952196896E-06, -3.347831880E-10
1.893189803E-14, -1.950233645E+04, -5.069279640E+00
0.000000000E+00, 0.000000000E+00, 6.689490999E+00
-2.189490999E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.658891728E+04, -1.034674930E+01

gas, babr2, 297.1350, ba, 1, br, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-5.143374060E+03, -3.870518460E+01, 7.162446970E+00
-3.696715310E-04, 4.689715270E-07, -3.107902475E-10
8.363582050E-14, -5.153318260E+04, 9.741407000E-01
-8.928251210E+03, -7.536558890E-01, 7.000658210E+00
-2.949821710E-07, 7.092392110E-11, -8.670038100E-15
4.221742310E-19, -5.172669490E+04, 1.910185706E+00
0.000000000E+00, 0.000000000E+00, 6.998231762E+00
2.517682380E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.172409212E+04, 1.929052909E+00

gas, bac1, 172.7800, ba, 1, cl, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-2.661946867E+03, -7.724996340E+01, 4.746106050E+00
-3.523548880E-04, 3.999198350E-07, -1.936413749E-10
4.124048530E-14, -1.736328141E+04, 3.904455084E+00
-1.075410089E+06, 1.209303069E+03, 6.272558600E+00
-3.288110310E-03, 1.717751087E-06, -2.910607065E-10
1.632658438E-14, -2.779173737E+04, -3.574185216E+00
0.000000000E+00, 0.000000000E+00, 6.858908082E+00
-2.358908082E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.498826121E+04, -1.332330182E+01

gas, bac1+, 172.7795, ba, 1, cl, 1, e, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
-8.951556690E+02, -1.334692684E+02, 4.935416120E+00
-7.574054510E-04, 8.355724000E-07, -4.685258510E-10
1.095343103E-13, 4.125155990E+04, 1.896278378E+00
-1.829198157E+04, -2.931616688E+00, 4.502280710E+00
3.671788490E-05, 2.396147871E-09, 5.479458600E-14
1.174342316E-18, 4.055100150E+04, 4.503765564E+00
0.000000000E+00, 0.000000000E+00, 4.823149102E+00
-3.231491022E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.946217721E+04, 1.982811475E+00

gas, bac12, 208.2330, ba, 1, cl, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-1.157501999E+03, -2.054518828E+02, 7.837514050E+00
-1.867700704E-03, 2.335378734E-06, -1.531373341E-09
4.088525090E-13, -6.115665280E+04, -5.978149218E+00
-2.216598768E+04, -4.002483810E+00, 7.003426740E+00
-1.515820808E-06, 3.611849210E-10, -4.386759060E-14
2.125803293E-18, -6.219095270E+04, -1.132439694E+00
0.000000000E+00, 0.000000000E+00, 6.997818221E+00
2.521817794E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.220515270E+04, -1.089249749E+00

gas, baf, 156.3254, ba, 1, f, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.530317292E+04, -4.716995100E+02, 6.185036220E+00
-3.366678800E-03, 4.011834560E-06, -2.506578601E-09
6.477258160E-13, -3.731872140E+04, -6.220715380E+00
1.868380434E+06, -7.071099600E+03, 1.466959284E+01
-6.995950200E-03, 2.366313845E-06, -3.287734300E-10
1.647896238E-14, 3.571780680E+03, -6.662390920E+01
0.000000000E+00, 0.000000000E+00, 7.111918794E+00
-2.611918794E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.930870829E+04, -1.742212913E+01

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gas, baf+, 156.3249, ba, 1, f, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
2.840719922E+04, -4.863571820E+02, 5.946058390E+00
-2.429844077E-03, 2.445346729E-06, -1.316757471E-09
2.974886320E-13, 1.730639076E+04, -5.951206930E+00
-4.054423670E+04, -1.701997704E+01, 4.513055340E+00
2.632753508E-05, 2.612088236E-09, -9.502197930E-14
6.515176160E-18, 1.474486570E+04, 2.783167711E+00
0.000000000E+00, 0.000000000E+00, 4.750514845E+00
-2.505148452E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.382462103E+04, 9.225402431E-01

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gas, baf2, 175.3238, ba, 1, f, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
3.488395520E+04, -7.648459560E+02, 9.797750380E+00
-5.756457510E-03, 6.775603800E-06, -4.243614750E-09
1.093687692E-12, -9.590356450E+04, -2.082035292E+01
-5.508633660E+04, -1.691114228E+01, 7.013564880E+00
-5.731909770E-06, 1.321203959E-09, -1.565528167E-13
7.444983020E-18, -9.983529700E+04, -4.389581490E+00
0.000000000E+00, 0.000000000E+00, 6.996701563E+00
2.532984369E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.992380651E+04, -4.260284411E+00

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gas, bai, 264.2315, ba, 1, i, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-4.186285540E+03, 1.033094613E+01, 4.428900230E+00
3.026019976E-04, -2.591429408E-07, 1.741605400E-10
-3.370062760E-14, -2.636169733E+03, 8.201924680E+00
-3.533859660E+06, 7.394258000E+03, 1.285151488E+00
-2.303429302E-03, 2.214839289E-06, -4.681096810E-10
3.011371472E-14, -5.340229590E+04, 3.710443870E+01
0.000000000E+00, 0.000000000E+00, 6.259242280E+00
-1.759242280E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.127727296E+03, -5.240999070E+00

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gas, bai2, 391.1359, ba, 1, i, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-4.241592730E+03, -1.862214382E+01, 7.078556750E+00
-1.793922821E-04, 2.281437677E-07, -1.514647881E-10
4.081498360E-14, -3.670351490E+04, 3.163138970E+00
-6.048224800E+03, -3.622729450E-01, 7.000317450E+00
-1.425793502E-07, 3.433349420E-11, -4.201754980E-15
2.047703474E-19, -3.679650750E+04, 3.615475320E+00
0.000000000E+00, 0.000000000E+00, 6.998317302E+00
2.516826983E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.679231779E+04, 3.631036271E+00

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gas, bao, 153.3264, ba, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
3.764398500E+04, -5.071555300E+02, 5.392847280E+00
-4.119324690E-04, -6.527896620E-07, 9.430588420E-10
-3.436603030E-13, -1.275552614E+04, -3.752213760E+00
1.318481698E+07, -3.854253250E+04, 4.686741610E+01
-2.188646633E-02, 5.335677450E-06, -5.152304300E-10
1.433083400E-14, 2.306902396E+05, -3.028332772E+02
-1.104748482E+09, 3.561451690E+05, -1.236258085E+01
-2.812895475E-03, 3.310897210E-07, -1.254960778E-11
1.696392420E-16, -3.157682531E+06, 2.067297489E+02

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gas, bao+, 153.3259, ba, 1, o, 1, e, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
3.566410970E+05, -3.779246710E+03, 1.673544137E+01
-1.306611610E-02, 2.686157445E-06, 4.044077950E-09

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-2.016508813E-12, 7.983268490E+04, -7.285118550E+01
-3.317679230E+05, 1.594253495E+03, 3.227247810E+00
5.722641500E-04, -1.147415658E-07, 1.382873231E-11
-6.384437030E-16, 5.025247610E+04, 1.409092365E+01
-3.283193020E+06, 2.046049762E+03, 4.048225140E+00
9.872145390E-05, 7.763808620E-11, 2.536329860E-13
-1.334411326E-18, 4.456858530E+04, 8.528620900E+00

gas, baoh, 154.3343, ba, 1, o, 1, h, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
3.776231510E+04, -8.891390220E+02, 9.531718000E+00
-5.458825900E-03, 4.941783010E-06, -1.809327537E-09
2.050048305E-13, -2.441852965E+04, -2.489410158E+01
2.637336694E+06, -8.365410400E+03, 1.599803975E+01
-5.098446050E-03, 1.594657431E-06, -2.180478542E-10
1.084610688E-14, 2.393550647E+04, -7.490705790E+01
0.000000000E+00, 0.000000000E+00, 8.459530444E+00
-1.209530444E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.476256662E+04, -2.203297185E+01

gas, baoh+, 154.3338, ba, 1, o, 1, h, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
2.797632165E+04, -7.680769400E+02, 9.052978440E+00
-4.368577900E-03, 3.523497260E-06, -8.386360870E-10
-6.475457470E-14, 2.623280802E+04, -2.264561641E+01
8.766738430E+05, -2.335819600E+03, 7.973166060E+00
1.038679898E-04, -6.319485780E-08, 1.028729445E-11
-5.741808570E-16, 3.772517470E+04, -1.930805001E+01
0.000000000E+00, 0.000000000E+00, 7.435437739E+00
-1.854377395E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.024798452E+04, -1.421148359E+01

gas, ba(oh)2, 171.3417, ba, 1, o, 2, h, 2, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
5.702814900E+04, -1.577384797E+03, 1.659935325E+01
-1.039598275E-02, 9.664889600E-06, -3.673621440E-09
4.625784990E-13, -6.835158900E+04, -5.851911700E+01
1.762908112E+06, -4.676205420E+03, 1.395135494E+01
2.051842928E-04, -1.257265530E-07, 2.048917625E-11
-1.144045777E-15, -4.545964410E+04, -4.929457190E+01
0.000000000E+00, 0.000000000E+00, 1.286658514E+01
3.834148576E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.043218425E+04, -3.903244114E+01

gas, bas, 169.3920, ba, 1, s, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
1.377075147E+04, -3.293500560E+02, 5.811545840E+00
-2.848973760E-03, 3.576336020E-06, -2.325649347E-09
6.172805310E-13, 4.964432450E+03, -3.497962615E+00
6.104262070E+06, -2.227617479E+04, 3.597513510E+01
-2.157793740E-02, 7.319872350E-06, -1.089038636E-09
5.884101950E-14, 1.404138006E+05, -2.141776331E+02
0.000000000E+00, 0.000000000E+00, 7.523539470E+00
-3.023539470E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.342518577E+03, -2.007271526E+01

gas, bebr, 88.9162, be, 1, br, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
3.746288060E+04, -4.722339070E+02, 5.039409040E+00
5.798853220E-04, -1.937634343E-06, 1.793372625E-09
-5.672295580E-13, 1.723135679E+04, -2.573912886E+00
8.217238140E+05, -2.850509348E+03, 8.017266020E+00
-2.105663212E-03, 6.849136340E-07, -9.989129320E-11
5.192456840E-15, 3.229372870E+04, -2.326810811E+01
0.000000000E+00, 0.000000000E+00, 4.742276736E+00
-2.422767360E-07, 0.000000000E+00, 0.000000000E+00


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0.000000000E+00, 1.413539702E+04, -1.275157671E-01

gas, bebr2, 168.8202, be, 1, br, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-2.118698678E+04, 2.090382611E+02, 3.731171310E+00
1.115501549E-02, -1.542821761E-05, 1.052354444E-08
-2.850006057E-12, -3.090456277E+04, 9.458917720E+00
-1.041331811E+05, -1.543443092E+02, 7.614465410E+00
-4.556700630E-05, 1.003180548E-08, -1.146879501E-12
5.301795380E-17, -2.984527608E+04, -1.149360980E+01
0.000000000E+00, 0.000000000E+00, 7.496053346E+00
-2.460533456E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.084279135E+04, -1.059306268E+01

gas, becl, 44.4652, be, 1, cl, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.016138947E+04, -1.413988978E+02, 2.898223773E+00
6.069925510E-03, -9.162038470E-06, 6.612620660E-09
-1.859126853E-12, 6.626691440E+03, 7.900181050E+00
2.808845146E+05, -1.103100122E+03, 5.671189830E+00
-5.443000450E-04, 1.459036606E-07, -1.230971735E-11
9.900804760E-17, 1.224649804E+04, -8.382371370E+00
0.000000000E+00, 0.000000000E+00, 4.954013230E+00
-4.540132304E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.787771658E+03, -3.454365459E+00

gas, becl2, 79.9182, be, 1, cl, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-2.229957657E+04, 1.528781667E+02, 3.714994710E+00
1.067776550E-02, -1.397766942E-05, 9.066693560E-09
-2.350292311E-12, -4.590428230E+04, 6.682555572E+00
-1.154087460E+05, -2.484300053E+02, 7.685672140E+00
-7.444960370E-05, 1.649479787E-08, -1.895997075E-12
8.804973950E-17, -4.468747280E+04, -1.500337407E+01
0.000000000E+00, 0.000000000E+00, 7.494218849E+00
-2.442188490E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.630617834E+04, -1.355112506E+01

gas, bef, 28.0106, be, 1, f, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-4.664497230E+04, 7.887178850E+02, -1.463363201E+00
1.381790494E-02, -1.591299964E-05, 9.352931520E-09
-2.229211181E-12, -2.522627476E+04, 3.197634300E+01
-1.857941543E+05, 4.776082770E+01, 4.269986020E+00
2.310668473E-04, -6.657214920E-08, 1.152149888E-11
-6.335586440E-16, -2.257950960E+04, -2.184787270E-01
0.000000000E+00, 0.000000000E+00, 4.932737100E+00
-4.327370999E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.398810135E+04, -5.174497445E+00

gas, bef2, 47.0090, be, 1, f, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
7.490270240E+03, -2.878053102E+02, 5.434712820E+00
3.903233460E-03, -2.214865601E-06, -1.965806119E-10
4.042362270E-13, -9.591615640E+04, -5.616616920E+00
-6.482018070E+04, -7.684556060E+02, 8.062860840E+00
-2.227502549E-04, 4.891598660E-08, -5.587886720E-12
2.583409761E-16, -9.395495490E+04, -2.125660266E+01
0.000000000E+00, 0.000000000E+00, 7.486704936E+00
-2.367049364E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.906440327E+04, -1.688856857E+01

gas, beh, 10.0201, be, 1, h, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-1.615149125E+03, -5.935286080E+01, 4.507269100E+00

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-5.264189610E-03, 1.145319967E-05, -9.247883590E-09
2.700364753E-12, 4.030193040E+04, -3.485117050E+00
-2.424081636E+06, 6.597398460E+03, -3.626316480E+00
4.579634350E-03, -1.163329056E-06, 1.297785691E-10
-5.291885810E-15, -2.489846221E+03, 5.216018690E+01
0.000000000E+00, 0.000000000E+00, 4.175816226E+00
3.241837738E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.098174289E+04, -2.615056292E+00

gas, beh+, 10.0196, be, 1, h, 1, e, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
-3.220611020E+04, 2.520229596E+02, 3.207719570E+00
-2.191287290E-03, 6.902534490E-06, -5.769522630E-09
1.656414969E-12, 1.392530660E+05, 3.307044770E+00
4.622341590E+05, -1.760169629E+03, 5.379905550E+00
2.742462444E-05, -1.167208170E-07, 3.557177910E-11
-2.569695765E-15, 1.515859734E+05, -1.369222641E+01
2.282300776E+08, -1.214880850E+05, 2.642762928E+01
-1.410369386E-03, 3.776812140E-08, 6.975949060E-14
-1.287263021E-17, 1.127119075E+06, -2.060147218E+02

gas, beh2, 11.0281, be, 1, h, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
9.065314900E+04, -1.320657220E+03, 9.901308060E+00
-1.255772231E-02, 2.205704068E-05, -1.633609388E-08
4.505103240E-12, 2.464561869E+04, -3.635826750E+01
6.074262010E+05, -3.407534250E+03, 9.792370360E+00
-8.254614820E-04, 1.915656246E-07, -1.962774813E-11
8.929908660E-16, 3.793105200E+04, -4.254653580E+01
0.000000000E+00, 0.000000000E+00, 8.107783798E+00
-8.577837977E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.227268662E+04, -2.995527403E+01

gas, bei, 135.9167, be, 1, i, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
3.530054810E+04, -5.190950260E+02, 5.714505240E+00
-1.409073640E-03, 7.664772120E-07, -2.601945105E-11
-8.230960640E-14, 2.637903657E+04, -5.140997840E+00
-5.328206620E+05, 1.139497861E+03, 3.629171660E+00
1.704033769E-04, 1.067048688E-07, -3.589457880E-11
2.722769560E-15, 1.585474307E+04, 9.370951270E+00
0.000000000E+00, 0.000000000E+00, 4.443222599E+00
5.677740102E-08, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.432591636E+04, 3.347121997E+00

gas, bei2, 262.8211, be, 1, i, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
3.592726180E+02, -4.866059010E+01, 5.241571180E+00
7.830305060E-03, -1.169525374E-05, 8.389583910E-09
-2.356636003E-12, -9.333220920E+03, 2.896318281E+00
-9.392372840E+04, -8.959214380E+01, 7.565554790E+00
-2.577727326E-05, 5.614265330E-09, -6.359663850E-13
2.917080336E-17, -9.814768620E+03, -9.032042810E+00
0.000000000E+00, 0.000000000E+00, 7.497384616E+00
-2.473846156E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.038549936E+04, -8.511219647E+00

gas, ben, 23.0189, be, 1, n, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-4.247783630E+04, 7.590188900E+02, -1.561469235E+00
1.496945721E-02, -1.835608880E-05, 1.146861461E-08
-2.897470581E-12, 4.683003320E+04, 3.256973759E+01
-5.909696160E+04, -3.078649431E+02, 4.727959150E+00
-3.928158830E-05, 2.006201069E-08, -2.300018068E-12
1.066101831E-16, 5.156095710E+04, -3.031380625E+00
0.000000000E+00, 0.000000000E+00, 4.804740939E+00

-3.047409392E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.859531607E+04, -3.651017811E+00

gas, beo, 25.0116, be, 1, o, 1, e, 2

cpg, nasa, 3
200, 1000, 6000, 20000
-4.869458320E+04, 7.213473620E+02, -3.784157320E-01
8.792203850E-03, -7.070151260E-06, 2.250175620E-09
-2.799117872E-14, 1.101466639E+04, 2.574081184E+01
-3.503472450E+07, 1.055859473E+05, -1.165011722E+02
6.477369480E-02, -1.649656058E-05, 2.005558400E-09
-9.426891790E-14, -6.570018000E+05, 8.640898030E+02
-7.440106320E+07, 4.309665300E+04, -1.019586064E-01
2.617209088E-04, -2.461810861E-08, 1.124733698E-12
-1.832802285E-17, -3.402379380E+05, 4.487040230E+01

gas, beoh, 26.0195, be, 1, o, 1, h, 1, e, 3

cpg, nasa, 3
200, 1000, 6000, 20000
-3.853024520E+04, 4.498059290E+02, 1.532096459E+00
1.299912603E-02, -1.708979996E-05, 1.169968182E-08
-3.163183710E-12, -1.559046567E+04, 1.545542930E+01
8.550330310E+05, -2.646537838E+03, 8.204784630E+00
1.110814513E-05, -4.265364000E-08, 7.926511920E-12
-4.645419520E-16, 3.121216271E+03, -2.571641308E+01
0.000000000E+00, 0.000000000E+00, 7.429722277E+00
-1.797222772E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.641665632E+04, -1.882437358E+01

gas, beoh+, 26.0190, be, 1, o, 1, h, 1, e, 2

cpg, nasa, 3
200, 1000, 6000, 20000
7.106119160E+04, -8.068981600E+02, 5.603107810E+00
4.932070860E-03, -7.722847160E-06, 5.910889810E-09
-1.695201901E-12, 9.440782420E+04, -1.088099852E+01
8.134874390E+05, -2.814653683E+03, 8.381145010E+00
-6.942073280E-05, -2.369535806E-08, 5.678106380E-12
-3.583253560E-16, 1.073129932E+05, -2.901093335E+01
-6.279111750E+06, 2.090044240E+03, 7.025559910E+00
5.492111300E-05, -3.446137200E-09, 1.115947764E-13
-1.461494242E-18, 6.914837000E+04, -1.732443156E+01

gas, be(oh)2, 43.0269, be, 1, o, 2, h, 2, e, 5

cpg, nasa, 3
200, 1000, 6000, 20000
7.863089830E+03, -7.397142250E+02, 1.043303334E+01
4.514249530E-03, -6.950601530E-06, 5.777030040E-09
-1.727199382E-12, -7.585676960E+04, -3.301466610E+01
1.722889403E+06, -5.242477190E+03, 1.486877785E+01
3.931498360E-05, -8.920276310E-08, 1.630912925E-11
-9.505371140E-16, -4.642823840E+04, -6.476804020E+01
0.000000000E+00, 0.000000000E+00, 1.335901000E+01
-1.090099989E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.517087166E+04, -5.128679783E+01

gas, bes, 41.0772, be, 1, s, 1, e, 2

cpg, nasa, 3
200, 1000, 6000, 20000
-7.390579080E+03, 2.828134792E+02, 6.552019400E-01
1.076012495E-02, -1.398380157E-05, 8.818418890E-09
-2.110588578E-12, 2.751593294E+04, 1.980493561E+01
-1.655708361E+07, 5.431466120E+04, -6.351859250E+01
3.964091990E-02, -1.078978696E-05, 1.394030343E-09
-6.936955040E-14, -3.121559628E+05, 4.803454935E+02
0.000000000E+00, 0.000000000E+00, 5.701949350E+00
-1.201949350E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.826733471E+04, -9.131099058E+00

gas, be2cl4, 159.8364, be, 2, cl, 4, e, 6

cpg, nasa, 3
200, 1000, 6000, 20000

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1.216152589E+05, -2.000824823E+03, 1.723384275E+01
5.810448280E-03, -1.362970089E-05, 1.156602362E-08
-3.552255800E-12, -9.206475470E+04, -6.137959774E+01
-3.354920080E+05, -2.316199283E+02, 1.617047912E+01
-6.734405950E-05, 1.472073032E-08, -1.672352806E-12
7.688773970E-17, -1.031075197E+05, -5.047009374E+01
0.000000000E+00, 0.000000000E+00, 1.598526843E+01
2.647315742E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.045346533E+05, -4.905176502E+01

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gas, be2o, 34.0238, be, 2, o, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-4.263673570E+02, -1.159556261E+02, 4.082677770E+00
1.015885064E-02, -1.326015538E-05, 8.488955360E-09
-2.168039077E-12, -5.362258120E+03, 1.253737886E+00
-1.412646378E+05, -3.498644590E+02, 7.760932680E+00
-1.044953518E-04, 2.313342334E-08, -2.657722263E-12
1.233820439E-16, -5.172385490E+03, -1.854887619E+01
0.000000000E+00, 0.000000000E+00, 7.491815059E+00
-2.418150590E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.457962118E+03, -1.650791055E+01

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gas, be2of2, 72.0206, be, 2, o, 1, f, 2, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
-2.783491921E+04, 1.782881461E+02, 4.094251360E+00
2.270142496E-02, -2.672688189E-05, 1.572575618E-08
-3.736070580E-12, -1.480081903E+05, 7.353494770E+00
-2.281826506E+05, -1.130355396E+03, 1.383400563E+01
-3.316080640E-04, 7.304921010E-08, -8.362704380E-12
3.872184980E-16, -1.431390587E+05, -4.739150230E+01
0.000000000E+00, 0.000000000E+00, 1.297322823E+01
2.767717666E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.505916052E+05, -4.086467403E+01

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gas, be2o2, 50.0232, be, 2, o, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
-3.031719530E+04, 1.163353177E+03, -8.733155950E+00
5.372002930E-02, -7.279439190E-05, 4.894928250E-08
-1.312147056E-11, -5.546936880E+04, 6.953282640E+01
-3.960576640E+05, -9.074948830E+02, 1.067160422E+01
-2.670905218E-04, 5.877629990E-08, -6.718664090E-12
3.105949075E-16, -4.861114330E+04, -3.616546890E+01
0.000000000E+00, 0.000000000E+00, 9.972391040E+00
2.776089604E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.451916245E+04, -3.085525003E+01

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gas, be3o3, 75.0347, be, 3, o, 3, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
-2.738072346E+04, 8.743832600E+02, -6.599606120E+00
6.533021140E-02, -8.762305740E-05, 5.817244790E-08
-1.540600500E-11, -1.284679012E+05, 5.837203120E+01
-5.890809360E+05, -1.392823588E+03, 1.703450699E+01
-4.127330740E-04, 9.107529150E-08, -1.043465231E-11
4.833053770E-16, -1.219045534E+05, -7.000614510E+01
0.000000000E+00, 0.000000000E+00, 1.595905160E+01
2.909484048E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.309767325E+05, -6.184337900E+01

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gas, be4o4, 100.0463, be, 4, o, 4, e, 8
cpg, nasa, 3
200, 1000, 6000, 20000
-6.893255640E+04, 1.687565069E+03, -1.479616594E+01
1.007319774E-01, -1.291057622E-04, 8.243136760E-08
-2.111283987E-11, -2.072877151E+05, 1.002507262E+02
-8.841338460E+05, -2.726394165E+03, 2.402941774E+01
-8.114675460E-04, 1.794255972E-07, -2.059359498E-11
9.552905330E-16, -1.923710587E+05, -1.136620750E+02

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0.000000000E+00, 0.000000000E+00, 2.192888901E+01
3.211109886E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.102190467E+05, -9.773611158E+01

gas, br, 79.9040, br, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
-3.700293910E+03, 6.145215420E+01, 2.092120721E+00
1.376818870E-03, -2.445566658E-06, 2.050975161E-09
-5.144249091E-13, 1.242508647E+04, 8.996166200E+00
-4.789717400E+06, 1.692051999E+04, -2.024085357E+01
1.395620355E-02, -3.656230560E-06, 4.489781000E-10
-2.122507526E-14, -9.207054960E+04, 1.661695929E+02
-1.240248003E+08, 7.034034730E+04, -1.023087313E+01
1.373755814E-03, -7.476473480E-08, 2.160883187E-12
-2.659054603E-17, -5.563101070E+05, 1.226657143E+02

gas, br+, 79.9035, br, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
3.981187420E+04, -4.751581470E+02, 4.734578980E+00
-5.169324790E-03, 5.905857520E-06, -2.885129283E-09
5.054894290E-13, 1.529052046E+05, -5.769283220E+00
1.741149829E+06, -5.455465670E+03, 8.470663350E+00
-2.683465574E-03, 6.590454560E-07, -7.953770300E-11
3.735898818E-15, 1.851781643E+05, -3.637909030E+01
-6.174903280E+07, 3.641704160E+04, -5.739744680E+00
1.067497350E-03, -7.127689890E-08, 2.155618820E-12
-1.769476126E-17, -1.399767498E+05, 7.931577700E+01

gas, br-, 79.9045, br, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.708492743E+04, 5.419556170E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.708492743E+04, 5.419556170E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.708492743E+04, 5.419556170E+00

gas, brcl, 115.3570, br, 1, cl, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
1.653291583E+04, -3.578769280E+02, 5.700622160E+00
-2.201257188E-03, 2.415146969E-06, -1.371032976E-09
3.227803420E-13, 2.252619279E+03, -4.155659669E+00
-1.284863067E+05, -1.138379626E+03, 7.964040800E+00
-3.438056670E-03, 1.524999514E-06, -2.761469114E-10
1.694450407E-14, 5.938264260E+03, -1.925044389E+01
0.000000000E+00, 0.000000000E+00, 4.353851805E+00
1.461481946E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.510269983E+03, 4.776179023E+00

gas, brf, 98.9024, br, 1, f, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
3.836143190E+04, -5.184611970E+02, 5.458327050E+00
-5.656843100E-04, -4.121311970E-07, 7.859913480E-10
-3.036161520E-13, -5.595539910E+03, -4.901129500E+00
3.771388470E+06, -1.267493430E+04, 2.080555930E+01
-1.026359360E-02, 3.308203590E-06, -4.903192250E-10
2.648275080E-14, 7.062609720E+04, -1.130253600E+02
0.000000000E+00, 0.000000000E+00, 4.725644988E+00
-2.256449876E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.016179112E+03, 1.670843147E-01

gas, brf3, 136.8992, br, 1, f, 3, e, 4
cpg, nasa, 3

200, 1000, 6000, 20000
1.116455127E+05, -1.959424330E+03, 1.526220126E+01
-7.999362300E-03, 6.982030260E-06, -3.242757960E-09
6.164751460E-13, -2.345341551E+04, -5.522633600E+01
-1.886532240E+05, -8.245232970E+01, 1.006180694E+01
-2.477319092E-05, 5.478576860E-09, -6.282655260E-13
2.910628214E-17, -3.386800370E+04, -2.298937369E+01
0.000000000E+00, 0.000000000E+00, 9.991881818E+00
2.581181819E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.434870399E+04, -2.245207498E+01

gas, brf5, 174.8960, br, 1, f, 5, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
2.211366805E+05, -4.024809220E+03, 2.734900212E+01
-1.832254979E-02, 1.721754649E-05, -8.753508630E-09
1.860196959E-12, -3.537447670E+04, -1.244296466E+02
-3.757647640E+05, -1.575896472E+02, 1.611869838E+01
-4.776497800E-05, 1.059755365E-08, -1.218527723E-12
5.657535450E-17, -5.667266800E+04, -5.540839310E+01
0.000000000E+00, 0.000000000E+00, 1.598544996E+01
2.645500369E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.758982813E+04, -5.438453742E+01

gas, br2, 159.8080, br, 2, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
7.497047540E+03, -2.350884557E+02, 5.491934320E+00
-2.227573303E-03, 2.932401703E-06, -1.954889514E-09
5.312307890E-13, 3.521475050E+03, -1.964151570E+00
-4.311698570E+06, 1.111268634E+04, -5.555775610E+00
3.630516590E-03, -2.754164226E-07, -6.217506760E-11
7.375341620E-15, -7.036584160E+04, 7.878478020E+01
0.000000000E+00, 0.000000000E+00, 4.171333843E+00
3.286661573E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.503906406E+03, 7.108056125E+00

gas, c, 12.0107, c, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
6.495031470E+02, -9.649010860E-01, 2.504675479E+00
-1.281448025E-05, 1.980133654E-08, -1.606144025E-11
5.314483411E-15, 8.545763110E+04, 4.747924288E+00
-1.289136472E+05, 1.719528572E+02, 2.646044387E+00
-3.353068950E-04, 1.742092740E-07, -2.902817829E-11
1.642182385E-15, 8.410597850E+04, 4.130047418E+00
4.432528010E+08, -2.886018412E+05, 7.737108320E+01
-9.715281890E-03, 6.649595330E-07, -2.230078776E-11
2.899388702E-16, 2.355273444E+06, -6.405123160E+02

gas, c+, 12.0102, c, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
2.258535929E+03, -1.574575687E+00, 2.503637730E+00
-5.202878370E-06, 4.516908390E-09, -2.181431053E-12
4.495047033E-16, 2.168951913E+05, 4.345699505E+00
1.255112551E+04, -3.411874670E+01, 2.543383218E+00
-2.805120849E-05, 9.751641970E-09, -1.736855394E-12
1.246191931E-16, 2.171001786E+05, 4.063913515E+00
5.618135320E+05, -6.047058900E+03, 5.884541470E+00
-7.211894530E-04, 6.823484110E-08, -2.599878590E-12
3.633868358E-17, 2.581370458E+05, -2.280019759E+01

gas, c-, 12.0112, c, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
4.671291530E+00, -1.986169369E-03, 2.500008638E+00
-1.976750928E-08, 2.478947477E-11, -1.610664044E-14
4.236506810E-18, 7.001218550E+04, 4.879570141E+00
4.253175720E+00, 5.778186480E-04, 2.499999424E+00
2.836136231E-10, -7.327253420E-14, 9.478507810E-18

-4.830487320E-22, 7.001217170E+04, 4.879624211E+00
1.223289007E+01, -5.196185830E-03, 2.500001344E+00
-1.743497251E-10, 1.206609009E-14, -4.252419790E-19
5.992333270E-24, 7.001221630E+04, 4.879608421E+00

gas, cbr, 91.9147, c, 1, br, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
4.324446880E+03, -1.596366559E+02, 4.857856590E+00
-4.389439160E-04, 4.408863630E-07, -2.281330618E-10
5.445618220E-14, 5.847677250E+04, 1.351169646E-01
1.021862102E+06, -3.243484360E+03, 8.388226560E+00
-2.242155508E-03, 6.988355370E-07, -9.719134370E-11
4.716976240E-15, 7.805924060E+04, -2.518386915E+01
0.000000000E+00, 0.000000000E+00, 4.702261714E+00
-2.022617138E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.759482562E+04, 1.066468332E+00

gas, cbr4, 331.6267, c, 1, br, 4, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
1.023083739E+05, -1.735600709E+03, 1.651317914E+01
-3.147664747E-03, 2.924135486E-07, 1.360605681E-09
-6.431758650E-13, 1.500502543E+04, -5.536476760E+01
-2.059785072E+05, -1.048517002E+02, 1.307772550E+01
-3.086857556E-05, 6.775309810E-09, -7.721837540E-13
3.559218240E-17, 5.615893940E+03, -3.283787630E+01
0.000000000E+00, 0.000000000E+00, 1.299101013E+01
2.589898705E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.991048556E+03, -3.217203374E+01

gas, ccl, 47.4637, c, 1, cl, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
1.707070049E+04, -1.463803497E+01, 2.334108251E+00
7.202099130E-03, -1.034120045E-05, 7.228106700E-09
-1.985123755E-12, 5.123350300E+04, 1.200820386E+01
5.900507630E+05, -2.075311460E+03, 6.880017230E+00
-1.294796228E-03, 3.883137980E-07, -5.006981630E-11
2.218229619E-15, 6.358922050E+04, -1.610664472E+01
0.000000000E+00, 0.000000000E+00, 4.822723251E+00
-3.227232506E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.966568052E+04, -1.535008352E+00

gas, ccl2, 82.9167, c, 1, cl, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
7.509623150E+04, -1.034728559E+03, 8.061704540E+00
1.487134213E-03, -4.564817110E-06, 3.954885810E-09
-1.166197091E-12, 3.052409293E+04, -1.739691692E+01
-6.437455170E+06, 1.958413353E+04, -1.604038625E+01
1.238833906E-02, -3.013367274E-06, 3.473468920E-10
-1.553272793E-14, -9.961242160E+04, 1.556949315E+02
0.000000000E+00, 0.000000000E+00, 7.793404001E+00
-5.434040006E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.325153972E+04, -1.475303522E+01

gas, ccl3, 118.3697, c, 1, cl, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
3.414471650E+04, -5.547969730E+02, 6.845544390E+00
1.242006495E-02, -2.036896881E-05, 1.554979993E-08
-4.568940110E-12, 9.388568820E+03, -7.143598465E+00
-5.427572540E+05, 6.809020620E+02, 9.047723620E+00
1.324277766E-04, 6.301263040E-08, -2.656639200E-11
2.105668053E-15, 3.866216150E+02, -1.528745849E+01
0.000000000E+00, 0.000000000E+00, 9.193417691E+00
1.056582309E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 7.095249093E+03, -1.596896086E+01

gas, ccl4, 153.8227, c, 1, cl, 4, e, 5

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cpg, nasa, 3
200, 1000, 6000, 20000
1.093385626E+05, -1.861731846E+03, 1.449632467E+01
3.949485160E-03, -1.010805379E-05, 8.645514170E-09
-2.642368852E-12, -4.948006230E+03, -5.180284750E+01
-3.043078255E+05, -2.168170491E+02, 1.316132386E+01
-6.431124890E-05, 1.416482497E-08, -1.619343320E-12
7.483974350E-17, -1.512320070E+04, -3.996844300E+01
0.000000000E+00, 0.000000000E+00, 1.298643365E+01
2.635663521E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.646010032E+04, -3.863144703E+01

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gas, cf, 31.0091, c, 1, f, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-4.582786680E+04, 7.972635890E+02, -1.364936319E+00
1.312359375E-02, -1.457012892E-05, 8.253276680E-09
-1.896351845E-12, 2.438259620E+04, 3.248065280E+01
-1.329807100E+05, -1.214340891E+02, 4.452413620E+00
1.293786948E-04, -3.670550590E-08, 6.590212390E-12
-3.731261610E-16, 2.815934108E+04, -6.640468730E-01
0.000000000E+00, 0.000000000E+00, 4.825220347E+00
-3.252203466E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.613506358E+04, -3.414071720E+00

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gas, cf+, 31.0086, c, 1, f, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
-5.975213200E+04, 9.276863650E+02, -1.866581982E+00
1.384340912E-02, -1.513428860E-05, 8.518556340E-09
-1.959577655E-12, 1.323519410E+05, 3.412013190E+01
-8.053762780E+04, -3.390275090E+02, 4.708373500E+00
-3.963148310E-05, 2.497996218E-08, -5.236790430E-12
5.313949130E-16, 1.381337068E+05, -3.920514730E+00
0.000000000E+00, 0.000000000E+00, 4.870887900E+00
-3.708879005E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.344442404E+05, -5.267489202E+00

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gas, cfcl3, 137.3681, c, 1, f, 1, cl, 3, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
7.400174000E+04, -1.252282466E+03, 1.001327229E+01
1.475107601E-02, -2.315635251E-05, 1.664207025E-08
-4.622929960E-12, -3.020508601E+04, -2.708387087E+01
-3.450464780E+05, -4.177821450E+02, 1.331196736E+01
-1.248759531E-04, 2.761391353E-08, -3.168207640E-12
1.468834601E-16, -3.674067190E+04, -4.156886057E+01
0.000000000E+00, 0.000000000E+00, 1.298201777E+01
2.679822328E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.940042371E+04, -3.905837043E+01

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gas, cf2, 50.0075, c, 1, f, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-3.797026270E+04, 8.731800030E+02, -3.460191570E+00
2.746253741E-02, -3.474621900E-05, 2.204470693E-08
-5.621750850E-12, -2.746797157E+04, 4.456778070E+01
-1.086428547E+05, -5.854989140E+02, 7.018648950E+00
3.929186150E-04, -2.603822675E-07, 6.142196390E-11
-4.172833260E-15, -2.152945157E+04, -1.356143285E+01
0.000000000E+00, 0.000000000E+00, 7.764034505E+00
-5.140345051E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.933182375E+04, -1.920273489E+01

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gas, cf2+, 50.0070, c, 1, f, 2, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-2.892373827E+04, 6.049354610E+02, -9.721866660E-01
1.808478341E-02, -1.980065782E-05, 1.101640055E-08
-2.500457119E-12, 1.102755670E+05, 3.247591470E+01
-6.488966070E+04, -1.064283593E+03, 7.785702100E+00

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-3.158347626E-04, 7.130804080E-08, -8.533183590E-12
4.251638820E-16, 1.178446465E+05, -1.819424707E+01
0.000000000E+00, 0.000000000E+00, 6.984853762E+00
2.651462380E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.107426446E+05, -1.213866414E+01

gas, cf2cl2, 120.9135, c, 1, f, 2, cl, 2, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
3.841258750E+04, -6.139499820E+02, 5.269667190E+00
2.574105783E-02, -3.587376480E-05, 2.411600130E-08
-6.402236900E-12, -5.784541330E+04, -1.957454856E+00
-3.827448550E+05, -6.933774800E+02, 1.351791274E+01
-2.075114435E-04, 4.594021610E-08, -5.276874600E-12
2.449037044E-16, -6.021527770E+04, -4.479580046E+01
0.000000000E+00, 0.000000000E+00, 1.297644611E+01
2.735538923E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.469600223E+04, -4.068479696E+01

gas, cf3, 69.0059, c, 1, f, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
-2.978307106E+04, 7.153678830E+02, -3.498185380E+00
3.595457990E-02, -4.507974430E-05, 2.821808450E-08
-7.098047020E-12, -6.059997030E+04, 4.502592640E+01
-2.997305557E+05, -1.046989457E+03, 1.077923191E+01
-3.116087076E-04, 6.891351430E-08, -7.911225640E-12
3.670593020E-16, -5.425304400E+04, -3.417038790E+01
0.000000000E+00, 0.000000000E+00, 9.972863385E+00
2.771366149E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.111773663E+04, -2.805826470E+01

gas, cf3+, 69.0054, c, 1, f, 3, e, 3
cpg, nasa, 3
298.15, 1000, 6000, 20000
-3.587463540E+04, 3.743506700E+02, 7.787413930E-01
1.929435768E-02, -1.892815770E-05, 9.363908760E-09
-1.885759656E-12, 4.775581720E+04, 2.224044005E+01
-2.910919531E+04, -1.996658183E+03, 1.144279678E+01
-5.653393040E-04, 1.232297113E-07, -1.399758046E-11
6.443017950E-16, 5.902345800E+04, -4.080349990E+01
0.000000000E+00, 0.000000000E+00, 9.963262935E+00
2.867370652E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.569362785E+04, -2.957378619E+01

gas, cf3br, 148.9099, c, 1, f, 3, br, 1, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
-5.439489010E+03, 1.243615190E+02, 9.231941950E-01
3.481044380E-02, -4.549645490E-05, 2.932836552E-08
-7.548000360E-12, -8.023396760E+04, 2.232999096E+01
-3.834088510E+05, -9.719093300E+02, 1.372477396E+01
-2.901710612E-04, 6.421892200E-08, -7.375688770E-12
3.423154250E-16, -7.765306310E+04, -4.717367210E+01
0.000000000E+00, 0.000000000E+00, 1.297181657E+01
2.781834335E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.398823505E+04, -4.146289240E+01

gas, cf3cl, 104.4589, c, 1, f, 3, cl, 1, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
1.499409978E+04, -1.365768572E+02, 1.452912370E+00
3.404765070E-02, -4.473777640E-05, 2.888115112E-08
-7.434171330E-12, -8.547166640E+04, 1.727327095E+01
-4.066042120E+05, -1.022626507E+03, 1.376252628E+01
-3.052722979E-04, 6.755966040E-08, -7.759315250E-12
3.601192290E-16, -8.410559370E+04, -4.913411939E+01
0.000000000E+00, 0.000000000E+00, 1.297033238E+01
2.796676246E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.077061783E+04, -4.312556178E+01

gas, cf4, 88.0043, c, 1, f, 4, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
9.817458500E+03, 1.163343483E+02, -1.288338636E+00
3.959566910E-02, -4.996244210E-05, 3.125339346E-08
-7.841700320E-12, -1.138502297E+05, 2.938656548E+01
-4.164456780E+05, -1.414797167E+03, 1.405124837E+01
-4.199093860E-04, 9.278921610E-08, -1.064575830E-11
4.937099680E-16, -1.094691149E+05, -5.487105000E+01
0.000000000E+00, 0.000000000E+00, 1.296348159E+01
2.865184145E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.187452661E+05, -4.662392542E+01

gas, ch, 13.0186, c, 1, h, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.220590133E+04, -3.405411530E+02, 5.531452290E+00
-5.794964260E-03, 7.969554880E-06, -4.465911590E-09
9.596338320E-13, 7.240783270E+04, -9.107673050E+00
2.060763440E+06, -5.396206660E+03, 7.856293850E+00
-7.965907450E-04, 1.764308305E-07, -1.976386267E-11
5.030429510E-16, 1.062236592E+05, -3.154757439E+01
-8.068368690E+08, 4.575450540E+05, -9.843975080E+01
1.235244098E-02, -8.485608570E-07, 3.040410624E-11
-4.400315170E-16, -3.595851590E+06, 8.953477440E+02

gas, ch+, 13.0181, c, 1, h, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
3.019607105E+04, -4.618141310E+02, 6.225641190E+00
-7.775711800E-03, 1.094489485E-05, -6.675487910E-09
1.565232409E-12, 1.972491928E+05, -1.431512811E+01
-7.102094670E+06, 1.828354883E+04, -1.312691402E+01
6.191717360E-03, -2.909421253E-07, -1.134243575E-10
1.105962085E-14, 7.541296040E+04, 1.243984829E+02
-3.160070489E+08, 1.436699396E+05, -1.108443407E+01
1.562285754E-04, 4.928498470E-08, -2.896872362E-12
4.982255990E-17, -1.013672855E+06, 1.489353241E+02

gas, chbr3, 252.7306, c, 1, h, 1, br, 3, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
4.346576860E+04, -4.999634420E+02, 5.620222110E+00
2.079346321E-02, -2.921336328E-05, 2.066942448E-08
-5.781220910E-12, 2.627830062E+03, 1.247904015E+00
6.274234950E+05, -3.378711100E+03, 1.487852612E+01
-5.932745270E-04, 1.082421577E-07, -1.061012665E-11
4.319152450E-16, 1.877234659E+04, -5.311909650E+01
0.000000000E+00, 0.000000000E+00, 1.293599733E+01
3.140026659E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.727322947E+03, -3.790279530E+01

gas, chcl, 48.4716, c, 1, h, 1, cl, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-2.699912334E+05, 4.351199730E+03, -2.275911813E+01
7.550621760E-02, -9.071997970E-05, 5.256971860E-08
-1.189769182E-11, 1.416862680E+04, 1.520980812E+02
-9.548061900E+05, 2.174413794E+03, 4.867645370E+00
8.321641860E-04, -1.536948638E-07, 1.529236537E-11
-6.596159360E-16, 1.880121810E+04, 2.674761385E+00
0.000000000E+00, 0.000000000E+00, 7.110949659E+00
1.390503411E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.225618553E+04, -1.407706045E+01

gas, chcl3, 119.3776, c, 1, h, 1, cl, 3, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
3.395333290E+04, -3.047428785E+02, 2.923672263E+00
2.830547858E-02, -3.712424690E-05, 2.551365915E-08
-6.987659550E-12, -1.235063157E+04, 1.115556408E+01

6.136052740E+05, -3.715087170E+03, 1.510777247E+01
2.362584336E-04, 1.297140438E-07, -1.267494791E-11
5.259022310E-16, 6.203313450E+03, -5.992576539E+01
0.000000000E+00, 0.000000000E+00, 1.856858409E+01
-5.318584092E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.658428195E+04, -8.638037727E+01

gas, chf, 32.0170, c, 1, h, 1, f, 1, e, 3

cpg, nasa, 3
200, 1000, 6000, 20000
-7.868585830E+04, 1.300218466E+03, -3.947685250E+00
2.114995848E-02, -2.239962738E-05, 1.283155181E-08
-2.904778136E-12, 5.824389720E+03, 4.785453770E+01
3.994085420E+06, -7.962756200E+03, 6.755595090E+00
4.949836570E-03, -2.101763812E-06, 3.348232950E-10
-1.886825050E-14, 6.706134940E+04, -2.381240379E+01
0.000000000E+00, 0.000000000E+00, 7.444685245E+00
-1.946852454E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 9.901425099E+03, -1.867309814E+01

gas, chfcl2, 102.9230, c, 1, h, 1, f, 1, cl, 2, e, 5

cpg, nasa, 3
200, 1000, 6000, 20000
-1.734959015E+04, 4.924913200E+02, -1.854635884E+00
3.782786280E-02, -4.863343040E-05, 3.197197630E-08
-8.459057990E-12, -3.788749270E+04, 3.801530544E+01
5.640113020E+05, -3.887083300E+03, 1.527760246E+01
-7.576487420E-04, 1.452498792E-07, -1.490796515E-11
6.328998500E-16, -1.484736185E+04, -6.167535516E+01
0.000000000E+00, 0.000000000E+00, 1.292670338E+01
3.232966234E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.168310798E+04, -4.338530853E+01

gas, chf2cl, 86.4684, c, 1, h, 1, f, 2, cl, 1, e, 5

cpg, nasa, 3
200, 1000, 6000, 20000
-7.240579410E+04, 1.365510973E+03, -7.153222080E+00
4.854987970E-02, -5.948781670E-05, 3.750966190E-08
-9.589524420E-12, -6.565932800E+04, 6.657212230E+01
5.629493730E+05, -4.298673050E+03, 1.558191398E+01
-8.789278480E-04, 1.720248689E-07, -1.797910869E-11
7.753391700E-16, -3.634067160E+04, -6.611261480E+01
0.000000000E+00, 0.000000000E+00, 1.291980506E+01
3.301949357E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.591849055E+04, -4.546731881E+01

gas, chf3, 70.0138, c, 1, h, 1, f, 3, e, 5

cpg, nasa, 3
200, 1000, 6000, 20000
-1.095132260E+05, 2.042273879E+03, -1.166213079E+01
5.785807770E-02, -6.857135060E-05, 4.212118380E-08
-1.053196888E-11, -9.395470050E+04, 8.935920650E+01
5.685232020E+05, -4.728361700E+03, 1.586728516E+01
-7.382348650E-04, 1.970841706E-07, -2.062115571E-11
8.970599640E-16, -5.923196370E+04, -7.161273220E+01
0.000000000E+00, 0.000000000E+00, 1.447641672E+01
-1.226416720E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.647819785E+04, -6.080129897E+01

gas, ch2, 14.0266, c, 1, h, 2, e, 3

cpg, nasa, 3
200, 1000, 6000, 20000
3.218921730E+04, -2.877601815E+02, 4.203583820E+00
3.455405960E-03, -6.746193340E-06, 7.654571640E-09
-2.870328419E-12, 4.733624710E+04, -2.143628603E+00
2.550418031E+06, -7.971625390E+03, 1.228924487E+01
-1.699122922E-03, 2.991728605E-07, -2.767007492E-11
1.051341740E-15, 9.642216890E+04, -6.094739910E+01
0.000000000E+00, 0.000000000E+00, 6.991221068E+00
2.587789316E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.205748713E+04, -2.002677053E+01

gas, ch2cl2, 84.9326, c, 1, h, 2, cl, 2, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
-2.509841179E+04, 8.687667380E+02, -5.094669210E+00
4.150049990E-02, -5.199772150E-05, 3.445944260E-08
-9.270292520E-12, -1.638978840E+04, 5.396890320E+01
1.529279337E+06, -6.976954760E+03, 1.694154931E+01
-1.265053995E-03, 2.344766734E-07, -2.333227421E-11
9.632834730E-16, 2.806318171E+04, -7.949453510E+01
0.000000000E+00, 0.000000000E+00, 1.287845465E+01
3.715453498E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.046614868E+04, -4.774579040E+01

gas, ch2fcl, 68.4780, c, 1, h, 2, f, 1, cl, 1, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
-1.071340332E+05, 2.081328396E+03, -1.155723697E+01
5.441482110E-02, -6.518622740E-05, 4.133159880E-08
-1.071935103E-11, -4.264756210E+04, 9.035923547E+01
1.536120418E+06, -7.378939730E+03, 1.725797178E+01
-1.395645457E-03, 2.639247747E-07, -2.675653563E-11
1.123582778E-15, 9.813710460E+03, -8.313642553E+01
0.000000000E+00, 0.000000000E+00, 1.287272559E+01
3.772744118E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.137157446E+04, -4.896634352E+01

gas, ch2f2, 52.0234, c, 1, h, 2, f, 2, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
-1.819917500E+05, 3.174427890E+03, -1.714256906E+01
6.411353830E-02, -7.313592120E-05, 4.426384160E-08
-1.103877216E-11, -7.027058950E+04, 1.207331926E+02
1.546609496E+06, -7.876883330E+03, 1.768770469E+01
-1.581298721E-03, 3.068917255E-07, -3.183405460E-11
1.363827177E-15, -9.800135960E+03, -8.907420360E+01
0.000000000E+00, 0.000000000E+00, 1.286722957E+01
3.827704262E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.422738849E+04, -5.166328585E+01

gas, ch3, 15.0345, c, 1, h, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
-2.876188806E+04, 5.093268660E+02, 2.002143949E-01
1.363605829E-02, -1.433989346E-05, 1.013556725E-08
-3.027331936E-12, 1.408271825E+04, 2.022772791E+01
2.760802663E+06, -9.336531170E+03, 1.487729606E+01
-1.439429774E-03, 2.444477951E-07, -2.224555778E-11
8.395065760E-16, 7.481809480E+04, -7.919682400E+01
0.000000000E+00, 0.000000000E+00, 9.841950217E+00
4.080497826E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 9.127945793E+03, -3.944266119E+01

gas, ch3cl, 50.4875, c, 1, h, 3, cl, 1, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
-9.841971100E+04, 1.983700841E+03, -1.084512305E+01
4.777980050E-02, -5.515516260E-05, 3.506176140E-08
-9.236103960E-12, -1.994689506E+04, 8.399658331E+01
2.522463305E+06, -1.030115447E+04, 1.882725852E+01
-1.872291294E-03, 3.473372860E-07, -3.458887220E-11
1.428941079E-15, 5.111417410E+04, -1.006571389E+02
0.000000000E+00, 0.000000000E+00, 1.282904793E+01
4.209520704E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.061705941E+04, -5.380541676E+01

gas, ch3f, 34.0329, c, 1, h, 3, f, 1, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
-2.029821878E+05, 3.447331130E+03, -1.768994275E+01
5.945275800E-02, -6.469528250E-05, 3.859418040E-08

-9.626541530E-12, -4.577926220E+04, 1.228382176E+02
2.561903188E+06, -1.086052758E+04, 1.929446920E+01
-2.070973131E-03, 3.929124530E-07, -3.994503420E-11
1.681447081E-15, 3.563508510E+04, -1.061158456E+02
0.000000000E+00, 0.000000000E+00, 1.282302092E+01
4.269790752E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.976723891E+04, -5.573011006E+01

gas, ch4, 16.0425, c, 1, h, 4, e, 5

cpg, nasa, 3
200, 1000, 6000, 20000
-1.766850998E+05, 2.786181020E+03, -1.202577850E+01
3.917619290E-02, -3.619054430E-05, 2.026853043E-08
-4.976705490E-12, -2.331314360E+04, 8.904322750E+01
3.730042760E+06, -1.383501485E+04, 2.049107091E+01
-1.961974759E-03, 4.727313040E-07, -3.728814690E-11
1.623737207E-15, 7.532066910E+04, -1.219124889E+02
0.000000000E+00, 0.000000000E+00, 1.761161920E+01
-4.361619196E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.913871626E+04, -1.000037977E+02

gas, ch3oh, 32.0419, c, 1, h, 4, o, 1, e, 6

cpg, nasa, 3
200, 1000, 6000, 20000
-2.416642886E+05, 4.032147190E+03, -2.046415436E+01
6.903698070E-02, -7.598932690E-05, 4.598208360E-08
-1.158706744E-11, -4.433261170E+04, 1.400142190E+02
3.411570760E+06, -1.345500201E+04, 2.261407623E+01
-2.141029179E-03, 3.730050540E-07, -3.498846390E-11
1.366073444E-15, 5.636081560E+04, -1.277814279E+02
0.000000000E+00, 0.000000000E+00, 1.525530342E+01
9.946965790E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.801894185E+04, -6.978317180E+01

gas, cn, 26.0174, c, 1, n, 1, e, 2

cpg, nasa, 3
200, 1000, 6000, 20000
3.949148570E+03, -1.391590572E+02, 4.930835320E+00
-6.304670510E-03, 1.256836472E-05, -9.878300500E-09
2.843137221E-12, 5.228455380E+04, -2.763115585E+00
-2.228006270E+06, 5.040733390E+03, -2.121897722E-01
1.354901134E-03, 1.325929798E-07, -6.937006370E-11
5.494952270E-15, 1.784496132E+04, 3.282563919E+01
-1.794798118E+08, 1.054346069E+05, -1.729624170E+01
2.194895530E-03, -8.508938030E-08, 9.318692990E-13
6.358139930E-18, -7.962594120E+05, 1.913139639E+02

gas, cn+, 26.0169, c, 1, n, 1, e, 1

cpg, nasa, 3
200, 1000, 6000, 20000
-8.302909570E+05, 8.775687500E+03, -2.977443560E+01
4.976897060E-02, -1.302225951E-05, -2.058325353E-08
1.126843895E-11, 1.703860539E+05, 2.039918818E+02
-7.153463080E+06, 1.857250421E+04, -1.084534159E+01
6.106681430E-03, -1.191208566E-06, 1.184848778E-10
-4.799838730E-15, 9.242644960E+04, 1.135340573E+02
-2.354919695E+08, 1.433776703E+05, -2.975360271E+01
4.280545600E-03, -2.707260413E-07, 8.178340660E-12
-9.629506200E-17, -9.229047140E+05, 2.964624987E+02

gas, cn-, 26.0179, c, 1, n, 1, e, 3

cpg, nasa, 3
298.15, 1000, 6000, 20000
-4.606541390E+04, 4.294174750E+02, 2.328781880E+00
-1.235303004E-04, 4.478462770E-06, -4.403151290E-09
1.349001191E-12, 4.362078340E+03, 1.142928617E+01
3.517964720E+05, -1.630477359E+03, 5.609875750E+00
-3.975605970E-04, 8.856147080E-08, -9.722872320E-12
4.434205690E-16, 1.647976581E+04, -1.175502699E+01
0.000000000E+00, 0.000000000E+00, 4.626039890E+00
-1.260398902E-07, 0.000000000E+00, 0.000000000E+00

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0.000000000E+00, 4.901787299E+03, -4.276151664E+00

gas, cnn, 40.0241, c, 1, n, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-7.357692360E+04, 9.652438660E+02, -1.704121157E+00
2.037239025E-02, -2.183423906E-05, 1.176082777E-08
-2.551355221E-12, 7.021729830E+04, 3.528150910E+01
-1.817148765E+05, -6.729863490E+02, 7.857948340E+00
-6.136880720E-05, -1.088178985E-08, 4.456655810E-12
-2.836496278E-16, 7.723488980E+04, -1.966012324E+01
0.000000000E+00, 0.000000000E+00, 7.577773413E+00
-3.277734131E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 7.221216761E+04, -1.744119080E+01

gas, co, 28.0101, c, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
1.489045326E+04, -2.922285939E+02, 5.724527170E+00
-8.176235030E-03, 1.456903469E-05, -1.087746302E-08
3.027941827E-12, -1.303131878E+04, -7.859241350E+00
4.619197250E+05, -1.944704863E+03, 5.916714180E+00
-5.664282830E-04, 1.398814540E-07, -1.787680361E-11
9.620935570E-16, -2.466261084E+03, -1.387413108E+01
8.868662960E+08, -7.500377840E+05, 2.495474979E+02
-3.956351100E-02, 3.297772080E-06, -1.318409933E-10
1.998937948E-15, 5.701421130E+06, -2.060704786E+03

gas, co+, 28.0096, c, 1, o, 1, e, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
-2.178786658E+04, 1.288857032E+02, 3.769057550E+00
-3.431730130E-03, 8.193945750E-06, -6.463814690E-09
1.803727574E-12, 1.482345898E+05, 3.990547070E+00
2.316847506E+05, -1.057646148E+03, 4.554257780E+00
4.495520320E-04, -2.489507047E-07, 5.267566420E-11
-3.289510270E-15, 1.555050724E+05, -3.873462640E+00
-3.035604054E+08, 2.393118392E+05, -7.034999240E+01
1.139551440E-02, -8.315173100E-07, 2.863705515E-11
-3.803269410E-16, -1.688617704E+06, 6.291980420E+02

gas, cocl, 63.4631, c, 1, o, 1, cl, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
2.513175740E+04, -5.969189670E+02, 8.327671350E+00
-7.056132590E-03, 1.313150734E-05, -1.037059653E-08
3.033665179E-12, -7.052770320E+02, -1.580716775E+01
3.443720240E+05, -1.793143470E+03, 8.392755900E+00
-5.374769590E-04, 9.113555710E-08, -3.111441728E-12
-2.040435218E-16, 6.914470150E+03, -1.998919104E+01
0.000000000E+00, 0.000000000E+00, 7.222807876E+00
2.719212409E-08, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.161465320E+03, -1.139185543E+01

gas, cocl2, 98.9161, c, 1, o, 1, cl, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
9.319321450E+04, -1.577971273E+03, 1.208353907E+01
-4.809015610E-03, 7.688477320E-06, -5.858841200E-09
1.687786559E-12, -2.054252334E+04, -3.834767320E+01
-2.545881891E+04, -1.305958516E+03, 1.092922584E+01
-3.601210160E-04, 7.787017650E-08, -8.792452030E-12
4.028696610E-16, -2.219847340E+04, -3.233303450E+01
0.000000000E+00, 0.000000000E+00, 9.974757141E+00
2.752428591E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.093131495E+04, -2.507484778E+01

gas, cofcl, 82.4615, c, 1, o, 1, f, 1, cl, 1, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
7.262173900E+04, -1.019738175E+03, 7.290911990E+00

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7.420691710E-03, -7.902548080E-06, 4.209427650E-09
-9.314412900E-13, -4.804386460E+04, -1.316923671E+01
-5.316887910E+04, -1.581009678E+03, 1.112696501E+01
-4.373000800E-04, 9.464190710E-08, -1.069291346E-11
4.901756640E-16, -4.599667230E+04, -3.525879824E+01
0.000000000E+00, 0.000000000E+00, 9.969208262E+00
2.807917380E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.655970849E+04, -2.645564002E+01

gas, cof2, 66.0069, c, 1, o, 1, f, 2, e, 4
cpg, nasa, 3
250, 1000, 6000, 20000
5.263393150E+04, -4.618603390E+02, 2.774114516E+00
1.831931082E-02, -2.130172554E-05, 1.266924542E-08
-3.101675983E-12, -7.564255100E+04, 9.467181460E+00
-4.073806850E+04, -1.974009812E+03, 1.140363654E+01
-5.437111470E-04, 1.175232744E-07, -1.326564192E-11
6.076772130E-16, -6.907795410E+04, -4.009695000E+01
0.000000000E+00, 0.000000000E+00, 9.962520424E+00
2.874795761E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.228070310E+04, -2.913718327E+01

gas, cohf, 48.0164, c, 1, o, 1, h, 1, f, 1, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
-4.585828500E+04, 1.048202675E+03, -4.776574220E+00
3.080719931E-02, -3.415895900E-05, 2.034926806E-08
-5.054194620E-12, -5.085983730E+04, 5.232247410E+01
8.578853160E+05, -4.791959120E+03, 1.293975218E+01
-1.018285299E-03, 2.021278474E-07, -2.136698091E-11
9.299588910E-16, -1.878933107E+04, -5.527449140E+01
0.000000000E+00, 0.000000000E+00, 9.919790778E+00
3.302092224E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.175876646E+04, -3.192605560E+01

gas, cos, 60.0751, c, 1, o, 1, s, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
8.547876430E+04, -1.319464821E+03, 9.735257240E+00
-6.870830960E-03, 1.082331416E-05, -7.705597340E-09
2.078570344E-12, -1.191657685E+04, -2.991988593E+01
1.959098567E+05, -1.756167688E+03, 8.710430340E+00
-4.139424960E-04, 1.015243648E-07, -1.159609663E-11
5.691053860E-16, -8.927096690E+03, -2.636328016E+01
0.000000000E+00, 0.000000000E+00, 7.830687657E+00
-5.806876567E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.196191983E+04, -1.972323316E+01

gas, co2, 44.0095, c, 1, o, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
4.943650540E+04, -6.264116010E+02, 5.301725240E+00
2.503813816E-03, -2.127308728E-07, -7.689988780E-10
2.849677801E-13, -4.528198460E+04, -7.048279440E+00
1.176962419E+05, -1.788791477E+03, 8.291523190E+00
-9.223156780E-05, 4.863676880E-09, -1.891053312E-12
6.330036590E-16, -3.908350590E+04, -2.652669281E+01
-1.544423287E+09, 1.016847056E+06, -2.561405230E+02
3.369401080E-02, -2.181184337E-06, 6.991420840E-11
-8.842351500E-16, -8.043214510E+06, 2.254177493E+03

gas, co2+, 44.0090, c, 1, o, 2, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
-7.383030980E+04, 1.086211742E+03, -2.771112737E+00
2.318463595E-02, -2.570240315E-05, 1.450335497E-08
-3.334470420E-12, 1.071784918E+05, 4.054885210E+01
-1.695051682E+05, -8.066469730E+02, 8.002828460E+00
-1.577214041E-04, 2.566759314E-08, -2.404195965E-12
1.677446800E-16, 1.154389478E+05, -2.133567772E+01

-8.365409060E+07, 5.333327510E+04, -5.621698360E+00
1.491439440E-03, -7.553254510E-08, 1.794658103E-12
-1.627521598E-17, -3.111917656E+05, 9.673884890E+01

gas, cp, 42.9845, c, 1, p, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-4.523940110E+04, 7.758828140E+02, -1.453947907E+00
1.397713706E-02, -1.624489706E-05, 9.514083880E-09
-2.210281109E-12, 5.792634670E+04, 3.311647920E+01
-5.449937150E+06, 1.688345926E+04, -1.595692200E+01
1.136028761E-02, -2.846541330E-06, 3.379364040E-10
-1.554457397E-14, -4.554517740E+04, 1.451324059E+02
0.000000000E+00, 0.000000000E+00, 5.244802729E+00
-7.448027289E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.989478105E+04, -5.827097713E+00

gas, cs, 44.0757, c, 1, s, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-4.924844120E+04, 8.166968100E+02, -1.542998408E+00
1.380324735E-02, -1.574407905E-05, 9.169714930E-09
-2.169700595E-12, 2.865182876E+04, 3.308541327E+01
-9.719574760E+05, 2.339201284E+03, 1.709390402E+00
1.577178949E-03, -4.146335910E-07, 4.504757080E-11
-5.945457730E-16, 1.681020727E+04, 1.874048220E+01
0.000000000E+00, 0.000000000E+00, 5.574715144E+00
-1.074715144E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.635589056E+04, -1.020542525E+01

gas, cs2, 76.1407, c, 1, s, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
1.613560482E+04, -4.649481470E+02, 6.297938790E+00
1.888896706E-03, 3.031927747E-07, -1.737645373E-09
7.793989390E-13, 1.477761119E+04, -9.303382130E+00
-1.390419724E+06, 3.354975500E+03, 3.019247723E+00
2.876437543E-03, -9.076812720E-07, 1.374091042E-10
-6.999575570E-15, -1.013898046E+04, 1.565113703E+01
0.000000000E+00, 0.000000000E+00, 8.739742023E+00
-1.489742023E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.040898585E+03, -2.609934486E+01

gas, c2, 24.0214, c, 2, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
5.559634510E+05, -9.980126440E+03, 6.681620370E+01
-1.743432724E-01, 2.448523051E-04, -1.703467580E-07
4.684527730E-11, 1.445869634E+05, -3.448229700E+02
-9.689267930E+05, 3.561092990E+03, -5.064138930E-01
2.945154879E-03, -7.139441190E-07, 8.670657250E-11
-4.076906810E-15, 7.681796830E+04, 3.339985240E+01
6.315145920E+06, 1.365420661E+04, -3.996903670E+00
1.937561376E-03, -1.584446580E-07, 5.520861660E-12
-7.253735340E-17, 9.387024990E+03, 6.614329920E+01

gas, c2+, 24.0209, c, 2, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
-9.913423840E+04, 1.347170609E+03, -3.476753160E+00
1.676429424E-02, -1.865908025E-05, 1.091134647E-08
-2.434913818E-12, 2.335454800E+05, 4.406644620E+01
3.836292810E+06, -6.242062450E+03, 2.779245639E+00
6.065865860E-03, -2.452799858E-06, 3.882942500E-10
-2.190639912E-14, 2.857447553E+05, 7.297383490E-01
4.992689800E+07, -2.017309121E+04, 6.342227540E+00
6.369922600E-04, -1.036760828E-07, 4.943272920E-12
-7.988804260E-17, 4.120857610E+05, -2.112967169E+01

gas, c2-, 24.0219, c, 2, e, 3
cpg, nasa, 3

298.15, 1000, 6000, 20000
-1.181928660E+05, 1.438189710E+03, -3.196131350E+00
1.465548163E-02, -1.545537278E-05, 9.061235610E-09
-2.135962274E-12, 4.965317790E+04, 4.225608880E+01
4.478136250E+06, -1.154145714E+04, 1.310143499E+01
-1.862700578E-03, 4.006931250E-08, 3.710213600E-11
-3.337266870E-15, 1.325356168E+05, -6.975964400E+01
0.000000000E+00, 0.000000000E+00, 5.262079244E+00
-7.620792436E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.462139078E+04, -8.559977256E+00

gas, c2cl, 59.4744, c, 2, cl, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
4.725889410E+04, -8.980223610E+02, 9.016877150E+00
-6.333782830E-03, 1.087060050E-05, -8.089068920E-09
2.248275223E-12, 6.702215700E+04, -2.354893403E+01
2.137368408E+05, -1.630519518E+03, 8.623490250E+00
-4.253517860E-04, 9.040018640E-08, -1.007541495E-11
4.570764750E-16, 7.171093280E+04, -2.413014598E+01
0.000000000E+00, 0.000000000E+00, 7.477416105E+00
-2.274161049E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.067001192E+04, -1.539195233E+01

gas, c2cl2, 94.9274, c, 2, cl, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
3.871168730E+04, -9.336870210E+02, 1.119377832E+01
-3.746287380E-03, 6.770471350E-06, -4.910387450E-09
1.299068486E-12, 2.948153174E+04, -3.310723530E+01
2.961995390E+05, -2.044290845E+03, 1.187529729E+01
-5.115031340E-04, 1.072666588E-07, -1.183417569E-11
5.326530480E-16, 3.636802500E+04, -4.000826050E+01
0.000000000E+00, 0.000000000E+00, 1.047085234E+01
-2.208523422E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.247521720E+04, -2.927004460E+01

gas, c2cl4, 165.8334, c, 2, cl, 4, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
3.746257500E+04, -8.481774390E+02, 1.009156041E+01
1.845463807E-02, -2.390899731E-05, 1.514828471E-08
-3.841119950E-12, -1.598289063E+03, -2.368079134E+01
-3.001289625E+05, -1.132413909E+03, 1.683073063E+01
-3.288820170E-04, 7.220975400E-08, -8.245417760E-12
3.810154710E-16, -2.292758158E+03, -5.980164420E+01
0.000000000E+00, 0.000000000E+00, 1.597102909E+01
2.789709063E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.740734537E+03, -5.327516532E+01

gas, c2cl6, 236.7394, c, 2, cl, 6, e, 8
cpg, nasa, 3
200, 1000, 6000, 20000
1.593451902E+05, -2.606697262E+03, 2.028011918E+01
1.769364625E-02, -3.133104894E-05, 2.389395021E-08
-6.893037660E-12, -9.038007040E+03, -7.953073010E+01
-5.577351940E+05, -4.976576790E+02, 2.237042798E+01
-1.477797229E-04, 3.257641460E-08, -3.727218070E-12
1.723860648E-16, -2.335217699E+04, -8.381736910E+01
0.000000000E+00, 0.000000000E+00, 2.197474669E+01
2.752533056E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.647352530E+04, -8.079890566E+01

gas, c2f2, 62.0182, c, 2, f, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
1.776313572E+04, -6.113280940E+02, 8.663606800E+00
9.156381210E-04, 2.363808425E-06, -2.753750054E-09
8.713935970E-13, -1.649611017E+04, -2.165150307E+01
4.193890940E+05, -2.715359989E+03, 1.230403413E+01
-6.649305540E-04, 1.385254301E-07, -1.520813764E-11

6.819821030E-16, -4.179221940E+03, -4.670386230E+01
0.000000000E+00, 0.000000000E+00, 1.046061073E+01
-2.106107281E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.266884002E+04, -3.258912370E+01

gas, c2f4, 100.0150, c, 2, f, 4, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
-9.991530070E+03, -1.291088427E+02, 4.504229050E+00
2.592029640E-02, -2.630308720E-05, 1.316489777E-08
-2.625017169E-12, -8.090447080E+04, 3.274241470E+00
-1.629915758E+05, -2.603903955E+03, 1.788488423E+01
-7.397038010E-04, 1.614460340E-07, -1.835820392E-11
8.457641070E-16, -7.006371660E+04, -7.454165860E+01
0.000000000E+00, 0.000000000E+00, 1.594914019E+01
3.008598112E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.740348313E+04, -5.984713946E+01

gas, c2f6, 138.0118, c, 2, f, 6, e, 8
cpg, nasa, 3
200, 1000, 6000, 20000
-3.795371700E+04, 7.998276400E+02, -4.671561810E+00
7.501450990E-02, -9.812116100E-05, 6.319807590E-08
-1.622597311E-11, -1.675211878E+05, 5.053759200E+01
-1.011551484E+06, -9.422140710E+02, 2.202553906E+01
-1.314518750E-04, 1.866045300E-08, -3.467118610E-12
2.488311205E-16, -1.657434402E+05, -9.302161150E+01
0.000000000E+00, 0.000000000E+00, 2.129130513E+01
9.586948696E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.711424518E+05, -8.709063412E+01

gas, c2h, 25.0293, c, 2, h, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
1.343669487E+04, -5.067970720E+02, 7.772107410E+00
-6.512339820E-03, 1.030117855E-05, -5.880147670E-09
1.226901861E-12, 6.892269990E+04, -1.871881626E+01
3.922334570E+06, -1.204751703E+04, 1.756172920E+01
-3.655442940E-03, 6.987685430E-07, -6.825162010E-11
2.719262793E-15, 1.433266627E+05, -9.561634380E+01
0.000000000E+00, 0.000000000E+00, 7.670108631E+00
-4.201086310E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.385150832E+04, -2.099598086E+01

gas, c2hcl, 60.4823, c, 2, h, 1, cl, 1, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
1.329784931E+05, -2.174542005E+03, 1.497980787E+01
-1.290343200E-02, 1.602596399E-05, -9.152047430E-09
2.021222995E-12, 3.604801260E+04, -5.958236750E+01
1.152149855E+06, -4.461204350E+03, 1.281367818E+01
-6.797397460E-04, 1.151395389E-07, -1.046657798E-11
3.949939170E-16, 5.233955000E+04, -5.320661700E+01
0.000000000E+00, 0.000000000E+00, 1.042088982E+01
-1.708898204E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.097487281E+04, -3.429350442E+01

gas, c2hf, 44.0277, c, 2, h, 1, f, 1, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
9.161169110E+04, -1.537245636E+03, 1.133665074E+01
-4.624729310E-03, 5.877985460E-06, -2.690992345E-09
3.524719530E-13, 1.085902820E+04, -4.023994380E+01
1.234347179E+06, -4.819581960E+03, 1.302337752E+01
-7.495435820E-04, 1.285452942E-07, -1.184559365E-11
4.536784760E-16, 3.236811710E+04, -5.640791820E+01
0.000000000E+00, 0.000000000E+00, 1.041507994E+01
-1.650799370E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.481809704E+03, -3.581922159E+01

gas, c2h2_acetylene, 26.0373, c, 2, h, 2, e, 4

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cpg, nasa, 3
200, 1000, 6000, 20000
1.598112089E+05, -2.216644118E+03, 1.265707813E+01
-7.979651080E-03, 8.054992750E-06, -2.433307673E-09
-7.529233180E-14, 3.712619060E+04, -5.244338900E+01
1.713847410E+06, -5.929106660E+03, 1.236127943E+01
1.314186993E-04, -1.362764431E-07, 2.712655786E-11
-1.302066204E-15, 6.266578970E+04, -5.818960590E+01
0.000000000E+00, 0.000000000E+00, 1.148251590E+01
-1.232515896E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.541222819E+04, -4.970623454E+01

gas, c2h2_vinylidene, 26.0373, c, 2, h, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
-1.466042239E+04, 2.789475593E+02, 1.276229776E+00
1.395015463E-02, -1.475702649E-05, 9.476298110E-09
-2.567602217E-12, 4.736110180E+04, 1.658225704E+01
1.940838725E+06, -6.892718150E+03, 1.339582494E+01
-9.368968670E-04, 1.470804368E-07, -1.220040365E-11
4.122391660E-16, 9.107112930E+04, -6.337502930E+01
0.000000000E+00, 0.000000000E+00, 9.871167064E+00
3.788329356E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.233931265E+04, -3.531145577E+01

gas, ch2cl-cooh, 94.4970, c, 2, h, 3, cl, 1, o, 2, e, 8
cpg, nasa, 3
200, 1000, 6000, 20000
-1.122506431E+05, 2.168288546E+03, -1.227791221E+01
7.514388060E-02, -9.083158490E-05, 5.812363980E-08
-1.518247440E-11, -6.314314500E+04, 9.694389710E+01
2.472881709E+06, -1.152275613E+04, 2.766275288E+01
-1.886429520E-03, 3.361772590E-07, -3.231268060E-11
1.273273865E-15, 1.370384800E+04, -1.443191119E+02
0.000000000E+00, 0.000000000E+00, 2.125946962E+01
9.905303752E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.678889757E+04, -9.391484292E+01

gas, ch3cn, 41.0519, c, 2, h, 3, n, 1, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
-9.965988380E+04, 1.739278534E+03, -7.898420820E+00
4.294894320E-02, -4.499973880E-05, 2.717105086E-08
-7.026117590E-12, -1.461161333E+03, 6.852508274E+01
2.923231393E+06, -1.233792258E+04, 2.324477222E+01
-2.411565845E-03, 4.622157170E-07, -4.740601240E-11
2.010639467E-15, 8.058565550E+04, -1.292249102E+02
0.000000000E+00, 0.000000000E+00, 1.580343408E+01
4.465659207E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.956753626E+03, -7.138713657E+01

gas, c2h4, 28.0532, c, 2, h, 4, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
-1.163605836E+05, 2.554851510E+03, -1.609746428E+01
6.625779320E-02, -7.885081860E-05, 5.125224820E-08
-1.370340031E-11, -6.176191070E+03, 1.093338343E+02
3.408763670E+06, -1.374847903E+04, 2.365898074E+01
-2.423804419E-03, 4.431395660E-07, -4.352683390E-11
1.775410633E-15, 8.820429380E+04, -1.371278108E+02
0.000000000E+00, 0.000000000E+00, 1.576870158E+01
4.812984225E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.699924319E+03, -7.537004274E+01

gas, c2h4o_ethylen-o, 44.0526, c, 2, h, 4, o, 1, e, 7
cpg, nasa, 3
200, 1000, 6000, 20000
-1.728233345E+05, 3.816678800E+03, -2.629851977E+01
1.014103162E-01, -1.240578373E-04, 8.034040350E-08
-2.120942544E-11, -2.437519333E+04, 1.654885056E+02
3.151809957E+06, -1.423646316E+04, 2.708080476E+01

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-2.606238456E-03, 4.853891930E-07, -4.852144760E-11
2.011778721E-15, 7.662561440E+04, -1.563952401E+02
0.000000000E+00, 0.000000000E+00, 1.875585908E+01
4.941409161E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.236573003E+04, -9.138840172E+01

gas, ch3cho_ethanal, 44.0526, c, 2, h, 4, o, 1, e, 7
cpg, nasa, 3
200, 1000, 6000, 20000
-1.373904369E+05, 2.559937679E+03, -1.340470172E+01
5.922128620E-02, -6.240006050E-05, 3.703324410E-08
-9.342697410E-12, -3.318731310E+04, 1.007417652E+02
3.321176590E+06, -1.449719957E+04, 2.708421279E+01
-2.879320054E-03, 5.556309920E-07, -5.732674880E-11
2.443965239E-15, 6.507755640E+04, -1.536236027E+02
0.000000000E+00, 0.000000000E+00, 1.826596012E+01
9.840398754E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.529811264E+04, -8.515515899E+01

gas, c2h6, 30.0690, c, 2, h, 6, e, 8
cpg, nasa, 3
200, 1000, 6000, 20000
-1.862044161E+05, 3.406191860E+03, -1.951705092E+01
7.565835590E-02, -8.204173220E-05, 5.061135800E-08
-1.319281992E-11, -2.702932890E+04, 1.298140496E+02
5.025782130E+06, -2.033022397E+04, 3.322552930E+01
-3.836703410E-03, 7.238405860E-07, -7.319182500E-11
3.065468699E-15, 1.115963950E+05, -2.039410584E+02
0.000000000E+00, 0.000000000E+00, 2.117174806E+01
1.078251944E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.969191325E+04, -1.100346015E+02

gas, ccn, 38.0281, c, 2, n, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-1.696281385E+04, 9.837891630E+01, 3.812662940E+00
5.346894230E-03, -2.473598508E-06, -3.730564220E-10
4.481756860E-13, 9.480072570E+04, 5.553165572E+00
7.948674890E+04, -1.344786906E+03, 8.309986460E+00
-2.220105361E-04, 1.753683113E-08, 2.545998719E-12
-2.645649117E-16, 1.023187495E+05, -2.259793940E+01
0.000000000E+00, 0.000000000E+00, 7.596464362E+00
-3.464643622E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 9.257379156E+04, -1.708434481E+01

gas, cnc, 38.0281, c, 2, n, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-7.075192710E+04, 1.007523898E+03, -1.576789967E+00
2.052532634E-02, -2.278935009E-05, 1.283362343E-08
-2.933174091E-12, 7.613324850E+04, 3.487094132E+01
-9.031313560E+04, -8.313236500E+02, 8.114735950E+00
-2.447691991E-04, 5.397508770E-08, -6.183984860E-12
2.865172411E-16, 8.451833600E+04, -2.102937255E+01
0.000000000E+00, 0.000000000E+00, 7.485157834E+00
-2.351578344E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 7.900531862E+04, -1.626060815E+01

gas, c2n2, 52.0348, c, 2, n, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
1.082404484E+05, -1.928137871E+03, 1.553891898E+01
-1.821159329E-02, 2.778840840E-05, -1.899434373E-08
4.949677720E-12, 4.449097590E+04, -6.090964741E+01
7.934423720E+05, -3.997376270E+03, 1.314497430E+01
-8.747782000E-04, 2.059156733E-07, -2.200469389E-11
9.974485770E-16, 5.863632300E+04, -5.473201251E+01
0.000000000E+00, 0.000000000E+00, 1.121052264E+01
-9.605226377E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.885448025E+04, -4.004560096E+01

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gas, c2o, 40.0208, c, 2, o, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-3.959929420E+03, -1.117516348E+02, 4.593960060E+00
3.710602020E-03, -7.014760180E-07, -1.371129839E-09
7.123854000E-13, 3.410109740E+04, 4.622805600E-01
-6.348056590E+05, 1.184133091E+03, 4.879173340E+00
1.757538773E-03, -3.957552270E-07, 3.989179940E-11
-1.546043135E-15, 2.489803938E+04, 9.809040590E-01
0.000000000E+00, 0.000000000E+00, 7.974242050E+00
-7.242420504E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.040970600E+04, -2.033595502E+01

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gas, c3, 36.0321, c, 3, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-4.354614480E+04, 6.660183220E+02, 1.451033157E+00
7.434513120E-03, -3.810152990E-06, -2.336961396E-11
4.407054530E-13, 9.635170200E+04, 2.025173297E+01
4.508098930E+06, -1.461033761E+04, 2.281974644E+01
-8.544340610E-03, 2.146069341E-06, -2.103867761E-10
6.351589060E-15, 1.911976065E+05, -1.271869723E+02
1.539589859E+08, -2.089057498E+05, 7.681111210E+01
-8.939056190E-03, 5.594033240E-07, -1.743774353E-11
2.181541208E-16, 1.650801763E+06, -6.081693320E+02

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gas, c3h8, 44.0956, c, 3, h, 8, e, 11
cpg, nasa, 3
200, 1000, 6000, 20000
-2.433144337E+05, 4.656270810E+03, -2.939466091E+01
1.188952745E-01, -1.376308269E-04, 8.814823910E-08
-2.342987994E-11, -3.540335270E+04, 1.841749277E+02
6.420731680E+06, -2.659791134E+04, 4.534356840E+01
-5.020663920E-03, 9.471216940E-07, -9.575405230E-11
4.009672880E-15, 1.455582459E+05, -2.818374734E+02
0.000000000E+00, 0.000000000E+00, 2.956488436E+01
1.685115640E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.922668414E+04, -1.589078320E+02

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gas, c3o2, 68.0309, c, 3, o, 2, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
1.579873382E+05, -2.529493506E+03, 1.801761578E+01
-1.786032042E-02, 2.978671986E-05, -2.182900022E-08
6.013797220E-12, -1.121054014E+03, -7.277721170E+01
6.968699890E+05, -4.624733190E+03, 1.663905725E+01
-1.175486554E-03, 2.478106444E-07, -2.745165984E-11
1.239566766E-15, 1.252580069E+04, -7.275968780E+01
0.000000000E+00, 0.000000000E+00, 1.343391324E+01
-1.839132418E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.887205954E+04, -4.828150424E+01

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gas, c4, 48.0428, c, 4, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
3.903780500E+04, -8.948280780E+02, 1.050952925E+01
-6.552894460E-03, 1.243940464E-05, -8.645341370E-09
2.263638846E-12, 1.266425869E+05, -3.077594475E+01
9.200685130E+05, -1.530311800E+03, 6.050069200E+00
5.252743670E-03, -1.779154772E-06, 2.589873632E-10
-1.38553481E-14, 1.334389611E+05, -7.261148820E+00
-2.864752103E+07, 1.765535487E+04, 6.166598280E+00
8.098789030E-04, -6.653483810E-08, 2.504726897E-12
-3.585724180E-17, -2.082319291E+04, 4.331258920E+00

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gas, c4n2, 76.0562, c, 4, n, 2, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
1.587802866E+05, -2.987184206E+03, 2.348081602E+01
-2.607502448E-02, 4.042830030E-05, -2.804912444E-08
7.397652050E-12, 7.505299470E+04, -1.017578250E+02

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1.167686152E+06, -6.198644180E+03, 2.062070093E+01
-1.518619449E-03, 3.162361680E-07, -3.469922800E-11
1.555154128E-15, 9.667409390E+04, -9.669734738E+01
0.000000000E+00, 0.000000000E+00, 1.641424663E+01
-1.642466288E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.440584517E+04, -6.449930132E+01

gas, c5, 60.0535, c, 5, e, 5

cpg, nasa, 3
200, 1000, 6000, 20000
-1.200801119E+04, -5.553702910E+02, 1.123828271E+01
-4.347884520E-03, 1.738987490E-05, -1.707945418E-08
5.574541910E-12, 1.262404627E+05, -3.262308990E+01
2.172055356E+05, -2.958510027E+03, 1.561080967E+01
-8.200361920E-04, 1.776898025E-07, -2.009853583E-11
9.222677770E-16, 1.395208064E+05, -6.433077180E+01
3.266863960E+06, -2.666377675E+03, 1.408383780E+01
-6.620512140E-05, 4.099789450E-09, -1.315689998E-13
1.711940703E-18, 1.405413771E+05, -5.349354010E+01

gas, ca, 40.0780, ca, 1, e, 1

cpg, nasa, 3
200, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.063892786E+04, 4.384548330E+00
7.547341240E+06, -2.148642662E+04, 2.530849567E+01
-1.103773705E-02, 2.293249636E-06, -1.209075383E-10
-4.015333268E-15, 1.585862323E+05, -1.609512955E+02
2.291781634E+09, -1.608862960E+06, 4.312466360E+02
-5.396508990E-02, 3.531856210E-06, -1.164403850E-10
1.527134223E-15, 1.258651434E+07, -3.692101610E+03

gas, ca+, 40.0775, ca, 1

cpg, nasa, 3
200, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 9.232417790E+04, 5.077674980E+00
3.747070820E+06, -1.174707738E+04, 1.672546969E+01
-8.334797710E-03, 2.394593294E-06, -2.988243468E-10
1.356563002E-14, 1.664329088E+05, -9.582821260E+01
9.117128410E+08, -6.220428460E+05, 1.683741136E+02
-2.140862670E-02, 1.452947686E-06, -4.920790880E-11
6.575369235E-16, 4.959472060E+06, -1.422600719E+03

gas, cabr, 119.9820, ca, 1, br, 1, e, 2

cpg, nasa, 3
200, 1000, 6000, 20000
5.693832620E+02, -1.257513537E+02, 5.001508330E+00
-1.039868753E-03, 1.377594927E-06, -8.949013960E-10
2.395658928E-13, -3.728103980E+03, 1.784864847E+00
2.783236402E+06, -8.458203730E+03, 1.431756560E+01
-5.430781680E-03, 1.522218659E-06, -1.831824807E-10
7.864288660E-15, 4.931270680E+04, -6.537001100E+01
0.000000000E+00, 0.000000000E+00, 5.833059373E+00
-1.333059373E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.077310410E+03, -6.005744333E+00

gas, cabr2, 199.8860, ca, 1, br, 2, e, 3

cpg, nasa, 3
200, 1000, 6000, 20000
1.572504318E+03, -2.238551236E+02, 8.388457890E+00
-1.944164774E-03, 2.397926088E-06, -1.556572350E-09
4.124309580E-13, -4.772106610E+04, -1.074965233E+01
-2.219846426E+04, -4.463155330E+00, 7.503755110E+00
-1.641654626E-06, 3.879428060E-10, -4.683424260E-14
2.259325541E-18, -4.885436820E+04, -5.590324250E+00
0.000000000E+00, 0.000000000E+00, 7.500827494E+00
-2.508274945E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.888069365E+04, -5.567805281E+00

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gas, cacl, 75.5310, ca, 1, cl, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
6.395335260E+03, -2.249042269E+02, 5.283278390E+00
-1.447983237E-03, 1.643742771E-06, -9.430104280E-10
2.237516133E-13, -1.270169000E+04, -1.391964289E+00
1.629182545E+06, -4.766223020E+03, 9.658929770E+00
-2.523044131E-03, 5.833542160E-07, -4.101726990E-11
8.813177640E-17, 1.662599241E+04, -3.398731174E+01
0.000000000E+00, 0.000000000E+00, 6.036005846E+00
-1.536005846E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.990999754E+04, -9.251250266E+00

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gas, cacl+, 75.5305, ca, 1, cl, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
2.285284542E+03, -2.002872721E+02, 4.936990190E+00
-3.860973030E-04, 8.686661880E-08, 1.470205680E-10
-7.689315870E-14, 5.588277950E+04, -6.359815341E-01
1.770280396E+05, -5.891372390E+02, 5.103368800E+00
-2.356761168E-04, 5.483732870E-08, 2.137973112E-14
-5.572887310E-16, 5.853417250E+04, -2.191253644E+00
0.000000000E+00, 0.000000000E+00, 4.854683767E+00
-3.546837673E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.372430339E+04, -5.359626068E-01

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gas, cacl2, 110.9840, ca, 1, cl, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
1.106802030E+04, -4.249108250E+02, 9.134711860E+00
-3.497185310E-03, 4.242184630E-06, -2.719673231E-09
7.138268630E-13, -5.850346760E+04, -1.808678294E+01
-3.595768780E+04, -8.796495630E+00, 7.507256910E+00
-3.129465934E-06, 7.322886480E-10, -8.776403220E-14
4.210486040E-18, -6.066779660E+04, -8.553523451E+00
0.000000000E+00, 0.000000000E+00, 7.500379635E+00
-2.503796352E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.071805142E+04, -8.500777138E+00

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gas, caf, 59.0764, ca, 1, f, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
3.184235400E+04, -4.918235090E+02, 5.701120890E+00
-1.465138218E-03, 9.092930810E-07, -1.367585222E-10
-5.106323380E-14, -3.197694110E+04, -5.996662260E+00
5.195882670E+05, -1.512321567E+03, 5.869276250E+00
-3.882524480E-04, -2.484582298E-08, 3.749915960E-11
-3.470976450E-15, -2.488814584E+04, -8.614663700E+00
0.000000000E+00, 0.000000000E+00, 6.018233745E+00
-1.518233745E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.102340260E+04, -1.085797151E+01

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gas, caf+, 59.0759, ca, 1, f, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
4.158340800E+04, -5.627661660E+02, 5.687522150E+00
-1.264710572E-03, 6.669086480E-07, -6.926752820E-11
-3.978714620E-14, 3.305119500E+04, -6.974485010E+00
-1.398670845E+05, 2.191526375E+02, 4.214324340E+00
2.142798048E-04, -5.778672600E-08, 9.985756310E-12
-6.059621880E-16, 2.841605897E+04, 2.740342729E+00
0.000000000E+00, 0.000000000E+00, 4.825872880E+00
-3.258728802E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.867185109E+04, -1.844299953E+00

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gas, caf2, 78.0748, ca, 1, f, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
5.909352290E+04, -1.019733042E+03, 1.013165309E+01
-5.503506440E-03, 5.629319980E-06, -3.115401465E-09

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7.205525940E-13, -9.192608190E+04, -2.639505950E+01
-8.280409440E+04, -3.115950071E+01, 7.023577370E+00
-9.521000020E-06, 2.118160895E-09, -2.440713888E-13
1.135135468E-17, -9.729466770E+04, -7.546243340E+00
0.000000000E+00, 0.000000000E+00, 6.995677801E+00
2.543221993E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.746941586E+04, -7.331607657E+00

gas, cai, 166.9825, ca, 1, i, 1, e, 2

cpg, nasa, 3
200, 1000, 6000, 20000
-8.261790180E+02, -8.508975900E+01, 4.864171690E+00
-7.863169650E-04, 1.100493506E-06, -7.348030610E-10
2.010892767E-13, 5.236753440E+02, 3.585391680E+00
1.771071309E+06, -5.683643730E+03, 1.153857476E+01
-4.194020200E-03, 1.291359961E-06, -1.730043579E-10
8.380762350E-15, 3.583293200E+04, -4.405917570E+01
0.000000000E+00, 0.000000000E+00, 5.463643185E+00
-9.636431846E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.974350735E+03, -1.942349933E+00

gas, cai2, 293.8869, ca, 1, i, 2, e, 3

cpg, nasa, 3
200, 1000, 6000, 20000
-1.097851401E+03, -1.459821761E+02, 8.089341840E+00
-1.305332923E-03, 1.624199331E-06, -1.061194001E-09
2.825551217E-13, -3.272692980E+04, -6.981714940E+00
-1.623727104E+04, -2.859530722E+00, 7.502432190E+00
-1.071178707E-06, 2.544559095E-10, -3.083631004E-14
1.491836724E-18, -3.346341170E+04, -3.567305740E+00
0.000000000E+00, 0.000000000E+00, 7.501016785E+00
-2.510167849E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.348120254E+04, -3.556367921E+00

gas, cao, 56.0774, ca, 1, o, 1, e, 2

cpg, nasa, 3
200, 1000, 6000, 20000
3.889733070E+04, -4.835677350E+02, 5.077713250E+00
3.076235250E-04, -1.159759897E-06, 8.493433340E-10
-1.495333366E-13, 5.937643480E+03, -3.955320730E+00
-4.913106170E+07, 1.495865950E+05, -1.681654149E+02
9.381950260E-02, -2.455529428E-05, 3.074980720E-09
-1.485914237E-13, -9.461511720E+05, 1.235694769E+03
-3.504055130E+08, 2.083212387E+05, -3.978209270E+01
5.039268720E-03, -3.220707680E-07, 1.057379426E-11
-1.396044154E-16, -1.662378721E+06, 3.934491930E+02

gas, cao+, 56.0769, ca, 1, o, 1, e, 1

cpg, nasa, 3
200, 1000, 6000, 20000
1.098060332E+05, -1.459992448E+03, 9.880777940E+00
-9.157564600E-03, 8.707582560E-06, -4.390411080E-09
9.264854660E-13, 9.150057350E+04, -3.009947701E+01
9.397843130E+05, -2.993362243E+03, 8.336191820E+00
-2.303295087E-03, 7.373967530E-07, -1.052888279E-10
5.257138410E-15, 1.028098401E+05, -2.461547836E+01
-7.648645260E+07, 1.739245253E+04, 8.420288710E+00
-1.168386844E-03, 8.413684900E-08, -2.770799280E-12
3.569474430E-17, -8.643489770E+04, -2.376513061E+01

gas, caoh, 57.0853, ca, 1, o, 1, h, 1, e, 3

cpg, nasa, 3
200, 1000, 6000, 20000
4.620028900E+04, -9.285672820E+02, 9.175828770E+00
-3.962828800E-03, 2.505447308E-06, 3.852068210E-11
-3.352778470E-13, -1.798009717E+04, -2.533704850E+01
1.979972994E+06, -5.598880990E+03, 1.151348706E+01
-1.668264707E-03, 3.312573910E-07, -1.789056647E-11
-3.580716410E-16, 1.340196822E+04, -4.646084260E+01
0.000000000E+00, 0.000000000E+00, 8.228464897E+00
-9.784648973E-07, 0.000000000E+00, 0.000000000E+00


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0.000000000E+00, -2.843947881E+04, -2.242231705E+01

gas, caoh+, 57.0848, ca, 1, o, 1, h, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
4.884342660E+04, -9.832415100E+02, 9.610182950E+00
-5.204360660E-03, 4.263049820E-06, -1.197590878E-09
9.028411890E-15, 4.795056340E+04, -2.827077334E+01
8.637615370E+05, -2.347302046E+03, 7.981911200E+00
1.003160947E-04, -6.240074170E-08, 1.019540904E-11
-5.698925280E-16, 5.830580120E+04, -2.152181937E+01
0.000000000E+00, 0.000000000E+00, 7.434894438E+00
-1.848944383E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.075673282E+04, -1.635460181E+01

gas, ca(oh)2, 74.0927, ca, 1, o, 2, h, 2, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
8.389257540E+04, -1.791902135E+03, 1.621891031E+01
-7.840857170E-03, 5.095111610E-06, -6.955487550E-11
-6.132152640E-13, -6.600405630E+04, -6.070913920E+01
1.721854884E+06, -4.702217670E+03, 1.396947691E+01
1.983791405E-04, -1.243050592E-07, 2.033402404E-11
-1.137157819E-15, -4.443761350E+04, -5.287444860E+01
0.000000000E+00, 0.000000000E+00, 1.286497851E+01
3.850214906E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.957096505E+04, -4.245997593E+01

gas, cas, 72.1430, ca, 1, s, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.320990615E+04, -4.518446080E+02, 6.172333750E+00
-3.598852020E-03, 4.823731710E-06, -3.631733540E-09
1.212849867E-12, 1.554597691E+04, -7.686936462E+00
-1.568353214E+07, 5.293855810E+04, -6.322467240E+01
4.027726380E-02, -1.114855081E-05, 1.464389344E-09
-7.376078970E-14, -3.172022670E+05, 4.799606012E+02
0.000000000E+00, 0.000000000E+00, 6.202852554E+00
-1.702852554E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.146138098E+04, -1.009302001E+01

gas, ca2, 80.1560, ca, 2, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-8.582228620E+04, 1.588188960E+02, 1.103952055E+01
-3.333196760E-02, 5.345938810E-05, -4.011573240E-08
1.160486682E-11, 3.770350800E+04, -2.397744561E+01
2.405966267E+05, 5.775803820E+01, 2.347436675E+00
1.199275034E-04, -4.329150310E-08, 7.015302690E-12
-3.705660320E-16, 4.081875400E+04, 1.895399607E+01
0.000000000E+00, 0.000000000E+00, 2.548157914E+00
1.951842086E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.078002149E+04, 1.750849604E+01

gas, cl, 35.4530, cl, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
2.276215854E+04, -2.168413293E+02, 2.745185115E+00
2.451101694E-03, -5.458011990E-06, 4.417986880E-09
-1.288134004E-12, 1.501357068E+04, 3.102963457E+00
-1.697932930E+05, 6.081726460E+02, 2.128664090E+00
1.307367034E-04, -2.644883596E-08, 2.842504775E-12
-1.252911731E-16, 9.934387400E+03, 8.844772103E+00
-7.139687070E+07, 4.499936330E+04, -9.264315350E+00
1.657437964E-03, -1.326219399E-07, 5.533998870E-12
-8.390301878E-17, -3.405333030E+05, 1.069111426E+02

gas, cl+, 35.4525, cl, 1
cpg, nasa, 3
200, 1000, 6000, 20000
1.034697859E+05, -1.293758873E+03, 8.186702690E+00

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-9.916014600E-03, 9.208472370E-06, -4.507426240E-09
9.182127880E-13, 1.714758780E+05, -2.766417931E+01
4.056409480E+04, -4.960165720E+01, 3.101653630E+00
-5.868738290E-04, 2.252039316E-07, -3.299703020E-11
1.708780842E-15, 1.652982337E+05, 2.574942598E+00
-3.078099946E+06, -6.858418280E+02, 3.092289282E+00
-1.922260015E-05, 3.805551560E-10, -1.571848967E-13
8.442513880E-18, 1.683434405E+05, 1.334407234E+00

gas, cl-, 35.4535, cl, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.888389093E+04, 4.200642023E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.888389093E+04, 4.200642023E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.888389093E+04, 4.200642023E+00

gas, clcn, 61.4704, cl, 1, c, 1, n, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
7.274043430E+04, -1.297344947E+03, 1.107676527E+01
-1.108430216E-02, 1.614009477E-05, -1.088916772E-08
2.830952246E-12, 2.084388986E+04, -3.597370046E+01
3.467573120E+05, -1.957857370E+03, 8.807806150E+00
-4.388362780E-04, 1.024761895E-07, -1.110675026E-11
4.986179420E-16, 2.581923944E+04, -2.636885363E+01
0.000000000E+00, 0.000000000E+00, 7.797690832E+00
-5.476908316E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.145568401E+04, -1.868314095E+01

gas, clf, 54.4514, cl, 1, f, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
3.352210810E+04, -3.688311900E+02, 4.272288620E+00
2.549434508E-03, -4.456830890E-06, 3.413854120E-09
-9.838685200E-13, -5.839369690E+03, 2.318014199E-01
3.045867173E+06, -9.979328260E+03, 1.684162254E+01
-7.465850620E-03, 2.336213612E-06, -3.365865460E-10
1.763082415E-14, 5.447120800E+04, -8.707987094E+01
0.000000000E+00, 0.000000000E+00, 4.719767665E+00
-2.197676652E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.929179119E+03, -1.268482400E+00

gas, clf3, 92.4482, cl, 1, f, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
1.285175171E+05, -2.140445721E+03, 1.493096474E+01
-6.042471040E-03, 3.718968610E-06, -8.053201100E-10
-7.985600530E-14, -1.138459640E+04, -5.594838353E+01
-2.294956235E+05, -1.220741000E+02, 1.009124644E+01
-3.649724750E-05, 8.058910750E-09, -9.230849950E-13
4.272569490E-17, -2.282840447E+04, -2.511605479E+01
0.000000000E+00, 0.000000000E+00, 9.990089861E+00
2.599101389E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.355922096E+04, -2.434061006E+01

gas, clf5, 130.4450, cl, 1, f, 5, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
2.459703939E+05, -4.315348070E+03, 2.727005972E+01
-1.670193839E-02, 1.421668208E-05, -6.426479740E-09
1.183099799E-12, -1.071423726E+04, -1.267466837E+02
-4.269327450E+05, -2.058057390E+02, 1.615465278E+01
-6.212688180E-05, 1.376637959E-08, -1.581335709E-12
7.336422490E-17, -3.361466600E+04, -5.757531175E+01
0.000000000E+00, 0.000000000E+00, 1.598323187E+01

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2.667681314E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.483555823E+04, -5.626045565E+01

gas, clo, 51.4524, cl, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-1.687268145E+04, 2.573812247E+02, 2.175846120E+00
6.432061130E-03, -8.568249500E-06, 5.764971250E-09
-1.545771209E-12, 9.829518980E+03, 1.386010503E+01
4.093760520E+05, -1.765985112E+03, 7.087900630E+00
-1.828450169E-03, 7.103818100E-07, -1.209332942E-10
7.076441040E-15, 2.151891784E+04, -1.668645548E+01
0.000000000E+00, 0.000000000E+00, 4.457204750E+00
4.279524986E-08, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.192916100E+04, 1.889451707E+00

gas, clo2, 67.4518, cl, 1, o, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-1.127277696E+04, 3.903032030E+02, -3.843018530E-01
2.108677947E-02, -2.793137755E-05, 1.841289286E-08
-4.839779150E-12, 9.756933670E+03, 2.913262700E+01
-1.633793802E+05, -3.161480670E+02, 7.009787260E+00
2.837971144E-04, -1.179925338E-07, 2.920383252E-11
-2.024030202E-15, 1.184946452E+04, -1.091168827E+01
0.000000000E+00, 0.000000000E+00, 8.097579227E+00
-8.475792269E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.542019862E+03, -1.928909732E+01

gas, cl2, 70.9060, cl, 2, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
3.462815170E+04, -5.547126520E+02, 6.207589370E+00
-2.989632078E-03, 3.173027290E-06, -1.793629562E-09
4.260043590E-13, 1.534069331E+03, -9.438331107E+00
6.092569420E+06, -1.949627662E+04, 2.854535795E+01
-1.449968764E-02, 4.463890770E-06, -6.358525860E-10
3.327360290E-14, 1.212117724E+05, -1.690778824E+02
0.000000000E+00, 0.000000000E+00, 4.948278889E+00
-4.482788885E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.684631153E+03, -2.276125832E+00

gas, cl2o, 86.9054, cl, 2, o, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
7.798855400E+04, -1.182537879E+03, 9.526514660E+00
-2.596163176E-03, 8.696781310E-07, 4.484098270E-10
-3.044511967E-13, 1.376729572E+04, -2.484690718E+01
-1.271743461E+05, -6.741963220E+01, 7.050022450E+00
-1.988084386E-05, 4.366209050E-09, -4.978580680E-13
2.295679186E-17, 7.387289300E+03, -8.797477254E+00
0.000000000E+00, 0.000000000E+00, 6.993829322E+00
2.561706780E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.985422886E+03, -8.366259498E+00

gas, cobalt, 58.9332, co, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
-2.598939184E+03, 2.461989844E+02, -6.106058370E-01
1.393005772E-02, -2.210012979E-05, 1.623755261E-08
-4.534904351E-12, 4.984613760E+04, 2.257584199E+01
1.381841305E+06, -3.756036680E+03, 6.657130650E+00
-1.269246675E-03, 1.464092329E-07, 6.574946570E-12
-1.102384178E-15, 7.494442910E+04, -2.258500836E+01
-5.468015750E+08, 4.037704950E+05, -1.142413163E+02
1.663014422E-02, -1.156228007E-06, 3.862515150E-11
-5.002032746E-16, -3.076031798E+06, 1.003028648E+03

gas, cobalt+, 58.9327, co, 1
cpg, nasa, 3
200, 1000, 6000, 20000

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1.028494160E+05, -8.744731260E+02, 4.279500280E+00
2.225857835E-03, -7.457274570E-06, 7.279221950E-09
-2.347541963E-12, 1.474895959E+05, -5.679019220E+00
2.907386174E+06, -8.619705750E+03, 1.188134934E+01
-3.510647420E-03, 5.748004680E-07, -2.534065135E-11
2.976607469E-16, 1.977419221E+05, -6.096533440E+01
2.701785479E+09, -1.604232092E+06, 3.687314770E+02
-4.041150820E-02, 2.371848586E-06, -7.119952160E-11
8.635423717E-16, 1.293631390E+07, -3.201662470E+03

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gas, cobalt-, 58.9337, co, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
3.459493760E+04, -1.355041712E+02, 1.116330898E+00
9.042761830E-03, -1.454296726E-05, 9.994940630E-09
-2.595633259E-12, 4.337037820E+04, 1.270494975E+01
-5.741394170E+05, 1.763109207E+03, 1.415561988E+00
3.776869690E-04, -7.534179980E-08, 7.995701540E-12
-3.490440000E-16, 3.083493114E+04, 1.634360353E+01
-7.121795840E+05, 7.962447120E+02, 2.328870839E+00
1.919463732E-05, -1.179708474E-09, 3.764228600E-14
-4.875340940E-19, 3.689285080E+04, 9.511282720E+00

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gas, cr, 51.9961, cr, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
1.335658217E+03, -2.102424026E+01, 2.631908173E+00
-4.246263250E-04, 7.439194160E-07, -6.763931630E-10
2.507855625E-13, 4.715866640E+04, 6.005425450E+00
-1.120220789E+07, 3.401163690E+04, -3.657062170E+01
2.110296902E-02, -5.518180140E-06, 7.173601710E-10
-3.505127367E-14, -1.688993440E+05, 2.864481267E+02
3.900886930E+09, -2.462918543E+06, 5.915632640E+02
-6.697121640E-02, 3.946957790E-06, -1.166504597E-10
1.367279456E-15, 1.955381984E+07, -5.133510550E+03

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gas, cr+, 51.9956, cr, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.819187467E+02, -2.188843517E+00, 2.510676511E+00
-2.706791825E-05, 3.768492630E-08, -2.736784742E-11
8.115389932E-15, 1.263380825E+05, 6.506276170E+00
3.342330790E+06, -1.064261051E+04, 1.557884307E+01
-7.708971480E-03, 2.158300274E-06, -2.368108110E-10
8.952805604E-15, 1.932997670E+05, -8.604356670E+01
4.853867040E+08, -4.114535830E+05, 1.242898882E+02
-1.610102894E-02, 1.147677369E-06, -4.099673600E-11
5.728606039E-16, 3.281645810E+06, -1.034723629E+03

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gas, cr-, 51.9966, cr, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.858627870E+04, 6.566835370E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.858627870E+04, 6.566835370E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.858627870E+04, 6.566835370E+00

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gas, crn, 66.0028, cr, 1, n, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-8.239129220E+03, 3.008144202E+02, 5.147874920E-01
1.129636791E-02, -1.515183504E-05, 1.010997229E-08
-2.687775750E-12, 5.845628120E+04, 2.298028696E+01
1.110672490E+06, -3.690478540E+03, 8.599056680E+00
-2.125587223E-03, 5.282358480E-07, -4.921139150E-11
1.404331106E-15, 8.254804580E+04, -2.799968411E+01

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0.000000000E+00, 0.000000000E+00, 5.473992632E+00
-9.739926321E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.503741332E+04, -6.541140614E+00

gas, cro, 67.9955, cr, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
9.373334110E+03, 1.369743818E+02, 1.621443428E+00
8.814095960E-03, -1.232845360E-05, 8.497960940E-09
-2.315804197E-12, 2.090948871E+04, 1.781935787E+01
1.092367332E+06, -3.749758650E+03, 9.007870210E+00
-2.545445236E-03, 6.928051680E-07, -6.390831950E-11
1.659741645E-15, 4.447098210E+04, -2.942600453E+01
5.600191720E+08, -3.409592350E+05, 7.971428300E+01
-7.045904880E-03, 3.311256200E-07, -8.196877430E-12
8.487479810E-17, 2.738393714E+06, -6.629641700E+02

gas, cro2, 83.9949, cr, 1, o, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
3.548629900E+04, -2.298628537E+02, 2.286289393E+00
1.616929338E-02, -2.345198910E-05, 1.631365714E-08
-4.444269620E-12, -1.278912840E+04, 1.442954956E+01
-4.327109140E+05, 1.915584657E+02, 7.188247370E+00
-5.694846190E-04, 3.546366130E-07, -5.655123060E-11
2.908946349E-15, -1.743339545E+04, -1.006424720E+01
0.000000000E+00, 0.000000000E+00, 8.118302863E+00
-8.683028632E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.977500713E+04, -1.833862407E+01

gas, cro3, 99.9943, cr, 1, o, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
4.183020060E+04, -5.059348850E+02, 4.432715670E+00
1.995079387E-02, -2.920597649E-05, 2.039330280E-08
-5.580086630E-12, -3.769702400E+04, 8.653827280E-01
-6.283314010E+05, 6.928158180E+02, 8.971274600E+00
6.823365640E-04, -2.235048825E-07, 3.366785790E-11
-1.614026492E-15, -4.723880200E+04, -1.945305345E+01
0.000000000E+00, 0.000000000E+00, 1.029790024E+01
-4.790024119E-08, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.447785174E+04, -2.912843517E+01

gas, cro3-, 99.9948, cr, 1, o, 3, e, 5
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.873455703E+05, -2.300722991E+03, 1.343953022E+01
-1.663085846E-03, -1.443973096E-06, 2.045898933E-09
-6.837555300E-13, -6.630111580E+04, -4.930644200E+01
-6.499682030E+05, 4.522017620E+02, 9.980575900E+00
-4.214136730E-04, 2.631277945E-07, -4.594543650E-11
2.659097549E-15, -8.350019730E+04, -2.464810900E+01
0.000000000E+00, 0.000000000E+00, 1.050551599E+01
-2.555159875E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.199411243E+04, -2.951834512E+01

gas, cesium, 132.9055, cs, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
5.466584070E+01, -8.279346040E-01, 2.504942210E+00
-1.494620690E-05, 2.425976774E-08, -2.013172322E-11
6.704271991E-15, 8.459321390E+03, 6.848825772E+00
6.166040900E+06, -1.896175522E+04, 2.483229903E+01
-1.251977234E-02, 3.309017390E-06, -3.354012020E-10
9.626500908E-15, 1.285111231E+05, -1.522942188E+02
-9.566231720E+08, 4.321690420E+05, -6.371801020E+01
5.246260580E-03, -2.366560159E-07, 5.848488480E-12
-6.169370441E-17, -3.585268840E+06, 6.156618174E+02

gas, cs+, 132.9049, cs, 1
cpg, nasa, 3

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298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.438737820E+04, 6.182757992E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.438737820E+04, 6.182757992E+00
-2.479469300E+08, 1.405115456E+05, -2.805027359E+01
3.087928133E-03, -1.273598265E-07, -3.748818380E-13
1.214944533E-16, -1.072498017E+06, 2.756827325E+02

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gas, cs-, 132.9060, cs, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.237029001E+03, 6.182770382E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.237029001E+03, 6.182770382E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.237029001E+03, 6.182770382E+00

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gas, cscl, 168.3585, cs, 1, cl, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-2.538165292E+04, 2.972839326E+02, 2.667813848E+00
5.583272410E-03, -8.529005090E-06, 6.595191390E-09
-1.989715823E-12, -3.189251450E+04, 1.511365709E+01
-3.674923480E+06, 1.186152941E+04, -1.063287842E+01
9.804117920E-03, -3.277797460E-06, 5.534233390E-10
-3.401231500E-14, -1.048658658E+05, 1.114096064E+02
0.000000000E+00, 0.000000000E+00, 7.543704109E+00
-3.043704109E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.318262203E+04, -1.997461654E+01

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gas, csf, 151.9039, cs, 1, f, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
1.843685799E+04, -4.042409390E+02, 6.383178860E+00
-4.674323370E-03, 6.630134010E-06, -4.760905530E-09
1.374569797E-12, -4.318489590E+04, -7.226593230E+00
-1.850863231E+06, 5.625298800E+03, -2.250022212E+00
4.109243540E-03, -1.250243837E-06, 1.941483152E-10
-1.071166179E-14, -8.079827790E+04, 5.135559450E+01
0.000000000E+00, 0.000000000E+00, 6.347605867E+00
-1.847605867E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.291083722E+04, -1.168118306E+01

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gas, cso, 148.9049, cs, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
8.683958810E+03, 4.250278170E+02, -3.484055300E+00
3.801969830E-02, -6.651927560E-05, 5.173472190E-08
-1.512567066E-11, 1.969690015E+03, 4.240796140E+01
8.375544350E+05, -2.418205772E+03, 8.908065350E+00
-3.378180040E-03, 1.312755917E-06, -2.150508925E-10
1.219138980E-14, 1.809493447E+04, -2.460858580E+01
0.000000000E+00, 0.000000000E+00, 4.869695803E+00
-3.696958033E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.149742642E+03, 2.743761701E+00

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gas, csch, 149.9128, cs, 1, o, 1, h, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
9.386960790E+03, -5.009354260E+02, 8.301351980E+00
-3.235596840E-03, 2.612406777E-06, -4.950613410E-10
-1.038364927E-13, -3.025722427E+04, -1.742194837E+01
8.967171130E+05, -2.323978587E+03, 7.959644870E+00
1.101149275E-04, -6.466013970E-08, 1.045968201E-11

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-5.822514170E-16, -1.736258234E+04, -1.864239624E+01
0.000000000E+00, 0.000000000E+00, 7.435957674E+00
-1.859576738E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.477409256E+04, -1.364932595E+01

gas, ces2, 265.8109, cs, 2, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-4.674158730E+04, 5.952019510E+02, 1.895333975E+00
4.082065810E-03, 2.531487119E-06, -9.085139030E-09
4.290179930E-12, 8.857282570E+03, 2.391592727E+01
-2.592739590E+07, 7.539818910E+04, -7.484086800E+01
3.692866790E-02, -8.082497240E-06, 8.171850730E-10
-3.089285900E-14, -4.715045720E+05, 5.860933750E+02
0.000000000E+00, 0.000000000E+00, 4.079706914E+00
4.202930862E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.471291421E+04, 1.222898173E+01

gas, cs2cl2, 336.7169, cs, 2, cl, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
-1.077956357E+04, -5.346106950E+01, 1.021710683E+01
-4.789687030E-04, 5.908946530E-07, -3.821416520E-10
1.006995985E-13, -8.029515170E+04, -1.207856486E+01
-1.625143966E+04, -9.006137350E-01, 1.000077173E+01
-3.416194080E-07, 8.144968080E-11, -9.897475280E-15
4.798330810E-19, -8.056513220E+04, -1.081977337E+01
0.000000000E+00, 0.000000000E+00, 9.998024829E+00
2.519751711E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.056105799E+04, -1.079815347E+01

gas, cs2f2, 303.8077, cs, 2, f, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
-9.942677480E+03, -2.536723355E+02, 1.100684073E+01
-2.185640152E-03, 2.664791874E-06, -1.708229209E-09
4.471151980E-13, -1.090582601E+05, -2.000699602E+01
-3.677946420E+04, -4.355753480E+00, 1.000366687E+01
-1.603814186E-06, 3.791469740E-10, -4.578687430E-14
2.209385787E-18, -1.103456448E+05, -1.415086452E+01
0.000000000E+00, 0.000000000E+00, 9.997403485E+00
2.525965147E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.103573432E+05, -1.410203396E+01

gas, cs2o, 281.8103, cs, 2, o, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
1.910533804E+04, -4.962181530E+02, 8.759606300E+00
-3.511622790E-03, 4.016479830E-06, -2.450899853E-09
6.172404890E-13, -1.677664956E+04, -1.159258822E+01
-4.119147410E+04, -1.079255391E+01, 7.008500470E+00
-3.542955780E-06, 8.081699120E-10, -9.499419930E-14
4.489122540E-18, -1.934377850E+04, -1.203970450E+00
0.000000000E+00, 0.000000000E+00, 6.997176098E+00
2.528239021E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.939678944E+04, -1.116695771E+00

gas, cs2o+, 281.8098, cs, 2, o, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
6.837056090E+02, -2.435575007E+02, 7.783037470E+00
-1.414552725E-03, 1.470799739E-06, -8.218821330E-10
1.911749489E-13, 3.324194870E+04, -4.750423560E+00
-3.153085844E+04, -5.771559030E+00, 7.004482630E+00
-1.848241331E-06, 4.180882300E-10, -4.882376270E-14
2.295419936E-18, 3.196227310E+04, -5.434350690E-02
0.000000000E+00, 0.000000000E+00, 6.997520630E+00
2.524793701E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.193913080E+04, -2.279600348E-04

gas, cs2o2h2, 299.8256, cs, 2, o, 2, h, 2, e, 6

cpg, nasa, 3
200, 1000, 6000, 20000
-1.085981041E+04, -6.883068420E+02, 1.643543354E+01
-4.039220580E-03, 2.331117156E-06, 8.439651630E-10
-6.859309730E-13, -7.939476230E+04, -4.906196810E+01
1.802857941E+06, -4.656354750E+03, 1.693566597E+01
2.117402535E-04, -1.272249096E-07, 2.066555839E-11
-1.152390667E-15, -5.190813690E+04, -5.849719160E+01
0.000000000E+00, 0.000000000E+00, 1.586800132E+01
3.819986766E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.676295412E+04, -4.836536105E+01

gas, cs2so4, 361.8735, cs, 2, s, 1, o, 4, e, 7
cpg, nasa, 3
200, 1000, 6000, 20000
6.153637870E+04, -6.381374330E+02, 6.894772090E+00
3.960182910E-02, -5.529862010E-05, 3.736332520E-08
-9.973241830E-12, -1.339760310E+05, -1.284432588E+00
-5.223397520E+05, -9.444155250E+02, 1.970476453E+01
-2.821225990E-04, 6.240792280E-08, -7.163464070E-12
3.322667190E-16, -1.364179983E+05, -6.820406795E+01
0.000000000E+00, 0.000000000E+00, 1.896842209E+01
2.815779070E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.425229697E+05, -6.261278620E+01

gas, cu, 63.5460, cu, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
7.713133150E+01, -1.169236206E+00, 2.506987803E+00
-2.116434879E-05, 3.441714710E-08, -2.862608999E-11
9.559250991E-15, 3.983981210E+04, 5.730813220E+00
2.308090411E+06, -8.503261000E+03, 1.467859102E+01
-8.467136520E-03, 2.887821016E-06, -4.270659180E-10
2.304265084E-14, 9.207535620E+04, -7.854701560E+01
-6.490595890E+08, 4.240323360E+05, -1.028965806E+02
1.297259934E-02, -7.766697680E-07, 2.220446727E-11
-2.441532031E-16, -3.305304580E+06, 9.198622920E+02

gas, cu+, 63.5455, cu, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
-2.452340093E-03, 2.606893531E-05, 2.499999890E+00
2.351922485E-10, -2.669362382E-13, 1.510315123E-16
-3.278224814E-20, 1.302400621E+05, 5.075940770E+00
-2.181443016E+06, 7.217858190E+03, -6.941154750E+00
6.208248920E-03, -2.139340497E-06, 3.566431440E-10
-2.081198501E-14, 8.516456660E+04, 7.116800670E+01
2.994686480E+09, -1.831416099E+06, 4.294926960E+02
-4.801927720E-02, 2.836504248E-06, -8.452189040E-11
1.013018211E-15, 1.468809255E+07, -3.729918010E+03

gas, cu-, 63.5465, cu, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.483864954E+04, 5.075966030E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.483864954E+04, 5.075966030E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.483864954E+04, 5.075966030E+00

gas, cucl, 98.9990, cu, 1, cl, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
1.469847736E+04, -3.393167250E+02, 5.723459590E+00
-2.417296132E-03, 2.858019864E-06, -1.757900548E-09
4.455047290E-13, 1.131714015E+04, -4.527352594E+00
-2.577122410E+04, -7.106346060E+00, 4.505623180E+00

5.394548270E-05, 5.386417960E-10, -6.348482770E-14
3.006622062E-18, 9.566192870E+03, 2.680067564E+00
0.000000000E+00, 0.000000000E+00, 4.839004811E+00
-3.390048108E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 8.508386326E+03, 1.131571902E-01

gas, cuf, 82.5444, cu, 1, f, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
3.761385410E+04, -5.468104900E+02, 5.832351720E+00
-1.695312068E-03, 1.218150880E-06, -3.713285280E-10
2.002276589E-14, 5.865140720E+01, -7.156930090E+00
5.094154830E+05, -1.415009870E+03, 5.632349380E+00
-1.629128410E-04, -1.156611499E-07, 5.066034080E-11
-4.153205110E-15, 6.305506600E+03, -7.407773610E+00
0.000000000E+00, 0.000000000E+00, 5.837491126E+00
-1.337491126E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.601218950E+03, -9.713094210E+00

gas, cuf2, 101.5428, cu, 1, f, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
6.573311280E+04, -8.962430840E+02, 7.917560940E+00
1.345667904E-03, -4.162400010E-06, 3.716181090E-09
-1.155537597E-12, -2.916887325E+04, -1.587076153E+01
-1.650355082E+06, 3.775362120E+03, 3.889116550E+00
6.821912640E-04, 1.875979026E-07, -5.677368110E-11
3.823248730E-15, -5.953371700E+04, 1.522659664E+01
0.000000000E+00, 0.000000000E+00, 8.015581174E+00
-7.655811744E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.782211117E+04, -1.665241777E+01

gas, cuo, 79.5454, cu, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
4.689762240E+03, -1.184808464E+02, 4.566155240E+00
4.309058020E-04, -8.309886400E-07, 6.946638020E-10
-2.108693366E-13, 3.615190680E+04, 1.733847344E+00
3.582280170E+05, -9.139366410E+02, 5.136898670E+00
6.240577240E-05, -1.558613495E-07, 5.236803120E-11
-4.026745620E-15, 4.150792860E+04, -2.634070960E+00
0.000000000E+00, 0.000000000E+00, 5.858938775E+00
-1.358938775E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.979577297E+04, -8.725205480E+00

gas, cu2, 127.0920, cu, 2, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-8.529183480E+02, -9.720044930E+01, 4.882233700E+00
-7.371369400E-04, 1.000575401E-06, -6.391989440E-10
1.668655797E-13, 5.749307020E+04, 1.105391325E+00
-8.699399500E+04, 3.209103870E+02, 3.973802880E+00
5.080809670E-04, -1.707470385E-07, 3.219108190E-11
-1.958830868E-15, 5.506090190E+04, 6.914502170E+00
0.000000000E+00, 0.000000000E+00, 5.346169765E+00
-8.461697647E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.388340269E+04, -3.413487775E+00

gas, cu3cl3, 296.9970, cu, 3, cl, 3, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
4.487885320E+03, -8.736644440E+02, 1.936189091E+01
-7.137447860E-03, 8.560454870E-06, -5.419978740E-09
1.405175350E-12, -3.162689960E+04, -5.976797945E+01
-9.188559680E+04, -1.571936430E+01, 1.601294170E+01
-5.572992370E-06, 1.302748507E-09, -1.560175322E-13
7.480827570E-18, -3.608760740E+04, -4.013211395E+01
0.000000000E+00, 0.000000000E+00, 1.599569999E+01
2.543000142E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.615560256E+04, -3.999854708E+01

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gas, d, 2.0141, d, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.592128700E+04, 5.917143380E-01
6.050019210E+01, -1.810766064E-01, 2.500210817E+00
-1.220711706E-07, 3.715172170E-11, -5.660680210E-15
3.393920393E-19, 2.592243752E+04, 5.902125370E-01
2.169259778E+08, -1.309309862E+05, 3.392595050E+01
-3.805973810E-03, 2.427699393E-07, -7.677967800E-12
9.624191177E-17, 1.065922040E+06, -2.726201602E+02

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gas, d+, 2.0136, d, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.845120037E+05, -1.018414521E-01
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.845120037E+05, -1.018414521E-01
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.845120037E+05, -1.018414521E-01

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gas, d-, 2.0147, d, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.642373393E+04, -1.010243437E-01
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.642373393E+04, -1.010243437E-01
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.642373393E+04, -1.010243437E-01

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gas, dbr, 81.9181, d, 1, br, 1
cpg, nasa, 3
200, 1000, 6000, 20000
-1.918282458E+04, 2.020175399E+02, 3.044629038E+00
-1.488157450E-03, 6.870897800E-06, -6.591160280E-09
2.093769216E-12, -6.560074400E+03, 8.008690040E+00
6.654000440E+05, -2.594092228E+03, 6.885879400E+00
-1.103284901E-03, 2.894201105E-07, -3.152037514E-11
1.011011776E-15, 1.037813140E+04, -1.973703653E+01
0.000000000E+00, 0.000000000E+00, 4.774948524E+00
-2.749485245E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.290734170E+03, -4.300252129E+00

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gas, dcl, 37.4671, d, 1, cl, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
1.046421033E+04, -2.313813446E+02, 5.420693260E+00
-7.508012650E-03, 1.398672495E-05, -1.066249569E-08
3.011167635E-12, -1.128403374E+04, -6.711842349E+00
4.117284900E+05, -1.764535217E+03, 5.668877100E+00
-3.475964170E-04, 5.882688030E-08, 3.760253130E-13
-5.164600560E-16, -1.541258092E+03, -1.275659404E+01
0.000000000E+00, 0.000000000E+00, 4.832297006E+00
-3.322970055E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.463758434E+04, -6.355342529E+00

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gas, df, 21.0125, d, 1, f, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
5.721370750E+04, -7.311733800E+02, 7.220870870E+00
-9.423969350E-03, 1.208025139E-05, -6.941812690E-09

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1.538525476E-12, -3.069230024E+04, -1.932760992E+01
8.001172800E+05, -2.438386832E+03, 5.620664450E+00
-2.020416838E-04, 1.714418979E-08, 2.697462563E-12
-2.888297410E-16, -1.857447029E+04, -1.473004444E+01
1.924190104E+08, -9.333761700E+04, 1.929651319E+01
-6.429319300E-04, -1.978551386E-08, 1.730048706E-12
-3.030499069E-17, 7.325924600E+05, -1.428958225E+02

gas, docl, 53.4665, d, 1, o, 1, cl, 1, e, 3

cpg, nasa, 3
200, 1000, 6000, 20000
6.852834290E+04, -7.673444550E+02, 5.933970140E+00
2.868820667E-03, -5.207166370E-06, 4.927572740E-09
-1.709526276E-12, -6.824035050E+03, -7.757833983E+00
6.043066330E+05, -2.646500381E+03, 8.612474210E+00
-5.532268240E-04, 1.086845232E-07, -1.137381290E-11
4.904295520E-16, 4.845795180E+03, -2.588861801E+01
0.000000000E+00, 0.000000000E+00, 6.958563494E+00
2.914365063E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.341516975E+04, -1.309251059E+01

gas, do2, 34.0129, d, 1, o, 2, e, 3

cpg, nasa, 3
200, 1000, 6000, 20000
-2.111479735E+04, 6.023371750E+02, -1.294877674E+00
1.812947970E-02, -2.161807666E-05, 1.391729127E-08
-3.697740280E-12, -2.976943856E+03, 3.272834480E+01
-1.267224927E+06, 2.799947016E+03, 2.325174609E+00
2.726325070E-03, -6.314507320E-07, 6.729289200E-11
-2.765192818E-15, -1.959411733E+04, 1.789922833E+01
0.000000000E+00, 0.000000000E+00, 7.334437224E+00
-8.443722380E-08, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.966920941E+03, -1.718647354E+01

gas, do2-, 34.0135, d, 1, o, 2, e, 4

cpg, nasa, 3
298.15, 1000, 6000, 20000
1.048705051E+05, -8.906236770E+02, 5.666553560E+00
1.904603784E-03, -1.215263210E-06, 6.577513330E-10
-2.147376147E-13, -8.942377250E+03, -7.797219200E+00
5.527661920E+05, -2.796895783E+03, 8.772206670E+00
-6.291116630E-04, 1.272331622E-07, -1.364440687E-11
6.005199440E-16, 2.512066767E+03, -2.890020381E+01
0.000000000E+00, 0.000000000E+00, 6.956456553E+00
2.935434467E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.667256159E+04, -1.491965005E+01

gas, d2, 4.0282, d, 2, e, 2

cpg, nasa, 3
200, 1000, 6000, 20000
2.125790482E+04, -2.996945907E+02, 5.130314980E+00
-4.172970890E-03, 5.014345720E-06, -2.126389969E-09
2.386536969E-13, 3.944985900E+02, -1.164191209E+01
8.215168560E+05, -2.365623159E+03, 5.342974510E+00
6.928145990E-05, -8.523671020E-08, 2.456447415E-11
-1.960597698E-15, 1.434214587E+04, -1.712600356E+01
4.899848740E+08, -3.112892916E+05, 7.945961340E+01
-8.425828740E-03, 4.789458020E-07, -1.390917969E-11
1.637606941E-16, 2.460108052E+06, -6.637009520E+02

gas, d2+, 4.0277, d, 2, e, 1

cpg, nasa, 3
298.15, 1000, 6000, 20000
-9.640959090E+04, 1.243052385E+03, -2.557714366E+00
1.343064234E-02, -1.285600289E-05, 6.463421670E-09
-1.337616868E-12, 1.730966171E+05, 3.356314920E+01
9.255951350E+05, -4.505219940E+03, 1.103203365E+01
-4.706089030E-03, 1.838068460E-06, -3.135924623E-10
1.857684975E-14, 2.058298890E+05, -5.283912240E+01
0.000000000E+00, 0.000000000E+00, 4.580915931E+00
-8.091593076E-08, 0.000000000E+00, 0.000000000E+00

0.000000000E+00, 1.801086442E+05, -7.690088528E+00

gas, d2-, 4.0288, d, 2, e, 3
cpg, nasa, 3
298.15, 1000, 6000, 20000
-4.365332060E+03, 3.112987057E+02, 5.481950030E-01
9.956988110E-03, -1.167000612E-05, 6.975656410E-09
-1.682718179E-12, 2.597897625E+04, 1.442223161E+01
-5.798805190E+04, -3.122959355E+02, 4.730388280E+00
5.695900800E-05, 2.018975430E-08, -2.311492448E-12
1.070266527E-16, 2.851200896E+04, -9.157527920E+00
0.000000000E+00, 0.000000000E+00, 5.390078022E+00
-8.900780223E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.375918224E+04, -1.426489458E+01

gas, d2o, 20.0276, d, 2, o, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
6.958278470E+03, -1.280889437E+01, 3.595878870E+00
1.502093683E-03, 3.594675050E-07, 5.340417200E-10
-5.181941270E-13, -3.101944566E+04, 2.895556576E+00
1.544193253E+06, -5.474238900E+03, 1.017542424E+01
-9.619415540E-04, 2.036545675E-07, -2.050566442E-11
8.510770690E-16, 2.983248980E+03, -4.465011570E+01
0.000000000E+00, 0.000000000E+00, 7.541381106E+00
-2.913811064E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.705989427E+04, -2.414907028E+01

gas, d2o2, 36.0270, d, 2, o, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
2.957711324E+04, -6.893037570E+01, 2.043905473E+00
1.570281822E-02, -1.935478714E-05, 1.384941336E-08
-4.104184900E-12, -1.802502679E+04, 1.347156482E+01
1.147867936E+06, -5.225760930E+03, 1.311088701E+01
-1.179811896E-03, 2.729336904E-07, -2.961433535E-11
1.310306129E-15, 1.219580532E+04, -5.690538200E+01
0.000000000E+00, 0.000000000E+00, 1.032043648E+01
-7.043648031E-08, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.585576423E+04, -3.564813421E+01

gas, d2s, 36.0932, d, 2, s, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
3.988386480E+03, -6.620792560E+01, 4.393354450E+00
-2.325113084E-03, 1.189503465E-05, -1.146524521E-08
3.626190450E-12, -3.787385550E+03, 9.238754375E-01
4.235814630E+05, -2.823776231E+03, 8.962821840E+00
-6.469231230E-04, 1.634615644E-07, -1.797991376E-11
8.160939570E-16, 1.204603509E+04, -3.191047376E+01
0.000000000E+00, 0.000000000E+00, 7.683634403E+00
-4.336344028E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.338801059E+03, -2.228418561E+01

gas, f, 18.9984, f, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
1.137409088E+03, -1.453392797E+02, 4.077403610E+00
-4.303360140E-03, 5.728897740E-06, -3.819312900E-09
1.018322509E-12, 9.311110120E+03, -3.558982650E+00
1.473506226E+04, 8.149927360E+01, 2.444371819E+00
2.120210026E-05, -4.546918620E-09, 5.109528730E-13
-2.333894647E-17, 8.388374650E+03, 5.478710640E+00
-2.926724756E+07, 1.775674924E+04, -1.814463258E+00
5.351200280E-04, -3.513620800E-08, 1.101519690E-12
-1.061293837E-17, -1.319642721E+05, 4.248814560E+01

gas, f+, 18.9979, f, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
-3.871680190E+04, 3.218815660E+02, 2.200920452E+00

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-2.455492688E-04, 7.858355060E-07, -6.435987920E-10
1.839793564E-13, 2.098830937E+05, 7.816999240E+00
1.649635664E+04, 1.337351478E+02, 2.332522942E+00
1.215277877E-04, -4.801037700E-08, 9.027225150E-12
-5.470664940E-16, 2.110745327E+05, 6.625817090E+00
7.599619330E+06, -1.391106563E+03, 1.714871534E+00
2.428311844E-04, -1.894860146E-08, 6.420828070E-13
-8.257979730E-18, 2.269126001E+05, 1.102848944E+01

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gas, f-, 18.9990, f, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.142572443E+04, 3.264882710E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.142572443E+04, 3.264882710E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.142572443E+04, 3.264882710E+00

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gas, fcn, 45.0158, f, 1, c, 1, n, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
3.984454120E+04, -6.988655360E+02, 7.058839660E+00
-1.404863382E-03, 3.964652510E-06, -3.045609294E-09
7.923045900E-13, 6.172627570E+03, -1.505643174E+01
3.981873550E+05, -2.302971079E+03, 9.027081390E+00
-5.228710260E-04, 1.191059272E-07, -1.280287231E-11
5.733807190E-16, 1.588449451E+04, -2.984971982E+01
0.000000000E+00, 0.000000000E+00, 7.785796633E+00
-5.357966326E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.517086754E+02, -2.039898277E+01

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gas, fco, 47.0085, f, 1, c, 1, o, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
1.132662744E+04, -5.397918500E+01, 2.966927601E+00
7.559959350E-03, -6.211773580E-06, 2.403781550E-09
-3.369507750E-13, -2.240369579E+04, 1.092652142E+01
-6.085851580E+04, -1.022397533E+03, 7.527322560E+00
-1.057942328E-04, -1.365311093E-09, 2.484612871E-12
-9.997916800E-17, -1.805098416E+04, -1.630331278E+01
0.000000000E+00, 0.000000000E+00, 7.077383540E+00
1.726164597E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.559174809E+04, -1.273169462E+01

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gas, fo, 34.9978, f, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-3.912182440E+04, 7.967036940E+02, -1.634777767E+00
1.601810071E-02, -2.095210771E-05, 1.382740666E-08
-3.664524950E-12, 8.375525230E+03, 3.383325720E+01
-1.597940503E+06, 4.377376380E+03, -4.897507640E-01
2.682336321E-03, -6.900804850E-07, 7.246479680E-11
-2.726912632E-15, -1.644248211E+04, 3.559923610E+01
0.000000000E+00, 0.000000000E+00, 3.559217841E+00
9.407821594E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.542810447E+04, 7.668675077E+00

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gas, fo2_foo, 50.9972, f, 1, o, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
5.821564000E+03, -2.347363967E+02, 5.437338760E+00
2.165855252E-03, 3.671472190E-07, -2.071530827E-09
9.431066850E-13, 2.694856027E+03, -1.168202057E+00
-1.213166895E+06, 2.493397189E+03, 4.465065740E+00
9.416104040E-04, -6.426472260E-08, -1.085643277E-11
1.216995394E-15, -1.596800286E+04, 8.655193180E+00
0.000000000E+00, 0.000000000E+00, 7.416299618E+00

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-1.662996182E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.081758370E+03, -1.331128756E+01

gas, fo2_ofo, 50.9972, f, 1, o, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-7.734106400E+04, 1.663800209E+03, -9.612815160E+00
4.989156870E-02, -6.946217130E-05, 4.707787800E-08
-1.258890729E-11, 3.697092730E+04, 7.795943040E+01
-6.211867340E+05, 9.369474590E+02, 6.401558750E+00
2.136110846E-04, -4.337977650E-08, 4.667312240E-12
-2.059767432E-16, 3.638357270E+04, -6.150264330E+00
0.000000000E+00, 0.000000000E+00, 7.000150514E+00
2.498494859E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.295557393E+04, -1.073661108E+01

gas, f2, 37.9968, f, 2, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
1.018176308E+04, 2.274241183E+01, 1.971353040E+00
8.151604010E-03, -1.148960090E-05, 7.958652530E-09
-2.167079526E-12, -9.586943000E+02, 1.130600296E+01
-2.941167790E+06, 9.456597700E+03, -7.738616150E+00
7.644712990E-03, -2.241007605E-06, 2.915845236E-10
-1.425033974E-14, -6.071005610E+04, 8.423835080E+01
0.000000000E+00, 0.000000000E+00, 3.455337340E+00
1.044662660E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.428968366E+03, 7.221985957E+00

gas, f2o, 53.9962, f, 2, o, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
3.082919995E+04, -2.299506259E+02, 2.603805825E+00
1.586111264E-02, -2.345633734E-05, 1.679619314E-08
-4.703560330E-12, 3.055185332E+03, 1.050933022E+01
-1.885374518E+05, -2.100729689E+02, 7.151239160E+00
1.327687906E-04, 1.804705706E-08, -1.416973671E-12
6.489389390E-17, 1.449129965E+03, -1.257858336E+01
0.000000000E+00, 0.000000000E+00, 8.341884123E+00
-1.091884123E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.140146029E+03, -2.185197145E+01

gas, fs2f, 102.1268, f, 2, s, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
1.144462280E+05, -1.853247564E+03, 1.394098518E+01
-4.043689370E-03, 1.370970316E-06, 6.711903100E-10
-4.624954960E-13, -3.351068330E+04, -4.849215357E+01
-2.077097921E+05, -1.094539831E+02, 1.008136946E+01
-3.239537910E-05, 7.125225270E-09, -8.134787410E-13
3.755022410E-17, -4.349446060E+04, -2.346916058E+01
0.000000000E+00, 0.000000000E+00, 9.990892284E+00
2.591077158E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.414910933E+04, -2.277500293E+01

gas, fe, 55.8450, fe, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
6.790822660E+04, -1.197218407E+03, 9.843393310E+00
-1.652324828E-02, 1.917939959E-05, -1.149825371E-08
2.832773807E-12, 5.466995940E+04, -3.383946260E+01
-1.954923682E+06, 6.737161100E+03, -5.486410970E+00
4.378803450E-03, -1.116286672E-06, 1.544348856E-10
-8.023578182E-15, 7.137370060E+03, 6.504979860E+01
1.216352511E+09, -5.828563930E+05, 9.789634510E+01
-5.370704430E-03, 3.192037920E-08, 6.267671430E-12
-1.480574914E-16, 4.847648290E+06, -8.697289770E+02

gas, fe+, 55.8445, fe, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000

-5.691231620E+04, 1.847134390E+02, 4.196972120E+00
-5.978275970E-03, 1.054267912E-05, -8.059804320E-09
2.256925874E-12, 1.401206571E+05, -3.602542580E-01
-8.176450090E+05, 1.925359408E+03, 1.717387154E+00
3.385338980E-04, -9.813533120E-08, 2.228179208E-11
-1.483964439E-15, 1.286352466E+05, 1.500256262E+01
1.065217491E+08, -2.883923997E+04, -2.821752459E+00
2.712846797E-03, -3.107069182E-07, 1.543726493E-11
-2.725133516E-16, 4.142981690E+05, 4.053497330E+01

gas, fe-, 55.8455, fe, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.341276767E+05, -1.775438064E+03, 1.084366935E+01
-1.499440282E-02, 1.412129744E-05, -6.942189050E-09
1.410953082E-12, 5.519472530E+04, -4.140886490E+01
-1.237808631E+05, 8.249279070E+02, 1.912936452E+00
2.280194065E-04, -4.942014160E-08, 5.591493490E-12
-2.566386941E-16, 4.156251610E+04, 1.265367627E+01
-1.008467687E+06, 7.642402360E+02, 2.332880311E+00
1.892649914E-05, -1.170322571E-09, 3.749758920E-14
-4.871021520E-19, 4.111417150E+04, 9.680921840E+00

gas, fe(co)5, 195.8955, fe, 1, c, 5, o, 5, e, 11
cpg, nasa, 3
200, 1000, 6000, 20000
3.797805710E+05, -7.285928160E+03, 5.400236180E+01
-6.935400750E-02, 1.026705717E-04, -7.207373130E-08
1.958981996E-11, -5.854580480E+04, -2.604377836E+02
1.116600852E+06, -8.067074730E+03, 3.652942410E+01
-2.047190300E-03, 4.441967750E-07, -4.932507130E-11
2.235704865E-15, -4.860661250E+04, -1.754566113E+02
0.000000000E+00, 0.000000000E+00, 3.116662831E+01
8.337169057E-08, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.041686867E+05, -1.345890230E+02

gas, fecl, 91.2980, fe, 1, cl, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
1.117340353E+04, -5.402144290E+01, 3.486057920E+00
6.879837140E-03, -1.273679557E-05, 1.025321859E-08
-3.051544011E-12, 2.928681990E+04, 9.428962979E+00
5.288700220E+05, -1.282897413E+03, 5.798441690E+00
-2.896589776E-04, 3.343903810E-08, -1.469606582E-13
-1.213444602E-16, 3.726196730E+04, -4.075134191E+00
0.000000000E+00, 0.000000000E+00, 4.878432467E+00
-3.784324667E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.849752344E+04, 2.951293077E+00

gas, fecl2, 126.7510, fe, 1, cl, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
2.301121607E+04, -5.858044060E+02, 9.322903480E+00
-3.006298824E-03, 2.590788666E-06, -1.080178662E-09
2.341239608E-13, -1.621041276E+04, -1.816752393E+01
1.644123697E+05, 6.928002690E+02, 4.638270140E+00
2.754339782E-03, -8.624218250E-07, 1.170827576E-10
-5.938061950E-15, -2.219721855E+04, 1.116897701E+01
0.000000000E+00, 0.000000000E+00, 7.834813087E+00
-5.848130867E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.918264130E+04, -9.245164519E+00

gas, fecl3, 162.2040, fe, 1, cl, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
4.284772100E+03, -5.741705370E+02, 1.220667256E+01
-4.680434120E-03, 5.609500470E-06, -3.549599500E-09
9.198543490E-13, -1.275688456E+05, -2.887584081E+01
-5.915740590E+04, -1.033382228E+01, 1.000849967E+01
-3.657651870E-06, 8.545873640E-10, -1.023070527E-13
4.904063640E-18, -1.305012050E+05, -1.598494171E+01

0.000000000E+00, 0.000000000E+00, 9.996690827E+00
2.533091730E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.305447793E+05, -1.589352696E+01

gas, feo, 71.8444, fe, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
1.569282213E+04, -6.460188880E+01, 2.458925470E+00
7.016047360E-03, -1.021405947E-05, 7.179297870E-09
-1.978966365E-12, 2.964572665E+04, 1.326115545E+01
-1.195971480E+05, -3.624864780E+02, 5.518880750E+00
-9.978856890E-04, 4.376913830E-07, -6.790629460E-11
3.639292680E-15, 3.037985806E+04, -3.633655420E+00
0.000000000E+00, 0.000000000E+00, 5.278152442E+00
-7.781524423E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.591473675E+04, -3.291683181E+00

gas, fe(oh)2, 89.8597, fe, 1, o, 2, h, 2, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
4.443027200E+05, -6.795140890E+03, 3.894726210E+01
-5.973005680E-02, 7.046165430E-05, -4.087859510E-08
9.368766340E-12, -9.051420860E+03, -1.931304058E+02
1.612519190E+06, -6.533241990E+03, 1.842922816E+01
-2.073249635E-03, 4.265874360E-07, -4.564063130E-11
1.990105746E-15, -2.992568633E+03, -8.445940590E+01
0.000000000E+00, 0.000000000E+00, 1.302223065E+01
2.277693494E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.595622179E+04, -4.375829553E+01

gas, fe2cl4, 253.5020, fe, 2, cl, 4, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
1.501308814E+03, -6.617096510E+02, 1.826924882E+01
-4.181494660E-03, 4.196535050E-06, -2.188670747E-09
5.395194700E-13, -5.340057580E+04, -4.935640680E+01
1.402450973E+05, 6.936064410E+02, 1.313800410E+01
2.754333070E-03, -8.623996010E-07, 1.170782491E-10
-5.937778080E-15, -5.974172730E+04, -1.752491511E+01
0.000000000E+00, 0.000000000E+00, 1.633114192E+01
-8.114192009E-08, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.670428416E+04, -3.791212730E+01

gas, fe2cl6, 324.4080, fe, 2, cl, 6, e, 8
cpg, nasa, 3
200, 1000, 6000, 20000
-1.034544447E+04, -8.234876600E+02, 2.520090594E+01
-6.845796790E-03, 8.255820750E-06, -5.248965660E-09
1.365242237E-12, -8.131847190E+04, -8.010768938E+01
-9.999118000E+04, -1.457716085E+01, 2.201208460E+01
-5.229481130E-06, 1.226831608E-09, -1.473195806E-13
7.078272330E-18, -8.551496190E+04, -6.143757198E+01
0.000000000E+00, 0.000000000E+00, 2.199549195E+01
2.545080452E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.557265840E+04, -6.130854034E+01

gas, h, 1.0079, h, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.547370801E+04, -4.466828530E-01
6.078774250E+01, -1.819354417E-01, 2.500211817E+00
-1.226512864E-07, 3.732876330E-11, -5.687744560E-15
3.410210197E-19, 2.547486398E+04, -4.481917770E-01
2.173757694E+08, -1.312035403E+05, 3.399174200E+01
-3.813999680E-03, 2.432854837E-07, -7.694275540E-12
9.644105630E-17, 1.067638086E+06, -2.742301051E+02

gas, h+, 1.0074, h, 1
cpg, nasa, 3


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298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.840214877E+05, -1.140646644E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.840214877E+05, -1.140646644E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.840214877E+05, -1.140646644E+00

gas, h-, 1.0085, h, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.597615494E+04, -1.139013868E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.597615494E+04, -1.139013868E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.597615494E+04, -1.139013868E+00

gas, halo, 43.9889, al, 1, o, 1, h, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
2.668671568E+04, -4.663214590E+02, 5.383800210E+00
2.902425002E-03, -2.243677610E-07, -1.516294323E-09
6.951737660E-13, 1.235914473E+03, -6.508837520E+00
7.847467050E+04, -1.515628850E+03, 8.572776230E+00
-4.142611440E-04, 8.935081700E-08, -1.007036446E-11
4.608017250E-16, 6.663241890E+03, -2.672948642E+01
0.000000000E+00, 0.000000000E+00, 7.476774783E+00
-2.267747826E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.524583135E+03, -1.839494877E+01

gas, halo2, 59.9883, h, 1, al, 1, o, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
3.544598910E+03, 1.159819104E+02, 8.637970690E-01
2.460875785E-02, -3.423160120E-05, 2.373182987E-08
-6.467608830E-12, -4.449506140E+04, 2.012317065E+01
6.985705440E+05, -2.864935042E+03, 1.086721494E+01
-5.368312700E-05, -2.836877559E-08, 6.291641190E-12
-3.889033110E-16, -2.764392495E+04, -3.775886340E+01
0.000000000E+00, 0.000000000E+00, 9.918744409E+00
3.312559090E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.857421435E+04, -2.954757122E+01

gas, hbo, 27.8183, h, 1, b, 1, o, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
6.360975030E+04, -8.001557590E+02, 6.218816130E+00
-7.801679980E-04, 3.141286759E-06, -2.031853478E-09
3.738552890E-13, -2.240282910E+04, -1.326952393E+01
8.861860230E+05, -3.913068050E+03, 9.888644800E+00
-8.222269140E-04, 1.621530554E-07, -1.703550237E-11
7.372740020E-16, -3.161852029E+03, -4.036812720E+01
0.000000000E+00, 0.000000000E+00, 7.442223516E+00
-1.922235163E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.016731389E+04, -2.144671183E+01

gas, hbo+, 27.8178, h, 1, b, 1, o, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
6.524471470E+04, -7.047337360E+02, 5.294271870E+00
1.308494598E-03, 2.088343622E-06, -2.564100339E-09
8.198981250E-13, 1.439293436E+05, -6.816749230E+00
1.836083606E+04, -1.212975446E+03, 6.822901960E+00
9.142272500E-04, -2.665355457E-07, 3.297049810E-11

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-1.530684082E-15, 1.463617504E+05, -1.699646159E+01
-2.428406068E+07, 1.188114816E+04, 5.641928570E+00
1.354130653E-04, -2.943428505E-09, -3.120357467E-14
1.432576207E-18, 3.883449210E+04, -3.069802126E+00

gas, hbo2, 43.8177, h, 1, b, 1, o, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
6.225087470E+03, 7.566153690E+01, 1.253406833E+00
1.748006535E-02, -1.982688351E-05, 1.229656460E-08
-3.153609847E-12, -6.878588780E+04, 1.767793507E+01
1.049369185E+06, -4.479145480E+03, 1.197755861E+01
-4.735743400E-04, 6.080207140E-08, -3.641565440E-12
6.155973170E-17, -4.221149470E+04, -4.911366820E+01
0.000000000E+00, 0.000000000E+00, 9.898707560E+00
3.512924396E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.411671718E+04, -3.228808703E+01

gas, hbs, 43.8839, h, 1, b, 1, s, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
5.649966210E+04, -5.466409950E+02, 3.636458390E+00
9.963657670E-03, -1.395090386E-05, 1.032834167E-08
-3.047186722E-12, 7.919860530E+03, 1.182455314E+00
-2.021836183E+05, -5.052026620E+02, 6.415218280E+00
1.049432932E-03, -3.683146690E-07, 5.342968310E-11
-2.154140451E-15, 6.485475620E+03, -1.331379864E+01
0.000000000E+00, 0.000000000E+00, 8.116918167E+00
-8.669181668E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.738205210E+03, -2.520962262E+01

gas, hbs+, 43.8834, h, 1, b, 1, s, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.489509163E+05, -1.847661736E+03, 1.147458020E+01
-9.476828370E-03, 1.110746739E-05, -6.175558610E-09
1.336853512E-12, 1.437822395E+05, -4.113512498E+01
6.610658360E+05, -2.791498527E+03, 9.131267640E+00
-5.063795290E-04, 7.751213140E-08, -4.191132930E-12
2.687149095E-17, 1.510734114E+05, -3.081426166E+01
-9.547637920E+06, 7.401763110E+03, 4.866419360E+00
4.143886550E-04, -2.488064459E-08, 6.972990680E-13
-7.714953540E-18, 7.555300990E+04, 3.822638009E+00

gas, hbr, 80.9119, h, 1, br, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.527222498E+04, -4.065110270E+02, 6.043116610E+00
-7.717882870E-03, 1.149123213E-05, -7.293633280E-09
1.747406491E-12, -3.510414550E+03, -9.903186290E+00
1.170033949E+06, -3.786521010E+03, 7.503148050E+00
-1.284963943E-03, 3.206257190E-07, -3.444925160E-11
1.126758417E-15, 1.856413349E+04, -2.562712911E+01
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-2.580935079E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.550316638E+03, -5.183898816E+00

gas, hcn, 27.0253, h, 1, c, 1, n, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
9.098286930E+04, -1.238657512E+03, 8.721307870E+00
-6.528242940E-03, 8.872700830E-06, -4.808886670E-09
9.317898500E-13, 2.098915450E+04, -2.746678076E+01
1.236889278E+06, -4.446732410E+03, 9.738874850E+00
-5.855182640E-04, 1.072791440E-07, -1.013313244E-11
3.348247980E-16, 4.221513770E+04, -4.005774072E+01
0.000000000E+00, 0.000000000E+00, 7.628497735E+00
-3.784977347E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.041600519E+04, -2.317545714E+01

gas, hco, 29.0180, h, 1, c, 1, o, 1, e, 3

cpg, nasa, 3
200, 1000, 6000, 20000
-1.189851887E+04, 2.151536111E+02, 2.730224028E+00
1.806516108E-03, 4.984300570E-06, -5.814567920E-09
1.869689894E-12, 2.905755640E+03, 1.136772540E+01
6.949606120E+05, -3.656223380E+03, 9.604731170E+00
-1.117129278E-03, 2.875328019E-07, -3.626247740E-11
1.808329595E-15, 2.543704440E+04, -3.582473720E+01
0.000000000E+00, 0.000000000E+00, 7.173511373E+00
7.648862653E-08, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.429033605E+02, -1.762723014E+01

gas, hco+, 29.0175, h, 1, c, 1, o, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.573442506E+05, -1.867692159E+03, 1.099235423E+01
-1.211637888E-02, 1.659091514E-05, -1.016592642E-08
2.391234771E-12, 1.084930280E+05, -4.078261620E+01
1.219060653E+06, -4.714294890E+03, 1.021192493E+01
-8.854517070E-04, 1.667408026E-07, -1.683285548E-11
7.040051780E-16, 1.277989027E+05, -4.351158460E+01
-4.593151930E+05, -1.132568857E+03, 7.739065200E+00
-2.648464060E-05, 1.613280824E-09, -5.113217500E-14
6.588027500E-19, 1.032813937E+05, -2.458716820E+01

gas, hcl, 36.4609, h, 1, cl, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.062588287E+04, -3.093368855E+02, 5.275418850E+00
-4.828874220E-03, 6.195794600E-06, -3.040023782E-09
4.916790030E-13, -1.067782299E+04, -7.309305408E+00
9.157749510E+05, -2.770550211E+03, 5.973539790E+00
-3.629810060E-04, 4.735529190E-08, 2.810262054E-12
-6.656104220E-16, 5.674958050E+03, -1.642825822E+01
0.000000000E+00, 0.000000000E+00, 4.810371815E+00
-3.103718146E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.484422850E+04, -7.197169451E+00

gas, hd, 3.0220, h, 1, d, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.519120338E+04, -2.761004999E+02, 4.644441290E+00
-2.082376844E-03, 1.418070803E-06, 2.839893835E-10
-3.202331030E-13, 3.913616430E+02, -9.395396120E+00
8.455830000E+05, -1.956578537E+03, 4.404373870E+00
5.751681090E-04, -2.131983152E-07, 4.036126680E-11
-2.727170705E-15, 1.227254163E+04, -1.084742878E+01
4.829960940E+08, -3.077144916E+05, 7.864816510E+01
-8.332990910E-03, 4.732254110E-07, -1.372721571E-11
1.614120677E-16, 2.431070386E+06, -6.569437060E+02

gas, hd+, 3.0215, h, 1, d, 1, e, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
-8.070073050E+04, 8.796432580E+02, 5.968932160E-02
5.418181010E-03, -2.021515155E-06, -4.945261650E-10
4.092935650E-13, 1.744992497E+05, 1.934281193E+01
1.340083030E+06, -5.730069570E+03, 1.213836576E+01
-5.243338120E-03, 1.976302344E-06, -3.306573530E-10
1.937902763E-14, 2.135348051E+05, -6.128758390E+01
6.116880040E+06, -1.884939608E+04, 1.741572175E+01
-2.495631471E-03, 1.746560021E-07, -5.815870420E-12
7.638706130E-17, 3.018292196E+05, -1.105093671E+02

gas, hdo, 19.0214, h, 1, d, 1, o, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-2.737795356E+04, 4.310503900E+02, 1.558479899E+00
5.764969150E-03, -4.855129360E-06, 3.382990170E-09
-1.040863879E-12, -3.273226450E+04, 1.487751891E+01
1.711376798E+06, -5.322872300E+03, 9.124351520E+00

-3.400664150E-04, 4.152343520E-08, -4.780768570E-14
-1.468035170E-16, 3.245224680E+03, -3.774600680E+01
0.000000000E+00, 0.000000000E+00, 7.540347827E+00
-2.903478271E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.721246910E+04, -2.444480811E+01

gas, hdo2, 35.0208, h, 1, d, 1, o, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
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2.412802791E-02, -2.915946684E-05, 1.930016324E-08
-5.226986310E-12, -2.151059175E+04, 3.672406740E+01
1.313180619E+06, -5.175637120E+03, 1.216490975E+01
-6.136699480E-04, 1.227560176E-07, -1.079624939E-11
3.874013720E-16, 1.303209670E+04, -5.085276870E+01
0.000000000E+00, 0.000000000E+00, 1.024603628E+01
3.963724123E-09, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.580225268E+04, -3.543938011E+01

gas, hf, 20.0063, h, 1, f, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
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1.684673783E-03, -3.287394830E-06, 3.095923617E-09
-9.764691610E-13, -3.418443160E+04, 3.294904120E+00
7.257089040E+05, -1.484797741E+03, 3.855527470E+00
7.138989850E-04, -2.106757333E-07, 3.050092453E-11
-1.639495583E-15, -2.355456660E+04, -3.203856830E+00
1.764588423E+08, -8.789998060E+04, 1.886524859E+01
-6.850866180E-04, -1.403468022E-08, 1.503711045E-12
-2.717518148E-17, 6.853573220E+05, -1.393231574E+02

gas, hi, 127.9124, h, 1, i, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
1.872881730E+04, -3.431788840E+02, 5.956712430E+00
-8.543439600E-03, 1.454780274E-05, -1.049104164E-08
2.839734003E-12, 3.682950720E+03, -8.149756090E+00
4.724921450E+05, -1.923465741E+03, 5.758048970E+00
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4.611614790E-16, 1.394857037E+04, -1.182487652E+01
0.000000000E+00, 0.000000000E+00, 4.788558093E+00
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0.000000000E+00, -1.704712251E+02, -4.404138284E+00

gas, hnc, 27.0253, h, 1, n, 1, c, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
4.870620640E+04, -9.891456250E+02, 9.722153890E+00
-1.113593916E-02, 1.668862707E-05, -1.113940941E-08
2.893600868E-12, 2.664679758E+04, -3.104826344E+01
1.198791660E+06, -3.918941860E+03, 9.118020090E+00
-3.417761100E-04, 3.314809680E-08, -5.701574740E-13
-7.789455390E-17, 4.658810300E+04, -3.468575882E+01
0.000000000E+00, 0.000000000E+00, 7.417738783E+00
-1.677387829E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.842893938E+04, -2.077690308E+01

gas, hnco, 43.0247, h, 1, n, 1, c, 1, o, 1, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
7.542460080E+04, -9.550937770E+02, 6.725705870E+00
4.705687500E-03, -4.959475510E-06, 3.694255120E-09
-1.164859121E-12, -1.068149742E+04, -1.365584762E+01
1.253216926E+06, -5.021091540E+03, 1.247789314E+01
-6.891655250E-04, 1.097738448E-07, -9.306403800E-12
3.242606950E-16, 1.453155559E+04, -5.306419819E+01
0.000000000E+00, 0.000000000E+00, 9.900684139E+00
3.493158612E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.091365470E+04, -3.255044812E+01

gas, hno, 31.0140, h, 1, n, 1, o, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-6.854764860E+04, 9.551627200E+02, -6.000720210E-01
7.995176750E-03, -6.547079160E-07, -3.670513400E-09
1.783392519E-12, 6.435351260E+03, 3.048166179E+01
-5.795614980E+06, 1.945457427E+04, -2.152568374E+01
1.797428992E-02, -4.976040670E-06, 6.397924170E-10
-3.142619368E-14, -1.104192372E+05, 1.818650338E+02
0.000000000E+00, 0.000000000E+00, 7.733748956E+00
-4.837489565E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 7.925182731E+03, -2.167688963E+01

gas, hno2, 47.0134, h, 1, n, 1, o, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
8.591985060E+03, 1.203644046E+02, 9.412979120E-01
1.942891839E-02, -2.253174194E-05, 1.384587594E-08
-3.473550460E-12, -1.106337202E+04, 2.073967331E+01
8.787904130E+05, -3.990455030E+03, 1.187349269E+01
-4.881900610E-04, 7.133636790E-08, -5.376303340E-12
1.581778986E-16, 1.246343241E+04, -4.608874688E+01
0.000000000E+00, 0.000000000E+00, 9.913494577E+00
3.365054225E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.579125009E+04, -3.036779296E+01

gas, hno3, 63.0128, h, 1, n, 1, o, 3, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
9.202869010E+03, 1.093774496E+02, -4.521042450E-01
2.984914503E-02, -3.190635500E-05, 1.720931528E-08
-3.782649830E-12, -1.764048507E+04, 2.746644879E+01
-9.497809640E+04, -2.733024468E+03, 1.449426995E+01
-7.821868050E-04, 1.702693665E-07, -1.930543961E-11
8.870455120E-16, -4.882517780E+03, -5.928392985E+01
0.000000000E+00, 0.000000000E+00, 1.244752513E+01
8.024748659E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.307204777E+04, -4.375709591E+01

gas, hocl, 52.4603, h, 1, o, 1, cl, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-9.739307430E+03, 3.547569520E+02, 1.539514254E-01
1.617051795E-02, -2.179693631E-05, 1.509103049E-08
-4.125383510E-12, -1.176323791E+04, 2.473257759E+01
8.530457810E+05, -2.847760552E+03, 7.948329040E+00
-1.048782013E-04, -1.482405043E-08, 4.591678270E-12
-3.060073987E-16, 7.250964950E+03, -2.249831690E+01
0.000000000E+00, 0.000000000E+00, 6.927746370E+00
3.222536300E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.349098702E+04, -1.382354521E+01

gas, hof, 36.0057, h, 1, o, 1, f, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-3.696888300E+04, 7.809006660E+02, -2.077685317E+00
2.038690173E-02, -2.586919999E-05, 1.713797538E-08
-4.551281870E-12, -1.631720064E+04, 3.645052500E+01
8.812018230E+05, -3.120013169E+03, 8.223710070E+00
-2.298036315E-04, 1.459115709E-08, 1.095883303E-12
-1.404445608E-16, 6.300546710E+03, -2.590150427E+01
0.000000000E+00, 0.000000000E+00, 6.927404640E+00
3.225953597E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.616615022E+04, -1.520122976E+01

gas, ho2, 33.0067, h, 1, o, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-7.598882540E+04, 1.329383918E+03, -4.677388240E+00
2.508308202E-02, -3.006551588E-05, 1.895600056E-08
-4.828567390E-12, -5.873350960E+03, 5.193602140E+01

-1.810669724E+06, 4.963192030E+03, -1.039498992E+00
4.560148530E-03, -1.061859447E-06, 1.144567878E-10
-4.763064160E-15, -3.200817190E+04, 4.066850920E+01
0.000000000E+00, 0.000000000E+00, 7.422122133E+00
-1.721221327E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.990384678E+03, -1.879942925E+01

gas, ho2-, 33.0073, h, 1, o, 2, e, 4
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.103839835E+05, -1.047963653E+03, 6.360013990E+00
2.942520461E-03, -6.284141340E-06, 5.438254240E-09
-1.647305820E-12, -7.417741590E+03, -1.251878002E+01
7.933306000E+05, -2.503312417E+03, 7.548962330E+00
8.308390150E-05, -5.969730910E-08, 9.955377000E-12
-5.606477280E-16, 2.512079084E+03, -2.070065846E+01
0.000000000E+00, 0.000000000E+00, 6.924992769E+00
3.250072305E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.610885197E+04, -1.490908673E+01

gas, h2, 2.0159, h, 2, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
4.078323210E+04, -8.009186040E+02, 8.214702010E+00
-1.269714457E-02, 1.753605076E-05, -1.202860270E-08
3.368093490E-12, 2.682484665E+03, -3.043788844E+01
5.608128010E+05, -8.371504740E+02, 2.975364532E+00
1.252249124E-03, -3.740716190E-07, 5.936625200E-11
-3.606994100E-15, 5.339824410E+03, -2.202774769E+00
4.966884120E+08, -3.147547149E+05, 7.984121880E+01
-8.414789210E-03, 4.753248350E-07, -1.371873492E-11
1.605461756E-16, 2.488433516E+06, -6.695728110E+02

gas, h2+, 2.0153, h, 2, e, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
-3.120886060E+04, 2.304622909E+02, 3.335564420E+00
-2.419056763E-03, 7.006022340E-06, -5.610010660E-09
1.564169746E-12, 1.774104638E+05, -8.278523760E-01
1.672225964E+06, -6.595184990E+03, 1.279321925E+01
-5.509345260E-03, 2.030669412E-06, -3.351027480E-10
1.946089104E-14, 2.189999548E+05, -6.792710780E+01
-1.822070983E+08, 1.018196269E+05, -1.245831898E+01
1.076647496E-03, -3.932290360E-08, 6.285405030E-13
-2.094721880E-18, -6.513101500E+05, 1.471415370E+02

gas, h2-, 2.0164, h, 2, e, 3
cpg, nasa, 3
298.15, 1000, 6000, 20000
-9.753565670E+04, 1.221166236E+03, -2.264588838E+00
1.237202227E-02, -1.127100020E-05, 5.367239950E-09
-1.049420160E-12, 2.121399948E+04, 3.050556136E+01
9.599275620E+04, -9.144682880E+02, 5.149418810E+00
-1.016559478E-04, 5.446919560E-08, -6.155174450E-12
2.822451181E-16, 3.234105180E+04, -1.440780980E+01
0.000000000E+00, 0.000000000E+00, 5.392254769E+00
-8.922547694E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.346531359E+04, -1.634514844E+01

gas, hcho_formaldehy, 30.0260, h, 2, c, 1, o, 1, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
-1.173916343E+05, 1.873628846E+03, -6.890288570E+00
2.641561665E-02, -2.186389299E-05, 1.005693006E-08
-2.023476949E-12, -2.307351768E+04, 6.420420550E+01
1.700825405E+06, -7.620853840E+03, 1.472447547E+01
-1.649111754E-03, 3.292144720E-07, -3.495049770E-11
1.526135000E-15, 3.146812947E+04, -7.386478500E+01
0.000000000E+00, 0.000000000E+00, 9.885002252E+00
3.649977482E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.101388815E+04, -3.651016474E+01

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gas, hcooh, 46.0254, h, 2, c, 1, o, 2, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
-2.906279097E+04, 7.658378880E+02, -3.328414130E+00
2.817542991E-02, -2.370050804E-05, 1.166063663E-08
-2.791373170E-12, -5.006443470E+04, 4.387094230E+01
4.872336450E+05, -7.632238080E+03, 2.132788153E+01
-4.402546540E-03, 1.102001695E-06, -1.364343517E-10
6.648429750E-15, -5.781431910E+03, -1.111790688E+02
0.000000000E+00, 0.000000000E+00, 1.246801095E+01
7.819890476E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.288106528E+04, -4.709034424E+01

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gas, h2o, 18.0153, h, 2, o, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-3.947960830E+04, 5.755731020E+02, 9.317826530E-01
7.222712860E-03, -7.342557370E-06, 4.955043490E-09
-1.336933246E-12, -3.303974310E+04, 1.724205775E+01
2.16518E+06, -6.01850E+03, 9.07680E+00
-3.03680E-04, 5.15900E-08, -7.71000E-12
6.03300E-16, 8.84181E+03, -3.93643E+01
0.0, 0.0, 7.28575E+00
-3.57520E-08 0.0, 0.0
0.0, -3.64417E+04 -2.40629E+01

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#gas, h2o_tiger, 18.0153, h, 2, o, 1, e, 3
# cpg, tiger, 1
# 200, 20000
# 0.5634048E+01, 0.1183862E+01, -0.2483903E+00
# 0.1803398E-01, -0.2513425E+01, 0.1053040E+01
# -0.1417200E+00, -0.6184328E+05, 0.4945130E+02

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gas, h2o+, 18.0147, h, 2, o, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
-1.753892720E+03, 2.249850054E+02, 1.989400675E+00
6.117895160E-03, -7.095436640E-06, 5.547659470E-09
-1.704344789E-12, 1.159585952E+05, 1.135409642E+01
6.228714260E+05, -2.864257487E+03, 7.717565560E+00
-9.027801670E-04, 6.177436860E-07, -1.201457479E-10
7.407709940E-15, 1.342086651E+05, -2.636617920E+01
-2.040922112E+07, -1.072691716E+03, 1.131977392E+01
-7.364445000E-04, 5.416450200E-08, -1.900872342E-12
2.604761558E-17, 1.042565942E+05, -5.467272320E+01

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gas, h2o2, 34.0147, h, 2, o, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
-9.279533580E+04, 1.564748385E+03, -5.976460140E+00
3.270744520E-02, -3.932193260E-05, 2.509255235E-08
-6.465045290E-12, -2.494004728E+04, 5.877174180E+01
1.489428027E+06, -5.170821780E+03, 1.128204970E+01
-8.042397790E-05, -1.818383769E-08, 6.947265590E-12
-4.827831900E-16, 1.418251038E+04, -4.650855660E+01
0.000000000E+00, 0.000000000E+00, 1.019907384E+01
5.092615723E-08, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.580920777E+04, -3.671245216E+01

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gas, h2s, 34.0809, h, 2, s, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
9.543808810E+03, -6.875175080E+01, 4.054921960E+00
-3.014557336E-04, 3.768497750E-06, -2.239358925E-09
3.086859108E-13, -3.278457280E+03, 1.415194691E+00
1.430040220E+06, -5.284028650E+03, 1.016182124E+01
-9.703849960E-04, 2.154003405E-07, -2.169695700E-11
9.318163070E-16, 2.908696214E+04, -4.349160391E+01
0.000000000E+00, 0.000000000E+00, 7.777230022E+00
-5.272300218E-07, 0.000000000E+00, 0.000000000E+00

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0.000000000E+00, -1.034158438E+04, -2.508822055E+01

gas, h2so4, 98.0785, h, 2, s, 1, o, 4, e, 7
cpg, nasa, 3
200, 1000, 6000, 20000
-4.129150050E+04, 6.681589890E+02, -2.632753507E+00
5.415382480E-02, -7.067502230E-05, 4.684611420E-08
-1.236791238E-11, -9.315660120E+04, 3.961096201E+01
1.437877914E+06, -6.614902530E+03, 2.157662058E+01
-4.806255970E-04, 3.010775121E-08, 2.334842469E-12
-2.946330375E-16, -5.259092950E+04, -1.023603724E+02
0.000000000E+00, 0.000000000E+00, 1.883419004E+01
4.158099633E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.001151463E+05, -7.969170558E+01

gas, h3bo3, 61.8330, h, 3, b, 1, o, 3, e, 7
cpg, nasa, 3
200, 1000, 6000, 20000
2.568901843E+04, 1.138029495E+02, -4.045096580E+00
5.924521680E-02, -8.148028410E-05, 5.658593290E-08
-1.549277050E-11, -1.221702050E+05, 4.132220140E+01
2.297369132E+06, -8.933571790E+03, 2.193496552E+01
-3.094783490E-04, -5.064052990E-08, 1.482296684E-11
-9.764420900E-16, -6.970298470E+04, -1.122292829E+02
0.000000000E+00, 0.000000000E+00, 1.876329519E+01
4.867048129E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.347150077E+05, -8.520070282E+01

gas, h3b3o3, 83.4550, h, 3, b, 3, o, 3, e, 9
cpg, nasa, 3
200, 1000, 6000, 20000
-1.985284188E+05, 4.104132090E+03, -2.827215617E+01
1.269639253E-01, -1.558505781E-04, 9.966304070E-08
-2.603677650E-11, -1.648494375E+05, 1.763917407E+02
1.286220713E+06, -1.093258784E+04, 3.213518670E+01
-2.595402269E-03, 5.353766470E-07, -5.833567380E-11
2.600757913E-15, -8.752856890E+04, -1.770847815E+02
0.000000000E+00, 0.000000000E+00, 2.481744414E+01
4.325558629E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.619786607E+05, -1.209154906E+02

gas, h3b3o6, 131.4532, h, 3, b, 3, o, 6, e, 12
cpg, nasa, 3
200, 1000, 6000, 20000
-2.067031503E+04, 7.083391540E+02, -7.123820950E+00
1.025049979E-01, -1.295004602E-04, 8.322737590E-08
-2.145746724E-11, -2.778049216E+05, 6.063597630E+01
1.952433352E+06, -1.154932896E+04, 3.892676110E+01
-1.113852280E-03, 1.280317726E-07, -5.728464820E-12
-2.214529572E-17, -2.120927136E+05, -2.075566801E+02
0.000000000E+00, 0.000000000E+00, 3.371286582E+01
5.371341761E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.943394899E+05, -1.651019393E+02

gas, he, 4.0026, he, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.453750000E+02, 9.287239740E-01
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.453750000E+02, 9.287239740E-01
3.396845420E+06, -2.194037652E+03, 3.080231878E+00
-8.068957550E-05, 6.252784910E-09, -2.574990067E-13
4.429960218E-18, 1.650518960E+04, -4.048814390E+00

gas, he+, 4.0021, he, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00


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0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.853233739E+05, 1.621665557E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.853233739E+05, 1.621665557E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.853233739E+05, 1.621665557E+00

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gas, hg, 200.5900, hg, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.636900080E+03, 6.800201540E+00
5.146573510E+04, -1.681269855E+02, 2.718343098E+00
-1.445026192E-04, 5.158977660E-08, -9.472485010E-12
7.034797406E-16, 7.688684930E+03, 5.271236090E+00
5.358443930E+08, -4.433853810E+05, 1.463223992E+02
-2.318441669E-02, 1.916335174E-06, -7.419662000E-11
1.067224054E-15, 3.391999920E+06, -1.201225990E+03

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gas, hg+, 200.5895, hg, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
4.098344940E-04, -4.343581620E-06, 2.500000019E+00
-4.389036810E-11, 5.563969200E-14, -3.638228260E-17
9.607881995E-21, 1.285037483E+05, 7.493344500E+00
-1.229984728E+04, 2.732269908E+01, 2.484182160E+00
-4.426797610E-06, 7.489685860E-09, -2.549887287E-12
2.819873366E-16, 1.283188257E+05, 7.625244570E+00
-5.498617710E+07, 3.775543500E+04, -7.155545550E+00
1.170310234E-03, -7.931471440E-08, 4.029174000E-12
-7.741071633E-17, -1.676894201E+05, 9.116750020E+01

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gas, hgbr2, 360.3980, hg, 1, br, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-1.991826537E+03, -1.902186083E+02, 8.246401260E+00
-1.607089392E-03, 1.947654549E-06, -1.242873546E-09
3.241818310E-13, -1.230723096E+04, -8.716659300E+00
-2.243649290E+04, -3.312652270E+00, 7.502765170E+00
-1.202360213E-06, 2.830526999E-10, -3.407686700E-14
1.640497921E-18, -1.327483366E+04, -4.368555600E+00
0.000000000E+00, 0.000000000E+00, 7.500836060E+00
-2.508360597E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.329357529E+04, -4.353445759E+00

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gas, i, 126.9045, i, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
1.698199675E+02, -2.716437233E+00, 2.517385557E+00
-5.730692070E-05, 1.031716184E-07, -9.670641930E-11
3.706471651E-14, 1.210750090E+04, 7.405823130E+00
-7.785860570E+05, 2.303279568E+03, 2.886686091E-03
1.180878463E-03, -2.264074866E-07, 1.963511339E-11
-6.243525941E-16, -2.616792742E+03, 2.558922997E+01
4.747630780E+07, -8.681111190E+04, 3.950617020E+01
-6.514063250E-03, 5.380695340E-07, -1.969145066E-11
2.643177163E-16, 6.384843030E+05, -2.972997119E+02

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gas, i+, 126.9039, i, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
-8.014969010E+02, 8.139052610E+00, 2.470174760E+00
4.161393820E-05, 7.133397860E-09, -7.105950140E-11
4.873766102E-14, 1.340794213E+05, 7.903420090E+00
-7.788385330E+05, 2.404962651E+03, -1.791751142E-01
1.227311979E-03, -1.801494030E-07, 9.923983960E-12
-9.775286439E-17, 1.188531631E+05, 2.710544347E+01
-6.314420010E+08, 3.971131910E+05, -9.860191990E+01

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1.358236563E-02, -9.920747650E-07, 3.684927700E-11
-5.301687095E-16, -3.001474591E+06, 8.790468740E+02

gas, i-, 126.9050, i, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.414970936E+04, 6.113465380E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.414970936E+04, 6.113465380E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.414970936E+04, 6.113465380E+00

gas, if5, 221.8965, i, 1, f, 5, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
2.026184530E+05, -3.598183170E+03, 2.530349738E+01
-1.348602458E-02, 1.105687229E-05, -4.707939510E-09
7.864411470E-13, -8.700147250E+04, -1.112719941E+02
-3.620506260E+05, -1.639236093E+02, 1.612272743E+01
-4.914431550E-05, 1.086015052E-08, -1.244672691E-12
5.763593620E-17, -1.061642293E+05, -5.398773360E+01
0.000000000E+00, 0.000000000E+00, 1.598571053E+01
2.642894724E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.071289046E+05, -5.293531526E+01

gas, if7, 259.8933, i, 1, f, 7, e, 8
cpg, nasa, 3
200, 1000, 6000, 20000
2.999853564E+05, -5.501554130E+03, 3.627133980E+01
-2.095765818E-02, 1.761972680E-05, -7.829142330E-09
1.405939372E-12, -9.331307660E+04, -1.754216150E+02
-5.614422640E+05, -2.646288326E+02, 2.219879891E+01
-7.984221470E-05, 1.768835964E-08, -2.031523755E-12
9.423767390E-17, -1.225245322E+05, -8.774010730E+01
0.000000000E+00, 0.000000000E+00, 2.197852016E+01
2.714798398E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.240915683E+05, -8.604991485E+01

gas, k, 39.0983, k, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
9.665143930E+00, -1.458059455E-01, 2.500865861E+00
-2.601219276E-06, 4.187306580E-09, -3.439722110E-12
1.131569009E-15, 9.959493490E+03, 5.035822260E+00
-3.566422360E+06, 1.085289825E+04, -1.054134898E+01
8.009801350E-03, -2.696681041E-06, 4.715294150E-10
-2.976897350E-14, -5.875337010E+04, 9.738551240E+01
9.205786590E+08, -6.935300280E+05, 1.911270788E+02
-2.305931672E-02, 1.430294866E-06, -4.409335020E-11
5.366769166E-16, 5.395082190E+06, -1.622158805E+03

gas, k+, 39.0978, k, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.107516860E+04, 4.347404440E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.107516860E+04, 4.347404440E+00
2.177901245E+07, -1.415076630E+04, 6.248954270E+00
-5.187436800E-04, 3.959640680E-08, -1.584335542E-12
2.603558905E-17, 1.722753576E+05, -2.781728990E+01

gas, k-, 39.0988, k, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000

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0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.394150710E+03, 4.347446530E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.394150710E+03, 4.347446530E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.394150710E+03, 4.347446530E+00

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gas, kbo2, 81.9081, k, 1, b, 1, o, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
4.296308650E+04, -7.209616430E+02, 8.349639350E+00
2.407820401E-03, -1.680003427E-07, -1.231930486E-09
5.479951640E-13, -7.868523470E+04, -1.476077068E+01
8.890726600E+04, -1.671432436E+03, 1.117483930E+01
-4.513760260E-04, 9.699003460E-08, -1.090027690E-11
4.976845800E-16, -7.375336080E+04, -3.274749370E+01
0.000000000E+00, 0.000000000E+00, 9.970987292E+00
2.790127078E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.498991662E+04, -2.358490790E+01

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gas, kbr, 119.0023, k, 1, br, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
9.203309190E+03, -2.137880361E+02, 5.588509150E+00
-2.753854319E-03, 4.013672610E-06, -2.856323127E-09
8.135209740E-13, -2.188387013E+04, -1.707501588E+00
1.562614367E+06, -4.384894780E+03, 9.045464600E+00
-2.045680900E-03, 4.401923850E-07, -1.448178289E-11
-2.273338760E-15, 5.315342010E+03, -2.864647026E+01
0.000000000E+00, 0.000000000E+00, 5.864771711E+00
-1.364771711E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.733882588E+04, -6.388556710E+00

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gas, kcn, 65.1157, k, 1, c, 1, n, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
1.798627669E+04, -6.300558970E+02, 9.988695000E+00
-1.076486132E-02, 1.751014980E-05, -1.265592431E-08
3.469762810E-12, 1.058025371E+04, -2.594060289E+01
3.615663870E+05, -1.749018011E+03, 8.680702670E+00
-4.402350040E-04, 9.249499710E-08, -1.021916855E-11
4.604767190E-16, 1.813734856E+04, -2.281619241E+01
0.000000000E+00, 0.000000000E+00, 7.478461239E+00
-2.284612390E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.219572905E+03, -1.363250909E+01

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gas, kcl, 74.5513, k, 1, cl, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
9.058351510E+03, -2.456801212E+02, 5.680696190E+00
-2.900127425E-03, 4.130983060E-06, -2.907340629E-09
8.223850870E-13, -2.597304884E+04, -3.677976854E+00
-2.122945722E+05, 9.346158900E+02, 2.866264958E+00
1.468386693E-03, -5.834260780E-07, 1.255777709E-10
-9.150148000E-15, -3.273787640E+04, 1.401864636E+01
0.000000000E+00, 0.000000000E+00, 6.098918771E+00
-1.598918771E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.305776113E+04, -9.861498118E+00

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gas, kf, 58.0967, k, 1, f, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
1.435704906E+04, -3.391848230E+02, 5.727906720E+00
-2.518371562E-03, 3.265915640E-06, -2.210110860E-09
6.212042050E-13, -3.914254420E+04, -5.810999620E+00
-1.483743237E+06, 4.550048040E+03, -1.081464319E+00
3.503965880E-03, -1.093902537E-06, 1.771028824E-10
-1.029032783E-14, -6.963329810E+04, 4.088635920E+01

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0.000000000E+00, 0.000000000E+00, 6.207166609E+00
-1.707166609E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.781563487E+04, -1.249779292E+01

gas, kh, 40.1062, k, 1, h, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.237782150E+02, 1.793554623E+02, 1.130735415E+00
9.966112560E-03, -1.341218171E-05, 9.034529940E-09
-2.409887770E-12, 1.338250358E+04, 1.552739897E+01
-3.752276520E+06, 1.172778444E+04, -1.014137678E+01
8.854548900E-03, -2.517188074E-06, 3.344072360E-10
-1.701157835E-14, -6.025103300E+04, 1.010304590E+02
0.000000000E+00, 0.000000000E+00, 4.401915721E+00
9.808427860E-08, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.517473628E+04, -1.008755223E+00

gas, ki, 166.0028, k, 1, i, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-4.572811740E+02, -6.331769730E+01, 4.823292420E+00
-7.876668320E-04, 1.336737911E-06, -1.000530992E-09
3.004503956E-13, -1.650340769E+04, 3.552594820E+00
3.293747780E+06, -1.002824194E+04, 1.629302044E+01
-6.696396750E-03, 2.001412089E-06, -2.677673023E-10
1.273359646E-14, 4.676348670E+04, -7.859123370E+01
0.000000000E+00, 0.000000000E+00, 5.255128970E+00
-7.551289704E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.817215660E+04, -2.432995481E-01

gas, ko, 55.0977, k, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
1.462562908E+04, -3.384765650E+02, 5.716607640E+00
-2.363265083E-03, 2.848716276E-06, -1.739858233E-09
4.431006520E-13, 8.141835380E+03, -4.022101520E+00
6.960103380E+05, -3.304835290E+03, 1.005743444E+01
-4.331112000E-03, 1.747281632E-06, -3.012370548E-10
1.790827870E-14, 2.604972496E+04, -3.448781520E+01
0.000000000E+00, 0.000000000E+00, 4.583857434E+00
-8.385743384E-08, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 8.120642145E+03, 3.248902636E+00

gas, koh, 56.1056, k, 1, o, 1, h, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
1.770684196E+04, -6.153205220E+02, 8.684075720E+00
-3.962849510E-03, 3.408650590E-06, -9.601972220E-10
8.494054970E-15, -2.677903261E+04, -2.174495666E+01
8.917271950E+05, -2.334179072E+03, 7.972578710E+00
1.038863156E-04, -6.315893470E-08, 1.027938106E-11
-5.736685820E-16, -1.443696469E+04, -2.076401416E+01
0.000000000E+00, 0.000000000E+00, 7.435902551E+00
-1.859025509E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.190754748E+04, -1.567672795E+01

gas, k2, 78.1966, k, 2, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
1.524169293E+04, -3.301789360E+02, 7.070795950E+00
-9.767072460E-03, 2.021535863E-05, -1.886092452E-08
6.112974640E-12, 1.533402849E+04, -9.101035800E+00
-2.734470745E+07, 6.562180010E+04, -4.476350440E+01
8.938859150E-03, 2.984557092E-06, -1.064158914E-09
8.334936930E-14, -4.226243830E+05, 3.867142510E+02
0.000000000E+00, 0.000000000E+00, 4.654481365E+00
-1.544813654E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.693077841E+04, 3.986439217E+00

gas, k2+, 78.1961, k, 2, e, 1
cpg, nasa, 3

298.15, 1000, 3000, 20000
5.196036570E+04, -6.113382530E+02, 7.264990540E+00
-5.810634820E-03, 6.567496500E-06, -2.378020865E-09
-1.318637581E-13, 6.479820270E+04, -1.042370517E+01
1.107950739E+07, -4.177483820E+04, 6.448659840E+01
-4.024998030E-02, 1.360587923E-05, -2.361920107E-09
1.673430610E-13, 3.177612050E+05, -4.105063100E+02
0.000000000E+00, 0.000000000E+00, 3.274950784E+00
1.225049216E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.486474861E+04, 1.549031462E+01

gas, k2br2, 238.0046, k, 2, br, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
-1.093040504E+04, -4.856651480E+01, 1.019754923E+01
-4.363157100E-04, 5.387173660E-07, -3.486116500E-10
9.190702950E-14, -6.758073240E+04, -1.294944706E+01
-1.589229976E+04, -8.101379460E-01, 1.000069442E+01
-3.074491521E-07, 7.331024160E-11, -8.908944780E-15
4.319245430E-19, -6.782595440E+04, -1.180425726E+01
0.000000000E+00, 0.000000000E+00, 9.998036077E+00
2.519639234E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.782140930E+04, -1.178331361E+01

gas, k2c2n2, 130.2314, k, 2, c, 2, n, 2, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
4.627789480E+03, -9.729810620E+02, 1.996665910E+01
-1.953015081E-02, 3.275330460E-05, -2.393985120E-08
6.596548240E-12, -7.774411260E+02, -6.755613632E+01
7.269599500E+05, -3.492108680E+03, 1.835676822E+01
-8.785475140E-04, 1.845532919E-07, -2.038717568E-11
9.185420990E-16, 1.582600773E+04, -6.728484052E+01
0.000000000E+00, 0.000000000E+00, 1.595259303E+01
2.974069654E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.958051922E+03, -4.891914087E+01

gas, k2cl2, 149.1026, k, 2, cl, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
-1.328526456E+04, -1.241832429E+02, 1.050035730E+01
-1.097776004E-03, 1.348871402E-06, -8.697215120E-10
2.286584080E-13, -7.644363150E+04, -1.790150052E+01
-2.614611331E+04, -2.096229095E+00, 1.000178456E+01
-7.864803710E-07, 1.869281152E-10, -2.266272348E-14
1.096790704E-18, -7.707189330E+04, -1.499720802E+01
0.000000000E+00, 0.000000000E+00, 9.997732123E+00
2.522678773E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.707233280E+04, -1.496538541E+01

gas, k2f2, 116.1934, k, 2, f, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
-1.611833856E+03, -5.135644890E+02, 1.199922511E+01
-4.280109550E-03, 5.165387540E-06, -3.285814900E-09
8.549648750E-13, -1.039248602E+05, -3.039925079E+01
-5.740892530E+04, -9.046182110E+00, 1.000750685E+01
-3.250764840E-06, 7.630064590E-10, -9.165649530E-14
4.405048440E-18, -1.065413546E+05, -1.874037620E+01
0.000000000E+00, 0.000000000E+00, 9.996759803E+00
2.532401973E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.065769832E+05, -1.865703901E+01

gas, k2i2, 332.0055, k, 2, i, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
-8.977752440E+03, -2.776460169E+01, 1.011331014E+01
-2.508421994E-04, 3.102352114E-07, -2.010096209E-10
5.304437150E-14, -5.326208390E+04, -1.032092509E+01
-1.179634729E+04, -4.724761550E-01, 1.000040695E+01
-1.807689054E-07, 4.320560970E-11, -5.259699430E-15

2.553419144E-19, -5.340210230E+04, -9.664440500E+00
0.000000000E+00, 0.000000000E+00, 9.998155075E+00
2.518449253E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.339671858E+04, -9.646721643E+00

gas, k2o2h2, 112.2113, k, 2, o, 2, h, 2, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
8.174788370E+03, -1.130630680E+03, 1.815303256E+01
-7.737431080E-03, 6.837614010E-06, -2.054691111E-09
7.672877510E-14, -7.574965170E+04, -6.391759470E+01
1.773523196E+06, -4.665292470E+03, 1.694308128E+01
2.085297143E-04, -1.264714762E-07, 2.057506565E-11
-1.148042134E-15, -5.051263310E+04, -6.334773920E+01
0.000000000E+00, 0.000000000E+00, 1.586705612E+01
3.82943877E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.541626828E+04, -5.315209287E+01

gas, k2so4, 174.2592, k, 2, s, 1, o, 4, e, 7
cpg, nasa, 3
200, 1000, 6000, 20000
6.271492310E+04, -8.152049920E+02, 7.455413720E+00
3.849909780E-02, -5.400630980E-05, 3.654656800E-08
-9.760223570E-12, -1.304692568E+05, -1.034634770E+01
-5.446125640E+05, -9.590667230E+02, 1.971591285E+01
-2.866586009E-04, 6.342480640E-08, -7.281462540E-12
3.377886930E-16, -1.337873384E+05, -7.399103551E+01
0.000000000E+00, 0.000000000E+00, 1.896756532E+01
2.824346762E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.399821171E+05, -6.830818812E+01

gas, kr, 83.8000, kr, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.453750000E+02, 5.490956510E+00
2.643639057E+02, -7.910050820E-01, 2.500920585E+00
-5.328164110E-07, 1.620730161E-10, -2.467898017E-14
1.478585040E-18, -7.403488940E+02, 5.484398150E+00
-1.375531087E+09, 9.064030530E+05, -2.403481435E+02
3.378312030E-02, -2.563103877E-06, 9.969787790E-11
-1.521249677E-15, -7.111667370E+06, 2.086866326E+03

gas, kr+, 83.7995, kr, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
-5.650402860E+03, 6.930740810E+01, 2.157028132E+00
8.711228930E-04, -1.181609730E-06, 7.862198630E-10
-1.832589387E-13, 1.621164118E+05, 8.818242260E+00
-2.216567015E+05, 1.166167840E+03, 4.869655320E-01
1.429223599E-03, -3.949628610E-07, 4.982853510E-11
-2.406719258E-15, 1.556002861E+05, 2.059230986E+01
-3.319875960E+07, 1.797953100E+04, -7.155015940E-01
2.671088984E-04, -6.196251880E-09, -4.107025960E-13
2.000619351E-17, 1.648114259E+04, 3.620325750E+01

gas, li, 6.9410, li, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.841390197E+04, 2.447622965E+00
1.125610652E+06, -3.463536730E+03, 6.566611920E+00
-2.260983356E-03, 5.922289160E-07, -6.281635100E-11
2.884948238E-15, 4.034637400E+04, -2.655918195E+01
2.604352623E+09, -1.521952201E+06, 3.454400500E+02
-3.779674850E-02, 2.222420069E-06, -6.691570800E-11
8.088023606E-16, 1.217791847E+07, -3.006680193E+03

gas, li+, 6.9405, li, 1

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cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 8.172724550E+04, 1.754357228E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 8.172724550E+04, 1.754357228E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 8.172724550E+04, 1.754357228E+00

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gas, li-, 6.9415, li, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.049698659E+04, 1.754594332E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.049698659E+04, 1.754594332E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.049698659E+04, 1.754594332E+00

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gas, lialf4, 109.9162, li, 1, al, 1, f, 4, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
1.761529360E+05, -2.999300134E+03, 2.079739570E+01
-1.742914656E-03, -4.266642090E-06, 5.362829770E-09
-1.866817087E-12, -2.117947828E+05, -8.762725890E+01
-4.020700930E+05, -2.783355146E+02, 1.620791185E+01
-8.316341570E-05, 1.836905690E-08, -2.104932808E-12
9.747253020E-17, -2.278696416E+05, -5.597304840E+01
0.000000000E+00, 0.000000000E+00, 1.598271474E+01
2.672852609E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.295824206E+05, -5.425188450E+01

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gas, libo2, 49.7508, li, 1, b, 1, o, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
6.518987570E+04, -1.060320845E+03, 9.548049960E+00
-5.469576070E-05, 2.658687599E-06, -2.931603694E-09
9.663029730E-13, -7.506204110E+04, -2.490883998E+01
8.554404520E+04, -1.731920898E+03, 1.121462090E+01
-4.659162170E-04, 9.999875690E-08, -1.122880592E-11
5.123529460E-16, -7.154743820E+04, -3.612397290E+01
0.000000000E+00, 0.000000000E+00, 9.969707169E+00
2.802928308E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.319203305E+04, -2.664603527E+01

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gas, libr, 86.8450, li, 1, br, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
3.805620470E+04, -6.129614990E+02, 6.577369550E+00
-4.219891760E-03, 5.391423370E-06, -3.693144810E-09
1.049158761E-12, -1.637487617E+04, -1.128654012E+01
6.380191420E+04, -2.597050764E+02, 4.656768870E+00
1.022867706E-04, -5.178252340E-08, 2.058203991E-11
-1.942190308E-15, -1.793363752E+04, -2.290806613E-01
0.000000000E+00, 0.000000000E+00, 5.298238158E+00
-7.982381575E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.227712000E+04, -5.228092302E+00

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gas, licl, 42.3940, li, 1, cl, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
4.964399500E+04, -7.187346620E+02, 6.785147030E+00
-4.522145460E-03, 5.748483700E-06, -3.966255670E-09
1.137911398E-12, -2.091014703E+04, -1.406383901E+01
-2.352769705E+05, 6.120046920E+02, 3.634293730E+00

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6.810973320E-04, -2.174238799E-07, 4.220403610E-11
-2.848628426E-15, -2.862358494E+04, 5.618511135E+00
0.000000000E+00, 0.000000000E+00, 5.418845788E+00
-9.188457884E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.810184800E+04, -7.710756645E+00

gas, lif, 25.9394, li, 1, f, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.912537320E+04, -2.531413159E+02, 3.539727980E+00
3.695917040E-03, -4.829466150E-06, 2.944090711E-09
-6.838794740E-13, -4.064849660E+04, 2.325294408E+00
-3.784246490E+05, 7.668062460E+02, 3.585473400E+00
6.031084350E-04, -1.588764206E-07, 2.569397177E-11
-1.406798386E-15, -4.756469450E+04, 4.385163290E+00
0.000000000E+00, 0.000000000E+00, 5.333550611E+00
-8.335506113E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.575039729E+04, -8.786765701E+00

gas, lih, 7.9489, li, 1, h, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-4.913731570E+04, 7.756092190E+02, -1.011102377E+00
1.145479597E-02, -1.151038734E-05, 5.875068960E-09
-1.196789735E-12, 1.204858910E+04, 2.568801877E+01
-2.633686357E+06, 6.996429170E+03, -3.233533060E+00
4.033935980E-03, -9.099579640E-07, 8.775909870E-11
-2.889490251E-15, -2.990043016E+04, 4.971984500E+01
0.000000000E+00, 0.000000000E+00, 4.515790386E+00
-1.579038619E-08, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.594248684E+04, -5.618073625E+00

gas, lii, 133.8455, li, 1, i, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
4.071976370E+04, -6.667289470E+02, 7.064257530E+00
-5.480041020E-03, 6.905790160E-06, -4.537168520E-09
1.226373296E-12, -8.235487020E+03, -1.296236234E+01
1.616342632E+06, -4.877717080E+03, 9.987186550E+00
-2.889137815E-03, 8.037313770E-07, -9.028172610E-11
3.078321954E-15, 1.937718764E+04, -3.729276310E+01
0.000000000E+00, 0.000000000E+00, 5.312160168E+00
-8.121601676E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.386089178E+04, -4.197495603E+00

gas, lin, 20.9477, li, 1, n, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
3.764959200E+04, -4.883457630E+02, 5.187373450E+00
2.275252171E-04, -1.416337564E-06, 1.450236258E-09
-4.790014330E-13, 4.161915310E+04, -5.952157244E+00
-5.993489980E+04, -4.031134550E+01, 4.529624210E+00
8.744156930E-05, 2.557428364E-09, -2.905751800E-13
1.336125922E-17, 3.894831130E+04, -1.214952896E+00
0.000000000E+00, 0.000000000E+00, 5.096086101E+00
-5.960861007E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.690428567E+04, -5.577678203E+00

gas, lio, 22.9404, li, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
3.627029760E+04, -3.499363230E+02, 4.394933180E+00
1.079712984E-03, -8.724038810E-07, 5.607962970E-10
-2.054288457E-13, 9.533330530E+03, -9.058149610E-01
1.612392133E+06, -5.551312340E+03, 1.120573851E+01
-3.437226880E-03, 9.133194660E-07, -1.027902258E-10
3.822991000E-15, 4.201575470E+04, -4.857354580E+01
0.000000000E+00, 0.000000000E+00, 5.338385831E+00
-8.383858312E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.202906278E+03, -6.968428000E+00


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gas, liof, 41.9388, li, 1, o, 1, f, 1, e, 3
  cpg, nasa, 3
    200, 1000, 6000, 20000
    5.510110690E+04, -5.770688170E+02, 4.424954930E+00
    1.102425422E-02, -1.710493381E-05, 1.234361201E-08
    -3.453693000E-12, -9.278986980E+03, 1.238830687E-01
    -1.833563281E+05, -2.110049301E+02, 7.156818170E+00
    -6.249462010E-05, 1.376567002E-08, -1.574099067E-12
    7.277167140E-17, -1.254530277E+04, -1.272130479E+01
    0.000000000E+00, 0.000000000E+00, 6.989899938E+00
    2.601000623E-07, 0.000000000E+00, 0.000000000E+00
    0.000000000E+00, -1.388416481E+04, -1.144998643E+01

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gas, lioh, 23.9483, li, 1, o, 1, h, 1, e, 3
  cpg, nasa, 3
    200, 1000, 6000, 20000
    4.574190120E+03, -1.030949027E+02, 4.272407370E+00
    8.465219230E-03, -1.386148524E-05, 1.101099795E-08
    -3.291248210E-12, -2.848728855E+04, -8.775745780E-01
    8.500751370E+05, -2.430540791E+03, 8.055314620E+00
    6.895680880E-05, -5.527207460E-08, 9.368054030E-12
    -5.313785680E-16, -1.365894396E+04, -2.457598093E+01
    0.000000000E+00, 0.000000000E+00, 7.433719215E+00
    -1.837192153E-07, 0.000000000E+00, 0.000000000E+00
    0.000000000E+00, -3.174178649E+04, -1.885283995E+01

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gas, lion, 36.9471, li, 1, o, 1, n, 1, e, 3
  cpg, nasa, 3
    200, 1000, 6000, 20000
    -9.412672670E+03, 1.009332300E+02, 3.006187607E+00
    9.890462200E-03, -1.128294343E-05, 6.410291740E-09
    -1.466806373E-12, 1.978348318E+04, 1.016334813E+01
    -9.740629140E+04, -5.111560940E+02, 7.378493870E+00
    -1.508777884E-04, 3.329914980E-08, -3.817514290E-12
    1.769558455E-16, 2.211006635E+04, -1.454105040E+01
    0.000000000E+00, 0.000000000E+00, 6.987273450E+00
    2.627265504E-07, 0.000000000E+00, 0.000000000E+00
    0.000000000E+00, 1.874214989E+04, -1.157606276E+01

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gas, li2, 13.8820, li, 2, e, 2
  cpg, nasa, 3
    200, 1000, 6000, 20000
    6.778481580E+03, -2.246205832E+02, 5.296037440E+00
    -1.272412017E-03, 1.205843729E-06, -9.818544590E-11
    -2.416702607E-13, 2.573638186E+04, -6.869257580E+00
    3.767645400E+07, -1.185747185E+05, 1.482167789E+02
    -8.378532110E-02, 2.424919798E-05, -3.275820240E-09
    1.652000000E-13, 7.723072010E+05, -1.021697298E+03
    0.000000000E+00, 0.000000000E+00, 6.292890665E+00
    -1.792890665E-06, 0.000000000E+00, 0.000000000E+00
    0.000000000E+00, 1.942065068E+04, -1.633903045E+01

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gas, li2+, 13.8815, li, 2, e, 1
  cpg, nasa, 3
    298.15, 1000, 6000, 20000
    -1.040056453E+04, 2.675405642E+01, 4.247271750E+00
    1.057450777E-03, -1.281715096E-06, 1.067477239E-09
    -2.759413508E-13, 8.529811310E+04, 5.298189960E-01
    1.279931073E+07, -3.492861390E+04, 3.844785360E+01
    -1.380635397E-02, 2.531394250E-06, -2.197815991E-10
    7.087669250E-15, 3.117964450E+05, -2.509543641E+02
    0.000000000E+00, 0.000000000E+00, 2.977683583E+00
    1.522316417E-06, 0.000000000E+00, 0.000000000E+00
    0.000000000E+00, 9.215437284E+04, 1.245253901E+01

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gas, li2br2, 173.6900, li, 2, br, 2, e, 4
  cpg, nasa, 3
    200, 1000, 6000, 20000
    2.786312863E+04, -1.005641437E+03, 1.370963066E+01
    -7.633663300E-03, 8.942905920E-06, -5.561135090E-09
    1.421736784E-12, -5.762845840E+04, -4.121843760E+01

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-8.900983360E+04, -1.988916335E+01, 1.001596418E+01
-6.749134050E-06, 1.556299963E-09, -1.844693069E-13
8.774879920E-18, -6.279989960E+04, -1.943063525E+01
0.000000000E+00, 0.000000000E+00, 9.995709952E+00
2.542900478E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.289669473E+04, -1.927432806E+01

gas, li2cl2, 84.7880, li, 2, cl, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
5.313398610E+04, -1.427266759E+03, 1.512410161E+01
-1.032824906E-02, 1.190773317E-05, -7.312991160E-09
1.851289430E-12, -6.769860400E+04, -5.285131549E+01
-1.179571272E+05, -3.027126342E+01, 1.002397711E+01
-1.003660907E-05, 2.297007564E-09, -2.706930258E-13
1.281817017E-17, -7.506822590E+04, -2.264970230E+01
0.000000000E+00, 0.000000000E+00, 9.994739020E+00
2.552609805E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.522412198E+04, -2.242440349E+01

gas, li2f2, 51.8788, li, 2, f, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
1.443166185E+05, -2.466874678E+03, 1.702863290E+01
-1.145541210E-02, 1.086098792E-05, -5.569754280E-09
1.193819664E-12, -1.026070133E+05, -7.000386610E+01
-2.188931683E+05, -9.259814530E+01, 1.006970757E+01
-2.803632163E-05, 6.217549520E-09, -7.146267020E-13
3.316857300E-17, -1.156611527E+05, -2.729853181E+01
0.000000000E+00, 0.000000000E+00, 9.990880418E+00
2.591195816E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.161988762E+05, -2.669286390E+01

gas, li2i2, 267.6909, li, 2, i, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
1.014872266E+04, -7.120421010E+02, 1.270392960E+01
-5.685536810E-03, 6.770340380E-06, -4.263304890E-09
1.100658186E-12, -4.313063860E+04, -3.303950980E+01
-6.973587060E+04, -1.316825508E+01, 1.001074855E+01
-4.600203780E-06, 1.070510527E-09, -1.277717768E-13
6.110612240E-18, -4.677470050E+04, -1.721894034E+01
0.000000000E+00, 0.000000000E+00, 9.996352655E+00
2.536473448E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.683344731E+04, -1.710761342E+01

gas, li2o, 29.8814, li, 2, o, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
2.636601597E+04, -1.798629279E+02, 4.051115220E+00
1.189981375E-02, -1.730095793E-05, 1.205584550E-08
-3.292733880E-12, -2.061907963E+04, 1.605995610E+00
7.261487040E+05, -9.543783720E+03, 2.887491643E+01
-1.959494099E-02, 8.086339840E-06, -1.370211764E-09
8.111727190E-14, 2.990726399E+04, -1.564517822E+02
0.000000000E+00, 0.000000000E+00, 1.002191978E+01
-2.771919784E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.835967321E+04, -3.523146283E+01

gas, li2o+, 29.8809, li, 2, o, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.081044623E+05, -1.261961355E+03, 9.692011290E+00
-1.793477428E-03, 3.380326900E-07, 4.143395150E-10
-1.990530222E-13, 5.754976040E+04, -2.915719946E+01
-1.302166086E+05, -1.466759528E+02, 7.610729450E+00
-4.469426690E-05, 9.947160640E-09, -1.147038806E-12
5.339241470E-17, 5.098762310E+04, -1.528011047E+01
0.000000000E+00, 0.000000000E+00, 7.495507745E+00
-2.455077453E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.005215969E+04, -1.440441431E+01

gas, li2o2, 45.8808, li, 2, o, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
1.392619730E+05, -1.764036747E+03, 1.029649198E+01
7.605949950E-03, -1.538519312E-05, 1.238199941E-08
-3.685431570E-12, -2.638056746E+04, -3.437710560E+01
-2.939232153E+05, -2.359107937E+02, 1.017463402E+01
-6.931624360E-05, 1.521202834E-08, -1.733841909E-12
7.993154620E-17, -3.618481910E+04, -2.904221044E+01
0.000000000E+00, 0.000000000E+00, 9.986386329E+00
2.636136712E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.765328181E+04, -2.760374757E+01

gas, li2o2h2, 47.8967, li, 2, o, 2, h, 2, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
1.894413579E+05, -2.779117524E+03, 1.530234911E+01
1.070738317E-02, -2.510075145E-05, 2.224910575E-08
-6.949359580E-12, -7.702776920E+04, -6.514116940E+01
1.215377492E+06, -3.982057440E+03, 1.585877373E+01
7.509145680E-04, -2.585218184E-07, 3.646841700E-11
-1.904139406E-15, -6.738748380E+04, -6.647208400E+01
0.000000000E+00, 0.000000000E+00, 1.583448020E+01
4.155197955E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.833639154E+04, -6.375555971E+01

gas, li2so4, 109.9446, li, 2, s, 1, o, 4, e, 7
cpg, nasa, 3
200, 1000, 6000, 20000
1.006318702E+05, -1.543457217E+03, 9.670054910E+00
3.390757380E-02, -4.823483810E-05, 3.267368920E-08
-8.702518510E-12, -1.201939538E+05, -2.911716635E+01
-6.038750870E+05, -1.064550976E+03, 1.979557349E+01
-3.188978250E-04, 7.062411120E-08, -8.114439070E-12
3.766830210E-16, -1.268908595E+05, -8.014316674E+01
0.000000000E+00, 0.000000000E+00, 1.896420264E+01
2.857973555E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.337666955E+05, -7.383089354E+01

gas, li3cl3, 127.1820, li, 3, cl, 3, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
9.867429000E+04, -2.324074851E+03, 2.378484564E+01
-1.483522400E-02, 1.634495612E-05, -9.675366520E-09
2.377033859E-12, -1.103839177E+05, -9.474114379E+01
-2.005930356E+05, -5.939400190E+01, 1.604590929E+01
-1.885890854E-05, 4.253517370E-09, -4.955560940E-13
2.325408214E-17, -1.224927071E+05, -4.844413629E+01
0.000000000E+00, 0.000000000E+00, 1.599196037E+01
2.580396286E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.228145277E+05, -4.802840595E+01

gas, li3f3, 77.8182, li, 3, f, 3, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
1.823874443E+05, -3.163786240E+03, 2.287811928E+01
-7.544903890E-03, 3.446790230E-06, 2.690705228E-10
-5.250840960E-13, -1.712446093E+05, -9.973654990E+01
-3.618664990E+05, -1.937051395E+02, 1.614457133E+01
-5.775628500E-05, 1.274057038E-08, -1.458168875E-12
6.744850030E-17, -1.882081974E+05, -5.633612880E+01
0.000000000E+00, 0.000000000E+00, 1.598521821E+01
2.647817948E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.893715172E+05, -5.511445481E+01

gas, mg, 24.3050, mg, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00

0.000000000E+00, 1.694658761E+04, 3.634330140E+00
-5.364831550E+05, 1.973709576E+03, -3.633776900E-01
2.071795561E-03, -7.738051720E-07, 1.359277788E-10
-7.766898397E-15, 4.829188110E+03, 2.339104998E+01
2.166012586E+09, -1.008355665E+06, 1.619680021E+02
-8.790130350E-03, -1.925690961E-08, 1.725045214E-11
-4.234946112E-16, 8.349525900E+06, -1.469355261E+03

gas, mg+, 24.3045, mg, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.064223354E+05, 4.327443460E+00
-1.914758821E+04, 4.877347920E+01, 2.457662661E+00
1.218104674E-05, 1.897261686E-09, -1.580433756E-12
2.135732238E-16, 1.061022394E+05, 4.646442860E+00
4.015949550E+08, -2.281591735E+05, 5.421745710E+01
-5.983017190E-03, 3.657189130E-07, -1.020737688E-11
1.024202854E-16, 1.932463961E+06, -4.480157830E+02

gas, mgbr, 104.2090, mg, 1, br, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
7.361419140E+03, -2.395789881E+02, 5.360560420E+00
-1.667141829E-03, 1.981137765E-06, -1.201637202E-09
3.032148099E-13, 5.915634440E+02, -1.421771179E+00
2.477604216E+04, -6.417687520E+02, 6.019932090E+00
-1.391004302E-03, 6.443330960E-07, -1.197734078E-10
7.421644240E-15, 2.824060334E+03, -6.264439920E+00
0.000000000E+00, 0.000000000E+00, 4.511085864E+00
-1.108586415E-08, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.795936422E+02, 4.001371225E+00

gas, mgbr2, 184.1130, mg, 1, br, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
2.148477999E+04, -5.154528900E+02, 9.273258750E+00
-3.470049040E-03, 3.921840790E-06, -2.377174864E-09
5.967025560E-13, -3.652443850E+04, -1.791077763E+01
-4.326899010E+04, -1.283036001E+01, 7.510024300E+00
-4.152332400E-06, 9.426499180E-10, -1.103873928E-13
5.201104310E-18, -3.919886020E+04, -7.409168030E+00
0.000000000E+00, 0.000000000E+00, 7.500102965E+00
-2.501029651E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.927378469E+04, -7.332826291E+00

gas, mgcl, 59.7580, mg, 1, cl, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.043995280E+04, -4.072155160E+02, 5.880372300E+00
-2.594175042E-03, 2.945953528E-06, -1.750648628E-09
4.337959330E-13, -5.851444950E+03, -6.023545750E+00
1.041328453E+06, -3.380158330E+03, 8.637775470E+00
-2.447789643E-03, 7.841969440E-07, -1.126409380E-10
5.810620730E-15, 1.327188977E+04, -2.703802395E+01
0.000000000E+00, 0.000000000E+00, 4.849915013E+00
-3.499150129E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.630961161E+03, -3.331790078E-01

gas, mgcl+, 59.7575, mg, 1, cl, 1, e, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
8.182385120E+03, -2.622253760E+02, 5.419863430E+00
-1.774129606E-03, 2.185811127E-06, -1.418143432E-09
3.918898580E-13, 7.770403710E+04, -3.780938840E+00
-1.268391921E+07, 3.478824540E+04, -3.004222950E+01
1.481739497E-02, -2.470965605E-06, 1.424433718E-10
2.789613105E-16, -1.487013740E+05, 2.552015117E+02
1.382463416E+08, -6.324735630E+04, 2.090164490E+01
-1.924320270E-03, 1.303442285E-07, -4.354246510E-12

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5.852012920E-17, 5.856144100E+05, -1.379609224E+02

gas, mgcl2, 95.2110, mg, 1, cl, 2, e, 3
  cpg, nasa, 3
    200, 1000, 6000, 20000
    3.637824680E+04, -7.307844960E+02, 9.661030510E+00
    -3.660212940E-03, 3.610819350E-06, -1.928769286E-09
    4.309912350E-13, -4.646914570E+04, -2.360112274E+01
    -6.835217010E+04, -2.490899393E+01, 7.518783200E+00
    -7.564518260E-06, 1.679293770E-09, -1.931706275E-13
    8.971657820E-18, -5.032686910E+04, -1.053268382E+01
    0.000000000E+00, 0.000000000E+00, 7.499198097E+00
    -2.491980974E-07, 0.000000000E+00, 0.000000000E+00
    0.000000000E+00, -5.047406379E+04, -1.038186820E+01

gas, mgf, 43.3034, mg, 1, f, 1, e, 2
  cpg, nasa, 3
    200, 1000, 6000, 20000
    3.823001620E+04, -4.803310390E+02, 5.068468940E+00
    5.212029300E-04, -1.874026347E-06, 1.759241129E-09
    -5.609403190E-13, -2.659114296E+04, -3.768969210E+00
    -1.695883782E+05, 3.588757630E+02, 3.936001650E+00
    4.813044140E-04, -1.658385409E-07, 3.336052290E-11
    -2.270104205E-15, -3.169323990E+04, 4.410565900E+00
    0.000000000E+00, 0.000000000E+00, 5.176620118E+00
    -6.766201179E-07, 0.000000000E+00, 0.000000000E+00
    0.000000000E+00, -3.197301396E+04, -4.866433637E+00

gas, mgf+, 43.3029, mg, 1, f, 1, e, 1
  cpg, nasa, 3
    298.15, 1000, 6000, 20000
    6.413293840E+05, -8.518532610E+03, 4.814216910E+01
    -1.163071535E-01, 1.622560562E-04, -1.063484590E-07
    2.634809398E-11, 1.024308480E+05, -2.450074295E+02
    -1.056852362E+07, 2.077122379E+04, -6.119523560E+00
    2.245834831E-03, -9.515738610E-08, -2.263502341E-11
    2.284524246E-15, -8.331549880E+04, 8.727102380E+01
    5.735804460E+07, -2.157378345E+04, 6.572317550E+00
    1.887605214E-04, -1.860864600E-08, 6.862191460E-13
    -8.597821080E-18, 2.477615733E+05, -1.922750114E+01

gas, mgf2, 62.3018, mg, 1, f, 2, e, 3
  cpg, nasa, 3
    200, 1000, 6000, 20000
    4.338429550E+04, -6.616511770E+02, 7.453448520E+00
    3.520814050E-03, -6.955764580E-06, 5.619923480E-09
    -1.688028906E-12, -8.687183670E+04, -1.545476790E+01
    -1.244419584E+05, -8.687343750E+01, 7.563581230E+00
    -2.499267978E-05, 5.440129140E-09, -6.158245760E-13
    2.822792666E-17, -9.060019440E+04, -1.420796990E+01
    0.000000000E+00, 0.000000000E+00, 7.496578931E+00
    -2.465789312E-07, 0.000000000E+00, 0.000000000E+00
    0.000000000E+00, -9.114256464E+04, -1.369462295E+01

gas, mgf2+, 62.3013, mg, 1, f, 2, e, 2
  cpg, nasa, 3
    298.15, 1000, 6000, 20000
    7.832220260E+04, -1.176632752E+03, 1.025829767E+01
    -3.755272890E-03, 3.016621585E-06, -1.327098871E-09
    2.465289749E-13, 7.413228550E+04, -2.990883551E+01
    -1.502316870E+05, 7.725289560E+01, 7.271569360E+00
    2.237529770E-04, -1.003070865E-07, 1.996274309E-11
    -1.233278721E-15, 6.699117500E+04, -1.094528006E+01
    2.601903911E+07, -5.388879260E+03, 5.218198280E+00
    7.632535320E-04, -6.606231900E-08, 2.428649361E-12
    -3.341900910E-17, 1.228640353E+05, 3.390783040E+00

gas, mgh, 25.3129, mg, 1, h, 1, e, 2
  cpg, nasa, 3
    200, 1000, 6000, 20000
    -4.958679150E+04, 7.500278650E+02, -6.442047500E-01

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9.826301010E-03, -8.789822440E-06, 3.823353520E-09
-6.003725760E-13, 2.302279383E+04, 2.657165344E+01
-1.005748598E+05, 1.952890106E+03, -1.317191549E+00
5.603665800E-03, -2.137334980E-06, 3.324880500E-10
-1.824672746E-14, 1.598582755E+04, 3.431233160E+01
0.000000000E+00, 0.000000000E+00, 3.849187043E+00
6.508129567E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.830848361E+04, 2.216520215E+00

gas, mgi, 151.2095, mg, 1, i, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.943889099E+03, -1.690248574E+02, 5.147251830E+00
-1.321186997E-03, 1.623056505E-06, -1.005114222E-09
2.567337785E-13, 6.845890270E+03, 8.593132250E-01
-2.370562811E+06, 6.916452480E+03, -3.183894490E+00
4.051551140E-03, -9.774290750E-07, 1.023329400E-10
-3.790304870E-15, -3.818551110E+04, 5.993104380E+01
0.000000000E+00, 0.000000000E+00, 4.214827657E+00
2.851723425E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 7.796114616E+03, 7.299719122E+00

gas, mgi2, 278.1139, mg, 1, i, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
1.594739709E+04, -4.160412720E+02, 9.010638320E+00
-3.090359024E-03, 3.621264260E-06, -2.260138392E-09
5.809055550E-13, -2.080441400E+04, -1.412175736E+01
-3.340299180E+04, -9.343511780E+00, 7.507468540E+00
-3.147707890E-06, 7.241336470E-10, -8.567664950E-14
4.069691700E-18, -2.294555505E+04, -5.241272590E+00
0.000000000E+00, 0.000000000E+00, 7.500436776E+00
-2.504367759E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.300052463E+04, -5.187277832E+00

gas, mgn, 38.3117, mg, 1, n, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
3.759538640E+04, -4.853164280E+02, 5.163054240E+00
2.591539493E-04, -1.518993975E-06, 1.522840476E-09
-4.992531450E-13, 3.607294610E+04, -3.813908776E+00
-6.018589100E+04, -4.010864780E+01, 4.529498950E+00
4.760490910E-05, 2.547271298E-09, -2.894058118E-13
1.330639131E-17, 3.341285700E+04, 7.925250209E-01
0.000000000E+00, 0.000000000E+00, 4.855339028E+00
-3.553390283E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.209253636E+04, -1.717518432E+00

gas, mgo, 40.3044, mg, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
3.513659740E+05, -5.287197160E+03, 3.382060060E+01
-8.400489630E-02, 1.210016160E-04, -7.630795020E-08
1.701022862E-11, 2.790679519E+04, -1.624886199E+02
-1.586738367E+07, 3.420468100E+04, -1.774087677E+01
7.004963050E-03, -1.104138249E-06, 8.957488530E-11
-3.052513649E-15, -2.300504434E+05, 1.738984472E+02
2.290059050E+06, -2.073499632E+04, 1.444150005E+01
-1.490609900E-03, 1.052119343E-07, -3.523030610E-12
4.613111760E-17, 1.490218815E+05, -8.007281730E+01

gas, mgoh, 41.3123, mg, 1, o, 1, h, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
3.839851620E+04, -7.367383640E+02, 7.920664460E+00
-5.950940590E-04, -2.112941162E-06, 3.228282110E-09
-1.214159329E-12, -1.392326188E+04, -1.916078109E+01
6.648664750E+05, -1.770750355E+03, 7.269999270E+00
5.336842760E-04, -1.980894443E-07, 3.025677088E-11
-1.554849476E-15, -6.149114560E+03, -1.671027009E+01
0.000000000E+00, 0.000000000E+00, 7.586625729E+00

-3.366257288E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.082932512E+04, -1.786564415E+01

gas, mgoh+, 41.3118, mg, 1, o, 1, h, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.170224573E+05, -1.735933343E+03, 1.164059613E+01
-8.449876220E-03, 7.351713740E-06, -2.790223071E-09
3.514982130E-13, 8.118807670E+04, -4.271174370E+01
8.296339540E+05, -2.459700177E+03, 8.118732020E+00
3.500579100E-05, -4.670574750E-08, 8.312358260E-12
-4.802836220E-16, 8.801661710E+04, -2.438155217E+01
-6.691779770E+06, 2.437864449E+03, 6.949387850E+00
6.355744850E-05, -3.980850170E-09, 1.287525303E-13
-1.684735436E-18, 4.948972630E+04, -1.400323314E+01

gas, mg(oh)2, 58.3197, mg, 1, o, 2, h, 2, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
5.245894670E+04, -1.289056383E+03, 1.389327642E+01
-7.806693670E-04, -4.151257230E-06, 6.109473040E-09
-2.274138833E-12, -6.295089150E+04, -5.015353340E+01
1.713709254E+06, -4.730005350E+03, 1.448925967E+01
1.907819857E-04, -1.226834131E-07, 2.015343753E-11
-1.128993279E-15, -3.887724670E+04, -5.840498120E+01
0.000000000E+00, 0.000000000E+00, 1.336728847E+01
-1.172884702E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.420290441E+04, -4.785749560E+01

gas, mgs, 56.3700, mg, 1, s, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-9.565788090E+03, 1.443637798E+02, 1.813794717E+00
1.147168775E-02, -2.220170412E-05, 1.995344981E-08
-6.090688740E-12, 1.276501517E+04, 1.461333093E+01
2.650794328E+07, -7.711355860E+04, 8.463771680E+01
-3.644250680E-02, 8.403084420E-06, -9.539882170E-10
4.264658030E-14, 5.078931170E+05, -5.834656096E+02
0.000000000E+00, 0.000000000E+00, 5.592857453E+00
-1.092857453E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.320214886E+04, -5.592219752E+00

gas, mg2, 48.6100, mg, 2, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
4.545195590E+03, 4.115850040E+02, 4.841196170E-01
4.891969650E-03, -6.395536840E-06, 4.299764550E-09
-1.164624418E-12, 3.181641790E+04, 2.640432143E+01
3.038224994E+04, 5.945240460E+01, 2.352706666E+00
1.378537924E-04, -5.895692040E-08, 1.104045317E-11
-6.558868290E-16, 3.351036560E+04, 1.588177377E+01
0.000000000E+00, 0.000000000E+00, 2.591389865E+00
1.908610135E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.334959641E+04, 1.413186687E+01

gas, mg2f4, 124.6036, mg, 2, f, 4, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
1.511956137E+05, -3.122595912E+03, 2.517715088E+01
-1.558723757E-02, 1.552195619E-05, -8.408729050E-09
1.911618525E-12, -1.953078883E+05, -1.085103537E+02
-2.980610166E+05, -1.201299868E+02, 1.609110864E+01
-3.687456290E-05, 8.220317050E-09, -9.488869780E-13
4.419795330E-17, -2.117349690E+05, -5.308655470E+01
0.000000000E+00, 0.000000000E+00, 1.598824195E+01
2.617580488E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.124284583E+05, -5.229635497E+01

gas, mn, 54.9380, mn, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000

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1.034061359E-01, -1.551537349E-03, 2.500009148E+00
-2.723162066E-08, 4.333897430E-11, -3.511093890E-14
1.136032201E-17, 3.321935190E+04, 6.649325463E+00
5.855155820E+03, 8.838588440E+02, -3.648662580E-02
2.703720687E-03, -1.324971998E-06, 2.872603290E-10
-1.923633570E-14, 2.867803487E+04, 2.292541198E+01
3.936189040E+09, -2.353549748E+06, 5.377244800E+02
-5.824812570E-02, 3.330475100E-06, -9.689631050E-11
1.133286034E-15, 1.879530161E+07, -4.690097890E+03

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gas, mn+, 54.9375, mn, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
3.458017700E+02, -4.251151330E+00, 2.521281028E+00
-5.565087280E-05, 8.037162210E-08, -6.093550970E-11
1.900014268E-14, 1.202533602E+05, 6.683468162E+00
6.471314100E+05, -2.403796253E+03, 5.937715750E+00
-2.341014594E-03, 7.464165640E-07, -9.075969730E-11
4.467879847E-15, 1.349902108E+05, -1.702666341E+01
1.717119921E+09, -9.029185830E+05, 1.784788847E+02
-1.566770206E-02, 7.346534410E-07, -1.750673350E-11
1.667889239E-16, 7.443546080E+06, -1.568005804E+03

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gas, mo, 95.9400, mo, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
7.646367910E+01, -1.159269043E+00, 2.506929462E+00
-2.099249725E-05, 3.414779430E-08, -2.841269591E-11
9.492443321E-15, 7.845899800E+04, 7.601835660E+00
5.573271000E+06, -1.662365811E+04, 2.135147077E+01
-1.003069377E-02, 2.409784357E-06, -1.811267352E-10
1.034189087E-15, 1.842646473E+05, -1.275326434E+02
6.205038910E+09, -3.855961600E+06, 9.371595060E+02
-1.108164544E-01, 6.929123900E-06, -2.199865715E-10
2.798315513E-15, 3.062163602E+07, -8.122811340E+03

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gas, mo+, 95.9395, mo, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.298236623E+02, -1.560279908E+00, 2.507600281E+00
-1.923789063E-05, 2.673316651E-08, -1.937174292E-11
5.729735412E-15, 1.615103759E+05, 7.442543460E+00
1.298891120E+07, -3.948276230E+04, 4.866599780E+01
-2.605352326E-02, 7.215431920E-06, -8.719164960E-10
3.788423040E-14, 4.118948570E+05, -3.216791030E+02
-1.731253943E+09, 8.776685240E+05, -1.669716753E+02
1.732439603E-02, -9.372726850E-07, 2.593422324E-11
-2.913787941E-16, -6.989098130E+06, 1.517101780E+03

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gas, mo-, 95.9405, mo, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.905123690E+04, 7.485659540E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.905123690E+04, 7.485659540E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.905123690E+04, 7.485659540E+00

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gas, moo, 111.9394, mo, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-2.801152706E+04, 5.139883480E+02, 1.075385931E+00
8.681048470E-03, -1.111118984E-05, 7.234349330E-09
-1.893138381E-12, 3.941374080E+04, 2.272230239E+01
1.573131992E+06, -5.241483580E+03, 1.102656868E+01
-3.902996620E-03, 1.147334134E-06, -1.358975691E-10
5.775268580E-15, 7.448972000E+04, -4.253612930E+01

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2.846838911E+08, -1.710122789E+05, 4.036556200E+01
-2.750495204E-03, 8.916821240E-08, -1.248340135E-12
3.675821910E-18, 1.408558917E+06, -3.171602770E+02

gas, moo2, 127.9388, mo, 1, o, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
3.247183220E+04, -1.904783783E+02, 2.120771647E+00
1.650280086E-02, -2.381696822E-05, 1.652371586E-08
-4.494452430E-12, -1.862932837E+03, 1.640582056E+01
3.096143654E+05, -1.932750274E+03, 9.428673180E+00
-1.630508855E-03, 5.752760170E-07, -7.590457470E-11
3.461337780E-15, 7.327725180E+03, -2.533315948E+01
0.000000000E+00, 0.000000000E+00, 8.137864832E+00
-8.878648320E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.916330926E+03, -1.755234195E+01

gas, moo3, 143.9382, mo, 1, o, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
5.977385360E+04, -7.684557830E+02, 5.881844440E+00
1.686119817E-02, -2.582485043E-05, 1.850382718E-08
-5.152249850E-12, -4.155872390E+04, -6.529162160E+00
-4.097597270E+05, 2.379066513E+02, 9.311100800E+00
6.579338910E-04, -2.895307725E-07, 5.692637260E-11
-3.489657310E-15, -4.923738720E+04, -2.114864892E+01
0.000000000E+00, 0.000000000E+00, 1.063970406E+01
-3.897040621E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.105040230E+04, -3.103437507E+01

gas, moo3-, 143.9387, mo, 1, o, 3, e, 5
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.821617352E+05, -2.224656970E+03, 1.320405967E+01
-1.249800352E-03, -1.864166983E-06, 2.276579470E-09
-7.366564570E-13, -6.938986000E+04, -4.699377210E+01
-4.881098720E+05, 1.848536991E+01, 1.042644941E+01
-6.26557910E-04, 3.020554347E-07, -4.733195890E-11
2.527517727E-15, -8.337815500E+04, -2.701522825E+01
0.000000000E+00, 0.000000000E+00, 1.058460005E+01
-3.346000527E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.501364272E+04, -2.929667831E+01

gas, n, 14.0067, n, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.610463780E+04, 4.193905036E+00
8.876501380E+04, -1.071231500E+02, 2.362188287E+00
2.916720081E-04, -1.729515100E-07, 4.012657880E-11
-2.677227571E-15, 5.697351330E+04, 4.865231506E+00
5.475181050E+08, -3.107574980E+05, 6.916782740E+01
-6.847988130E-03, 3.827572400E-07, -1.098367709E-11
1.277986024E-16, 2.550585618E+06, -5.848769753E+02

gas, n+, 14.0062, n, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
5.237079210E+03, 2.299958315E+00, 2.487488821E+00
2.737490756E-05, -3.134447576E-08, 1.850111332E-11
-4.447350984E-15, 2.256284738E+05, 5.076830786E+00
2.904970374E+05, -8.557908610E+02, 3.477389290E+00
-5.288267190E-04, 1.352350307E-07, -1.389834122E-11
5.046166279E-16, 2.310809984E+05, -1.994146545E+00
1.646092148E+07, -1.113165218E+04, 4.976986640E+00
-2.005393583E-04, 1.022481356E-08, -2.691430863E-13
3.539931593E-18, 3.136284696E+05, -1.706646380E+01

gas, n-, 14.0072, n, 1, e, 2
cpg, nasa, 3

298.15, 1000, 6000, 20000
1.445682471E+03, 7.335205110E+00, 2.476680939E+00
4.227869180E-05, -4.426293320E-08, 2.490985431E-11
-5.831608090E-15, 5.617625000E+04, 5.145753977E+00
2.404189576E+03, 2.954965336E-01, 2.499789368E+00
8.307564970E-08, -1.829942770E-11, 2.100136461E-15
-9.754986710E-20, 5.621413890E+04, 5.006484157E+00
1.884379470E+03, 3.905516910E-01, 2.499914043E+00
9.818512540E-09, -6.126037340E-13, 1.980010689E-17
-2.593295116E-22, 5.621304520E+04, 5.005647607E+00

gas, nco, 42.0168, n, 1, c, 1, o, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
1.136503036E+04, -2.444613367E+02, 4.671376100E+00
2.309387548E-03, 2.798649599E-06, -4.546357380E-09
1.692880931E-12, 1.577649188E+04, -2.171476903E-01
1.089445289E+05, -1.735459316E+03, 8.655610330E+00
-4.053229260E-04, 7.599716410E-08, -7.253804150E-12
3.244872410E-16, 2.365792776E+04, -2.619532970E+01
0.000000000E+00, 0.000000000E+00, 7.528739907E+00
-2.787399066E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.163874944E+04, -1.758382993E+01

gas, nd, 16.0208, n, 1, d, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.290155757E+04, -3.957388510E+02, 6.179010330E+00
-8.847806970E-03, 1.441582970E-05, -1.006647227E-08
2.654403586E-12, 4.355913430E+04, -1.180414072E+01
5.439657960E+05, -2.084583507E+03, 5.834089720E+00
-4.189393360E-04, 9.768929530E-08, -1.056317654E-11
4.683079210E-16, 5.466633410E+04, -1.480810939E+01
0.000000000E+00, 0.000000000E+00, 4.832222177E+00
-3.322221773E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.925655792E+04, -7.114524735E+00

gas, nd2, 18.0349, n, 1, d, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
1.935222164E+04, -2.130631713E+02, 4.844017600E+00
-2.516949288E-03, 7.616381540E-06, -5.464501770E-09
1.292736999E-12, 2.211998374E+04, -3.171712417E+00
1.631308357E+06, -6.564637490E+03, 1.280547961E+01
-3.094456779E-03, 9.181660230E-07, -1.241119284E-10
6.226299860E-15, 6.108929580E+04, -6.124502693E+01
0.000000000E+00, 0.000000000E+00, 7.506571148E+00
-2.565711477E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.538492784E+04, -2.303259595E+01

gas, nd3, 20.0490, n, 1, d, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
1.045120370E+04, 1.610166943E+02, 8.574963230E-01
1.319688794E-02, -1.153090144E-05, 7.142495560E-09
-2.109194351E-12, -8.220948900E+03, 1.675921299E+01
2.599516958E+06, -1.013420124E+04, 1.798028169E+01
-3.582609800E-03, 1.009922000E-06, -1.537638609E-10
9.106175650E-15, 5.397205660E+04, -9.810988569E+01
0.000000000E+00, 0.000000000E+00, 9.810965636E+00
4.390343638E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.304599463E+04, -3.682816514E+01

gas, nf, 33.0051, n, 1, f, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-3.504927750E+04, 6.674502990E+02, -1.201665982E+00
1.452074253E-02, -1.822873148E-05, 1.160136864E-08
-2.973416333E-12, 2.395414002E+04, 3.089260431E+01
8.002987330E+05, -3.237696580E+03, 8.703408870E+00
-2.701025798E-03, 9.150042110E-07, -1.365256630E-10

7.234624410E-15, 4.642819450E+04, -3.019933248E+01
0.000000000E+00, 0.000000000E+00, 4.808400532E+00
-3.084005322E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.578283536E+04, -3.006207179E+00

gas, nf2, 52.0035, n, 1, f, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
1.511831104E+04, 9.196389940E+01, 4.947301790E-01
2.001847323E-02, -2.767712684E-05, 1.872924867E-08
-5.020318040E-12, 2.839279606E+03, 2.270515670E+01
-1.945010078E+05, -3.536034070E+02, 7.263494360E+00
-8.402380400E-05, 2.326721111E-08, -2.667577562E-12
1.236070614E-16, 3.435440590E+03, -1.336102511E+01
0.000000000E+00, 0.000000000E+00, 7.115827392E+00
1.341726084E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 7.660153739E+02, -1.225291379E+01

gas, nf3, 71.0019, n, 1, f, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
8.757149280E+04, -9.031832890E+02, 4.027417270E+00
2.314439555E-02, -3.415106470E-05, 2.409483651E-08
-6.633464190E-12, -1.237232074E+04, 3.026430713E-01
-3.496268760E+05, -4.973728670E+02, 1.036866128E+01
8.900687650E-05, 5.882654360E-08, -3.157737664E-12
1.714329953E-16, -1.713183352E+04, -3.098920858E+01
0.000000000E+00, 0.000000000E+00, 1.248134467E+01
-2.231344668E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.895526058E+04, -4.784628317E+01

gas, nh, 15.0146, n, 1, h, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
1.359651320E+04, -1.900296604E+02, 4.518496790E+00
-2.432776899E-03, 2.377587464E-06, -2.592797084E-10
-2.659680792E-13, 4.280972190E+04, -3.886561616E+00
1.958141991E+06, -5.782861300E+03, 9.335742020E+00
-2.292910311E-03, 6.076092480E-07, -6.647942750E-11
2.384234783E-15, 7.898912340E+04, -4.116970400E+01
9.524636790E+07, -8.585826910E+04, 2.980445181E+01
-2.979563697E-03, 1.656334158E-07, -4.744791840E-12
5.570148290E-17, 6.961434270E+05, -2.229027419E+02

gas, nh+, 15.0141, n, 1, h, 1, e, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
4.253656850E+03, -2.458222206E+02, 6.708919490E+00
-1.038489430E-02, 1.509008623E-05, -9.580512190E-09
2.333206758E-12, 2.001077797E+05, -1.395057632E+01
1.405709438E+06, -4.136215710E+03, 7.632014480E+00
-1.228325778E-03, 2.721187746E-07, -2.010098289E-11
3.717190180E-17, 2.258975960E+05, -2.786785234E+01
2.392941759E+08, -1.741658624E+05, 5.107907910E+01
-5.567623700E-03, 3.273391600E-07, -9.797978060E-12
1.186543279E-16, 1.554705305E+06, -4.065968960E+02

gas, nh2, 16.0226, n, 1, h, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-3.118240659E+04, 4.754243390E+02, 1.372395176E+00
6.306429720E-03, -5.987893560E-06, 4.492752340E-09
-1.414073548E-12, 1.928939662E+04, 1.540126885E+01
2.111053740E+06, -6.880627230E+03, 1.132305924E+01
-1.829236741E-03, 5.643890090E-07, -7.886452480E-11
4.078593450E-15, 6.503778560E+04, -5.359155744E+01
0.000000000E+00, 0.000000000E+00, 7.832124798E+00
-5.821247979E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.428457995E+04, -2.727437780E+01

gas, nh3, 17.0305, n, 1, h, 3, e, 4

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cpg, nasa, 3
200, 1000, 6000, 20000
-7.681226150E+04, 1.270951578E+03, -3.893229130E+00
2.145988418E-02, -2.183766703E-05, 1.317385706E-08
-3.332322060E-12, -1.264886413E+04, 4.366014588E+01
2.452389535E+06, -8.040894240E+03, 1.271346201E+01
-3.980186580E-04, 3.552502750E-08, 2.530923570E-12
-3.322700530E-16, 4.386191960E+04, -6.462330602E+01
0.000000000E+00, 0.000000000E+00, 1.044947832E+01
-1.994783159E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.721445826E+04, -4.529455199E+01

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gas, no, 30.0061, n, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-1.143916503E+04, 1.536467592E+02, 3.431468730E+00
-2.668592368E-03, 8.481399120E-06, -7.685111050E-09
2.386797655E-12, 9.098214410E+03, 6.728725490E+00
2.239018716E+05, -1.289651623E+03, 5.433936030E+00
-3.656034900E-04, 9.880966450E-08, -1.416076856E-11
9.380184620E-16, 1.750317656E+04, -8.501669090E+00
-9.575303540E+08, 5.912434480E+05, -1.384566826E+02
1.694339403E-02, -1.007351096E-06, 2.912584076E-11
-3.295109350E-16, -4.677501240E+06, 1.242081216E+03

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gas, no+, 30.0056, n, 1, o, 1, e, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.398106635E+03, -1.590446941E+02, 5.122895400E+00
-6.394388620E-03, 1.123918342E-05, -7.988581260E-09
2.107383677E-12, 1.187495132E+05, -4.398433810E+00
6.069876900E+05, -2.278395427E+03, 6.080324670E+00
-6.066847580E-04, 1.432002611E-07, -1.747990522E-11
8.935014060E-16, 1.322709615E+05, -1.519880037E+01
2.676400347E+09, -1.832948690E+06, 5.099249390E+02
-7.113819280E-02, 5.317659880E-06, -1.963208212E-10
2.805268230E-15, 1.443308939E+07, -4.324044462E+03

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gas, nocl, 65.4591, n, 1, o, 1, cl, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
2.308835209E+04, -5.495983840E+02, 7.730463360E+00
-5.073910900E-03, 1.062996184E-05, -8.793249700E-09
2.648180166E-12, 7.389898390E+03, -1.318393021E+01
-6.133413330E+05, -3.919298830E+02, 9.138917220E+00
-2.605664613E-03, 1.295687247E-06, -2.215378352E-10
1.280394898E-14, 4.517328420E+03, -2.307323335E+01
0.000000000E+00, 0.000000000E+00, 8.818467809E+00
-1.568467809E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.317157338E+03, -2.431608979E+01

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gas, nof, 49.0045, n, 1, o, 1, f, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
4.755024260E+04, -7.253904170E+02, 7.213996360E+00
-2.532427181E-03, 6.377743900E-06, -5.518305880E-09
1.681935713E-12, -5.609722520E+03, -1.289663616E+01
1.889069274E+06, -6.731022660E+03, 1.419018767E+01
-3.693124620E-03, 9.938575140E-07, -1.080748188E-10
4.210354430E-15, 3.209900780E+04, -6.370266962E+01
0.000000000E+00, 0.000000000E+00, 8.863084478E+00
-1.613084478E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.816761354E+04, -2.694072288E+01

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gas, nof3, 87.0013, n, 1, o, 1, f, 3, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
1.488360135E+05, -2.241049812E+03, 1.302355027E+01
5.463976680E-03, -8.641865250E-06, 5.913659030E-09
-1.577009169E-12, -1.328342568E+04, -4.877320739E+01
-2.785625217E+05, -1.252321663E+03, 1.390824337E+01

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-3.566687500E-04, 7.785011060E-08, -8.850411970E-12
4.075980030E-16, -2.025651446E+04, -5.106881859E+01
0.000000000E+00, 0.000000000E+00, 1.296925025E+01
2.807497455E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.852423955E+04, -4.393300785E+01

gas, no2, 46.0055, n, 1, o, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-5.642038780E+04, 9.633085720E+02, -2.434510974E+00
1.927760886E-02, -1.874559328E-05, 9.145497730E-09
-1.777647635E-12, -1.547925037E+03, 4.067851210E+01
7.213001570E+05, -3.832615200E+03, 1.113963285E+01
-2.238062246E-03, 6.547723430E-07, -7.611335900E-11
3.328361050E-15, 2.502497403E+04, -4.305130040E+01
0.000000000E+00, 0.000000000E+00, 8.545172047E+00
-1.295172047E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.473030145E+03, -2.588847237E+01

gas, no2-, 46.0060, n, 1, o, 2, e, 4
cpg, nasa, 3
298.15, 1000, 6000, 20000
-1.282067858E+04, 6.990138180E+02, -2.812596273E+00
2.412894252E-02, -2.831606689E-05, 1.670509365E-08
-3.983330130E-12, -2.809915579E+04, 4.063271510E+01
1.325710335E+05, -1.557032129E+03, 8.126721920E+00
-2.728626780E-04, -4.707541800E-08, 2.826729008E-11
-2.353985481E-15, -1.715795217E+04, -2.228576043E+01
0.000000000E+00, 0.000000000E+00, 7.596053774E+00
-3.460537744E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.033850800E+04, -1.862144466E+01

gas, no2cl, 81.4585, n, 1, o, 2, cl, 1, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
8.508370340E+03, -1.805383762E+02, 3.785388560E+00
1.414934934E-02, -1.423946765E-05, 7.028226180E-09
-1.374688214E-12, 9.156246470E+02, 6.958904458E+00
-1.086773327E+05, -1.452231167E+03, 1.105656962E+01
-4.000099280E-04, 9.101543040E-08, -1.036656913E-11
4.781664810E-16, 6.294267320E+03, -3.521239681E+01
0.000000000E+00, 0.000000000E+00, 1.006743766E+01
1.825623430E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.652012193E+03, -2.771822501E+01

gas, no2f, 65.0039, n, 1, o, 2, f, 1, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
5.667856950E+04, -6.538251950E+02, 4.472771520E+00
1.368870672E-02, -1.460533236E-05, 7.779227940E-09
-1.689355106E-12, -1.102179443E+04, 3.292074310E-01
-1.008577842E+05, -1.704722752E+03, 1.122954945E+01
-4.685215970E-04, 1.047692566E-07, -1.189150595E-11
5.470307120E-16, -6.891719180E+03, -3.849788492E+01
0.000000000E+00, 0.000000000E+00, 1.004233155E+01
2.076684513E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.847770893E+04, -2.948962347E+01

gas, no3, 62.0049, n, 1, o, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
3.405398410E+04, 2.266670652E+02, -3.793081630E+00
4.170732700E-02, -5.709913270E-05, 3.834158110E-08
-1.021969284E-11, 7.088112200E+03, 4.273091713E+01
-3.943872710E+05, -8.244263530E+02, 1.061325843E+01
-2.448749816E-04, 5.406060320E-08, -6.195466750E-12
2.870000149E-16, 8.982011730E+03, -3.444666597E+01
0.000000000E+00, 0.000000000E+00, 9.973905295E+00
2.760947055E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.630407791E+03, -2.959262315E+01

gas, no3-, 62.0054, n, 1, o, 3, e, 5
cpg, nasa, 3
298.15, 1000, 6000, 20000
9.204813610E+04, -3.911171150E+02, -2.354356764E-01
2.836042108E-02, -3.461324080E-05, 2.081787460E-08
-5.021601270E-12, -3.576411500E+04, 2.299942308E+01
-3.110005758E+05, -1.369087552E+03, 1.101342913E+01
-4.036878820E-04, 8.902086470E-08, -1.019733480E-11
4.723330790E-16, -3.364321090E+04, -3.878432657E+01
0.000000000E+00, 0.000000000E+00, 9.967054484E+00
2.829455159E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.265486365E+04, -3.085149578E+01

gas, no3f, 81.0033, n, 1, o, 3, f, 1, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
6.472832030E+04, -8.213134310E+02, 6.194917440E+00
1.805438628E-02, -1.996693240E-05, 1.124482018E-08
-2.680013077E-12, 4.206661790E+03, -7.016104301E+00
-3.411793300E+05, -2.353908798E+03, 1.628114887E+01
-1.910415273E-03, 4.690873560E-07, -5.686040140E-11
2.720906921E-15, 9.760583980E+03, -6.558153684E+01
0.000000000E+00, 0.000000000E+00, 1.254422070E+01
7.057792972E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.055953019E+03, -3.891054737E+01

gas, n2, 28.0134, n, 2, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.210371497E+04, -3.818461820E+02, 6.082738360E+00
-8.530914410E-03, 1.384646189E-05, -9.625793620E-09
2.519705809E-12, 7.108460860E+02, -1.076003744E+01
5.877124060E+05, -2.239249073E+03, 6.066949220E+00
-6.139685500E-04, 1.491806679E-07, -1.923105485E-11
1.061954386E-15, 1.283210415E+04, -1.586640027E+01
8.310139160E+08, -6.420733540E+05, 2.020264635E+02
-3.065092046E-02, 2.486903333E-06, -9.705954110E-11
1.437538881E-15, 4.938707040E+06, -1.672099740E+03

gas, n2+, 28.0129, n, 2, e, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
-3.474047470E+04, 2.696222703E+02, 3.164916370E+00
-2.132239781E-03, 6.730476400E-06, -5.637304970E-09
1.621756000E-12, 1.790004424E+05, 6.832974166E+00
-2.845599002E+06, 7.058893030E+03, -2.884886385E+00
3.068677059E-03, -4.361652310E-07, 2.102514545E-11
5.411996470E-16, 1.340388483E+05, 5.090897022E+01
-3.712829770E+08, 3.139287234E+05, -9.603518050E+01
1.571193286E-02, -1.175065525E-06, 4.144441230E-11
-5.621893090E-16, -2.217361867E+06, 8.436270947E+02

gas, n2-, 28.0139, n, 2, e, 3
cpg, nasa, 3
298.15, 1000, 6000, 20000
-8.146227110E+04, 9.063600790E+02, -1.520054079E-01
6.023190840E-03, -2.897138445E-06, -4.129106680E-11
3.206989770E-13, 1.218808548E+04, 2.638068855E+01
2.169637706E+05, -1.275098516E+03, 5.391095700E+00
-3.198907510E-04, 7.311051350E-08, -8.202017370E-12
3.740044700E-16, 2.424964308E+04, -9.014934294E+00
1.345850786E+06, -1.060565497E+03, 4.732026850E+00
-5.091450050E-06, 1.628212099E-09, -5.224243560E-14
6.796651250E-19, 2.394627677E+04, -4.297861544E+00

gas, ncn, 40.0241, n, 2, c, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-5.634680700E+04, 7.323804580E+02, -7.821401840E-01
1.838552441E-02, -1.950836491E-05, 1.035712021E-08
-2.208158483E-12, 5.539789700E+04, 2.905308985E+01

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-1.641880975E+05, -7.767840750E+02, 7.999981870E+00
-1.659081508E-04, 2.983403318E-08, -3.120157047E-12
1.992698720E-16, 6.184424480E+04, -2.149108820E+01
0.000000000E+00, 0.000000000E+00, 7.530516296E+00
-2.805162964E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.639648500E+04, -1.789206219E+01

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gas, n2d2_cis, 32.0416, n, 2, d, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
-2.743733656E+04, 7.149808830E+02, -2.223247620E+00
2.088722282E-02, -1.821711897E-05, 8.844079940E-09
-1.918010649E-12, 2.011115649E+04, 3.637100195E+01
8.798074710E+05, -5.299362040E+03, 1.355007485E+01
-1.316635227E-03, 2.755816197E-07, -3.036294387E-11
1.365324117E-15, 5.356311890E+04, -6.271215875E+01
0.000000000E+00, 0.000000000E+00, 9.921507109E+00
3.284928907E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.750830046E+04, -3.495945283E+01

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gas, n2f2, 66.0102, n, 2, f, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
1.543893150E+04, -2.183635130E+02, 3.890284250E+00
1.674017740E-02, -2.056393090E-05, 1.258692110E-08
-3.110498290E-12, 7.052038700E+03, 5.265866442E+00
-1.824883860E+05, -9.534029960E+02, 1.069795480E+01
-2.759968700E-04, 6.055439700E-08, -6.911215080E-12
3.192587230E-16, 9.283466960E+03, -3.246968772E+01
0.000000000E+00, 0.000000000E+00, 9.977262675E+00
2.727373254E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.988232151E+03, -2.700038704E+01

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gas, n2f4, 104.0070, n, 2, f, 4, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
1.162914512E+05, -1.538660418E+03, 9.054033050E+00
2.862113563E-02, -4.332286990E-05, 3.067642499E-08
-8.455474110E-12, 2.865277526E+03, -2.476493006E+01
-5.188594710E+05, -6.702256510E+02, 1.650109262E+01
-2.006404436E-04, 4.436752510E-08, -5.089808880E-12
2.359374159E-16, -5.281488900E+03, -6.040513435E+01
0.000000000E+00, 0.000000000E+00, 1.597307847E+01
2.769215325E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.561784315E+03, -5.638966804E+01

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gas, n2h2, 30.0293, n, 2, h, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
-1.504005163E+05, 2.346687716E+03, -9.405430290E+00
3.284299800E-02, -3.121920401E-05, 1.721283190E-08
-4.014537220E-12, 1.319384041E+04, 7.832382630E+01
6.217567870E+06, -1.753952096E+04, 2.022730509E+01
-9.757297660E-04, -4.208416740E-07, 1.117921171E-10
-7.627102210E-15, 1.374152574E+05, -1.199559168E+02
0.000000000E+00, 0.000000000E+00, 1.073738007E+01
-4.873800651E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.723723808E+04, -4.241002883E+01

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gas, n2h4, 32.0452, n, 2, h, 4, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
-1.660756354E+05, 3.035416736E+03, -1.736889823E+01
7.159834020E-02, -8.866799300E-05, 5.798970280E-08
-1.530037218E-11, -3.731927230E+03, 1.190002218E+02
3.293486700E+06, -1.199850628E+04, 2.104406814E+01
-1.399381724E-03, 1.933173351E-07, -1.318016127E-11
3.166400170E-16, 8.348433700E+04, -1.155751024E+02
0.000000000E+00, 0.000000000E+00, 1.525642574E+01
9.935742633E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.785746308E+03, -6.904033378E+01

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gas, n2o, 44.0128, n, 2, o, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
4.288225970E+04, -6.440118440E+02, 6.034351430E+00
2.265394436E-04, 3.472782850E-06, -3.627748640E-09
1.137969552E-12, 1.179405506E+04, -1.003128570E+01
3.438448040E+05, -2.404557558E+03, 9.125636220E+00
-5.401667930E-04, 1.315124031E-07, -1.414215100E-11
6.381066870E-16, 2.198632638E+04, -3.147805016E+01
0.000000000E+00, 0.000000000E+00, 8.004683376E+00
-7.546833758E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.906053685E+03, -2.301105810E+01

gas, n2o+, 44.0123, n, 2, o, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
-5.624147080E+04, 6.696211610E+02, 8.781456190E-02
1.524476027E-02, -1.527290811E-05, 7.827237390E-09
-1.646739623E-12, 1.557295192E+05, 2.562354785E+01
-2.983553254E+04, -1.179455967E+03, 8.300186690E+00
-2.887267217E-04, 5.705105010E-08, -5.958885120E-12
2.835725557E-16, 1.646021769E+05, -2.287356617E+01
0.000000000E+00, 0.000000000E+00, 7.506187375E+00
-2.561873746E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.565359901E+05, -1.681023356E+01

gas, n2o3, 76.0116, n, 2, o, 3, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
-9.204444170E+04, 9.295520150E+02, 3.203664810E+00
1.356473078E-02, -6.262966070E-06, -1.402915559E-09
1.431620930E-12, 3.313622080E+03, 1.844430953E+01
7.783881860E+05, -4.483024660E+03, 1.666668024E+01
-2.062143878E-03, 5.309541710E-07, -6.190451220E-11
2.692956658E-15, 3.360912450E+04, -6.739212388E+01
0.000000000E+00, 0.000000000E+00, 1.279860708E+01
4.513929186E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.920702618E+03, -3.940840803E+01

gas, n2o4, 92.0110, n, 2, o, 4, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
-3.804751440E+04, 5.612828890E+02, -2.083648324E-01
3.887087820E-02, -4.422412260E-05, 2.498812310E-08
-5.679102380E-12, -3.310794730E+03, 2.963924840E+01
-4.582843760E+05, -1.604749805E+03, 1.674102133E+01
-5.091385080E-04, 1.143634670E-07, -1.316288176E-11
5.976316620E-16, 4.306900520E+03, -6.569450380E+01
0.000000000E+00, 0.000000000E+00, 1.544963264E+01
8.003673587E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.108998276E+03, -5.594141117E+01

gas, n2o5, 108.0104, n, 2, o, 5, e, 7
cpg, nasa, 3
200, 1000, 6000, 20000
4.007828170E+04, -8.769675120E+02, 1.055932981E+01
1.394613859E-02, -8.884346920E-06, 8.500431150E-10
7.791550910E-13, 3.038962037E+03, -2.386831860E+01
-5.325578960E+04, -3.109277389E+03, 2.036088958E+01
-9.959901140E-04, 2.401398635E-07, -3.057161911E-11
1.495915511E-15, 1.336957281E+04, -8.298623341E+01
0.000000000E+00, 0.000000000E+00, 1.783705084E+01
1.412949164E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.769665016E+03, -6.388948926E+01

gas, n3, 42.0201, n, 3, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
3.337406790E+04, -2.965683604E+02, 3.314279150E+00
6.721685360E-03, -4.181126390E-06, 8.618442360E-10


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6.883352530E-14, 5.298840620E+04, 5.312776486E+00
2.529264658E+05, -2.362876591E+03, 9.135267130E+00
-6.212870850E-04, 1.324094351E-07, -1.478989640E-11
6.721230470E-16, 6.412695390E+04, -3.135825973E+01
0.000000000E+00, 0.000000000E+00, 7.465242555E+00
-2.152425554E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.815661268E+04, -1.862972231E+01

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gas, na, 22.9898, na, 1, e, 1

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cpg, nasa, 3
200, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.218382949E+04, 4.244028180E+00
9.525723380E+05, -2.623807254E+03, 5.162596620E+00
-1.210218586E-03, 2.306301844E-07, -1.249597843E-11
7.226771190E-16, 2.912963564E+04, -1.519717061E+01
1.592533392E+09, -9.717836660E+05, 2.238443963E+02
-2.380930558E-02, 1.352018117E-06, -3.936971110E-11
4.630689121E-16, 7.748677260E+06, -1.939615505E+03

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gas, na+, 22.9892, na, 1

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cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 7.256537070E+04, 3.550845080E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 7.256537070E+04, 3.550845080E+00
3.401202990E+04, -2.137774622E+01, 2.505443851E+00
-7.186631690E-07, 5.188796390E-11, -1.944511626E-15
2.959355125E-20, 7.273413620E+04, 3.503904060E+00

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gas, na-, 22.9903, na, 1, e, 2

```

cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000001E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.082199670E+03, 3.550916790E+00
0.000000000E+00, 0.000000000E+00, 2.500000001E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.082199670E+03, 3.550916790E+00
0.000000000E+00, 0.000000000E+00, 2.500000001E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.082199670E+03, 3.550916790E+00

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gas, naalf4, 125.9649, na, 1, al, 1, f, 4, e, 6

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cpg, nasa, 3
200, 1000, 6000, 20000
1.315359536E+05, -2.394685695E+03, 1.909539612E+01
1.044339733E-03, -6.949754130E-06, 6.769098140E-09
-2.176199098E-12, -2.150512366E+05, -7.505102130E+01
-3.571177930E+05, -2.496543879E+02, 1.618634511E+01
-7.449049300E-05, 1.644510872E-08, -1.883696066E-12
8.719877450E-17, -2.279533538E+05, -5.370665140E+01
0.000000000E+00, 0.000000000E+00, 1.598443493E+01
2.655650663E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.294905123E+05, -5.216345991E+01

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gas, nabo2, 65.7996, na, 1, b, 1, o, 2, e, 4

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cpg, nasa, 3
200, 1000, 6000, 20000
5.046867360E+04, -8.699970600E+02, 8.942208240E+00
1.092655824E-03, 1.440608828E-06, -2.254633535E-09
8.123312850E-13, -7.378318360E+04, -1.951815135E+01
8.595814050E+04, -1.691902222E+03, 1.118847517E+01
-4.564202310E-04, 9.804505160E-08, -1.101655008E-11
5.029172760E-16, -6.949292060E+04, -3.416353130E+01
0.000000000E+00, 0.000000000E+00, 9.970508689E+00
2.794913114E-07, 0.000000000E+00, 0.000000000E+00

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0.000000000E+00, -8.086675297E+04, -2.489265791E+01

gas, nabr, 102.8938, na, 1, br, 1, e, 2
  cpg, nasa, 3
    200, 1000, 6000, 20000
-1.466827136E+04, 7.622282870E+01, 3.921163470E+00
1.793780908E-03, -2.457391648E-06, 1.739334522E-09
-4.796701380E-13, -1.926491755E+04, 6.404382860E+00
8.978513020E+05, -2.697899721E+03, 7.545377160E+00
-1.566692184E-03, 4.470392740E-07, -4.832810210E-11
1.423961300E-15, -1.750862247E+03, -1.856478949E+01
0.000000000E+00, 0.000000000E+00, 5.224861239E+00
-7.248612391E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.089217157E+04, -2.307604111E+00

gas, nacr, 49.0072, na, 1, c, 1, n, 1, e, 3
  cpg, nasa, 3
    200, 1000, 6000, 20000
2.446165410E+04, -7.536019970E+02, 1.044966241E+01
-1.168769048E-02, 1.849279385E-05, -1.319387974E-08
3.589766560E-12, 1.297820493E+04, -2.988519681E+01
3.665570290E+05, -1.782094358E+03, 8.699622630E+00
-4.463297000E-04, 9.362229310E-08, -1.033071320E-11
4.650466810E-16, 2.010926347E+04, -2.419276094E+01
0.000000000E+00, 0.000000000E+00, 7.477846924E+00
-2.278469239E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 7.962529988E+03, -1.485652658E+01

gas, nacl, 58.4428, na, 1, cl, 1, e, 2
  cpg, nasa, 3
    200, 1000, 6000, 20000
4.362378350E+04, -7.583034460E+02, 8.259173000E+00
-9.640915140E-03, 1.358854616E-05, -9.667032250E-09
2.746261290E-12, -1.950409477E+04, -1.936687551E+01
3.314498760E+05, -8.968315650E+02, 5.277287380E+00
-1.475674008E-04, -1.491128988E-08, 2.465673596E-11
-2.730355213E-15, -1.736277667E+04, -3.998288560E+00
0.000000000E+00, 0.000000000E+00, 5.508175216E+00
-1.008175216E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.657448966E+04, -6.119140905E+00

gas, naf, 41.9882, na, 1, f, 1, e, 2
  cpg, nasa, 3
    200, 1000, 6000, 20000
3.959887440E+04, -6.534626070E+02, 6.941173200E+00
-5.307814930E-03, 6.979720660E-06, -4.820425730E-09
1.364849175E-12, -3.352940890E+04, -1.403212229E+01
-1.092926912E+06, 3.293303640E+03, 4.135919840E-01
2.634994470E-03, -8.384295630E-07, 1.417053025E-10
-8.600270160E-15, -5.772884630E+04, 2.909489906E+01
0.000000000E+00, 0.000000000E+00, 6.030195782E+00
-1.530195782E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.296827771E+04, -1.215682281E+01

gas, nah, 23.9977, na, 1, h, 1, e, 2
  cpg, nasa, 3
    200, 1000, 6000, 20000
-3.222206410E+04, 6.237622010E+02, -9.216277510E-01
1.360765851E-02, -1.659249878E-05, 1.033284544E-08
-2.589726392E-12, 1.307381654E+04, 2.641418597E+01
-4.756184750E+06, 1.452047626E+04, -1.327563485E+01
1.055828277E-02, -2.990041189E-06, 3.905322880E-10
-1.923931194E-14, -7.632922270E+04, 1.222070060E+02
0.000000000E+00, 0.000000000E+00, 4.139203253E+00
3.607967471E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.766665681E+04, -2.360780640E-01

gas, nao, 38.9892, na, 1, o, 1, e, 2
  cpg, nasa, 3
    200, 1000, 6000, 20000
1.857748013E+04, -3.371497320E+02, 5.644560020E+00

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-3.136926368E-03, 6.330775390E-06, -5.429462470E-09
1.687183770E-12, 1.320332678E+04, -4.996131150E+00
2.569744011E+05, -2.269334161E+03, 9.224397620E+00
-3.651269100E-03, 1.446811119E-06, -2.443068386E-10
1.428508328E-14, 2.413239357E+04, -2.989159486E+01
0.000000000E+00, 0.000000000E+00, 4.775744381E+00
-2.757443812E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.255264391E+04, 3.590974836E-01

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gas, nach, 39.9971, na, 1, o, 1, h, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
3.442036740E+04, -7.923218180E+02, 8.997932300E+00
-4.079844520E-03, 3.065783937E-06, -5.119189340E-10
-1.541016409E-13, -2.086951091E+04, -2.510590090E+01
8.753787760E+05, -2.342514649E+03, 7.978469890E+00
1.016451512E-04, -6.268531950E-08, 1.022715136E-11
-5.713286410E-16, -9.509901710E+03, -2.202310401E+01
0.000000000E+00, 0.000000000E+00, 7.435300844E+00
-1.853008442E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.703085276E+04, -1.688564444E+01

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gas, nach+, 39.9966, na, 1, o, 1, h, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
2.278039363E+04, -6.672194220E+02, 8.921593120E+00
-4.481263270E-03, 3.951883920E-06, -1.173341234E-09
2.041806631E-14, 8.363382190E+04, -2.258912262E+01
8.815413650E+05, -2.363159755E+03, 8.053203930E+00
7.271279740E-05, -5.897417890E-08, 1.007487881E-11
-5.474406210E-16, 9.584441650E+04, -2.079484012E+01
-2.839326542E+07, 1.778338286E+04, 2.821047612E+00
5.793749100E-04, -3.328793850E-08, 9.421248450E-13
-1.072317149E-17, -6.175194270E+04, 2.465488033E+01

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gas, na2, 45.9795, na, 2, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
6.848628680E+03, -1.530836599E+02, 5.325230390E+00
-1.944906088E-03, 2.657477888E-06, -9.096841120E-10
-2.448756730E-13, 1.649170574E+04, -2.653564394E+00
1.929940758E+07, -6.269280120E+04, 8.267682110E+01
-4.565137810E-02, 1.259515667E-05, -1.560445735E-09
7.024677170E-14, 4.090820800E+05, -5.509970890E+02
0.000000000E+00, 0.000000000E+00, 6.275678509E+00
-1.775678509E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 7.697216829E+03, -1.294040274E+01

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gas, na2br2, 205.7875, na, 2, br, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
-1.384946731E+04, -1.573241177E+02, 1.063192589E+01
-1.383418339E-03, 1.697156537E-06, -1.092992547E-09
2.870988020E-13, -6.010391820E+04, -1.861473856E+01
-3.021730975E+04, -2.659232780E+00, 1.000225819E+01
-9.935490630E-07, 2.358676253E-10, -2.857194816E-14
1.381909879E-18, -6.090039920E+04, -1.494517863E+01
0.000000000E+00, 0.000000000E+00, 9.997610633E+00
2.523893668E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.090316426E+04, -1.490872371E+01

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gas, na2cl2, 116.8855, na, 2, cl, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
-1.082955250E+04, -3.139528641E+02, 1.124411332E+01
-2.697665795E-03, 3.286359480E-06, -2.105377639E-09
5.508056610E-13, -6.938675430E+04, -2.511011582E+01
-4.412105230E+04, -5.393491280E+00, 1.000453407E+01
-1.981155641E-06, 4.680188200E-10, -5.648940680E-14
2.724721177E-18, -7.098063410E+04, -1.787230397E+01
0.000000000E+00, 0.000000000E+00, 9.997183944E+00

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2.528160559E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.099667981E+04, -1.781501365E+01

gas, na2f2, 83.9763, na, 2, f, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
2.351580802E+04, -1.000737062E+03, 1.375845076E+01
-7.838346980E-03, 9.276288700E-06, -5.813612970E-09
1.495354820E-12, -9.835831880E+04, -4.381148090E+01
-9.030750690E+04, -1.893938035E+01, 1.001535518E+01
-6.539675450E-06, 1.516333603E-09, -1.804877459E-13
8.613474920E-18, -1.034896664E+05, -2.178860202E+01
0.000000000E+00, 0.000000000E+00, 9.995691894E+00
2.543081065E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.035795969E+05, -2.163680438E+01

gas, na2o2h2, 79.9942, na, 2, o, 2, h, 2, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
1.089414289E+05, -2.634822704E+03, 2.306608858E+01
-1.689310193E-02, 1.673483190E-05, -7.821166010E-09
1.475034470E-12, -6.593137330E+04, -9.802987580E+01
1.675713839E+06, -4.704921170E+03, 1.697343934E+01
1.961487616E-04, -1.236951748E-07, 2.025311778E-11
-1.132991623E-15, -4.856245570E+04, -6.813480980E+01
0.000000000E+00, 0.000000000E+00, 1.586369818E+01
3.863018187E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.369617222E+04, -5.768052369E+01

gas, na2so4, 142.0421, na, 2, s, 1, o, 4, e, 7
cpg, nasa, 3
200, 1000, 6000, 20000
8.344283210E+04, -1.210880769E+03, 8.742353000E+00
3.600796630E-02, -5.117645960E-05, 3.481569040E-08
-9.321931220E-12, -1.217387045E+05, -2.061505785E+01
-5.754483110E+05, -9.817060340E+02, 1.973310397E+01
-2.936395520E-04, 6.498708170E-08, -7.462479400E-12
3.462491660E-16, -1.270597762E+05, -7.667871596E+01
0.000000000E+00, 0.000000000E+00, 1.896634066E+01
2.836593357E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.333945590E+05, -7.085552285E+01

gas, nb, 92.9064, nb, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
7.889660670E+04, -1.212813914E+03, 1.034579819E+01
-1.676630056E-02, 1.979119979E-05, -1.218224409E-08
3.058098336E-12, 9.165315140E+04, -3.594742850E+01
-1.096553196E+06, 2.546650713E+03, 2.236054882E+00
-1.280029198E-03, 8.464237990E-07, -1.486269508E-10
8.714309406E-15, 6.879124550E+04, 1.398169030E+01
1.818626365E+09, -1.032414940E+06, 2.308238005E+02
-2.445004311E-02, 1.395626888E-06, -4.087233010E-11
4.826490497E-16, 8.359622560E+06, -1.997797290E+03

gas, nb+, 92.9058, nb, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.314447859E+05, -2.000135035E+03, 1.505024212E+01
-2.996583942E-02, 3.729868630E-05, -2.269869569E-08
5.449089902E-12, 1.760054029E+05, -6.224595520E+01
-1.077639646E+06, 2.159046421E+03, 2.310604767E+00
-5.363991760E-04, 5.057915090E-07, -1.032401533E-10
6.629241280E-15, 1.517945546E+05, 1.210678502E+01
1.876113970E+07, -2.202847919E+04, 1.427004521E+01
-2.295936786E-03, 2.430819459E-07, -1.116131589E-11
1.836221996E-16, 3.245415600E+05, -8.494555710E+01

gas, nb-, 92.9069, nb, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000

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-7.220924850E+04, 5.259501250E+02, 3.470468390E+00
-4.950505530E-03, 7.401859030E-06, -5.016302070E-09
1.314100719E-12, 7.178828870E+04, 5.155510070E+00
1.117458019E+05, 1.340072834E+02, 2.391474129E+00
4.524813430E-05, -1.025345000E-08, 1.195577988E-12
-5.606330450E-17, 7.473996750E+04, 9.675315610E+00
-1.279446680E+05, 1.664265071E+02, 2.463334336E+00
4.161717840E-06, -2.573750764E-10, 8.239892930E-15
-1.069096936E-19, 7.430433860E+04, 9.186188470E+00

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gas, nbc15, 270.1714, nb, 1, cl, 5, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
7.348277970E+04, -1.919172996E+03, 2.290799567E+01
-1.404352774E-02, 1.638106985E-05, -1.018941843E-08
2.612266639E-12, -7.974118810E+04, -8.439637087E+01
-1.563816638E+05, -4.450521280E+01, 1.603544630E+01
-1.489949737E-05, 3.420777920E-09, -4.041124420E-13
1.917266128E-17, -8.962815120E+04, -4.374582607E+01
0.000000000E+00, 0.000000000E+00, 1.599345607E+01
2.565439317E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.986494780E+04, -4.342318833E+01

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gas, nbo, 108.9058, nb, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-6.797834360E+03, 2.839767438E+02, 5.645708400E-01
1.134928619E-02, -1.549821141E-05, 1.047624988E-08
-2.762937835E-12, 2.317993893E+04, 2.365708974E+01
5.532258780E+05, -1.287669306E+03, 4.980066040E+00
1.116014163E-04, 4.031838680E-08, 1.048773710E-11
-1.893595022E-15, 3.268457790E+04, -1.868958549E+00
5.210846640E+07, -7.508889140E+04, 3.023869608E+01
-2.881829240E-03, 1.595446362E-07, -4.532772640E-12
5.266479160E-17, 5.788974420E+05, -2.169255418E+02

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gas, nbo2, 124.9052, nb, 1, o, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
1.739046582E+04, 3.881029440E+01, 9.024299120E-01
1.909523319E-02, -2.667013583E-05, 1.813901051E-08
-4.872365880E-12, -2.528518558E+04, 2.289323379E+01
-6.851859900E+05, 9.112249320E+02, 6.339199840E+00
-8.230080300E-05, 1.984439605E-07, -3.261171490E-11
1.602430854E-15, -3.325027320E+04, -3.559556550E+00
0.000000000E+00, 0.000000000E+00, 8.160297230E+00
-9.102972296E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.138660425E+04, -1.828978212E+01

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gas, ne, 20.1797, ne, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.453750000E+02, 3.355322720E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.453750000E+02, 3.355322720E+00
-1.238252746E+07, 6.958579580E+03, 1.016709287E+00
1.424664555E-04, -4.803933930E-09, -1.170213183E-13
8.415153652E-18, -5.663933630E+04, 1.648438697E+01

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gas, ne+, 20.1792, ne, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
7.281551480E+04, -8.695697990E+02, 6.108646970E+00
-5.841356930E-03, 5.041044170E-06, -2.293759207E-09
4.339065680E-13, 2.545996890E+05, -1.673449355E+01
-1.112742658E+05, 4.765697970E+02, 2.196650531E+00
1.102593151E-04, -2.287564425E-08, 2.510218183E-12
-1.126646096E-16, 2.472536944E+05, 7.466140540E+00

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-5.615474110E+04, 1.418980160E+02, 2.475716842E+00
1.944430992E-06, -6.323099200E-11, -1.313313446E-16
3.534699010E-20, 2.494452217E+05, 5.366882220E+00

gas, ni, 58.6934, ni, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
-3.235810550E+04, 6.015264620E+02, -1.079270657E+00
1.089505519E-02, -1.369578748E-05, 8.317725790E-09
-2.019206968E-12, 4.813810810E+04, 2.718829200E+01
-4.938262210E+05, 1.092909991E+03, 2.410485014E+00
-1.599071827E-05, -1.047414069E-08, 4.624795210E-12
-4.448865218E-17, 4.336072170E+04, 9.677195600E+00
3.492669880E+08, -1.654227575E+05, 3.349869360E+01
-3.527085900E-03, 3.240060240E-07, -1.604177606E-11
2.935430214E-16, 1.409017848E+06, -2.672455567E+02

gas, ni+, 58.6929, ni, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
-8.969386030E+04, 1.173601500E+03, -3.410620410E+00
1.390739137E-02, -1.501714923E-05, 7.896337900E-09
-1.648686761E-12, 1.345589500E+05, 4.031495160E+01
-3.961999320E+06, 1.017084853E+04, -6.029331290E+00
2.770858029E-03, -8.902077700E-08, -5.541000580E-11
5.235342833E-15, 7.340395120E+04, 7.137503100E+01
5.286662360E+07, -3.719827100E+04, 1.470794435E+01
-1.489309517E-03, 8.648712770E-08, -1.705443550E-12
5.049635419E-18, 4.253204090E+05, -9.590502160E+01

gas, ni-, 58.6939, ni, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
-8.437624750E+04, 1.135476552E+03, -3.380615830E+00
1.423003786E-02, -1.582586302E-05, 8.608840410E-09
-1.875316029E-12, 3.124307590E+04, 3.998061300E+01
-5.433424800E+05, 1.182645330E+03, 2.126441240E+00
3.730455940E-05, 6.953608430E-09, -1.945719381E-12
1.271571579E-16, 2.854759122E+04, 1.043462235E+01
2.235741343E+06, -7.539321100E+02, 2.675777011E+00
-2.056834268E-05, 1.297167360E-09, -4.210909080E-14
5.520885950E-19, 4.359114370E+04, 5.724516640E+00

gas, nicl, 94.1464, ni, 1, cl, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-2.357997085E+04, 2.205491630E+02, 2.714260287E+00
4.453598470E-03, -2.849162229E-06, -1.691898007E-10
5.156699260E-13, 1.957229490E+04, 1.423643068E+01
-3.905769190E+06, 9.961533990E+03, -3.839432340E+00
2.767979391E-03, -7.005959380E-08, -5.741403660E-11
5.307635800E-15, -4.505397050E+04, 6.769402548E+01
0.000000000E+00, 0.000000000E+00, 6.286041043E+00
-1.786041043E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.596843696E+04, -9.055305151E+00

gas, nicl2, 129.5994, ni, 1, cl, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
7.109976530E+04, -1.218958288E+03, 1.208750596E+01
-8.674403140E-03, 1.043608104E-05, -6.298493010E-09
1.485857653E-12, -5.006998710E+03, -3.499472036E+01
1.585889817E+05, -1.161488738E+03, 9.608015380E+00
-9.461224510E-04, 2.608172043E-07, -3.264637250E-11
1.525950893E-15, -4.578985540E+03, -2.212397347E+01
0.000000000E+00, 0.000000000E+00, 8.062414205E+00
-8.124142045E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.187720620E+04, -1.131989569E+01

gas, nis, 90.7584, ni, 1, s, 1, e, 2
cpg, nasa, 3

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200, 1000, 6000, 20000
-1.272488974E+04, 1.432801381E+02, 2.471951556E+00
5.505271120E-03, -3.418355280E-06, -3.099052241E-10
6.268154670E-13, 4.117716080E+04, 1.517981835E+01
-7.358128980E+05, 1.178231095E+03, 4.837865580E+00
-3.931201390E-04, 1.341974852E-07, -1.569591708E-11
6.677045060E-16, 3.275565940E+04, 3.690652283E+00
0.000000000E+00, 0.000000000E+00, 4.963997752E+00
-4.639977522E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.091888594E+04, 1.553059481E+00

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gas, o, 15.9994, o, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
-7.953611300E+03, 1.607177787E+02, 1.966226438E+00
1.013670310E-03, -1.110415423E-06, 6.517507500E-10
-1.584779251E-13, 2.840362437E+04, 8.404241820E+00
2.619020262E+05, -7.298722030E+02, 3.317177270E+00
-4.281334360E-04, 1.036104594E-07, -9.438304330E-12
2.725038297E-16, 3.392428060E+04, -6.679585350E-01
1.779004264E+08, -1.082328257E+05, 2.810778365E+01
-2.975232262E-03, 1.854997534E-07, -5.796231540E-12
7.191720164E-17, 8.890942630E+05, -2.181728151E+02

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gas, o+, 15.9989, o, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.879352842E+05, 4.393376760E+00
-2.166513208E+05, 6.665456150E+02, 1.702064364E+00
4.714992810E-04, -1.427131823E-07, 2.016595903E-11
-9.107157762E-16, 1.837191966E+05, 1.005690382E+01
-2.143835383E+08, 1.469518523E+05, -3.680864540E+01
5.036164540E-03, -3.087873854E-07, 9.186834870E-12
-1.074163268E-16, -9.614208960E+05, 3.426193080E+02

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gas, o-, 15.9999, o, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
-5.695857110E+03, 1.099287334E+02, 2.184719661E+00
5.326359800E-04, -5.298878440E-07, 2.870216236E-10
-6.524692740E-14, 1.093287498E+04, 6.729863860E+00
9.769363180E+03, 7.159604780E+00, 2.494961726E+00
1.968240938E-06, -4.304174850E-10, 4.912083080E-14
-2.271600083E-18, 1.149554438E+04, 4.837036440E+00
5.662391000E+02, 7.572340320E+00, 2.498352500E+00
1.862632395E-07, -1.151227211E-11, 3.688814210E-16
-4.793297600E-21, 1.148426000E+04, 4.813406590E+00

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gas, od, 18.0135, o, 1, d, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.118691536E+04, -2.785982360E+02, 5.456210120E+00
-6.148119830E-03, 9.117670560E-06, -5.527812710E-09
1.239794711E-12, 4.464878250E+03, -7.616618910E+00
7.832473160E+05, -2.532992554E+03, 5.952124650E+00
-3.743595280E-04, 4.959527620E-08, 3.454454730E-12
-7.380626800E-16, 1.930492973E+04, -1.568898441E+01
0.000000000E+00, 0.000000000E+00, 4.882919374E+00
-3.829193741E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.645032694E+02, -7.317686600E+00

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gas, od-, 18.0141, o, 1, d, 1, e, 3
cpg, nasa, 3
298.15, 1000, 6000, 20000
5.606128320E+04, -7.514156150E+02, 7.544188470E+00
-1.092083064E-02, 1.503688938E-05, -9.351665840E-09
2.246466046E-12, -1.515707370E+04, -2.106498377E+01
3.029467029E+05, -1.079684654E+03, 4.211417380E+00
6.260830070E-04, -2.411665054E-07, 4.248425540E-11

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-2.387099102E-15, -1.188935343E+04, -4.724898790E+00
0.000000000E+00, 0.000000000E+00, 5.201516802E+00
-7.015168025E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.330255839E+04, -1.145738714E+01

gas, oh, 17.0073, o, 1, h, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-1.998858990E+03, 9.300136160E+01, 3.050854229E+00
1.529529288E-03, -3.157890998E-06, 3.315446180E-09
-1.138762683E-12, 2.991214235E+03, 4.674110790E+00
1.017393379E+06, -2.509957276E+03, 5.116547860E+00
1.305299930E-04, -8.284322260E-08, 2.006475941E-11
-1.556993656E-15, 2.019640206E+04, -1.101282337E+01
2.847234193E+08, -1.859532612E+05, 5.008240900E+01
-5.142374980E-03, 2.875536589E-07, -8.228817960E-12
9.567229020E-17, 1.468393908E+06, -4.023555580E+02

gas, oh+, 17.0068, o, 1, h, 1, e, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
6.031630860E+04, -7.573520300E+02, 7.307752930E+00
-9.506881670E-03, 1.202555795E-05, -6.829026100E-09
1.501588659E-12, 1.589262158E+05, -1.950106996E+01
5.040729100E+05, -1.380052958E+03, 4.125462200E+00
8.331948840E-04, -3.442856290E-07, 6.792853950E-11
-4.363872130E-15, 1.643839235E+05, -3.997058490E+00
1.158286700E+09, -6.841280390E+05, 1.576194558E+02
-1.618421339E-02, 8.846128780E-07, -2.475038507E-11
2.807730875E-16, 5.616597180E+06, -1.351879042E+03

gas, oh-, 17.0079, o, 1, h, 1, e, 3
cpg, nasa, 3
298.15, 1000, 6000, 20000
2.910880827E+04, -3.216904940E+02, 4.851029050E+00
-2.579035357E-03, 2.004980024E-06, -7.956852960E-11
-2.320495634E-13, -1.688886234E+04, -7.121591300E+00
4.711331170E+05, -8.572336690E+02, 3.166181210E+00
1.233581296E-03, -3.999244580E-07, 6.239081670E-11
-3.354343220E-15, -1.224849139E+04, 1.487736260E+00
0.000000000E+00, 0.000000000E+00, 5.173833848E+00
-6.738338480E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.341046495E+04, -1.222931658E+01

gas, o2, 31.9988, o, 2, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-3.425563420E+04, 4.847000970E+02, 1.119010961E+00
4.293889240E-03, -6.836300520E-07, -2.023372700E-09
1.039040018E-12, -3.391454870E+03, 1.849699470E+01
-1.037939022E+06, 2.344830282E+03, 1.819732036E+00
1.267847582E-03, -2.188067988E-07, 2.053719572E-11
-8.193467050E-16, -1.689010929E+04, 1.738716506E+01
4.975294300E+08, -2.866106874E+05, 6.690352250E+01
-6.169959020E-03, 3.016396027E-07, -7.421416600E-12
7.278175770E-17, 2.293554027E+06, -5.530621610E+02

gas, o2+, 31.9983, o, 2, e, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
-8.607205450E+04, 1.051875934E+03, -5.432380470E-01
6.571166540E-03, -3.274263750E-06, 5.940645340E-11
3.238784790E-13, 1.345544668E+05, 2.902709750E+01
7.384654880E+04, -8.459559540E+02, 4.985164160E+00
-1.611010890E-04, 6.427083990E-08, -1.504939874E-11
1.578465409E-15, 1.446321044E+05, -5.811230650E+00
-1.562125524E+09, 1.161406778E+06, -3.302504720E+02
4.710937520E-02, -3.354461380E-06, 1.167968599E-10
-1.589754791E-15, -8.857866270E+06, 2.852035602E+03

gas, o2-, 31.9993, o, 2, e, 3


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cpg, nasa, 3
298.15, 1000, 6000, 20000
1.883874344E+04, 1.149551768E+02, 1.518876821E+00
8.016111380E-03, -9.850571030E-06, 6.044196210E-09
-1.486439845E-12, -7.101538760E+03, 1.501210380E+01
-5.655208050E+04, -2.367815862E+02, 4.675833670E+00
-2.197245300E-05, 1.711509280E-08, -1.757645062E-12
8.248172790E-17, -5.960177750E+03, -2.436885556E+00
0.000000000E+00, 0.000000000E+00, 4.848443451E+00
-3.484434506E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.644442896E+03, -3.819756597E+00

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gas, o3, 47.9982, o, 3, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-1.282314507E+04, 5.898216640E+02, -2.547496763E+00
2.690121526E-02, -3.528258340E-05, 2.312290922E-08
-6.044893270E-12, 1.348368701E+04, 3.852218580E+01
-3.869662480E+07, 1.023344994E+05, -8.961551600E+01
3.706144970E-02, -4.137638740E-06, -2.725018591E-10
5.248188110E-14, -6.517918180E+05, 7.029109520E+02
0.000000000E+00, 0.000000000E+00, 8.945319472E+00
-1.695319472E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.610893362E+04, -2.575341815E+01

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gas, p, 30.9738, p, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
5.040866570E+01, -7.639418650E-01, 2.504563992E+00
-1.381689958E-05, 2.245585515E-08, -1.866399889E-11
6.227063395E-15, 3.732421910E+04, 5.359303481E+00
1.261794642E+06, -4.559838190E+03, 8.918079310E+00
-4.381401460E-03, 1.454286224E-06, -2.030782763E-10
1.021022887E-14, 6.541723960E+04, -3.915974795E+01
-2.215392545E+07, -4.566911180E+04, 2.837245428E+01
-4.483244040E-03, 3.579413080E-07, -1.255311557E-11
1.590290483E-16, 3.370905760E+05, -2.056960928E+02

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gas, p+, 30.9732, p, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
-7.316908110E+04, 9.627979140E+02, -3.693938050E-01
4.766778340E-03, -4.574768580E-06, 2.371262331E-09
-5.131314900E-13, 1.549406849E+05, 2.376640762E+01
-5.594249360E+05, 1.722576545E+03, 8.430381090E-01
6.287368940E-04, -6.317195460E-08, -1.810842484E-12
4.318112570E-16, 1.490493431E+05, 1.845275207E+01
1.362531054E+07, -8.717502380E+03, 4.747426280E+00
-1.620871933E-04, -3.935548100E-10, 4.845613020E-13
-7.448402970E-18, 2.284649718E+05, -1.346454894E+01

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gas, p-, 30.9743, p, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
-1.008949093E+04, 1.826468403E+02, 1.962456304E+00
9.197377540E-04, -9.214998630E-07, 5.012872360E-10
-1.142677121E-13, 2.703082432E+04, 9.478137822E+00
1.543488016E+04, 9.495009340E+00, 2.493170861E+00
2.700167711E-06, -5.949210390E-10, 6.823766290E-14
-3.166959910E-18, 2.797572693E+04, 6.246793872E+00
1.724147889E+03, 1.074832503E+01, 2.497654940E+00
2.655333078E-07, -1.642839012E-11, 5.268015350E-16
-6.849362660E-21, 2.795482976E+04, 6.215849262E+00

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gas, pcl, 66.4268, p, 1, cl, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
3.488861700E+04, -5.603119340E+02, 6.264568480E+00
-3.183364370E-03, 3.495326840E-06, -2.091034291E-09
5.418758600E-13, 1.774653764E+04, -8.074572148E+00
-3.471681510E+05, 9.935557930E+02, 3.399430270E+00

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4.019711700E-04, 8.295588390E-08, -3.090212484E-11
2.106384858E-15, 8.433591150E+03, 1.064902238E+01
0.000000000E+00, 0.000000000E+00, 5.011704219E+00
-5.117042187E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.394233875E+04, -1.172130606E+00

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gas, pcl3, 137.3328, p, 1, cl, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
7.717745470E+04, -1.617650860E+03, 1.536080470E+01
-1.011077050E-02, 1.103408340E-05, -6.476121020E-09
1.579151140E-12, -2.955893640E+04, -5.244338688E+01
-1.333076930E+05, -4.145883210E+01, 1.003186060E+01
-1.301946160E-05, 2.922916890E-09, -3.391869240E-13
1.586425530E-17, -3.800336680E+04, -2.050737678E+01
0.000000000E+00, 0.000000000E+00, 9.994116440E+00
2.558835605E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.822908628E+04, -2.021658061E+01

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gas, pcl5, 208.2388, p, 1, cl, 5, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
1.029070200E+05, -2.515707460E+03, 2.430114970E+01
-1.564610690E-02, 1.709873030E-05, -1.006011430E-08
2.460158790E-12, -3.722582370E+04, -9.816335170E+01
-2.255906890E+05, -6.938542820E+01, 1.605359630E+01
-2.202156960E-05, 4.971392290E-09, -5.799860050E-13
2.725970770E-17, -5.034234220E+04, -4.872454870E+01
0.000000000E+00, 0.000000000E+00, 1.599110459E+01
2.588954096E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.072204234E+04, -4.824332828E+01

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gas, pf, 49.9722, p, 1, f, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.227866728E+04, -1.727508706E+02, 3.085366934E+00
5.489718230E-03, -8.247972540E-06, 5.868882910E-09
-1.617252113E-12, -5.809279650E+03, 7.709718850E+00
-1.132572282E+06, 3.200038550E+03, 7.780502370E-01
1.969518902E-03, -4.365818970E-07, 5.243648570E-11
-2.618755712E-15, -2.766773009E+04, 2.759312302E+01
0.000000000E+00, 0.000000000E+00, 5.317372518E+00
-8.173725177E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.927230326E+03, -5.523894075E+00

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gas, pf+, 49.9716, p, 1, f, 1, e, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
-1.779138157E+04, 3.909991270E+02, 1.257434156E+00
7.861363750E-03, -9.342312680E-06, 5.630915650E-09
-1.370669924E-12, 1.054873882E+05, 1.901676576E+01
-4.011525180E+04, -1.597504413E+02, 4.621397480E+00
-2.378072183E-05, 1.431831329E-08, -2.300109157E-12
1.694069882E-16, 1.078633756E+05, -4.072343950E-02
-2.628686921E+07, 1.300876535E+04, 2.564713658E+00
3.269650350E-05, 1.867188317E-08, -9.293307220E-13
1.456723674E-17, -2.640503508E+02, 1.921588661E+01

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gas, pf-, 49.9727, p, 1, f, 1, e, 3
cpg, nasa, 3
298.15, 1000, 6000, 20000
7.705210950E+03, -1.152432706E+02, 4.254952310E+00
1.163521526E-03, -1.627947259E-06, 1.084382815E-09
-2.809490132E-13, -2.035558966E+04, 2.217923793E+00
-1.303793388E+05, 2.715526386E+02, 4.137619810E+00
2.728610614E-04, -7.644416250E-08, 1.182073001E-11
-6.083906640E-16, -2.290799827E+04, 3.748526100E+00
-2.589702487E+07, 2.274827883E+04, -2.913204829E+00
1.134351740E-03, -7.184766090E-08, 2.254067861E-12
-2.781608692E-17, -1.940751937E+05, 6.372454240E+01

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gas, pfc14, 191.7842, p, 1, f, 1, cl, 4, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
1.412071573E+05, -2.882471080E+03, 2.387345233E+01
-1.239510207E-02, 1.141290085E-05, -5.705483820E-09
1.195229703E-12, -6.613478650E+04, -9.859693550E+01
-2.954375880E+05, -1.325154294E+02, 1.610005380E+01
-4.035359170E-05, 8.971130740E-09, -1.033288810E-12
4.804468350E-17, -8.135719400E+04, -5.062403920E+01
0.000000000E+00, 0.000000000E+00, 1.598810461E+01
2.618953936E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.213430301E+04, -4.976498922E+01

gas, pf2, 68.9706, p, 1, f, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
5.524765720E+04, -6.280517800E+02, 5.137437920E+00
9.120673350E-03, -1.468773760E-05, 1.081268450E-08
-3.064944490E-12, -5.977541470E+04, -1.689589472E+00
-1.708467120E+05, -1.692051540E+02, 7.125491600E+00
-4.990852850E-05, 1.097335230E-08, -1.252870260E-12
5.784791140E-17, -6.338295840E+04, -1.041715673E+01
0.000000000E+00, 0.000000000E+00, 6.990931014E+00
2.590689861E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.444802345E+04, -9.390920376E+00

gas, pf2-, 68.9711, p, 1, f, 2, e, 4
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.404793057E+05, -1.699945753E+03, 1.036823971E+01
-3.599587690E-03, 1.961925800E-06, -3.829329870E-10
-3.375549520E-14, -7.810434510E+04, -3.217375182E+01
-1.653976056E+05, -1.640604822E+02, 7.124091520E+00
-5.015431400E-05, 1.117302152E-08, -1.289308601E-12
6.004706670E-17, -8.700223320E+04, -1.109074866E+01
0.000000000E+00, 0.000000000E+00, 6.991234366E+00
2.587656341E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.803209926E+04, -1.008005435E+01

gas, pf3, 87.9690, p, 1, f, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
8.480984480E+04, -1.102340691E+03, 7.160715110E+00
1.438278338E-02, -2.318137222E-05, 1.702244315E-08
-4.810991950E-12, -1.111837495E+05, -1.457652362E+01
-2.957040675E+05, -2.997689931E+02, 1.022297023E+01
-8.890263450E-05, 1.958901359E-08, -2.240491075E-12
1.035952523E-16, -1.173743464E+05, -2.777419177E+01
0.000000000E+00, 0.000000000E+00, 9.985308638E+00
2.646913619E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.192663483E+05, -2.596273495E+01

gas, pf5, 125.9658, p, 1, f, 5, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
1.855778473E+05, -2.436979828E+03, 1.201012406E+01
2.339343049E-02, -3.813944410E-05, 2.796136412E-08
-7.870704880E-12, -1.814566568E+05, -4.486488740E+01
-5.668727840E+05, -6.677917910E+02, 1.649789569E+01
-1.990099440E-04, 4.395007100E-08, -5.036849540E-12
2.332945909E-16, -1.944321623E+05, -6.261721040E+01
0.000000000E+00, 0.000000000E+00, 1.597171406E+01
2.782859425E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.986819608E+05, -5.861220748E+01

gas, ph, 31.9817, p, 1, h, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.273633198E+04, -3.972674060E+02, 6.233697660E+00
-9.181784600E-03, 1.523328123E-05, -1.085888585E-08
2.929760547E-12, 2.852768404E+04, -1.095191197E+01

7.814730650E+05, -3.038451204E+03, 7.467481020E+00
-1.837522255E-03, 7.165947700E-07, -1.142128853E-10
6.175410560E-15, 4.536260180E+04, -2.467298140E+01
0.000000000E+00, 0.000000000E+00, 5.091958875E+00
-5.919588754E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.418153987E+04, -7.856907363E+00

gas, ph2, 32.9896, p, 1, h, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
1.555268372E+04, -1.841602025E+02, 4.895896040E+00
-3.495436600E-03, 1.053418945E-05, -8.377562920E-09
2.270766150E-12, 1.409839468E+04, -2.210564792E+00
1.127884913E+06, -4.715238250E+03, 1.021498300E+01
-1.167573820E-03, 2.150542671E-07, -1.624213739E-11
3.766225240E-16, 4.183074630E+04, -4.231623250E+01
0.000000000E+00, 0.000000000E+00, 7.176309764E+00
7.369023615E-08, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 8.644043083E+03, -1.929335834E+01

gas, ph2-, 32.9902, p, 1, h, 2, e, 4
cpg, nasa, 3
298.15, 1000, 6000, 20000
6.950684490E+04, -7.719162910E+02, 7.383537620E+00
-8.522947210E-03, 1.474476507E-05, -9.847160810E-09
2.413107871E-12, 1.582295850E+03, -1.761306419E+01
1.382525815E+06, -5.213400670E+03, 1.021694832E+01
-1.116316349E-03, 2.215004171E-07, -2.338005187E-11
1.015580932E-15, 2.990683733E+04, -4.378711585E+01
0.000000000E+00, 0.000000000E+00, 6.926730693E+00
3.232693071E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.083522332E+03, -1.838126643E+01

gas, ph3, 33.9976, p, 1, h, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
-6.384325340E+03, 4.057567410E+02, -1.565680086E-01
1.338380613E-02, -8.275391430E-06, 3.024360831E-09
-6.421764630E-13, -2.159842124E+03, 2.385561888E+01
1.334801106E+06, -6.725463520E+03, 1.445857073E+01
-1.639736883E-03, 3.409218570E-07, -3.736272080E-11
1.672947506E-15, 3.910325710E+04, -7.198781190E+01
0.000000000E+00, 0.000000000E+00, 9.905227144E+00
3.447728563E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.786266993E+03, -3.712553795E+01

gas, pn, 44.9805, p, 1, n, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-5.103203840E+04, 8.202926680E+02, -1.392772765E+00
1.287989789E-02, -1.401425371E-05, 7.775633460E-09
-1.751539330E-12, 1.573226520E+04, 3.251070633E+01
-2.495625593E+05, 1.760438830E+02, 4.144121960E+00
2.478018097E-04, -5.674896300E-08, 4.263645120E-12
3.063920924E-16, 1.770317267E+04, 1.325517397E+00
0.000000000E+00, 0.000000000E+00, 4.930995978E+00
-4.309959776E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.679520585E+04, -4.671610238E+00

gas, po, 46.9732, p, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-6.845754060E+04, 1.141295708E+03, -2.779556060E+00
1.678458047E-02, -1.974879516E-05, 1.192602320E-08
-2.927460912E-12, -9.847745040E+03, 4.184328297E+01
-3.366667440E+05, 6.229355840E+02, 3.565605460E+00
6.516620720E-04, -2.061770841E-07, 3.184413230E-11
-1.573691908E-15, -8.939790390E+03, 6.954859188E+00
0.000000000E+00, 0.000000000E+00, 4.989438100E+00
-4.894381004E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.243367472E+03, -3.546317642E+00

gas, po-, 46.9737, p, 1, o, 1, e, 3
cpg, nasa, 3
298.15, 1000, 6000, 20000
5.434346320E+04, -4.123623550E+02, 3.746483880E+00
3.858636470E-03, -5.963343040E-06, 4.278286360E-09
-1.139722989E-12, -1.555810937E+04, 3.404436468E+00
-8.480294780E+02, 3.470544870E+02, 2.877890167E+00
1.622182445E-03, -4.870190990E-07, 6.645752270E-11
-3.395703760E-15, -1.987209540E+04, 1.075444355E+01
0.000000000E+00, 0.000000000E+00, 5.093670987E+00
-5.936709873E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.975159953E+04, -3.924558481E+00

gas, pocl3, 153.3322, p, 1, o, 1, cl, 3, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
4.793788160E+04, -1.270388280E+03, 1.367716460E+01
1.082672100E-03, -1.736104060E-06, 8.460890640E-10
-1.174661330E-13, -6.507571880E+04, -4.314705941E+01
-2.185937970E+05, -5.080269680E+02, 1.337784650E+01
-1.510731050E-04, 3.340986780E-08, -3.835329760E-12
1.779329880E-16, -7.009315090E+04, -3.984746301E+01
0.000000000E+00, 0.000000000E+00, 1.298399379E+01
2.660062134E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.339770940E+04, -3.685857884E+01

gas, pofcl2, 136.8776, p, 1, o, 1, f, 1, cl, 2, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
4.694061560E+04, -1.069242600E+03, 1.071284279E+01
9.491183300E-03, -1.306412424E-05, 8.426906020E-09
-2.140294969E-12, -9.274894990E+04, -2.815077719E+01
-2.707647503E+05, -6.556502270E+02, 1.348668421E+01
-1.942765035E-04, 4.291184490E-08, -4.921844800E-12
2.282079808E-16, -9.654392140E+04, -4.164963494E+01
0.000000000E+00, 0.000000000E+00, 1.298007484E+01
2.699251601E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.008149281E+05, -3.780464240E+01

gas, pof2cl, 120.4230, p, 1, o, 1, f, 2, cl, 1, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
5.226438160E+04, -9.691037700E+02, 7.963635980E+00
1.755599796E-02, -2.398693997E-05, 1.572376747E-08
-4.079746000E-12, -1.202656893E+05, -1.593967075E+01
-3.347086590E+05, -8.176104810E+02, 1.360664320E+01
-2.420426112E-04, 5.343712720E-08, -6.126461350E-12
2.839570116E-16, -1.233401194E+05, -4.496103437E+01
0.000000000E+00, 0.000000000E+00, 1.297560450E+01
2.743955018E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.286685133E+05, -4.017152363E+01

gas, pof3, 103.9684, p, 1, o, 1, f, 3, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
2.966030710E+04, -4.276705750E+02, 3.669146100E+00
2.839493780E-02, -3.768318000E-05, 2.449104540E-08
-6.341972870E-12, -1.501124530E+05, 5.160417996E+00
-3.690602420E+05, -1.005552540E+03, 1.374529940E+01
-2.971037110E-04, 6.554526640E-08, -7.509987330E-12
3.478969910E-16, -1.499761730E+05, -4.882214181E+01
0.000000000E+00, 0.000000000E+00, 1.297150925E+01
2.784907464E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.565455482E+05, -4.295030397E+01

gas, po2, 62.9726, p, 1, o, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-6.372698220E+04, 1.036741044E+03, -2.877797967E+00
2.278134083E-02, -2.567920328E-05, 1.465060412E-08

-3.387996700E-12, -3.993544720E+04, 4.425309380E+01
4.926210990E+05, -2.605465745E+03, 9.517605610E+00
-1.180371565E-03, 2.532912819E-07, -1.789964539E-11
1.800381054E-16, -2.028884763E+04, -2.969743125E+01
0.000000000E+00, 0.000000000E+00, 7.501818891E+00
-2.518188907E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.946719148E+04, -1.548558015E+01

gas, po2-, 62.9731, p, 1, o, 2, e, 4
cpg, nasa, 3
298.15, 1000, 6000, 20000
2.702423135E+04, 2.939956284E+01, 1.162686114E+00
1.599897972E-02, -1.979229263E-05, 1.208847527E-08
-2.956640480E-12, -7.285946270E+04, 1.963118182E+01
1.628679152E+06, -5.989199980E+03, 1.369318836E+01
-3.623843790E-03, 9.488198340E-07, -1.040308759E-10
4.019033660E-15, -3.685959500E+04, -5.956796220E+01
0.000000000E+00, 0.000000000E+00, 7.896558515E+00
-6.465585149E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.881252077E+04, -1.901299846E+01

gas, ps, 63.0388, p, 1, s, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-7.689786800E+02, -4.637824070E+01, 4.104649170E+00
1.555262273E-03, -2.315757288E-06, 1.661425178E-09
-4.631238400E-13, 1.707875808E+04, 4.230652171E+00
-2.702729081E+05, 8.883548220E+02, 3.169190120E+00
1.022480817E-03, -3.803740480E-07, 7.019861880E-11
-4.269122310E-15, 1.121510462E+04, 1.147334049E+01
0.000000000E+00, 0.000000000E+00, 5.386599595E+00
-8.865995948E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.282264465E+04, -4.996774725E+00

gas, p2, 61.9475, p, 2, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
3.053922510E+04, -3.246177590E+02, 4.022463810E+00
3.232094790E-03, -5.511052450E-06, 4.195572930E-09
-1.215032180E-12, 1.796910870E+04, 1.645350331E+00
-7.806936490E+05, 2.307910870E+03, 1.411743130E+00
2.108237420E-03, -7.360856620E-07, 1.259360120E-10
-7.079752490E-15, 1.329824740E+03, 2.169741365E+01
0.000000000E+00, 0.000000000E+00, 5.960632857E+00
-1.460632857E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 9.013540740E+03, -1.206732900E+01

gas, p4, 123.8950, p, 4, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
1.205141850E+05, -2.345711790E+03, 1.773946550E+01
-1.456314970E-02, 1.587594090E-05, -9.314710310E-09
2.271491670E-12, 1.608846480E+04, -7.088590647E+01
-1.858705860E+05, -6.284546890E+01, 1.004844880E+01
-1.987668850E-05, 4.482408440E-09, -5.226103670E-13
2.455791290E-17, 3.848210920E+03, -2.477297797E+01
0.000000000E+00, 0.000000000E+00, 9.992315163E+00
2.576848370E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.498447484E+03, -2.434138086E+01

gas, p4o6, 219.8914, p, 4, o, 6, e, 10
cpg, nasa, 3
200, 1000, 6000, 20000
3.760894750E+05, -5.685832620E+03, 2.914225450E+01
2.251532120E-02, -4.510269630E-05, 3.588312690E-08
-1.057572060E-11, -1.688562480E+05, -1.451359851E+02
-1.008997240E+06, -8.872753990E+02, 2.866064830E+01
-2.636018940E-04, 5.810940720E-08, -6.648086960E-12
3.074391930E-16, -1.997138900E+05, -1.281853821E+02
0.000000000E+00, 0.000000000E+00, 2.795575762E+01
2.942423826E-07, 0.000000000E+00, 0.000000000E+00

0.000000000E+00, -2.052773490E+05, -1.228077416E+02

gas, p4o10, 283.8890, p, 4, o, 10, e, 14

cpg, nasa, 3
200, 1000, 6000, 20000
1.670142268E+05, -2.540243300E+03, 1.136853403E+01
9.137812160E-02, -1.231990626E-04, 8.081032230E-08
-2.106787011E-11, -3.410151910E+05, -4.643431340E+01
-1.337201132E+06, -3.516382330E+03, 4.260403310E+01
-1.037406404E-03, 2.287613089E-07, -2.620219946E-11
1.213529528E-15, -3.459515050E+05, -2.115498906E+02
0.000000000E+00, 0.000000000E+00, 3.990276940E+01
3.472305998E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.689228586E+05, -1.910477643E+02

gas, pb, 207.2000, pb, 1, e, 1

cpg, nasa, 3
200, 1000, 6000, 20000
1.213382285E+03, -1.906116019E+01, 2.619299546E+00
-3.829519610E-04, 6.688180450E-07, -6.061231080E-10
2.240022429E-13, 2.282096238E+04, 6.201369200E+00
-9.084313070E+06, 2.672673180E+04, -2.626244039E+01
1.358282305E-02, -2.685523566E-06, 2.352432800E-10
-7.324114532E-15, -1.481650666E+05, 2.154011624E+02
5.325474970E+08, -2.751419152E+05, 6.303031930E+01
-6.813672740E-03, 4.447489610E-07, -1.519361678E-11
2.043475665E-16, 2.243651683E+06, -5.225649900E+02

gas, pb+, 207.1995, pb, 1

cpg, nasa, 3
298.15, 1000, 6000, 20000
9.486689040E+00, -1.134955793E-01, 2.500549799E+00
-1.382464681E-06, 1.906022991E-09, -1.368396828E-12
4.003528117E-16, 1.095438901E+05, 7.538855900E+00
1.320690183E+06, -4.096048010E+03, 7.389101510E+00
-2.807751909E-03, 7.830991650E-07, -9.310600910E-11
4.016371727E-15, 1.354347306E+05, -2.722020908E+01
4.101539500E+08, -2.538072503E+05, 6.239804790E+01
-6.542962120E-03, 3.507316530E-07, -8.114133770E-12
5.908352630E-17, 2.122867468E+06, -5.163550210E+02

gas, pb-, 207.2005, pb, 1, e, 2

cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.776226140E+04, 8.235132100E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.776226140E+04, 8.235132100E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.776226140E+04, 8.235132100E+00

gas, pbbr, 287.1040, pb, 1, br, 1, e, 2

cpg, nasa, 3
200, 1000, 6000, 20000
-2.393487988E+03, -4.576591210E+01, 4.692608280E+00
-3.845290630E-04, 5.888213500E-07, -4.084792890E-10
1.202515201E-13, 6.662434770E+03, 5.991705510E+00
-2.581831670E+06, 7.143490760E+03, -2.658193640E+00
3.107722260E-03, -4.631381540E-07, 1.095529211E-11
1.508555088E-15, -3.970440980E+04, 5.959238650E+01
0.000000000E+00, 0.000000000E+00, 4.757003132E+00
-2.570031315E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.872917234E+03, 5.517991492E+00

gas, pbbr2, 367.0080, pb, 1, br, 2, e, 3

cpg, nasa, 3
200, 1000, 6000, 20000
-6.172766360E+03, -6.783207630E+01, 7.273156140E+00

-5.990596120E-04, 7.358634610E-07, -4.743604810E-10
1.246922291E-13, -1.427890796E+04, -6.987992150E-01
-1.320421479E+04, -1.143074947E+00, 7.000972540E+00
-4.284471610E-07, 1.018044861E-10, -1.234016791E-14
5.971337650E-19, -1.462213750E+04, 8.868582650E-01
0.000000000E+00, 0.000000000E+00, 6.998106571E+00
2.518934292E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.462067094E+04, 9.092201270E-01

gas, pbbr4, 526.8160, pb, 1, br, 4, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
-1.176458199E+04, -2.567166983E+02, 1.402223292E+01
-2.224117068E-03, 2.716201994E-06, -1.743340164E-09
4.567359750E-13, -2.462125551E+04, -2.882020750E+01
-3.880216030E+04, -4.382933770E+00, 1.300369823E+01
-1.620061335E-06, 3.834130880E-10, -4.633967180E-14
2.237427066E-18, -2.592327065E+04, -2.287710636E+01
0.000000000E+00, 0.000000000E+00, 1.299734682E+01
2.526531763E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.593446211E+04, -2.282752918E+01

gas, pbcl1, 242.6530, pb, 1, cl, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-2.902700749E+03, -8.293459710E+01, 4.714824480E+00
-1.931473228E-04, 9.105579020E-08, 5.419385230E-11
-3.284969700E-14, 1.254460217E+02, 4.323194455E+00
-3.854285530E+05, 6.922197500E+02, 4.509971240E+00
-6.853421300E-04, 5.087395500E-07, -9.772753810E-11
5.807471580E-15, -5.269684720E+03, 6.646491015E+00
0.000000000E+00, 0.000000000E+00, 5.238974656E+00
-7.389746557E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.883042937E+03, 8.942928170E-02

gas, pbcl2, 278.1060, pb, 1, cl, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
2.830580143E+03, -3.134256659E+02, 8.212827290E+00
-2.585096173E-03, 3.109456077E-06, -1.972978208E-09
5.123542480E-13, -2.167569042E+04, -9.219412244E+00
-3.149192744E+04, -5.565477580E+00, 7.004599540E+00
-1.986025455E-06, 4.651719590E-10, -5.579137010E-14
2.678143570E-18, -2.327439309E+04, -2.140739285E+00
0.000000000E+00, 0.000000000E+00, 6.997532355E+00
2.524676453E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.329587013E+04, -2.086100358E+00

gas, pbcl4, 349.0120, pb, 1, cl, 4, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
1.739405796E+04, -8.902139320E+02, 1.637565058E+01
-7.088992260E-03, 8.432567340E-06, -5.305309390E-09
1.368671294E-12, -3.888215620E+04, -4.850133784E+01
-8.266679560E+04, -1.639486405E+01, 1.301336711E+01
-5.716141400E-06, 1.329368390E-09, -1.585922492E-13
7.581763610E-18, -4.343984220E+04, -2.874559263E+01
0.000000000E+00, 0.000000000E+00, 1.299594445E+01
2.540555471E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.351549757E+04, -2.861099804E+01

gas, pbf, 226.1984, pb, 1, f, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.684864255E+04, -4.751725640E+02, 6.019644370E+00
-2.718531008E-03, 2.942882954E-06, -1.687543009E-09
4.086122080E-13, -1.079038653E+04, -4.983048840E+00
-4.734202750E+05, 1.027785283E+03, 3.888658730E+00
-1.649813448E-04, 2.931163260E-07, -5.766459650E-11
3.247486190E-15, -2.026165076E+04, 9.319483890E+00
0.000000000E+00, 0.000000000E+00, 5.367499637E+00

-8.674996372E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.559707208E+04, -2.518691284E+00

gas, pbf2, 245.1968, pb, 1, f, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
5.920552280E+04, -1.052529292E+03, 1.028969284E+01
-5.876346270E-03, 6.102333130E-06, -3.424792640E-09
8.024025420E-13, -4.999050000E+04, -2.525115478E+01
-8.505899770E+04, -3.074244334E+01, 7.023346040E+00
-9.455183590E-06, 2.108489027E-09, -2.434212002E-13
1.133872429E-17, -5.552236770E+04, -5.496073220E+00
0.000000000E+00, 0.000000000E+00, 6.995623803E+00
2.543761968E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.569349747E+04, -5.282755233E+00

gas, pbf4, 283.1936, pb, 1, f, 4, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
1.309963563E+05, -2.307299499E+03, 1.945201440E+01
-1.024522729E-02, 9.395874960E-06, -4.626894150E-09
9.450881430E-13, -8.804147460E+04, -7.524645820E+01
-2.132616322E+05, -8.578621950E+01, 1.306428551E+01
-2.575563598E-05, 5.693324590E-09, -6.526219550E-13
3.022341960E-17, -1.002908979E+05, -3.590240280E+01
0.000000000E+00, 0.000000000E+00, 1.299113979E+01
2.588602099E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.007855661E+05, -3.533961439E+01

gas, pbi, 334.1045, pb, 1, i, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-2.717334060E+03, -1.542541996E+01, 4.565327900E+00
-1.061215818E-04, 2.414841342E-07, -1.876070301E-10
6.460614270E-14, 1.181864978E+04, 7.669802670E+00
-3.901070250E+06, 1.147976718E+04, -8.176109020E+00
6.523454700E-03, -1.522611682E-06, 1.626692202E-10
-6.553328880E-15, -6.154433690E+04, 9.938404970E+01
0.000000000E+00, 0.000000000E+00, 4.599564819E+00
-9.956481913E-08, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.262922826E+04, 7.705994330E+00

gas, pbi2, 461.0089, pb, 1, i, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-5.904986720E+03, -4.833307030E+01, 7.195438030E+00
-4.298600090E-04, 5.291412070E-07, -3.416402820E-10
8.991341920E-14, -3.107780155E+03, 1.324773678E+00
-1.088339477E+04, -8.164418370E-01, 7.000697300E+00
-3.079876763E-07, 7.331718140E-11, -8.899193880E-15
4.310712500E-19, -3.352096380E+03, 2.458605463E+00
0.000000000E+00, 0.000000000E+00, 6.998175900E+00
2.518240998E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.349267441E+03, 2.478287414E+00

gas, pbi4, 714.8179, pb, 1, i, 4, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
-1.217096972E+04, -7.226317440E+01, 1.329294204E+01
-6.454660900E-04, 7.955761850E-07, -5.141632830E-10
1.354188031E-13, -8.528148680E+03, -2.010457498E+01
-1.958477744E+04, -1.223385179E+00, 1.300104732E+01
-4.633295690E-07, 1.104213978E-10, -1.341397771E-14
6.501706110E-19, -8.893193200E+03, -1.840570345E+01
0.000000000E+00, 0.000000000E+00, 1.299792736E+01
2.520726401E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.890114050E+03, -1.838114538E+01

gas, pbo, 223.1994, pb, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000

3.424025000E+04, -4.198050110E+02, 4.720306410E+00
1.451061751E-03, -3.206035460E-06, 2.713956273E-09
-8.333275610E-13, 9.253186470E+03, 4.482891210E-01
2.426996850E+05, -1.107731354E+02, 3.180684490E+00
1.991815065E-03, -1.079782025E-06, 2.540990941E-10
-1.834652493E-14, 8.339391540E+03, 1.050920926E+01
0.000000000E+00, 0.000000000E+00, 7.373248959E+00
-2.873248959E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.864442977E+03, -2.106606168E+01

gas, pbs, 239.2650, pb, 1, s, 1, e, 2

cpg, nasa, 3
200, 1000, 6000, 20000
1.529840503E+04, -3.439746350E+02, 5.680630640E+00
-2.232931917E-03, 2.504608209E-06, -1.470427328E-09
3.577527190E-13, 1.578551202E+04, -2.628900926E+00
2.105441649E+06, -5.520413580E+03, 9.369249260E+00
-1.410262019E-03, -1.642683362E-07, 1.451447577E-10
-1.393564925E-14, 5.009334530E+04, -3.217417657E+01
0.000000000E+00, 0.000000000E+00, 7.440743298E+00
-2.940743298E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.483631387E+03, -1.997176934E+01

gas, rbk, 124.5661, rb, 1, k, 1, e, 2

cpg, nasa, 3
200, 1000, 6000, 20000
2.494695429E+04, -4.553060660E+02, 7.686189950E+00
-1.108112244E-02, 2.093398586E-05, -1.824445366E-08
5.617645360E-12, 1.516136160E+04, -1.063563675E+01
-4.175391070E+06, 5.918588510E+03, 9.202649420E+00
-1.060933600E-02, 4.964826060E-06, -8.716698790E-10
5.221887960E-14, -3.272769040E+04, -1.372401997E+01
0.000000000E+00, 0.000000000E+00, 4.546070433E+00
-4.607043326E-08, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.268654841E+04, 5.727332931E+00

gas, s, 32.0650, s, 1, e, 1

cpg, nasa, 3
200, 1000, 6000, 20000
-3.174841820E+02, -1.924704923E+02, 4.686825930E+00
-5.841365600E-03, 7.538533520E-06, -4.863586040E-09
1.256976992E-12, 3.323592180E+04, -5.718523969E+00
-4.854244790E+05, 1.438830408E+03, 1.258504116E+00
3.797990430E-04, 1.630685864E-09, -9.547095850E-12
8.041466646E-16, 2.334995270E+04, 1.559554855E+01
-1.302005414E+08, 6.909362020E+04, -1.176228025E+01
1.601540850E-03, -1.050533340E-07, 4.341829020E-12
-7.675621927E-17, -5.261485030E+05, 1.322195251E+02

gas, s+, 32.0645, s, 1

cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.535026117E+05, 5.436223340E+00
1.346218684E+06, -4.056871510E+03, 7.153436550E+00
-2.523562352E-03, 6.429539610E-07, -6.431672160E-11
2.141387919E-15, 1.792823835E+05, -2.786935079E+01
1.542254583E+08, -1.023073546E+05, 2.591796942E+01
-2.111469141E-03, 9.215571560E-08, -1.964168821E-12
2.096218597E-17, 9.622418410E+05, -2.017239957E+02

gas, s-, 32.0655, s, 1, e, 2

cpg, nasa, 3
298.15, 1000, 6000, 20000
-2.596051473E+03, -1.422398653E+02, 4.007825670E+00
-3.608855910E-03, 4.236230000E-06, -2.520987604E-09
6.079479760E-13, 8.197793070E+03, -2.582377345E+00
2.730311692E+03, 1.414072078E+02, 2.403340775E+00
3.693577530E-05, -7.944080440E-09, 8.952208380E-13
-4.099662820E-17, 6.931195700E+03, 6.574986902E+00

-1.223682088E+05, 1.203125842E+02, 2.473942293E+00
2.935459895E-06, -1.808577869E-10, 5.778854260E-15
-7.490337240E-20, 6.947841220E+03, 6.070579772E+00

gas, scl, 67.5180, s, 1, cl, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
1.613051454E+04, -5.606249550E+02, 8.064931130E+00
-9.186326400E-03, 1.224205395E-05, -8.209562020E-09
2.205087197E-12, 1.997739280E+04, -1.693354410E+01
-9.405123450E+04, 3.629760850E+02, 4.069959360E+00
3.034029742E-04, -8.248301390E-08, 1.252700734E-11
-6.417463650E-16, 1.523111069E+04, 6.014528409E+00
0.000000000E+00, 0.000000000E+00, 4.855133281E+00
-3.551332808E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.628303354E+04, 1.565796593E-01

gas, scl2, 102.9710, s, 1, cl, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
5.792311830E+04, -1.062447681E+03, 1.037694738E+01
-6.130229020E-03, 6.463486000E-06, -3.679038050E-09
8.731931650E-13, 1.262475821E+03, -2.691769492E+01
-2.341039963E+05, 4.287569580E+02, 6.471415390E+00
3.179476740E-04, -9.747483080E-08, 1.393318570E-11
-6.394795170E-16, -7.210473700E+03, -2.774273151E+00
0.000000000E+00, 0.000000000E+00, 7.114956526E+00
1.350434743E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.080452548E+03, -7.492649965E+00

gas, scl2+, 102.9705, s, 1, cl, 2, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
4.934876870E+04, -9.601641020E+02, 9.884792780E+00
-4.950257170E-03, 4.946286970E-06, -2.678720604E-09
6.076844030E-13, 1.112812037E+05, -2.342664942E+01
-2.339403605E+05, 5.516283260E+02, 6.125212160E+00
6.771056320E-04, -2.674382769E-07, 4.935938880E-11
-2.955831247E-15, 1.026787381E+05, 1.365611954E-01
1.159729818E+08, -4.231290230E+04, 7.753324790E+00
1.215229138E-03, -1.338847939E-07, 5.496166430E-12
-8.098916920E-17, 4.756171550E+05, -2.296333258E+01

gas, sd, 34.0791, s, 1, d, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-3.295574990E+04, 1.647104687E+02, 4.978984550E+00
-8.031585710E-03, 1.653766397E-05, -1.345197981E-08
4.000431530E-12, 1.435862329E+04, -1.997334017E+00
2.456732490E+05, -1.180034105E+03, 5.284690050E+00
-2.384319882E-04, 6.009960290E-08, -7.131163640E-12
4.035858700E-16, 2.265545124E+04, -8.350483655E+00
0.000000000E+00, 0.000000000E+00, 4.812426230E+00
-3.124262299E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.354054354E+04, -4.778363845E+00

gas, sf, 51.0634, s, 1, f, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
1.206456774E+04, -2.910270770E+02, 5.480101570E+00
-1.975880235E-03, 2.473685990E-06, -1.610904623E-09
4.310038540E-13, 1.991337574E+03, -4.544138975E+00
7.634580750E+05, -2.423638430E+03, 7.352198710E+00
-1.598026079E-03, 4.868515020E-07, -6.478000530E-11
2.980297310E-15, 1.577461591E+04, -1.902584835E+01
0.000000000E+00, 0.000000000E+00, 4.779625661E+00
-2.796256613E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.155843347E+01, -7.740707556E-01

gas, sf+, 51.0629, s, 1, f, 1, e, 1
cpg, nasa, 3

298.15, 1000, 6000, 20000
6.578303670E+04, -6.986699970E+02, 5.621292240E+00
-6.909274110E-04, -1.282392780E-07, 4.021320420E-10
-1.424033453E-13, 1.221751247E+05, -6.682377715E+00
-9.374943900E+05, 2.377214240E+03, 2.052929113E+00
1.081609837E-03, -1.535468024E-07, 8.222691900E-12
3.259746880E-17, 1.026849122E+05, 1.887705768E+01
-4.833080340E+07, 3.315103280E+04, -4.246678200E+00
1.269355284E-03, -7.864010490E-08, 2.406680266E-12
-2.892795916E-17, -1.419262455E+05, 7.611520762E+01

gas, sf-, 51.0640, s, 1, f, 1, e, 3
cpg, nasa, 3
298.15, 1000, 6000, 20000
5.019879280E+04, -5.321549310E+02, 4.904849010E+00
9.915307420E-04, -2.270841545E-06, 1.844749756E-09
-5.357057200E-13, -2.611388646E+04, -3.637468065E+00
2.068923125E+05, -1.324372811E+03, 6.646211240E+00
-1.641781588E-03, 6.783883120E-07, -1.198331099E-10
7.121739540E-15, -2.150994816E+04, -1.470239183E+01
0.000000000E+00, 0.000000000E+00, 4.347426415E+00
1.525735852E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.773417678E+04, 1.552620302E+00

gas, sf2, 70.0618, s, 1, f, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
6.870871130E+04, -8.432418250E+02, 6.269496400E+00
6.484142450E-03, -1.145126533E-05, 8.770291560E-09
-2.542611601E-12, -3.229980700E+04, -8.800025780E+00
-1.702612287E+05, -1.497038204E+02, 7.110934140E+00
-4.407741600E-05, 9.682208310E-09, -1.104468959E-12
5.095308780E-17, -3.704289490E+04, -1.095253960E+01
0.000000000E+00, 0.000000000E+00, 6.991266534E+00
2.587334663E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.797840038E+04, -1.003892423E+01

gas, sf2+, 70.0613, s, 1, f, 2, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.311648923E+05, -1.552127914E+03, 9.803424720E+00
-2.488118587E-03, 7.501565130E-07, 3.135384495E-10
-1.986281446E-13, 9.137758390E+04, -2.792300566E+01
-3.847531020E+05, 5.327893020E+02, 6.281908900E+00
4.522790120E-04, -1.426421096E-07, 2.079708115E-11
-9.691709890E-16, 7.884213810E+04, -4.216110530E+00
-1.635869714E+08, 1.203460697E+05, -2.737707929E+01
4.676205400E-03, -3.035589058E-07, 9.547077170E-12
-1.181291324E-16, -8.508449070E+05, 2.843901430E+02

gas, sf2-, 70.0624, s, 1, f, 2, e, 4
cpg, nasa, 3
298.15, 1000, 6000, 20000
5.284572480E+04, -1.032342905E+03, 1.006404631E+01
-5.209503250E-03, 5.168381370E-06, -2.783420867E-09
6.286410080E-13, -4.423303780E+04, -2.699266970E+01
-9.376618950E+04, -3.638995270E+01, 7.027942820E+00
-1.142143365E-05, 2.566295898E-09, -2.981125977E-13
1.395700722E-17, -4.967050330E+04, -8.483087899E+00
-2.168882121E+04, -5.051042570E+01, 7.011106220E+00
-1.262936151E-06, 7.835542760E-11, -2.517641418E-15
3.278401810E-20, -4.951246860E+04, -8.370909449E+00

gas, sf3, 89.0602, s, 1, f, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
1.284008253E+05, -2.084871223E+03, 1.423421102E+01
-4.015032190E-03, 9.152258040E-07, 1.109809721E-09
-5.988602720E-13, -5.239517340E+04, -5.187194724E+01
-2.411283460E+05, -1.418950375E+02, 1.010590548E+01
-4.231526910E-05, 9.336120600E-09, -1.068727665E-12

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4.944342600E-17, -6.358445860E+04, -2.489561796E+01
0.000000000E+00, 0.000000000E+00, 9.989437152E+00
2.605628482E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.444341618E+04, -2.400373539E+01

gas, sf3+, 89.0597, s, 1, f, 3, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
2.157633857E+05, -2.564488498E+03, 1.323216044E+01
-1.749580869E-04, -3.712958710E-06, 3.580688420E-09
-1.084376153E-12, 5.876088420E+04, -5.024130184E+01
-3.778260750E+05, -1.621770252E+02, 9.960265970E+00
1.237729568E-04, -6.442207890E-08, 1.300856025E-11
-7.915106980E-16, 4.415426810E+04, -2.673900770E+01
8.358347800E+06, 2.002176210E+03, 7.115714750E+00
6.563028420E-04, -5.120344380E-08, 1.781530495E-12
-2.365386482E-17, 3.575488850E+04, -4.384285323E+00

gas, sf3-, 89.0608, s, 1, f, 3, e, 5
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.546500675E+05, -2.469768526E+03, 1.657548496E+01
-1.020137434E-02, 9.368008460E-06, -4.725672600E-09
1.009661431E-12, -8.500157900E+04, -6.532166474E+01
-2.253860964E+05, -1.308890242E+02, 1.009972380E+01
-4.052345530E-05, 9.064565220E-09, -1.049320641E-12
4.899201260E-17, -9.800227200E+04, -2.524368023E+01
0.000000000E+00, 0.000000000E+00, 9.990112921E+00
2.598870787E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.879095235E+04, -2.440638913E+01

gas, sf4, 108.0586, s, 1, f, 4, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
1.636183265E+05, -2.531316261E+03, 1.559106568E+01
3.326704310E-03, -1.054935525E-05, 9.391363050E-09
-2.914816694E-12, -8.115558920E+04, -6.131532958E+01
-3.777125160E+05, -2.937595659E+02, 1.321902007E+01
-8.747669450E-05, 1.929905265E-08, -2.209423506E-12
1.022335559E-16, -9.483175340E+04, -4.243061278E+01
0.000000000E+00, 0.000000000E+00, 1.298313186E+01
2.668681413E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.665574965E+04, -4.062932712E+01

gas, sf4+, 108.0581, s, 1, f, 4, e, 4
cpg, nasa, 3
298.15, 1000, 6000, 20000
2.309587324E+05, -3.383777670E+03, 2.101756367E+01
-1.106529555E-02, 9.038097280E-06, -4.055912640E-09
7.712575180E-13, 6.425375150E+04, -8.938224908E+01
-4.189172750E+05, 4.002889640E+01, 1.283873264E+01
1.340235036E-04, -4.818135180E-08, 7.574595960E-12
-3.696670780E-16, 4.469944230E+04, -3.760378598E+01
-3.761690270E+07, 2.881726011E+04, 4.470948840E+00
1.170801362E-03, -7.325658000E-08, 2.214151827E-12
-2.649348632E-17, -1.772949712E+05, 3.397688982E+01

gas, sf4-, 108.0592, s, 1, f, 4, e, 6
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.005523355E+05, -2.267351994E+03, 1.979284560E+01
-1.163761842E-02, 1.161792139E-05, -6.288895470E-09
1.426371272E-12, -9.895597430E+04, -7.916366078E+01
3.208822080E+05, -1.710416599E+03, 1.494425485E+01
-1.057207329E-03, 2.742846920E-07, -2.905761211E-11
1.084482543E-15, -1.005231225E+05, -5.164256578E+01
5.436095670E+07, -3.546125020E+04, 2.105391090E+01
-7.366819310E-04, 3.537247530E-08, -8.825254090E-13
9.049180280E-18, 1.694175033E+05, -1.089710894E+02

gas, sf5, 127.0570, s, 1, f, 5, e, 6

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cpg, nasa, 3
200, 1000, 6000, 20000
2.224176850E+05, -4.043991750E+03, 2.707196786E+01
-1.744176604E-02, 1.604198715E-05, -7.997243020E-09
1.667968061E-12, -9.220078270E+04, -1.232426279E+02
-3.892426370E+05, -1.825826536E+02, 1.613765057E+01
-5.544834230E-05, 1.231433706E-08, -1.417173409E-12
6.584889400E-17, -1.135671054E+05, -5.577524201E+01
0.000000000E+00, 0.000000000E+00, 1.598467266E+01
2.653273411E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.146457144E+05, -5.460189722E+01

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gas, sf5+, 127.0565, s, 1, f, 5, e, 5
cpg, nasa, 3
298.15, 1000, 6000, 20000
3.777135620E+05, -5.646075120E+03, 3.049404270E+01
-2.176488368E-02, 1.941993792E-05, -9.556201140E-09
2.000077302E-12, 4.592204810E+04, -1.489889627E+02
-9.814342320E+05, 7.208817390E+02, 1.564386818E+01
-2.452519972E-04, 2.241690996E-07, -3.990035890E-11
2.279087545E-15, 9.090953190E+03, -5.531460631E+01
9.063623020E+06, -8.079630910E+03, 1.805068495E+01
-2.624346278E-05, -4.739171840E-09, 2.144486076E-13
-2.737984333E-18, 7.597515770E+04, -7.692263871E+01

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gas, sf5-, 127.0576, s, 1, f, 5, e, 7
cpg, nasa, 3
298.15, 1000, 6000, 20000
2.095031134E+05, -3.930081140E+03, 2.702127215E+01
-1.792973203E-02, 1.718122152E-05, -9.000560190E-09
1.988018147E-12, -1.291816581E+05, -1.231672857E+02
-3.733219200E+05, -1.793729521E+02, 1.613699748E+01
-5.577539970E-05, 1.249477046E-08, -1.448104799E-12
6.767462300E-17, -1.498554401E+05, -5.631439391E+01
0.000000000E+00, 0.000000000E+00, 1.598521826E+01
2.647817426E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.509160403E+05, -5.515257999E+01

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gas, sf6, 146.0554, s, 1, f, 6, e, 7
cpg, nasa, 3
200, 1000, 6000, 20000
3.309526740E+05, -4.737685050E+03, 2.247738068E+01
1.046954309E-02, -2.560641961E-05, 2.153716967E-08
-6.516098960E-12, -1.255360583E+05, -1.091760145E+02
-7.306726500E+05, -6.367056550E+02, 1.947442853E+01
-1.894325671E-04, 4.178722830E-08, -4.783744950E-12
2.213516129E-16, -1.510609837E+05, -8.147574587E+01
0.000000000E+00, 0.000000000E+00, 1.896764794E+01
2.823520567E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.550494271E+05, -7.760956596E+01

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gas, sf6-, 146.0560, s, 1, f, 6, e, 8
cpg, nasa, 3
298.15, 1000, 6000, 20000
4.985809210E+05, -6.934445740E+03, 3.441318330E+01
-1.984032360E-02, 1.497871222E-05, -6.133234650E-09
1.045159581E-12, -1.297069066E+05, -1.747984495E+02
-6.818073510E+05, -5.947429960E+02, 1.945009842E+01
-1.820212649E-04, 4.057079570E-08, -4.683820930E-12
2.182263999E-16, -1.658902452E+05, -7.965845887E+01
1.777074958E+05, -6.533730340E+02, 1.914322537E+01
-1.624883879E-05, 1.006454127E-09, -3.230395820E-14
4.203897370E-19, -1.646993323E+05, -7.753346267E+01

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gas, sh, 33.0729, s, 1, h, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
6.389434680E+03, -3.747960920E+02, 7.548145770E+00
-1.288875477E-02, 1.907786343E-05, -1.265033728E-08
3.235158690E-12, 1.742902395E+04, -1.760761843E+01
1.682631601E+06, -5.177152210E+03, 9.198168520E+00

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-2.323550224E-03, 6.543914780E-07, -8.468470420E-11
3.864741550E-15, 4.899214490E+04, -3.770400275E+01
0.000000000E+00, 0.000000000E+00, 4.716952103E+00
-2.169521032E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.442908222E+04, -4.886181092E+00

gas, sh-, 33.0735, s, 1, h, 1, e, 3
cpg, nasa, 3
298.15, 1000, 6000, 20000
3.878070760E+04, -5.742590600E+02, 6.898544460E+00
-1.001352412E-02, 1.486460572E-05, -9.750368900E-09
2.446909813E-12, -8.735388980E+03, -1.615966489E+01
1.198715402E+06, -3.894846820E+03, 7.660422330E+00
-1.355237590E-03, 3.342370240E-07, -3.350722310E-11
9.055084780E-16, 1.317477387E+04, -2.818370616E+01
0.000000000E+00, 0.000000000E+00, 4.883968778E+00
-3.839687779E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.401996102E+04, -7.629405836E+00

gas, ns, 46.0717, s, 1, n, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-6.835412350E+04, 1.147567483E+03, -2.877802574E+00
1.724864320E-02, -2.058999904E-05, 1.261369640E-08
-3.139030141E-12, 2.564143612E+04, 4.224006964E+01
-4.837284460E+05, 1.058075590E+03, 3.086198804E+00
9.111360780E-04, -2.764061722E-07, 4.157370110E-11
-2.128351755E-15, 2.379345477E+04, 1.033222139E+01
0.000000000E+00, 0.000000000E+00, 4.989816566E+00
-4.898165657E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.832500202E+04, -3.599792106E+00

gas, so, 48.0644, s, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-3.342757000E+04, 6.403862500E+02, -1.006641228E+00
1.381512705E-02, -1.704486364E-05, 1.061294930E-08
-2.645796205E-12, -3.371292190E+03, 3.093861963E+01
-1.443410557E+06, 4.113874360E+03, -5.383695780E-01
2.794153269E-03, -6.633352260E-07, 7.838221190E-11
-3.560509070E-15, -2.708838059E+04, 3.615358329E+01
0.000000000E+00, 0.000000000E+00, 5.313049200E+00
-8.130491999E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.759823758E+03, -6.096840864E+00

gas, so-, 48.0649, s, 1, o, 1, e, 3
cpg, nasa, 3
298.15, 1000, 6000, 20000
8.420196970E+03, -6.916586680E+01, 3.837666610E+00
2.166482062E-03, -2.811222562E-06, 1.793426453E-09
-4.521795950E-13, -1.354162531E+04, 4.316141603E+00
1.767156147E+05, -6.633987360E+02, 5.177279810E+00
-2.853461125E-04, 7.214421530E-08, -3.676469490E-12
-2.910092894E-16, -9.984438010E+03, -3.951456757E+00
0.000000000E+00, 0.000000000E+00, 4.787194917E+00
-2.871949175E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.502505912E+04, -1.220545852E+00

gas, sof2, 86.0612, s, 1, o, 1, f, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
6.114579650E+04, -9.081119670E+02, 6.883623260E+00
1.192459695E-02, -1.671006410E-05, 1.110723646E-08
-2.910788226E-12, -6.742935840E+04, -1.125458745E+01
-2.510555779E+05, -6.074439610E+02, 1.045046709E+01
-1.796384979E-04, 3.964169730E-08, -4.543055240E-12
2.104969923E-16, -7.072071710E+04, -2.904334504E+01
0.000000000E+00, 0.000000000E+00, 9.981415442E+00
2.685845580E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.467774257E+04, -2.548288666E+01

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gas, so2, 64.0638, s, 1, o, 2, e, 3
  cpq, nasa, 3
  200, 1000, 6000, 20000
-5.310842140E+04, 9.090311670E+02, -2.356891244E+00
 2.204449885E-02, -2.510781471E-05, 1.446300484E-08
-3.369070940E-12, -4.113752080E+04, 4.045512519E+01
-1.127640116E+05, -8.252261380E+02, 7.616178630E+00
-1.999327610E-04, 5.655631430E-08, -5.454316610E-12
 2.918294102E-16, -3.351308690E+04, -1.655776085E+01
 0.000000000E+00, 0.000000000E+00, 7.513599480E+00
-2.635994802E-07, 0.000000000E+00, 0.000000000E+00
 0.000000000E+00, -4.089322072E+04, -1.600442755E+01

gas, so2-, 64.0643, s, 1, o, 2, e, 4
  cpq, nasa, 3
  298.15, 1000, 6000, 20000
 9.460901660E+04, -8.562691050E+02, 5.360074220E+00
 7.609576740E-03, -1.092005659E-05, 7.202547730E-09
-1.850138220E-12, -4.580094810E+04, -3.929956604E+00
-1.793400005E+05, -3.663168760E+02, 7.274441050E+00
-1.101944663E-04, 2.443328132E-08, -2.809735019E-12
 1.305160431E-16, -4.973072610E+04, -1.261421156E+01
 0.000000000E+00, 0.000000000E+00, 6.987508982E+00
 2.624910180E-07, 0.000000000E+00, 0.000000000E+00
 0.000000000E+00, -5.210242733E+04, -1.043745456E+01

gas, so2cl2, 134.9698, s, 1, o, 2, cl, 2, e, 5
  cpq, nasa, 3
  200, 1000, 6000, 20000
 6.821592390E+03, -5.849569200E+02, 8.596756910E+00
 1.197228675E-02, -1.333760700E-05, 7.126129000E-09
-1.496150016E-12, -4.230783810E+04, -1.652458363E+01
-2.376639109E+05, -9.647740410E+02, 1.371469904E+01
-2.850327057E-04, 6.293509620E-08, -7.217844260E-12
 3.346840220E-16, -4.190072990E+04, -4.481942575E+01
 0.000000000E+00, 0.000000000E+00, 1.297581987E+01
 2.741801282E-07, 0.000000000E+00, 0.000000000E+00
 0.000000000E+00, -4.824318820E+04, -3.921769571E+01

gas, so2fcl, 118.5152, s, 1, o, 2, f, 1, cl, 1, e, 5
  cpq, nasa, 3
  200, 1000, 6000, 20000
 3.684561300E+04, -8.038358950E+02, 7.526186880E+00
 1.620141782E-02, -1.970595270E-05, 1.166250330E-08
-2.759241465E-12, -6.503598190E+04, -1.299745646E+01
-2.915402438E+05, -1.107134423E+03, 1.381845158E+01
-3.258514460E-04, 7.184741000E-08, -8.230625200E-12
 3.812925620E-16, -6.552472690E+04, -4.709166446E+01
 0.000000000E+00, 0.000000000E+00, 1.297190044E+01
 2.780995601E-07, 0.000000000E+00, 0.000000000E+00
 0.000000000E+00, -7.279941693E+04, -4.067109887E+01

gas, so2f2, 102.0606, s, 1, o, 2, f, 2, e, 5
  cpq, nasa, 3
  200, 1000, 6000, 20000
 5.533153530E+04, -8.074639680E+02, 5.287172160E+00
 2.294547775E-02, -2.891025299E-05, 1.785631907E-08
-4.418919500E-12, -8.899428820E+04, -4.124256607E+00
-3.403904450E+05, -1.309288764E+03, 1.396601541E+01
-3.840088150E-04, 8.456688780E-08, -9.678246870E-12
 4.480014280E-16, -8.901994140E+04, -5.109270050E+01
 0.000000000E+00, 0.000000000E+00, 1.296711159E+01
 2.828884070E-07, 0.000000000E+00, 0.000000000E+00
 0.000000000E+00, -9.762741857E+04, -4.351500712E+01

gas, so3, 80.0632, s, 1, o, 3, e, 4
  cpq, nasa, 3
  200, 1000, 6000, 20000
-3.952855290E+04, 6.208572570E+02, -1.437731716E+00
 2.764126467E-02, -3.144958662E-05, 1.792798000E-08
-4.126386660E-12, -5.184106170E+04, 3.391331216E+01

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-2.166923781E+05, -1.301022399E+03, 1.096287985E+01
-3.837100020E-04, 8.466889040E-08, -9.705399290E-12
4.498397540E-16, -4.398283990E+04, -3.655217314E+01
0.000000000E+00, 0.000000000E+00, 9.970794434E+00
2.792055657E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.257307977E+04, -2.903460064E+01

gas, s2, 64.1300, s, 2, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
3.528091780E+04, -4.222156580E+02, 4.677433490E+00
1.724046361E-03, -3.862208210E-06, 3.336156340E-09
-9.930661540E-13, 1.654767715E+04, -7.957279032E-01
-1.588128788E+04, 6.315480880E+02, 2.449628069E+00
1.986240565E-03, -6.507927240E-07, 1.002813651E-10
-5.596990050E-15, 1.085508427E+04, 1.458544515E+01
0.000000000E+00, 0.000000000E+00, 5.456162998E+00
-9.561629976E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.101187183E+04, -6.059242396E+00

gas, s2-, 64.1305, s, 2, e, 3
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.025558251E+04, -6.166128250E+02, 8.182052840E+00
-8.311203580E-03, 9.720274160E-06, -5.775476780E-09
1.393690695E-12, -3.063559874E+03, -1.906068041E+01
4.830204030E+05, -1.319171302E+03, 6.031778480E+00
-7.965560690E-04, 2.282241690E-07, -2.504364698E-11
7.280550780E-16, 2.660258490E+03, -9.010480319E+00
0.000000000E+00, 0.000000000E+00, 4.797987055E+00
-2.979870555E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.376022232E+03, -3.007065453E-01

gas, s2cl2, 135.0360, s, 2, cl, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
7.974974740E+04, -1.636770024E+03, 1.583744686E+01
-1.186906072E-02, 1.413008027E-05, -8.484903930E-09
1.981743887E-12, 3.276872420E+03, -5.293745205E+01
6.328816000E+05, -3.442705800E+03, 1.519637350E+01
-2.960877176E-03, 6.888284370E-07, -7.990692530E-11
3.692466060E-15, 1.526672656E+04, -5.453315445E+01
0.000000000E+00, 0.000000000E+00, 9.191921599E+00
1.058078401E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.628419877E+03, -1.166198158E+01

gas, s2f2, 102.1268, s, 2, f, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
1.252904041E+05, -1.941243874E+03, 1.325382183E+01
-1.341525124E-03, -2.772465632E-06, 3.658169290E-09
-1.299531209E-12, -4.067208250E+04, -4.560828617E+01
-2.591757719E+05, -1.059653069E+02, 1.006588551E+01
-2.274618148E-05, 5.412343140E-09, -9.911387140E-13
9.621861440E-17, -5.147675180E+04, -2.375666140E+01
0.000000000E+00, 0.000000000E+00, 1.000855727E+01
2.414427317E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.220701142E+04, -2.331736369E+01

gas, s2o, 80.1294, s, 2, o, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
1.092703310E+04, -9.523099870E+01, 3.144525430E+00
1.176854200E-02, -1.580266840E-05, 1.037645040E-08
-2.708622260E-12, -7.500471900E+03, 1.104169896E+01
-1.442139790E+05, -3.276430130E+02, 7.244286110E+00
-9.776538300E-05, 2.162712700E-08, -2.482782220E-12
1.151778750E-16, -7.438553930E+03, -1.085180744E+01
0.000000000E+00, 0.000000000E+00, 6.989081326E+00
2.609186743E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.566241879E+03, -8.915351727E+00

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gas, s8, 256.5200, s, 8, e, 8
cpg, nasa, 3
200, 1000, 6000, 20000
3.145625719E+05, -6.116510160E+03, 4.875327540E+01
-6.241794650E-02, 7.421831750E-05, -3.726449310E-08
5.799429880E-12, 3.573890840E+04, -2.288701977E+02
-8.727921130E+06, 1.221627968E+04, 2.209959617E+01
-3.494064830E-03, 1.397604162E-06, -2.169815281E-10
1.212304364E-14, -8.658110820E+04, -6.435742508E+01
0.000000000E+00, 0.000000000E+00, 2.208502603E+01
1.649739743E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 7.519776989E+03, -7.364880517E+01

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gas, si, 28.0855, si, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
9.836140810E+01, 1.546544523E+02, 1.876436670E+00
1.320637995E-03, -1.529720059E-06, 8.950562770E-10
-1.952873490E-13, 5.263510310E+04, 9.698288880E+00
-6.169298850E+05, 2.240683927E+03, -4.448619320E-01
1.710056321E-03, -4.107714160E-07, 4.558884780E-11
-1.889515353E-15, 3.953558760E+04, 2.679668061E+01
-9.286548940E+08, 5.443989890E+05, -1.206739736E+02
1.359662698E-02, -7.606498660E-07, 2.149746065E-11
-2.474116774E-16, -4.293792120E+06, 1.086382839E+03

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gas, si+, 28.0850, si, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
-4.329791880E+04, 6.795894490E+02, 2.257046144E-01
4.118600490E-03, -4.234881600E-06, 2.327995626E-09
-5.318388059E-13, 1.452039813E+05, 1.934650510E+01
5.919390230E+04, -4.856730950E+01, 2.556312024E+00
-3.503397160E-05, 1.190298787E-08, -2.082923821E-12
1.471452049E-16, 1.491431392E+05, 5.244267140E+00
-4.364077210E+07, 2.434350601E+04, -2.763336522E+00
5.924483200E-04, -4.454048310E-08, 2.509351585E-12
-5.090212919E-17, -4.683214410E+04, 5.196564190E+01

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gas, si-, 28.0860, si, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
-7.940146670E+02, 5.567418420E+00, 2.499837183E+00
-9.481394460E-05, 3.171246930E-07, -4.191323180E-10
2.035924380E-13, 3.636443380E+04, 5.270119840E+00
-6.162070100E+06, 1.883310402E+04, -1.899302450E+01
1.111021657E-02, -2.535790208E-06, 2.699962923E-10
-1.105062911E-14, -8.314089310E+04, 1.595298253E+02
-5.429517960E+07, 3.297105700E+04, -2.470579690E+00
3.966577600E-04, -1.764141255E-08, 4.115769760E-13
-3.904369380E-18, -2.315881505E+05, 5.226601830E+01

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gas, sibr, 107.9895, si, 1, br, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
7.370283350E+03, -5.051062960E+02, 8.280591040E+00
-1.005383920E-02, 1.357050920E-05, -9.115449900E-09
2.447477685E-12, 2.184405475E+04, -1.662032657E+01
1.317799940E+06, -3.669795020E+03, 8.511686120E+00
-1.987602041E-03, 5.035414890E-07, -4.490120190E-11
8.235670070E-16, 4.332851550E+04, -2.467075472E+01
0.000000000E+00, 0.000000000E+00, 5.513303581E+00
-1.013303581E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.640295344E+04, -3.814788321E+00

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gas, sibr2, 187.8935, si, 1, br, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
2.386616151E+04, -6.415693470E+02, 9.345879110E+00
-4.792904140E-03, 5.582538470E-06, -3.455312380E-09

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8.800338940E-13, -5.014757020E+03, -1.740767596E+01
-5.147343940E+04, -1.277719997E+01, 7.010202240E+00
-4.296331860E-06, 9.877651970E-10, -1.168133105E-13
5.546681380E-18, -8.319542250E+03, -3.611826610E+00
0.000000000E+00, 0.000000000E+00, 6.996862444E+00
2.531375565E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.382072673E+03, -3.509062888E+00

gas, sibr3, 267.7975, si, 1, br, 3, e, 4

cpg, nasa, 3
200, 1000, 6000, 20000
3.972806860E+04, -1.066475023E+03, 1.380836232E+01
-7.641114720E-03, 8.775865830E-06, -5.372430850E-09
1.356453455E-12, -1.651795623E+04, -3.784055370E+01
-8.888024740E+04, -2.267879074E+01, 1.001791167E+01
-7.481150750E-06, 1.709242690E-09, -2.011596627E-13
9.515534150E-18, -2.203026938E+04, -1.537574366E+01
0.000000000E+00, 0.000000000E+00, 9.995664440E+00
2.543355601E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.214581755E+04, -1.520423632E+01

gas, sibr4, 347.7015, si, 1, br, 4, e, 5

cpg, nasa, 3
200, 1000, 6000, 20000
6.821086740E+04, -1.520370776E+03, 1.810453360E+01
-9.734688420E-03, 1.072367466E-05, -6.343858290E-09
1.557228200E-12, -4.616585210E+04, -5.976120630E+01
-1.271409281E+05, -3.768087950E+01, 1.302910642E+01
-1.194958251E-05, 2.693843051E-09, -3.137193207E-13
1.471642663E-17, -5.408998830E+04, -2.940384330E+01
0.000000000E+00, 0.000000000E+00, 1.299435066E+01
2.556493447E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.429256447E+04, -2.913600090E+01

gas, sic, 40.0962, si, 1, c, 1, e, 2

cpg, nasa, 3
200, 1000, 6000, 20000
-6.223330890E+03, 3.141790457E+02, 3.893130830E-01
1.187507540E-02, -1.639277197E-05, 1.131808223E-08
-3.045324231E-12, 8.606227730E+04, 2.310166717E+01
-6.268806030E+04, 7.209836920E+02, 2.162879732E+00
2.201299585E-03, -6.569466590E-07, 9.177110260E-11
-4.969166740E-15, 8.321225850E+04, 1.601675317E+01
0.000000000E+00, 0.000000000E+00, 5.225893560E+00
-7.258935596E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 8.545892010E+04, -4.364651705E+00

gas, sic2, 52.1069, si, 1, c, 2, e, 3

cpg, nasa, 3
200, 1000, 6000, 20000
-4.119628990E+04, 6.869747180E+02, 2.361343691E-02
1.532939217E-02, -1.435588838E-05, 6.375228740E-09
-1.059204957E-12, 7.130890710E+04, 2.828850316E+01
7.026893090E+06, -2.466148437E+04, 3.915453030E+01
-2.002884068E-02, 6.307353690E-06, -8.848383510E-10
4.530549850E-14, 2.267325155E+05, -2.366622024E+02
0.000000000E+00, 0.000000000E+00, 9.736926941E+00
-2.486926941E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.495062348E+04, -3.238581232E+01

gas, sic1, 63.5385, si, 1, cl, 1, e, 2

cpg, nasa, 3
200, 1000, 6000, 20000
1.248508319E+04, -2.044170347E+02, 4.977070850E+00
-5.160756260E-04, 2.931980374E-07, -3.666615230E-12
-3.393037130E-14, 1.686528019E+04, -2.263957240E-01
3.767294560E+05, -1.147956509E+03, 5.735408430E+00
-5.784890810E-04, 1.517304648E-07, -1.291391394E-11
1.554628420E-16, 2.306278401E+04, -6.098515228E+00
0.000000000E+00, 0.000000000E+00, 4.960748221E+00
-4.607482206E-07, 0.000000000E+00, 0.000000000E+00

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0.000000000E+00, 1.423904361E+04, -7.897070533E-01

gas, sic12, 98.9915, si, 1, cl, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
5.305550970E+04, -1.015842786E+03, 1.032848185E+01
-6.212267520E-03, 6.715825400E-06, -3.908801640E-09
9.461732150E-13, -1.650218093E+04, -2.649925756E+01
-8.050871570E+04, -2.661025523E+01, 7.020414720E+00
-8.335824720E-06, 1.871092411E-09, -2.171552767E-13
1.015849895E-17, -2.181294885E+04, -6.638764238E+00
0.000000000E+00, 0.000000000E+00, 6.995822513E+00
2.541774873E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.195793499E+04, -6.449474925E+00

gas, sic13, 134.4445, si, 1, cl, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
8.691708460E+04, -1.677556857E+03, 1.511519060E+01
-8.937031000E-03, 9.097353530E-06, -5.014579960E-09
1.155962016E-12, -3.477477300E+04, -5.087215506E+01
-1.477180114E+05, -5.335200980E+01, 1.004043521E+01
-1.635121060E-05, 3.641940110E-09, -4.200600590E-13
1.955201587E-17, -4.360571650E+04, -2.006632444E+01
0.000000000E+00, 0.000000000E+00, 9.993510011E+00
2.564899895E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.390609332E+04, -1.970515509E+01

gas, sif, 47.0839, si, 1, f, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
1.478223768E+04, 1.357998649E+01, 2.324182643E+00
7.132851180E-03, -1.022951215E-05, 7.148396470E-09
-1.964689785E-12, -3.995380650E+03, 1.231128121E+01
-3.653637880E+05, 8.722860040E+02, 3.377218270E+00
7.508152430E-04, -2.308898619E-07, 3.766781800E-11
-2.143080403E-15, -1.011697664E+04, 8.968132820E+00
0.000000000E+00, 0.000000000E+00, 5.067528362E+00
-5.675283620E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.837204054E+03, -3.507047299E+00

gas, sif2, 66.0823, si, 1, f, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
4.053236650E+04, -3.997637560E+02, 4.055303880E+00
1.153423049E-02, -1.757586754E-05, 1.260369111E-08
-3.517105220E-12, -7.047770460E+04, 3.879854420E+00
-1.675200202E+05, -1.846212090E+02, 7.136986350E+00
-5.450769860E-05, 1.199012961E-08, -1.369470187E-12
6.324889990E-17, -7.287401020E+04, -1.117933348E+01
0.000000000E+00, 0.000000000E+00, 6.990770928E+00
2.592290716E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.404277162E+04, -1.006512184E+01

gas, sif3, 85.0807, si, 1, f, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
5.755369980E+04, -7.179595770E+02, 5.379396940E+00
1.813065142E-02, -2.738373356E-05, 1.946519470E-08
-5.390790560E-12, -1.177631169E+05, -3.442902040E+00
-2.903283702E+05, -3.427876940E+02, 1.025536335E+01
-1.019796690E-04, 2.250326132E-08, -2.577117181E-12
1.192923177E-16, -1.218088967E+05, -2.725261142E+01
0.000000000E+00, 0.000000000E+00, 9.984760882E+00
2.652391178E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.239886165E+05, -2.519265011E+01

gas, sif4, 104.0791, si, 1, f, 4, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
1.069670784E+04, -9.569638640E+01, 2.513988593E+00

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3.309781030E-02, -4.573044080E-05, 3.091834452E-08
-8.269304050E-12, -1.956252529E+05, 1.133722022E+01
-3.845892320E+05, -6.569979910E+02, 1.348925720E+01
-5.100471360E-05, 5.346329580E-08, -4.959598110E-12
2.299314375E-16, -1.957284479E+05, -4.673894650E+01
0.000000000E+00, 0.000000000E+00, 1.422026441E+01
-9.702644055E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.040665398E+05, -5.260397393E+01

gas, sih, 29.0934, si, 1, h, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-6.426676300E+03, 7.417251210E+01, 3.973491600E+00
-4.149408880E-03, 1.022918384E-05, -8.592386360E-09
2.567093743E-12, 4.281745800E+04, 2.246937150E+00
4.042086490E+05, -2.364796524E+03, 7.627499140E+00
-2.496591233E-03, 1.108436410E-06, -1.943991955E-10
1.136251507E-14, 5.704737680E+04, -2.448054429E+01
0.000000000E+00, 0.000000000E+00, 4.906791820E+00
-4.067918197E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.229341605E+04, -5.763730547E+00

gas, sih+, 29.0929, si, 1, h, 1, e, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
-4.307157170E+04, 3.884958240E+02, 2.546166863E+00
-6.686325980E-04, 5.186277020E-06, -4.818569740E-09
1.445702640E-12, 1.349079707E+05, 9.027950090E+00
1.711692033E+05, -1.045807287E+03, 4.838648240E+00
1.277940891E-04, -6.883872450E-08, 1.418843480E-11
-7.855316960E-16, 1.431721450E+05, -7.553299140E+00
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-5.073692324E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.337617070E+05, -8.551399292E+00

gas, sihbr3, 268.8054, si, 1, h, 1, br, 3, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
1.322811122E+05, -2.205365507E+03, 1.775084194E+01
-1.047794569E-02, 1.286821723E-05, -7.743124260E-09
1.819060891E-12, -2.834992682E+04, -6.331199540E+01
2.199973526E+05, -2.024458552E+03, 1.435781007E+01
-5.037015840E-04, 1.054049755E-07, -1.160828765E-11
5.217257680E-16, -2.842086214E+04, -4.536437170E+01
0.000000000E+00, 0.000000000E+00, 1.296594308E+01
2.840569157E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.215041407E+04, -3.471483194E+01

gas, sihcl3, 135.4524, si, 1, h, 1, cl, 3, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
1.659565586E+05, -2.552498122E+03, 1.750117375E+01
-7.885728660E-03, 8.092567490E-06, -3.980420600E-09
7.059173320E-13, -4.951316600E+04, -6.758519053E+01
1.728644072E+05, -2.116727327E+03, 1.441802307E+01
-5.255249620E-04, 1.098826178E-07, -1.209327059E-11
5.432187050E-16, -5.130351940E+04, -5.036360893E+01
0.000000000E+00, 0.000000000E+00, 1.296280325E+01
2.871967462E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.564198815E+04, -3.922521414E+01

gas, sihf3, 86.0886, si, 1, h, 1, f, 3, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
8.325879390E+04, -8.178594460E+02, 4.041717240E+00
2.726104628E-02, -3.787831480E-05, 2.630589305E-08
-7.289582500E-12, -1.416146961E+05, 1.382806532E+00
7.820100800E+04, -2.592742261E+03, 1.475104214E+01
-6.531047200E-04, 1.372428937E-07, -1.516371051E-11
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gas, sihi3, 409.8068, si, 1, h, 1, i, 3, e, 5
cpg, nasa, 3
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1.113840054E+05, -1.974457175E+03, 1.791396249E+01
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2.613287761E-12, -2.256377425E+03, -5.995455130E+01
2.279424252E+05, -1.898603142E+03, 1.428134804E+01
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2.811339938E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.448754509E+04, -3.119590501E+01

gas, sih2br2, 189.9094, si, 1, h, 2, br, 2, e, 5
cpg, nasa, 3
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1.651528003E+05, -2.468145554E+03, 1.608639427E+01
-9.413840900E-03, 1.407423872E-05, -9.240751450E-09
2.255641666E-12, -1.276482614E+04, -5.945374320E+01
5.665851440E+05, -3.973919620E+03, 1.567387912E+01
-9.943802290E-04, 2.084856022E-07, -2.299521351E-11
1.034736283E-15, -2.990690180E+03, -6.190476520E+01
0.000000000E+00, 0.000000000E+00, 1.293868216E+01
3.113178377E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.997982343E+04, -4.099123749E+01

gas, sih2cl2, 101.0074, si, 1, h, 2, cl, 2, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
1.894281754E+05, -2.650960252E+03, 1.549874174E+01
-6.533130750E-03, 9.306098260E-06, -5.639698670E-09
1.213664264E-12, -2.720912007E+04, -6.006331649E+01
5.400204580E+05, -4.062337290E+03, 1.573118788E+01
-1.015038389E-03, 2.127060243E-07, -2.345079226E-11
1.054871984E-15, -1.823098225E+04, -6.544540499E+01
0.000000000E+00, 0.000000000E+00, 1.293617881E+01
3.138211900E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.581032022E+04, -4.407070978E+01

gas, sih2f2, 68.0982, si, 1, h, 2, f, 2, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
1.272188427E+05, -1.241724310E+03, 4.899435890E+00
2.123882008E-02, -2.725708700E-05, 1.860857446E-08
-5.226604330E-12, -8.980466920E+04, -5.111815500E+00
4.726534080E+05, -4.388517690E+03, 1.596032597E+01
-1.102993658E-03, 2.315838331E-07, -2.556974559E-11
1.151499711E-15, -7.316184460E+04, -7.098989270E+01
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3.215591168E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.029067072E+05, -4.780842677E+01

gas, sih2i2, 283.9103, si, 1, h, 2, i, 2, e, 5
cpg, nasa, 3
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1.539963319E+05, -2.414436989E+03, 1.684409354E+01
-1.212037580E-02, 1.808453226E-05, -1.207740133E-08
3.040799276E-12, 5.073073250E+03, -6.098720820E+01
5.942390830E+05, -3.924814480E+03, 1.563850289E+01
-9.805706340E-04, 2.054871384E-07, -2.265587199E-11
1.019168663E-15, 1.513627352E+04, -5.940812520E+01
0.000000000E+00, 0.000000000E+00, 1.294030302E+01
3.096969816E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.153381196E+04, -3.877673883E+01

gas, sih3br, 111.0133, si, 1, h, 3, br, 1, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000

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1.521065525E+05, -1.987744479E+03, 1.131460743E+01
-1.806099407E-03, 7.769262470E-06, -6.233478170E-09
1.585331846E-12, -9.248868880E+02, -3.846463690E+01
9.279285780E+05, -5.917935790E+03, 1.699209298E+01
-1.487507364E-03, 3.123451161E-07, -3.449071470E-11
1.553431675E-15, 2.241560128E+04, -7.948611590E+01
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3.378478739E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.779403812E+04, -4.830405431E+01

gas, sih3cl, 66.5623, si, 1, h, 3, cl, 1, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
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4.942370140E-04, 4.305174760E-06, -3.748327270E-09
8.893504210E-13, -8.180714980E+03, -3.688956824E+01
9.087780940E+05, -5.958949560E+03, 1.702076016E+01
-1.498450667E-03, 3.146813781E-07, -3.475168460E-11
1.565281681E-15, 1.493793206E+04, -8.127277864E+01
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3.391222027E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.554058308E+04, -4.986170403E+01

gas, sih3f, 50.1077, si, 1, h, 3, f, 1, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
1.267836290E+05, -1.177593516E+03, 4.499188960E+00
1.658543011E-02, -1.678598921E-05, 1.019153931E-08
-2.803920232E-12, -4.010392970E+04, -4.481080920E+00
8.624313170E+05, -6.103370570E+03, 1.712733597E+01
-1.540724131E-03, 3.239628720E-07, -3.581056890E-11
1.614151380E-15, -1.261487616E+04, -8.399227210E+01
0.000000000E+00, 0.000000000E+00, 1.290718298E+01
3.428170229E-07, 0.000000000E+00, 0.000000000E+00
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gas, sih3i, 158.0138, si, 1, h, 3, i, 1, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
1.459384799E+05, -1.982982746E+03, 1.196516737E+01
-3.937505950E-03, 1.087991733E-05, -8.433135920E-09
2.196078188E-12, 8.063208310E+03, -4.064553320E+01
9.361149180E+05, -5.859720290E+03, 1.695376698E+01
-1.473497130E-03, 3.094475885E-07, -3.417462470E-11
1.539334807E-15, 3.127499231E+04, -7.801700080E+01
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3.364793717E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.543655324E+03, -4.713997319E+01

gas, sih4, 32.1173, si, 1, h, 4, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
7.872993290E+04, -5.526087050E+02, 2.498944303E+00
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1.290378740E+06, -7.813399780E+03, 1.828851664E+01
-1.975620946E-03, 4.156502150E-07, -4.596745610E-11
2.072777131E-15, 4.766887950E+04, -9.801697460E+01
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3.630202159E-07, 0.000000000E+00, 0.000000000E+00
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gas, sii, 154.9900, si, 1, i, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
9.492081340E+04, -1.573960062E+03, 1.237908109E+01
-1.593864820E-02, 1.692049005E-05, -9.215558320E-09
2.046186848E-12, 3.779735670E+04, -4.066407850E+01
8.529402790E+05, -2.442039471E+03, 7.722977520E+00
-1.985601243E-03, 6.542866630E-07, -9.494158290E-11
4.890041370E-15, 4.578160940E+04, -1.733975081E+01

0.000000000E+00, 0.000000000E+00, 4.812362018E+00
-3.123620183E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.007594666E+04, 2.990357943E+00

gas, sii2, 281.8944, si, 1, i, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
1.163352403E+04, -4.514482170E+02, 8.707978130E+00
-3.580664930E-03, 4.253714430E-06, -2.673478266E-09
6.891558980E-13, 1.126247142E+04, -1.155818335E+01
1.002168907E+04, 1.433017148E+01, 6.701330550E+00
3.960769900E-04, -2.073866165E-07, 4.553457100E-11
-3.016798280E-15, 9.007368100E+03, 2.887336913E-01
0.000000000E+00, 0.000000000E+00, 7.541989742E+00
-2.919897417E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.350689773E+03, -6.080819647E+00

gas, sin, 42.0922, si, 1, n, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-1.464672152E+04, 1.374993497E+02, 3.678508580E+00
-6.158499200E-03, 2.309417067E-05, -2.294461481E-08
7.395665680E-12, 4.673212990E+04, 6.494564115E+00
-2.932685132E+06, 5.853688590E+03, 1.321451677E+00
1.258329284E-03, -3.773886360E-07, 6.887761040E-11
-4.189842590E-15, 6.527148810E+03, 2.553145732E+01
0.000000000E+00, 0.000000000E+00, 5.633919139E+00
-1.133919139E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.336403355E+04, -8.554337271E+00

gas, sio, 44.0849, si, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-4.722771050E+04, 8.063137640E+02, -1.636976133E+00
1.454275546E-02, -1.723202046E-05, 1.042397340E-08
-2.559365273E-12, -1.666585903E+04, 3.355795700E+01
-1.765134162E+05, -3.199177090E+01, 4.477441930E+00
4.591764710E-06, 3.558143150E-08, -1.327012559E-11
1.613253297E-15, -1.350842360E+04, -8.386957330E-01
0.000000000E+00, 0.000000000E+00, 5.003136907E+00
-5.031369069E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.604850531E+04, -5.165923198E+00

gas, sio2, 60.0843, si, 1, o, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-3.362948780E+04, 4.734078920E+02, 2.309770671E-01
1.850230806E-02, -2.242786671E-05, 1.364981554E-08
-3.351935030E-12, -4.226487490E+04, 2.295803206E+01
-1.464031193E+05, -6.261441060E+02, 7.964563710E+00
-1.854119096E-04, 4.095214670E-08, -4.697206760E-12
2.178054280E-16, -3.791834770E+04, -2.045285414E+01
0.000000000E+00, 0.000000000E+00, 7.487046885E+00
-2.370468851E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.204375307E+04, -1.683383922E+01

gas, sis, 60.1505, si, 1, s, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
3.599449290E+04, -4.239723300E+02, 4.654014420E+00
1.588470782E-03, -3.310254360E-06, 2.706096479E-09
-8.113517820E-13, 1.411515571E+04, -1.183201858E+00
-2.102323897E+06, 6.228836180E+03, -3.004120882E+00
4.495499930E-03, -1.368821364E-06, 1.998097253E-10
-9.882035800E-15, -2.795538166E+04, 5.405828786E+01
0.000000000E+00, 0.000000000E+00, 6.032025492E+00
-1.532025492E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.127225535E+03, -1.203281341E+01

gas, si2, 56.1710, si, 2, e, 2
cpg, nasa, 3


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200, 1000, 6000, 20000
1.237596221E+04, -1.024904376E+02, 4.354848520E+00
1.281063335E-03, -2.531991623E-06, 2.265694244E-09
-7.001290140E-13, 6.906942850E+04, 3.251125200E+00
1.370060657E+06, -4.207060040E+03, 9.337432890E+00
-2.749217168E-03, 9.586345960E-07, -1.372449748E-10
6.765028100E-15, 9.510884540E+04, -3.168385190E+01
0.000000000E+00, 0.000000000E+00, 5.820339805E+00
-1.320339805E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.499682747E+04, -7.326428003E+00

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gas, si2c, 68.1817, si, 2, c, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-4.553366200E+03, 1.314796415E+02, 2.469106923E+00
1.276520680E-02, -1.656910776E-05, 1.065289663E-08
-2.739192976E-12, 6.470049920E+04, 1.468838980E+01
-1.253829442E+05, -3.414277790E+02, 7.254365330E+00
-1.017635503E-04, 2.250902158E-08, -2.584074852E-12
1.198884876E-16, 6.608009380E+04, -1.146216579E+01
0.000000000E+00, 0.000000000E+00, 6.989372865E+00
2.606271352E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.385411443E+04, -9.452406067E+00

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gas, si2n, 70.1777, si, 2, n, 1, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
2.318271938E+04, -3.674843790E+02, 5.409658600E+00
8.176389400E-03, -1.220312934E-05, 8.580609100E-09
-2.354927059E-12, 4.809278030E+04, -3.042205654E+00
-2.805026986E+05, 2.502366876E+02, 7.092456100E+00
2.853120795E-04, -9.792101810E-08, 1.552154244E-11
-8.036260450E-16, 4.342014790E+04, -1.009570910E+01
0.000000000E+00, 0.000000000E+00, 7.626499106E+00
-3.764991057E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.431083971E+04, -1.397070499E+01

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gas, si3, 84.2565, si, 3, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-1.114208177E+04, 1.575785843E+02, 2.486135003E+00
1.631637255E-02, -2.208240021E-05, 1.372008287E-08
-3.262330700E-12, 7.328253850E+04, 1.588081347E+01
-1.699395561E+06, 4.697815380E+03, 2.618198124E+00
1.959082075E-03, -2.581160603E-07, 6.103444860E-12
6.086309240E-16, 4.277916810E+04, 2.586540384E+01
0.000000000E+00, 0.000000000E+00, 7.927470793E+00
-6.774707930E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 7.169085329E+04, -1.333294592E+01

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gas, sn, 118.7100, sn, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
-1.248692263E+05, 1.618841190E+03, -4.602397350E+00
1.045433308E-02, 2.998265550E-06, -1.068699386E-08
4.323421310E-12, 2.748364008E+04, 4.805067230E+01
-5.145695640E+06, 1.140575108E+04, -4.179632060E+00
2.236390679E-03, -3.603219770E-07, 2.440237836E-11
-2.937628285E-16, -4.215013570E+04, 5.981450930E+01
-1.119787114E+09, 6.427046040E+05, -1.378615913E+02
1.453867222E-02, -7.109586030E-07, 1.501409263E-11
-8.940758657E-17, -5.111296870E+06, 1.245625545E+03

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gas, sn+, 118.7095, sn, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
-5.571297780E+03, 1.222323189E+02, 1.566361415E+00
3.397061410E-03, -6.312922290E-06, 5.585452080E-09
-1.689021340E-12, 1.209024120E+05, 1.162634765E+01
4.622916850E+06, -1.185958712E+04, 1.237026473E+01
-2.773624217E-03, 3.098513490E-07, -5.362951440E-12

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-8.663474691E-16, 1.994322977E+05, -6.837108280E+01
1.913728057E+08, -1.145730242E+05, 3.070294184E+01
-3.387878800E-03, 1.966377351E-07, -4.388396290E-12
2.057062343E-17, 1.031631149E+06, -2.370157923E+02

gas, sn-, 118.7105, sn, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
2.722796000E+05, -3.369935800E+03, 1.743906405E+01
-2.810527618E-02, 2.790684767E-05, -1.442400675E-08
3.070159757E-12, 3.753227750E+04, -8.007856970E+01
-6.447713220E+04, 7.430555100E+02, 1.921380256E+00
2.361623997E-04, -5.280668360E-08, 6.102339380E-12
-2.843422486E-16, 1.645739414E+04, 1.265436865E+01
-1.314284778E+06, 8.972354270E+02, 2.302354538E+00
2.246840970E-05, -1.392571963E-09, 4.468904450E-14
-5.811846560E-19, 1.428800599E+04, 1.004933765E+01

gas, snf, 137.7084, sn, 1, f, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
6.098503520E+04, -9.860306290E+02, 8.994731210E+00
-1.223012156E-02, 1.840583578E-05, -1.267926607E-08
3.291331020E-12, -7.882614480E+03, -2.221921734E+01
2.589715476E+04, -1.484478214E+03, 7.378518930E+00
-1.324244440E-03, 2.847634043E-07, -2.360371345E-11
6.116783710E-16, -4.776688970E+03, -1.681202516E+01
0.000000000E+00, 0.000000000E+00, 5.135990179E+00
-6.359901792E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.425838072E+04, -1.373252864E+00

gas, snf2, 156.7068, sn, 1, f, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
7.042391850E+04, -1.137505955E+03, 1.008659352E+01
-4.722855930E-03, 4.135702920E-06, -1.921143972E-09
3.640760280E-13, -5.756670820E+04, -2.571566624E+01
-1.027758772E+05, -4.451751620E+01, 7.033268760E+00
-1.329882797E-05, 2.934271938E-09, -3.358415920E-13
1.553358669E-17, -6.362125880E+04, -6.810084520E+00
0.000000000E+00, 0.000000000E+00, 6.994894220E+00
2.551057798E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.387852111E+04, -6.515052037E+00

gas, sno, 134.7094, sn, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.547788022E+04, -2.293583066E+02, 3.421593530E+00
4.713300040E-03, -7.365971320E-06, 5.379738870E-09
-1.519277855E-12, 2.853047679E+03, 6.673965270E+00
-2.555955548E+06, 7.870053500E+03, -5.439768730E+00
6.307819180E-03, -2.068871370E-06, 3.307074880E-10
-1.848169716E-14, -4.841663910E+04, 7.175952460E+01
0.000000000E+00, 0.000000000E+00, 6.661963518E+00
-2.161963518E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.107980871E+03, -1.635277831E+01

gas, sr, 87.6200, sr, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
4.190649840E+00, -6.304437580E-02, 2.500373027E+00
-1.115455943E-06, 1.785248643E-09, -1.456209589E-12
4.750132981E-16, 1.855852648E+04, 5.555772840E+00
1.489414410E+07, -4.375335050E+04, 5.137266280E+01
-2.592566025E-02, 6.582990000E-06, -6.949611800E-10
2.417779662E-14, 2.977545522E+05, -3.454890770E+02
5.562233720E+08, -6.093193220E+05, 2.109096848E+02
-3.010063957E-02, 2.178021676E-06, -7.824003460E-11
1.109909620E-15, 4.579268340E+06, -1.752716908E+03

gas, sr+, 87.6195, sr, 1

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cpg, nasa, 3
298.15, 1000, 6000, 20000
1.127287678E+01, -1.346951870E-01, 2.500651495E+00
-1.635163061E-06, 2.249493149E-09, -1.610827539E-12
4.698612333E-16, 8.538981180E+04, 6.247259240E+00
3.145095058E+06, -9.514756890E+03, 1.350086948E+01
-6.059717120E-03, 1.594068746E-06, -1.718800946E-10
6.322256169E-15, 1.457991907E+05, -7.236416930E+01
9.016769220E+08, -6.244641660E+05, 1.695763594E+02
-2.154835606E-02, 1.462482744E-06, -4.930465390E-11
6.505705019E-16, 4.966238870E+06, -1.431844579E+03

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gas, srbr, 167.5240, sr, 1, br, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-7.549812420E+02, -7.359532010E+01, 4.828035810E+00
-7.160584650E-04, 1.028527433E-06, -6.888370720E-10
1.880257878E-13, -8.686168450E+03, 4.151153090E+00
3.009976114E+06, -9.193192240E+03, 1.526033745E+01
-6.009253950E-03, 1.692611858E-06, -2.039438429E-10
8.807775840E-15, 4.922806130E+04, -7.068253830E+01
2.274974243E+08, -1.566004653E+05, 4.234598410E+01
-3.477076740E-03, 1.358747452E-07, -2.623018618E-12
1.969298231E-17, 1.221445664E+06, -3.265840740E+02

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gas, srbr2, 247.4280, sr, 1, br, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-4.632458660E+03, -7.244938640E+01, 7.800217160E+00
-6.772125310E-04, 8.537780240E-07, -5.632351740E-10
1.510568795E-13, -5.082238330E+04, -5.285074760E+00
-1.186173059E+04, -1.404383013E+00, 7.501215570E+00
-5.415983190E-07, 1.296969275E-10, -1.580911652E-14
7.681582270E-19, -5.118575210E+04, -3.552037110E+00
0.000000000E+00, 0.000000000E+00, 7.501159232E+00
-2.511592324E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.119547181E+04, -3.551445653E+00

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gas, srcl, 123.0730, sr, 1, cl, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
3.555346320E+03, -1.729385697E+02, 5.213451020E+00
-1.542910668E-03, 2.025835568E-06, -1.327076633E-09
3.547175960E-13, -1.588288066E+04, 4.818144784E-01
2.070217324E+06, -6.199891730E+03, 1.150315072E+01
-3.675685460E-03, 9.461732350E-07, -9.203765750E-11
2.707242192E-15, 2.271471632E+04, -4.561058514E+01
1.382269500E+08, -9.659524410E+04, 2.600419230E+01
-1.405193291E-03, 2.007238545E-08, 7.119698480E-13
-2.001316762E-17, 7.447979070E+05, -1.876849167E+02

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gas, srcl+, 123.0725, sr, 1, cl, 1, e, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.689043529E+03, -1.749284676E+02, 5.065328640E+00
-9.857327840E-04, 1.071655138E-06, -5.988127130E-10
1.395650932E-13, 4.861190260E+04, 2.492001711E-01
-2.132475783E+04, -4.057948270E+00, 4.503149390E+00
3.826202380E-05, 2.676951510E-09, 5.667610500E-14
1.613288103E-18, 4.769326030E+04, 3.637722496E+00
-1.041313813E+04, -7.208302400E+00, 4.501589780E+00
3.937923600E-05, 2.394465390E-09, 9.062292570E-14
4.723672450E-21, 4.772357520E+04, 3.647375336E+00

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gas, srcl2, 158.5260, sr, 1, cl, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
1.913170011E+03, -2.681156951E+02, 8.081334300E+00
-2.393329295E-03, 2.976397494E-06, -1.943902862E-09
5.174307710E-13, -5.910111850E+04, -8.457827543E+00
-2.592716099E+04, -5.263785850E+00, 7.004475240E+00

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-1.970397814E-06, 4.679671200E-10, -5.670215880E-14
2.742892387E-18, -6.045399530E+04, -2.192202775E+00
0.000000000E+00, 0.000000000E+00, 6.997695468E+00
2.523045321E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.047520862E+04, -2.140091315E+00

gas, srf, 106.6184, sr, 1, f, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.725008615E+04, -4.850019720E+02, 6.112697200E+00
-3.008469209E-03, 3.368465800E-06, -1.987813072E-09
4.884161090E-13, -3.536890390E+04, -6.683739180E+00
8.702340490E+05, -2.589818770E+03, 7.200264220E+00
-1.173446296E-03, 1.996165066E-07, 1.103842667E-11
-2.343183859E-15, -2.133671699E+04, -1.667390309E+01
-3.448093370E+07, 2.208058158E+04, -5.125719860E+00
2.209099383E-03, -1.551627196E-07, 5.125524390E-12
-6.680071600E-17, -2.048593542E+05, 7.995585500E+01

gas, srf+, 106.6179, sr, 1, f, 1, e, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
4.009624200E+04, -5.944946080E+02, 6.182330330E+00
-2.716159750E-03, 2.641369127E-06, -1.383123292E-09
3.052935853E-13, 2.697149351E+04, -8.313659450E+00
-4.752082060E+04, -2.526802345E+01, 4.519295280E+00
2.556426750E-05, 3.382541830E-09, -1.511394636E-13
9.537491180E-18, 2.383861417E+04, 1.892197325E+00
-2.403608095E+03, -3.242568700E+01, 4.507124800E+00
3.261116540E-05, 1.672393446E-09, 5.130259820E-14
2.102366585E-20, 2.392692006E+04, 1.974517090E+00

gas, srf2, 125.6168, sr, 1, f, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
4.170759650E+04, -8.500132410E+02, 1.002806064E+01
-6.098485190E-03, 7.056261330E-06, -4.359374310E-09
1.111308310E-12, -9.217859850E+04, -2.325100053E+01
-6.126265430E+04, -1.964060822E+01, 7.015557750E+00
-6.512526780E-06, 1.490473613E-09, -1.756437040E-13
8.317093850E-18, -9.656701250E+04, -5.402308760E+00
0.000000000E+00, 0.000000000E+00, 6.996483278E+00
2.535167225E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.667166748E+04, -5.255965145E+00

gas, sri, 214.5245, sr, 1, i, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-2.467498501E+03, -2.535495809E+01, 4.603298480E+00
-1.613676212E-04, 2.694294049E-07, -1.564795762E-10
3.826482280E-14, -2.175538291E+03, 6.411481880E+00
2.201136857E+06, -7.082230700E+03, 1.332597928E+01
-5.305864420E-03, 1.636071150E-06, -2.205540591E-10
1.078496824E-14, 4.219077170E+04, -5.530833200E+01
1.557303348E+08, -1.150787674E+05, 3.550520760E+01
-3.375329300E-03, 1.695651221E-07, -4.438653930E-12
4.852777450E-17, 8.917357880E+05, -2.613917335E+02

gas, sri2, 341.4289, sr, 1, i, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-4.391849690E+03, -3.757267350E+01, 7.656993500E+00
-3.561721300E-04, 4.508689010E-07, -2.983230473E-10
8.018658660E-14, -3.553303460E+04, -2.598281578E+00
-8.090381920E+03, -7.348263230E-01, 7.500640060E+00
-2.863515042E-07, 6.876556970E-11, -8.398807360E-15
4.086968160E-19, -3.572106420E+04, -1.693119087E+00
0.000000000E+00, 0.000000000E+00, 7.501273477E+00
-2.512734771E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.572767483E+04, -1.697839656E+00

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gas, sro, 103.6194, sr, 1, o, 1, e, 2
  cpg, nasa, 3
  200, 1000, 6000, 20000
  4.224891670E+04, -5.913517870E+02, 5.964363000E+00
-2.105712736E-03, 2.028373972E-06, -1.197885492E-09
  3.466289920E-13, 1.018053721E+02, -7.511427470E+00
-5.172933050E+07, 1.510821000E+05, -1.614513515E+02
  8.516051790E-02, -2.091669402E-05, 2.452307103E-09
-1.108841292E-13, -9.687829520E+05, 1.197846971E+03
  1.988729112E+08, -9.438733680E+04, 2.862378041E+01
-2.923338947E-03, 1.808436182E-07, -5.719087480E-12
  7.320935570E-17, 7.583246290E+05, -2.033702568E+02

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gas, sro+, 103.6189, sr, 1, o, 1, e, 1
  cpg, nasa, 3
  298.15, 1000, 6000, 20000
  4.618674160E+04, -4.604560920E+02, 5.605360720E+00
-1.511707524E-03, 1.328692506E-06, -6.244610540E-10
  1.274632229E-13, 7.694140460E+04, -3.377441410E+00
  1.035147885E+06, -3.339081120E+03, 8.520055290E+00
-2.340803237E-03, 7.338594440E-07, -1.031868417E-10
  5.087079240E-15, 9.540749060E+04, -2.491223445E+01
-6.910421610E+07, 1.253686165E+04, 9.522159370E+00
-1.279343636E-03, 8.998760920E-08, -2.931863956E-12
  3.752244570E-17, -5.778506890E+04, -3.231958760E+01

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gas, sroh, 104.6273, sr, 1, o, 1, h, 1, e, 3
  cpg, nasa, 3
  200, 1000, 6000, 20000
  4.640006560E+04, -9.938685540E+02, 9.784948960E+00
-5.774377620E-03, 5.126164110E-06, -1.833418356E-09
  1.926013410E-13, -2.022721196E+04, -2.740670981E+01
  2.545648379E+06, -7.416195980E+03, 1.381956204E+01
-3.096481934E-03, 7.723894210E-07, -7.921280320E-11
  2.740829111E-15, 2.231302058E+04, -6.148781130E+01
  0.000000000E+00, 0.000000000E+00, 8.329998411E+00
-1.079998411E-06, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -3.119878601E+04, -2.201529034E+01

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gas, sroh+, 104.6268, sr, 1, o, 1, h, 1, e, 2
  cpg, nasa, 3
  298.15, 1000, 6000, 20000
  3.857366940E+04, -9.030242330E+02, 9.451103250E+00
-5.042516280E-03, 4.190101890E-06, -1.196920603E-09
  1.606318743E-14, 3.995067720E+04, -2.601486110E+01
  8.679695660E+05, -2.340609538E+03, 7.976829750E+00
  1.023752569E-04, -6.286032330E-08, 1.024851502E-11
-5.7236083920E-16, 5.073157720E+04, -2.027046917E+01
  0.000000000E+00, 0.000000000E+00, 7.435118850E+00
-1.851188500E-07, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, 3.322552884E+04, -1.514347859E+01

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gas, sr(oh)2, 121.6347, sr, 1, o, 2, h, 2, e, 5
  cpg, nasa, 3
  200, 1000, 6000, 20000
  7.205090300E+04, -1.789465226E+03, 1.729429139E+01
-1.169280781E-02, 1.106702894E-05, -4.490146090E-09
  6.603997460E-13, -6.605394040E+04, -6.388681220E+01
  1.750013518E+06, -4.681601500E+03, 1.395548402E+01
  2.035019560E-04, -1.253496115E-07, 2.044549432E-11
-1.142004855E-15, -4.427170240E+04, -5.051456850E+01
  0.000000000E+00, 0.000000000E+00, 1.286613963E+01
  3.838603692E-07, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -7.927571838E+04, -4.021735816E+01

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gas, srs, 119.6850, sr, 1, s, 1, e, 2
  cpg, nasa, 3
  200, 1000, 6000, 20000
  1.256440807E+04, -3.150436559E+02, 5.721722510E+00
-2.630479718E-03, 3.384699750E-06, -2.296256846E-09
  6.512086680E-13, 1.277295160E+04, -3.693874943E+00

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-1.379432947E+07, 3.921331580E+04, -3.602866380E+01
1.818513386E-02, -3.275858160E-06, 2.324312746E-10
-3.614555700E-15, -2.410246179E+05, 2.991679642E+02
0.000000000E+00, 0.000000000E+00, 6.838343603E+00
-2.338343603E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.408299814E+03, -1.437484157E+01

gas, ta, 180.9479, ta, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
-1.150907339E+04, 4.780730430E+01, 3.185588390E+00
-5.366528160E-03, 1.288379705E-05, -1.045798666E-08
3.050617695E-12, 9.299797630E+04, 5.336056610E+00
1.689726898E+06, -5.986854660E+03, 9.565039670E+00
-2.511649459E-03, 6.443031170E-07, -7.189237250E-11
3.113352070E-15, 1.306710983E+05, -4.335096270E+01
-8.413419560E+08, 6.381509040E+05, -1.856031850E+02
2.797353600E-02, -2.073321805E-06, 7.397299170E-11
-1.017863944E-15, -4.836410620E+06, 1.607007750E+03

gas, ta+, 180.9474, ta, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
2.869712865E+05, -3.084920994E+03, 1.430679704E+01
-1.984772164E-02, 1.951445133E-05, -8.970946030E-09
1.501974665E-12, 2.013828712E+05, -6.306427830E+01
3.656142130E+06, -1.254073524E+04, 1.865022579E+01
-7.943274660E-03, 2.151786937E-06, -2.816764844E-10
1.413722944E-14, 2.636876455E+05, -1.065864286E+02
3.724273560E+07, -3.405709310E+04, 1.630056321E+01
-2.064987830E-03, 1.616826024E-07, -5.752060330E-12
7.636581870E-17, 4.405115500E+05, -1.040237652E+02

gas, ta-, 180.9484, ta, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.873982301E+05, -1.681268679E+03, 6.480040150E+00
-2.254355782E-04, 2.028434876E-06, -4.679801430E-09
1.997027996E-12, 9.793496020E+04, -2.049618155E+01
-4.235467480E+06, 1.101056361E+04, -4.736911070E+00
2.503562129E-03, -4.821851690E-07, 4.886408030E-11
-2.030547835E-15, 1.574699408E+04, 6.491802700E+01
4.149884030E+05, 1.227972146E+03, 2.209211582E+00
3.401090760E-05, -2.136872502E-09, 6.906775410E-14
-9.017779200E-19, 8.249065600E+04, 1.195636187E+01

gas, tacl5, 358.2129, ta, 1, cl, 5, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
6.306483290E+04, -1.771221442E+03, 2.255083356E+01
-1.360238041E-02, 1.613009806E-05, -1.016307761E-08
2.631917453E-12, -8.792737110E+04, -8.097864282E+01
-1.426444545E+05, -3.894340320E+01, 1.603142370E+01
-1.333676355E-05, 3.084307611E-09, -3.663930060E-13
1.745841795E-17, -9.701297170E+04, -4.256986372E+01
0.000000000E+00, 0.000000000E+00, 1.599393410E+01
2.560658955E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.721720955E+04, -4.228201390E+01

gas, tao, 196.9473, ta, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-1.395738049E+04, 3.945236990E+02, -6.301696410E-02
1.308595441E-02, -1.862339730E-05, 1.366155583E-08
-3.924551230E-12, 2.645195419E+04, 2.741671469E+01
6.106591120E+06, -1.984135246E+04, 2.815797433E+01
-1.330045882E-02, 3.876807490E-06, -5.068872770E-10
2.443666035E-14, 1.525814433E+05, -1.658307106E+02
-1.076924766E+08, 1.287348862E+04, 1.361132509E+01
-1.443306356E-03, 9.697469230E-08, -3.170023830E-12
4.113579900E-17, -1.302536682E+05, -6.687940680E+01

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gas, tao2, 212.9467, ta, 1, o, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
1.516356303E+04, 7.058414760E+01, 6.918516990E-01
2.020605733E-02, -2.928317413E-05, 2.081417374E-08
-5.751106690E-12, -2.212199468E+04, 2.484662500E+01
1.297565964E+06, -4.149217430E+03, 1.041680373E+01
-1.045478838E-03, 2.754904271E-07, -3.297043130E-11
1.356249074E-15, 3.418985670E+03, -3.392642790E+01
0.000000000E+00, 0.000000000E+00, 8.046960742E+00
-7.969607418E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.621653984E+04, -1.588013931E+01

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gas, ti, 47.8670, ti, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
-4.570179400E+04, 6.608092020E+02, 4.295257490E-01
3.615029910E-03, -3.549792810E-06, 1.759952494E-09
-3.052720871E-13, 5.270947930E+04, 2.026149738E+01
-1.704786714E+05, 1.073852803E+03, 1.181955014E+00
2.245246352E-04, 3.091697848E-07, -5.740027280E-11
2.927371014E-15, 4.978069910E+04, 1.740431368E+01
1.152797766E+09, -7.222408380E+05, 1.777167465E+02
-2.008059096E-02, 1.221052354E-06, -3.811452080E-11
4.798092423E-16, 5.772614540E+06, -1.518080466E+03

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gas, ti+, 47.8665, ti, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.707457044E+05, -1.727524602E+03, 9.615885330E+00
-1.089655060E-02, 8.201809650E-06, -2.871464413E-09
3.420382976E-13, 1.447897558E+05, -3.463143660E+01
-7.685463080E+05, 2.545868100E+03, 3.423862780E-01
7.099901360E-04, 2.706231875E-08, -2.371660100E-11
1.895443077E-15, 1.198821489E+05, 2.484799150E+01
3.918035620E+07, -2.534581605E+04, 9.586759720E+00
-7.584155410E-04, 4.432999350E-08, -8.442571760E-13
-4.517128089E-19, 3.344440620E+05, -5.220026270E+01

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gas, ti-, 47.8675, ti, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
-3.006484990E+03, 2.040911689E+02, 1.822638976E+00
1.245254812E-03, -1.309239865E-06, 7.372143220E-10
-1.724319779E-13, 5.346772050E+04, 1.205926588E+01
2.341117640E+04, 2.580413872E+00, 2.497754577E+00
9.769072040E-07, -2.280024955E-10, 2.717202291E-14
-1.295670294E-18, 5.454662180E+04, 7.999823950E+00
1.417514172E+04, 5.638799640E+00, 2.498751709E+00
1.426579908E-07, -8.889194940E-12, 2.867172222E-16
-3.746329300E-21, 5.451843520E+04, 7.994109450E+00

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gas, ticl, 83.3200, ti, 1, cl, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-1.714177839E+04, 3.103259047E+02, 8.920935980E-01
1.383436793E-02, -1.885370354E-05, 1.212085912E-08
-3.032162427E-12, 1.558066453E+04, 2.244778384E+01
-9.633225420E+05, 2.868829781E+03, 1.973820676E+00
1.752668011E-03, -4.255434360E-07, 5.049103400E-11
-2.304720715E-15, -1.811011561E+03, 2.319450287E+01
0.000000000E+00, 0.000000000E+00, 5.547072113E+00
-1.047072113E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.556999803E+04, -2.604675939E+00

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gas, ticl2, 118.7730, ti, 1, cl, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
1.324354656E+04, -5.762829320E+02, 9.640047290E+00
-4.475120950E-03, 5.398794870E-06, -3.525800490E-09

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9.746004550E-13, -2.792066683E+04, -2.218347625E+01
-3.190012950E+06, 1.015763826E+04, -4.840794770E+00
6.822006340E-03, -1.700753270E-06, 2.118106588E-10
-1.041245457E-14, -9.480982980E+04, 7.823195948E+01
0.000000000E+00, 0.000000000E+00, 8.733918478E+00
-1.483918478E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.455812330E+04, -1.930597776E+01

gas, ticl3, 154.2260, ti, 1, cl, 3, e, 4

cpg, nasa, 3
200, 1000, 6000, 20000
1.243282268E+05, -2.320728253E+03, 1.779895274E+01
-1.160889348E-02, 1.006643154E-05, -4.811940690E-09
1.006186828E-12, -5.609602510E+04, -6.732754065E+01
-9.408792310E+04, -1.255351109E+02, 1.066923972E+01
-2.637456897E-04, 7.959169350E-08, -1.176740054E-11
6.416223480E-16, -6.769114680E+04, -2.369164216E+01
0.000000000E+00, 0.000000000E+00, 1.021812326E+01
3.187673816E-08, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.789304224E+04, -2.053430070E+01

gas, ticl4, 189.6790, ti, 1, cl, 4, e, 5

cpg, nasa, 3
200, 1000, 6000, 20000
8.187196800E+04, -1.758323850E+03, 1.892512121E+01
-1.133495876E-02, 1.251952037E-05, -7.422681330E-09
1.825440187E-12, -8.672923110E+04, -6.769594291E+01
-1.432562278E+05, -4.316774850E+01, 1.303337752E+01
-1.371365738E-05, 3.093403483E-09, -3.604245160E-13
1.691384523E-17, -9.588947000E+04, -3.247541011E+01
0.000000000E+00, 0.000000000E+00, 1.299381568E+01
2.561843213E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.612296661E+04, -3.217066526E+01

gas, tio, 63.8664, ti, 1, o, 1, e, 2

cpg, nasa, 3
200, 1000, 6000, 20000
-1.168152460E+04, 4.542565650E+02, -1.139144613E-01
1.275432333E-02, -1.727656935E-05, 1.187369403E-08
-3.236579370E-12, 2.924306353E+03, 2.702903947E+01
2.330644030E+06, -7.415793860E+03, 1.281799311E+01
-4.344555950E-03, 1.186303111E-06, -1.367644275E-10
5.703212250E-15, 5.144841360E+04, -5.793994240E+01
1.660288147E+08, -1.051853502E+05, 2.749141313E+01
-1.681501753E-03, 4.884078370E-08, -4.721389750E-13
-2.405919722E-18, 8.399156070E+05, -2.030813444E+02

gas, tio+, 63.8659, ti, 1, o, 1, e, 1

cpg, nasa, 3
298.15, 1000, 6000, 20000
3.691256250E+04, -1.492825538E+02, 2.624977257E+00
5.818627130E-03, -7.529662110E-06, 4.744154350E-09
-1.186916989E-12, 8.241551170E+04, 1.095428726E+01
3.421329530E+05, -2.161851060E+03, 8.025175660E+00
-2.708700692E-03, 1.004583805E-06, -1.505766850E-10
8.045658110E-15, 9.362646990E+04, -2.261587887E+01
6.877707550E+07, -4.060032000E+04, 1.371193858E+01
-6.905832140E-04, 2.394468882E-08, -4.056406410E-13
2.475735466E-18, 4.034409840E+05, -8.020740780E+01

gas, tiocl, 99.3194, ti, 1, o, 1, cl, 1, e, 3

cpg, nasa, 3
200, 1000, 6000, 20000
3.545856510E+04, -6.295287140E+02, 7.370176300E+00
3.302019140E-03, -6.121458750E-06, 4.735880250E-09
-1.374690357E-12, -2.797087903E+04, -1.294470159E+01
-1.273059873E+05, -1.111118850E+02, 7.582888080E+00
-3.312871800E-05, 7.314014090E-09, -8.378822260E-13
3.879275060E-17, -3.139356857E+04, -1.247104274E+01
0.000000000E+00, 0.000000000E+00, 7.496135008E+00
-2.461350083E-07, 0.000000000E+00, 0.000000000E+00

0.000000000E+00, -3.209487279E+04, -1.180944824E+01

gas, tiocl2, 134.7724, ti, 1, o, 1, cl, 2, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
3.289052460E+04, -7.389188590E+02, 1.055976857E+01
1.577742341E-03, -3.907182100E-06, 3.290576530E-09
-9.949471750E-13, -6.448410700E+04, -2.417469934E+01
-1.322951633E+05, -9.691212050E+01, 1.007240769E+01
-2.897248531E-05, 6.401775040E-09, -7.338452600E-13
3.399282670E-17, -6.847409640E+04, -1.975043469E+01
0.000000000E+00, 0.000000000E+00, 9.993213200E+00
2.567867997E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.907006800E+04, -1.914545847E+01

gas, tio2, 79.8658, ti, 1, o, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-1.710545601E+03, 2.721435528E+02, 5.961378960E-01
1.925463599E-02, -2.665500165E-05, 1.811109197E-08
-4.876710470E-12, -3.912241770E+04, 2.408605889E+01
1.546299764E+05, -1.046256880E+03, 7.788985830E+00
-1.546805714E-04, -7.059935950E-08, 3.100244802E-11
-2.494725430E-15, -3.266336750E+04, -1.591534660E+01
0.000000000E+00, 0.000000000E+00, 7.614797993E+00
-3.647979931E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.244178093E+04, -1.500056633E+01

gas, u, 238.0289, u, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
6.965737750E+04, -1.070351517E+03, 8.075842310E+00
-1.060034069E-02, 9.256548010E-06, -3.219899760E-09
4.058048809E-13, 6.866513700E+04, -2.240521678E+01
-4.092498960E+06, 1.274888349E+04, -1.218707506E+01
7.258105680E-03, -7.787775070E-07, -3.844353850E-11
7.066508567E-15, -1.699372664E+04, 1.155026301E+02
-2.424676814E+08, 1.022495503E+05, -2.321762289E+00
-7.433177460E-04, 9.674993970E-08, -4.159452280E-12
6.313829223E-17, -8.137559280E+05, 7.333489176E+01

gas, uf, 257.0273, u, 1, f, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
1.725533463E+05, -1.698985561E+03, 5.902926430E+00
1.841977309E-02, -4.633174310E-05, 4.376657200E-08
-1.451876566E-11, 2.086455917E+03, -1.186592944E+01
-5.325439370E+06, 1.533967086E+04, -1.175044398E+01
9.647210930E-03, -2.498778190E-06, 3.155572896E-10
-1.544694839E-14, -1.057196525E+05, 1.220828149E+02
2.021978468E+08, -1.196840152E+05, 3.263355240E+01
-2.553105588E-03, 1.191730174E-07, -2.677714445E-12
2.360089903E-17, 9.473656850E+05, -2.396788565E+02

gas, uf+, 257.0268, u, 1, f, 1, e, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.622640597E+06, -1.917326611E+04, 8.759461220E+01
-1.699915707E-01, 1.861251683E-04, -1.036176702E-07
2.324287412E-11, 1.616709643E+05, -4.806891249E+02
5.395091840E+05, -2.923962095E+03, 1.008511948E+01
-2.425945123E-03, 5.928725480E-07, -6.795845540E-11
3.152666445E-15, 8.267291220E+04, -3.307089704E+01
5.357726300E+07, -1.105107069E+04, 1.891324705E+00
1.246403421E-03, -1.128508026E-07, 4.314527550E-12
-6.027569830E-17, 1.776673362E+05, 2.409952635E+01

gas, uf-, 257.0279, u, 1, f, 1, e, 3
cpg, nasa, 3
298.15, 1000, 6000, 20000
3.692327860E+03, -1.491979606E+02, 4.033988520E+00

2.857429445E-03, -5.171702560E-06, 3.985379110E-09
-9.470355440E-13, -1.915281695E+04, 6.059243838E+00
-4.311143560E+06, 1.974817938E+04, -2.760304763E+01
2.276806261E-02, -6.888741720E-06, 9.483511060E-10
-4.910688100E-14, -1.380801290E+05, 2.240758537E+02
-3.090384299E+08, 1.824173856E+05, -3.570033800E+01
4.596835280E-03, -2.809511961E-07, 9.028550240E-12
-1.169274383E-16, -1.475954920E+06, 3.592431751E+02

gas, uf2, 276.0257, u, 1, f, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
-3.882492020E+04, 4.454930860E+02, 4.718009190E+00
1.648911480E-03, 8.696243010E-06, -1.207439921E-08
4.536793910E-12, -6.855329330E+04, 1.159725423E+01
-4.716776820E+05, 3.224236860E+02, 8.214090630E+00
-1.407413780E-04, 6.541178050E-09, 1.818915497E-12
-2.287963719E-16, -6.995235050E+04, -9.648963156E+00
3.833722170E+06, -5.166288400E+03, 1.000042588E+01
-3.502166850E-04, 1.973413760E-08, -5.613962470E-13
6.472362570E-18, -2.897767010E+04, -2.492966720E+01

gas, uf2+, 276.0252, u, 1, f, 2, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
5.439010160E+03, -1.507096256E+02, 6.873485190E+00
1.530973969E-03, -3.316694310E-06, 2.949453335E-09
-8.281706540E-13, 7.256014910E+03, -2.205491833E+00
-3.779149610E+06, 1.298737504E+04, -1.027930641E+01
1.048838051E-02, -2.651047812E-06, 3.116973593E-10
-1.417216291E-14, -7.433440200E+04, 1.189131079E+02
-9.003702250E+07, 4.886273610E+04, -2.192209667E-01
6.378651730E-04, -3.372669300E-08, 9.777729090E-13
-1.189890068E-17, -3.936562000E+05, 6.595164355E+01

gas, uf2-, 276.0263, u, 1, f, 2, e, 4
cpg, nasa, 3
298.15, 1000, 6000, 20000
8.060491730E+05, -9.404254660E+03, 4.448392770E+01
-6.868558770E-02, 6.777809920E-05, -3.338827680E-08
6.604851620E-12, -3.603306130E+04, -2.261594249E+02
1.038231855E+07, -2.840113518E+04, 3.498533370E+01
-1.053216396E-02, 1.924620470E-06, -1.698749570E-10
5.709858890E-15, 1.001572794E+05, -2.094039075E+02
-5.046229980E+07, 3.524957180E+04, -8.601752150E-01
8.947422820E-04, -5.540675440E-08, 1.776021844E-12
-2.307535574E-17, -3.584621110E+05, 6.877566575E+01

gas, uf3, 295.0241, u, 1, f, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
3.071027207E+04, -6.340789470E+02, 1.114030799E+01
-2.937554125E-04, -1.865390371E-06, 2.371819470E-09
-7.446754070E-13, -1.271838141E+05, -2.348962529E+01
-3.828876420E+06, 1.296891783E+04, -7.265554290E+00
1.048289752E-02, -2.649840687E-06, 3.115594509E-10
-1.416579400E-14, -2.113615913E+05, 1.054464687E+02
-9.007768940E+07, 4.885212250E+04, 2.783068500E+00
6.376088800E-04, -3.371098360E-08, 9.772726250E-13
-1.189242739E-17, -5.307242640E+05, 5.256841035E+01

gas, uf3+, 295.0236, u, 1, f, 3, e, 3
cpg, nasa, 3
298.15, 1000, 6000, 20000
-3.984155890E+05, 3.480892440E+03, -2.519603507E+00
2.283749282E-02, -2.168844780E-05, 1.111265790E-08
-2.350882012E-12, -5.550889200E+04, 5.853815975E+01
-1.196316388E+06, 3.972785070E+03, 4.535907110E+00
4.133416150E-03, -1.097960689E-06, 1.319641252E-10
-6.101129180E-15, -6.199541740E+04, 2.137623045E+01
-4.490516590E+07, 2.285903928E+04, 7.869516510E+00

1.274792626E-04, -5.228047920E-09, 1.360286305E-13
-1.645113815E-18, -2.269266296E+05, 6.797911871E+00

gas, uf3-, 295.0247, u, 1, f, 3, e, 5
cpg, nasa, 3
298.15, 1000, 6000, 20000
-2.315187300E+05, 2.534197822E+03, -3.180714590E+00
2.932741422E-02, -2.856912260E-05, 1.345804152E-08
-2.465442912E-12, -1.580387746E+05, 5.973605435E+01
-1.910053149E+05, -5.069181310E+02, 1.181482258E+01
-1.711879404E-04, -9.384839180E-08, 2.242009537E-11
-1.428195280E-15, -1.438628681E+05, -2.774680411E+01
-1.944714123E+07, 1.429185303E+04, 7.239366640E+00
2.897026663E-04, -1.704156160E-08, 5.276150470E-13
-6.688352280E-18, -2.573053031E+05, 1.122428161E+01

gas, uf4, 314.0225, u, 1, f, 4, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
-5.007852380E+04, -9.693493550E+02, 2.069596355E+01
-2.564852637E-02, 4.195860120E-05, -3.201013390E-08
9.422076860E-12, -1.931626334E+05, -7.172362935E+01
-1.230291173E+06, 3.876463790E+03, 7.621625910E+00
4.094525220E-03, -1.088530094E-06, 1.308042117E-10
-6.044390870E-15, -2.214142920E+05, 6.270300658E+00
-4.422199930E+07, 2.244095755E+04, 1.096208609E+01
1.168958941E-04, -4.568843620E-09, 1.147904592E-13
-1.368068374E-18, -3.836270440E+05, -8.486934342E+00

gas, uf4+, 314.0220, u, 1, f, 4, e, 4
cpg, nasa, 3
298.15, 1000, 6000, 20000
3.848956330E+04, -1.343282151E+03, 1.646334809E+01
-7.196079860E-03, 1.147165041E-05, -8.705877980E-09
2.501076195E-12, -7.405048200E+04, -5.295285535E+01
-1.617630159E+06, 3.765934770E+03, 9.166138530E+00
2.426641067E-03, -5.695320300E-07, 6.021096600E-11
-2.438874329E-15, -1.061910645E+05, -4.162641042E+00
-2.790280948E+07, 1.464555692E+04, 1.168522991E+01
5.249951330E-05, -1.762380856E-10, -5.000071600E-14
1.088450028E-18, -2.028630553E+05, -1.708462849E+01

gas, uf4-, 314.0231, u, 1, f, 4, e, 6
cpg, nasa, 3
298.15, 1000, 6000, 20000
7.203179690E+04, -1.374343862E+03, 1.640877729E+01
-4.363066270E-03, 2.460407959E-06, -1.498144731E-10
-1.239417075E-13, -2.045174023E+05, -5.172250795E+01
-4.639200110E+06, 1.626824426E+04, -9.595291050E+00
1.441556535E-02, -4.008173850E-06, 5.140230790E-10
-2.511687821E-14, -3.125140933E+05, 1.274038784E+02
-1.308421305E+08, 8.061319300E+04, -3.939161520E+00
1.853747295E-03, -1.116700599E-07, 3.508474880E-12
-4.490622440E-17, -8.552752700E+05, 1.210372085E+02

gas, uf5, 333.0209, u, 1, f, 5, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
1.615769193E+05, -2.976611537E+03, 2.537542420E+01
-1.930105670E-02, 2.561852107E-05, -1.747402896E-08
4.732059380E-12, -2.239089616E+05, -1.024264836E+02
-1.695373880E+06, 3.735425350E+03, 1.218748040E+01
2.418608203E-03, -5.678526160E-07, 6.002765610E-11
-2.430740809E-15, -2.645107342E+05, -1.883137475E+01
-2.820007103E+07, 1.475725044E+04, 1.466020135E+01
5.538728810E-05, -3.572588510E-10, -4.414506670E-14
1.011890437E-18, -3.622893270E+05, -3.137230618E+01

gas, uf5+, 333.0204, u, 1, f, 5, e, 5
cpg, nasa, 3
298.15, 1000, 6000, 20000

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1.626519713E+05, -2.915370389E+03, 2.436168077E+01
-1.382199656E-02, 1.339849041E-05, -7.078572690E-09
1.573404040E-12, -9.226404850E+04, -9.830243935E+01
-2.628478263E+05, -1.174047323E+02, 1.608988291E+01
-3.665516710E-05, 8.221494970E-09, -9.537160520E-13
4.460145080E-17, -1.076293931E+05, -4.763374165E+01
-4.772763820E+04, -1.534892435E+02, 1.603372733E+01
-3.833472040E-06, 2.377658266E-10, -7.638474870E-15
9.946126940E-20, -1.071959701E+05, -4.725516365E+01

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gas, uf5-, 333.0215, u, 1, f, 5, e, 7
cpg, nasa, 3
298.15, 1000, 6000, 20000
-3.142130934E+05, 2.020611008E+03, 7.508491820E+00
1.640034396E-02, -1.562795472E-05, 7.990246010E-09
-1.671674534E-12, -2.907647496E+05, 4.690020575E+00
-1.331518187E+06, 3.905516860E+03, 1.058727667E+01
4.112507270E-03, -1.093277930E-06, 1.314215436E-10
-6.075778270E-15, -3.049506955E+05, -7.977511665E+00
-4.492648300E+07, 2.277621599E+04, 1.388769935E+01
1.254140874E-04, -5.100027930E-09, 1.319174409E-13
-1.591595740E-18, -4.696748520E+05, -2.232978306E+01

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gas, uf6, 352.0193, u, 1, f, 6, e, 7
cpg, nasa, 3
200, 1000, 6000, 20000
1.915674060E+05, -3.426391610E+03, 2.800395890E+01
-1.326392086E-02, 1.107123764E-05, -4.821754110E-09
8.325132450E-13, -2.461045194E+05, -1.211612947E+02
-3.409027920E+05, -1.458950046E+02, 1.910902533E+01
-4.358451130E-05, 9.617604660E-09, -1.100915551E-12
5.092645080E-17, -2.643645561E+05, -6.579130396E+01
-2.639780713E+05, -8.680089820E+01, 1.901877513E+01
-2.107561344E-06, 1.295346553E-10, -4.136090060E-15
5.365237680E-20, -2.646640074E+05, -6.513581536E+01

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gas, uf6-, 352.0199, u, 1, f, 6, e, 8
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.569230858E+05, -3.027279940E+03, 2.701442427E+01
-1.136860992E-02, 8.298576160E-06, -2.582889593E-09
2.790817248E-13, -3.135307376E+05, -1.128934794E+02
2.699676848E+06, -6.574459670E+03, 2.241731997E+01
6.057799710E-04, -4.517491710E-07, 7.821820470E-11
-4.560334720E-15, -2.855667984E+05, -9.182896336E+01
-7.865804610E+07, 4.174825500E+04, 1.201141201E+01
6.958372750E-04, -4.049760430E-08, 1.262006447E-12
-1.620083625E-17, -6.704395130E+05, 1.746878673E+00

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gas, v, 50.9415, v, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
-5.535376020E+04, 5.593338510E+02, 2.675543482E+00
-6.243049630E-03, 1.565902337E-05, -1.372845314E-08
4.168388810E-12, 5.820664360E+04, 9.524567490E+00
1.200390300E+06, -5.027005300E+03, 1.058830594E+01
-5.044326100E-03, 1.488547375E-06, -1.785922508E-10
8.113013866E-15, 9.170740910E+04, -4.768336320E+01
2.456040166E+09, -1.339992028E+06, 2.781039851E+02
-2.638937359E-02, 1.303527149E-06, -3.214680330E-11
3.099999094E-16, 1.087152043E+07, -2.439954380E+03

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gas, v+, 50.9410, v, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
7.568834460E+04, -8.415273820E+02, 7.559232710E+00
-1.441722656E-02, 2.038356397E-05, -1.289073883E-08
3.065656561E-12, 1.444478191E+05, -1.991067645E+01
2.347072054E+06, -9.021197190E+03, 1.477349798E+01
-6.891896880E-03, 1.968884877E-06, -2.539798544E-10
1.226783122E-14, 1.958351444E+05, -7.855592930E+01

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2.516527258E+08, -1.866476656E+05, 5.633587110E+01
-7.198536950E-03, 5.074401490E-07, -1.699749225E-11
2.157800037E-16, 1.585980536E+06, -4.512822600E+02

gas, v-, 50.9420, v, 1, e, 2

cpg, nasa, 3
298.15, 1000, 6000, 20000
-3.799273560E+03, 2.313840448E+02, 1.725608190E+00
1.429275357E-03, -1.506038188E-06, 8.491815170E-10
-1.987980413E-13, 5.347402920E+04, 1.261900982E+01
2.600100430E+04, 2.096334097E+00, 2.498006548E+00
8.991278840E-07, -2.139749508E-10, 2.581021334E-14
-1.240812796E-18, 5.470007080E+04, 7.977900240E+00
1.601102910E+04, 5.820974900E+00, 2.498705489E+00
1.484212570E-07, -9.272956840E-12, 2.997799727E-16
-3.924862230E-21, 5.466692550E+04, 7.974557420E+00

gas, vn, 64.9482, v, 1, n, 1, e, 2

cpg, nasa, 3
200, 1000, 6000, 20000
-1.581737285E+04, 4.868165420E+02, -1.045200388E+00
1.685261043E-02, -2.334616543E-05, 1.588710050E-08
-4.279080880E-12, 5.981481400E+04, 3.144995263E+01
1.018619667E+06, -3.932305570E+03, 9.856823610E+00
-3.289221710E-03, 1.005181767E-06, -1.243211436E-10
5.486776560E-15, 8.557318340E+04, -3.552830762E+01
0.000000000E+00, 0.000000000E+00, 5.947125850E+00
-1.447125850E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.609857880E+04, -9.681379965E+00

gas, vo, 66.9409, v, 1, o, 1, e, 2

cpg, nasa, 3
200, 1000, 6000, 20000
-1.311619784E+04, 3.747816970E+02, 9.300834860E-02
1.244977714E-02, -1.688540028E-05, 1.142443381E-08
-3.040589320E-12, 1.523789920E+04, 2.536811755E+01
2.986190283E+06, -1.011344974E+04, 1.718161749E+01
-7.876705030E-03, 2.562279547E-06, -3.547400350E-10
1.770268056E-14, 7.961254880E+04, -8.789993010E+01
1.004530292E+08, -9.008780230E+04, 3.186107720E+01
-2.862639937E-03, 1.440482244E-07, -3.802861470E-12
4.195092660E-17, 7.011401290E+05, -2.336810859E+02

gas, vo2, 82.9403, v, 1, o, 2, e, 3

cpg, nasa, 3
200, 1000, 6000, 20000
-6.678585860E+03, 3.911597580E+02, -1.028549847E+00
2.401523419E-02, -3.337378810E-05, 2.283623543E-08
-6.199143100E-12, -3.074609276E+04, 3.277912380E+01
1.210632401E+05, -1.627832993E+03, 9.252713100E+00
-1.572703139E-03, 5.231430160E-07, -6.476071140E-11
2.847226026E-15, -2.097306345E+04, -2.547380687E+01
0.000000000E+00, 0.000000000E+00, 8.088422010E+00
-8.384220103E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.535058358E+04, -1.883029930E+01

gas, w, 183.8400, w, 1, e, 1

cpg, nasa, 3
200, 1000, 6000, 20000
1.595223922E+05, -2.673843928E+03, 2.060469727E+01
-6.252315230E-02, 1.105654838E-04, -8.453511610E-08
2.336187771E-11, 1.139648616E+05, -9.011836900E+01
-8.048745960E+06, 1.465700424E+04, -2.508531501E-01
-2.596486992E-03, 1.409225475E-06, -2.233011706E-10
1.262640862E-14, -3.091130919E+03, 3.955822190E+01
1.421636486E+09, -4.325365550E+05, -8.841615070E+00
1.645538940E-02, -1.908373835E-06, 8.530482890E-11
-1.360501851E-15, 3.994798750E+06, -1.266418236E+01

gas, w+, 183.8395, w, 1

cpg, nasa, 3

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298.15, 1000, 6000, 20000
-1.969284929E+05, 2.670137332E+03, -1.131686913E+01
3.308183730E-02, -3.629035500E-05, 2.066142971E-08
-4.808285562E-12, 1.820950862E+05, 8.552104480E+01
6.387743400E+06, -2.061811463E+04, 2.759291576E+01
-1.244535845E-02, 3.271200490E-06, -4.065463720E-10
1.912595872E-14, 3.245174430E+05, -1.716919194E+02
6.839559150E+07, -8.981711810E+04, 3.845720800E+01
-5.465752290E-03, 4.024981150E-07, -1.342970538E-11
1.667637540E-16, 8.546932820E+05, -2.892805521E+02

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gas, w-, 183.8405, w, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 9.142981370E+04, 8.461169670E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 9.142981370E+04, 8.461169670E+00
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 9.142981370E+04, 8.461169670E+00

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gas, wcl6, 396.5580, w, 1, cl, 6, e, 7
cpg, nasa, 3
200, 1000, 6000, 20000
3.339391670E+04, -1.697366080E+03, 2.560612352E+01
-1.425247881E-02, 1.739682668E-05, -1.120537864E-08
2.951522890E-12, -5.673059240E+04, -9.741466299E+01
-1.516735473E+05, -3.451379250E+01, 1.902867176E+01
-1.242486969E-05, 2.917675103E-09, -3.505981440E-13
1.685355887E-17, -6.535779790E+04, -5.894914959E+01
0.000000000E+00, 0.000000000E+00, 1.899376902E+01
2.562309800E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.552892613E+04, -5.868100478E+01

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gas, wo, 199.8394, w, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-1.933758411E+04, 4.936690840E+02, -4.116148220E-01
1.307976507E-02, -1.689145619E-05, 1.092748066E-08
-2.820593541E-12, 4.511017900E+04, 3.002592661E+01
1.262156956E+06, -4.177263120E+03, 9.358286470E+00
-2.887612220E-03, 8.893933960E-07, -8.955318700E-11
2.504359614E-15, 7.313380640E+04, -3.144882290E+01
1.942009403E+08, -1.501316158E+05, 4.237023540E+01
-3.309676390E-03, 1.396809578E-07, -3.039263166E-12
2.703787815E-17, 1.214349290E+06, -3.296819210E+02

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gas, wocl4, 341.6514, w, 1, o, 1, cl, 4, e, 6
cpg, nasa, 3
200, 1000, 6000, 20000
2.658812693E+04, -9.336913240E+02, 1.321377385E+01
1.270930811E-02, -1.964716509E-05, 1.405106974E-08
-3.899382140E-12, -6.792290790E+04, -3.594869683E+01
-3.049028285E+05, -3.539425860E+02, 1.626432703E+01
-1.058245461E-04, 2.340548846E-08, -2.685852021E-12
1.245412684E-16, -7.272546740E+04, -4.991761253E+01
0.000000000E+00, 0.000000000E+00, 1.598418393E+01
2.658160651E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.497388126E+04, -4.778555171E+01

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```

gas, wo2, 215.8388, w, 1, o, 2, e, 3
cpg, nasa, 3
200, 1000, 6000, 20000
3.120918919E+03, 2.413883468E+02, -3.024119184E-01
2.324333417E-02, -3.378812680E-05, 2.380934019E-08
-6.421592880E-12, 1.442005265E+03, 2.957655179E+01
-7.537406680E+05, 3.204643050E+03, 6.701965600E-01
4.488238870E-03, -8.858328460E-07, 6.245171750E-11

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-9.046613900E-16, -1.769420230E+04, 3.405724010E+01
0.000000000E+00, 0.000000000E+00, 8.547733478E+00
-1.297733478E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.095839858E+03, -1.980150529E+01

gas, wo2cl2, 286.7448, w, 1, o, 2, cl, 2, e, 5
cpg, nasa, 3
200, 1000, 6000, 20000
4.300154480E+02, -2.438547856E+02, 7.976306990E+00
1.715005722E-02, -2.487975176E-05, 1.737644163E-08
-4.771928400E-12, -8.232812400E+04, -7.844771421E+00
-2.404791730E+05, -3.068379644E+02, 1.322814502E+01
-9.100220710E-05, 2.006581020E-08, -2.296837607E-12
1.062829386E-16, -8.367493060E+04, -3.491556626E+01
0.000000000E+00, 0.000000000E+00, 1.298672744E+01
2.632725632E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.563261109E+04, -3.307821571E+01

gas, wo3, 231.8382, w, 1, o, 3, e, 4
cpg, nasa, 3
200, 1000, 6000, 20000
7.262461460E+03, 3.429391090E+01, 1.573061955E+00
2.754971099E-02, -3.994827310E-05, 2.809371537E-08
-7.777545730E-12, -4.001733270E+04, 1.857409963E+01
1.732203640E+06, -6.284719780E+03, 1.681358864E+01
-3.472089360E-03, 8.079935800E-07, -6.589378720E-11
1.142928957E-15, -2.473075565E+03, -7.407474090E+01
0.000000000E+00, 0.000000000E+00, 1.132410737E+01
-1.074107368E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.837374168E+04, -3.595177348E+01

gas, wo3-, 231.8387, w, 1, o, 3, e, 5
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.630999684E+05, -1.967609682E+03, 1.201970914E+01
1.681260779E-03, -5.859360060E-06, 5.028616330E-09
-1.434012198E-12, -7.009203990E+04, -3.936901040E+01
4.637832510E+05, -1.347089334E+03, 9.773637560E+00
1.071395459E-03, -3.842403660E-07, 5.737531900E-11
-3.157605982E-15, -7.239515570E+04, -2.391116343E+01
0.000000000E+00, 0.000000000E+00, 1.045979544E+01
-2.097954411E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.300594096E+04, -2.704106701E+01

gas, (wo3)2, 463.6764, w, 2, o, 6, e, 8
cpg, nasa, 3
200, 1000, 6000, 20000
8.088414510E+04, -9.060340790E+02, 7.601575390E+00
5.241008510E-02, -7.922356390E-05, 5.708640180E-08
-1.606775042E-11, -1.441496996E+05, -1.093524051E+01
-6.674072430E+05, -7.032518360E+02, 2.251617461E+01
-2.035473339E-04, 4.444320340E-08, -5.045188080E-12
2.318375739E-16, -1.502699479E+05, -8.613988980E+01
0.000000000E+00, 0.000000000E+00, 2.196810772E+01
2.818922836E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.547313643E+05, -8.195663146E+01

gas, (wo3)3, 695.5146, w, 3, o, 9, e, 12
cpg, nasa, 3
200, 1000, 6000, 20000
3.485390010E+04, -1.933496319E+02, 8.206544780E+00
8.599515510E-02, -1.257565252E-04, 8.891567220E-08
-2.471213564E-11, -2.462453469E+05, -5.657325260E+00
-9.450263310E+05, -1.133837222E+03, 3.483479230E+01
-3.301361100E-04, 7.226602130E-08, -8.221581630E-12
3.785050840E-16, -2.488486308E+05, -1.441551053E+02
0.000000000E+00, 0.000000000E+00, 3.395322914E+01
2.967708633E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.560853607E+05, -1.374349625E+02

gas, (wo3)4, 927.3528, w, 4, o, 12, e, 16

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cpg, nasa, 3
200, 1000, 6000, 20000
1.388606167E+04, 2.287518563E+02, 8.662370000E+00
1.219700696E-01, -1.770499494E-04, 1.246790033E-07
-3.456182860E-11, -3.467839600E+05, -3.603937290E+00
-1.277530217E+06, -1.566538532E+03, 4.715363520E+01
-4.563263220E-04, 9.990758360E-08, -1.136816181E-11
5.234399340E-16, -3.477418470E+05, -2.051588395E+02
0.000000000E+00, 0.000000000E+00, 4.593674927E+01
3.132507291E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.577511317E+05, -1.958841032E+02

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gas, xe, 131.2930, xe, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.453750000E+02, 6.164454205E+00
4.025226680E+03, -1.209507521E+01, 2.514153347E+00
-8.248102080E-06, 2.530232618E-09, -3.892333230E-13
2.360439138E-17, -6.685800730E+02, 6.063710715E+00
2.540397456E+08, -1.105373774E+05, 1.382644099E+01
1.500614606E-03, -3.935359030E-07, 2.765790584E-11
-5.943990574E-16, 9.285443830E+05, -1.109834556E+02

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gas, xe+, 131.2925, xe, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.002923620E+02, -1.218753648E+00, 2.506016493E+00
-1.547411334E-05, 2.191372741E-08, -1.623684074E-11
4.929132670E-15, 1.407665368E+05, 7.516712465E+00
-1.241683887E+04, -1.500654643E+02, 2.964678293E+00
-4.693396660E-04, 1.959138719E-07, -3.037761925E-11
1.637361082E-15, 1.414966808E+05, 4.565685735E+00
-2.562275878E+08, 1.570476914E+05, -3.635537230E+01
5.019392580E-03, -3.438107240E-07, 1.140544651E-11
-1.295661530E-16, -1.103556546E+06, 3.436188813E+02

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gas, zn, 65.3900, zn, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
0.000000000E+00, 0.000000000E+00, 2.500000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.493805072E+04, 5.118861010E+00
-1.755591489E+05, 4.984139240E+02, 1.969386292E+00
2.608808787E-04, -5.627195080E-08, 2.723336049E-12
4.266685808E-16, 1.173773458E+04, 8.961085650E+00
-2.087287962E+08, 1.578178131E+05, -3.622033110E+01
3.345230020E-03, -8.567422720E-09, -7.122544740E-12
1.691187274E-16, -1.217847671E+06, 3.459439960E+02

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gas, zn+, 65.3895, zn, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
4.098344940E-04, -4.343581620E-06, 2.500000019E+00
-4.389036810E-11, 5.563969200E-14, -3.638228260E-17
9.607881995E-21, 1.246979918E+05, 5.811995500E+00
-3.436179460E+05, 9.567355240E+02, 1.511478952E+00
4.613467960E-04, -8.786800980E-08, 7.558567780E-13
1.168827311E-15, 1.185321933E+05, 1.300742670E+01
-3.011747676E+09, 2.074729347E+06, -5.589526960E+02
7.501396440E-02, -5.136763100E-06, 1.741662147E-10
-2.323920111E-15, -1.609057856E+07, 4.824788010E+03

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```

gas, zr, 91.2240, zr, 1, e, 1
cpg, nasa, 3
200, 1000, 6000, 20000
6.715899960E+04, -9.435981740E+02, 6.359756180E+00
-9.790119730E-04, -7.608224150E-06, 9.308717430E-09
-3.124675586E-12, 7.588019470E+04, -1.665770522E+01
6.006771840E+06, -1.566960605E+04, 1.796982350E+01

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-6.763409650E-03, 1.733678968E-06, -2.064699786E-10
9.334092610E-15, 1.734636249E+05, -1.051117377E+02
5.207701380E+08, -2.825652444E+05, 6.077054350E+01
-5.081211410E-03, 2.345845819E-07, -6.237212120E-12
8.010718759E-17, 2.351487351E+06, -5.093183060E+02

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```

gas, zr+, 91.2235, zr, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.739842193E+05, -2.224598466E+03, 1.400787829E+01
-2.378785396E-02, 2.641058912E-05, -1.442565487E-08
3.135982142E-12, 1.598210714E+05, -5.816728810E+01
7.298137160E+05, -2.017117556E+03, 5.037498300E+00
-5.503371950E-04, 1.023753499E-07, -1.261537793E-11
7.092401042E-16, 1.620884945E+05, -9.820640860E+00
-2.294818875E+07, 1.860972745E+04, -1.661509984E+00
6.020341290E-04, -3.930742580E-08, 1.543806931E-12
-2.618341088E-17, 4.907298890E+03, 4.642130480E+01

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gas, zr-, 91.2245, zr, 1, e, 2
cpg, nasa, 3
298.15, 1000, 6000, 20000
3.046662367E+04, -8.074277210E+02, 9.213006110E+00
-1.614342054E-02, 1.908653551E-05, -1.138888914E-08
2.745019116E-12, 6.903034030E+04, -2.862644371E+01
8.471861160E+04, 3.175439340E+02, 2.251491246E+00
1.018645389E-04, -2.285208242E-08, 2.647293502E-12
-1.235813604E-16, 6.422337600E+04, 1.081261057E+01
-4.386641560E+05, 3.768748730E+02, 2.417088403E+00
9.411538660E-06, -5.824251210E-10, 1.866281342E-14
-2.423724320E-19, 6.334701050E+04, 9.677778690E+00

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gas, zrn, 105.2307, zr, 1, n, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
2.259109156E+04, -1.802590198E+02, 3.130058377E+00
5.427709280E-03, -8.264614840E-06, 5.958438220E-09
-1.670274535E-12, 8.578881490E+04, 8.470724780E+00
-7.255790890E+04, -8.126796600E+01, 4.559924400E+00
1.291161650E-05, 5.203830770E-09, -5.927436670E-13
2.731548854E-17, 8.468648390E+04, 1.493633264E+00
0.000000000E+00, 0.000000000E+00, 4.717847172E+00
-2.178471724E-07, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 8.350548664E+04, 2.729525967E-01

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gas, zro, 107.2234, zr, 1, o, 1, e, 2
cpg, nasa, 3
200, 1000, 6000, 20000
-5.091761400E+05, 8.652770090E+03, -5.294740150E+01
1.728961761E-01, -2.457230895E-04, 1.672135156E-07
-4.423012380E-11, -3.095129818E+04, 3.132576719E+02
4.648098310E+05, 3.442314470E+02, 4.815779180E+00
-4.660633140E-04, 2.140489079E-07, -2.054364483E-11
4.084667760E-16, 7.317340700E+03, 1.502933548E+00
1.343456923E+08, -7.851088360E+04, 1.981614195E+01
-8.027211020E-04, 2.522081797E-09, 7.959625600E-13
-1.684162816E-17, 6.406670590E+05, -1.358472283E+02

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gas, zro+, 107.2229, zr, 1, o, 1, e, 1
cpg, nasa, 3
298.15, 1000, 6000, 20000
1.032911549E+04, 7.304661220E+01, 2.606345299E+00
5.099300290E-03, -6.250338760E-06, 3.797460020E-09
-9.198416900E-13, 8.533233780E+04, 1.267311019E+01
-4.937166560E+05, 6.699900760E+02, 4.575353470E+00
-6.923237900E-04, 4.280600940E-07, -7.547660220E-11
4.414279860E-15, 8.018880660E+04, 2.928943704E+00
4.389941590E+07, -2.084044161E+04, 8.167126240E+00
-5.668596640E-05, -8.861355220E-09, 4.773106180E-13
-7.435660480E-18, 2.554517908E+05, -3.127152387E+01

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gas, zro2, 123.2228, zr, 1, o, 2, e, 3
  cpg, nasa, 3
  200, 1000, 6000, 20000
  3.637649000E+04, -2.620658297E+02, 3.692866870E+00
  1.214524156E-02, -1.822445342E-05, 1.299215204E-08
-3.615900110E-12, -3.801990880E+04, 8.290857600E+00
  2.854363887E+06, -8.738589890E+03, 1.621315114E+01
-4.417922830E-03, 8.959096920E-07, -4.054667110E-11
-2.147732083E-15, 1.527510023E+04, -7.481995490E+01
  0.000000000E+00, 0.000000000E+00, 9.050480455E+00
-1.800480455E-06, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -4.970807344E+04, -2.507699309E+01

gas, albo2, 69.7900, al, 1, b, 1, o, 2, e, 4
  cpg, tiger, 2
  250, 6000, 20000
  1.138785000E+01, -4.639944000E-01, 7.407875000E-02
-4.487116000E-03, -2.044870000E+00, 1.700208000E-01
  1.215816000E-03, -1.398785000E+05, 8.037626000E+01
  9.963700509E+00, 2.862994908E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -1.391222122E+05, 8.259515254E+01

gas, b10h14, 122.2120, b, 10, h, 14, e, 24
  cpg, tiger, 2
  250, 6000, 20000
  9.473740000E+01, -7.902891000E+00, 1.226517000E+00
-7.296056000E-02, -3.912598000E+01, 6.955408000E+00
-4.742098000E-01, -9.719002000E+04, 1.216636000E+02
  6.937997861E+01, 8.700213930E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -9.062116455E+04, 1.639253066E+02

gas, b2beo4, 94.6300, b, 2, be, 1, o, 4, e, 7
  cpg, tiger, 2
  250, 6000, 20000
  2.236650000E+01, -1.205908000E+00, 2.031401000E-01
-1.282604000E-02, -4.545753000E+00, 2.458749000E-01
  3.968829000E-02, -3.449988000E+05, 1.060045000E+02
  1.892108557E+01, 3.289144261E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -3.425144060E+05, 1.108238046E+02

gas, b2f4o, 113.6200, b, 2, f, 4, o, 1, e, 7
  cpg, tiger, 2
  250, 6000, 20000
  2.282474000E+01, -1.577217000E+00, 2.688996000E-01
-1.711809000E-02, -5.682686000E+00, 4.562678000E-01
  3.711140000E-02, -4.772493000E+05, 1.045960000E+02
  1.840497761E+01, 8.450223901E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -4.739015685E+05, 1.105662345E+02

gas, b3f2ho3, 119.4380, b, 3, f, 2, h, 1, o, 3, e, 9
  cpg, tiger, 2
  250, 6000, 20000
  3.062664000E+01, -2.018700000E+00, 3.398229000E-01
-2.141915000E-02, -7.541253000E+00, 4.811215000E-01
  6.062949000E-02, -5.072253000E+05, 1.100569000E+02
  2.487605400E+01, 3.739459978E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -5.030496435E+05, 1.180381291E+02

gas, b3fh2o3, 101.4460, b, 3, f, 1, h, 2, o, 3, e, 9
  cpg, tiger, 2
  250, 6000, 20000
  3.204589000E+01, -2.401503000E+00, 3.907286000E-01
-2.406169000E-02, -1.021279000E+01, 1.495147000E+00
-6.541586000E-02, -4.161082000E+05, 1.006870000E+02
  2.484242847E+01, 4.075715259E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00

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0.000000000E+00, -4.125648486E+05, 1.115771644E+02

gas, bbeo2, 51.8200, b, 1, be, 1, o, 2, e, 4
cpg, tiger, 2
250, 6000, 20000
1.154909000E+01, -5.314731000E-01, 8.671069000E-02
-5.344942000E-03, -2.217262000E+00, 1.523982000E-01
9.529382000E-03, -1.262074000E+05, 7.864867000E+01
9.960324449E+00, 2.896755511E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.252552073E+05, 8.103579511E+01

gas, bbr2cl, 206.0670, b, 1, br, 2, cl, 1, e, 4
cpg, tiger, 2
250, 6000, 20000
1.013970000E+01, -5.986030000E-02, 1.133174000E-02
-7.766029000E-04, -1.351816000E-01, -3.098889000E-01
4.662398000E-02, -7.287215000E+04, 9.812885000E+01
9.988241623E+00, 2.617583766E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.246612542E+04, 9.830180491E+01

gas, bbr2f, 189.6100, b, 1, br, 2, f, 1, e, 4
cpg, tiger, 2
250, 6000, 20000
1.060881000E+01, -2.363356000E-01, 4.216725000E-02
-2.777416000E-03, -7.294378000E-01, -1.862230000E-01
3.965025000E-02, -1.318178000E+05, 9.376299000E+01
9.980717588E+00, 2.692824123E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.310742122E+05, 9.453903503E+01

gas, bbr2h, 171.6180, b, 1, br, 2, h, 1, e, 4
cpg, tiger, 2
250, 6000, 20000
1.126822000E+01, -3.328797000E-01, 4.281355000E-02
-2.138665000E-03, -2.440937000E+00, 4.402218000E-01
-4.067463000E-02, -3.503843000E+04, 8.474393000E+01
9.953717507E+00, 2.962824934E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.535948018E+04, 8.747725457E+01

gas, bbrcl, 126.1670, b, 1, br, 1, cl, 1, e, 3
cpg, tiger, 2
250, 6000, 20000
7.049541000E+00, -2.010510000E-02, 3.544563000E-03
-2.271034000E-04, -4.491651000E-02, -2.331807000E-01
3.618117000E-02, -7.932964000E+03, 8.401952000E+01
6.992117216E+00, 2.578827844E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.690210952E+03, 8.409975964E+01

gas, bbrcl2, 161.6240, b, 1, br, 1, cl, 2, e, 4
cpg, tiger, 2
250, 6000, 20000
1.011141000E+01, -4.188535000E-02, 6.966624000E-03
-4.241592000E-04, -1.204328000E-01, -3.563215000E-01
5.459217000E-02, -8.854185000E+04, 9.508300000E+01
9.987988698E+00, 2.620113023E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.815711999E+04, 9.526110655E+01

gas, bbrf, 109.7100, b, 1, br, 1, f, 1, e, 3
cpg, tiger, 2
250, 6000, 20000
7.298436000E+00, -1.118329000E-01, 1.913834000E-02
-1.210792000E-03, -3.596436000E-01, -2.239535000E-01
4.499746000E-02, -6.366944000E+04, 7.972781000E+01
6.987358711E+00, 2.626412887E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.320951557E+04, 8.013851985E+01

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gas, bbrf2, 128.7100, b, 1, br, 1, f, 2, e, 4
  cpg, tiger, 2
  250, 6000, 20000
  1.106503000E+01, -3.989956000E-01, 6.923606000E-02
-4.461571000E-03, -1.337898000E+00, -1.069997000E-01
  4.057252000E-02, -2.059992000E+05, 8.616520000E+01
  9.972422380E+00, 2.775776199E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -2.049395023E+05, 8.758238911E+01

gas, bbro, 106.7100, b, 1, br, 1, o, 1, e, 3
  cpg, tiger, 2
  250, 6000, 20000
  8.614791000E+00, -3.833567000E-01, 6.263512000E-02
-3.863854000E-03, -1.588703000E+00, 3.156215000E-01
-2.907598000E-02, -6.711346000E+04, 7.261443000E+01
  7.480152390E+00, -2.301523899E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -6.658389148E+04, 7.428877682E+01

gas, be5o5, 125.0500, be, 5, o, 5, e, 10
  cpg, tiger, 2
  250, 6000, 20000
  3.102544000E+01, -1.152686000E+00, 2.013449000E-01
-1.300201000E-02, -3.641803000E+00, -1.520295000E+00
  3.207469000E-01, -5.385904000E+05, 1.192679000E+02
  2.789949054E+01, 3.505094607E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -5.345856405E+05, 1.232433785E+02

gas, be6o6, 150.0600, be, 6, o, 6, e, 12
  cpg, tiger, 2
  250, 6000, 20000
  3.740784000E+01, -1.303164000E+00, 2.279729000E-01
-1.472797000E-02, -4.067078000E+00, -2.052296000E+00
  4.116832000E-01, -6.769114000E+05, 1.329554000E+02
  3.387946707E+01, 3.705329324E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -6.721328914E+05, 1.374303575E+02

gas, beclf, 63.4670, be, 1, cl, 1, f, 1, e, 3
  cpg, tiger, 2
  250, 6000, 20000
  7.913862000E+00, -1.483375000E-01, 2.465468000E-02
-1.527742000E-03, -5.400243000E-01, -8.819622000E-02
  2.322140000E-02, -1.433033000E+05, 7.399991000E+01
  7.490509828E+00, -2.405098285E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -1.429118612E+05, 7.458317415E+01

gas, bef3li, 72.9490, be, 1, f, 3, li, 1, e, 5
  cpg, tiger, 2
  250, 6000, 20000
  1.404227000E+01, -3.987409000E-01, 7.023227000E-02
-4.576407000E-03, -1.265006000E+00, -5.644932000E-01
  1.063873000E-01, -2.259016000E+05, 8.580696000E+01
  1.296193183E+01, 2.880681672E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -2.245012309E+05, 8.719098504E+01

gas, bf4k, 125.9100, b, 1, f, 4, k, 1, e, 6
  cpg, tiger, 2
  250, 6000, 20000
  1.740344000E+01, -5.198543000E-01, 8.919376000E-02
-5.691363000E-03, -1.779857000E+00, -3.119545000E-01
  7.749605000E-02, -3.867606000E+05, 1.040904000E+02
  1.595926126E+01, 2.907387385E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -3.852751642E+05, 1.060082229E+02

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gas, bif, 227.9800, bi, 1, f, 1, e, 2
  cpg, tiger, 2
  250, 6000, 20000
  4.453213000E+00, 1.006627000E-01, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, -3.066785000E-02
  0.000000000E+00, -9.870037000E+03, 6.860709000E+01
  5.059695488E+00, -5.596954882E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -1.349051656E+04, 6.764870359E+01

gas, bif3, 265.9800, bi, 1, f, 3, e, 4
  cpg, tiger, 2
  250, 6000, 20000
  9.920509000E+00, 5.832906000E-02, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, -1.066760000E-01
  0.000000000E+00, -1.576608000E+05, 1.238309000E+02
  1.026762589E+01, -1.762589314E-08, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -1.596778662E+05, 1.232933583E+02

gas, biz, 208.9800, bi, 1, e, 1
  cpg, tiger, 2
  250, 6000, 20000
  2.505143000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, 5.444820000E+04, 5.902462000E+01
  2.505174044E+00, -5.174044266E-09, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, 5.444783003E+04, 5.902450952E+01

gas, biz2, 417.9600, bi, 2, e, 2
  cpg, tiger, 2
  250, 6000, 20000
  4.498553000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, 4.989960000E+04, 7.621857000E+01
  4.498544266E+00, 1.455734406E-09, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, 4.989970409E+04, 7.621860108E+01

gas, br2fe, 215.6500, br, 2, fe, 1, e, 3
  cpg, tiger, 2
  250, 6000, 20000
  6.112618000E+00, 1.391022000E+00, -3.324266000E-01
  2.451604000E-02, 3.421919000E-01, 4.889284000E-02
  -2.398806000E-02, -1.275817000E+04, 9.673676000E+01
  7.848728473E+00, -5.987284728E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -1.427735944E+04, 9.864302972E+01

gas, br2ti, 207.7000, br, 2, ti, 1, e, 3
  cpg, tiger, 2
  250, 6000, 20000
  3.413059000E+00, 2.146574000E+00, -3.520980000E-01
  2.137076000E-02, 3.246763000E+00, -1.148759000E+00
  1.387007000E-01, -4.330407000E+04, 9.298567000E+01
  8.751930068E+00, -1.501930068E-06, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -5.485967947E+04, 8.898933929E+01

gas, br2zr, 251.0200, br, 2, zr, 1, e, 3
  cpg, tiger, 2
  250, 6000, 20000
  3.400609000E+00, 2.152351000E+00, -3.532884000E-01
  2.145936000E-02, 3.258204000E+00, -1.144134000E+00
  1.386986000E-01, -4.213886000E+04, 9.501231000E+01
  8.752463766E+00, -1.502463766E-06, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -5.371670664E+04, 9.100480944E+01

gas, br3op, 286.6750, br, 3, o, 1, p, 1, e, 5

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cpg, tiger, 2
250, 6000, 20000
1.349328000E+01, -1.933700000E-01, 3.478078000E-02
-2.305789000E-03, -5.857375000E-01, -1.425415000E-01
2.487433000E-02, -1.030590000E+05, 1.136638000E+02
1.298405474E+01, 2.659452594E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.024514191E+05, 1.142834060E+02

gas, br3p, 270.6750, br, 3, p, 1, e, 4
cpg, tiger, 2
250, 6000, 20000
1.003704000E+01, -2.010560000E-02, 4.422053000E-03
-3.345046000E-04, -2.418671000E-02, -8.953717000E-02
5.350165000E-03, -3.724042000E+04, 1.063273000E+02
9.995325776E+00, 2.546742236E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.710151039E+04, 1.063568819E+02

gas, br3ps, 302.7390, br, 3, p, 1, s, 1, e, 5
cpg, tiger, 2
250, 6000, 20000
1.294338000E+01, 2.253879000E-02, -4.212279000E-03
2.894260000E-04, 7.432000000E-02, -2.479086000E-01
2.672765000E-02, -7.184579000E+04, 1.185909000E+02
1.299357220E+01, 2.564277990E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.170838929E+04, 1.185538014E+02

gas, br3ti, 287.6000, br, 3, ti, 1, e, 4
cpg, tiger, 2
250, 6000, 20000
9.845966000E+00, 1.370379000E-01, -2.228861000E-02
1.134552000E-03, 7.158375000E-01, -3.465724000E-01
3.059149000E-02, -9.569202000E+04, 1.110383000E+02
1.022051060E+01, 2.948939823E-08, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.505177493E+04, 1.104760767E+02

gas, br3zr, 330.9200, br, 3, zr, 1, e, 4
cpg, tiger, 2
250, 6000, 20000
1.012174000E+01, -5.783231000E-02, 1.192684000E-02
-8.716543000E-04, -1.126291000E-01, 1.987070000E-05
-4.596431000E-03, -1.093144000E+05, 1.122966000E+02
9.995515902E+00, 2.544840979E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.091336961E+05, 1.123957050E+02

gas, br4fe2, 431.3000, br, 4, fe, 2, e, 6
cpg, tiger, 2
250, 6000, 20000
1.350689000E+01, 2.035108000E+00, -4.632153000E-01
3.332236000E-02, 1.160878000E+00, -2.247506000E-01
7.297754000E-03, -6.729927000E+04, 1.600290000E+02
1.642775386E+01, -1.777538635E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.994415747E+04, 1.617144522E+02

gas, br4mg2, 368.2400, br, 4, mg, 2, e, 6
cpg, tiger, 2
250, 6000, 20000
1.606543000E+01, -3.130281000E-02, 6.459612000E-03
-4.734210000E-04, -6.205946000E-02, -2.067679000E-02
-2.649831000E-03, -1.933328000E+05, 1.481797000E+02
1.599544303E+01, 2.545569722E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.932126549E+05, 1.482401180E+02

gas, br4ti, 367.5000, br, 4, ti, 1, e, 5
cpg, tiger, 2

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250, 6000, 20000
1.289724000E+01, 4.205373000E-02, -7.764885000E-03
5.200575000E-04, 1.144488000E-01, -1.491857000E-01
1.321206000E-02, -1.397167000E+05, 1.256638000E+02
1.299582581E+01, 2.541741854E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.397075187E+05, 1.255770200E+02

gas, br4zr, 410.8200, br, 4, zr, 1, e, 5
cpg, tiger, 2
250, 6000, 20000
1.285938000E+01, 6.299717000E-02, -1.253656000E-02
8.938473000E-04, 1.414176000E-01, -1.270324000E-01
1.129873000E-02, -1.621049000E+05, 1.297313000E+02
1.299769729E+01, 2.523027083E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.621736265E+05, 1.296260277E+02

gas, br5nb, 492.4100, br, 5, nb, 1, e, 6
cpg, tiger, 2
250, 6000, 20000
1.598343000E+01, 4.849180000E-03, -6.660591000E-04
3.252499000E-05, 2.428710000E-02, -1.028095000E-01
5.858585000E-03, -1.160520000E+05, 1.449429000E+02
1.599526308E+01, 2.547369176E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.159736340E+05, 1.449341864E+02

gas, br5w, 583.3500, br, 5, w, 1, e, 6
cpg, tiger, 2
250, 6000, 20000
1.362528000E+01, 1.151601000E+00, -1.620480000E-01
7.444495000E-03, 2.005571000E+00, -7.944136000E-01
9.430921000E-02, -5.518954000E+04, 1.491964000E+02
1.662404459E+01, -3.740445932E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.074315503E+04, 1.468758948E+02

gas, br6w, 663.2500, br, 6, w, 1, e, 7
cpg, tiger, 2
250, 6000, 20000
1.921882000E+01, -1.052343000E-01, 2.185107000E-02
-1.605046000E-03, -2.020658000E-01, 2.322569000E-03
-8.832801000E-03, -7.004746000E+04, 1.600782000E+02
1.899216174E+01, 2.578382557E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.973615195E+04, 1.602493521E+02

gas, brf5s, 206.9640, br, 1, f, 5, s, 1, e, 7
cpg, tiger, 2
250, 6000, 20000
1.926484000E+01, -1.272262000E-01, 2.571512000E-02
-1.838917000E-03, -1.987175000E-01, -9.247742000E-01
1.251164000E-01, -2.491569000E+05, 1.175878000E+02
1.897011321E+01, 2.798867857E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.481030541E+05, 1.178679269E+02

gas, brhg, 280.4900, br, 1, hg, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
4.482549000E+00, 1.433885000E-01, -1.322418000E-03
8.679785000E-05, 1.842884000E-02, -1.420192000E-02
1.284428000E-03, 2.219546000E+04, 7.556643000E+01
5.321634014E+00, -8.216340137E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.725667242E+04, 7.424781767E+01

gas, bri, 206.8000, br, 1, i, 1, e, 2
cpg, tiger, 2
250, 6000, 20000

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8.136480000E+00, -3.036990000E+00, 1.072914000E+00
-9.804440000E-02, -1.897718000E+00, 4.194365000E-01
-3.393593000E-02, 3.051442000E+03, 7.432911000E+01
7.072496147E+00, -2.572496147E-06, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.404976078E+03, 6.687340135E+01

gas, brn, 93.9080, br, 1, n, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
4.481026000E+00, 3.818927000E-02, -1.302727000E-03
8.947871000E-05, 2.849240000E-02, -1.090448000E-01
1.521064000E-02, 6.873636000E+04, 6.636111000E+01
4.685493944E+00, -1.854939438E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.767280170E+04, 6.604814645E+01

gas, brno, 109.9080, br, 1, n, 1, o, 1, e, 3
cpg, tiger, 2
250, 6000, 20000
8.176727000E+00, -4.105093000E-01, 6.791916000E-02
-4.234318000E-03, -1.655098000E+00, 3.847512000E-01
-3.625199000E-02, 1.299928000E+04, 7.761137000E+01
6.977181394E+00, 2.728186063E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.358989884E+04, 7.934918035E+01

gas, brp, 110.8750, br, 1, p, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
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-8.458263000E-05, -2.051386000E-03, -3.068489000E-02
2.307558000E-03, 4.014153000E+04, 7.004616000E+01
4.833143661E+00, -3.331436613E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.817259344E+04, 6.951889975E+01

gas, brti, 127.8000, br, 1, ti, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
3.545706000E+00, 7.982033000E-01, -1.368732000E-01
8.834669000E-03, 1.766488000E+00, -8.274261000E-01
1.109578000E-01, 4.860447000E+04, 7.553970000E+01
5.594289141E+00, -1.094289141E-06, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.539549719E+04, 7.356822447E+01

gas, brw, 263.7500, br, 1, w, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
6.386803000E+00, -1.054349000E+00, 3.357748000E-01
-2.730525000E-02, -1.573701000E+00, 5.608575000E-01
-7.425842000E-02, 1.355268000E+05, 7.500910000E+01
6.012696062E+00, -1.512696062E-06, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.269480628E+05, 7.237956064E+01

gas, brzr, 171.1200, br, 1, zr, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
7.054724000E+00, -4.126645000E-01, 3.340307000E-02
1.208410000E-04, -2.866892000E+00, 1.137637000E+00
-1.532978000E-01, 6.683051000E+04, 7.042653000E+01
5.365618872E+00, -8.656188716E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.648592102E+04, 7.365124784E+01

gas, c2be, 33.0300, c, 2, be, 1, e, 3
cpg, tiger, 2
250, 6000, 20000
9.697908000E+00, -7.622123000E-01, 1.255530000E-01

-7.800303000E-03, -3.112745000E+00, 7.656749000E-01
-7.125533000E-02, 1.261403000E+05, 6.202538000E+01
7.463103401E+00, -2.131034005E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.271291898E+05, 6.527963425E+01

gas, c2f3n, 95.0280, c, 2, f, 3, n, 1, e, 6
cpg, tiger, 2
250, 6000, 20000
1.849906000E+01, -8.523162000E-01, 1.389306000E-01
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1.630402000E-02, -1.362250000E+05, 9.521893000E+01
1.593384213E+01, 3.161578706E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.347755374E+05, 9.912806754E+01

gas, c2n2na, 98.0180, c, 2, n, 2, na, 2, e, 6
cpg, tiger, 2
250, 6000, 20000
1.867334000E+01, -8.398950000E-01, 1.282866000E-01
-7.527050000E-03, -4.295889000E+00, 1.340448000E+00
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1.594511345E+01, 3.048865475E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.605217087E+04, 1.151968844E+02

gas, c4nio4, 170.7400, c, 4, ni, 1, o, 4, e, 9
cpg, tiger, 2
250, 6000, 20000
2.997454000E+01, -1.535475000E+00, 2.406147000E-01
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0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.694454650E+05, 1.456421731E+02

gas, cbrn, 105.9180, c, 1, br, 1, n, 1, e, 3
cpg, tiger, 2
250, 6000, 20000
8.768375000E+00, -2.435053000E-01, 5.616243000E-02
-3.178090000E-03, -2.113229000E+00, 5.992445000E-01
-7.119900000E-02, 3.744145000E+04, 7.139382000E+01
8.313213745E+00, -1.063213745E-06, 0.000000000E+00
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gas, cf3i, 195.9100, c, 1, f, 3, i, 1, e, 5
cpg, tiger, 2
250, 6000, 20000
1.386718000E+01, -3.330020000E-01, 5.854777000E-02
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1.296833574E+01, 2.816642593E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.523908423E+05, 9.832473722E+01

gas, cf4o, 104.0100, c, 1, f, 4, o, 1, e, 6
cpg, tiger, 2
250, 6000, 20000
1.706306000E+01, -6.000130000E-01, 1.050621000E-01
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1.172232000E-01, -1.993045000E+05, 1.034234000E+02
1.545024010E+01, 7.997598964E-07, 0.000000000E+00
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0.000000000E+00, -1.973961532E+05, 1.054348673E+02

gas, cf8s, 196.0740, c, 1, f, 8, s, 1, e, 10
cpg, tiger, 2
250, 6000, 20000
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gas, ch3cl3si, 149.4910, c, 1, h, 3, cl, 3, si, 1, e, 8
cpg, tiger, 2
250, 1500.0, 20000
4.088935000E+01, -2.131366000E+01, 1.264642000E+01
-2.897503000E+00, -1.411252000E+01, 3.086746000E+00
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1.946989436E+01, 2.780105635E-06, 0.000000000E+00
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0.000000000E+00, -1.436297679E+05, 1.200845245E+02

gas, ch3f3si, 100.1200, c, 1, h, 3, f, 3, si, 1, e, 8
cpg, tiger, 2
250, 1500.0, 20000
-1.334956000E+01, 3.759573000E+01, -1.936842000E+01
3.941325000E+00, 1.211885000E+01, -3.602016000E+00
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1.935543552E+01, 2.894564475E-06, 0.000000000E+00
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gas, chp, 43.9930, c, 1, h, 1, p, 1, e, 3
cpg, tiger, 2
250, 6000, 20000
7.290073000E+00, 6.249396000E-01, -1.800127000E-01
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0.000000000E+00, 0.000000000E+00, 0.000000000E+00
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gas, cin, 152.9180, c, 1, i, 1, n, 1, e, 3
cpg, tiger, 2
250, 6000, 20000
8.779778000E+00, -3.935203000E-01, 5.885951000E-02
-3.387583000E-03, -2.096960000E+00, 6.230788000E-01
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7.474697176E+00, -2.246971755E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.716063158E+04, 7.619420647E+01

gas, cl10w2, 722.2700, cl, 10, w, 2, e, 12
cpg, tiger, 2
250, 6000, 20000
3.414072000E+01, -8.015211000E-02, 1.830546000E-02
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gas, cl2co, 129.8470, cl, 2, co, 1, e, 3
cpg, tiger, 2
250, 6000, 20000
1.029494000E+01, -1.096835000E+00, 2.078497000E-01
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gas, cl2hg, 271.5040, cl, 2, hg, 1, e, 3
cpg, tiger, 2
250, 6000, 20000
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gas, cl2moo2, 198.8540, cl, 2, mo, 1, o, 2, e, 5
cpg, tiger, 2
250, 6000, 20000
1.341301000E+01, -1.771462000E-01, 3.389858000E-02
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gas, cl2w, 254.7640, cl, 2, w, 1, e, 3
cpg, tiger, 2
250, 6000, 20000
-4.698787000E-01, 4.774337000E+00, -9.717703000E-01
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2.228070000E-01, 4.204692000E+02, 9.259877000E+01
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gas, cl2zr, 162.1340, cl, 2, zr, 1, e, 3
cpg, tiger, 2
250, 6000, 20000
3.435580000E+00, 2.135053000E+00, -3.496697000E-01
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1.415917000E-01, -4.523459000E+04, 8.879878000E+01
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0.000000000E+00, -5.673565330E+04, 8.481728145E+01

gas, cl3co, 165.3040, cl, 3, co, 1, e, 4
cpg, tiger, 2
250, 6000, 20000
8.456563000E+00, 8.061897000E-01, -1.463025000E-01
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0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.571608049E+04, 1.035403341E+02

gas, cl3fsi, 153.4570, cl, 3, f, 1, si, 1, e, 5
cpg, tiger, 2
250, 6000, 20000
1.296987000E+01, 1.561694000E-02, -3.571422000E-03
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4.290828000E-02, -2.104175000E+05, 1.089375000E+02
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0.000000000E+00, 0.000000000E+00, 0.000000000E+00
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gas, cl3ps, 169.4100, cl, 3, p, 1, s, 1, e, 5
cpg, tiger, 2
250, 6000, 20000
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gas, cl3zr, 197.5910, cl, 3, zr, 1, e, 4
cpg, tiger, 2
250, 6000, 20000
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gas, cl4co2, 259.6940, cl, 4, co, 2, e, 6
cpg, tiger, 2
250, 6000, 20000
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gas, cl4mg2, 190.4680, cl, 4, mg, 2, e, 6
cpg, tiger, 2
250, 6000, 20000
1.600315000E+01, -5.213971000E-03, 1.455680000E-03
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9.417166000E-03, -2.383550000E+05, 1.373751000E+02
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0.000000000E+00, -2.382236904E+05, 1.373801170E+02

gas, cl4mo, 237.7680, cl, 4, mo, 1, e, 5
cpg, tiger, 2
250, 6000, 20000
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gas, cl4w, 325.6780, cl, 4, w, 1, e, 5
cpg, tiger, 2
250, 6000, 20000
1.232004000E+01, 1.752246000E-01, 2.834124000E-02
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gas, cl4zr, 233.0480, cl, 4, zr, 1, e, 5
cpg, tiger, 2
250, 6000, 20000
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-4.877400000E-04, -3.127385000E-02, -1.282376000E-01
8.465676000E-03, -2.164953000E+05, 1.178300000E+02
1.299318758E+01, 2.568124215E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.163025487E+05, 1.178665975E+02

gas, cl5mo, 273.2250, cl, 5, mo, 1, e, 6
cpg, tiger, 2
250, 6000, 20000
1.356699000E+01, 1.175266000E+00, -1.665198000E-01
7.755095000E-03, 2.076912000E+00, -9.428841000E-01
1.089706000E-01, -1.152112000E+05, 1.330159000E+02
1.662166900E+01, -3.716690025E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.207220578E+05, 1.306433781E+02

gas, cl5w, 361.1350, cl, 5, w, 1, e, 6
cpg, tiger, 2
250, 6000, 20000
1.362885000E+01, 1.146080000E+00, -1.604470000E-01
7.304888000E-03, 2.017172000E+00, -9.071188000E-01
1.045929000E-01, -1.067996000E+05, 1.349657000E+02
1.662080043E+01, -3.708004258E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00

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0.000000000E+00, -1.122519167E+05, 1.326401583E+02

gas, cl6mo, 308.6820, cl, 6, mo, 1, e, 7
cpg, tiger, 2
250, 6000, 20000
1.876936000E+01, 1.010276000E-01, -1.981106000E-02
1.398358000E-03, 2.412455000E-01, -2.836608000E-01
2.436260000E-02, -1.171676000E+05, 1.443985000E+02
1.899528539E+01, 2.547146132E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.172295947E+05, 1.442179323E+02

gas, clco, 94.3900, cl, 1, co, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
8.497890000E+00, -2.254971000E+00, 5.500507000E-01
-3.468430000E-02, -3.212434000E+00, 1.113492000E+00
-1.432391000E-01, 3.934972000E+04, 6.787112000E+01
6.786661894E+00, -2.286661894E-06, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.365904526E+04, 6.282368121E+01

gas, clf3si, 120.5430, cl, 1, f, 3, si, 1, e, 5
cpg, tiger, 2
250, 6000, 20000
1.321781000E+01, -9.531986000E-02, 1.829814000E-02
-1.267155000E-03, -2.026586000E-01, -5.266912000E-01
7.850441000E-02, -3.259439000E+05, 1.003175000E+02
1.298126268E+01, 2.687373220E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.252801442E+05, 1.005778647E+02

gas, clf5s, 162.5210, cl, 1, f, 5, s, 1, e, 7
cpg, tiger, 2
250, 6000, 20000
1.912628000E+01, -6.203695000E-02, 1.236642000E-02
-8.699044000E-04, -6.680638000E-02, -1.032010000E+00
1.398690000E-01, -2.651030000E+05, 1.139865000E+02
1.897051939E+01, 2.794806135E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.641555046E+05, 1.141694802E+02

gas, clfli2, 68.3350, cl, 1, f, 1, li, 2, e, 4
cpg, tiger, 2
250, 6000, 20000
1.000681000E+01, -2.803942000E-03, 3.497286000E-04
-1.308022000E-05, 6.517047000E-03, -3.972538000E-01
5.299620000E-02, -1.881686000E+05, 8.503162000E+01
9.988478823E+00, 2.615211775E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.878554004E+05, 8.508273756E+01

gas, clfmng, 78.7770, cl, 1, f, 1, mg, 1, e, 3
cpg, tiger, 2
250, 6000, 20000
6.987633000E+00, 2.980788000E-03, -3.602358000E-04
1.636409000E-05, 2.619254000E-02, -1.637468000E-01
2.037881000E-02, -1.409411000E+05, 7.841242000E+01
6.994461902E+00, 2.555380985E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.408099806E+05, 7.840888030E+01

gas, clhng, 236.0470, cl, 1, hg, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
4.524040000E+00, 8.569851000E-02, 2.694570000E-03
-2.042560000E-04, -1.988468000E-02, -8.365332000E-03
-2.258257000E-04, 1.595578000E+04, 7.270216000E+01
5.091115448E+00, -5.911154475E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.244574236E+04, 7.177879610E+01

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gas, cli, 162.3570, cl, 1, i, 1, e, 2
  cpg, tiger, 2
  250, 6000, 20000
  4.494390000E+00, 5.482081000E-02, -5.455653000E-05
-6.480412000E-06, 9.835645000E-03, -3.270916000E-02
  2.652171000E-03, 1.351509000E+03, 6.968731000E+01
  4.822629800E+00, -3.226297997E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -5.674852916E+02, 6.916697051E+01

gas, cllio, 58.3960, cl, 1, li, 1, o, 1, e, 3
  cpg, tiger, 2
  250, 6000, 20000
  7.254605000E+00, -9.618381000E-02, 1.663376000E-02
-1.064579000E-03, -3.047078000E-01, -2.366650000E-01
  4.308184000E-02, -9.518834000E+03, 7.516655000E+01
  6.987635038E+00, 2.623649619E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -9.089394441E+03, 7.552029157E+01

gas, cls2, 99.5850, cl, 1, s, 2, e, 3
  cpg, tiger, 2
  250, 6000, 20000
  7.033729000E+00, 6.024055000E-03, -1.335970000E-02
  3.030743000E-03, -3.715224000E-02, -1.007245000E-01
  9.313198000E-03, 1.395159000E+04, 8.557124000E+01
  7.234524942E+00, 1.547505847E-08, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, 1.171355685E+04, 8.489891363E+01

gas, clw, 219.3070, cl, 1, w, 1, e, 2
  cpg, tiger, 2
  250, 6000, 20000
  6.396636000E+00, -1.061721000E+00, 3.367691000E-01
-2.737820000E-02, -1.581221000E+00, 5.428866000E-01
-7.223502000E-02, 1.276064000E+05, 7.227361000E+01
  5.996494294E+00, -1.496494294E-06, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, 1.191488044E+05, 6.967698115E+01

gas, clzr, 126.6770, cl, 1, zr, 1, e, 2
  cpg, tiger, 2
  250, 6000, 20000
  7.001942000E+00, -3.923818000E-01, 2.835980000E-02
  4.895851000E-04, -2.815046000E+00, 1.098527000E+00
-1.483787000E-01, 4.387907000E+04, 6.763037000E+01
  5.340048037E+00, -8.400480370E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, 4.364879690E+04, 7.085629113E+01

gas, f2co, 96.9330, co, 1, f, 2, e, 3
  cpg, tiger, 2
  250, 6000, 20000
  6.825008000E+00, 4.039421000E-01, -8.951411000E-02
  5.996328000E-03, -1.977157000E-01, 9.508252000E-03
-5.926929000E-03, -8.975632000E+04, 8.124323000E+01
  7.288876811E+00, -3.887681082E-08, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -9.049204614E+04, 8.212919589E+01

# gas, cuf, 82.5500, cu, 1, f, 1, e, 2
# cpg, tiger, 2
# 100, 6000, 20000
# 6.546566000E+00, -1.053834000E+00, 2.451209000E-01
# -1.357915000E-02, -1.684594000E+00, 5.323849000E-01
# -6.840307000E-02, -8.057385000E+03, 6.346773000E+01
# 5.856664107E+00, -1.356664107E-06, 0.000000000E+00
# 0.000000000E+00, 0.000000000E+00, 0.000000000E+00
# 0.000000000E+00, -1.737104466E+04, 6.072749081E+01

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gas, fl0mo2, 381.8800, f, 10, mo, 2, e, 12
  cpg, tiger, 2
  250, 6000, 20000
  3.411432000E+01, -7.430442000E-02, 1.691832000E-02
-1.292068000E-03, 1.318329000E-02, -1.351543000E+00
  1.751669000E-01, -6.720252000E+05, 1.984608000E+02
  3.396220485E+01, 2.877951471E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -6.707908319E+05, 1.985691658E+02

gas, fl0s2, 254.1280, f, 10, s, 2, e, 12
  cpg, tiger, 2
  250, 6000, 20000
  3.492667000E+01, -7.944202000E-01, 1.609131000E-01
-1.121143000E-02, 1.275613000E-01, -2.397374000E+00
  3.471390000E-01, -5.258189000E+05, 1.620530000E+02
  3.348302328E+01, 7.669767209E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -5.199786551E+05, 1.618957196E+02

gas, fl5mo3, 572.8200, f, 15, mo, 3, e, 18
  cpg, tiger, 2
  250, 6000, 20000
  5.211683000E+01, -8.291977000E-02, 1.910800000E-02
-1.460810000E-03, 6.446058000E-02, -2.048070000E+00
  2.645977000E-01, -1.013111000E+06, 2.784473000E+02
  5.194491147E+01, 3.050885251E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -1.011333215E+06, 2.785796029E+02

gas, f2fe, 93.8500, f, 2, fe, 1, e, 3
  cpg, tiger, 2
  250, 6000, 20000
  5.218875000E+00, 1.197752000E+00, -2.449287000E-01
  1.709354000E-02, 2.633362000E+00, -1.038093000E+00
  1.058263000E-01, -9.569708000E+04, 8.381711000E+01
  7.693366325E+00, -4.433663245E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -9.667891842E+04, 8.212833777E+01

gas, f2hg, 238.5900, f, 2, hg, 1, e, 3
  cpg, tiger, 2
  250, 6000, 20000
  7.520429000E+00, -1.302685000E-02, 3.005359000E-03
-2.325726000E-04, -1.854807000E-03, -1.491911000E-01
  1.746100000E-02, -7.544345000E+04, 8.039476000E+01
  7.497336669E+00, -2.473366687E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -7.531148249E+04, 8.040056639E+01

gas, f2mo, 133.9400, f, 2, mo, 1, e, 3
  cpg, tiger, 2
  250, 6000, 20000
  7.518888000E+00, -5.638839000E-03, 9.174813000E-04
-6.122375000E-05, -3.803661000E-02, -3.830215000E-02
-2.030612000E-03, -4.372394000E+04, 8.232002000E+01
  7.498940823E+00, -2.489408231E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -4.371863394E+04, 8.236153406E+01

gas, f2osi, 82.0860, f, 2, o, 1, si, 1, e, 4
  cpg, tiger, 2
  250, 6000, 20000
  1.072763000E+01, -2.682384000E-01, 4.572623000E-02
-2.898276000E-03, -9.188764000E-01, -3.178959000E-01
  6.537090000E-02, -2.409312000E+05, 8.271572000E+01
  9.974992353E+00, 2.750076472E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -2.400439955E+05, 8.373115074E+01

gas, f2oti, 101.9000, f, 2, o, 1, ti, 1, e, 4

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cpg, tiger, 2
250, 6000, 20000
1.003403000E+01, -1.761588000E-02, 3.575732000E-03
-2.534112000E-04, -1.024577000E-02, -3.938484000E-01
5.268086000E-02, -2.290546000E+05, 8.900300000E+01
9.988350386E+00, 2.616496137E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.286991063E+05, 8.906135400E+01

gas, f2ti, 85.9000, f, 2, ti, 1, e, 3
cpg, tiger, 2
250, 6000, 20000
3.357179000E+00, 2.169901000E+00, -3.566565000E-01
2.169795000E-02, 3.315083000E+00, -1.303000000E+00
1.571527000E-01, -1.656305000E+05, 7.935934000E+01
8.749753670E+00, -1.499753670E-06, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.771397557E+05, 7.531525508E+01

gas, f2zr, 129.2200, f, 2, zr, 1, e, 3
cpg, tiger, 2
250, 6000, 20000
2.882954000E+00, 2.157315000E+00, -3.539910000E-01
2.149754000E-02, 3.293022000E+00, -1.310148000E+00
1.604322000E-01, -1.343124000E+05, 8.471513000E+01
8.245798171E+00, -9.957981707E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.457413170E+05, 8.070099589E+01

gas, f3fe, 112.8500, f, 3, fe, 1, e, 4
cpg, tiger, 2
250, 6000, 20000
9.934370000E+00, 2.900498000E-02, -5.948327000E-03
4.381384000E-04, 8.417904000E-02, -3.912693000E-01
5.463891000E-02, -2.038833000E+05, 9.411768000E+01
9.990756749E+00, 2.592432509E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.036592900E+05, 9.409540887E+01

gas, f3mo, 152.9400, f, 3, mo, 1, e, 4
cpg, tiger, 2
250, 6000, 20000
1.037811000E+01, 1.479771000E-01, 4.054943000E-02
-8.077253000E-03, -5.978037000E-01, -2.956840000E-02
-4.732311000E-04, -1.529028000E+05, 9.125232000E+01
1.088441443E+01, -6.344144333E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.551640717E+05, 9.170752877E+01

gas, f3ps, 120.0390, f, 3, p, 1, s, 1, e, 5
cpg, tiger, 2
250, 6000, 20000
1.329447000E+01, -1.187481000E-01, 2.136325000E-02
-1.405518000E-03, -3.108869000E-01, -6.086655000E-01
9.535066000E-02, -2.486057000E+05, 9.677785000E+01
1.297755140E+01, 2.724485997E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.478308823E+05, 9.717294490E+01

gas, f3ti, 104.9000, f, 3, ti, 1, e, 4
cpg, tiger, 2
250, 6000, 20000
9.846382000E+00, 1.365618000E-01, -2.238511000E-02
1.154732000E-03, 7.329237000E-01, -6.734775000E-01
8.273937000E-02, -2.917472000E+05, 9.264774000E+01
1.021291775E+01, 3.708224718E-08, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.908616322E+05, 9.211099621E+01

gas, f3zr, 148.2200, f, 3, zr, 1, e, 4
cpg, tiger, 2

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250, 6000, 20000
1.237264000E+01, -8.339099000E-01, 1.426478000E-01
-8.945078000E-03, -1.476341000E+00, 5.052960000E-02
1.078907000E-02, -2.745527000E+05, 9.427782000E+01
1.032823065E+01, -7.823065198E-08, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.706284652E+05, 9.592443192E+01

gas, f4mo, 171.9400, f, 4, mo, 1, e, 5
cpg, tiger, 2
250, 6000, 20000
1.682967000E+01, -2.267266000E+00, 5.678251000E-01
-4.036301000E-02, -2.962487000E+00, 5.691352000E-01
-6.417096000E-02, -2.403295000E+05, 1.053715000E+02
1.447850285E+01, -1.228502847E-06, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.488747174E+05, 1.022113486E+02

gas, f4mo, 187.9400, f, 4, mo, 1, o, 1, e, 6
cpg, tiger, 2
250, 6000, 20000
1.625216000E+01, -1.143388000E-01, 2.245314000E-02
-1.579332000E-03, -2.242125000E-01, -6.397034000E-01
8.918531000E-02, -3.134258000E+05, 1.117268000E+02
1.597694078E+01, 2.730592213E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.126273623E+05, 1.120122753E+02

gas, f4ow, 275.8500, f, 4, o, 1, w, 1, e, 6
cpg, tiger, 2
250, 6000, 20000
1.629720000E+01, -1.338257000E-01, 2.620238000E-02
-1.840706000E-03, -2.703382000E-01, -6.454878000E-01
9.113222000E-02, -3.330386000E+05, 1.124999000E+02
1.597572868E+01, 2.742713188E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.321799496E+05, 1.128298573E+02

gas, f4ti, 123.9000, f, 4, ti, 1, e, 5
cpg, tiger, 2
250, 6000, 20000
1.301614000E+01, -1.163328000E-02, 2.513755000E-03
-1.807594000E-04, 1.848723000E-02, -4.745764000E-01
6.650233000E-02, -3.808865000E+05, 1.030328000E+02
1.298641638E+01, 2.635836238E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.804837632E+05, 1.030707502E+02

gas, f4zr, 167.2200, f, 4, zr, 1, e, 5
cpg, tiger, 2
250, 6000, 20000
1.293422000E+01, 2.192128000E-02, -3.603007000E-03
2.245267000E-04, 1.051204000E-01, -4.285840000E-01
5.407144000E-02, -4.096649000E+05, 1.046933000E+02
1.298883549E+01, 2.611645055E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.093881827E+05, 1.046402980E+02

gas, f5mo, 190.9400, f, 5, mo, 1, e, 6
cpg, tiger, 2
250, 6000, 20000
1.367002000E+01, 9.794233000E-01, -1.593088000E-01
9.607589000E-03, 2.785056000E+00, -1.692324000E+00
2.149772000E-01, -3.070624000E+05, 1.203935000E+02
1.630517554E+01, -5.517554207E-08, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.095851649E+05, 1.174884438E+02

gas, f6mo, 209.9400, f, 6, mo, 1, e, 7
cpg, tiger, 2
250, 6000, 20000

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1.918327000E+01, -9.391399000E-02, 1.969750000E-02
-1.443798000E-03, -1.173041000E-01, -6.723270000E-01
8.658288000E-02, -3.874437000E+05, 1.238508000E+02
1.897757556E+01, 2.724244413E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.866591087E+05, 1.240185762E+02

gas, f6w, 297.8500, f, 6, w, 1, e, 7
cpg, tiger, 2
250, 6000, 20000
1.904271000E+01, -3.195423000E-02, 7.587350000E-03
-5.928400000E-04, 2.538062000E-02, -7.422015000E-01
9.402962000E-02, -4.266151000E+05, 1.215412000E+02
1.897849547E+01, 2.715045299E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.259549612E+05, 1.215872069E+02

gas, fe2i4, 619.3000, fe, 2, i, 4, e, 6
cpg, tiger, 2
250, 6000, 20000
1.421201000E+01, 1.736745000E+00, -4.139848000E-01
3.050738000E-02, 5.272483000E-01, 1.558748000E-02
-2.258512000E-02, -5.447471000E+03, 1.661745000E+02
1.640777105E+01, -1.577710478E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.222591028E+03, 1.684458267E+02

gas, fe_i, 55.8500, fe_i, 1, e, 1
cpg, tiger, 2
250, 6000, 20000
6.901574000E-02, 1.130036000E+00, -1.459478000E-01
1.255229000E-02, 2.187186000E+00, -6.141012000E-01
6.009743000E-02, 1.010004000E+05, 5.183712000E+01
4.667159399E+00, -2.167159399E-06, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 8.178548814E+04, 4.480633623E+01

gas, fei2, 309.6500, fe, 1, i, 2, e, 3
cpg, tiger, 2
250, 6000, 20000
6.819263000E+00, 1.087942000E+00, -2.810676000E-01
2.147152000E-02, -2.909384000E-01, 2.850247000E-01
-5.393203000E-02, 1.746559000E+04, 9.920827000E+01
7.828981543E+00, -5.789815434E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.682273872E+04, 1.016920064E+02

gas, fes, 87.9140, fe, 1, s, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
4.626152000E+00, -7.122439000E-02, 1.769600000E-02
2.630848000E-03, 1.111221000E-01, 5.875183000E-02
-2.581349000E-02, 8.625027000E+04, 7.270323000E+01
5.429736083E+00, -9.297360829E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 7.872382208E+04, 6.996375712E+01

gas, ffe, 74.8500, f, 1, fe, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
4.491049000E+00, 4.126915000E-02, -2.281973000E-05
-1.213045000E-05, 1.972693000E-02, -8.935911000E-02
1.157394000E-02, 8.316608000E+03, 6.761500000E+01
4.737506458E+00, -2.375064585E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.942634903E+03, 6.722286414E+01

gas, fhg, 219.5900, f, 1, hg, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
4.501591000E+00, 8.526965000E-02, 6.608561000E-04

-5.694586000E-05, 5.091472000E-03, -5.032804000E-02
5.027996000E-03, -2.241748000E+03, 6.971034000E+01
5.027337293E+00, -5.273372929E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.367792450E+03, 6.887022214E+01

gas, fi, 145.9000, f, 1, i, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
4.502785000E+00, 9.748662000E-02, 1.061349000E-03
-9.142824000E-05, 7.570255000E-03, -7.951365000E-02
9.905899000E-03, -2.572559000E+04, 6.663115000E+01
5.108917144E+00, -6.089171443E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.931964825E+04, 6.565983529E+01

gas, fmo, 114.9400, f, 1, mo, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
1.188525000E+01, -5.230452000E+00, 1.599562000E+00
-1.391969000E-01, -4.870770000E+00, 1.383304000E+00
-1.526711000E-01, 5.679233000E+04, 6.958933000E+01
7.262739336E+00, -2.762739336E-06, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.625978771E+04, 6.255937610E+01

gas, foti, 82.9000, f, 1, o, 1, ti, 1, e, 3
cpg, tiger, 2
250, 6000, 20000
7.473685000E+00, 1.425289000E-02, -3.369604000E-03
2.711767000E-04, 3.251955000E-02, -3.064584000E-01
4.483742000E-02, -1.094326000E+05, 7.576419000E+01
7.495055871E+00, -2.450558707E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.092690448E+05, 7.577386090E+01

gas, fps, 82.0390, f, 1, p, 1, s, 1, e, 3
cpg, tiger, 2
250, 6000, 20000
7.134736000E+00, -5.758733000E-02, 1.086134000E-02
-7.415693000E-04, -1.312083000E-01, -2.530926000E-01
4.013035000E-02, -4.277636000E+04, 8.084094000E+01
6.989767284E+00, 2.602327164E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.241564306E+04, 8.100321161E+01

gas, fti, 66.9000, f, 1, ti, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
3.545533000E+00, 7.696782000E-01, -1.368223000E-01
8.834850000E-03, 1.771689000E+00, -8.828377000E-01
1.186986000E-01, -1.846321000E+04, 6.968195000E+01
5.423173804E+00, -9.231738039E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.061025212E+04, 6.798065436E+01

gas, fw, 202.8500, f, 1, w, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
6.353247000E+00, -1.047441000E+00, 3.326565000E-01
-2.707724000E-02, -1.535508000E+00, 4.586729000E-01
-5.776119000E-02, 8.734129000E+04, 6.922228000E+01
5.960871892E+00, -1.460871892E-06, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 7.909749358E+04, 6.665135576E+01

gas, fzs, 110.2200, f, 1, zs, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
7.042714000E+00, -3.411918000E-01, 3.234044000E-02
2.020393000E-04, -2.849532000E+00, 1.069926000E+00

-1.433064000E-01, 1.433344000E+04, 6.474796000E+01
5.765185352E+00, -1.265185352E-06, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.162223730E+04, 6.732909010E+01

gas, h2moo4, 161.9560, h, 2, mo, 1, o, 4, e, 7
cpg, tiger, 2
250, 6000, 20000
1.991397000E+01, -4.057181000E-02, -2.071321000E-02
2.363678000E-03, -3.253826000E+00, 4.179959000E-01
-3.082842000E-02, -2.205788000E+05, 1.151009000E+02
1.890249695E+01, 3.475030506E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.231349953E+05, 1.188822124E+02

gas, h2o4w, 249.8660, h, 2, o, 4, w, 1, e, 7
cpg, tiger, 2
250, 6000, 20000
2.174343000E+01, -8.146391000E-01, 1.184384000E-01
-6.664969000E-03, -4.681997000E+00, 8.662612000E-01
-8.536339000E-02, -2.357531000E+05, 1.132085000E+02
1.892110591E+01, 3.288940917E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.355417629E+05, 1.183545811E+02

gas, haf, 178.4900, hf, 1, e, 1
cpg, tiger, 2
250, 6000, 20000
9.836301000E+00, -2.438767000E+00, 4.375169000E-01
-2.175586000E-02, -6.880172000E+00, 2.536739000E+00
-3.210893000E-01, 1.389527000E+05, 4.417649000E+01
5.193485668E+00, -2.693485668E-06, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.303389396E+05, 4.637651226E+01

gas, hgi, 327.4900, hg, 1, i, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
4.474857000E+00, 3.001058000E-01, -2.308874000E-03
1.659479000E-04, 2.468022000E-02, -1.303517000E-02
1.490803000E-03, 2.921131000E+04, 7.770803000E+01
6.242429845E+00, -1.742429845E-06, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.873924424E+04, 7.492593312E+01

gas, hgi2, 454.3900, hg, 1, i, 2, e, 3
cpg, tiger, 2
250, 6000, 20000
7.433493000E+00, 3.121347000E-02, -6.414221000E-03
4.691609000E-04, 6.375441000E-02, -4.033966000E-02
3.943016000E-03, -8.333480000E+03, 9.826246000E+01
7.502237487E+00, -2.522374869E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.412045571E+03, 9.820753374E+01

gas, hgo, 216.5900, hg, 1, o, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
4.524106000E+00, 3.971021000E-02, 3.106974000E-03
-2.398565000E-04, -1.203775000E-02, -8.936459000E-02
1.231209000E-02, 6.828930000E+03, 6.721881000E+01
4.819897061E+00, -3.198970614E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.999033456E+03, 6.672231510E+01

gas, hhg, 201.5980, h, 1, hg, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
4.970042000E+00, 6.709060000E-02, 2.860884000E-02
-1.802204000E-03, -6.216401000E-01, 2.098539000E-02
1.248251000E-02, 5.283324000E+04, 6.079934000E+01

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5.918774456E+00, -1.418774456E-06, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.463317637E+04, 5.919194106E+01

gas, hpb, 208.2080, h, 1, pb, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
3.216016000E+00, 7.768605000E-01, -9.037407000E-02
3.095923000E-03, 7.259423000E-01, -4.662785000E-01
7.739425000E-02, 5.398049000E+04, 6.157986000E+01
5.406265953E+00, -9.062659532E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.745334205E+04, 6.002643241E+01

gas, hzr, 92.2280, h, 1, zr, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
5.150089000E+00, -1.672884000E-01, 4.216859000E-02
-2.723935000E-03, -8.297209000E-01, 1.002058000E-01
3.268018000E-03, 1.190716000E+05, 5.979031000E+01
4.943229062E+00, -4.432290619E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.168461735E+05, 5.992289370E+01

gas, i2mo, 349.7400, i, 2, mo, 1, e, 3
cpg, tiger, 2
250, 6000, 20000
6.012850000E+00, 1.800570000E-01, 6.984845000E-02
-8.964524000E-03, 2.738729000E+00, -9.933251000E-01
1.172173000E-01, 5.929607000E+04, 1.054946000E+02
8.105939797E+00, -8.559397969E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.507941241E+04, 1.005245035E+02

gas, i2ti, 301.7000, i, 2, ti, 1, e, 3
cpg, tiger, 2
250, 6000, 20000
3.425839000E+00, 2.140620000E+00, -3.508954000E-01
2.128505000E-02, 3.234123000E+00, -1.135993000E+00
1.374522000E-01, -5.170402000E+03, 9.663007000E+01
8.752008945E+00, -1.502008945E-06, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.671986343E+04, 9.264256337E+01

gas, i2zr, 345.0200, i, 2, zr, 1, e, 3
cpg, tiger, 2
250, 6000, 20000
6.890657000E+00, 4.901183000E-02, -9.635382000E-03
6.769836000E-04, 1.086257000E-01, -5.622115000E-02
6.585049000E-03, -2.005478000E+04, 9.918332000E+01
6.999150661E+00, 2.508493394E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.013277697E+04, 9.909915413E+01

gas, i3mo, 476.6400, i, 3, mo, 1, e, 4
cpg, tiger, 2
250, 6000, 20000
1.044892000E+01, 1.206028000E-01, 4.557861000E-02
-8.418467000E-03, -6.955218000E-01, 2.766216000E-01
-3.880173000E-02, 3.723497000E+04, 1.189596000E+02
1.089040431E+01, -6.404043096E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.481897899E+04, 1.194743212E+02

gas, i3si, 408.7860, i, 3, si, 1, e, 4
cpg, tiger, 2
250, 6000, 20000
1.004382000E+01, -2.269063000E-02, 4.862634000E-03
-3.629941000E-04, -3.348291000E-02, -6.866981000E-02
3.472256000E-03, 1.991526000E+03, 1.136544000E+02
9.995324360E+00, 2.546756399E-07, 0.000000000E+00

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0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.123561335E+03, 1.136914980E+02

gas, i3ti, 428.6000, i, 3, ti, 1, e, 4
cpg, tiger, 2
250, 6000, 20000
9.788615000E+00, 1.637019000E-01, -2.766490000E-02
1.519294000E-03, 7.692164000E-01, -3.443896000E-01
3.119372000E-02, -4.181064000E+04, 1.167973000E+02
1.022166828E+01, 2.833171537E-08, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.124644054E+04, 1.161896698E+02

gas, i3zr, 471.9200, i, 3, zr, 1, e, 4
cpg, tiger, 2
250, 6000, 20000
1.004306000E+01, -2.154628000E-02, 4.617587000E-03
-3.471304000E-04, -3.717410000E-02, -1.320069000E-02
-1.146813000E-03, -5.913891000E+04, 1.187879000E+02
9.996949303E+00, 2.530506971E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.905061286E+04, 1.188233608E+02

gas, i4mo, 603.5400, i, 4, mo, 1, e, 5
cpg, tiger, 2
250, 6000, 20000
1.673801000E+01, -2.221958000E+00, 5.586084000E-01
-3.970376000E-02, -2.905520000E+00, 9.733751000E-01
-1.251058000E-01, 1.817126000E+04, 1.381062000E+02
1.448979669E+01, -1.239796691E-06, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 9.195522379E+03, 1.348544956E+02

gas, i4si, 535.6860, i, 4, si, 1, e, 5
cpg, tiger, 2
250, 6000, 20000
1.293630000E+01, 2.521070000E-02, -4.585267000E-03
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1.177235000E-02, -3.466913000E+04, 1.298628000E+02
1.299554928E+01, 2.544507204E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.462171889E+04, 1.298109656E+02

gas, i4ti, 555.5000, i, 4, ti, 1, e, 5
cpg, tiger, 2
250, 6000, 20000
1.294798000E+01, 2.151207000E-02, -4.026597000E-03
2.732398000E-04, 5.596421000E-02, -7.049716000E-02
5.044077000E-03, -7.422245000E+04, 1.343163000E+02
1.299698913E+01, 2.530108743E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.421504440E+04, 1.342767472E+02

gas, i4zr, 598.8200, i, 4, zr, 1, e, 5
cpg, tiger, 2
250, 6000, 20000
1.297500000E+01, 9.153281000E-03, -1.542151000E-03
9.523411000E-05, 2.934819000E-02, -5.543686000E-02
3.358973000E-03, -9.454987000E+04, 1.375612000E+02
1.299682075E+01, 2.531792547E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.451920910E+04, 1.375429017E+02

gas, imo, 222.8400, i, 1, mo, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
1.182793000E+01, -5.173984000E+00, 1.594005000E+00
-1.387967000E-01, -4.823088000E+00, 1.455374000E+00
-1.636379000E-01, 1.088939000E+05, 7.805281000E+01
7.441589812E+00, -2.941589812E-06, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00

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0.000000000E+00, 9.717405034E+04, 7.069596324E+01

gas, noi, 156.9080, i, 1, n, 1, o, 1, e, 3
cpg, tiger, 2
250, 6000, 20000
8.117118000E+00, -3.864019000E-01, 6.339203000E-02
-3.921987000E-03, -1.582065000E+00, 3.788658000E-01
-3.516752000E-02, 2.035108000E+04, 8.013624000E+01
6.978726585E+00, 2.712734151E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.089017589E+04, 8.180246567E+01

gas, iti, 174.8000, i, 1, ti, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
3.535885000E+00, 8.192516000E-01, -1.380914000E-01
8.932343000E-03, 1.774404000E+00, -8.247185000E-01
1.109387000E-01, 6.334532000E+04, 7.763627000E+01
5.689968859E+00, -1.189968859E-06, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.954719486E+04, 7.550781381E+01

gas, izr, 218.1200, i, 1, zr, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
4.538731000E+00, 9.046573000E-02, 3.802870000E-03
-2.785262000E-04, -3.613618000E-02, 5.332019000E-03
-1.729844000E-03, 1.385320000E+05, 7.650476000E+01
5.156322382E+00, -6.563223815E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.346385579E+05, 7.549239451E+01

gas, linao, 45.9300, li, 1, na, 1, o, 1, e, 3
cpg, tiger, 2
250, 6000, 20000
7.207353000E+00, -8.229254000E-02, 1.472326000E-02
-9.661145000E-04, -2.284383000E-01, -2.724076000E-01
4.847368000E-02, -3.108658000E+04, 7.529445000E+01
6.987966675E+00, 2.620333245E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.065430591E+04, 7.556585175E+01

gas, lio2, 38.9390, li, 1, o, 2, e, 3
cpg, tiger, 2
250, 6000, 20000
7.644735000E+00, -5.721555000E-02, 1.014087000E-02
-6.586191000E-04, -1.568791000E-01, -2.350250000E-01
4.047389000E-02, 3.388398000E+04, 7.048872000E+01
7.493223023E+00, -2.432230228E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.418895580E+04, 7.067282882E+01

gas, mns, 87.0040, mn, 1, s, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
4.466803000E+00, 1.647645000E-02, -3.150972000E-02
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.230851000E+04, 6.803523000E+01
3.424860946E+00, 1.075139054E-06, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 7.081300745E+04, 7.081458564E+01

gas, mobr, 175.8400, mo, 1, br, 1, e, 2
cpg, tiger, 2
250, 6000, 20000
1.185492000E+01, -5.208046000E+00, 1.596301000E+00
-1.389545000E-01, -4.849835000E+00, 1.457138000E+00
-1.646659000E-01, 9.891678000E+04, 7.568343000E+01
7.307561248E+00, -2.807561248E-06, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 8.802954032E+04, 6.856214321E+01

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gas, mobr2, 255.7400, mo, 1, br, 2, e, 3
  cpg, tiger, 2
  250, 6000, 20000
  5.935081000E+00, 2.165073000E-01, 6.242144000E-02
-8.428352000E-03, 2.813941000E+00, -1.043139000E+00
  1.226308000E-01, 3.764841000E+04, 1.009864000E+02
  8.106493387E+00, -8.564933868E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, 3.336842602E+04, 9.595953334E+01

gas, mobr3, 335.6400, mo, 1, br, 3, e, 4
  cpg, tiger, 2
  250, 6000, 20000
  1.034123000E+01, 1.700578000E-01, 3.560577000E-02
-7.701790000E-03, -5.900702000E-01, 2.177182000E-01
-3.207672000E-02, -8.469259000E+03, 1.120637000E+02
  1.089119927E+01, -6.411992667E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -1.098042610E+04, 1.124943068E+02

gas, mobr4, 415.5400, mo, 1, br, 4, e, 5
  cpg, tiger, 2
  250, 6000, 20000
  1.671765000E+01, -2.214196000E+00, 5.572840000E-01
-3.962169000E-02, -2.880916000E+00, 9.357016000E-01
-1.218940000E-01, -5.267337000E+04, 1.297690000E+02
  1.448912241E+01, -1.239122415E-06, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -6.164283925E+04, 1.264970004E+02

gas, no3_i, 62.0000, n_i, 1, o_i, 3, e, 4
  cpg, tiger, 2
  250, 6000, 20000
  1.075992000E+01, -2.975000000E-01, 5.298378000E-02
-3.471364000E-03, -8.761538000E-01, -5.518400000E-01
  1.091659000E-01, -1.091492000E+04, 7.712045000E+01
  1.001677297E+01, -7.516772969E-06, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -1.028947367E+04, 7.792305914E+01

gas, o8w3, 679.5500, o, 8, w, 3, e, 11
  cpg, tiger, 2
  250, 6000, 20000
  3.095655000E+01, 1.493059000E-02, -2.967726000E-03
  2.212079000E-04, 9.417143000E-02, -1.028669000E+00
  1.353856000E-01, -4.321597000E+05, 1.849880000E+02
  3.097316317E+01, 2.768368259E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -4.314336373E+05, 1.850291479E+02

gas, ohsi, 62.1020, si, 1, o, 2, h, 2, e, 5
  cpg, tiger, 2
  250, 6000, 20000
  1.698246400E+01, -9.566269900E-01, 9.289690200E-02
-3.008828800E-03, -8.508512900E+00, 2.793843500E+00
-3.527215100E-01, -6.392620600E+04, 6.939411000E+01
  1.259101793E+01, 6.589820706E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -6.564092337E+04, 7.925883711E+01

gas, p4s3, 220.0920, p, 4, s, 3, e, 7
  cpg, tiger, 2
  250, 6000, 20000
  1.849164000E+01, 5.706711000E-02, -1.126604000E-02
  7.953113000E-04, 1.260047000E-01, -5.261482000E-02
  7.444281000E-03, -3.033362000E+04, 1.211555000E+02
  1.861602232E+01, 6.339776805E-07, 0.000000000E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -3.040940517E+04, 1.210635452E+02

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gas, pb2, 414.4000, pb, 2, e, 2
cpg, tiger, 2
250, 6000, 20000
4.466322000E+00, 2.108122000E-01, -3.084414000E-03
2.220129000E-04, 3.303128000E-02, -2.534079000E-02
2.286318000E-03, 7.677122000E+04, 7.782648000E+01
5.680002988E+00, -1.180002988E-06, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.966832577E+04, 7.592976866E+01

gas, sioh, 45.0940, si, 1, o, 1, h, 1, e, 3
cpg, tiger, 2
250, 6000, 20000
5.001731700E+00, 8.283131300E-01, -9.003210400E-02
3.482777600E-03, 4.315806800E-01, -5.473293600E-01
1.003915900E-01, 1.995481700E+04, 6.750662100E+01
7.541676050E+00, -2.916760498E-07, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.037463397E+04, 6.548877721E+01

# -----
#
# Integer following "tot" is total # of solid and liquid intervals.
# Integer following "liq" is # of liquid intervals (last, see **NOTE).
# Integer following "sol" is # of "solid phases" (not intervals).
# The final "sol #" of integers represent the number of intervals
# in each solid phase.
#
# **NOTE: # of liquid intervals are listed last in the set.
# -----
condensed, ag(c), 107.8682, ag, 1
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
200.0, 1235.08, 6000.0
-7.099236470E+04, 7.254788020E+02, 1.066518380E-01
5.529541550E-03, -4.425590850E-06, 2.091668120E-09
-3.888924460E-13, -4.614014260E+03, 5.074216040E+00
0.000000000E+00, 0.000000000E+00, 4.017073770E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.672269970E+02, -1.771527070E+01

#Work in progress al(c)
#condensed, al(c), 26.9815, al, 1
# cpc, nasa, tot, 2, liq, 1, sol, 1, 1
# 200.0, 933.61, 6000.0
#-6.251811430E+04, 6.343934350E+02, -7.131883820E-01
# 1.088725280E-02, -1.458741820E-05, 9.961160880E-09
#-1.774928010E-12, -3.985439320E+03, 6.561100200E+00
# 0.000000000E+00, 0.000000000E+00, 3.818625510E+00
# 0.000000000E+00, 0.000000000E+00, 0.000000000E+00
# 0.000000000E+00, -9.576323160E+01, -1.752553420E+01
# eos, tiger, S, 1, L, 1
# 9.35135475694, 2.15180481757E-03, 0.0
# 0.0, 0.0, 0.0
# 0.0, 0.0, 0.0
# 0.0, 0.0, 0.0
# 1.122043E+01, 2.160336E-04, 1.987562E-09
#-8.906907E-06, -5.523274E-10, -1.194061E-14
# 4.875063E-12, 3.766630E-16, 1.034486E-20
# 0, 0, 0

condensed, al(c), 26.9815, al, 1
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
200.0, 933.61, 6000.0
-6.251811430E+04, 6.343934350E+02, -7.131883820E-01
1.088725280E-02, -1.458741820E-05, 9.961160880E-09
-1.774928010E-12, -3.985439320E+03, 6.561100200E+00
0.000000000E+00, 0.000000000E+00, 3.818625510E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.576323160E+01, -1.752553420E+01

condensed, al_i(c), 26.9815, al_i, 1

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cpc, nasa, tot, 2, liq, 1, sol, 1, 1
200.0, 933.61, 6000.0
-6.251811430E+04, 6.343934350E+02, -7.131883820E-01
1.088725280E-02, -1.458741820E-05, 9.961160880E-09
-1.774928010E-12, -3.985439320E+03, 6.561100200E+00
0.000000000E+00, 0.000000000E+00, 3.818625510E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.576323160E+01, -1.752553420E+01

condensed, albr3(c), 266.6935, al, 1, br, 3
cpc, nasa, tot, 2, liq, 1, sol, 1, 1,
200.0, 371.16, 6000
-1.907292099E+05, 0.000000000E+00, 2.665662652E+01
-8.326099820E-02, 1.395828123E-04, 0.000000000E+00
0.000000000E+00, -6.763881140E+04, -1.126522667E+02
0.000000000E+00, 0.000000000E+00, 1.503395871E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.481402080E+04, -6.083617689E+01

condensed, alcl3(c), 133.3405, al, 1, cl, 3
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
200.0, 465.70, 6000.0
-2.605551108E+05, 2.535762396E+03, -1.248379067E+00
2.465425813E-02, -8.048550150E-06, 0.000000000E+00
0.000000000E+00, -1.007777032E+05, 2.030375677E+01
0.000000000E+00, 0.000000000E+00, 1.509409454E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.559022460E+04, -6.519014639E+01

condensed, alf3(c), 83.9767, al, 1, f, 3
cpc, nasa, tot, 4, liq, 0, sol, 2, 2, 2
100.0, 298.15, 728.0, 2100.0, 10000.0
0.000000000E+00, 0.000000000E+00, -2.444621150E+00
6.248607440E-02, -8.043962500E-05, 0.000000000E+00
0.000000000E+00, -1.829961207E+05, 6.871585170E+00
0.000000000E+00, 0.000000000E+00, -3.158574588E+00
7.101368571E-02, -1.246540085E-04, 7.930377136E-08
0.000000000E+00, -1.829283321E+05, 9.661469435E+00
-1.060675855E+05, 0.000000000E+00, 1.114052422E+01
1.092668119E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.853502219E+05, -5.651122021E+01
0.000000000E+00, 0.000000000E+00, 1.341107566E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.876585384E+05, -7.157361198E+01

condensed, alh3(c), 30.0054, al, 1, h, 3
cpc, nasa, tot, 2, liq, 0, sol, 1, 2
200.0, 500.0, 10000.0
5.744612990E+05, -7.649579650E+03, 3.481355430E+01
-4.495737990E-02, 2.948551342E-05, 0.000000000E+00
0.000000000E+00, 3.549793150E+04, -2.050727589E+02
0.000000000E+00, 0.000000000E+00, 6.704928601E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.526927319E+03, -3.503143007E+01

condensed, ali3(c), 407.6949, al, 1, i, 3
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 461.47, 6000.0
-3.486280460E+03, 0.000000000E+00, 8.644374370E+00
1.088065032E-02, 5.040262220E-07, 0.000000000E+00
0.000000000E+00, -3.950736400E+04, -2.968661932E+01
0.000000000E+00, 0.000000000E+00, 1.455287203E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.913903150E+04, -5.670488781E+01

condensed, aln(c), 40.9882, al, 1, n, 1
cpc, nasa, tot, 4, liq, 2, sol, 1, 2
100.0, 300., 1800.0, 2700.0, 6000.0
3.654741530E+03, 0.000000000E+00, -2.148600451E+00
2.744441314E-02, -2.763366825E-05, 0.000000000E+00
0.000000000E+00, -3.868948290E+04, 7.733969220E+00

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-1.801549340E+05, 0.000000000E+00, 5.525280504E+00
4.025492783E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.063616530E+04, -3.018829926E+01
0.000000000E+00, 0.000000000E+00, 4.491184688E+00
9.460569534E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.955518910E+04, -2.338770283E+01
0.000000000E+00, 0.000000000E+00, 8.058201866E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.755928440E+04, -4.598731266E+01

condensed, al(oh)3(c), 78.0036, al, 1, o, 3, h, 3
cpc, nasa, tot, 2, liq, 0, sol, 1, 2
100.0, 500.0, 10000.0
-2.376748819E+04, 9.289791210E+02, -1.532337335E+01
1.307578268E-01, -2.205157141E-04, 1.567014467E-07
0.000000000E+00, -1.605485750E+05, 6.795129010E+01
0.000000000E+00, 0.000000000E+00, 1.627718065E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.609230422E+05, -8.590051590E+01

condensed, al2o3(c), 101.9613, al, 2, o, 3
cpc, nasa, tot, 4, liq, 1, sol, 1, 3
200.0, 500.0, 1200.0, 2327.0, 6000.0
-5.391549970E+06, 1.036676983E+05, -8.173229150E+02
3.388258720E+00, -7.512400360E-03, 8.659248820E-06
-4.066085670E-09, -6.660134650E+05, 4.235502230E+03
-6.042087868E+05, 0.000000000E+00, 1.475480816E+01
8.272285438E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.079235447E+05, -8.136029480E+01
0.000000000E+00, 0.000000000E+00, 1.293774378E+01
1.992781294E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.060787581E+05, -6.966603728E+01
0.000000000E+00, 0.000000000E+00, 1.959225499E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.027701571E+05, -1.108590952E+02

condensed, al2s3(c), 150.1581, al, 2, s, 3
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
100.0, 298.15, 1273.0, 1373.0, 6000.0
0.000000000E+00, 0.000000000E+00, -1.347810098E+00
8.478152110E-02, -1.270516814E-04, 0.000000000E+00
0.000000000E+00, -8.024014680E+04, 2.103644584E+00
-1.943109095E+05, 0.000000000E+00, 1.417618116E+01
2.164890054E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.297075040E+04, -6.845362098E+01
0.000000000E+00, 0.000000000E+00, 1.683803375E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.445251510E+04, -8.466769750E+01
0.000000000E+00, 0.000000000E+00, 1.924346714E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.114023330E+04, -9.722848599E+01

condensed, al2sio5(c), 162.0456, al, 2, si, 1, o, 5
cpc, nasa, tot, 4, liq, 0, sol, 1, 4
200.0, 600.0, 1500.0, 3000.0, 10000.0
-5.435020350E+05, 8.364904470E+03, -5.479541870E+01
2.421451459E-01, -3.247828060E-04, 1.619746222E-07
0.000000000E+00, -3.531115760E+05, 2.892220103E+02
9.635670330E+06, -6.505315100E+04, 1.886717981E+02
-2.227599181E-01, 1.677460173E-04, -6.532301110E-08
1.041420443E-11, 4.284683500E+04, -1.170130476E+03
5.600590290E+07, -1.591905491E+05, 2.058003747E+02
-1.103017260E-01, 3.860284650E-05, -6.943079960E-09
5.126291370E-13, 6.964365160E+05, -1.424396263E+03
0.000000000E+00, 0.000000000E+00, 2.953997811E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.326047196E+05, -1.725380113E+02

condensed, al4c3(c), 143.9583, al, 4, c, 3
cpc, nasa, tot, 3, liq, 0, sol, 1, 3
100.0, 300.0, 2500.0, 10000.0

4.384127580E+03, 0.000000000E+00, -5.803779650E+00
1.009595640E-01, -1.158851541E-04, 0.000000000E+00
0.000000000E+00, -2.660263745E+04, 1.884004031E+01
-4.483607573E+05, 0.000000000E+00, 1.788920814E+01
4.024290066E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.190056250E+04, -9.494910735E+01
0.000000000E+00, 0.000000000E+00, 2.787819558E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.411778035E+04, -1.630068107E+02

condensed, b(c), 10.8110, b, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 600.0, 2350.0, 6000.0
2.598259342E+05, -4.770773050E+03, 3.464124480E+01
-1.287342209E-01, 2.897864235E-04, -3.307265950E-07
1.500151011E-10, 2.146946846E+04, -1.830824723E+02
-8.697700220E+02, -8.050405960E+02, 4.079712880E+00
-6.423381350E-04, 4.846017800E-07, -1.252780673E-10
1.335923595E-14, 3.397919930E+03, -2.505906587E+01
0.000000000E+00, 0.000000000E+00, 3.818625511E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.360603140E+03, -2.073167308E+01

condensed, bn(c), 24.8177, b, 1, n, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 1200.0, 3240.0, 6000.0
4.927312430E+05, -6.086406850E+03, 2.678226753E+01
-4.529686640E-02, 5.305526030E-05, -3.041114432E-08
6.795343860E-12, -2.413474891E+02, -1.570534002E+02
-8.394039490E+05, 0.000000000E+00, 6.231256640E+00
-1.258688680E-05, 2.018144787E-09, 0.000000000E+00
0.000000000E+00, -3.427269230E+04, -3.687260910E+01
0.000000000E+00, 0.000000000E+00, 8.058201866E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.023409980E+04, -4.862382389E+01

condensed, b2o3(c), 69.6202, b, 2, o, 3
cpc, nasa, tot, 3, liq, 2, sol, 1, 1
100.0, 723.0, 6000.0, 10000.0
-5.595297380E+04, 1.311214190E+03, -1.178535942E+01
7.702795250E-02, -9.740126500E-05, 4.692119720E-08
1.804813810E-12, -1.599672923E+05, 5.866759160E+01
3.774124994E+05, 0.000000000E+00, 1.528015481E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.562115789E+05, -8.056094941E+01
0.000000000E+00, 0.000000000E+00, 1.529063849E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.563373831E+05, -8.065739418E+01

condensed, b2s3(c), 117.8170, b, 2, s, 3
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 840.0, 6000.0
-9.430501617E+04, 0.000000000E+00, 1.190088171E+01
8.711277033E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.347775180E+04, -5.890696350E+01
0.000000000E+00, 0.000000000E+00, 1.755966377E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.921234633E+04, -8.268126136E+01

condensed, b3o3h3(c), 83.4550, b, 3, h, 3, o, 3
cpc, nasa, tot, 4, liq, 0, sol, 1, 4
298.15, 700.0, 1400.0, 2000.0, 10000.0
-5.328545240E+05, 3.767360370E+03, 6.890276350E-01
-4.217091030E-03, 8.303566290E-05, -6.146021890E-08
0.000000000E+00, -1.757027581E+05, 2.395113516E+01
5.084004120E+07, -3.177180280E+05, 8.113753320E+02
-1.045412717E+00, 7.976442970E-04, -3.265400500E-07
5.554759650E-11, 1.623716865E+06, -5.113032450E+03
-3.234845810E+08, 1.232060747E+06, -1.920881017E+03
1.628142178E+00, -7.579315580E-04, 1.870131216E-07
-1.915685535E-11, -7.655560210E+06, 1.307505171E+04

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0.000000000E+00, 0.000000000E+00, 2.843162245E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.670874894E+05, -1.545828503E+02

condensed, b4c(c), 55.2547, b, 4, c, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 2743.0, 6000.0
-3.582115390E+07, 6.748884130E+05, -5.160630080E+03
2.049973510E+01, -4.453648770E-02, 5.049831300E-05
-2.340979136E-08, -3.040618105E+06, 2.693617477E+04
-5.772904970E+05, 0.000000000E+00, 1.274373364E+01
5.718209610E-05, 1.287030822E-06, 0.000000000E+00
0.000000000E+00, -1.320621763E+04, -7.266962500E+01
0.000000000E+00, 0.000000000E+00, 1.635454164E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.250553215E+03, -9.163227046E+01

condensed, ba(c), 137.3270, ba, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
80.0, 298.15, 1000.0, 6000.0
-1.121413048E+03, 0.000000000E+00, 2.794031158E+00
3.089779193E-03, -8.812305235E-06, 1.741533776E-08
0.000000000E+00, -9.306838000E+02, -9.109787138E+00
0.000000000E+00, 0.000000000E+00, 2.773344430E+00
2.037522355E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.174338100E+02, -8.909706262E+00
0.000000000E+00, 0.000000000E+00, 4.810866786E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.920623810E+02, -2.000275711E+01

condensed, babr2(c), 297.1350, ba, 1, br, 2
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.00, 1130.0, 6000.0
-7.817658527E+03, 0.000000000E+00, 8.433088661E+00
2.644894287E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.310239840E+04, -3.084013513E+01
0.000000000E+00, 0.000000000E+00, 1.262852531E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.227494300E+04, -5.391493900E+01

condensed, baco3(c), 197.3359, ba, 1, c, 1, o, 3
cpc, nasa, tot, 5, liq, 1, sol, 3, 2, 1, 1
200.0, 500.0, 1083.0, 1233.0, 1828.0, 6000.0
-2.877181104E+07, 5.413510470E+05, -4.125297560E+03
1.638620098E+01, -3.558188760E-02, 4.031953330E-05
-1.867325900E-08, -2.581769925E+06, 2.154826876E+04
-4.578261377E+05, 0.000000000E+00, 1.897622349E+01
-1.614166078E-02, 1.493894409E-05, 0.000000000E+00
0.000000000E+00, -1.526176829E+05, -9.306389650E+01
0.000000000E+00, 0.000000000E+00, 1.900292380E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.534042929E+05, -9.996568172E+01
0.000000000E+00, 0.000000000E+00, 1.924346714E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.533520950E+05, -1.013948007E+02
0.000000000E+00, 0.000000000E+00, 1.984482549E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.496405113E+05, -1.032798247E+02

condensed, bac12(c), 208.2330, ba, 1, cl, 2
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
100.0, 500.0, 1198.0, 1234.0, 6000.0
-7.376444120E+04, 1.806760784E+03, -1.415837573E+01
1.391571933E-01, -4.179089240E-04, 6.207438290E-07
-3.577305500E-10, -1.127273901E+05, 7.349900590E+01
7.096028509E+02, 0.000000000E+00, 8.343245723E+00
2.300676769E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.054434434E+05, -3.333989736E+01
0.000000000E+00, 0.000000000E+00, 1.575558872E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.105803253E+05, -8.137880037E+01

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0.000000000E+00, 0.000000000E+00, 1.310961199E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.054088841E+05, -6.099987667E+01

condensed, baf2(c), 175.3238, ba, 1, f, 2
cpc, nasa, tot, 5, liq, 1, sol, 3, 2, 1, 1
100.0, 500.0, 1240.0, 1480.0, 1641.0, 6000.0
1.441693954E+05, -4.606283760E+03, 5.412180390E+01
-2.221460987E-01, 5.733095130E-04, -7.321844990E-07
3.715051400E-10, -1.283756240E+05, -2.649277473E+02
-2.180525371E+04, 0.000000000E+00, 7.730461567E+00
3.587703906E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.475854552E+05, -3.364924914E+01
0.000000000E+00, 0.000000000E+00, 1.515423038E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.533548254E+05, -8.153942783E+01
0.000000000E+00, 0.000000000E+00, 1.551504538E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.535821388E+05, -8.396607945E+01
0.000000000E+00, 0.000000000E+00, 1.262852531E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.467045237E+05, -6.129240287E+01

condensed, bah2(c), 139.3429, ba, 1, h, 2
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
298.15, 871.0, 1473.0, 6000.0
0.000000000E+00, 0.000000000E+00, 4.530874339E+00
3.359308005E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.435180761E+04, -1.923955725E+01
0.000000000E+00, 0.000000000E+00, 8.539288545E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.589536064E+04, -4.267585539E+01
0.000000000E+00, 0.000000000E+00, 9.020375224E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.359720958E+04, -4.414413915E+01

condensed, bai2(c), 391.1359, ba, 1, i, 2
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
100.0, 500.0, 984.0, 6000.0
1.510332529E+04, -6.224807000E+02, 1.545037842E+01
-3.239437030E-02, 9.253598890E-05, -1.251913725E-07
6.804559110E-11, -7.305629580E+04, -6.364696150E+01
-3.247335080E+02, 0.000000000E+00, 8.607723125E+00
2.399780624E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.555873070E+04, -2.989160688E+01
0.000000000E+00, 0.000000000E+00, 1.359069867E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.611264840E+04, -5.863183475E+01

condensed, bao(c), 153.3264, ba, 1, o, 1
cpc, nasa, tot, 4, liq, 1, sol, 1, 3
200.0, 500.0, 1400.0, 2246.0, 6000.0
-3.734308680E+06, 7.030482670E+04, -5.334141930E+02
2.143135900E+00, -4.664219600E-03, 5.294704440E-06
-2.456512761E-09, -3.833163320E+05, 2.789047565E+03
-7.551858137E+04, 0.000000000E+00, 6.798957485E+00
-1.205482945E-03, 7.325747398E-07, 0.000000000E+00
0.000000000E+00, -6.814216420E+04, -3.017618534E+01
1.380021192E+07, 0.000000000E+00, -1.685992319E+01
1.166250326E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.704906000E+04, 1.274565988E+02
0.000000000E+00, 0.000000000E+00, 1.001863008E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.861430250E+04, -5.267326797E+01

condensed, ba(oh)2(c), 171.3417, ba, 1, o, 2, h, 2
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
100.0, 519.0, 681.0, 6000.0
5.078717800E+04, -1.641996937E+03, 1.964278489E+01
-3.730614630E-02, 1.039952734E-04, -8.659369050E-08
2.282290989E-11, -1.085585521E+05, -9.701503650E+01

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0.000000000E+00, 0.000000000E+00, 1.491368704E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.176117467E+05, -7.252241184E+01
0.000000000E+00, 0.000000000E+00, 1.659749041E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.168340700E+05, -8.068104197E+01

condensed, bas(c), 169.3920, ba, 1, s, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 2500.0, 6000.0
3.369786470E+05, -6.138740230E+03, 4.922553770E+01
-1.599274620E-01, 3.314481350E-04, -3.600847800E-07
1.611281388E-10, -3.028248993E+04, -2.539125160E+02
-2.050631967E+04, 0.000000000E+00, 5.920852822E+00
8.307164223E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.839868930E+04, -2.466233780E+01
0.000000000E+00, 0.000000000E+00, 8.058201866E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.356075540E+04, -3.627577743E+01

condensed, baso4(c), 233.3896, ba, 1, s, 1, o, 4
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
200.0, 500.0, 1423.0, 1853.0, 6000.0
-1.712286968E+07, 3.212789860E+05, -2.441820133E+03
9.713067900E+00, -2.105021811E-02, 2.383101570E-05
-1.103328957E-08, -1.624343960E+06, 1.276058048E+04
-2.747004935E+05, 0.000000000E+00, 1.352094110E+01
6.200004570E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.820275447E+05, -6.454315519E+01
0.000000000E+00, 0.000000000E+00, 2.044618384E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.842091207E+05, -1.050884025E+02
0.000000000E+00, 0.000000000E+00, 2.044618384E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.793982539E+05, -1.024921441E+02

condensed, be(c), 9.0122, be, 1
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
100.0, 298.15, 1543.0, 1563.0, 6000.0
3.532378938E+03, 0.000000000E+00, -1.827528020E+00
1.895481514E-02, -2.121592253E-05, 0.000000000E+00
0.000000000E+00, -9.832146860E+01, 6.866894114E+00
-7.064757875E+04, 0.000000000E+00, 2.550360755E+00
6.848268870E-04, 1.157013462E-07, 0.000000000E+00
0.000000000E+00, -1.028803669E+03, -1.399471510E+01
0.000000000E+00, 0.000000000E+00, 3.608150089E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.524497790E+02, -2.002895768E+01
0.000000000E+00, 0.000000000E+00, 3.545608821E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.074755804E+02, -1.895341257E+01

condensed, beal2o4(c), 126.9729, be, 1, al, 2, o, 4
cpc, nasa, tot, 4, liq, 1, sol, 1, 3
200.0, 600.0, 1200.0, 2146.0, 6000.0
5.671733300E+05, -8.864346630E+03, 4.407635150E+01
-3.612460380E-02, 3.491655240E-05, -1.451255323E-08
0.000000000E+00, -2.361266575E+05, -2.603504873E+02
3.035781649E+07, -2.195328809E+05, 6.571002230E+02
-9.751675120E-01, 8.342636270E-04, -3.757959390E-07
6.972665420E-11, 9.154378130E+05, -4.048262870E+03
5.346540420E+06, -2.333165977E+04, 6.465121650E+01
-5.623102150E-02, 4.944443190E-05, -2.347465372E-08
4.584679740E-12, -1.453507980E+05, -3.997587750E+02
0.000000000E+00, 0.000000000E+00, 2.963602185E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.805665995E+05, -1.711673740E+02

condensed, bebr2(c), 168.8202, be, 1, br, 2
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 781.0, 6000.0

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-1.296528599E+05, 0.000000000E+00, 9.544519160E+00
8.967455689E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.637767130E+04, -4.238810553E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.571223050E+04, -5.534538359E+01

condensed, beco3(c), 69.0211, be, 1, c, 1, o, 3
cpc, nasa, tot, 2, liq, 0, sol, 1, 2
298.0, 6000.0, 10000.0
-3.688732108E+05, 0.000000000E+00, 1.057428520E+01
4.670148932E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.302813975E+05, -5.746109667E+01
0.000000000E+00, 0.000000000E+00, 3.858493231E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.142211205E+05, -2.731141175E+02

condensed, becl2(c), 79.9182, be, 1, cl, 2
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
200.0, 676.0, 688.0, 6000.0
-9.696336540E+05, 1.653841300E+04, -1.120322868E+02
4.343457410E-01, -8.234422230E-04, 7.967601960E-07
-3.089202126E-10, -1.372167152E+05, 5.981191760E+02
0.000000000E+00, 0.000000000E+00, 8.056999150E+00
2.516083329E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.169505530E+04, -3.701517264E+01
0.000000000E+00, 0.000000000E+00, 1.106499361E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.212751630E+04, -5.342382325E+01

condensed, bef2(c), 47.0090, be, 1, f, 2
cpc, nasa, tot, 4, liq, 2, sol, 2, 1, 1
200.0, 493.0, 823.0, 6000.0, 10000.0
3.082582728E+05, -5.000745390E+03, 3.049066381E+01
-5.416146720E-02, 5.846680620E-05, 0.000000000E+00
0.000000000E+00, -1.011928897E+05, -1.687961461E+02
0.000000000E+00, 0.000000000E+00, 5.652527930E+00
3.986885577E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.252903029E+05, -2.679700109E+01
-1.882035141E+06, 0.000000000E+00, 1.234468417E+01
-1.836548396E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.310986361E+05, -6.898102574E+01
0.000000000E+00, 0.000000000E+00, 1.119047638E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.271655039E+05, -6.001576770E+01

condensed, bei2(c), 262.8211, be, 1, i, 2
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 763.0, 6000.0
-1.443741122E+05, 0.000000000E+00, 1.007828483E+01
3.371214900E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.647594661E+04, -4.378170625E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.551070377E+04, -5.349837990E+01

condensed, beo(c), 25.0116, be, 1, o, 1
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
200.0, 1000.0, 2373.0, 2851.0, 6000.0
2.047701543E+05, -2.981173217E+03, 1.385643338E+01
-1.581697711E-02, 2.353849388E-05, -1.941029834E-08
6.520569610E-12, -5.922219190E+04, -8.231113660E+01
1.024057237E+06, 1.937465590E+03, -2.170213872E+00
6.700940070E-03, -1.829092628E-06, 2.757893870E-10
-2.712743027E-14, -8.276808970E+04, 1.896607400E+01
0.000000000E+00, 0.000000000E+00, 6.735213500E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.674474850E+04, -3.937528813E+01
0.000000000E+00, 0.000000000E+00, 1.010282025E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.600243170E+04, -6.253805395E+01

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condensed, be(oh)2(c), 43.0269, be, 1, o, 2, h, 2
cpc, nasa, tot, 3, liq, 0, sol, 1, 3
200.0, 500.0, 6000.0, 10000.0
-2.821507074E+07, 5.306026240E+05, -4.050124700E+03
1.608285663E+01, -3.491136410E-02, 3.956008990E-05
-1.833019806E-08, -2.495097922E+06, 2.114570392E+04
-4.549275904E+05, 0.000000000E+00, 1.198362862E+01
2.034996650E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.141192354E+05, -6.597431876E+01
0.000000000E+00, 0.000000000E+00, 2.418097164E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.505975326E+05, -1.598689859E+02

condensed, bes(c), 41.0772, be, 1, s, 1
cpc, nasa, tot, 2, liq, 0, sol, 1, 2
298.0, 6000.0, 10000.0
-1.061156941E+05, 0.000000000E+00, 4.876054031E+00
1.363880734E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.025444334E+04, -2.469606404E+01
0.000000000E+00, 0.000000000E+00, 1.305639078E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.476892465E+04, -8.767626597E+01

condensed, beso4(c), 105.0748, be, 1, s, 1, o, 4
cpc, nasa, tot, 4, liq, 1, sol, 3, 1, 1, 1
200.0, 861.0, 912.0, 1400.0, 6000.0
9.674052850E+05, -1.525976877E+04, 9.078019340E+01
-2.151323890E-01, 3.405813330E-04, -2.623119799E-07
8.137303080E-11, -7.417050650E+04, -5.024380540E+02
0.000000000E+00, 0.000000000E+00, 1.804075045E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.508085273E+05, -9.670719282E+01
0.000000000E+00, 0.000000000E+00, 1.804075045E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.505559568E+05, -9.643025148E+01
0.000000000E+00, 0.000000000E+00, 1.804075045E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.498343268E+05, -9.591480146E+01

condensed, be2c(c), 30.0351, be, 2, c, 1
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 2400.0, 6000.0
0.000000000E+00, 0.000000000E+00, 4.437364559E+00
2.569424296E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.550714068E+04, -2.408584259E+01
0.000000000E+00, 0.000000000E+00, 1.107076665E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.496946374E+04, -6.577435374E+01

condensed, be3n2(c), 55.0499, be, 3, n, 2
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
200.0, 500.0, 1673.0, 2473.0, 6000.0
6.443341310E+05, -9.239880870E+03, 4.211333200E+01
-4.513325350E-02, 3.232975930E-05, 0.000000000E+00
0.000000000E+00, -2.674920290E+04, -2.511544265E+02
-2.278465381E+05, 4.432191420E+02, 1.376274664E+00
3.225384830E-02, -2.704770612E-05, 8.116575420E-09
-6.682374890E-14, -7.562743780E+04, -1.197625563E+01
0.000000000E+00, 0.000000000E+00, 1.743939210E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.850942150E+04, -1.016302777E+02
0.000000000E+00, 0.000000000E+00, 2.008536883E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.182303830E+04, -1.169540588E+02

condensed, br2(c), 159.8080, br, 2
cpc, nasa, tot, 3, liq, 2, sol, 1, 1
200.0, 265.9, 332.5, 6000.0
-5.550117110E+06, 1.610953162E+05, -1.913542203E+03
1.201711944E+01, -4.170621540E-02, 7.615296370E-05

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-5.694588430E-08, -6.565415920E+05, 9.135571000E+03
5.661619720E+06, -6.002788720E+04, 3.963572800E+01
2.194289283E+00, -1.209616100E-02, 2.608732123E-05
-2.065978604E-08, 3.167204530E+05, -6.832596160E+02
0.000000000E+00, 0.000000000E+00, 9.056697268E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.699852754E+03, -3.329354185E+01

#condensed, c(c), 12.0107, c, 1
# cpc, nasa, tot, 4, liq, 0, sol, 1, 4
# 200.0, 600.0, 2000.0, 6000.0, 10000.0
# 1.132856760E+05, -1.980421677E+03, 1.365384188E+01
# -4.636096440E-02, 1.021333011E-04, -1.082893179E-07
# 4.472258860E-11, 8.943859760E+03, -7.295824740E+01
# 3.356004410E+05, -2.596528368E+03, 6.948841910E+00
# -3.484836090E-03, 1.844192445E-06, -5.055205960E-10
# 5.750639010E-14, 1.398412456E+04, -4.477183040E+01
# 2.023105106E+05, -1.138235908E+03, 3.700279500E+00
# -1.833807727E-04, 6.343683250E-08, -7.068589480E-12
# 3.335435980E-16, 5.848134850E+03, -2.350925275E+01
# 0.000000000E+00, 0.000000000E+00, 3.605091761E+00
# 0.000000000E+00, 0.000000000E+00, 0.000000000E+00
# 0.000000000E+00, -4.021455159E+03, -2.285356146E+01
# eos, tiger, S, 1, L, 0
# 4.99259, 3.9628E-5, 1.191359E-9
# -6.377527E-6, 1.1924995E-10, -3.7557816E-15
# 3.58287E-12, -1.00976E-16, 0
# 0, 0, 0

condensed, graphite(c), 12.0107, c, 1
cpc, einstein, tot, 2, liq, 1, sol, 1, 1
1.1, 1.8, 0.0
597, 1740, 1.0
1.16e-4, 20000. 5.7402
4.5, 0.0, 0.0
1280., 1., 1.
0.0, 66000., 3.9

condensed, diamond(c), 12.0107, c, 1
cpc, einstein, tot, 2, liq, 1, sol, 1, 1
2.59, 0.78, 0.
1238., 3390., 1.
0.0, 36800., 2.7
3.5, 0.0, 0.0
1400., 1., 1.0
0.0, 112550., 24.8

#condensed, diamond(c), 12.0107, c, 1
# cpc, einstein, tot, 1, liq, 0, sol, 1, 1
# 3.0, 0.0, 0.0
# 1320., 1.0, 1.0
# 0.0, 1896.6, 3
# 0.0, 1896.6, 2.38
# 6.0, 0.0, 0.0
# 1320., 1.0, 1.0
# 0.0, 100000., 25.0
# eos, snl, S, 1, L, 0
# 3.37, 6e-5, -0.001
# 7000, 0.0, 0.0
# 0.0, 0.0, 0.0
# 0.0, 0.0, 0.0
# 8.45, 7.4e-5, -0.000318
# 7000.0, 0.0 0.0
# 0.0, 0.0, 0.0
# 0.0, 0.0, 0.0

condensed, ca(c), 40.0780, ca, 1
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
200.0, 298.15, 716.0, 1115.0, 6000.0
2.209214594E+04, 0.000000000E+00, -2.387095323E+00
4.674833430E-02, -1.481690580E-04, 1.686114356E-07

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0.000000000E+00, -3.160902334E+02, 9.998907900E+00
8.959632100E+03, 0.000000000E+00, 2.440591375E+00
1.722094077E-03, 4.744000490E-07, 0.000000000E+00
0.000000000E+00, -7.783440840E+02, -9.273708050E+00
0.000000000E+00, 0.000000000E+00, 5.701117685E+00
-5.810564904E-03, 4.022125176E-06, 0.000000000E+00
0.000000000E+00, -1.516788311E+03, -2.607588230E+01
0.000000000E+00, 0.000000000E+00, 4.570323447E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.822680100E+02, -2.119893317E+01

condensed, cabr2(c), 199.8860, ca, 1, br, 2
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 1015.0, 6000.0
-2.826384237E+04, 0.000000000E+00, 8.872561342E+00
1.586623866E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.505243950E+04, -3.554898721E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.390932270E+04, -5.231487518E+01

condensed, caco3(c), 100.0869, ca, 1, c, 1, o, 3
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1603.0, 6000.0
-1.329862425E+07, 2.500517168E+05, -1.907177167E+03
7.616666270E+00, -1.655870860E-02, 1.879382277E-05
-8.720713270E-09, -1.271058215E+06, 9.957497560E+03
-2.583555736E+05, 0.000000000E+00, 1.197256363E+01
3.263812299E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.497009803E+05, -5.961133653E+01
0.000000000E+00, 0.000000000E+00, 1.924346714E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.526719277E+05, -1.052847193E+02

condensed, cac12(c), 110.9840, ca, 1, cl, 2
cpc, nasa, tot, 4, liq, 2, sol, 1, 2
100.0, 500.0, 1048.0, 6000.0, 10000.0
6.000206010E+03, -4.466152170E+02, 8.199988600E+00
2.374917562E-02, -1.002337283E-04, 1.782027609E-07
-1.141389034E-10, -9.606057780E+04, -3.912159570E+01
-3.018818908E+04, 0.000000000E+00, 8.644766799E+00
1.529735366E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.845880750E+04, -3.684266549E+01
2.661491778E+06, 0.000000000E+00, 1.078355790E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.391818610E+04, -4.566953897E+01
0.000000000E+00, 0.000000000E+00, 1.085748823E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.480535003E+04, -4.634966211E+01

condensed, caf2(c), 78.0748, ca, 1, f, 2
cpc, nasa, tot, 5, liq, 1, sol, 2, 3, 1
200.0, 500.0, 1000.0, 1424.0, 1691.0, 6000.0
-9.875281260E+05, 1.337426670E+04, -6.261903110E+01
1.617894422E-01, -1.271795719E-04, 0.000000000E+00
0.000000000E+00, -2.146045473E+05, 3.617287210E+02
-6.961842180E+06, 4.692065010E+04, -1.157708151E+02
1.655025287E-01, -1.108459197E-04, 3.213053720E-08
0.000000000E+00, -4.101016540E+05, 7.419533450E+02
1.438558077E+09, 7.852955040E+05, -1.342916213E+04
2.192783112E+01, -1.383442475E-02, 3.122877330E-06
0.000000000E+00, 2.168972069E+06, 7.823794920E+04
1.535768139E+08, 0.000000000E+00, -1.699774473E+02
7.733123360E-02, 3.585714680E-07, 0.000000000E+00
0.000000000E+00, 1.356828739E+05, 1.185723820E+03
0.000000000E+00, 0.000000000E+00, 1.190689530E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.479539740E+05, -5.967665213E+01

condensed, cah2(c), 42.0939, ca, 1, h, 2
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1

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298.15, 1053.0, 1273.0, 6000.0
0.000000000E+00, 0.000000000E+00, 3.599731073E+00
4.465566822E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.255982511E+04, -1.686197756E+01
0.000000000E+00, 0.000000000E+00, 8.298745206E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.422633646E+04, -4.409678633E+01
0.000000000E+00, 0.000000000E+00, 9.020375224E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.249899474E+04, -4.717727797E+01

condensed, cai2(c), 293.8869, ca, 1, i, 2
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1056.0, 6000.0
-1.811328452E+06, 3.127451814E+04, -2.136599007E+02
8.328705880E-01, -1.721725832E-03, 1.878967812E-06
-8.440013400E-10, -2.101977983E+05, 1.142802698E+03
-6.638996165E+03, 0.000000000E+00, 8.652825001E+00
2.284560365E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.721736780E+04, -3.254333551E+01
0.000000000E+00, 0.000000000E+00, 1.238798197E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.485425310E+04, -5.137218163E+01

condensed, cao(c), 56.0774, ca, 1, o, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 3172.0, 6000.0
-4.775526940E+06, 9.037711420E+04, -6.944320810E+02
2.802477174E+00, -6.129403220E-03, 6.982167800E-06
-3.247543840E-09, -4.829411430E+05, 3.619046320E+03
-1.459376440E+05, 0.000000000E+00, 7.174205094E+00
-1.959947129E-03, 1.291116374E-06, -2.077091735E-10
0.000000000E+00, -7.891525080E+04, -3.658562837E+01
0.000000000E+00, 0.000000000E+00, 1.010282025E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.991857230E+04, -5.908720013E+01

condensed, ca(oh)2(c), 74.0927, ca, 1, o, 2, h, 2
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
100.0, 500.0, 1023.0, 6000.0
-2.058838935E+05, 6.172554490E+03, -7.499750990E+01
5.012182400E-01, -1.423348682E-03, 1.994984415E-06
-1.095038067E-09, -1.452026205E+05, 3.552445040E+02
-1.245413139E+05, 0.000000000E+00, 1.073593032E+01
3.982435525E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.223707243E+05, -5.302395390E+01
0.000000000E+00, 0.000000000E+00, 1.840156546E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.245191822E+05, -9.860760364E+01

condensed, cas(c), 72.1430, ca, 1, s, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 2800.0, 6000.0
4.758681130E+06, -8.840702110E+04, 6.675047510E+02
-2.576855161E+00, 5.527281760E-03, -6.202901900E-06
2.852128154E-09, 3.401344700E+05, -3.494344760E+03
-1.428827435E+04, 0.000000000E+00, 5.567375588E+00
1.006673875E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.888163400E+04, -2.530572359E+01
0.000000000E+00, 0.000000000E+00, 8.058201866E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.348566620E+04, -3.924995523E+01

condensed, caso4(c), 136.1406, ca, 1, s, 1, o, 4
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
200.0, 500.0, 1473.0, 1733.0, 6000.0
-1.361977472E+07, 2.584929291E+05, -1.984800641E+03
7.969448170E+00, -1.736805219E-02, 1.974370111E-05
-9.168768090E-09, -1.334631522E+06, 1.035139350E+04
-2.983940124E+05, 0.000000000E+00, 1.359671225E+01
5.857230312E-03, 0.000000000E+00, 0.000000000E+00

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0.000000000E+00, -1.777846313E+05, -6.802481458E+01
0.000000000E+00, 0.000000000E+00, 1.984482549E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.798298668E+05, -1.045004358E+02
0.000000000E+00, 0.000000000E+00, 1.984482549E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.764622601E+05, -1.025572120E+02

condensed, cd(c), 112.4110, cd, 1
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
100.0, 594.26, 6000.0
1.375273221E+05, -3.221590070E+03, 3.121905502E+01
-1.226136798E-01, 2.838880568E-04, -3.286884020E-07
1.520469817E-10, 1.302807037E+04, -1.551324136E+02
0.000000000E+00, 0.000000000E+00, 3.596122922E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.220394750E+02, -1.323298164E+01

condensed, co(c), 58.9332, co, 1
cpc, nasa, tot, 7, liq, 1, sol, 2, 2, 4
200.,500.,700.1,800.,1394.,1400.,1768.,6000.
-8.651834510E+05, 1.462135206E+04, -9.971089110E+01
3.794338600E-01, -7.800106350E-04, 8.553583960E-07
-3.890151670E-10, -6.795963460E+04, 5.306550210E+02
-9.877560740E+05, 6.820602200E+03, -1.521637485E+01
2.234541680E-02, -9.019246600E-06, 0.000000000E+00
0.000000000E+00, -3.852839040E+04, 1.014399403E+02
0.000000000E+00, 0.000000000E+00, 2.125113886E+00
2.218475342E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.197709420E+02, -8.944546990E+00
-1.576349295E+09, 9.154318170E+06, -2.197967504E+04
2.793356668E+01, -1.980310380E-02, 7.425124740E-06
-1.149433030E-09, -5.182198410E+07, 1.399846247E+05
0.000000000E+00, 0.000000000E+00, 3.070872109E+02
-2.155487195E-01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.139292950E+05, -1.913104819E+03
1.648338062E+09, -4.036220190E+06, 3.722685700E+03
-1.526326566E+00, 2.354674115E-04, 0.000000000E+00
0.000000000E+00, 2.649010262E+07, -2.751466647E+04
0.000000000E+00, 0.000000000E+00, 4.871122892E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.761381676E+02, -2.448402276E+01

condensed, cr(c), 51.9961, cr, 1
cpc, nasa, tot, 4, liq, 1, sol, 1, 3
200, 311.5, 1000., 2130.0, 6000.
8.051084050E+05, -1.339842819E+04, 8.273507290E+01
-2.075857041E-01, 2.008764131E-04, 0.000000000E+00
0.000000000E+00, 6.182357950E+04, -4.559971660E+02
-2.534425357E+05, 3.119404093E+03, -1.358439770E+01
4.323570220E-02, -5.624102820E-05, 3.652910710E-08
-8.973298370E-12, -1.606559079E+04, 7.858043710E+01
-3.005006418E+07, 1.264410306E+05, -2.139399408E+02
1.937684814E-01, -9.423205780E-05, 2.445139082E-08
-2.606793685E-12, -7.582388710E+05, 1.441907828E+03
0.000000000E+00, 0.000000000E+00, 4.730284767E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 5.755633080E+02, -2.453179007E+01

condensed, crn(c), 66.0028, cr, 1, n, 1
cpc, nasa, tot, 4, liq, 0, sol, 1, 4
200.0, 298.15, 400.0, 2500.0, 10000.0
0.000000000E+00, 0.000000000E+00, -1.314063090E+00
2.565693051E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.483864491E+04, 4.372952650E+00
1.223200207E+06, 0.000000000E+00, -2.407090178E+01
5.583146740E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.292218790E+03, 1.319158541E+02
-2.661907798E+05, 1.615547039E+03, 1.892576742E+00
4.987173370E-03, -2.514705667E-06, 7.617792270E-10
-9.124276740E-14, -2.496407842E+04, -3.735659490E+00

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0.000000000E+00, 0.000000000E+00, 7.585857859E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.830603414E+04, -4.121904075E+01

condensed, cr2n(c), 117.9989, cr, 2, n, 1
cpc, nasa, tot, 4, liq, 0, sol, 1, 4
298.15, 700.0, 1500.0, 2500.0, 10000.0
5.676714650E+06, -6.561919460E+04, 2.971622148E+02
-6.132148300E-01, 6.373067250E-04, -2.569754132E-07
0.000000000E+00, 3.113488256E+05, -1.716694497E+03
8.246680410E+05, -1.965549089E+03, 5.659967790E+00
1.366241998E-02, -1.241835551E-05, 6.313550760E-09
-1.192405400E-12, -3.594772610E+03, -3.071970867E+01
4.325258320E+09, -1.355254539E+07, 1.757503878E+04
-1.205560629E+01, 4.623646210E-03, -9.389890050E-07
7.891119490E-11, 8.506076540E+07, -1.227417790E+05
0.000000000E+00, 0.000000000E+00, 1.560039036E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.733985520E+04, -9.099953966E+01

condensed, cr2o3(c), 151.9904, cr, 2, o, 3
cpc, nasa, tot, 5, liq, 1, sol, 2, 1, 3
200.0, 306.0, 310.0, 335.0, 2705.0, 6000.
-2.112979833E+06, 0.000000000E+00, 2.207431906E+02
-1.164973854E+00, 1.853971249E-03, 0.000000000E+00
0.000000000E+00, -1.746831159E+05, -9.949025210E+02
0.000000000E+00, 0.000000000E+00, 6.705915562E+03
-4.303760534E+01, 6.919229155E-02, 0.000000000E+00
0.000000000E+00, -8.349875160E+05, -2.844167579E+04
0.000000000E+00, 0.000000000E+00, 2.443570337E+02
-1.399445548E+00, 2.113509996E-03, 0.000000000E+00
0.000000000E+00, -1.665032895E+05, -1.059172219E+03
-3.415474875E+05, 0.000000000E+00, 1.616932327E+01
-1.517828471E-03, 1.014852348E-06, 0.000000000E+00
0.000000000E+00, -1.430478214E+05, -8.374919535E+01
0.000000000E+00, 0.000000000E+00, 2.044618384E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.383139935E+05, -1.123603099E+02

condensed, cs(c), 132.9055, cs, 1
cpc, nasa, tot, 4, liq, 3, sol, 1, 1
100.0, 301.59, 1000., 2000., 10000.0
6.519841350E+04, -1.756639077E+03, 1.999681093E+01
-6.938328820E-02, 1.093682552E-04, 0.000000000E+00
0.000000000E+00, 6.382890840E+03, -9.338251570E+01
-4.218078030E+04, -1.745861711E+01, 5.702246950E+00
-5.113948550E-03, 3.201752440E-06, -1.767959558E-10
4.827862700E-14, -1.290810964E+03, -2.031478114E+01
-7.255372990E+05, 3.001930225E+03, 1.782289032E-01
2.832281079E-04, 1.810515176E-07, 7.718855550E-10
-8.889289510E-14, -1.920877274E+04, 1.635273378E+01
0.000000000E+00, 0.000000000E+00, 7.541270096E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.186819691E+03, -3.839194793E+01

condensed, csbo2(c), 175.7152, cs, 1, b, 1, o, 2
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1005.0, 6000.0
1.241529552E+07, -2.256720327E+05, 1.662515290E+03
-6.320716230E+00, 1.337407484E-02, -1.484168930E-05
6.761667750E-09, 9.049643320E+05, -8.739017110E+03
-1.344267330E+05, 0.000000000E+00, 1.014162565E+01
3.564309650E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.193344436E+05, -4.705131010E+01
0.000000000E+00, 0.000000000E+00, 1.743939210E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.214875849E+05, -9.061903610E+01

condensed, csbr(c), 212.8094, cs, 1, br, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 910.0, 6000.0

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8.214717410E+05, -1.533809444E+04, 1.213999610E+02
-4.502622350E-01, 9.722874060E-04, -1.094185412E-06
5.042592550E-10, 1.851486523E+04, -6.252270680E+02
0.000000000E+00, 0.000000000E+00, 5.882254010E+00
1.622332026E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.060809300E+04, -2.041491096E+01
0.000000000E+00, 0.000000000E+00, 9.020375224E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.995364530E+04, -3.720087044E+01

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condensed, cscl(c), 168.3585, cs, 1, cl, 1
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
200.0, 500.0, 743.0, 919.0, 6000.0
-1.703772998E+06, 3.247452440E+04, -2.455466631E+02
1.009178034E+00, -2.207551915E-03, 2.517334138E-06
-1.172381667E-09, -2.005014179E+05, 1.287839193E+03
-3.937950690E+04, 0.000000000E+00, 6.626999920E+00
4.235262420E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.532407590E+04, -2.593783387E+01
0.000000000E+00, 0.000000000E+00, 7.841712861E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.570430740E+04, -3.314329722E+01
0.000000000E+00, 0.000000000E+00, 8.839967719E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.417056700E+04, -3.728749769E+01

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condensed, csf(c), 151.9039, cs, 1, f, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 976.0, 6000.0
-2.453746682E+06, 4.440981600E+04, -3.216355300E+02
1.258524529E+00, -2.661147803E-03, 2.959315715E-06
-1.350383298E-09, -2.700040022E+05, 1.698453355E+03
0.000000000E+00, 0.000000000E+00, 5.088206230E+00
3.543462080E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.867788740E+04, -1.886662026E+01
0.000000000E+00, 0.000000000E+00, 8.659560215E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.786592520E+04, -3.731740982E+01

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condensed, csh(c), 133.9134, cs, 1, h, 1
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 801.0, 6000.0
-5.041788392E+04, 0.000000000E+00, 4.142517118E+00
4.385946977E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.098615840E+03, -1.641381626E+01
0.000000000E+00, 0.000000000E+00, 6.735213500E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.901332940E+03, -2.794351109E+01

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condensed, csi(c), 259.8099, cs, 1, i, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 905.0, 6000.0
1.754014150E+06, -3.232916500E+04, 2.467159187E+02
-9.287377130E-01, 1.973235969E-03, -2.193580686E-06
1.003390730E-09, 1.023639971E+05, -1.282961001E+03
-1.690343843E+04, 0.000000000E+00, 7.346625000E+00
-4.804073480E-03, 6.604565720E-06, 0.000000000E+00
0.000000000E+00, -4.395851780E+04, -2.611726446E+01
0.000000000E+00, 0.000000000E+00, 8.539288545E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.226975350E+04, -3.246075054E+01

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condensed, csno2(c), 178.9110, cs, 1, n, 1, o, 2
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 679.0, 6000.0
0.000000000E+00, 0.000000000E+00, 1.151300558E+01
-3.537430348E-03, 5.931437932E-06, 0.000000000E+00
0.000000000E+00, -4.901898420E+04, -4.387814029E+01
0.000000000E+00, 0.000000000E+00, 1.274879698E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.874363630E+04, -5.104014160E+01

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condensed, csno3(c), 194.9103, cs, 1, n, 1, o, 3
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
200.0, 427.0, 682.0, 6000.0
-3.246405120E+06, 5.377946540E+04, -3.399293910E+02
1.103526542E+00, -1.665374892E-03, 1.005891643E-06
0.000000000E+00, -3.130119262E+05, 1.853516509E+03
-8.675315803E+05, 0.000000000E+00, 2.211459244E+01
-4.596061584E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.970758310E+04, -1.102656798E+02
0.000000000E+00, 0.000000000E+00, 1.804075045E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.506630270E+04, -8.345202339E+01

condensed, csOH(c), 149.9128, cs, 1, o, 1, h, 1
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
100.0, 298.15, 498.2, 615.5, 6000.0
-1.070491244E+06, 2.726790967E+04, -2.447999195E+02
9.717566950E-01, -1.304183626E-03, 0.000000000E+00
0.000000000E+00, -1.676915176E+05, 1.260979156E+03
2.988510447E+05, 0.000000000E+00, -5.599488124E+00
4.758933479E-02, -3.982976748E-05, 0.000000000E+00
0.000000000E+00, -4.914854260E+04, 3.370083195E+01
0.000000000E+00, 0.000000000E+00, 8.743750383E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.198053970E+04, -3.591737929E+01
0.000000000E+00, 0.000000000E+00, 1.022309192E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.195536080E+04, -4.389810453E+01

condensed, csO2(c), 164.9042, cs, 1, o, 2
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
298.15, 403, 723.0, 6000.0
0.000000000E+00, 0.000000000E+00, 6.423469330E+00
1.032375931E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.678373920E+04, -2.259778952E+01
0.000000000E+00, 0.000000000E+00, 1.058390693E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.762205990E+04, -4.339551574E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.645253810E+04, -4.983623140E+01

condensed, cs2co3(c), 325.8198, cs, 2, c, 1, o, 3
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1066.0, 6000.0
-2.861109977E+06, 6.041289230E+04, -5.002404530E+02
2.198717904E+00, -5.002265900E-03, 5.885981300E-06
-2.807201102E-09, -4.049923380E+05, 2.581625553E+03
-2.194678436E+05, 0.000000000E+00, 1.478581229E+01
8.646042770E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.420250493E+05, -6.346394980E+01
0.000000000E+00, 0.000000000E+00, 2.465569228E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.436995486E+05, -1.194626528E+02

condensed, cs2O(c), 281.8103, cs, 2, o, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 768.0, 6000.0
-5.627068090E+05, 9.379197410E+03, -5.661406600E+01
2.388479040E-01, -4.761089540E-04, 5.101511920E-07
-2.256975084E-10, -8.742010290E+04, 3.144128417E+02
0.000000000E+00, 0.000000000E+00, 7.940814720E+00
4.024410190E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.420852680E+04, -2.877552024E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.375456510E+04, -4.970156357E+01

condensed, cs2O2(c), 297.8097, cs, 2, o, 2
cpc, nasa, tot, 2, liq, 1, sol, 1, 1

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298.15, 867.0, 6000.0
0.000000000E+00, 0.000000000E+00, 1.003895599E+01
4.65156824E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.611939360E+04, -3.693586892E+01
0.000000000E+00, 0.000000000E+00, 1.611640373E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.699432080E+04, -7.096530706E+01

condensed, cs2so4(c), 361.8735, cs, 2, s, 1, o, 4
cpc, nasa, tot, 5, liq, 1, sol, 3, 2, 1, 1
200.0, 500.0, 920.0, 1000.0, 1288.0, 6000.0
-9.607719290E+06, 1.823999086E+05, -1.398882747E+03
5.671901780E+00, -1.240281336E-02, 1.414114808E-05
-6.571017390E-09, -9.952928170E+05, 7.301725680E+03
-2.673923999E+05, 0.000000000E+00, 1.731761674E+01
9.163180750E-03, -1.678705593E-05, 2.444634119E-08
0.000000000E+00, -1.799058942E+05, -7.688396220E+01
0.000000000E+00, 0.000000000E+00, -2.345297558E+01
5.324523033E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.607408251E+05, 1.601933430E+02
0.000000000E+00, 0.000000000E+00, 1.021611616E+01
1.412157782E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.748480906E+05, -3.326085070E+01
0.000000000E+00, 0.000000000E+00, 2.489623562E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.778210954E+05, -1.169167420E+02

condensed, cu(c), 63.5460, cu, 1
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
200.0, 1358.0, 6000.0
-2.455775109E+04, 1.648069205E+02, 2.080947143E+00
2.639078305E-03, -2.714101362E-06, 1.402864982E-09
-9.724321640E-14, -1.737850969E+03, -8.133166800E+00
0.000000000E+00, 0.000000000E+00, 3.944910764E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.111013775E+02, -1.836065775E+01

condensed, cubr(c), 143.4500, cu, 1, br, 1
cpc, nasa, tot, 5, liq, 2, sol, 3, 1, 1, 1
298.15, 657.0, 741.0, 759.0, 1500.0, 10000.0
9.282973940E+07, -1.403844530E+06, 8.783223470E+03
-2.905323712E+01, 5.373393350E-02, -5.266133060E-05
2.137926033E-08, 6.589039380E+06, -4.752115490E+04
2.030134717E+04, 0.000000000E+00, 8.680899310E+00
1.192698187E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.494845171E+04, -3.784920540E+01
0.000000000E+00, 0.000000000E+00, 6.996549990E+00
-2.480878428E-06, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.343768009E+04, -2.630094995E+01
5.249558100E+06, -2.757081290E+04, 7.103036660E+01
-7.368389880E-02, 4.263508020E-05, -1.219118967E-08
1.489531692E-12, 1.442863364E+05, -4.366365590E+02
0.000000000E+00, 0.000000000E+00, 6.781532905E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.256871854E+04, -2.394798791E+01

condensed, cubr2(c), 223.3540, cu, 1, br, 2
cpc, nasa, tot, 2, liq, 0, sol, 1, 2
298.15, 800.0, 10000.0
-2.314796663E+04, 0.000000000E+00, 9.183704151E+00
6.239886656E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.949996594E+04, -3.714221219E+01
0.000000000E+00, 0.000000000E+00, 9.646726386E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.964177240E+04, -3.972006077E+01

condensed, cucl(c), 98.9990, cu, 1, cl, 1
cpc, nasa, tot, 4, liq, 2, sol, 2, 1, 1
298.15, 685.0, 696.0, 1700.0, 10000.0
-3.658126050E+07, 4.622460750E+05, -2.297616527E+03
5.656465110E+00, -6.837763380E-03, 3.261042890E-06

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0.000000000E+00, -2.287516266E+06, 1.303469843E+04
0.000000000E+00, 0.000000000E+00, 9.573589740E+00
-1.820889604E-05, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.177033413E+04, -4.503412690E+01
2.136369978E+07, -1.123842012E+05, 2.576303311E+02
-2.967521373E-01, 1.937139129E-04, -6.602332990E-08
9.216872010E-12, 6.263960470E+05, -1.640361694E+03
0.000000000E+00, 0.000000000E+00, 6.876452901E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.909913683E+04, -2.618714118E+01

condensed, cucl2(c), 134.4520, cu, 1, cl, 2
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 675.0, 6000.0
-2.119456576E+04, -7.996037250E+02, 1.293400534E+01
-6.531311580E-03, 7.387791880E-06, -2.975231314E-09
0.000000000E+00, -2.535822405E+04, -6.185052500E+01
0.000000000E+00, 0.000000000E+00, 9.913368316E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.929700009E+04, -4.386870689E+01

condensed, cuf(c), 82.5444, cu, 1, f, 1
cpc, nasa, tot, 2, liq, 0, sol, 1, 2
298.15, 1300.0, 10000.0
8.970191630E+04, -8.507461080E+02, 7.497889560E+00
2.741560003E-03, -2.987072214E-06, 1.372974641E-09
-2.449154828E-13, -2.234632002E+04, -3.796523780E+01
0.000000000E+00, 0.000000000E+00, 7.729345672E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.788861267E+04, -3.712637344E+01

condensed, cuf2(c), 101.5428, cu, 1, f, 2
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 1109.0, 6000.0
2.173703718E+04, -4.937180300E+02, 7.140314880E+00
9.517087050E-03, -7.459164380E-06, 1.904472482E-09
4.473847180E-13, -6.452906470E+04, -3.535501070E+01
0.000000000E+00, 0.000000000E+00, 1.207719998E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.351133500E+04, -5.654007188E+01
eos, tiger, S, 1, L, 1

condensed, cui(c), 190.4505, cu, 1, i, 1
cpc, nasa, tot, 5, liq, 2, sol, 3, 1, 1, 1
200.0, 642.0, 680.0, 868.0, 1600.0, 10000.0
3.341893600E+07, -6.258598240E+05, 4.752824990E+03
-1.866377479E+01, 4.013741700E-02, -4.477073620E-05
2.026229192E-08, 2.806623546E+06, -2.484310642E+04
0.000000000E+00, 0.000000000E+00, 1.665647164E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.582086031E+04, -8.975455543E+01
0.000000000E+00, 0.000000000E+00, 8.252753319E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.787795700E+03, -3.447628919E+01
-1.011252768E+08, 4.982205420E+05, -1.002812164E+03
1.087833779E+00, -6.564648130E-04, 2.096109501E-07
-2.761239948E-11, -2.912510925E+06, 6.575842050E+03
0.000000000E+00, 0.000000000E+00, 6.663568997E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.064630173E+03, -2.225559223E+01

condensed, cuo(c), 79.5454, cu, 1, o, 1
cpc, nasa, tot, 3, liq, 0, sol, 1, 3
200.0, 500.0, 1400.0, 10000.0
-4.516917320E+05, 5.470078090E+03, -2.199474390E+01
5.929815860E-02, -4.346152590E-05, 0.000000000E+00
0.000000000E+00, -4.709485370E+04, 1.305030297E+02
1.200465628E+06, -7.265787600E+03, 2.078520457E+01
-1.455522591E-02, 1.267438982E-05, -1.010207859E-08
3.818025500E-12, 2.099455971E+04, -1.272540351E+02
0.000000000E+00, 0.000000000E+00, 7.619549631E+00

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0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.233248157E+04, -4.052504538E+01

condensed, cu(oh)2(c), 97.5607, cu, 1, o, 2, h, 2
cpc, nasa, tot, 2, liq, 0, sol, 1, 2
298.15, 2000.0, 10000.0
-2.719377798E+05, 2.064524617E+03, 2.639692948E+00
1.680803576E-02, -1.185312108E-05, 4.128854220E-09
-5.731701790E-13, -6.740281360E+04, -3.697949500E+00
0.000000000E+00, 0.000000000E+00, 1.366766891E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.877567002E+04, -6.989136262E+01

condensed, cus(c), 95.6110, cu, 1, s, 1
cpc, nasa, tot, 2, liq, 0, sol, 1, 2
298.15, 717.82, 10000.0
-2.883682516E+06, 3.709375520E+04, -1.908896435E+02
5.441914820E-01, -8.255987560E-04, 6.585650750E-07
-2.151268669E-10, -1.888895944E+05, 1.072934856E+03
0.000000000E+00, 0.000000000E+00, 6.884569820E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.975645464E+03, -3.170367826E+01

condensed, cuso4(c), 159.6086, cu, 1, s, 1, o, 4
cpc, nasa, tot, 3, liq, 0, sol, 1, 3
200.0, 500.0, 1500.0, 10000.0
-6.059594400E+06, 1.149925970E+05, -8.865821710E+02
3.621436210E+00, -7.953212370E-03, 9.136099910E-06
-4.293593660E-09, -6.103352510E+05, 4.617693800E+03
4.517267510E+06, -3.693547470E+04, 1.240090231E+02
-1.574474634E-01, 1.231374136E-04, -4.209750670E-08
3.791447690E-12, 1.020928632E+05, -7.502604750E+02
0.000000000E+00, 0.000000000E+00, 1.939615207E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.002368103E+05, -1.017864301E+02

cu2o(c), 143.0914, cu, 2, o, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 600.0, 1516.7, 6000.0
6.943093940E+05, -1.107206812E+04, 7.007600820E+01
-1.693010736E-01, 2.296941394E-04, -1.193708373E-07
0.000000000E+00, 2.971995795E+04, -3.800603570E+02
4.899293250E+06, -3.226767710E+04, 9.242913240E+01
-1.133053506E-01, 8.886458460E-05, -3.911779590E-08
8.170753140E-12, 1.562364374E+05, -5.668285450E+02
0.000000000E+00, 0.000000000E+00, 1.199819496E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.922442298E+04, -5.674847630E+01

condensed, cu2s(c), 159.1570, cu, 2, s, 1
cpc, nasa, tot, 4, liq, 1, sol, 3, 1, 1
298.15, 376.0, 720.0, 1400.0, 6000.0
1.219944245E+05, 0.000000000E+00, 2.442685885E+00
1.822933284E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.023757104E+04, -4.696533160E+00
-1.211638496E+06, 1.256233530E+04, -3.683304810E+01
9.547244050E-02, -9.864227170E-05, 3.946755750E-08
0.000000000E+00, -7.698051300E+04, 2.352740334E+02
1.585983458E+07, -9.420242290E+04, 2.398981626E+02
-2.943865388E-01, 2.084368440E-04, -7.757369510E-08
1.184191791E-11, 5.203074640E+05, -1.502163502E+03
0.000000000E+00, 0.000000000E+00, 1.078393315E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.075259326E+04, -4.551698813E+01

condensed, fe(c), 55.8450, fe, 1
cpc, nasa, tot, 7, liq, 1, sol, 3, 4, 1, 1
200.,500.,800.,1042.,1184.,1665.,1809.,6000.
1.350490931E+04, -7.803806250E+02, 9.440171470E+00
-2.521767704E-02, 5.350170510E-05, -5.099094730E-08
1.993862728E-11, 2.416521408E+03, -4.749002850E+01

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3.543032740E+06, -2.447150531E+04, 6.561020930E+01
-7.043929680E-02, 3.181052870E-05, 0.000000000E+00
0.000000000E+00, 1.345059978E+05, -4.133788690E+02
2.661026334E+09, -7.846827970E+06, -7.289212280E+02
2.613888297E+01, -3.494742140E-02, 1.763752622E-05
-2.907723254E-09, 5.234868470E+07, -1.529052200E+04
2.481923052E+08, 0.000000000E+00, -5.594349090E+02
3.271704940E-01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.467503430E+05, 3.669168720E+03
1.442428576E+09, -5.335491340E+06, 8.052828000E+03
-6.303089630E+00, 2.677273007E-03, -5.750045530E-07
4.718611960E-11, 3.264264250E+07, -5.508852170E+04
-3.450190030E+08, 0.000000000E+00, 7.057501520E+02
-5.442977890E-01, 1.190040139E-04, 0.000000000E+00
0.000000000E+00, -8.045725750E+05, -4.545180320E+03
0.000000000E+00, 0.000000000E+00, 5.535383324E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.270608703E+03, -2.948115042E+01

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condensed, fe(co)5(c), 195.8955, fe, 1, c, 5, o, 5
cpc, nasa, tot, 1, liq, 1, sol, 0
253.1, 6000.0
0.000000000E+00, 0.000000000E+00, 2.811771229E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.005222674E+05, -1.196624513E+02

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condensed, fecl2(c), 126.7510, fe, 1, cl, 2
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
200.0, 950.0, 6000.0
-3.757527240E+04, 5.932070220E+00, 8.822760280E+00
3.742344220E-03, -4.622462850E-06, 4.041497880E-09
-1.447289303E-12, -4.403595790E+04, -3.721747350E+01
0.000000000E+00, 0.000000000E+00, 1.228851730E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.110842530E+04, -5.319067642E+01

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condensed, fecl3(c), 162.2040, fe, 1, cl, 3
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 298.15, 577.0, 6000.0
-4.411357940E+06, 9.339652130E+04, -7.909985950E+02
3.467913380E+00, -7.632263650E-03, 7.316486370E-06
-1.314023921E-09, -4.596567330E+05, 4.056239320E+03
-1.373170458E+05, 1.246888186E+03, 4.499842520E+00
1.632234838E-02, -3.871665510E-06, 0.000000000E+00
0.000000000E+00, -5.761466240E+04, -9.144353090E+00
0.000000000E+00, 0.000000000E+00, 1.610293331E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.849183540E+04, -6.711333581E+01

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condensed, fe.947o(c), 69.0521, fe, 0.947, o, 1
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 1652.00, 6000.0
-1.179193966E+04, 1.388393372E+02, 2.999841854E+00
1.274527210E-02, -1.883886065E-05, 1.274258345E-08
-3.042206479E-12, -3.417350500E+04, -1.284759120E+01
0.000000000E+00, 0.000000000E+00, 8.147077819E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.255080650E+04, -3.995344357E+01

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condensed, feocl(c), 107.2974, fe, 1, o, 1, cl, 1
cpc, nasa, tot, 3, liq, 0, sol, 1, 3
200.0, 298.15, 700.0, 10000.0
7.211593840E+08, -1.800235674E+07, 1.865368524E+05
-1.026861036E+03, 3.167682830E+00, -5.191522260E-03
3.531434870E-06, 7.557107690E+07, -9.148719350E+05
-2.937711808E+05, 2.628264415E+03, -4.552872200E+00
3.806463330E-02, -5.536092880E-05, 4.502460810E-08
-1.258510270E-11, -6.531943100E+04, 3.377057910E+01
0.000000000E+00, 0.000000000E+00, 1.054240385E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.297267770E+04, -5.110047541E+01

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condensed, fe(oh)2(c), 89.8597, fe, 1, o, 2, h, 2
cpc, nasa, tot, 3, liq, 0, sol, 1, 3
298.15, 800.0, 1500.0, 10000.0
4.240926040E+05, -5.246013500E+03, 3.564078140E+01
-5.777285350E-02, 8.334162550E-05, -5.353404280E-08
1.183994084E-11, -4.642385900E+04, -1.937387923E+02
8.260012740E+06, -3.584848620E+04, 6.631482130E+01
-2.947893247E-02, 4.572669670E-06, 1.317544528E-09
-2.977356578E-13, 1.429652898E+05, -4.364616280E+02
0.000000000E+00, 0.000000000E+00, 1.509648134E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.468596993E+04, -7.779591702E+01

condensed, fe(oh)3(c), 106.8670, fe, 1, o, 3, h, 3
cpc, nasa, tot, 2, liq, 0, sol, 1, 2
298.15, 1500.0, 10000.0
-7.418284690E+04, 4.915361510E+01, 6.351612700E+00
2.730299149E-02, -2.006100982E-05, 7.511526410E-09
-1.262038044E-12, -1.036132609E+05, -3.117351481E+01
0.000000000E+00, 0.000000000E+00, 2.113096080E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.096360719E+05, -1.140353771E+02

condensed, fes(c), 87.9100, fe, 1, s, 1
cpc, nasa, tot, 4, liq, 1, sol, 3, 1, 1, 1
200.0, 411.0, 598.0, 1465.0, 6000.0
6.562987140E+06, -1.108882861E+05, 7.200477640E+02
-2.169002385E+00, 3.009472055E-03, -1.385164934E-06
0.000000000E+00, 4.996994470E+05, -3.905129920E+03
0.000000000E+00, 0.000000000E+00, 8.730809152E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.445777846E+04, -4.227609187E+01
-4.651400530E+05, 2.845200913E+03, 3.227601660E+00
1.639542844E-03, -2.119596921E-06, 2.366217205E-09
-3.529138060E-13, -3.030024550E+04, -3.662233560E+00
0.000000000E+00, 0.000000000E+00, 7.548249987E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.925935040E+03, -3.215631501E+01

condensed, feso4(c), 151.9076, fe, 1, s, 1, o, 4
cpc, nasa, tot, 3, liq, 0, sol, 1, 3
200.0, 700.0, 2000.0, 10000.0
-6.203392950E+05, 8.502519150E+03, -4.378024090E+01
1.731987422E-01, -2.431424518E-04, 1.792173046E-07
-5.528922570E-11, -1.550636343E+05, 2.467116078E+02
-7.679585180E+06, 3.308117000E+04, -4.678167570E+01
6.781223220E-02, -3.741392130E-05, 1.099952323E-08
-1.320141816E-12, -3.134827612E+05, 3.336437670E+02
0.000000000E+00, 0.000000000E+00, 2.068170899E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.217197987E+05, -1.098713600E+02

condensed, fes2(c), 119.9750, fe, 1, s, 2
cpc, nasa, tot, 3, liq, 0, sol, 1, 3
200.0, 600.0, 1400.0, 10000.0
-2.506864207E+05, 3.294827830E+03, -1.713873471E+01
8.733851000E-02, -1.306227449E-04, 7.362001640E-08
0.000000000E+00, -3.800873290E+04, 9.277002410E+01
9.114353860E+05, -5.471736420E+03, 2.097363178E+01
-1.514620285E-02, 1.275975810E-05, -4.881556790E-09
7.710203910E-13, 7.794979850E+03, -1.227198763E+02
0.000000000E+00, 0.000000000E+00, 1.090166867E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.542505458E+04, -5.850504018E+01

condensed, fe2o3(c), 159.6882, fe, 2, o, 3
cpc, nasa, tot, 4, liq, 0, sol, 1, 4
298.15, 600.0, 960.0, 1800.0, 6000.0
-2.713211885E+06, 2.323047773E+04, -6.765701770E+01
1.306052231E-01, -6.970688120E-05, 0.000000000E+00

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0.000000000E+00, -2.256089397E+05, 4.228072580E+02
3.333492510E+08, -1.859961832E+06, 3.885138190E+03
-3.562599480E+00, 1.231055904E-03, 0.000000000E+00
0.000000000E+00, 1.058058870E+07, -2.555306055E+04
-2.844009066E+07, 1.253786450E+05, -2.119080355E+02
2.221481558E-01, -1.206765164E-04, 3.480738050E-08
-4.165297860E-12, -8.483926520E+05, 1.433002161E+03
0.000000000E+00, 0.000000000E+00, 1.711439880E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.041599645E+05, -8.780613745E+01

condensed, fe2(so4)3(c), 399.8778, fe, 2, s, 3, o, 12
cpc, nasa, tot, 3, liq, 0, sol, 1, 3
298.15, 700.0, 2000.0, 10000.0
-3.987499800E+06, 4.471584410E+04, -1.871627045E+02
5.203843270E-01, -5.255167310E-04, 2.053709591E-07
0.000000000E+00, -5.418976280E+05, 1.097303717E+03
-1.749475174E+07, 7.308320780E+04, -9.392951360E+01
1.468051405E-01, -7.963099160E-05, 2.311696556E-08
-2.739014918E-12, -7.607146510E+05, 6.865330290E+02
0.000000000E+00, 0.000000000E+00, 5.443620276E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.370012371E+05, -2.904975897E+02

condensed, fe3o4(c), 231.5326, fe, 3, o, 4
cpc, nasa, tot, 5, liq, 1, sol, 1, 4
200.0, 298.15, 800.0, 1870.0, 6000.0
-5.182671230E+07, 1.293463453E+06, -1.341121962E+04
7.401842440E+01, -2.285725885E-01, 3.752884300E-04
-2.559338368E-07, -5.570751240E+06, 6.575689710E+04
-4.407671380E+06, 5.351760270E+04, -2.613667759E+02
7.431931490E-01, -9.767843990E-04, 5.858865440E-07
-8.780843180E-11, -4.018075450E+05, 1.478276107E+03
0.000000000E+00, 0.000000000E+00, -1.070116148E+02
1.738436706E-01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.231022600E+04, 6.169265720E+02
5.731691980E+07, -1.816105186E+05, 2.777813396E+02
-1.849830315E-01, 6.145641150E-05, -3.660350860E-09
-1.383713617E-12, 9.906992850E+05, -1.868855147E+03
0.000000000E+00, 0.000000000E+00, 2.415439996E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.242541349E+05, -1.109781572E+02

condensed, ga(c), 69.7230, ga, 1
cpc, nasa, tot, 3, liq, 2, sol, 1, 1
100.0, 302.92, 6000.0, 10000.0
1.665524651E+03, -1.667535996E+02, 3.860876380E+00
-1.325442179E-03, 2.405494396E-06, 0.000000000E+00
0.000000000E+00, -1.577791876E+02, -1.730178030E+01
2.846830421E+04, 0.000000000E+00, 3.135362156E+00
-3.620177256E-05, 2.898547239E-08, 0.000000000E+00
0.000000000E+00, -1.716496723E+02, -1.053717280E+01
0.000000000E+00, 0.000000000E+00, 3.962419313E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.703415225E+03, -1.742803626E+01

condensed, gabr3(c), 309.4350, ga, 1, br, 3
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 397.0, 6000.0
0.000000000E+00, 0.000000000E+00, 3.563409028E+00
2.798433101E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.885137800E+04, -6.997495329E+00
0.000000000E+00, 0.000000000E+00, 1.544288238E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.990695050E+04, -6.330801668E+01

condensed, gacl3(c), 176.0820, ga, 1, cl, 3
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 351.0, 6000.0
0.000000000E+00, 0.000000000E+00, 2.725476306E+00
2.958442530E-02, 0.000000000E+00, 0.000000000E+00

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0.000000000E+00, -6.551070110E+04, -8.232857519E+00
0.000000000E+00, 0.000000000E+00, 1.310961199E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.599449360E+04, -5.489418092E+01

condensed, gaf3(c), 126.7182, ga, 1, f, 3
cpc, nasa, tot, 2, liq, 0, sol, 1, 2
298.15, 2000.0, 10000.0
0.000000000E+00, 0.000000000E+00, 9.361585950E+00
4.503211855E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.443105216E+05, -4.313509369E+01
0.000000000E+00, 0.000000000E+00, 1.836800966E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.533169453E+05, -1.025856181E+02

condensed, gai3(c), 450.4364, ga, 1, i, 3
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 485.0, 6000.0
0.000000000E+00, 0.000000000E+00, 6.461715723E+00
1.866676449E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.897546082E+04, -1.772605384E+01
0.000000000E+00, 0.000000000E+00, 1.656140891E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.012686264E+04, -6.793170105E+01

condensed, ga2o3(c), 187.4442, ga, 2, o, 3
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 2080.0, 6000.0
-1.515635939E+07, 2.787922412E+05, -2.090093764E+03
8.236854680E+00, -1.771414598E-02, 1.991804320E-05
-9.167934200E-09, -1.391968792E+06, 1.094221304E+04
-2.857534599E+05, 0.000000000E+00, 1.375883846E+01
1.799504721E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.363570445E+05, -7.032081677E+01
0.000000000E+00, 0.000000000E+00, 1.924346714E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.317078351E+05, -1.026657694E+02

condensed, ge(c), 72.6400, ge, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 400.0, 1211.4, 6000.0
-2.396506145E+05, 3.150572150E+03, -1.333941357E+01
3.647997810E-02, -2.942104614E-05, 0.000000000E+00
0.000000000E+00, -1.613882957E+04, 7.939211600E+01
-1.888241797E+04, 0.000000000E+00, 2.898173070E+00
3.591659130E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.433864080E+02, -1.298669726E+01
0.000000000E+00, 0.000000000E+00, 3.319498082E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 3.278996640E+03, -1.185992953E+01

condensed, geo2(c), 104.6388, ge, 1, o, 2
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
100.0, 298.15, 1308.0, 1388.0, 6000.0
-1.362061010E+04, 0.000000000E+00, 1.390091028E+00
1.608814892E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.095682740E+04, -8.017483700E+00
-2.763121338E+05, 0.000000000E+00, 9.404643208E+00
-1.212218158E-03, 1.110107511E-06, 0.000000000E+00
0.000000000E+00, -7.346830070E+04, -5.004997052E+01
-1.535267863E+05, 0.000000000E+00, 7.481860025E+00
1.711465859E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.994652970E+04, -3.711331960E+01
0.000000000E+00, 0.000000000E+00, 9.441326067E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.883837870E+04, -4.738551165E+01

condensed, ges(c), 104.7050, ge, 1, s, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
100.0, 298.15, 931.0, 6000.0
-1.753890915E+04, 0.000000000E+00, 4.967049230E+00

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3.277123440E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.074763864E+04, -2.138030847E+01
0.000000000E+00, 0.000000000E+00, 5.015328624E+00
2.453542061E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.066660187E+04, -2.131118286E+01
0.000000000E+00, 0.000000000E+00, 8.058201866E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.874413010E+03, -3.707715519E+01

condensed, ges2(c), 136.7700, ge, 1, s, 2
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
100.0, 298.15, 1113.0, 6000.0
-2.239538329E+04, 0.000000000E+00, 5.754200020E+00
8.048243800E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.676145505E+04, -2.405323435E+01
-3.367606750E+04, 0.000000000E+00, 7.889821529E+00
1.310961199E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.713657615E+04, -3.427587425E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.893876733E+04, -6.006450099E+01

condensed, hbo2(c), 43.8177, h, 1, b, 1, o, 2
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 509.0, 6000.0
0.000000000E+00, 0.000000000E+00, 4.478916978E+00
7.045514408E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.841912440E+04, -2.172637097E+01
0.000000000E+00, 0.000000000E+00, 1.262852531E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.993471070E+04, -6.555326576E+01

condensed, h2o(c), 18.0153, h, 2, o, 1
cpc, nasa, tot, 5, liq, 3, sol, 1, 2
200.0, 273.15, 273.2, 298.15, 500.0, 10000.
-4.026777480E+05, 2.747887946E+03, 5.738336630E+01
-8.267915240E-01, 4.413087980E-03, -1.054251164E-05
9.694495970E-09, -5.530314990E+04, -1.902572063E+02
0.0, 0.0, 4.58
0.0, 0.0, 0.0
0.0, -3.65813E+04, -2.07463E+01
0.0, 0.0, 9.06555
0.0, 0.0, 0.0
0.0, -3.70796E+04 -4.32419E+01
4.63715E+05 0.00000E+00 -2.44900E+01
1.83220E-01 -3.84462E-04 2.97625E-07
0.00000E+00 -3.08546E+04 1.10384E+02
0.0, 0.0, 1.02182E+01
-2.96824E-06 0.0, 0.0
0.0, -3.76030E+04 -5.02882E+01

condensed, h2so4(c), 98.0785, h, 2, s, 1, o, 4
cpc, nasa, tot, 2, liq, 2, sol, 0
283.46, 1000.0, 10000.0
-7.749933850E+04, 1.040538662E+03, 4.433804910E+00
3.648845480E-02, -1.743440132E-05, 1.175631937E-08
-3.170091690E-12, -1.068997367E+05, -1.353966639E+01
0.000000000E+00, 0.000000000E+00, 3.303712539E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.134999496E+05, -1.812286891E+02

condensed, h3bo3(c), 61.8330, h, 3, b, 1, o, 3
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
200.0, 444.1, 6000.0
2.370260101E+06, -3.116426553E+04, 1.488140666E+02
-2.710868145E-01, 2.274904549E-04, 0.000000000E+00
0.000000000E+00, 1.950811769E+04, -8.575441950E+02
0.000000000E+00, 0.000000000E+00, 2.164890054E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.367426553E+05, -1.100910256E+02

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condensed, h3po4(c), 97.9952, h, 3, p, 1, o, 4
cpc, nasa, tot, 3, liq, 2, sol, 1, 1
200.0, 315.5, 1000.0, 10000.0
2.733365471E+03, 0.000000000E+00, 1.109347863E+00
4.129024570E-02, -7.810353320E-06, 0.000000000E+00
0.000000000E+00, -1.565753156E+05, -4.973473130E+00
4.109081110E+04, -4.410343500E+02, 8.547791650E+00
3.198261330E-02, 5.167529530E-06, -3.256216600E-09
8.323148740E-13, -1.543175380E+05, -4.155398650E+01
0.000000000E+00, 0.000000000E+00, 4.287408922E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.746652584E+05, -2.445621095E+02

condensed, hg(c), 200.5900, hg, 1
cpc, nasa, tot, 4, liq, 3, sol, 1, 1
100.0, 234.29, 600.0, 2000.0, 10000.0
-3.184586610E+03, 0.000000000E+00, 3.464424870E+00
-4.054864610E-03, 1.766281131E-05, 0.000000000E+00
0.000000000E+00, -1.282454336E+03, -1.132010161E+01
1.058325418E+05, -1.993826150E+03, 1.880577074E+01
-5.994680920E-02, 1.228327030E-04, -1.293155349E-07
5.530734430E-11, 7.916778390E+03, -9.064871100E+01
7.913840080E+05, -3.956327060E+03, 1.106465862E+01
-8.153982650E-03, 4.970504160E-06, -1.510428227E-09
1.872051162E-13, 2.213772421E+04, -6.072461670E+01
0.000000000E+00, 0.000000000E+00, 3.770248475E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.637691290E+03, -1.304722128E+01

condensed, hgbr2(c), 360.3980, hg, 1, br, 2
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 514.0, 6000.0
-1.853158540E+06, 2.003808568E+04, -7.235875200E+01
1.451267662E-01, -9.240269430E-05, 0.000000000E+00
0.000000000E+00, -1.255295454E+05, 4.503769710E+02
0.000000000E+00, 0.000000000E+00, 1.227853475E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.320342036E+04, -4.684603799E+01

condensed, hgo(c), 216.5894, hg, 1, o, 1
cpc, nasa, tot, 3, liq, 0, sol, 1, 3
200.0, 400.0, 1000.0, 10000.0
-1.062935837E+04, 0.000000000E+00, 3.345782860E+00
8.775373380E-03, -6.110417750E-06, 0.000000000E+00
0.000000000E+00, -1.228859467E+04, -1.301600791E+01
1.582008299E+06, -1.511620794E+04, 6.157172990E+01
-1.075963114E-01, 1.203602940E-04, -7.037671400E-08
1.672097585E-11, 6.599870400E+04, -3.568628600E+02
0.000000000E+00, 0.000000000E+00, 7.145774709E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.350445533E+04, -3.327130203E+01

condensed, i2(c), 253.8089, i, 2
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
200.0, 386.75, 6000.0
-3.901269140E+06, 9.143202330E+04, -8.900457500E+02
4.671270160E+00, -1.357161837E-02, 2.073947355E-05
-1.292905191E-08, -3.912632630E+05, 4.422603650E+03
0.000000000E+00, 0.000000000E+00, 9.568212679E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.204453805E+03, -3.637326088E+01

condensed, in(c), 114.8180, in, 1
cpc, nasa, tot, 3, liq, 2, sol, 1, 1
100.0, 429.78, 6000.0, 10000.0
8.511616870E+03, -3.450470040E+02, 6.838785170E+00
-1.818530679E-02, 4.122421420E-05, -2.960008730E-08
0.000000000E+00, 4.580589980E+02, -2.928914154E+01
5.092302493E+04, 0.000000000E+00, 3.302178962E+00
-1.313366633E-04, 6.037637816E-08, 0.000000000E+00
0.000000000E+00, -4.511517590E+02, -1.075015830E+01

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0.000000000E+00, 0.000000000E+00, 4.689123124E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.798264616E+03, -2.251785193E+01

condensed, inbr(c), 194.7220, in, 1, br, 1
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 558.0, 6000.0
0.000000000E+00, 0.000000000E+00, 4.633586345E+00
4.628534935E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.263476911E+04, -1.455042037E+01
0.000000000E+00, 0.000000000E+00, 8.419016875E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.222238473E+04, -3.267500998E+01

condensed, inbr3(c), 354.5300, in, 1, br, 3
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 693.0, 6000.0
0.000000000E+00, 0.000000000E+00, 1.154114915E+01
2.436824299E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.153769860E+04, -4.543581045E+01
0.000000000E+00, 0.000000000E+00, 1.623667540E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.107949370E+04, -6.994831229E+01

condensed, incl(c), 150.2710, in, 1, cl, 1
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
298.15, 387.0, 484.0, 6000.0
0.000000000E+00, 0.000000000E+00, 5.163984408E+00
3.438567035E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.412314134E+04, -1.842034240E+01
0.000000000E+00, 0.000000000E+00, 6.735213500E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.441117035E+04, -2.629006183E+01
0.000000000E+00, 0.000000000E+00, 8.058201866E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.248971016E+04, -2.917594080E+01

condensed, incl3(c), 221.1770, in, 1, cl, 3
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 856.00, 6000.0
0.000000000E+00, 0.000000000E+00, 1.093437857E+01
3.665158861E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.716697410E+04, -4.631386948E+01
0.000000000E+00, 0.000000000E+00, 1.407178535E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.526246230E+04, -6.056749656E+01

condensed, inf3(c), 171.8132, in, 1, f, 3
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 1445.0, 6000.0
0.000000000E+00, 0.000000000E+00, 9.751747247E+00
4.404348542E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.462265291E+05, -4.364479594E+01
0.000000000E+00, 0.000000000E+00, 1.611640373E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.431278760E+05, -7.826197980E+01

condensed, ini(c), 241.7225, in, 1, i, 1
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
200.0, 637.5, 6000.0
-9.253976720E+04, 1.215133840E+03, -1.038882859E-02
1.368794477E-02, -9.117964390E-06, 1.596277777E-09
1.519819589E-12, -2.009017203E+04, 1.436598613E+01
0.000000000E+00, 0.000000000E+00, 8.443071209E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.331949891E+04, -3.168475714E+01

condensed, ini2(c), 368.6269, in, 1, i, 2
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
200.0, 428.0, 497.0, 6000.0
2.657410907E+04, 0.000000000E+00, 6.946210170E+00

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6.889884760E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.345592914E+04, -2.056620828E+01
0.000000000E+00, 0.000000000E+00, 1.080520680E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.438345996E+04, -4.070950647E+01
0.000000000E+00, 0.000000000E+00, 1.379516051E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.444424767E+04, -5.640525880E+01

condensed, ini3(c), 495.5314, in, 1, i, 3
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
296.0, 480.0, 6000.0
-1.888265213E+03, 0.000000000E+00, 1.096468704E+01
4.804492387E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.042985260E+04, -3.708283570E+01
0.000000000E+00, 0.000000000E+00, 1.652532741E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.031892811E+04, -6.447232654E+01

condensed, in2o3(c), 277.6342, in, 2, o, 3
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 2186.0, 6000.0
-9.503707350E+06, 1.770907496E+05, -1.344503703E+03
5.391303710E+00, -1.171772659E-02, 1.329195789E-05
-6.163943540E-09, -9.104733670E+05, 7.021339210E+03
-2.719943809E+05, 0.000000000E+00, 1.461433085E+01
1.210173540E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.163340719E+05, -7.291389772E+01
0.000000000E+00, 0.000000000E+00, 1.924346714E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.108089477E+05, -1.000602622E+02

condensed, k(c), 39.0983, k, 1
cpc, nasa, tot, 3, liq, 2, sol, 1, 1
200.0, 336.86, 2200.0, 10000.0
-1.022031747E+05, 0.000000000E+00, 1.333752016E+01
-5.580990750E-02, 9.013009100E-05, 0.000000000E+00
0.000000000E+00, -2.635062430E+03, -5.615376520E+01
-3.935722030E+03, -4.547278110E+01, 4.845244000E+00
-3.083546588E-03, 2.015548866E-06, -3.706172930E-11
5.032895480E-15, -8.075609680E+02, -1.836641748E+01
0.000000000E+00, 0.000000000E+00, 7.518480709E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.510361853E+03, -4.092738362E+01

condensed, kalo2(c), 98.0786, k, 1, al, 1, o, 2
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
200.0, 500.0, 810.0, 1986.0, 6000.0
-4.112581400E+06, 7.776836810E+04, -5.971614160E+02
2.439288137E+00, -5.340052400E-03, 6.098541950E-06
-2.843205389E-09, -4.867714660E+05, 3.112191530E+03
-1.565945988E+05, 0.000000000E+00, 9.609859180E+00
4.379778490E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.395641536E+05, -4.665045360E+01
8.202527870E+05, 0.000000000E+00, 7.962706161E+00
3.725414967E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.366535595E+05, -3.415265795E+01
0.000000000E+00, 0.000000000E+00, 1.563531705E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.350952219E+05, -8.015693620E+01

condensed, kbo2(c), 81.9081, k, 1, b, 1, o, 2
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1220.0, 6000.0
-1.601790683E+07, 2.997219831E+05, -2.274223151E+03
9.014942220E+00, -1.951702277E-02, 2.207384968E-05
-1.021270864E-08, -1.468642542E+06, 1.188723021E+04
-2.328709444E+05, 0.000000000E+00, 9.862977090E+00
2.740064145E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.220704116E+05, -4.870043770E+01
0.000000000E+00, 0.000000000E+00, 1.743939210E+01

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0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.250545034E+05, -9.581938648E+01

condensed, kbr(c), 119.0023, k, 1, br, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1007.0, 6000.0
5.931068110E+06, -1.101548735E+05, 8.346526100E+02
-3.241060370E+00, 6.976184850E-03, -7.847251340E-06
3.614707700E-09, 4.475606580E+05, -4.361638690E+03
3.145485337E+04, 0.000000000E+00, 5.199966220E+00
2.540382104E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.887872000E+04, -1.867132005E+01
0.000000000E+00, 0.000000000E+00, 8.358881040E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.773361440E+04, -3.492371367E+01

condensed, kcn(c), 65.1157, k, 1, c, 1, n, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
168.30, 400.0, 895.0, 6000.0
4.789226660E+04, -6.869399420E+02, 1.189656301E+01
-9.957932230E-03, 9.253758250E-06, 0.000000000E+00
0.000000000E+00, -1.275880363E+04, -5.189047360E+01
-8.550726080E+04, 7.115109180E+02, 5.642442360E+00
3.733592200E-03, -2.880609857E-06, 8.848387980E-10
0.000000000E+00, -1.981154134E+04, -1.586461470E+01
0.000000000E+00, 0.000000000E+00, 9.057899984E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.522666331E+04, -3.545330543E+01

condensed, kcl(c), 74.5513, k, 1, cl, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1044.0, 6000.0
1.179895024E+06, -2.217824961E+04, 1.730930630E+02
-6.545434150E-01, 1.415897824E-03, -1.598259237E-06
7.387534150E-10, 4.560782730E+04, -8.991527150E+02
2.888789664E+02, 0.000000000E+00, 5.287088550E+00
4.004092160E-03, -4.343449010E-06, 2.753186288E-09
0.000000000E+00, -5.421785640E+04, -2.121648362E+01
0.000000000E+00, 0.000000000E+00, 8.659560215E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.322113230E+04, -3.876839685E+01

condensed, kf(c), 58.0967, k, 1, f, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1131.0, 6000.0
-2.920039956E+06, 5.319604560E+04, -3.910182930E+02
1.542524798E+00, -3.296460120E-03, 3.692487030E-06
-1.695192481E-09, -3.107774664E+05, 2.055199175E+03
-3.379466710E+04, 0.000000000E+00, 5.806099490E+00
1.562870483E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.045670350E+04, -2.573881635E+01
0.000000000E+00, 0.000000000E+00, 8.455098376E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.905565270E+04, -3.960518579E+01

condensed, kh(c), 40.1062, k, 1, h, 1
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 892.0, 6000.0
-6.457385920E+04, 0.000000000E+00, 4.092965190E+00
3.996988400E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.568660280E+03, -1.870503989E+01
0.000000000E+00, 0.000000000E+00, 6.735213500E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.737318610E+03, -3.021766413E+01

condensed, k(hf2)(c), 78.1030, k, 1, h, 1, f, 2
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
200.0, 469.85, 511.95, 6000.0
2.015718998E+03, -3.533789190E+02, 8.928247670E+00
2.814397451E-03, 7.299809050E-06, 0.000000000E+00
0.000000000E+00, -1.128323001E+05, -4.066701520E+01

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0.000000000E+00, 0.000000000E+00, 1.205711461E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.145682138E+05, -5.416912090E+01
0.000000000E+00, 0.000000000E+00, 1.258041665E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.140400401E+05, -5.587860571E+01
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condensed, ki(c), 166.0028, k, 1, i, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 954.0, 6000.0
3.849118670E+06, -7.198411950E+04, 5.507582640E+02
-2.141022674E+00, 4.628312070E-03, -5.222322770E-06
2.411694600E-09, 2.826852967E+05, -2.871024327E+03
2.770577458E+04, 0.000000000E+00, 5.235901210E+00
2.694044229E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.119339520E+04, -1.772462446E+01
0.000000000E+00, 0.000000000E+00, 8.455098376E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.017867910E+04, -3.422733253E+01
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condensed, kno2(c), 85.1038, k, 1, n, 1, o, 2
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
200.0, 314.7, 711.0, 6000.0
-1.228297484E+07, 0.000000000E+00, 1.182559906E+03
-6.076842320E+00, 8.778424840E-03, 0.000000000E+00
0.000000000E+00, -2.452424942E+05, -5.366905900E+03
0.000000000E+00, 0.000000000E+00, 9.827879214E+00
2.012866663E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.687774970E+04, -3.782318671E+01
0.000000000E+00, 0.000000000E+00, 1.226771030E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.609515960E+04, -4.958866367E+01
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condensed, kno3(c), 101.1032, k, 1, n, 1, o, 3
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
200.0, 402.0, 607.7, 6000.0
3.565624070E+06, -6.291319380E+04, 4.392599940E+02
-1.436497824E+00, 2.380417773E-03, -1.518208824E-06
0.000000000E+00, 2.258505778E+05, -2.341795728E+03
3.211975210E+06, 0.000000000E+00, -5.032659772E+01
1.462070525E-01, -8.159374395E-05, 0.000000000E+00
0.000000000E+00, -3.934846620E+04, 2.807123740E+02
0.000000000E+00, 0.000000000E+00, 1.695830542E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.345106350E+04, -7.918784042E+01
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condensed, koh(c), 56.1056, k, 1, o, 1, h, 1
cpc, nasa, tot, 4, liq, 1, sol, 3, 1, 1, 1
100.0, 298.15, 517.0, 679.0, 6000.0
-4.380064620E+05, 1.125472885E+04, -1.023623342E+02
4.375630440E-01, -5.920346390E-04, 0.000000000E+00
0.000000000E+00, -1.002155756E+05, 5.241308280E+02
-2.814357070E+03, 0.000000000E+00, 6.478313214E+00
6.183767895E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.313882160E+04, -2.899826328E+01
0.000000000E+00, 0.000000000E+00, 9.621733572E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.325857830E+04, -4.413346659E+01
0.000000000E+00, 0.000000000E+00, 1.046363526E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.288008340E+04, -4.822385687E+01
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condensed, ko2(c), 71.0971, k, 1, o, 2
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
200.0, 422.0, 808.0, 6000.0
5.149174260E+06, -7.614604350E+04, 4.537181540E+02
-1.295601160E+00, 1.892822220E-03, -1.090404806E-06
0.000000000E+00, 3.247518810E+05, -2.484666478E+03
0.000000000E+00, 0.000000000E+00, 1.058390693E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.734259730E+04, -4.545206851E+01
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0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.603115500E+04, -5.204773022E+01

condensed, k2co3(c), 138.2055, k, 2, c, 1, o, 3
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
200.0, 693.0, 1173.0, 6000.0
-3.632826430E+05, 5.957567840E+03, -3.080710797E+01
1.494558714E-01, -2.377158989E-04, 2.231711601E-07
-8.466662880E-11, -1.694136603E+05, 1.763682121E+02
0.000000000E+00, 0.000000000E+00, 1.310023080E+01
8.280944999E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.424065852E+05, -5.805609552E+01
0.000000000E+00, 0.000000000E+00, 2.471582811E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.466663988E+05, -1.273064200E+02

condensed, k2o(c), 94.1960, k, 2, o, 1
cpc, nasa, tot, 4, liq, 1, sol, 3, 1, 1, 1
298.15, 590.0, 645.0, 1013.0, 6000.0
0.000000000E+00, 0.000000000E+00, 6.140710637E+00
8.448122619E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.570860710E+04, -2.596002023E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.762703040E+04, -5.838924536E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.714594370E+04, -5.764337454E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.389860860E+04, -5.443771306E+01

condensed, k2o2(c), 110.1954, k, 2, o, 2
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 818.0, 6000.0
0.000000000E+00, 0.000000000E+00, 9.151230800E+00
6.015267286E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.627614800E+04, -3.986168914E+01
0.000000000E+00, 0.000000000E+00, 1.611640373E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.749561030E+04, -7.864151320E+01

condensed, k2s(c), 110.2616, k, 2, s, 1
cpc, nasa, tot, 5, liq, 1, sol, 1, 4
298.15, 600.0, 1050.0, 1100.0, 1221.0, 6000.0
4.724669150E+04, -4.465995260E+02, 9.600035840E+00
7.836273870E-04, 1.295338974E-06, 0.000000000E+00
0.000000000E+00, -4.549501380E+04, -4.238203950E+01
1.237549376E+09, -7.863379810E+06, 1.968151557E+04
-2.415909047E+01, 1.451020806E-02, -3.388041040E-06
0.000000000E+00, 4.392639800E+07, -1.251401185E+05
0.000000000E+00, 0.000000000E+00, 1.564212060E+02
-1.266383838E-01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.311392922E+05, -9.279088390E+02
0.000000000E+00, 0.000000000E+00, 1.711898382E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.452307000E+04, -9.166848070E+01
0.000000000E+00, 0.000000000E+00, 1.214261815E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.650451120E+04, -5.470849197E+01

condensed, k2so4(c), 174.2592, k, 2, s, 1, o, 4
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
200.0, 500.0, 857.0, 1342.0, 6000.0
7.718871240E+06, -1.416712413E+05, 1.060181562E+03
-4.031007910E+00, 8.614683760E-03, -9.611228510E-06
4.397898620E-09, 4.640403120E+05, -5.555950140E+03
-4.858415070E+04, 0.000000000E+00, 1.165680854E+01
1.576835485E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.772539211E+05, -5.027549500E+01

1.683008379E+07, 0.000000000E+00, -3.453625048E+01
4.086410384E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.262250083E+05, 2.527928284E+02
0.000000000E+00, 0.000000000E+00, 2.405433393E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.762313671E+05, -1.157513010E+02

condensed, k2sio3(c), 154.2803, k, 2, si, 1, o, 3
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1249.0, 6000.0
2.855673428E+06, -5.059971270E+04, 3.647712840E+02
-1.277216470E+00, 2.614874944E-03, -2.812883261E-06
1.248415754E-09, 4.217450990E+04, -1.927446205E+03
-1.541934726E+05, 0.000000000E+00, 1.400996506E+01
6.254878280E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.905514472E+05, -6.499565930E+01
0.000000000E+00, 0.000000000E+00, 2.285161723E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.941869756E+05, -1.182498589E+02

condensed, k2sio5(c), 214.3646, k, 2, si, 2, o, 5
cpc, nasa, tot, 4, liq, 1, sol, 3, 1, 1, 1
200.0, 510.0, 867.0, 1318.0, 6000.0
-1.332332468E+07, 2.509615155E+05, -1.911732601E+03
7.658564980E+00, -1.652056677E-02, 1.854450564E-05
-8.489711240E-09, -1.432942804E+06, 9.985815260E+03
-1.201153165E+05, 0.000000000E+00, 1.900352516E+01
1.092379467E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.078422822E+05, -8.941094441E+01
0.000000000E+00, 0.000000000E+00, 2.696791513E+01
5.313602365E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.105104930E+05, -1.339782607E+02
0.000000000E+00, 0.000000000E+00, 3.307470915E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.138641654E+05, -1.739362353E+02

condensed, k3alf6(c), 258.2669, k, 3, al, 1, f, 6
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
298.15, 600.0, 1273.0, 6000.0
0.000000000E+00, 0.000000000E+00, 1.838593014E+01
2.828982105E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.092884330E+05, -7.891279947E+01
0.000000000E+00, 0.000000000E+00, 2.893014742E+01
6.707551016E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.109483890E+05, -1.321111106E+02
0.000000000E+00, 0.000000000E+00, 4.726676617E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.141107070E+05, -2.430801826E+02

condensed, li(c), 6.9410, li, 1
cpc, nasa, tot, 4, liq, 2, sol, 1, 2
200.0, 298.15, 453.69, 6000.0, 10000.0
-9.860652350E+03, 0.000000000E+00, 2.304323850E+00
2.671663720E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.388536120E+02, -1.047881686E+01
7.238824960E+04, 0.000000000E+00, 1.570314469E-01
6.770404110E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.049497436E+02, 9.961763140E-01
2.465569228E+04, 0.000000000E+00, 3.755723428E+00
-6.332303407E-04, 3.160739478E-07, 0.000000000E+00
0.000000000E+00, -7.299116690E+02, -1.701274654E+01
0.000000000E+00, 0.000000000E+00, 1.133568838E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.485463258E+04, -8.106515690E+01

condensed, lialo2(c), 65.9213, li, 1, al, 1, o, 2
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 700.0, 1973.0, 6000.0
-2.403553110E+06, 4.191135380E+04, -2.947543676E+02
1.096024513E+00, -2.070932308E-03, 1.989368601E-06
-7.643124070E-10, -3.359272460E+05, 1.562056779E+03

-1.440922218E+06, 5.833386140E+03, -1.030268470E+00
1.461691077E-02, -7.831786240E-06, 2.428705700E-09
-3.067767899E-13, -1.811607791E+05, 2.012864902E+01
0.000000000E+00, 0.000000000E+00, 1.509649997E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.416553963E+05, -8.099434263E+01

condensed, libo2(c), 49.7508, li, 1, b, 1, o, 2
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1122.0, 6000.0
-1.298972763E+02, 2.476112547E+03, -4.025475640E+01
2.755313951E-01, -7.202835830E-04, 9.355885600E-07
-4.776147920E-10, -1.326385762E+05, 1.863684915E+02
-1.501059611E+05, 0.000000000E+00, 7.094387770E+00
5.990864950E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.259108022E+05, -3.688511780E+01
0.000000000E+00, 0.000000000E+00, 1.736722910E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.294550343E+05, -9.861468152E+01

condensed, libr(c), 86.8450, li, 1, br, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 823.0, 6000.0
3.743262690E+06, -7.020131930E+04, 5.366833500E+02
-2.085864954E+00, 4.508762520E-03, -5.086004120E-06
2.348146084E-09, 2.721051038E+05, -2.801510974E+03
1.459008908E+04, 0.000000000E+00, 4.895008630E+00
3.134322823E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.378446420E+04, -1.984092688E+01
0.000000000E+00, 0.000000000E+00, 7.853740028E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.305174650E+04, -3.455318466E+01

condensed, licl(c), 42.3940, li, 1, cl, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 883.0, 6000.0
-2.180497685E+06, 3.971320780E+04, -2.918258028E+02
1.160079971E+00, -2.482284097E-03, 2.785692272E-06
-1.280897066E-09, -2.302427379E+05, 1.533139994E+03
-3.595609330E+04, 0.000000000E+00, 5.480770500E+00
2.332209108E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.099411730E+04, -2.499631307E+01
0.000000000E+00, 0.000000000E+00, 7.601169522E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.954114490E+04, -3.460716245E+01

condensed, lif(c), 25.9394, li, 1, f, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1122.0, 6000.0
9.636751230E+05, -1.777983613E+04, 1.305502564E+02
-4.624287950E-01, 9.558363610E-04, -1.037162482E-06
4.637142460E-10, 5.186488570E+03, -6.901111630E+02
-7.420484740E+04, 0.000000000E+00, 5.359396170E+00
1.623955670E-03, 2.090115068E-07, 0.000000000E+00
0.000000000E+00, -7.628479220E+04, -2.715764184E+01
0.000000000E+00, 0.000000000E+00, 7.673332524E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.443734250E+04, -3.852218670E+01

condensed, lih(c), 7.9489, li, 1, h, 1
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
200.0, 965.0, 6000.0
-7.983399540E+03, -4.135167420E+02, 3.842672410E+00
3.568427660E-03, 3.560726720E-07, 9.299007330E-10
-5.466520940E-13, -9.882374510E+03, -2.193513588E+01
0.000000000E+00, 0.000000000E+00, 6.614941831E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.089088820E+04, -3.406734782E+01

condensed, lii(c), 133.8455, li, 1, i, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2


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200.0, 500.0, 742.0, 6000.0
-6.958662980E+04, 4.035715450E+02, 7.056546540E+00
-1.824255625E-02, 6.907245220E-05, -9.841303530E-08
5.297565590E-11, -3.712485890E+04, -2.568066591E+01
0.000000000E+00, 0.000000000E+00, 5.248298340E+00
2.986457552E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.455573620E+04, -2.036433073E+01
0.000000000E+00, 0.000000000E+00, 7.601169522E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.371867140E+04, -3.132631144E+01

condensed, lino2(c), 52.9465, li, 1, n, 1, o, 2
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
298.15, 369.0, 495.0, 6000.0
0.000000000E+00, 0.000000000E+00, -1.026999787E+00
2.885846550E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.527251980E+04, 7.831186054E+00
0.000000000E+00, 0.000000000E+00, 9.621733572E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.703274180E+04, -4.390844045E+01
0.000000000E+00, 0.000000000E+00, 1.082445027E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.652158720E+04, -4.913541343E+01

condensed, lino3(c), 68.9459, li, 1, n, 1, o, 3
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 526.0, 6000.0
0.000000000E+00, 0.000000000E+00, 1.052906305E+01
-9.448181552E-03, 3.365959028E-05, 0.000000000E+00
0.000000000E+00, -6.107180100E+04, -4.616118415E+01
0.000000000E+00, 0.000000000E+00, 1.792047878E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.162709200E+04, -8.706763908E+01

condensed, lioh(c), 23.9483, li, 1, o, 1, h, 1
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
200.0, 746.0, 6000.0
-1.219596094E+06, 2.088315832E+04, -1.463475951E+02
5.611592820E-01, -1.084380003E-03, 1.071790003E-06
-4.218924790E-10, -1.553535026E+05, 7.744131680E+02
0.000000000E+00, 0.000000000E+00, 1.049971676E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.050280710E+04, -5.407387960E+01

condensed, li2co3(c), 73.8909, li, 2, c, 1, o, 3
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1005.0, 6000.0
1.989594337E+07, -3.631706770E+05, 2.691242782E+03
-1.033109020E+01, 2.201400812E-02, -2.454585112E-05
1.122641035E-08, 1.495415902E+06, -1.413251128E+04
-5.276502280E+04, 0.000000000E+00, 7.025051540E+00
1.809479379E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.490977245E+05, -3.487871400E+01
0.000000000E+00, 0.000000000E+00, 2.225025888E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.502292112E+05, -1.169607936E+02

condensed, li2o(c), 29.8814, li, 2, o, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 800.0, 1726.0, 6000.0
3.028110639E+05, -4.262752720E+03, 1.838105970E+01
8.164277890E-03, -6.056855750E-05, 8.533995130E-08
-3.737236310E-11, -5.206402060E+04, -1.132207799E+02
-5.016824310E+06, 2.420062743E+04, -4.101266390E+01
5.324367340E-02, -2.998210001E-05, 1.063865942E-08
-1.399118443E-12, -2.158188563E+05, 2.784406390E+02
0.000000000E+00, 0.000000000E+00, 1.250825364E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.338860760E+04, -6.881025076E+01

condensed, li2o2(c), 45.8808, li, 2, o, 2

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cpc, nasa, tot, 2, liq, 0, sol, 1, 2
298.15, 1000.0, 10000.0
0.000000000E+00, 0.000000000E+00, 6.874488094E+00
7.197297255E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.844135590E+04, -3.433817812E+01
0.000000000E+00, 0.000000000E+00, 1.407178535E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.204000453E+04, -7.685804897E+01

condensed, li2so4(c), 109.9446, li, 2, s, 1, o, 4
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
200.0, 500.0, 848.0, 1131.0, 6000.0
2.307314336E+07, -4.440850530E+05, 3.473570360E+03
-1.406997202E+01, 3.151077609E-02, -3.672532150E-05
1.742494307E-08, 1.810572013E+06, -1.805254507E+04
1.379684430E+06, 0.000000000E+00, -7.865353280E+01
4.280849920E-01, -6.782300830E-04, 3.795553140E-07
0.000000000E+00, -1.584238676E+05, 3.687429570E+02
0.000000000E+00, 0.000000000E+00, 2.621922398E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.809832398E+05, -1.396630415E+02
0.000000000E+00, 0.000000000E+00, 2.465569228E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.780963589E+05, -1.276811017E+02

condensed, li3alf6(c), 161.7950, li, 3, al, 1, f, 6
cpc, nasa, tot, 6, liq, 1, sol, 4, 2, 1, 1, 1
200.,500.,788.,873.,978.,1058.,6000.0
-9.493305210E+05, 1.726015181E+04, -1.388395633E+02
7.441178510E-01, -1.715868367E-03, 2.058073373E-06
-9.983283300E-10, -4.893133340E+05, 7.043980840E+02
-3.361898910E+05, 0.000000000E+00, 2.259884943E+01
2.065859808E-02, -6.977943650E-06, 0.000000000E+00
0.000000000E+00, -4.163946960E+05, -1.138999049E+02
0.000000000E+00, 0.000000000E+00, 3.427742585E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.195341580E+05, -1.769490331E+02
0.000000000E+00, 0.000000000E+00, 3.548014255E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.202233150E+05, -1.846804483E+02
0.000000000E+00, 0.000000000E+00, 3.343552416E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.172975860E+05, -1.696552845E+02
0.000000000E+00, 0.000000000E+00, 4.642486448E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.204684280E+05, -2.501224871E+02

condensed, li3n(c), 34.8297, li, 3, n, 1
cpc, nasa, tot, 3, liq, 0, sol, 1, 3
200.0, 700.0, 1300.0, 10000.0
1.373485590E+06, -2.379184204E+04, 1.591917968E+02
-4.823554940E-01, 8.557283860E-04, -7.626448860E-07
2.741510774E-10, 8.816502990E+04, -8.595793090E+02
-1.241718958E+08, 7.830020910E+05, -2.032330783E+03
2.815135927E+00, -2.148359487E-03, 8.689521850E-07
-1.452735248E-10, -4.390747670E+06, 1.278810396E+04
0.000000000E+00, 0.000000000E+00, 1.962543155E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.050521854E+04, -1.132927895E+02

condensed, mg(c), 24.3050, mg, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
100., 298.15, 923.0, 6000.0
-5.412225134E+03, 0.000000000E+00, 1.458173723E+00
1.330204666E-02, -4.098858502E-05, 4.754339101E-08
0.000000000E+00, -7.759472010E+02, -6.989702348E+00
-2.860060304E+04, 0.000000000E+00, 3.398877384E+00
-7.243962663E-04, 1.405254188E-06, 0.000000000E+00
0.000000000E+00, -1.089519906E+03, -1.545973664E+01
0.000000000E+00, 0.000000000E+00, 4.125318269E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00

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0.000000000E+00, -6.589919480E+02, -1.937828582E+01

condensed, mgal2o4(c), 142.2657, mg, 1, al, 2, o, 4
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 800.0, 2408.0, 6000.0
9.746254450E+05, -1.525021312E+04, 8.302860630E+01
-1.382241614E-01, 1.657566530E-04, -9.668302460E-08
2.170561037E-11, -2.062543046E+05, -4.734083400E+02
-7.339625410E+05, 1.248275880E+03, 1.548493786E+01
6.232746800E-03, -9.669121680E-07, 2.487422341E-10
-2.603898110E-14, -2.909147610E+05, -7.914855130E+01
0.000000000E+00, 0.000000000E+00, 2.641887495E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.688320250E+05, -1.419843893E+02

condensed, mgbr2(c), 184.1130, mg, 1, br, 2
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 984.0, 6000.0
-6.657036915E+04, 0.000000000E+00, 9.124771033E+00
1.443260036E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.627087500E+04, -3.872222733E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.363378060E+04, -5.246637684E+01

condensed, mgco3(c), 84.3139, mg, 1, c, 1, o, 3
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1263.0, 6000.0
-5.649471920E+06, 1.059809340E+05, -8.095953810E+02
3.267992680E+00, -7.111639940E-03, 8.088247340E-06
-3.758639920E-09, -6.098528470E+05, 4.221968000E+03
-1.743337852E+05, 0.000000000E+00, 8.820122894E+00
7.696184141E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.353742560E+05, -4.570039759E+01
0.000000000E+00, 0.000000000E+00, 1.804075045E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.336474914E+05, -9.615384273E+01

condensed, mgcl2(c), 95.2110, mg, 1, cl, 2
cpc, nasa, tot, 4, liq, 2, sol, 1, 2
200.0, 500.0, 987.0, 6000.0, 10000.0
3.151271437E+05, -4.986561670E+03, 3.407490430E+01
-6.013327030E-02, 7.256223640E-05, -2.984411528E-08
-5.064069590E-12, -5.608909370E+04, -1.833415814E+02
-7.745495525E+04, 0.000000000E+00, 9.099153167E+00
1.199709905E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.051706960E+04, -4.185795845E+01
7.120082843E+05, 0.000000000E+00, 1.060122605E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.543168500E+04, -4.537295861E+01
0.000000000E+00, 0.000000000E+00, 1.062100406E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.566902109E+04, -4.555490669E+01

condensed, mgf2(c), 62.3018, mg, 1, f, 2
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1536.0, 6000.0
-8.758857470E+06, 1.630690293E+05, -1.234784473E+03
4.913114430E+00, -1.064398199E-02, 1.204196054E-05
-5.572295890E-09, -8.710379520E+05, 6.452721700E+03
-1.863609521E+05, 0.000000000E+00, 9.358338615E+00
4.871002621E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.386463039E+05, -4.763420955E+01
0.000000000E+00, 0.000000000E+00, 1.140175428E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.340531621E+05, -5.725828106E+01

condensed, mgh2(c), 26.3209, mg, 1, h, 2
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
200.0, 600.0, 6000.0
4.034912200E+06, -6.115400800E+04, 3.537084270E+02

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-9.554057160E-01, 1.260522797E-03, -6.389211330E-07
0.000000000E+00, 2.799920215E+05, -1.959491159E+03
0.000000000E+00, 0.000000000E+00, 9.020375224E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.135051728E+04, -4.777194561E+01

condensed, mgi2(c), 278.1139, mg, 1, i, 2
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 906.0, 6000.0
0.000000000E+00, 0.000000000E+00, 8.291528905E+00
2.232723275E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.707187430E+04, -3.179107057E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.641294920E+04, -5.175282479E+01

condensed, mgo(c), 40.3044, mg, 1, o, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 3100.0, 6000.0
-8.980784570E+05, 1.771245421E+04, -1.449325747E+02
6.397591100E-01, -1.458346800E-03, 1.715467374E-06
-8.183482370E-10, -1.516290864E+05, 7.439009690E+02
-1.169521716E+05, 0.000000000E+00, 5.510366817E+00
1.085932905E-03, -4.866191754E-07, 1.253230798E-10
0.000000000E+00, -7.443482720E+04, -2.911564935E+01
0.000000000E+00, 0.000000000E+00, 1.010282025E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.609370840E+04, -6.076894048E+01

condensed, mg(oh)2(c), 58.3197, mg, 1, o, 2, h, 2
cpc, nasa, tot, 4, liq, 2, sol, 1, 2
200.0, 500.0, 1200.0, 6000.0, 10000.0
-6.401451840E+05, 8.358139990E+03, -3.971145400E+01
1.231927219E-01, -9.647800650E-05, 0.000000000E+00
0.000000000E+00, -1.537246903E+05, 2.258495398E+02
-5.543828430E+06, 3.700868610E+04, -9.088623340E+01
1.431689186E-01, -9.513965240E-05, 2.532586546E-08
0.000000000E+00, -3.189450890E+05, 5.801638270E+02
-3.037581289E+05, 0.000000000E+00, 1.203462381E+01
2.202655358E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.158775486E+05, -6.333852645E+01
0.000000000E+00, 0.000000000E+00, 2.524211823E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.554240923E+05, -1.650171680E+02

condensed, mgs(c), 56.3700, mg, 1, s, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 2500.0, 6000.0
1.862529340E+06, -3.536941040E+04, 2.721839670E+02
-1.042907730E+00, 2.246733361E-03, -2.528313530E-06
1.164923631E-09, 1.157121957E+05, -1.421776433E+03
-2.774667419E+04, 0.000000000E+00, 5.477652922E+00
1.053219011E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.362757840E+04, -2.562621459E+01
0.000000000E+00, 0.000000000E+00, 8.058201866E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.919942750E+04, -4.015043492E+01

condensed, mgso4(c), 120.3676, mg, 1, s, 1, o, 4
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
200.0, 500.0, 1283.0, 1410.0, 6000.0
7.038799190E+06, -1.283866938E+05, 9.464955820E+02
-3.562117130E+00, 7.535844540E-03, -8.351428640E-06
3.800035070E-09, 4.243566150E+05, -4.979377480E+03
-1.403690656E+05, 0.000000000E+00, 1.024474082E+01
1.053279147E-02, -2.384385851E-06, 0.000000000E+00
0.000000000E+00, -1.589785092E+05, -5.117735953E+01
0.000000000E+00, 0.000000000E+00, 1.864210880E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.622917080E+05, -9.940197517E+01
0.000000000E+00, 0.000000000E+00, 1.864210880E+01

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0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.605357417E+05, -9.815660894E+01

condensed, mgsio3(c), 100.3887, mg, 1, si, 1, o, 3
cpc, nasa, tot, 4, liq, 1, sol, 3, 1, 1, 1
200.0, 903.0, 1258.0, 1850.0, 6000.0
6.634624630E+05, -1.098828549E+04, 6.661582640E+01
-1.408979556E-01, 2.056144180E-04, -1.506280668E-07
4.456006950E-11, -1.365977193E+05, -3.704100780E+02
0.000000000E+00, 0.000000000E+00, 1.447351774E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.916168640E+05, -7.665690420E+01
0.000000000E+00, 0.000000000E+00, 1.472512607E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.917371327E+05, -7.829669776E+01
0.000000000E+00, 0.000000000E+00, 1.761258330E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.880210286E+05, -9.512270574E+01

condensed, mgtio3(c), 120.1702, mg, 1, ti, 1, o, 3
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 700.0, 1953.0, 6000.0
7.429774000E+05, -1.292212821E+04, 8.410507170E+01
-2.098263307E-01, 3.615281930E-04, -3.238214780E-07
1.180955355E-10, -1.313766506E+05, -4.602729640E+02
1.601922450E+05, -2.633226069E+03, 1.883800780E+01
-1.678968165E-03, 1.139243183E-06, -2.244954628E-10
2.663226969E-14, -1.791724552E+05, -1.059181291E+02
0.000000000E+00, 0.000000000E+00, 1.962544997E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.909134805E+05, -1.065587855E+02

condensed, mgti2o5(c), 200.0360, mg, 1, ti, 2, o, 5
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 800.0, 1963.0, 6000.0
1.244806767E+06, -2.122898938E+04, 1.352816814E+02
-3.207171960E-01, 5.056737150E-04, -4.075110600E-07
1.330675670E-10, -2.063427950E+05, -7.421883210E+02
1.206826103E+06, -7.504042080E+03, 3.472504430E+01
-9.398048060E-03, 7.725115420E-06, -2.268307646E-09
2.728749772E-13, -2.651238294E+05, -1.981547532E+02
0.000000000E+00, 0.000000000E+00, 3.140071995E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.039563022E+05, -1.685813857E+02

condensed, mg2sio4(c), 140.6931, mg, 2, si, 1, o, 4
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 800.0, 2171.0, 6000.0
9.212035030E+05, -1.508156349E+04, 9.085102220E+01
-1.898897815E-01, 2.890690717E-04, -2.266693109E-07
7.230688250E-11, -1.936097830E+05, -5.059650070E+02
3.714548590E+06, -2.041518891E+04, 5.788009140E+01
-3.629874490E-02, 2.183358474E-05, -6.504809080E-09
7.908133680E-13, -1.494870518E+05, -3.576608370E+02
0.000000000E+00, 0.000000000E+00, 2.465761662E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.669357683E+05, -1.346103798E+02

condensed, mg2tio4(c), 160.4746, mg, 2, ti, 1, o, 4
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 800.0, 2013.0, 6000.0
9.956749990E+05, -1.724659186E+04, 1.091877188E+02
-2.478088109E-01, 3.830393010E-04, -3.022256428E-07
9.684735620E-11, -1.830794683E+05, -6.011710070E+02
3.251168130E+05, -3.023737890E+03, 2.335313762E+01
-5.057540210E-04, 2.750958409E-06, -9.172292550E-10
1.089453371E-13, -2.490728250E+05, -1.278129303E+02
0.000000000E+00, 0.000000000E+00, 2.747562995E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.615257868E+05, -1.474539637E+02

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condensed, mg3n2(c), 100.9284, mg, 3, n, 2
cpc, nasa, tot, 2, liq, 0, sol, 1, 2
298.15, 6000.0, 10000.0
-3.313123684E+05, 0.000000000E+00, 1.448912804E+01
1.035659347E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.095851350E+04, -7.450243529E+01
0.000000000E+00, 0.000000000E+00, 2.069388100E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.948994429E+04, -1.222622175E+02

condensed, mn(c), 54.9380, mn, 1
cpc, nasa, tot, 5, liq, 1, sol, 4, 1, 1, 1, 1
200.,980.,1361.,1412.,1519.,6000.0
-1.984724642E+04, 1.808814126E+02, 1.038289801E+00
8.813332010E-03, -1.298045968E-05, 1.118858744E-08
-3.673641300E-12, -1.704143022E+03, -3.713160980E+00
-2.033299729E+08, 8.595009270E+05, -1.444429639E+03
1.217025958E+00, -5.092264580E-04, 8.499457640E-08
0.000000000E+00, -5.153128480E+06, 9.753553620E+03
-5.539443490E+06, 0.000000000E+00, 1.249195042E+01
-3.172888290E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.319440868E+04, -7.701110710E+01
-4.256613510E+06, 0.000000000E+00, 1.001289188E+01
-1.726727732E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.000110470E+04, -6.059129950E+01
0.000000000E+00, 0.000000000E+00, 5.535383324E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.393783130E+02, -2.853570386E+01

condensed, mo(c), 95.9400, mo, 1
cpc, nasa, tot, 4, liq, 1, sol, 1, 3
200.0, 1000.0, 2200.0, 2896.0, 6000.0
-4.961689320E+04, 4.280941190E+02, 7.671984690E-01
5.731518250E-03, -6.381641180E-06, 3.708192420E-09
-7.917347080E-13, -3.039584622E+03, -1.230467690E+00
-3.617592720E+06, 1.474639904E+04, -2.136672658E+01
2.118577261E-02, -9.789741690E-06, 2.496130112E-09
-2.422303123E-13, -8.977896080E+04, 1.507160275E+02
4.759909590E+09, -5.321527320E+06, -8.747403120E+02
3.794789480E+00, -2.131568725E-03, 4.974075900E-07
-4.325425090E-11, 4.096569650E+07, 1.130483988E+02
0.000000000E+00, 0.000000000E+00, 4.528949992E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.022300696E+03, -2.280790783E+01

condensed, moo2(c), 127.9388, mo, 1, o, 2
cpc, nasa, tot, 3, liq, 0, sol, 1, 3
200.0, 500.0, 6000.0, 10000.0
-6.526622370E+06, 1.230156278E+05, -9.443937510E+02
3.807393330E+00, -8.319729080E-03, 9.477106540E-06
-4.408972390E-09, -6.244588120E+05, 4.921849140E+03
-2.051418601E+05, 0.000000000E+00, 8.963295880E+00
-1.128973209E-04, 1.146693959E-06, 0.000000000E+00
0.000000000E+00, -7.424162440E+04, -4.664669130E+01
0.000000000E+00, 0.000000000E+00, 4.956119609E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.372650221E+05, -3.798627664E+02

condensed, moo3(c), 143.9382, mo, 1, o, 3
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1075.0, 6000.0
9.061545810E+06, -1.658675979E+05, 1.230236799E+03
-4.691503730E+00, 9.965828580E-03, -1.109194136E-05
5.065628490E-09, 6.590937470E+05, -6.461598540E+03
-9.462974968E+04, 0.000000000E+00, 8.841771794E+00
4.197842086E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.269445280E+04, -4.282025959E+01
0.000000000E+00, 0.000000000E+00, 1.527450205E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.123881420E+04, -7.771899557E+01

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condensed, nh4cl(c), 53.4915, n, 1, h, 4, cl, 1
cpc, nasa, tot, 4, liq, 0, sol, 2, 1, 3
298.15, 457.7, 1000.0, 1500.0, 10000.0
1.593389657E+05, 0.000000000E+00, -5.965854940E+00
6.494193170E-02, -5.391456890E-05, 0.000000000E+00
0.000000000E+00, -3.792881500E+04, 2.933013040E+01
-1.641820157E+07, 1.639262758E+05, -6.654529630E+02
1.447086973E+00, -1.698254160E-03, 1.056255415E-06
-2.697574651E-10, -8.787975900E+05, 3.897936900E+03
8.409592660E+08, -3.426760780E+06, 5.548091470E+03
-4.435674300E+00, 1.772486202E-03, -2.817160120E-07
0.000000000E+00, 2.063363145E+07, -3.765976360E+04
0.000000000E+00, 0.000000000E+00, 2.113492111E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.986347325E+04, -1.186799246E+02

condensed, nh4f(c), 37.0369, n, 1, h, 4, f, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 298.15, 511.0, 6000.0
-2.975636383E+06, 7.208754230E+04, -7.346289470E+02
4.075299810E+00, -1.264044498E-02, 2.111837237E-05
-1.479873524E-08, -3.621184440E+05, 3.608760970E+03
0.000000000E+00, 0.000000000E+00, 1.563531705E+00
2.108482641E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.763754000E+04, -6.538862038E+00
0.000000000E+00, 0.000000000E+00, 1.359069867E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.951515380E+04, -6.780477125E+01

condensed, na(c), 22.9898, na, 1
cpc, nasa, tot, 3, liq, 2, sol, 1, 1
200.0, 371.01, 2300.0, 10000.0
-3.584458010E+04, 0.000000000E+00, 6.479414690E+00
-1.898697341E-02, 3.352387090E-05, 0.000000000E+00
0.000000000E+00, -1.504319740E+03, -2.677783039E+01
2.694818670E+04, -2.319000780E+02, 5.162435690E+00
-3.058571990E-03, 1.696407999E-06, -1.519633426E-10
1.962859159E-14, 2.842114288E+02, -2.225763980E+01
0.000000000E+00, 0.000000000E+00, 5.706336963E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.793862966E+03, -2.939622495E+01

condensed, naalo2(c), 81.9701, na, 1, al, 1, o, 2
cpc, nasa, tot, 3, liq, 0, sol, 2, 1, 2
200.0, 740.0, 3000.0, 10000.0
4.527204140E+05, -7.722924360E+03, 5.000166380E+01
-1.091293529E-01, 1.762084005E-04, -1.452865027E-07
4.918123650E-11, -1.021205450E+05, -2.738871707E+02
3.197980170E+06, -1.525937524E+04, 3.932924030E+01
-2.623291355E-02, 1.465112353E-05, -3.740532770E-09
3.560249390E-13, -4.988553210E+04, -2.434131708E+02
0.000000000E+00, 0.000000000E+00, 1.560311941E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.465763056E+05, -8.776830780E+01

condensed, nabo2(c), 65.7996, na, 1, b, 1, o, 2
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1239.0, 6000.0
-1.074702306E+05, 2.343688910E+03, -1.964636192E+01
1.319434021E-01, -2.997058540E-04, 3.640103610E-07
-1.796104124E-10, -1.291527393E+05, 9.915788280E+01
-5.597627870E+04, 0.000000000E+00, 5.491743560E+00
1.171509302E-02, -4.773472260E-06, 0.000000000E+00
0.000000000E+00, -1.197489098E+05, -2.604168849E+01
0.000000000E+00, 0.000000000E+00, 1.743939210E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.245121293E+05, -9.701235601E+01

condensed, nabr(c), 102.8938, na, 1, br, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1020.0, 6000.0

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3.210289070E+06, -5.986721400E+04, 4.572531830E+02
-1.768432397E+00, 3.814169490E-03, -4.295102010E-06
1.980139146E-09, 2.245558598E+05, -2.385763453E+03
1.593247644E+04, 0.000000000E+00, 5.272913580E+00
2.440774360E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.506450850E+04, -2.022580453E+01
0.000000000E+00, 0.000000000E+00, 8.178473536E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.361938300E+04, -3.477943790E+01

condensed, nacr(c), 49.0072, na, 1, c, 1, n, 1
cpc,nasa,tot,2,liq, 1, sol, 1, 1
293.15,835.,6000.
0.000000000E+00, 0.000000000E+00, 8.303074986E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.338528469E+04, -3.306050253E+01
0.000000000E+00, 0.000000000E+00, 9.561116650E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.337899448E+04, -4.025831708E+01

condensed, nacl(c), 58.4428, na, 1, cl, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1074.0, 6000.0
2.725695501E+06, -5.160958750E+04, 3.984582310E+02
-1.547496756E+00, 3.352172310E-03, -3.787781590E-06
1.751729541E-09, 1.807530763E+05, -2.076949046E+03
2.657827371E+03, 0.000000000E+00, 5.665718690E+00
8.708901490E-04, 1.340560030E-06, 0.000000000E+00
0.000000000E+00, -5.119384720E+04, -2.390773149E+01
0.000000000E+00, 0.000000000E+00, 8.166446369E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.943459010E+04, -3.649536621E+01

condensed, naf(c), 41.9882, na, 1, f, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1269.0, 6000.0
-6.479380410E+06, 1.203694117E+05, -9.069923560E+02
3.596486550E+00, -7.775987760E-03, 8.784072120E-06
-4.059177020E-09, -6.130723750E+05, 4.744846560E+03
-1.103659993E+05, 0.000000000E+00, 7.264294880E+00
-1.973449856E-03, 2.198504269E-06, 0.000000000E+00
0.000000000E+00, -7.181627510E+04, -3.536594020E+01
0.000000000E+00, 0.000000000E+00, 8.431044042E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.918200450E+04, -4.115725624E+01

condensed, nah(c), 23.9977, na, 1, h, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 911.0, 6000.0
-7.991749220E+05, 1.540118135E+04, -1.207582590E+02
5.162361030E-01, -1.142424910E-03, 1.321529809E-06
-6.221705120E-10, -7.637675350E+04, 6.264186650E+02
-5.921209820E+04, 0.000000000E+00, 3.776579530E+00
4.250132020E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.294394750E+03, -1.830678857E+01
0.000000000E+00, 0.000000000E+00, 6.735213500E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.034013160E+03, -3.112842170E+01

condensed, nai(c), 149.8942, na, 1, i, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 934.0, 6000.0
3.500848300E+06, -6.540492260E+04, 5.005676630E+02
-1.943541204E+00, 4.201134090E-03, -4.738515580E-06
2.187428593E-09, 2.579135069E+05, -2.609575154E+03
2.799960757E+04, 0.000000000E+00, 5.047026160E+00
3.029892968E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.637984440E+04, -1.764780816E+01
0.000000000E+00, 0.000000000E+00, 8.058201866E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.505265490E+04, -3.237951568E+01

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condensed, nano2(c), 68.9953, na, 1, n, 1, o, 2
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
298.15, 400.0, 436.7, 557.0, 6000.0
1.090298767E+06, 0.000000000E+00, -3.023894373E+01
8.811824148E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.389227900E+04, 1.648982675E+02
0.000000000E+00, 0.000000000E+00, 5.419446245E+02
-1.998525469E+00, 0.000000000E+00, 4.207630035E-06
0.000000000E+00, -1.254887886E+05, -2.521831769E+03
0.000000000E+00, 0.000000000E+00, 1.599613206E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.773155280E+04, -7.952982535E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.372398050E+04, -5.120982634E+01
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condensed, nano3(c), 84.9947, na, 1, n, 1, o, 3
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
200.0, 500.0, 549.0, 579.6, 6000.0
-4.851300240E+07, 9.186316330E+05, -7.046384650E+03
2.807834358E+01, -6.098595830E-02, 6.858389720E-05
-3.110743577E-08, -4.182115940E+06, 3.676430560E+04
0.000000000E+00, 0.000000000E+00, 2.680735245E+01
-1.753272291E-01, 3.165502236E-04, 0.000000000E+00
0.000000000E+00, -5.811076460E+04, -9.741742276E+01
0.000000000E+00, 0.000000000E+00, 1.683803375E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.159974430E+04, -8.308035085E+01
0.000000000E+00, 0.000000000E+00, 1.695830542E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.985936520E+04, -8.072256364E+01
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condensed, naoh(c), 39.9971, na, 1, o, 1, h, 1
cpc, nasa, tot, 6, liq, 2, sol, 3, 2, 1, 1
100., 298.15, 514., 568., 594., 1000., 6000.
2.008329119E+04, -7.714677160E+02, 8.694171090E+00
3.850883340E-03, -3.610498540E-06, 0.000000000E+00
0.000000000E+00, -4.948023450E+04, -4.524899570E+01
1.048215710E+06, 0.000000000E+00, -9.592892425E+01
6.189564989E-01, -1.367212259E-03, 1.067453163E-06
0.000000000E+00, -3.663541040E+04, 4.270051072E+02
0.000000000E+00, 0.000000000E+00, 9.621733572E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.442558950E+04, -4.799292559E+01
0.000000000E+00, 0.000000000E+00, 1.034336359E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.407054750E+04, -5.122288687E+01
0.000000000E+00, 0.000000000E+00, 1.077790513E+01
-7.111663826E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.343827480E+04, -5.228806116E+01
0.000000000E+00, 0.000000000E+00, 1.006673875E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.308269160E+04, -4.808666421E+01
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condensed, nao2(c), 54.9886, na, 1, o, 2
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
223.3, 825.0, 6000.0
0.000000000E+00, 0.000000000E+00, 7.541274230E+00
3.803351009E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.380838310E+04, -3.016162188E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.374934750E+04, -5.415977808E+01
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condensed, na2co3(c), 105.9884, na, 2, c, 1, o, 3
cpc, nasa, tot, 4, liq, 1, sol, 3, 1, 1, 1
200.0, 623.0, 752.0, 1131.0, 6000.0
-2.240230091E+06, 3.426046630E+04, -2.061520520E+02
7.168720430E-01, -1.253560327E-03, 1.178136083E-06
-4.526962410E-10, -2.999635262E+05, 1.125584713E+03
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0.000000000E+00, 0.000000000E+00, 7.711578914E+00
1.943638290E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.388766027E+05, -3.334178005E+01
0.000000000E+00, 0.000000000E+00, 4.430327223E+00
1.645316441E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.353130199E+05, -9.031669943E+00
0.000000000E+00, 0.000000000E+00, 2.345297558E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.429369053E+05, -1.211911225E+02

condensed, na2o(c), 61.9789, na, 2, o, 1
cpc, nasa, tot, 5, liq, 1, sol, 3, 2, 1, 1
200.,500.,1023.,1243.,1405.,6000.0
1.662637910E+06, -3.189091340E+04, 2.474349303E+02
-9.313593580E-01, 2.006501256E-03, -2.253952071E-06
1.037067374E-09, 9.127774380E+04, -1.292003778E+03
2.551096288E+05, -2.539111311E+03, 1.659817003E+01
-1.233767744E-02, 1.540713549E-05, -8.084697830E-09
1.747972425E-12, -3.906526610E+04, -8.958024740E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.485897470E+04, -6.235394464E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.377652960E+04, -6.148311196E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.944674950E+04, -5.840141793E+01

condensed, na2o2(c), 77.9783, na, 2, o, 2
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
200.0, 500.0, 785.0, 948.0, 6000.0
-8.122024280E+05, 1.451270156E+04, -1.058114918E+02
4.802903390E-01, -1.057140356E-03, 1.219343411E-06
-5.728124010E-10, -1.295899700E+05, 5.525239130E+02
-1.051839392E+05, 0.000000000E+00, 1.054275850E+01
4.638430480E-03, 4.381769570E-09, 0.000000000E+00
0.000000000E+00, -6.528135100E+04, -5.064487560E+01
0.000000000E+00, 0.000000000E+00, 1.359069867E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.546547070E+04, -6.641239933E+01
0.000000000E+00, 0.000000000E+00, 1.611640373E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.581522070E+04, -8.156770675E+01

condensed, na2s(c), 78.0445, na, 2, s, 1
cpc, nasa, tot, 4, liq, 1, sol, 1, 3
298.15, 700.0, 1276.0, 1445.0, 6000.0
-4.541358110E+05, 4.959201300E+03, -1.171687783E+01
4.586680300E-02, -4.501505030E-05, 1.801159260E-08
0.000000000E+00, -7.199330320E+04, 8.057734670E+01
-3.527498880E+09, 2.408466098E+07, -6.783369110E+04
1.008062531E+02, -8.320894540E-02, 3.611294520E-05
-6.422558180E-09, -1.325119033E+08, 4.212898800E+05
8.868348820E+08, 0.000000000E+00, -2.045962174E+03
1.675387705E+00, -3.752802310E-04, 0.000000000E+00
0.000000000E+00, 2.169500522E+06, 1.309983113E+04
0.000000000E+00, 0.000000000E+00, 1.107076665E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.262953690E+04, -4.848427350E+01

condensed, na2so3(c), 126.0427, na, 2, s, 1, o, 3
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 1184.0, 6000.0
0.000000000E+00, 0.000000000E+00, 1.290193602E+01
5.233511440E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.364746191E+05, -5.751819280E+01
0.000000000E+00, 0.000000000E+00, 2.188992496E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.403382187E+05, -1.123000267E+02

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condensed, na2so4(c), 142.0421, na, 2, s, 1, o, 4
cpc, nasa, tot, 4, liq, 1, sol, 3, 1, 1
200.0, 458.0, 514.0, 1157.0, 6000.0
-8.689043820E+05, 1.449012038E+04, -9.087576950E+01
3.621919930E-01, -5.592870850E-04, 3.463421130E-07
0.000000000E+00, -2.371450313E+05, 4.932876470E+02
-1.455046659E+05, 0.000000000E+00, 1.308904554E+01
1.323950539E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.718682018E+05, -6.127355231E+01
0.000000000E+00, 0.000000000E+00, 2.503069934E+01
-1.581223668E-02, 1.591831629E-05, 0.000000000E+00
0.000000000E+00, -1.732950425E+05, -1.201603231E+02
0.000000000E+00, 0.000000000E+00, 2.453542061E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.722609524E+05, -1.218642150E+02

condensed, na3alf6(c), 209.9413, na, 3, al, 1, f, 6
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
200.0, 500.0, 838.0, 1286.0, 6000.0
1.564580425E+07, -2.923454204E+05, 2.211217567E+03
-8.502636700E+00, 1.825363780E-02, -2.047448239E-05
9.409455420E-09, 9.119433290E+05, -1.157646461E+04
-1.416702978E+05, 0.000000000E+00, 2.315158739E+01
1.479360403E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.076260850E+05, -1.084672805E+02
0.000000000E+00, 0.000000000E+00, 2.624279723E+01
7.980987454E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.065549160E+05, -1.221511986E+02
0.000000000E+00, 0.000000000E+00, 4.702622283E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.129238590E+05, -2.499831311E+02

condensed, na5al3f14(c), 461.8711, na, 5, al, 3, f, 14
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1010.0, 6000.0
-2.302157125E+07, 4.240174110E+05, -3.188373880E+03
1.288416515E+01, -2.796179544E-02, 3.169729270E-05
-1.469118702E-08, -2.832459181E+06, 1.667109223E+04
-8.720901540E+05, 0.000000000E+00, 6.109021050E+01
1.113784152E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.302863450E+05, -2.943295261E+02
0.000000000E+00, 0.000000000E+00, 1.171446062E+02
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.528147600E+05, -6.431511436E+02

condensed, nb(c), 92.9064, nb, 1
cpc, nasa, tot, 4, liq, 1, sol, 1, 3
200.0, 1000.0, 2000.0, 2750.0, 6000.0
-4.254811710E+04, 3.875297090E+02, 1.184449739E+00
4.507436620E-03, -5.232091980E-06, 3.513452460E-09
-9.507605800E-13, -2.864449323E+03, -2.442975114E+00
2.527695630E+07, -1.085720528E+05, 1.929168202E+02
-1.727427651E-01, 8.671274570E-05, -2.266162374E-08
2.437387316E-12, 6.472317770E+05, -1.284027328E+03
9.016788690E+08, -1.888649522E+06, 1.578845370E+03
-6.588882220E-01, 1.416307803E-04, -1.396561356E-08
4.411624050E-13, 1.264760547E+07, -1.175157316E+04
0.000000000E+00, 0.000000000E+00, 4.025733326E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.427029683E+03, -1.857965621E+01

condensed, nbo(c), 108.9058, nb, 1, o, 1
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 2217.0, 6000.0
-4.430808310E+04, 0.000000000E+00, 5.073540112E+00
1.194297680E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.054466650E+04, -2.397978879E+01
0.000000000E+00, 0.000000000E+00, 7.817658527E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.765976820E+04, -3.975547844E+01

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condensed, nbocl3(c), 215.2648, nb, 1, o, 1, cl, 3
cpc, nasa, tot, 2, liq, 0, sol, 1, 2
298.15, 702.0, 10000.0
-1.822304138E+05, 4.828593360E+02, 1.341861113E+01
7.546458250E-03, -1.198129404E-05, 9.997155720E-09
-3.425554610E-12, -1.133897355E+05, -6.057973360E+01
0.000000000E+00, 0.000000000E+00, 1.575643063E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.106386777E+05, -7.311433602E+01

condensed, nbo2(c), 124.9052, nb, 1, o, 2
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
200.0, 500.0, 1082.0, 2360.0, 6000.0
-3.914505940E+06, 7.500739880E+04, -5.854724840E+02
2.416380822E+00, -5.358130280E-03, 6.172498470E-06
-2.893870224E-09, -4.324424750E+05, 3.040766836E+03
-2.074227934E+05, 0.000000000E+00, 1.075172627E+01
-7.363421090E-03, 7.988904160E-06, 0.000000000E+00
0.000000000E+00, -9.926049480E+04, -5.405566340E+01
-2.470500366E+05, 0.000000000E+00, 1.027937906E+01
1.610437657E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.951665200E+04, -5.395968051E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.406789930E+04, -6.330929540E+01

condensed, nb2o5(c), 265.8098, nb, 2, o, 5
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1783.0, 6000.0
2.640209200E+07, -4.944721050E+05, 3.755171780E+03
-1.472158158E+01, 3.190561080E-02, -3.609939830E-05
1.669960716E-08, 1.993996743E+06, -1.963185769E+04
2.666894830E+05, 0.000000000E+00, -3.157808421E+00
7.820838380E-02, -9.622327490E-05, 5.100828450E-08
-9.357603760E-12, -2.290426814E+05, 1.650612260E+01
0.000000000E+00, 0.000000000E+00, 2.405433393E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.279011100E+05, -1.212064449E+02

condensed, ni(c), 58.6934, ni, 1
cpc, nasa, tot, 5, liq, 1, sol, 1, 4
200., 400., 631., 1200., 1728., 6000.0
-7.689131090E+05, 1.433956218E+04, -1.042751331E+02
3.926261320E-01, -6.986906890E-04, 4.906078910E-07
0.000000000E+00, -6.543789970E+04, 5.511391170E+02
-3.345887340E+08, 3.424527970E+06, -1.394425564E+04
2.825654843E+01, -2.847789131E-02, 1.142789828E-05
0.000000000E+00, -1.750250768E+07, 8.179861400E+04
1.036354737E+09, -6.813278550E+06, 1.854367615E+04
-2.673006535E+01, 2.153531609E-02, -9.192464140E-06
1.624332987E-09, 3.771960950E+07, -1.157617522E+05
2.518440662E+09, -9.895465230E+06, 1.609737530E+04
-1.386478566E+01, 6.671320910E-03, -1.698988160E-06
1.788537986E-10, 5.987658740E+07, -1.087743318E+05
0.000000000E+00, 0.000000000E+00, 4.679890938E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.216258550E+02, -2.335474714E+01

condensed, nis(c), 90.7584, ni, 1, s, 1
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
200.0, 652.0, 1249.0, 6000.0
9.281477840E+04, -2.341897035E+03, 2.156233266E+01
-5.304222560E-02, 9.993984760E-05, -9.111093130E-08
3.288570290E-11, -1.702746009E+03, -1.117002463E+02
2.424566967E+05, -1.320914239E+03, 7.077218200E+00
9.029383650E-05, 2.068184040E-06, -6.559770780E-10
8.194048850E-14, -3.434758890E+03, -3.562024750E+01
0.000000000E+00, 0.000000000E+00, 9.233977709E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.105334670E+04, -4.576765033E+01

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condensed, nis2(c), 122.8234, ni, 1, s, 2
  cpc, nasa, tot, 2, liq, 1, sol, 1, 1
  298.15, 1280.0, 6000.0
-1.676910840E+03, 1.842877438E+01, 7.671341480E+00
 2.663682250E-03, -1.892467189E-07, 1.078337009E-10
-2.438956464E-14, -1.831575942E+04, -3.578715100E+01
 0.000000000E+00, 0.000000000E+00, 1.094496248E+01
 0.000000000E+00, 0.000000000E+00, 0.000000000E+00
 0.000000000E+00, -1.234477669E+04, -4.971946503E+01

condensed, ni3s2(c), 240.2102, ni, 3, s, 2
  cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
  200.0, 834.0, 1064.0, 6000.0
-6.710970630E+05, 9.870810610E+03, -5.338151110E+01
 2.311567743E-01, -3.933292800E-04, 3.340311640E-07
-1.054748249E-10, -7.620212300E+04, 2.954015489E+02
-5.072819670E+04, 0.000000000E+00, 2.665250520E+01
-4.426613790E-03, 3.885431570E-07, 0.000000000E+00
 0.000000000E+00, -3.142142347E+04, -1.348956828E+02
 0.000000000E+00, 0.000000000E+00, 2.274539329E+01
 0.000000000E+00, 0.000000000E+00, 0.000000000E+00
 0.000000000E+00, -2.720113051E+04, -1.099086536E+02

condensed, ni3s4(c), 304.3402, ni, 3, s, 4
  cpc, nasa, tot, 2, liq, 0, sol, 1, 2
  298.15, 1100.0, 10000.0
 7.214883180E+03, -7.806476430E+01, 1.500658024E+01
 1.653827825E-02, 8.768311110E-07, -5.301784170E-10
 1.279272852E-13, -4.096266670E+04, -6.825975310E+01
 0.000000000E+00, 0.000000000E+00, 3.367627757E+01
 0.000000000E+00, 0.000000000E+00, 0.000000000E+00
 0.000000000E+00, -5.181075925E+04, -1.804026880E+02

condensed, p(c), 30.9738, p, 1
  cpc, nasa, tot, 2, liq, 1, sol, 1, 1
  195.4, 317.3, 6000.0
-4.761561170E+06, 1.135422659E+05, -1.120481079E+03
 5.889005080E+00, -1.727002916E-02, 2.689248597E-05
-1.737186959E-08, -4.829321490E+05, 5.551556600E+03
 0.000000000E+00, 0.000000000E+00, 3.141496011E+00
 0.000000000E+00, 0.000000000E+00, 0.000000000E+00
 0.000000000E+00, -8.621436240E+02, -1.272272999E+01

condensed, p4o10(c), 283.8890, p, 4, o, 10
  cpc, nasa, tot, 3, liq, 1, sol, 1, 2
  100.0, 298.15, 699.0, 6000.0
-2.910475984E+04, 0.000000000E+00, 5.209612140E+00
 7.058407940E-02, 0.000000000E+00, 0.000000000E+00
 0.000000000E+00, -3.668178470E+05, -2.310786251E+01
 0.000000000E+00, 0.000000000E+00, 5.461897334E+00
 8.078166964E-02, -4.072398734E-05, 0.000000000E+00
 0.000000000E+00, -3.668889200E+05, -2.561194012E+01
 0.000000000E+00, 0.000000000E+00, 4.450051777E+01
 0.000000000E+00, 0.000000000E+00, 0.000000000E+00
 0.000000000E+00, -3.765523910E+05, -2.311704609E+02

condensed, pb(c), 207.2000, pb, 1
  cpc, nasa, tot, 3, liq, 2, sol, 1, 1
  200.0, 600.65, 3600.0, 10000.0
-6.149670140E+05, 1.065718060E+04, -7.129898940E+01
 2.668406702E-01, -5.182017320E-04, 5.238665090E-07
-2.151645616E-10, -4.974077560E+04, 3.855826030E+02
-3.798179327E+04, 0.000000000E+00, 4.364298076E+00
-1.236392764E-03, 4.946773773E-07, -5.231817630E-11
 0.000000000E+00, -8.887330420E+02, -1.619559677E+01
 0.000000000E+00, 0.000000000E+00, 3.880415408E+00
 0.000000000E+00, 0.000000000E+00, 0.000000000E+00
 0.000000000E+00, -1.651668628E+03, -1.429092351E+01

condensed, pbbr2(c), 367.0080, pb, 1, br, 2
  cpc, nasa, tot, 3, liq, 1, sol, 1, 2

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100.0, 298.15, 644.0, 6000.0
0.000000000E+00, 0.000000000E+00, 6.565717260E+00
1.959605208E-02, -3.191530530E-05, 0.000000000E+00
0.000000000E+00, -3.582576310E+04, -2.245707569E+01
8.046174699E+04, 0.000000000E+00, 6.899264058E+00
5.925905435E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.532970360E+04, -2.124769272E+01
0.000000000E+00, 0.000000000E+00, 1.347042700E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.648036370E+04, -5.695842618E+01

condensed, pbcl2(c), 278.1060, pb, 1, cl, 2
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
200.0, 774.0, 6000.0
2.697281121E+06, -4.212942350E+04, 2.651641932E+02
-7.891350070E-01, 1.316948609E-03, -1.123561948E-06
3.854416550E-10, 1.522766773E+05, -1.434661776E+03
0.000000000E+00, 0.000000000E+00, 1.335015533E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.613690180E+04, -5.953419614E+01

condensed, pbf2(c), 245.1968, pb, 1, f, 2
cpc, nasa, tot, 4, liq, 1, sol, 2, 1, 2
298.15, 583.0, 716.0, 1103.0, 6000.0
1.363880734E+04, 0.000000000E+00, 7.104086711E+00
4.806777549E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.358963280E+04, -2.908385048E+01
-7.862766417E+07, 0.000000000E+00, 1.154013526E+03
-2.413080386E+00, 1.453441514E-03, 0.000000000E+00
0.000000000E+00, -5.720487300E+05, -6.285579567E+03
3.516663038E+07, 0.000000000E+00, -1.580925394E+02
1.905776769E-01, -5.650555475E-05, 0.000000000E+00
0.000000000E+00, 4.370723820E+04, 9.735936305E+02
0.000000000E+00, 0.000000000E+00, 1.310961199E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.458950020E+04, -6.282775717E+01

condensed, phi2(c), 461.0089, pb, 1, i, 2
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
100.0, 298.15, 683.0, 6000.0
-6.615857400E+03, 0.000000000E+00, 8.879658690E+00
1.758307313E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.391562477E+04, -3.012466437E+01
4.428402876E+04, 0.000000000E+00, 7.731062925E+00
3.690055096E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.348831172E+04, -2.387008226E+01
0.000000000E+00, 0.000000000E+00, 1.310961199E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.355165613E+04, -5.237973135E+01

condensed, pbo(c), 223.1994, pb, 1, o, 1
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
100.0, 298.15, 762.0, 1160.0, 6000.0
0.000000000E+00, 0.000000000E+00, 8.050624580E-01
2.884978163E-02, -4.302158100E-05, 0.000000000E+00
0.000000000E+00, -2.743361905E+04, -3.117085753E+00
-6.651023332E+03, 0.000000000E+00, 4.939557472E+00
2.406636110E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.789339075E+04, -2.073932502E+01
-3.360390450E+04, 0.000000000E+00, 5.407414267E+00
1.595644241E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.802576574E+04, -2.321766400E+01
0.000000000E+00, 0.000000000E+00, 7.817658527E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.664258145E+04, -3.570913839E+01

condensed, pbo2(c), 239.1988, pb, 1, o, 2
cpc, nasa, tot, 3, liq, 0, sol, 1, 3
100.0, 298.15, 1000.0, 10000.0
0.000000000E+00, 0.000000000E+00, 1.007530476E-01
4.035527600E-02, -5.395750800E-05, 0.000000000E+00

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0.000000000E+00, -3.454199070E+04, -1.557803514E+00
-2.593057198E+05, 0.000000000E+00, 1.010402297E+01
5.003301457E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.709944890E+04, -5.052640331E+01
0.000000000E+00, 0.000000000E+00, 1.034504740E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.683100253E+04, -5.156135805E+01

condensed, pbs(c), 239.2650, pb, 1, s, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
100.0, 298.15, 1386.5, 6000.0
-1.110196130E+04, 0.000000000E+00, 5.788552660E+00
9.715425300E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.377027529E+04, -2.236417313E+01
-7.529006520E+04, 0.000000000E+00, 7.331760982E+00
-2.262310106E-03, 1.609234940E-06, 0.000000000E+00
0.000000000E+00, -1.431615352E+04, -3.062514348E+01
0.000000000E+00, 0.000000000E+00, 8.058201866E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.007241100E+04, -3.316574241E+01

condensed, pb2o3(c), 462.3982, pb, 2, o, 3
cpc, nasa, tot, 3, liq, 0, sol, 1, 3
100.0, 298.15, 1000.0, 10000.0
0.000000000E+00, 0.000000000E+00, 1.574967406E+00
6.633690300E-02, -9.449445980E-05, 0.000000000E+00
0.000000000E+00, -6.172080000E+04, -6.282642160E+00
-3.314687215E+05, 0.000000000E+00, 1.505921576E+01
5.443495768E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.498118220E+04, -7.101946635E+01
0.000000000E+00, 0.000000000E+00, 2.017124281E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.703999264E+04, -1.007228680E+02

condensed, pb3o4(c), 685.5976, pb, 3, o, 4
cpc, nasa, tot, 2, liq, 0, sol, 1, 2
200., 1000.0, 10000.0
7.031601470E+06, -8.770415980E+04, 4.195886490E+02
-9.058738460E-01, 1.138287119E-03, -7.358926050E-07
1.922732625E-10, 3.431611340E+05, -2.394229365E+03
0.000000000E+00, 0.000000000E+00, 2.771002117E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.685709457E+04, -1.369988517E+02

condensed, rb(c), 85.4678, rb, 1
cpc, nasa, tot, 4, liq, 3, sol, 1, 1
100.0, 312.47, 1000.0, 2100.0, 10000.0
-1.693678854E+05, 5.116764690E+03, -5.686760910E+01
3.403543550E-01, -9.347996350E-04, 1.017512352E-06
0.000000000E+00, -2.164547399E+04, 2.805351095E+02
2.365752770E+04, 2.865695009E+02, 1.546589030E+00
5.164698120E-03, -6.065846790E-06, 3.347806150E-09
-5.178101420E-13, -1.933656171E+03, 1.060307276E+00
-3.672685780E+05, 1.779065421E+03, -3.414096790E-01
5.322070690E-03, -4.262302730E-06, 1.699676170E-09
-4.416789770E-14, -1.110894373E+04, 1.477099469E+01
0.000000000E+00, 0.000000000E+00, 7.683796203E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.697149591E+03, -4.061477129E+01

condensed, rbbo2(c), 128.2776, rb, 1, b, 1, o, 2
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
200.0, 500.0, 968.0, 1133.0, 6000.0
1.320700184E+06, -2.114255330E+04, 1.338015047E+02
-3.804509820E-01, 6.570568430E-04, -5.884791840E-07
2.152384344E-10, -2.010026759E+04, -7.254857290E+02
-1.553422560E+05, 0.000000000E+00, 9.425074910E+00
3.853433670E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.207672511E+05, -4.437890740E+01
0.000000000E+00, 0.000000000E+00, 1.298934032E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00

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0.000000000E+00, -1.222516025E+05, -6.507104425E+01
0.000000000E+00, 0.000000000E+00, 1.743939210E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.235650894E+05, -9.307583456E+01

condensed, rbbr(c), 165.3718, rb, 1, br, 1
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
200.0, 965.0, 6000.0
-5.724525880E+04, 9.082670760E+02, 4.275929780E-01
1.751269798E-02, -2.421969308E-05, 1.854230436E-08
-5.603980870E-12, -5.357247720E+04, 9.232346100E+00
0.000000000E+00, 0.000000000E+00, 8.755777550E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.852456540E+04, -3.604442573E+01

condensed, rbcl(c), 120.9208, rb, 1, cl, 1
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
200.0, 997.0, 6000.0
-5.731907690E+04, 4.298433250E+02, 4.955874940E+00
9.930643910E-04, 3.857679940E-06, -4.516778380E-09
1.683809372E-12, -5.653364290E+04, -1.609477359E+01
0.000000000E+00, 0.000000000E+00, 8.827940552E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.345006300E+04, -3.845805693E+01

condensed, rbf(c), 104.4662, rb, 1, f, 1
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 1068.0, 6000.0
5.640741306E+03, 0.000000000E+00, 5.092663308E+00
3.129949931E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.895462790E+04, -2.057230003E+01
0.000000000E+00, 0.000000000E+00, 8.539288545E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.775044270E+04, -3.835948403E+01

condensed, rbh(c), 86.4757, rb, 1, h, 1
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 858.0, 6000.0
-6.384020225E+04, 0.000000000E+00, 4.263149602E+00
3.963552873E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.951554350E+03, -1.816921793E+01
0.000000000E+00, 0.000000000E+00, 6.735213500E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.893290150E+03, -2.833905350E+01

condensed, rbi(c), 212.3723, rb, 1, i, 1
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
200.0, 929.0, 6000.0
-1.871461077E+05, 2.207646572E+03, -3.199388250E+00
1.739850250E-02, -1.184152545E-05, 3.313152520E-09
3.472456000E-13, -5.305010310E+04, 3.417793530E+01
0.000000000E+00, 0.000000000E+00, 8.671587382E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.112940250E+04, -3.435941214E+01

condensed, rbno2(c), 131.4733, rb, 1, n, 1, o, 2
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 695.0, 6000.0
0.000000000E+00, 0.000000000E+00, 9.108895172E+00
3.333690139E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.700369140E+04, -3.340874045E+01
0.000000000E+00, 0.000000000E+00, 1.250825364E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.710583050E+04, -5.124298955E+01

condensed, rbno3(c), 147.4727, rb, 1, n, 1, o, 3
cpc, nasa, tot, 5, liq, 1, sol, 4, 1, 1, 1, 1
200., 437., 493., 556., 583., 6000.0
1.211253372E+07, -2.028159094E+05, 1.325899840E+03
-4.151421820E+00, 6.401606600E-03, -3.822822630E-06
0.000000000E+00, 8.768873850E+05, -7.162144700E+03

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0.000000000E+00, 0.000000000E+00, 9.120561524E+00
1.643716828E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.277664760E+04, -3.918776498E+01
0.000000000E+00, 0.000000000E+00, 1.078616780E+02
-2.821762196E-01, 0.000000000E+00, 3.922207081E-07
0.000000000E+00, -8.057470150E+04, -5.191016028E+02
0.000000000E+00, 0.000000000E+00, 1.755966377E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.449488250E+04, -8.253206472E+01
0.000000000E+00, 0.000000000E+00, 1.755966377E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.394163280E+04, -8.158309442E+01

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condensed, rboh(c), 102.4751, rb, 1, o, 1, h, 1
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
298.15, 508.0, 658.0, 6000.0
0.000000000E+00, 0.000000000E+00, 6.589925323E+00
5.731305874E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.258929920E+04, -2.794998878E+01
0.000000000E+00, 0.000000000E+00, 9.140646893E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.248404970E+04, -3.962855491E+01
0.000000000E+00, 0.000000000E+00, 1.034336359E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.231326390E+04, -4.597096049E+01

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condensed, rbo2(c), 117.4666, rb, 1, o, 2
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
200.0, 423.0, 813.0, 6000.0
-5.914373690E+05, 9.356154690E+03, -5.173703230E+01
1.872603527E-01, -2.664203296E-04, 1.581120816E-07
0.000000000E+00, -7.971547560E+04, 2.930911089E+02
0.000000000E+00, 0.000000000E+00, 1.058390693E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.680173520E+04, -4.488768335E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.544940050E+04, -5.145193248E+01

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condensed, rb2co3(c), 230.9445, rb, 2, c, 1, o, 3
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
200.0, 576.0, 1146.0, 6000.0
-1.377487286E+06, 2.415872404E+04, -1.620555595E+02
6.425655960E-01, -1.249826185E-03, 1.304525231E-06
-5.552423710E-10, -2.500033904E+05, 8.719586300E+02
0.000000000E+00, 0.000000000E+00, 1.355678206E+01
8.280944999E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.405896222E+05, -5.801044809E+01
0.000000000E+00, 0.000000000E+00, 2.465569228E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.442630744E+05, -1.235531008E+02

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condensed, rb2o(c), 186.9350, rb, 2, o, 1
cpc, nasa, tot, 4, liq, 1, sol, 3, 1, 1, 1
298.15, 543.0, 613.0, 778.0, 6000.0
0.000000000E+00, 0.000000000E+00, 6.190743652E+00
9.087246272E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.290149280E+04, -2.294776447E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.464679770E+04, -5.461093903E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.416571100E+04, -5.382613205E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.176027770E+04, -5.073431535E+01

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condensed, rb2o2(c), 202.9344, rb, 2, o, 2
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
298.15, 398.0, 843.0, 6000.0

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0.000000000E+00, 0.000000000E+00, 2.566116344E+00
2.890861879E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.136136520E+04, -3.996333599E+00
0.000000000E+00, 0.000000000E+00, 1.407178535E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.365100100E+04, -6.136883861E+01
0.000000000E+00, 0.000000000E+00, 1.611640373E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.284890920E+04, -7.214727369E+01

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condensed, rb2so4(c), 266.9982, rb, 2, s, 1, o, 4
cpc, nasa, tot, 5, liq, 1, sol, 2, 3, 1
200.,500.,800.,931.,1343.,6000.0
-1.192448350E+07, 2.294293959E+05, -1.785117228E+03
7.309062720E+00, -1.617521748E-02, 1.861676545E-05
-8.714648070E-09, -1.202291196E+06, 9.289553650E+03
-4.871322610E+05, 0.000000000E+00, 2.853725036E+01
-3.587804810E-02, 4.220439770E-05, 0.000000000E+00
0.000000000E+00, -1.816178572E+05, -1.327574146E+02
0.000000000E+00, 0.000000000E+00, 3.464686434E+02
-6.082068577E-01, 0.000000000E+00, 3.246132364E-07
0.000000000E+00, -2.782463487E+05, -1.841656965E+03
0.000000000E+00, 0.000000000E+00, 1.107353290E+01
1.2306487833E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.739435450E+05, -3.919109508E+01
0.000000000E+00, 0.000000000E+00, 2.483609978E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.768420750E+05, -1.184499504E+02

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condensed, s(c), 32.0650, s, 1
cpc, nasa, tot, 7, liq, 5, sol, 2, 1, 1
200.,368.3,388.36,428.15,432.15,453.15,717.,6000.
-1.035710779E+04, 0.000000000E+00, 1.866766938E+00
4.256140250E-03, -3.265252270E-06, 0.000000000E+00
0.000000000E+00, -7.516389580E+02, -7.961066980E+00
0.000000000E+00, 0.000000000E+00, 2.080514131E+00
2.440879557E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.852714730E+02, -8.607846750E+00
-6.366550765E+07, 0.000000000E+00, 2.376860693E+03
-7.888076026E+00, 7.376076522E-03, 0.000000000E+00
0.000000000E+00, -6.356594920E+05, -1.186929589E+04
0.000000000E+00, 0.000000000E+00, 6.928522306E+03
-3.254655981E+01, 3.824448176E-02, 0.000000000E+00
0.000000000E+00, -9.832222680E+05, -3.154806751E+04
0.000000000E+00, 0.000000000E+00, 1.649945697E+02
-6.843534977E-01, 7.315907973E-04, 0.000000000E+00
0.000000000E+00, -2.638846929E+04, -7.681730097E+02
1.972984578E+06, 0.000000000E+00, -2.441009753E+01
6.090352889E-02, -3.744069103E-05, 0.000000000E+00
0.000000000E+00, 1.113013440E+04, 1.363174183E+02
0.000000000E+00, 0.000000000E+00, 3.848693429E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.284589830E+02, -1.736128237E+01

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condensed, scl2(c), 102.9710, s, 1, cl, 2
cpc, nasa, tot, 1, liq, 1, sol, 0
298.15, 6000.0
0.000000000E+00, 0.000000000E+00, 1.094496248E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.251567000E+03, -4.026872255E+01

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condensed, s2cl2(c), 135.0360, s, 2, cl, 2
cpc, nasa, tot, 1, liq, 1, sol, 0
298.15, 6000.0
0.000000000E+00, 0.000000000E+00, 1.494856582E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.145167466E+04, -5.824880790E+01

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```

condensed, sc(c), 44.9559, sc, 1
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
100.0, 400.0, 1609.0, 1814.0, 6000.0

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-5.723537690E+03, 0.000000000E+00, 1.835072325E+00
9.478861990E-03, -2.317188582E-05, 2.004221829E-08
0.000000000E+00, -8.225089040E+02, -8.279121410E+00
-2.296409436E+04, 0.000000000E+00, 3.590296910E+00
-1.480249906E-03, 2.132230702E-06, -4.653598600E-10
0.000000000E+00, -1.099543829E+03, -1.605255360E+01
0.000000000E+00, 0.000000000E+00, 5.316007798E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.113439951E+03, -2.875686543E+01
0.000000000E+00, 0.000000000E+00, 5.291953464E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.373974847E+03, -2.764152183E+01

condensed, sc2o3(c), 137.9100, sc, 2, o, 3
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 2762.0, 6000.0
-2.372563268E+06, 4.573798990E+04, -3.655376590E+02
1.588230977E+00, -3.584389210E-03, 4.185870320E-06
-1.985472581E-09, -4.353786390E+05, 1.884709407E+03
-2.669869135E+05, 0.000000000E+00, 1.386002327E+01
1.535415402E-03, 1.928963573E-07, 0.000000000E+00
0.000000000E+00, -2.346482672E+05, -7.170005710E+01
0.000000000E+00, 0.000000000E+00, 2.405433393E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.402224225E+05, -1.419525042E+02

condensed, si(c), 28.0855, si, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 298.15, 1690.0, 6000.0
-2.323538208E+04, 0.000000000E+00, 2.102021680E+00
1.809220552E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.850635210E+02, -1.038427318E+01
-5.232559740E+04, 0.000000000E+00, 2.850169415E+00
3.975166970E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.042947234E+03, -1.438964187E+01
0.000000000E+00, 0.000000000E+00, 3.271389414E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.882667110E+03, -1.326611073E+01

condensed, sic(c), 40.0962, si, 1, c, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
100., 298.15, 3105.0, 6000.0
-2.285496383E+03, 0.000000000E+00, -5.349100620E-01
1.271547084E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.193174900E+03, 1.241441354E+00
-1.269106658E+05, 0.000000000E+00, 3.757286960E+00
3.481744565E-03, -1.620660748E-06, 2.611097948E-10
0.000000000E+00, -1.046667760E+04, -2.109198538E+01
0.000000000E+00, 0.000000000E+00, 7.577115188E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.787459000E+03, -4.367596159E+01

condensed, sio2(c), 60.0843, si, 1, o, 2
cpc, nasa, tot, 4, liq, 1, sol, 3, 1, 1, 1
200.0, 848.0, 1200.0, 1996.0, 6000.0
-5.776895500E+05, 7.214661110E+03, -3.145730294E+01
7.412177150E-02, -8.670077820E-06, -1.080461312E-07
8.316324910E-11, -1.462398375E+05, 1.842424399E+02
2.317635074E+04, 0.000000000E+00, 7.026511484E+00
1.241925261E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.117012474E+05, -3.580751356E+01
-5.356419079E+05, 0.000000000E+00, 9.331036946E+00
-7.306503931E-04, 3.339944266E-07, 0.000000000E+00
0.000000000E+00, -1.134326721E+05, -4.998768383E+01
0.000000000E+00, 0.000000000E+00, 1.004268442E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.140002976E+05, -5.554279592E+01

condensed, sis(c), 60.1505, si, 1, s, 1
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 1363.0, 6000.0

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0.000000000E+00, 0.000000000E+00, 4.873408054E+00
1.807202108E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.182763678E+04, -2.072841584E+01
0.000000000E+00, 0.000000000E+00, 8.058201866E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.076140696E+04, -3.851581605E+01

condensed, sis2(c), 92.2155, si, 1, s, 2
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
100.0, 298.15, 1363.0, 6000.0
-1.489679569E+04, 0.000000000E+00, 3.921710460E+00
1.226970632E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.628253940E+04, -1.684224727E+01
0.000000000E+00, 0.000000000E+00, 6.423349061E+00
3.317212921E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.658052990E+04, -2.834259902E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.909260770E+04, -6.276638967E+01

condensed, si2n2o(c), 100.1838, si, 2, n, 2, o, 1
cpc, nasa, tot, 3, liq, 0, sol, 1, 3
298.15, 1000.0, 2500.0, 10000.0
-7.783293180E+06, 7.787697680E+04, -3.226727260E+02
7.513788890E-01, -9.139450720E-04, 5.774402010E-07
-1.479973902E-10, -5.139865410E+05, 1.873124449E+03
-7.414096340E+06, 2.559424417E+04, -2.535540920E+01
3.208894230E-02, -1.340182230E-05, 3.075006784E-09
-2.892800339E-13, -2.762647725E+05, 1.907774092E+02
0.000000000E+00, 0.000000000E+00, 1.690397910E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.238409114E+05, -9.797423818E+01

condensed, si3n4(c), 140.2833, si, 3, n, 4
cpc, nasa, tot, 3, liq, 0, sol, 1, 3
100.0, 298.15, 4000.0, 10000.0
-1.136434515E+04, 0.000000000E+00, -4.993435710E-01
3.962318940E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.640037870E+04, -1.086768954E+00
-2.910454134E+05, 0.000000000E+00, 1.189210188E+01
9.349799327E-03, -2.551082385E-06, 2.857654871E-10
0.000000000E+00, -9.966541740E+04, -6.412447976E+01
0.000000000E+00, 0.000000000E+00, 2.674478186E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.203390811E+05, -1.642173810E+02

condensed, sn(c), 118.7100, sn, 1
cpc, nasa, tot, 3, liq, 2, sol, 1, 1
200.0, 505.12, 4700.0, 10000.0
-9.970568110E+05, 1.865056292E+04, -1.393005103E+02
5.652800870E-01, -1.229162587E-03, 1.398259924E-06
-6.465843270E-10, -8.479846440E+04, 7.317981190E+02
9.847844311E+04, 0.000000000E+00, 3.028921728E+00
2.531718646E-04, -1.960428215E-08, 0.000000000E+00
0.000000000E+00, 2.209652103E+02, -9.089783541E+00
0.000000000E+00, 0.000000000E+00, 3.790228954E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.260306831E+03, -1.455572863E+01

condensed, snbr2(c), 278.5180, sn, 1, br, 2
cpc, nasa, tot, 4, liq, 2, sol, 1, 2
100.0, 298.15, 503.4, 860.0, 6000.0
-1.072142073E+04, 0.000000000E+00, 8.650388720E+00
3.246938990E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.326028440E+04, -3.191324070E+01
1.596365871E+05, 0.000000000E+00, 4.310656912E+00
1.137469316E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.175626170E+04, -8.652273965E+00
2.804494793E+05, 0.000000000E+00, 1.427732963E+01
-2.218170403E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.305162210E+04, -6.008238208E+01

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0.000000000E+00, 0.000000000E+00, 1.274879698E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.288346740E+04, -5.185141223E+01

condensed, snbr4(c), 438.3260, sn, 1, br, 4
cpc, nasa, tot, 3, liq, 2, sol, 1, 1
200.0, 302.25, 470.0, 6000.0
-3.870038960E+06, 0.000000000E+00, 3.663330300E+02
-1.775658617E+00, 2.504656832E-03, 0.000000000E+00
0.000000000E+00, -1.120730416E+05, -1.659626236E+03
1.124780655E+05, 0.000000000E+00, 1.859869072E+01
-4.792826035E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.036569340E+04, -6.913668591E+01
0.000000000E+00, 0.000000000E+00, 1.888265213E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.079140710E+04, -7.136367786E+01

condensed, sncl2(c), 189.6160, sn, 1, cl, 2
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
200.0, 520.2, 6000.0
-3.455659100E+05, 5.121048940E+03, -2.179939832E+01
8.738265750E-02, -1.087380837E-04, 5.701191040E-08
0.000000000E+00, -6.692353080E+04, 1.338412221E+02
0.000000000E+00, 0.000000000E+00, 1.322988366E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.294240400E+04, -5.766924967E+01

condensed, sncl4(c), 260.5220, sn, 1, cl, 4
cpc, nasa, tot, 2, liq, 2, sol, 0
239.05, 350.0, 6000.0
0.000000000E+00, 0.000000000E+00, 2.059050984E+01
-5.567014773E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.807207820E+04, -8.378462335E+01
0.000000000E+00, 0.000000000E+00, 1.864210880E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.773111750E+04, -7.431947542E+01

condensed, snf2(c), 156.7068, sn, 1, f, 2
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 488.20, 6000.0
0.000000000E+00, 0.000000000E+00, 6.575252180E+00
7.150150760E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.370213250E+04, -2.802481800E+01
0.000000000E+00, 0.000000000E+00, 1.202716700E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.424882400E+04, -5.569866810E+01

condensed, sni2(c), 372.5189, sn, 1, i, 2
cpc, nasa, tot, 3, liq, 2, sol, 1, 1
200.0, 595.7, 960.0, 6000.0
8.194427570E+05, -1.285027272E+04, 8.314392190E+01
-1.959449848E-01, 2.384765022E-04, -9.891789320E-08
0.000000000E+00, 3.957086730E+04, -4.432502620E+02
3.807680789E+05, 0.000000000E+00, 1.313799611E+01
-7.105650243E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.013964325E+04, -5.193401798E+01
0.000000000E+00, 0.000000000E+00, 1.286906865E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.060553468E+04, -5.097603343E+01

condensed, sni4(c), 626.3279, sn, 1, i, 4
cpc, nasa, tot, 3, liq, 2, sol, 1, 1
200.0, 418.0, 580.0, 6000.90
1.365815960E+06, -2.186441599E+04, 1.411768692E+02
-3.151970333E-01, 2.991203201E-04, 0.000000000E+00
0.000000000E+00, 7.347422460E+04, -7.553382720E+02
3.125499879E+05, 0.000000000E+00, 2.114568387E+01
-5.918328320E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.828678876E+04, -7.927900653E+01
0.000000000E+00, 0.000000000E+00, 1.864210880E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00

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0.000000000E+00, -2.836905732E+04, -6.724586950E+01

condensed, sno(c), 134.7094, sn, 1, o, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
100.0, 298.15, 1250.0, 6000.0
0.000000000E+00, 0.000000000E+00, 7.279467580E-02
3.307685420E-02, -4.710942000E-05, 0.000000000E+00
0.000000000E+00, -3.483713220E+04, -1.306828645E+00
0.000000000E+00, 0.000000000E+00, 5.260682830E+00
1.630883840E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.540242040E+04, -2.358356588E+01
0.000000000E+00, 0.000000000E+00, 7.577115188E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.369230760E+04, -3.539798567E+01

condensed, sno2(c), 150.7088, sn, 1, o, 2
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
100.0, 298.15, 1903.0, 6000.0
0.000000000E+00, 0.000000000E+00, -1.177647966E+00
3.970167880E-02, -4.790758920E-05, 0.000000000E+00
0.000000000E+00, -7.046277710E+04, 2.896556966E+00
-2.674601390E+05, 0.000000000E+00, 9.145457760E+00
8.856805753E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.313567410E+04, -4.798106778E+01
0.000000000E+00, 0.000000000E+00, 1.106499361E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.222994130E+04, -5.927455845E+01

condensed, sns(c), 150.7750, sn, 1, s, 1
cpc, nasa, tot, 4, liq, 1, sol, 1, 3
100.0, 298.15, 875.0, 1154.0, 6000.0
-1.473490121E+04, 0.000000000E+00, 5.317316410E+00
2.586688381E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.493898062E+04, -2.188910671E+01
3.056103126E+04, 0.000000000E+00, 4.511751143E+00
3.579405160E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.459100103E+04, -1.734052255E+01
0.000000000E+00, 0.000000000E+00, 4.921516722E+00
1.882251630E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.425419920E+04, -1.855922147E+01
0.000000000E+00, 0.000000000E+00, 9.008348057E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.391650549E+04, -4.190990669E+01

condensed, sns2(c), 182.8400, sn, 1, s, 2
cpc, nasa, tot, 3, liq, 0, sol, 1, 3
100.0, 298.15, 1143.0, 10000.0
-2.817980768E+04, 0.000000000E+00, 6.586339710E+00
7.259692260E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.943987500E+04, -2.933754416E+01
1.193094963E+04, 0.000000000E+00, 7.560277154E+00
2.479641013E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.938326475E+04, -3.323586315E+01
0.000000000E+00, 0.000000000E+00, 1.040363918E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.102390356E+04, -5.042748220E+01

condensed, sr(c), 87.6200, sr, 1
cpc, nasa, tot, 4, liq, 1, sol, 2, 1
100.0, 298.15, 820.0, 1041.0, 6000.0
-4.150245670E+03, 1.559823384E+02, -2.623173257E-01
2.945369354E-02, -1.212940361E-04, 2.401045642E-07
-1.708772572E-10, -1.455791066E+03, 3.435106060E+00
1.294412876E+05, -1.646179180E+03, 1.111114164E+01
-1.973737192E-02, 2.910871519E-05, -2.163423606E-08
6.508160860E-12, 7.160398040E+03, -5.671602200E+01
0.000000000E+00, 0.000000000E+00, 3.190326309E+00
4.837326553E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.560991280E+02, -1.157238431E+01
0.000000000E+00, 0.000000000E+00, 4.450051777E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00

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0.000000000E+00, -9.431940390E+02, -1.889703393E+01

condensed, srbr2(c), 247.4280, sr, 1, br, 2
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
200.0, 918.0, 930.0, 6000.0
-1.563862878E+05, 2.048387286E+03, -2.389924996E+00
3.200996340E-02, -4.324517230E-05, 3.247344210E-08
-9.786717550E-12, -9.941922340E+04, 2.897007516E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.021650510E+04, -5.212663905E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.900176120E+04, -5.082046285E+01

condensed, srco3(c), 147.6289, sr, 1, c, 1, o, 3
cpc, nasa, tot, 5, liq, 1, sol, 3, 2, 1, 1
200.,500.,1198.,1689.,1767.,6000.0
-3.185109310E+07, 5.983944250E+05, -4.555778730E+03
1.807422903E+01, -3.922550990E-02, 4.443338240E-05
-2.057838162E-08, -2.840270234E+06, 2.379927032E+04
-4.737741611E+05, 0.000000000E+00, 1.829247905E+01
-1.342833192E-02, 1.073412624E-05, 0.000000000E+00
0.000000000E+00, -1.539939771E+05, -9.167197246E+01
0.000000000E+00, 0.000000000E+00, 1.755966377E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.541962605E+05, -9.302015968E+01
0.000000000E+00, 0.000000000E+00, 1.755966377E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.541962605E+05, -9.302015968E+01
0.000000000E+00, 0.000000000E+00, 1.984482549E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.534232745E+05, -1.073837834E+02

condensed, srcl2(c), 158.5260, sr, 1, cl, 2
cpc, nasa, tot, 5, liq, 2, sol, 2, 2, 1
200.0, 700.0, 990.0, 1147.0, 6000.0, 10000.0
-8.219302560E+05, 1.414627236E+04, -9.066868860E+01
3.537351300E-01, -6.601840230E-04, 6.294183590E-07
-2.405335168E-10, -1.675299882E+05, 4.920219760E+02
1.112527665E+09, 0.000000000E+00, -1.718772952E+04
4.254819093E+01, -3.935556431E-02, 1.290928281E-05
0.000000000E+00, 6.824931370E+06, 9.213791630E+04
2.652616089E+08, 0.000000000E+00, -6.137593196E+02
3.705888862E-01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 6.013938810E+05, 4.028366895E+03
-1.621863465E+06, 0.000000000E+00, 1.278463794E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.040518221E+05, -6.010500872E+01
0.000000000E+00, 0.000000000E+00, 1.273958618E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.035112009E+05, -5.969055436E+01

condensed, srf2(c), 125.6168, sr, 1, f, 2
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
200.,800.,1484.,1750.,6000.0
-1.436181472E+04, -3.902704550E+02, 9.084528850E+00
4.747017010E-03, -9.922331280E-06, 1.169135473E-08
-4.825603120E-12, -1.484911532E+05, -4.433988680E+01
-1.706744719E+07, 2.576630531E+04, 3.257893350E+01
-3.032276697E-02, -2.832102640E-05, 2.982419101E-08
-2.378577761E-12, -3.511043830E+05, -1.514196992E+02
5.274154560E+09, -9.287005960E+04, -1.188369557E+04
9.829240680E+00, -2.277347958E-03, 0.000000000E+00
0.000000000E+00, 1.339064905E+07, 7.586298750E+04
0.000000000E+00, 0.000000000E+00, 1.190689530E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.478877648E+05, -5.796718683E+01

condensed, srh2(c), 89.6359, sr, 1, h, 2
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1

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298.0, 1128., 1323., 6000.0
0.000000000E+00, 0.000000000E+00, 4.125438541E+00
3.912437414E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.305279501E+04, -1.841745147E+01
0.000000000E+00, 0.000000000E+00, 8.539288545E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.467660041E+04, -4.425795748E+01
0.000000000E+00, 0.000000000E+00, 9.020375224E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.254682969E+04, -4.562495289E+01

condensed, sri2(c), 341.4289, sr, 1, i, 2
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
200.0, 811.0, 6000.0
-8.531836590E+05, 1.396294943E+04, -8.134381170E+01
2.923620048E-01, -4.941293260E-04, 4.280629170E-07
-1.479234641E-10, -1.358835709E+05, 4.559376890E+02
0.000000000E+00, 0.000000000E+00, 1.322988366E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.143040870E+04, -5.646969655E+01

condensed, sro(c), 103.6194, sr, 1, o, 1
cpc, nasa, tot, 4, liq, 1, sol, 1, 3
200.0, 500.0, 1800.0, 2805.0, 6000.0
-1.625438799E+06, 2.932375088E+04, -2.136643281E+02
8.526581540E-01, -1.819594223E-03, 2.035599655E-06
-9.340883290E-10, -2.053069998E+05, 1.123784285E+03
-3.410904551E+04, 0.000000000E+00, 5.049245235E+00
3.431471007E-03, -3.042151612E-06, 9.069686608E-10
0.000000000E+00, -7.282782040E+04, -2.317163697E+01
-3.971117961E+07, 0.000000000E+00, 7.850733236E+01
-5.336790743E-02, 1.125297823E-05, 0.000000000E+00
0.000000000E+00, -1.604896850E+05, -4.990588969E+02
0.000000000E+00, 0.000000000E+00, 1.010282025E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.188203330E+04, -5.541556063E+01

condensed, sr(oh)2(c), 121.6347, sr, 1, o, 2, h, 2
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
200.0, 753.0, 808.0, 6000.0
5.749774650E+05, -9.564782420E+03, 6.310466570E+01
-1.470270543E-01, 2.468488663E-04, -2.041763520E-07
6.865596260E-11, -7.364279180E+04, -3.424340180E+02
0.000000000E+00, 0.000000000E+00, 1.563531705E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.216576455E+05, -8.006737394E+01
0.000000000E+00, 0.000000000E+00, 1.840156546E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.211265258E+05, -9.516262078E+01

condensed, srs(c), 119.6850, sr, 1, s, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 2500.0, 6000.0
2.688173776E+06, -5.010846740E+04, 3.813026790E+02
-1.462623236E+00, 3.138875273E-03, -3.522660370E-06
1.619531388E-09, 1.665724752E+05, -1.992760719E+03
-1.221960164E+04, 0.000000000E+00, 5.716873273E+00
9.316243531E-04, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.951728090E+04, -2.471633956E+01
0.000000000E+00, 0.000000000E+00, 8.058201866E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.487727330E+04, -3.767411768E+01

condensed, srso4(c), 183.6826, sr, 1, s, 1, o, 4
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
298.15, 1430.0, 1880.0, 6000.0
-2.524863161E+05, 0.000000000E+00, 1.319271972E+01
6.424070691E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.803016041E+05, -6.394942426E+01
0.000000000E+00, 0.000000000E+00, 2.044618384E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00

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0.000000000E+00, -1.827264862E+05, -1.065597408E+02
0.000000000E+00, 0.000000000E+00, 2.044618384E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.783967061E+05, -1.042566663E+02

condensed, ta(c), 180.9479, ta, 1
cpc, nasa, tot, 4, liq, 1, sol, 1, 3
200.0, 1000.0, 2000.0, 3258.0, 6000.0
1.519941999E+04, -4.927143830E+02, 6.855605760E+00
-1.366625579E-02, 2.561466303E-05, -2.235631116E-08
7.389831320E-12, 1.236077891E+03, -3.252075490E+01
-1.002219854E+08, 4.696591430E+05, -8.992639340E+02
9.084714280E-01, -5.043323480E-04, 1.463919859E-07
-1.734426993E-11, -2.762235634E+06, 5.939534460E+03
3.305034810E+05, 8.564351680E+01, -1.797593491E+00
6.549784340E-03, -2.878793550E-06, 4.952725110E-10
-7.703452530E-15, 1.556933077E+03, 1.641047132E+01
0.000000000E+00, 0.000000000E+00, 5.032166658E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.436042760E+02, -2.597362534E+01

condensed, tac(c), 192.9586, ta, 1, c, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 800.0, 4273.0, 6000.0
-1.182153887E+04, 2.152843262E+02, -1.710781252E+00
3.226351270E-02, -6.059170690E-05, 5.540177420E-08
-1.961814434E-11, -1.908587628E+04, 8.122034510E+00
-1.540090534E+05, 2.156690707E+02, 5.001633620E+00
1.161840292E-03, -1.062186764E-07, 2.082367078E-11
-1.580991193E-15, -2.062101769E+04, -2.388952788E+01
0.000000000E+00, 0.000000000E+00, 8.051466653E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.010399602E+04, -4.208381497E+01

condensed, ta2o5(c), 441.8928, ta, 2, o, 5
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
200.0, 500.0, 1633.0, 2150.0, 6000.0
-3.279677980E+06, 6.126833460E+04, -4.710233330E+02
1.998455231E+00, -4.425553760E-03, 5.098341430E-06
-2.392974558E-09, -5.247547580E+05, 2.448363106E+03
-2.735481912E+05, 0.000000000E+00, 1.819193368E+01
3.735655440E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.529440756E+05, -8.923622860E+01
0.000000000E+00, 0.000000000E+00, 2.525705063E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.590924400E+05, -1.352062771E+02
0.000000000E+00, 0.000000000E+00, 2.645976732E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.472456805E+05, -1.377221533E+02

condensed, th(c), 232.0381, th, 1
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
200.0, 1650.0, 2023.0, 6000.0
-1.453247151E+04, 1.505222433E+02, 2.270694767E+00
2.058614354E-03, -9.216614670E-07, 4.316796340E-10
-7.950656800E-14, -1.667536353E+03, -6.857176980E+00
8.360316570E+06, -2.333327743E+04, 2.783594798E+01
-1.293559561E-02, 3.966098040E-06, -4.361984440E-10
0.000000000E+00, 1.501326293E+05, -1.894583434E+02
0.000000000E+00, 0.000000000E+00, 5.532496804E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.191824935E+03, -2.760071917E+01

condensed, ti(c), 47.8670, ti, 1
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
200.0, 900.0, 1156.0, 1944.0, 6000.0
3.598601350E+04, -8.272305960E+02, 7.689097770E+00
-1.143968449E-02, 1.392105464E-05, -4.691057160E-09
-9.852130400E-13, 2.936621421E+03, -3.985138010E+01
-2.876235910E+06, 0.000000000E+00, 4.573153420E+01
-7.692381600E-02, 3.799919490E-05, 0.000000000E+00

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0.000000000E+00, -2.038023972E+04, -2.516270281E+02
-1.698740574E+06, 6.576601240E+03, -8.556182950E+00
9.789585830E-03, -3.992418760E-06, 1.123642773E-09
-1.201048055E-13, -3.929918290E+04, 6.506590190E+01
0.000000000E+00, 0.000000000E+00, 5.628714139E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.377354619E+03, -3.079443471E+01
```

```
condensed, tib(c), 58.6780, ti, 1, b, 1
cpc, nasa, tot, 3, liq, 0, sol, 1, 3
298.15, 1100.0, 4000.0, 10000.0
5.892962460E+05, -7.628387170E+03, 3.264504220E+01
-4.438679670E-02, 4.037756110E-05, -1.901806786E-08
3.662438970E-12, 1.808566462E+04, -1.924926707E+02
9.736238960E+05, -2.744306202E+03, 9.195602010E+00
-1.636706129E-03, 5.676930840E-07, -9.258425040E-11
6.105669480E-15, -3.925082340E+03, -5.367424570E+01
0.000000000E+00, 0.000000000E+00, 6.744301142E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.278251087E+04, -3.627703149E+01
```

```
condensed, tib2(c), 69.4890, ti, 1, b, 2
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 2300.0, 3193.0, 6000.0
2.701885716E+05, -3.989107020E+03, 1.904595810E+01
-1.467951261E-02, 1.249126541E-05, -4.481179720E-09
5.932523160E-13, -1.510818691E+04, -1.130901290E+02
2.449855642E+10, -5.420046130E+07, 4.984385950E+04
-2.437314870E+01, 6.688502930E-03, -9.763538800E-07
5.923249200E-11, 3.589528270E+08, -3.651406280E+05
0.000000000E+00, 0.000000000E+00, 1.308363331E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.298172270E+04, -7.649131141E+01
```

```
condensed, tic(c), 59.8777, ti, 1, c, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 1000.0, 3290.0, 6000.0
-2.936209453E+05, 4.040416860E+03, -2.309999326E+01
8.695403030E-02, -1.254447445E-04, 8.803423830E-08
-2.403516957E-11, -4.217890880E+04, 1.253486677E+02
-3.586824960E+05, 1.130360992E+03, 4.571181220E+00
4.332844010E-04, 4.730133770E-07, -1.025727737E-10
8.572441560E-15, -3.129994969E+04, -2.180975207E+01
0.000000000E+00, 0.000000000E+00, 7.548249987E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.766010062E+04, -4.062778302E+01
```

```
condensed, ticl2(c), 118.7730, ti, 1, cl, 2
cpc, nasa, tot, 3, liq, 0, sol, 1, 3
200.0, 800.0, 2000.0, 10000.0
6.275502170E+05, -1.149039253E+04, 8.470916630E+01
-2.539508065E-01, 4.582690050E-04, -4.167293950E-07
1.508542615E-10, -1.168917881E+04, -4.484122170E+02
3.621030580E+06, -1.684661798E+04, 4.010076440E+01
-2.963515568E-02, 1.756075169E-05, -5.065847400E-09
5.988802280E-13, 3.466967030E+04, -2.478759697E+02
0.000000000E+00, 0.000000000E+00, 1.261071290E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.908243836E+04, -6.621830296E+01
```

```
condensed, ticl3(c), 154.2260, ti, 1, cl, 3
cpc, nasa, tot, 2, liq, 0, sol, 1, 2
298.15, 1500.0, 10000.0
1.457928527E+05, -1.355589207E+03, 1.563840194E+01
-4.771661650E-03, 4.776265870E-06, -1.901286451E-09
3.011222662E-13, -8.308136940E+04, -7.479338350E+01
0.000000000E+00, 0.000000000E+00, 1.349616806E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.182274291E+04, -6.179746004E+01
```

```
condensed, ticl4(c), 189.6790, ti, 1, cl, 4
```

```

cpc, nasa, tot, 3, liq, 3, sol, 0
249.05, 700.0, 2000.0, 10000.0
1.179781205E+06, -1.710994382E+04, 1.180652525E+02
-3.089428313E-01, 5.234695800E-04, -4.608788890E-07
1.654264781E-10, -2.053742284E+04, -6.204956050E+02
0.000000000E+00, 0.000000000E+00, 1.714255083E+01
1.093131841E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.018779486E+05, -6.764318260E+01
0.000000000E+00, 0.000000000E+00, 1.932881451E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.040642123E+05, -8.207449592E+01

condensed, tin(c), 61.8737, ti, 1, n, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 800.0, 3220.0, 6000.0
-5.479117220E+05, 9.328691110E+03, -6.386263890E+01
2.429925456E-01, -4.304234520E-04, 3.792645100E-07
-1.317412256E-10, -8.424256140E+04, 3.392988560E+02
-3.656247060E+05, 1.265730431E+03, 3.831711190E+00
1.632900455E-03, -1.062786626E-07, 1.310931390E-11
-5.770548410E-16, -5.027654400E+04, -1.652632899E+01
0.000000000E+00, 0.000000000E+00, 7.548249987E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.626039860E+04, -3.958296649E+01

condensed, tio(c), 63.8664, ti, 1, o, 1
cpc, nasa, tot, 5, liq, 1, sol, 3, 2, 1, 1
200.,500.,1265.,1810.,2030.,6000.0
-1.126115023E+07, 2.107240660E+05, -1.601946203E+03
6.360717840E+00, -1.380180278E-02, 1.563169158E-05
-7.238514780E-09, -1.014208223E+06, 8.368056830E+03
-2.066517895E+05, 0.000000000E+00, 8.243115270E+00
-4.896702160E-03, 3.806679150E-06, 0.000000000E+00
0.000000000E+00, -6.815384410E+04, -4.265310470E+01
-1.400082506E+05, 0.000000000E+00, 6.173304260E+00
1.455287203E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.756357790E+04, -3.249519859E+01
2.080459342E+05, 0.000000000E+00, 5.795530945E+00
1.404532558E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.627964090E+04, -2.933709305E+01
0.000000000E+00, 0.000000000E+00, 8.419016875E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.314903830E+04, -4.370051573E+01

condensed, tio2(c), 79.8658, ti, 1, o, 2
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 2185.0, 6000.0
1.712264157E+07, -2.997059314E+05, 2.143439285E+03
-7.997230440E+00, 1.661745261E-02, -1.817331921E-05
8.179403360E-09, 1.253121023E+06, -1.132509587E+04
-1.244201863E+05, 0.000000000E+00, 7.600577340E+00
1.421666301E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.162831515E+05, -3.834053430E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.143261561E+05, -6.551584491E+01

condensed, ti2o3(c), 143.7322, ti, 2, o, 3
cpc, nasa, tot, 5, liq, 1, sol, 2, 2, 2
200.0,400.0,464.0,580.0,2110.0,6000.0
-1.771212920E+06, 2.344459434E+04, -1.110358342E+02
2.714352074E-01, -1.921153675E-04, 0.000000000E+00
0.000000000E+00, -2.995932792E+05, 6.382146810E+02
0.000000000E+00, 0.000000000E+00, 5.692590423E+01
-2.558542837E-01, 3.734811793E-04, 0.000000000E+00
0.000000000E+00, -1.917653868E+05, -2.555304929E+02
0.000000000E+00, 0.000000000E+00, 9.288208205E+01
-2.728212486E-01, 2.430399386E-04, 0.000000000E+00
0.000000000E+00, -2.022790157E+05, -4.543828632E+02
4.228751905E+05, 0.000000000E+00, 1.281963700E+01
4.013104801E-03, 0.000000000E+00, 0.000000000E+00

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0.000000000E+00, -1.858705711E+05, -6.399935229E+01
0.000000000E+00, 0.000000000E+00, 2.044618384E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.821646342E+05, -1.087120898E+02

condensed, ti3o5(c), 223.5980, ti, 3, o, 5
cpc, nasa, tot, 4, liq, 1, sol, 2, 2, 1
200.0, 298.15, 448.0, 2050.0, 6000.0
0.000000000E+00, 0.000000000E+00, 4.315304530E+00
4.637018750E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.988551027E+05, -2.323385163E+01
-2.175887695E+07, 0.000000000E+00, 1.012212506E+03
-3.624156324E+00, 3.726318087E-03, 0.000000000E+00
0.000000000E+00, -5.421167010E+05, -4.959468179E+03
0.000000000E+00, 0.000000000E+00, 2.020131072E+01
5.124775844E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.004933224E+05, -9.863577455E+01
0.000000000E+00, 0.000000000E+00, 3.127063411E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.923316313E+05, -1.627424211E+02

condensed, ti4o7(c), 303.4638, ti, 4, o, 7
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1960.0, 6000.0
4.558528430E+06, -8.146955640E+04, 5.758643730E+02
-1.933194123E+00, 3.842536530E-03, -4.030781120E-06
1.748510017E-09, -4.239230760E+04, -3.066670887E+03
-4.675287930E+05, 0.000000000E+00, 2.961388604E+01
5.773820220E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.199386150E+05, -1.488468383E+02
0.000000000E+00, 0.000000000E+00, 4.353834441E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.142527640E+05, -2.319810806E+02

condensed, u(c), 238.0289, u, 1
cpc, nasa, tot, 5, liq, 2, sol, 3, 1, 1, 1
200.0, 942.0, 1049.0, 1408.0, 4000.0, 10000.0
-1.540899462E+04, 2.318801962E+02, 1.227944510E+00
7.136117480E-03, -1.018038579E-05, 1.136884370E-08
-3.669367430E-12, -1.986921870E+03, -2.035974193E+00
0.000000000E+00, 0.000000000E+00, 5.099518793E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.672080149E+03, -2.378030116E+01
0.000000000E+00, 0.000000000E+00, 4.606404947E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.859187270E+02, -1.980809042E+01
-9.466562120E+04, 8.526619680E+02, 4.209128020E+00
8.407200810E-04, -1.309545676E-07, 1.985020032E-11
-1.231574075E-15, -5.956398090E+03, -1.667247672E+01
0.000000000E+00, 0.000000000E+00, 6.639114010E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.630405302E+03, -3.437721436E+01

condensed, uf3(c), 295.0241, u, 1, f, 3
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 1768.0, 6000.0
-1.245413139E+05, 0.000000000E+00, 1.281362341E+01
8.479152710E-05, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.856957321E+05, -5.889112439E+01
0.000000000E+00, 0.000000000E+00, 1.611640373E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.869060867E+05, -8.091478353E+01

condensed, uf4(c), 314.0225, u, 1, f, 4
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 1309.0, 6000.0
-1.900846659E+06, 3.555369140E+04, -2.684351890E+02
1.162227739E+00, -2.589319495E-03, 2.991673531E-06
-1.405949560E-09, -3.939232500E+05, 1.401148993E+03
-1.687548936E+05, 0.000000000E+00, 1.670280525E+01
-3.858715240E-03, 3.366874970E-06, 0.000000000E+00

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0.000000000E+00, -2.363858828E+05, -7.687256170E+01
0.000000000E+00, 0.000000000E+00, 2.008536883E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.358206485E+05, -9.894817389E+01

condensed, uf5(c), 333.0209, u, 1, f, 5
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
298.15, 398.0, 621.0, 6000.0
-2.315229641E+04, 0.000000000E+00, 1.505308190E+01
3.633166597E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.552530997E+05, -6.539107895E+01
-2.315229641E+04, 0.000000000E+00, 1.505308190E+01
3.633166597E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.542909264E+05, -6.297355795E+01
0.000000000E+00, 0.000000000E+00, 2.008536883E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.524686368E+05, -8.627305038E+01

condensed, uf6(c), 352.0193, u, 1, f, 6
cpc, nasa, tot, 3, liq, 2, sol, 1, 1
100.0, 337.21, 1000.0, 10000.0
1.490516238E+05, -4.412150490E+03, 5.041684430E+01
-1.195638409E-01, 2.070807828E-04, 0.000000000E+00
0.000000000E+00, -2.502294955E+05, -2.473731136E+02
0.000000000E+00, 0.000000000E+00, 1.750554152E+01
1.611640373E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.680142931E+05, -7.051080543E+01
0.000000000E+00, 0.000000000E+00, 3.362194525E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.760724950E+05, -1.657225746E+02

condensed, uo2(c), 270.0277, u, 1, o, 2
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 3123.0, 6000.0
-1.712140039E+07, 3.206174610E+05, -2.435851508E+03
9.665099460E+00, -2.095506138E-02, 2.371859464E-05
-1.097936236E-08, -1.574556829E+06, 1.272869884E+04
-2.775509993E+05, 0.000000000E+00, 1.161094006E+01
-3.430918270E-03, 2.044412020E-06, 0.000000000E+00
0.000000000E+00, -1.347529024E+05, -5.751912860E+01
0.000000000E+00, 0.000000000E+00, 1.575558872E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.342007409E+05, -8.859616713E+01

condensed, uo2f2(c), 308.0245, u, 1, o, 2, f, 2
cpc, nasa, tot, 3, liq, 0, sol, 1, 3
200.0, 500.0, 2100.0, 10000.0
2.774535231E+06, -5.047416500E+04, 3.733097480E+02
-1.349660046E+00, 2.816624451E-03, -3.086048235E-06
1.391361959E-09, 2.724906305E+04, -1.962630228E+03
-1.227714401E+05, 0.000000000E+00, 1.277741930E+01
3.406816370E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.032540376E+05, -5.821006900E+01
0.000000000E+00, 0.000000000E+00, 1.990389435E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.106491425E+05, -1.055571786E+02

condensed, uo3(c), 286.0271, u, 1, o, 3
cpc, nasa, tot, 3, liq, 0, sol, 1, 3
200.0, 500.0, 3000.0, 10000.0
-1.956676511E+06, 3.951756640E+04, -3.223198540E+02
1.417862899E+00, -3.236211090E-03, 3.806716410E-06
-1.814492554E-09, -3.239008630E+05, 1.660601808E+03
-2.090516805E+05, 0.000000000E+00, 1.271766576E+01
-2.508681376E-03, 2.295592116E-06, 0.000000000E+00
0.000000000E+00, -1.515901509E+05, -6.143076620E+01
0.000000000E+00, 0.000000000E+00, 2.582872271E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.814823750E+05, -1.635869730E+02

condensed, u3o8(c), 842.0819, u, 3, o, 8

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cpc, nasa, tot, 4, liq, 0, sol, 2, 2, 2
200.0, 300.0, 483.0, 6000.0, 10000.0
-1.312654971E+05, 0.000000000E+00, 1.981648464E+01
3.463180280E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.378350230E+05, -8.998750380E+01
-2.819324251E+06, 0.000000000E+00, 1.227600892E+02
-2.415563843E-01, 0.000000000E+00, 3.622285580E-07
0.000000000E+00, -4.659833440E+05, -6.124926920E+02
-5.848811295E+04, 0.000000000E+00, 2.988522475E+01
6.597141623E-03, -4.626851131E-07, 0.000000000E+00
0.000000000E+00, -4.394086740E+05, -1.388063306E+02
0.000000000E+00, 0.000000000E+00, 5.280978575E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.915110709E+05, -3.069835570E+02

condensed, u4o9(c), 1096.1102, u, 4, o, 9
cpc, nasa, tot, 5, liq, 0, sol, 3, 1, 2, 2
298.15, 348.0, 380.0, 1398.0, 6000.0, 10000.0
-1.274607283E+08, 0.000000000E+00, 6.797154853E+03
-2.205931654E+01, 0.000000000E+00, 4.712462238E-05
0.000000000E+00, -2.109373967E+06, -3.324352924E+04
6.572378889E+07, 0.000000000E+00, -1.352246013E+03
2.459469770E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.013155679E+04, 7.375484389E+03
-7.968840016E+05, 0.000000000E+00, 4.574063896E+01
-1.083792070E-02, 9.691491140E-06, 0.000000000E+00
0.000000000E+00, -5.582419360E+05, -2.211132773E+02
-3.094590060E+05, 0.000000000E+00, 3.592971805E+01
1.009247689E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.555228520E+05, -1.695188988E+02
0.000000000E+00, 0.000000000E+00, 9.647598331E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.370842830E+05, -6.356828670E+02

condensed, v(c), 50.9415, v, 1
cpc, nasa, tot, 4, liq, 1, sol, 1, 3
200.0, 600.0, 1400.0, 2190.0, 6000.0
2.845125913E+05, -5.094932860E+03, 3.715018720E+01
-1.176030941E-01, 2.255823526E-04, -2.260642686E-07
9.289596800E-11, 2.254378204E+04, -1.968241679E+02
1.372056465E+06, -7.847553620E+03, 2.095142247E+01
-2.055640932E-02, 1.323266530E-05, -4.042182900E-09
5.087521100E-13, 4.374800000E+04, -1.292763446E+02
5.281067680E+08, -1.907420191E+06, 2.862656637E+03
-2.277492896E+00, 1.017078880E-03, -2.412149691E-07
2.377114537E-11, 1.169890783E+07, -1.956716732E+04
0.000000000E+00, 0.000000000E+00, 5.557032224E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.899700630E+03, -3.070532450E+01

condensed, vcl2(c), 121.8475, v, 1, cl, 2
cpc, nasa, tot, 2, liq, 0, sol, 1, 2
298.0, 1300.0, 10000.0
-3.844575327E+04, 0.000000000E+00, 8.648281619E+00
1.435173931E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.711862150E+04, -3.824393774E+01
0.000000000E+00, 0.000000000E+00, 1.049125876E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.827219616E+04, -4.958120358E+01

condensed, vcl3(c), 157.3005, v, 1, cl, 3
cpc, nasa, tot, 2, liq, 0, sol, 1, 2
298.0, 1000.0, 10000.0
-1.163436931E+05, 0.000000000E+00, 1.218941730E+01
1.091980165E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.396479110E+04, -5.467967609E+01
0.000000000E+00, 0.000000000E+00, 1.316505377E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.427809380E+04, -6.026898207E+01

condensed, vn(c), 64.9482, v, 1, n, 1

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cpc, nasa, tot, 3, liq, 0, sol, 1, 3
200.0, 1000.0, 3500.0, 10000.0
2.091900078E+05, -3.051142421E+03, 1.689002455E+01
-2.016563261E-02, 2.024805796E-05, -9.052281300E-09
1.375923345E-12, -1.233229950E+04, -9.561817060E+01
8.212748990E+05, -2.203406736E+03, 6.907596040E+00
1.164274622E-03, -3.307430080E-07, 1.061954757E-10
-1.105176783E-14, -1.341131421E+04, -3.925480780E+01
0.000000000E+00, 0.000000000E+00, 9.263128547E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.464388509E+04, -5.472889383E+01

condensed, vo(c), 66.9409, v, 1, o, 1
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 2063.0, 6000.0
-2.040260824E+07, 3.783102280E+05, -2.848005957E+03
1.118080448E+01, -2.407270159E-02, 2.710471323E-05
-1.249526447E-08, -1.758506851E+06, 1.490654242E+04
-1.970015037E+05, 0.000000000E+00, 6.365723760E+00
1.576630310E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.444168120E+04, -3.381741570E+01
0.000000000E+00, 0.000000000E+00, 8.419016875E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.921350390E+04, -4.329727468E+01

condensed, v2o3(c), 149.8812, v, 2, o, 3
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 2230.0, 6000.0
-2.445935804E+07, 4.555627240E+05, -3.448966200E+03
1.365879117E+01, -2.955666350E-02, 3.340613030E-05
-1.544661718E-08, -2.200372063E+06, 1.802928653E+04
-4.148342860E+05, 0.000000000E+00, 1.735995875E+01
-2.248234102E-03, 1.310940149E-06, 0.000000000E+00
0.000000000E+00, -1.528252156E+05, -8.926688900E+01
0.000000000E+00, 0.000000000E+00, 1.924346714E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.407455834E+05, -9.794985841E+01

condensed, v2o4(c), 165.8806, v, 2, o, 4
cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
200.0, 338.7, 1818.0, 6000.0
-4.872822280E+05, 0.000000000E+00, 4.755837160E+01
-1.909710602E-01, 3.188918050E-04, 0.000000000E+00
0.000000000E+00, -1.824442970E+05, -2.197380006E+02
-3.456246971E+05, 0.000000000E+00, 1.740258897E+01
2.292498295E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.776670154E+05, -8.737764367E+01
0.000000000E+00, 0.000000000E+00, 2.164890054E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.679377747E+05, -1.076187785E+02

condensed, v2o5(c), 181.8800, v, 2, o, 5
cpc, nasa, tot, 3, liq, 1, sol, 1, 2
200.0, 500.0, 954.0, 6000.0
-1.149585895E+07, 2.200852292E+05, -1.711429444E+03
6.997610220E+00, -1.543892990E-02, 1.771425949E-05
-8.283987620E-09, -1.174509299E+06, 8.899979010E+03
-4.708328420E+05, 0.000000000E+00, 2.297387367E+01
-1.118831481E-02, 1.146815480E-05, 0.000000000E+00
0.000000000E+00, -1.945738450E+05, -1.150219507E+02
0.000000000E+00, 0.000000000E+00, 2.285161723E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.880385445E+05, -1.113109611E+02

condensed, w(c), 183.8400, w, 1
cpc, nasa, tot, 5, liq, 1, sol, 1, 4
200., 1000., 2600., 3200., 3680., 6000.0
-6.824541400E+03, -2.254249090E+02, 4.976604610E+00
-6.926436340E-03, 1.202272986E-05, -9.344133510E-09
2.818887123E-12, -3.510679270E+00, -2.361334984E+01
5.530134840E+05, -2.041485344E+03, 5.870839470E+00

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-1.920714198E-03, 1.067652983E-06, -2.355109022E-10
2.160679310E-14, 1.163812518E+04, -3.319171800E+01
2.474736879E+09, 4.488921620E+06, -1.235978300E+04
9.678565660E+00, -3.556364610E-03, 6.380420610E-07
-4.521123450E-11, -2.029500909E+07, 8.274369690E+04
-1.755550399E+10, 1.179059156E+07, 1.177715365E+03
-2.675166841E+00, 7.252172480E-04, -6.128007580E-08
0.000000000E+00, -9.702249190E+07, -1.148926234E+03
0.000000000E+00, 0.000000000E+00, 4.277341659E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.755443078E+03, -2.086449853E+01

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condensed, wc(c), 195.8507, w, 1, c, 1
cpc, nasa, tot, 2, liq, 0, sol, 1, 2
298.15, 2500.0, 10000.0
-1.119754391E+05, -5.553268210E-01, 5.217965240E+00
1.037888263E-03, -1.229060652E-07, 2.880427321E-13
-7.236307119E-17, -6.848998700E+03, -2.677066218E+01
0.000000000E+00, 0.000000000E+00, 7.028058774E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.729122621E+03, -3.871230435E+01

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condensed, wcl6(c), 396.5580, w, 1, cl, 6
cpc, nasa, tot, 4, liq, 1, sol, 3, 1, 1
298.15, 450.0, 503.0, 555.0, 6000.0
1.661826519E+02, 0.000000000E+00, 1.508873100E+01
2.015651227E-02, -2.754798370E-08, 0.000000000E+00
0.000000000E+00, -7.680028810E+04, -6.329365920E+01
-9.897046360E+03, 0.000000000E+00, 1.522857952E+01
1.994376611E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.636166220E+04, -6.296167010E+01
0.000000000E+00, 0.000000000E+00, 2.264474996E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.565217840E+04, -9.527165358E+01
0.000000000E+00, 0.000000000E+00, 2.415439996E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.568493560E+04, -1.033604557E+02

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condensed, wocl4(c), 341.6514, w, 1, o, 1, cl, 4
cpc, nasa, tot, 2, liq, 1, sol, 1, 1
298.15, 484.0, 6000.0
1.295153216E+03, 0.000000000E+00, 1.378522135E+01
1.276179773E-02, -1.713279395E-07, 0.000000000E+00
0.000000000E+00, -8.538742740E+04, -6.154983780E+01
0.000000000E+00, 0.000000000E+00, 2.188992496E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.236656270E+04, -9.422321377E+01

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condensed, wo2(c), 215.8388, w, 1, o, 2
cpc, nasa, tot, 3, liq, 0, sol, 1, 3
100.0, 298.15, 6000.0, 10000.0
-1.733842408E+04, 0.000000000E+00, 2.558979845E+00
1.457260175E-02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.220058630E+04, -1.293182268E+01
-1.555714047E+05, 0.000000000E+00, 7.983272616E+00
1.595163155E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.370467050E+04, -4.074555290E+01
0.000000000E+00, 0.000000000E+00, 1.754993012E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.023657502E+05, -1.143976913E+02

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condensed, wo2cl2(c), 286.7448, w, 1, o, 2, cl, 2
cpc, nasa, tot, 2, liq, 0, sol, 1, 2
298.15, 1000.0, 10000.0
-3.819410020E+05, 2.367029691E+03, 9.834455770E+00
-2.508443012E-02, 1.017169638E-04, -1.040117941E-07
3.468311980E-11, -1.111440350E+05, -2.227929881E+01
0.000000000E+00, 0.000000000E+00, 1.912340384E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.014030652E+05, -8.884690436E+01

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condensed, wo3(c), 231.8382, w, 1, o, 3
  cpc, nasa, tot, 4, liq, 1, sol, 3, 1, 1, 1
  100.0, 325.0, 1013.0, 1747.0, 6000.0
-2.841140443E+05, 7.257714840E+03, -6.708405120E+01
  3.092936300E-01, -4.127635650E-04, 0.000000000E+00
  0.000000000E+00, -1.335884160E+05, 3.409113710E+02
-5.186114395E+04, 0.000000000E+00, 8.548308920E+00
  4.317151582E-03, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -1.040935177E+05, -4.044670662E+01
  0.000000000E+00, 0.000000000E+00, 9.737555190E+00
  1.958624140E-03, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -1.039166330E+05, -4.614390358E+01
  0.000000000E+00, 0.000000000E+00, 1.551504538E+01
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -1.022412072E+05, -8.082927535E+01

condensed, zn(c), 65.3900, zn, 1
  cpc, nasa, tot, 2, liq, 1, sol, 1, 1
  200.0, 692.73, 6000.0
  3.702080380E+05, -5.915475500E+03, 3.959500360E+01
-1.143735885E-01, 1.934363797E-04, -1.675385126E-07
  6.078189940E-11, 2.681737238E+04, -2.114848186E+02
  0.000000000E+00, 0.000000000E+00, 3.776530427E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -4.317345880E+02, -1.567077937E+01

condensed, znso4(c), 161.4526, zn, 1, s, 1, o, 4
  cpc, nasa, tot, 3, liq, 0, sol, 3, 1, 1, 1
  200.0, 540.0, 1013.0, 6000.0
  4.103530390E+05, -7.357987120E+03, 5.215317850E+01
-1.152180317E-01, 1.922132213E-04, -1.099361720E-07
  0.000000000E+00, -8.649370210E+04, -2.794432413E+02
-3.253792010E+06, 3.252313710E+04, -1.146490609E+02
  2.718567520E-01, -3.079986965E-04, 1.830520033E-07
-4.445112450E-11, -2.895173465E+05, 6.881710230E+02
  0.000000000E+00, 0.000000000E+00, 1.746161830E+01
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -1.211366813E+05, -8.514209609E+01

condensed, zr(c), 91.2240, zr, 1
  cpc, nasa, tot, 3, liq, 1, sol, 2, 1, 1
  200.0, 1135.0, 2125.0, 6000.0
-1.153699220E+04, 2.626203401E+01, 2.932054698E+00
  5.743358570E-04, -7.651710410E-07, 1.597202829E-09
-6.097129620E-13, -1.084153260E+03, -1.215776960E+01
-1.065463955E+06, 4.273000010E+03, -3.173856480E+00
  5.018842560E-03, -2.363431747E-06, 7.707582390E-10
-8.156156570E-14, -2.641247444E+04, 3.072041827E+01
  0.000000000E+00, 0.000000000E+00, 5.032166658E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -1.100795852E+03, -2.548066000E+01

condensed, zrc(c), 103.2347, zr, 1, c, 1
  cpc, nasa, tot, 3, liq, 1, sol, 1, 2
  200.0, 800.0, 3805.0, 6000.0
-1.329596558E+05, 1.766908163E+03, -9.907099000E+00
  5.427909170E-02, -8.887722520E-05, 7.332246190E-08
-2.420411623E-11, -3.297124410E+04, 5.279964170E+01
  8.297591180E+05, -4.224196050E+03, 1.308509211E+01
-5.018095870E-03, 2.155019459E-06, -4.233046770E-10
  3.266859200E-14, -7.112782350E+02, -7.921945570E+01
  0.000000000E+00, 0.000000000E+00, 7.548249987E+00
  0.000000000E+00, 0.000000000E+00, 0.000000000E+00
  0.000000000E+00, -1.885005134E+04, -3.953387107E+01

condensed, zrn(c), 105.2307, zr, 1, n, 1
  cpc, nasa, tot, 3, liq, 1, sol, 1, 2
  200.0, 800.0, 3225.0, 6000.0
  2.548624207E+05, -4.476456170E+03, 2.958601499E+01
-6.635810940E-02, 1.033814686E-04, -8.272994600E-08
  2.689947231E-11, -2.492379728E+04, -1.616084405E+02
  2.174089790E+05, -1.074470994E+03, 7.053124150E+00

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-1.447713245E-04, 3.458043010E-07, -5.893486000E-11
3.787112980E-15, -3.999164210E+04, -3.811591880E+01
0.000000000E+00, 0.000000000E+00, 7.045033321E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.882762780E+04, -3.444078302E+01

condensed, zro2(c), 123.2228, zr, 1, o, 2
cpc, nasa, tot, 5, liq, 1, sol, 3, 2, 1, 1
200.0, 500.0, 1445.0, 2620.0, 2983.0, 6000.0
-4.214621830E+06, 7.918732350E+04, -6.071267910E+02
2.463358622E+00, -5.388665930E-03, 6.144154000E-06
-2.860860736E-09, -4.893051030E+05, 3.163542730E+03
-1.616911113E+05, 0.000000000E+00, 8.218464380E+00
1.091902502E-03, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.353760676E+05, -4.200007680E+01
0.000000000E+00, 0.000000000E+00, 9.393217399E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.348114469E+05, -4.823174581E+01
0.000000000E+00, 0.000000000E+00, 9.621733572E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.338466275E+05, -4.943361269E+01
0.000000000E+00, 0.000000000E+00, 1.202716696E+01
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.301975851E+05, -6.505001424E+01

condensed, al6o13si2(c), 426.0520, al, 6, o, 13, si, 2
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
250.0, 3000.0 20000.0
7.261850000E+01, -3.921391000E+00, 1.845955000E+00
-1.315756000E-01, -7.138078000E+00, -1.886121000E+00
3.371568000E-01, -1.698511000E+06, 1.822696000E+02
7.133893976E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.712601456E+06, 1.807675616E+02
eos, tiger, S, 1, L, 0
1.350000000E+02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00

condensed, h4so5(c), 116.0960, h, 4, o, 5, s, 1
cpc, tiger, tot, 2, liq, 2, sol, 0
298.0, 1000.0, 20000.0
1.948392000E+01, 1.845528000E+01, -6.670761000E-02
4.651964000E-03, 7.671566000E-01, -3.443480000E-01
5.550766000E-02, -2.825110000E+05, 8.913453000E+01
3.835546061E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.010886601E+05, 1.245276138E+02

condensed, h6so6(c), 134.1120, h, 6, o, 6, s, 1
cpc, tiger, tot, 2, liq, 2, sol, 0
298.0, 1000.0, 20000.0
1.950538000E+01, 3.928179000E+01, -2.679062000E-02
1.930356000E-03, 2.420368000E-01, -9.355831000E-02
1.261973000E-02, -3.560116000E+05, 9.057518000E+01
5.892340796E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.951573072E+05, 1.682165808E+02

condensed, h8so7(c), 152.1280, h, 8, o, 7, s, 1
cpc, tiger, tot, 2, liq, 2, sol, 0
298.0, 1000.0, 20000.0
2.712524000E+01, 3.506542000E+01, -7.716846000E-02
5.458415000E-03, 7.886353000E-01, -3.265362000E-01
4.828000000E-02, -4.300938000E+05, 1.298271000E+02
6.262932906E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.652550687E+05, 1.981633960E+02

condensed, h10so8(c), 170.1440, h, 10, o, 8, s, 1

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cpc, tiger, tot, 2, liq, 2, sol, 0
298.0, 1000.0, 20000.0
3.699265000E+01, 2.942601000E+01, -6.827927000E-02
4.859328000E-03, 6.988373000E-01, -2.964010000E-01
4.517055000E-02, -5.049942000E+05, 1.730874000E+02
6.680284691E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.344949177E+05, 2.303757264E+02

condensed, h15sol1(c), 223.1840, h, 15, o, 11, s, 1
cpc, tiger, tot, 2, liq, 2, sol, 0
298.0, 1000.0, 20000.0
6.403258000E+01, 1.517865000E+01, -6.961823000E-03
5.149841000E-04, 4.634476000E-02, -1.345634000E-02
9.822845000E-04, -6.925122000E+05, 2.856802000E+02
7.923865387E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.076272508E+05, 3.157581683E+02

condensed, al2mgo4(c), 142.2800, al, 2, mg, 1, o, 4
cpc, tiger, tot, 3, liq, 1, sol, 1, 2
250.0, 2073.8, 2400.0, 20000.0
1.760194000E+01, 4.288136000E+00, -1.662158000E-03
6.341664000E-04, 7.657745000E-02, -4.851950000E-01
7.561851000E-03, -5.632732000E+05, 5.626433000E+01
2.641813916E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.807118538E+05, 6.119246734E+01
2.641813916E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.807118538E+05, 6.119246734E+01

condensed, al6beo10(c), 330.8900, al, 6, be, 1, o, 10
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
250.0, 2100.0, 20000
6.698515000E+01, -1.465251000E+01, 7.166369000E+00
-5.421573000E-01, -5.910203000E+00, -2.458569000E+00
4.286329000E-01, -1.408528000E+06, 1.549472000E+02
5.947205017E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.409139136E+06, 1.390687666E+02

condensed, alcl4k(c), 207.9080, al, 1, cl, 4, k, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
2.849361000E+01, -2.825716000E+00, 7.495853000E-01
-5.840492000E-02, -4.303112000E-01, -2.284195000E+00
4.844113000E-01, -3.134909000E+05, 1.008402000E+02
2.464762690E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.043711935E+05, 9.853164113E+01

condensed, alcl6k3(c), 357.0220, al, 1, cl, 6, k, 3
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
5.505550000E+01, -4.810911000E+00, 1.192052000E+00
-7.277834000E-02, -1.928594000E+01, 5.780517000E+00
-6.395602000E-01, -5.472169000E+05, 1.452311000E+02
4.134187351E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.382447897E+05, 1.671323379E+02

condensed, alh4li(c), 37.9510, al, 1, h, 4, li, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
1.379364000E+01, 1.487300000E-01, 1.382028000E-01
-1.159912000E-02, 1.674713000E+00, -1.937193000E+00
3.379808000E-01, -4.129486000E+04, 5.202853000E+01
1.494642409E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.049755612E+04, 5.030874659E+01

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condensed, b10h14(c), 122.2120, b, 10, h, 14
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
250.0, 1500.0, 20000.0
1.551819000E+02, -4.152952000E+01, 8.920359000E+00
-6.127944000E-01, -9.323864000E+01, 3.021816000E+01
-3.831421000E+00, -1.609747000E+05, 5.977295000E+01
6.102621080E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.822206000E+04, 1.413518314E+02

condensed, b10o17pb2(c), 794.5000, b, 10, o, 17, pb, 2
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
2.305467000E+02, -5.866690000E+01, 1.255769000E+01
-8.810039000E-01, -1.110928000E+02, 2.690990000E+01
-2.525965000E+00, -1.941673000E+06, 1.696009000E+02
1.072609582E+02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.804436848E+06, 2.554014692E+02

condensed, b2be3o6(c), 144.6500, b, 2, be, 3, o, 6
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 3000.0, 20000.0
5.435563000E+01, -8.541656000E+00, 2.274427000E+00
-1.642755000E-01, -1.388319000E+01, -4.111195000E-01
4.253490000E-01, -8.048241000E+05, 7.308272000E+01
4.010741022E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.922812351E+05, 7.989914513E+01

condensed, b2h4o4(c), 89.6520, b, 2, h, 4, o, 4
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 1500.0, 20000.0
4.829425000E+01, -6.087338000E+00, 2.276652000E+00
-1.567156000E-01, -2.098857000E+01, 4.895941000E+00
-4.604487000E-01, -3.882054000E+05, 5.287350000E+01
3.180395938E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.711580888E+05, 7.848933772E+01

condensed, b2mg(c), 45.9400, b, 2, mg, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
100.0, 2000.0, 20000.0
8.135119000E+00, 1.762329000E+00, 1.313424000E-01
-8.214757000E-03, -1.707650000E+00, 2.645711000E-01
-4.450649000E-03, -2.935104000E+04, 1.857258000E+01
1.133118999E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.703275095E+04, 2.328442955E+01

condensed, b2o4pb(c), 292.8200, b, 2, o, 4, pb, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
4.144455000E+01, -7.017575000E+00, 1.833599000E+00
-1.297345000E-01, -1.452903000E+01, 2.346109000E+00
-1.133204000E-01, -4.165378000E+05, 6.141982000E+01
2.701376720E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.007044466E+05, 7.386944499E+01

condensed, b2zr(c), 112.8400, b, 2, zr, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
250.0, 3323.0, 20000.0
5.859305000E+00, 1.811363000E+00, -9.923631000E-02
6.266348000E-03, 2.030117000E+00, -1.049218000E+00
1.168473000E-01, -8.153496000E+04, 2.634033000E+01
1.153169507E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.569006515E+04, 2.270688574E+01

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condensed, b4k2o7(c), 233.4400, b, 4, k, 2, o, 7
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 3000.0, 20000.0
1.245016000E+02, -2.467162000E+01, 4.835096000E+00
-3.312020000E-01, -6.080763000E+01, 9.216343000E+00
9.316826000E-02, -9.415369000E+05, 7.035611000E+01
6.581842879E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.780341121E+05, 1.279634935E+02
eos, tiger, S, 1, L, 1

condensed, b4li2o7(c), 169.1180, b, 4, li, 2, o, 7
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 3000.0, 20000.0
1.837276000E+02, -6.558946000E+01, 1.490364000E+01
-1.102118000E+00, -9.591501000E+01, 1.715154000E+01
-3.832111000E-01, -1.016742000E+06, 6.381084000E+01
6.125465766E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.716485151E+05, 1.153857118E+02

condensed, b4mg(c), 67.5600, b, 4, mg, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
250.0, 2000.0, 20000.0
2.507863000E+01, -2.884933000E+00, 8.556187000E-01
-5.394113000E-02, -1.239494000E+01, 3.677017000E+00
-4.139647000E-01, -4.964648000E+04, 2.249459000E+01
1.696974842E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.540268258E+04, 3.674973884E+01

condensed, b4na2o7(c), 201.2220, b, 4, na, 2, o, 7
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
100.0, 1014.0, 20000.0
3.107460000E+01, 4.463077000E+00, 9.975963000E-01
-7.745130000E-02, -2.862994000E+00, -8.227861000E-02
1.382613000E-02, -8.092622000E+05, 9.763232000E+01
5.132016719E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.277957108E+05, 1.298752919E+02

condensed, b4o7pb(c), 362.4400, b, 4, o, 7, pb, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
7.862984000E+01, -1.645984000E+01, 3.936463000E+00
-2.772483000E-01, -3.185033000E+01, 6.104509000E+00
-4.148083000E-01, -7.687476000E+05, 8.398167000E+01
4.478713681E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.308374403E+05, 1.095204976E+02

condensed, b6k2o10(c), 303.0600, b, 6, k, 2, o, 10
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
1.022562000E+02, -2.190501000E+01, 5.611090000E+00
-3.981113000E-01, -4.849533000E+01, 1.278334000E+01
-1.214497000E+00, -1.211186000E+06, 1.077046000E+02
5.650200748E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.169027139E+06, 1.489705920E+02

condensed, b6li2o10(c), 238.7380, b, 6, li, 2, o, 10
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
5.861689000E+01, -2.902948000E+00, 2.205933000E+00
-1.656805000E-01, -1.013377000E+01, 4.317174000E-01
1.719007000E-01, -1.167824000E+06, 1.290732000E+02
5.537181394E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.170521742E+06, 1.398426158E+02

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condensed, b6na2o10(c), 270.8420, b, 6, na, 2, o, 10
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
1.422560000E+02, -3.207163000E+01, 5.502647000E+00
-3.456941000E-01, -8.205869000E+01, 2.389779000E+01
-2.584393000E+00, -1.243254000E+06, 7.171848000E+01
6.197982858E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.161387958E+06, 1.506786570E+02

condensed, b6o10pb(c), 432.0600, b, 6, o, 10, pb, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
1.250811000E+02, -3.244261000E+01, 7.247150000E+00
-5.249455000E-01, -4.880087000E+01, 7.096960000E+00
-1.148691000E-01, -1.145712000E+06, 1.191836000E+02
6.234436236E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.065319584E+06, 1.494160233E+02

condensed, b8k2o13(c), 372.6800, b, 8, k, 2, o, 13
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 2000.0, 20000.0
1.322868000E+02, -2.186579000E+01, 4.725195000E+00
-3.021824000E-01, -6.485425000E+01, 1.709487000E+01
-1.651309000E+00, -1.557934000E+06, 1.184171000E+02
7.667871968E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.507096294E+06, 1.856195657E+02

condensed, b8li2o13(c), 308.3580, b, 8, li, 2, o, 13
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
5.926590000E+01, 4.859603000E+00, 5.053731000E-01
-3.576818000E-02, -1.278968000E+00, -2.514004000E+00
2.904057000E-01, -1.465709000E+06, 1.736378000E+02
6.948876867E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.483967456E+06, 1.825610982E+02

condensed, be2o4si(c), 110.1060, be, 2, o, 4, si, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
250.0, 3000.0, 20000.0
-2.665745000E+01, 2.728819000E+01, -6.473471000E+00
5.359262000E-01, 4.080822000E+01, -1.718662000E+01
2.309616000E+00, -4.831312000E+05, 7.324429000E+01
2.319454529E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.302985991E+05, 5.359591291E+01

condensed, bef3li(c), 72.9490, be, 1, f, 3, li, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 833.0, 20000.0
6.445094000E+00, 1.514210000E+01, -9.359837000E-03
6.677806000E-04, 8.958864000E-02, -3.556800000E-02
4.900634000E-03, -3.999229000E+05, 2.818095000E+01
1.911712353E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.104181320E+05, 5.767379297E+01

condensed, bef4li2(c), 98.8880, be, 1, f, 4, li, 2
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 950.0, 20000.0
1.070454000E+01, 1.804169000E+01, -2.241439000E-02
1.665941000E-03, 1.910802000E-01, -7.321876000E-02
9.813465000E-03, -5.512544000E+05, 4.696603000E+01
2.795679902E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.675351579E+05, 8.243962301E+01

condensed, beo4w(c), 256.8600, be, 1, o, 4, w, 1

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cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
1.218546000E+01, 5.564005000E+00, -3.708345000E-02
1.864783000E-03, 1.675789000E+00, -1.126013000E+00
1.301565000E-01, -3.714310000E+05, 4.896779000E+01
2.375271528E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.920778865E+05, 5.361487707E+01

condensed, bf4k(c), 125.9100, b, 1, f, 4, k, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 1150.0, 20000.0
1.203001000E+01, 6.628788000E+00, -3.198048000E-01
2.522474000E-02, 3.561040000E-01, 7.553459000E-01
-2.635978000E-01, -4.557632000E+05, 6.125958000E+01
1.997602387E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.665204805E+05, 7.273881928E+01

condensed, bh4k(c), 53.9420, b, 1, h, 4, k, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
100.0, 2000.0, 20000.0
2.459127000E+01, -4.706731000E+00, 1.090984000E+00
-7.944998000E-02, -7.693707000E+00, 1.486813000E+00
-6.773460000E-02, -7.775313000E+04, 5.095875000E+01
1.542252709E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.692712666E+04, 5.607743856E+01

condensed, bh4li(c), 21.7810, b, 1, h, 4, li, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
250.0, 2000.0, 20000.0
1.110390000E+01, 1.272424000E+00, -9.460378000E-02
4.843086000E-03, 4.028193000E+00, -2.878121000E+00
4.598752000E-01, -5.656759000E+04, 5.025021000E+01
1.466112822E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.781719124E+04, 4.673152730E+01

condensed, bh4na(c), 37.8330, b, 1, h, 4, na, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
250.0, 2000.0, 20000.0
3.152132000E+01, -7.447737000E+00, 1.549048000E+00
-1.094881000E-01, -1.303826000E+01, 3.060372000E+00
-2.575877000E-01, -7.773202000E+04, 4.518164000E+01
1.615989774E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.987690220E+04, 5.453308252E+01

condensed, bi2o3(c), 465.9600, bi, 2, o, 3
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
200.0, 1090.0, 20000.0
1.761177000E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.384664000E+05, 1.272545000E+02
1.836656000E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.235143000E+05, 1.461697000E+02

condensed, bio(c), 224.9800, bi, 1, o, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
200.0, 2000.0, 20000.0
4.881000000E+00, 1.509580000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.694127000E+04, 2.584389000E+01
7.900160000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 4.094141415E+04, 2.768496268E+01

condensed, bi(c), 208.9800, bi, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1

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200.0, 544.7, 20000.0
1.425033000E+00, 3.664267000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 4.930910000E-02
0.000000000E+00, -8.393285000E+02, 1.540714000E+01
3.587152081E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.279378555E+03, 2.181875732E+01

condensed, br2fe(c), 215.6500, br, 2, fe, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 1500.0, 20000.0
8.773310000E+00, 2.717810000E+00, -9.006863000E-03
6.847128000E-04, 6.729425000E-02, -2.525939000E-02
3.325427000E-03, -6.490745000E+04, 5.335871000E+01
1.286669221E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.096544736E+04, 5.806464269E+01

condensed, br2ti(c), 207.7000, br, 2, ti, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 1500.0, 20000.0
9.042583000E+00, 1.384123000E+00, -1.187572000E-03
9.043427000E-05, 8.531659000E-03, -3.157383000E-03
4.141696000E-04, -1.023759000E+05, 4.685844000E+01
1.112080789E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.054679739E+05, 4.929735550E+01

condensed, br2zr(c), 251.0200, br, 2, zr, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 900.0, 20000.0
1.002822000E+01, 1.373305000E+00, 1.317830000E-03
-1.064967000E-04, -7.228839000E-03, 2.450617000E-03
-2.941560000E-04, -1.027674000E+05, 5.097491000E+01
1.125977421E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.038677204E+05, 5.370320601E+01

condensed, br3ti, 287.6000, br, 3, ti, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
250.0, 1500.0, 20000.0
2.358226000E+01, -8.239818000E-01, 9.788610000E-01
-7.187988000E-02, -4.263676000E+00, -9.631093000E-01
3.705848000E-01, -1.579475000E+05, 6.936514000E+01
2.114543361E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.528413258E+05, 7.690143224E+01

condensed, br3zr(c), 330.9200, br, 3, zr, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
100.0, 2000.0, 20000.0
1.326328000E+01, -2.324934000E-01, 5.939624000E-02
-4.278641000E-03, -3.725249000E-01, 4.042803000E-02
-1.162259000E-02, -1.605953000E+05, 7.082986000E+01
1.282404077E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.600432565E+05, 7.108531557E+01

condensed, br4ti(c), 367.5000, br, 4, ti, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
250.0, 311.0, 20000.0
1.694510000E+01, -3.613623000E-01, 6.840622000E-02
-4.661050000E-03, -9.461727000E-01, 4.669862000E-01
-8.199093000E-02, -1.577886000E+05, 9.605049000E+01
1.826608510E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.555032072E+05, 1.118466862E+02

condensed, br4zr(c), 410.8200, br, 4, zr, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
100.0, 1000.0, 20000.0

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1.466384000E+01, 1.640415000E+00, -4.224920000E-02
2.763987000E-03, 5.669231000E-01, -2.112579000E-01
8.907080000E-03, -1.905777000E+05, 8.963874000E+01
1.662934207E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.924693376E+05, 9.193591030E+01

condensed, br5nb(c), 492.4100, br, 5, nb, 1
cpc, tiger, tot, 3, liq, 2, sol, 1, 1
298.0, 527.0, 900.0, 20000.0
1.788769000E+01, -4.994106000E-02, 1.060438000E-02
-7.808208000E-04, -8.546829000E-02, 3.146029000E-02
-4.049182000E-03, -1.435354000E+05, 1.045775000E+02
-2.039208000E+01, 1.961354000E+01, -4.007818000E+00
2.825807000E-01, 2.644193000E+01, -1.763195000E+00
-9.632295000E-01, -7.878559000E+04, 1.376364000E+02
2.010161055E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.377289751E+05, 1.227578379E+02

condensed, br5w(c), 583.3500, br, 5, w, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 559.0, 20000.0
1.529925000E+01, 1.197755000E+01, 2.066612000E-02
-1.498044000E-03, -1.797915000E-01, 6.772709000E-02
-8.838534000E-03, -8.470288000E+04, 9.403241000E+01
2.184540649E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.825849279E+04, 1.153676368E+02

condensed, br6w(c), 663.2500, br, 6, w, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 1000.0, 20000.0
1.776843000E+01, 1.315641000E+01, -1.551819000E-02
1.143336000E-03, 1.264400000E-01, -4.713631000E-02
6.165385000E-03, -9.363080000E+04, 1.104074000E+02
3.099593422E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.067668518E+05, 1.363294280E+02

condensed, c2cr3(c), 180.0200, c, 2, cr, 3
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
250.0, 2500.0, 20000.0
7.605222000E+00, 6.322340000E+00, -4.269848000E-01
2.827457000E-02, 6.303615000E+00, -2.629464000E+00
2.895938000E-01, -2.458675000E+04, 5.486198000E+01
2.330347292E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.366337033E+04, 5.072322726E+01

condensed, c2li2(c), 37.8980, c, 2, li, 2
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
1.242562000E+01, 1.067006000E+00, 5.397756000E-02
-3.703528000E-03, -8.374341000E-02, -3.417484000E-01
-4.316680000E-04, -2.414145000E+04, 3.885651000E+01
1.461855125E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.813553018E+04, 4.043971069E+01

condensed, c2mg(c), 48.3400, c, 2, mg, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2500.0, 20000.0
8.696513000E+00, 6.947742000E-01, 1.971652000E-02
-1.222025000E-03, -1.018291000E-01, -1.463839000E-01
-4.070695000E-03, 1.451951000E+04, 3.108416000E+01
1.047316902E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.011943788E+04, 3.151495953E+01

condensed, c3cr7(c), 400.0300, c, 3, cr, 7
cpc, tiger, tot, 2, liq, 0, sol, 1, 2

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250.0, 2500.0, 20000.0
1.764645000E+01, 1.280666000E+01, -5.808023000E-01
3.824952000E-02, 8.399097000E+00, -3.198173000E+00
3.079290000E-01, -4.765252000E+04, 1.108670000E+02
4.949837295E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.138478058E+05, 1.071009101E+02

condensed, c3mg2(c), 84.6700, c, 3, mg, 2
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2500.0, 20000.0
1.457157000E+01, 1.121351000E+00, 3.954333000E-02
-2.591189000E-03, -2.334131000E-01, -2.190661000E-01
-1.015886000E-02, 8.131564000E+03, 5.411696000E+01
1.745254000E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 8.919997729E+02, 5.488156974E+01

condensed, c4nio4(c), 170.7400, c, 4, ni, 1, o, 4
cpc, tiger, tot, 2, liq, 2, sol, 0
298.0, 700.0, 20000.0
2.225986000E+01, 6.747638000E+00, -2.204037000E-02
1.604438000E-03, 1.869125000E-01, -7.025528000E-02
9.255409000E-03, -1.646999000E+05, 1.266055000E+02
2.712358058E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.681370715E+05, 1.390230412E+02

condensed, c6cr23(c), 1268.06, c, 6, cr, 23
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
250.0, 2000.0, 20000.0
2.502657000E+01, 5.167247000E+01, -3.713657000E+00
2.502141000E-01, 4.695182000E+01, -1.701188000E+01
1.837283000E+00, -7.776631000E+04, 3.448896000E+02
1.349711952E+02, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.459396528E+05, 3.428051196E+02

condensed, ccun(c), 89.5680, c, 1, cu, 1, n, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
100.0, 1000.0, 20000.0
6.985066000E+00, 2.687746000E+00, -1.240063000E-02
5.712658000E-04, 4.878750000E-01, -2.595084000E-01
2.383745000E-02, 1.803419000E+04, 3.766487000E+01
9.913186686E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 1.536997241E+04, 4.226670731E+01

condensed, cl2co(c), 129.8470, cl, 2, co, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
100.0, 1008.0, 20000.0
1.071186000E+01, 2.319950000E-01, 7.984302000E-02
-5.843658000E-03, -4.355218000E-01, 2.377644000E-02
-4.042603000E-03, -8.200277000E+04, 4.899339000E+01
1.189292874E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.323897460E+04, 6.106600366E+01

condensed, cl2hg2(c), 472.0940, cl, 2, hg, 2
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
250.0, 1500.0, 20000.0
1.728799000E+01, -5.073659000E-01, 3.440248000E-01
-2.351245000E-02, -3.381459000E+00, 8.801159000E-01
-9.177113000E-02, -7.681492000E+04, 7.286911000E+01
1.533130761E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.525672352E+04, 7.775912584E+01

condensed, cl2w(c), 254.7640, cl, 2, w, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0

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8.511418000E+00, 2.664307000E+00, -7.004896000E-03
5.228263000E-04, 5.857259000E-02, -2.352214000E-02
3.263972000E-03, -6.675767000E+04, 5.030017000E+01
1.384000878E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.727664147E+04, 5.347187411E+01

condensed, cl2zr(c), 162.1340, cl, 2, zr, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 1000.0, 20000.0
1.585596000E+01, -2.221736000E+00, 4.755810000E-01
-3.245929000E-02, -5.184033000E+00, 1.606941000E+00
-1.906493000E-01, -1.160940000E+05, 4.435078000E+01
1.094459009E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.048561362E+05, 5.559926752E+01

condensed, cl3zr(c), 197.5910, cl, 3, zr, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
1.673351000E+01, -5.285339000E-01, 1.358541000E-01
-6.170571000E-03, -4.028711000E+00, 1.350061000E+00
-1.775135000E-01, -1.832446000E+05, 5.919505000E+01
1.447146459E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.825306026E+05, 6.439990291E+01

condensed, cl4mo(c), 237.7680, cl, 4, mo, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 825.0, 20000.0
3.252195000E+01, -4.143708000E+00, 1.297631000E+00
-8.923519000E-02, -1.304573000E+01, 3.893423000E+00
-4.199982000E-01, -1.430432000E+05, 8.012290000E+01
1.761185488E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.210556467E+05, 1.010371944E+02

condensed, cl4w(c), 325.6780, cl, 4, w, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
3.580251000E+01, -5.499353000E+00, 1.374016000E+00
-9.273869000E-02, -1.596984000E+01, 4.982991000E+00
-5.612557000E-01, -1.381174000E+05, 7.186719000E+01
2.274862927E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.283572602E+05, 8.763751932E+01

condensed, cl4zr(c), 233.0480, cl, 4, zr, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
100.0, 1000.0, 20000.0
1.396250000E+01, 2.234604000E+00, -4.744816000E-02
3.020018000E-03, 8.176680000E-01, -3.689694000E-01
3.155351000E-02, -2.429595000E+05, 7.773294000E+01
1.663292797E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.453740097E+05, 8.084933220E+01

condensed, cl5mo(c), 273.2250, cl, 5, mo, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 467.0, 20000.0
3.413752000E+01, -3.771188000E+00, 9.862174000E-01
-7.054234000E-02, -5.488901000E+00, -4.601834000E-01
2.443967000E-01, -1.594462000E+05, 1.056252000E+02
2.112029918E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.389676078E+05, 1.065016710E+02

condensed, cl5w(c), 361.1350, cl, 5, w, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 415.0, 20000.0
3.451853000E+01, -3.937977000E+00, 1.018702000E+00

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-7.280654000E-02, -5.889880000E+00, -2.791398000E-01
2.173851000E-01, -1.563173000E+05, 1.003134000E+02
2.188954182E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.313697550E+05, 1.120350339E+02

condensed, cl6mo(c), 308.6820, cl, 6, mo, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 1500.0, 20000.0
1.209356000E+01, 6.363657000E+00, -1.070352000E+00
6.868815000E-02, 1.932722000E+01, -9.970659000E+00
1.446079000E+00, -1.365225000E+05, 1.399215000E+02
2.834445319E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.448136860E+05, 1.220709562E+02

condensed, icl(c), 162.3570, cl, 1, i, 1
cpc, tiger, tot, 3, liq, 2, sol, 1, 1
250.0, 300.0, 1000.0, 20000.0
6.334372000E+00, 2.779786000E+00, 1.413131000E-02
-1.791596000E-03, 9.982777000E-01, -7.047136000E-01
1.076318000E-01, -1.355818000E+04, 3.845709000E+01
-1.131817000E+01, 9.470148000E+00, -1.874100000E+00
1.300014000E-01, 1.723359000E+01, -5.130643000E+00
5.549594000E-01, 1.363291000E+04, 7.126547000E+01
9.065785800E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.997844041E+03, 5.879179049E+01

condensed, clko4(c), 138.5570, cl, 1, k, 1, o, 4
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
250.0, 1500.0, 20000.0
2.594422000E+01, 1.571384000E+00, 7.340965000E-01
-5.178699000E-02, -5.452988000E+00, 8.575084000E-01
-1.143157000E-01, -1.269996000E+05, 6.788033000E+01
2.649015023E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.290823236E+05, 8.051806522E+01

condensed, cllio4(c), 106.3960, cl, 1, li, 1, o, 4
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 509.0, 20000.0
1.734748000E+01, 3.963436000E+00, 1.856692000E-01
-1.483756000E-02, 7.458280000E-01, -1.119658000E+00
1.106882000E-01, -1.060637000E+05, 6.457686000E+01
1.937364137E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.716322031E+04, 8.583632429E+01

condensed, clnao4(c), 122.4480, cl, 1, na, 1, o, 4
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 1500.0, 20000.0
2.184174000E+01, 2.814769000E+00, 4.269094000E-01
-3.033146000E-02, -2.570970000E+00, 8.446693000E-03
-2.145892000E-02, -1.110438000E+05, 6.724405000E+01
2.520548686E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.159730423E+05, 7.721740050E+01

condensed, cnb(c), 104.9200, c, 1, nb, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
100.0, 3000.0, 20000.0
6.016408000E+00, 4.275236000E-01, 3.787218000E-02
-2.721212000E-03, -9.602135000E-03, -2.564875000E-01
2.994691000E-02, -3.820107000E+04, 2.038678000E+01
7.535765518E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.272246044E+04, 1.994242899E+01

condensed, co3o4(c), 240.7990, co, 3, o, 4
cpc, tiger, tot, 2, liq, 0, sol, 1, 2

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250.0, 1500.0, 20000.0
8.268717000E+00, 1.706309000E+01, -1.426232000E-01
1.130086000E-02, -1.410664000E+00, 1.930959000E+00
-4.120085000E-01, -2.190313000E+05, 3.898665000E+01
3.337627494E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.595301337E+05, 7.042250269E+01

condensed, cof2(c), 96.9330, co, 1, f, 2
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
100.0, 1490.0, 20000.0
9.998630000E+00, 2.656377000E-01, 1.808899000E-02
-1.199422000E-03, 7.292810000E-03, -1.688384000E-01
2.151104000E-03, -1.675318000E+05, 4.170687000E+01
1.257992561E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.598645273E+05, 5.086554586E+01

condensed, cof3(c), 115.9330, co, 1, f, 3
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 1500.0, 20000.0
8.788317000E+00, 2.637129000E+00, -2.027923000E-01
1.437555000E-02, 1.548781000E+00, -2.559947000E-01
-2.131361000E-02, -1.925564000E+05, 4.911912000E+01
1.324867541E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.987771967E+05, 5.103022231E+01

condensed, coo(c), 74.9330, co, 1, o, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
250.0, 3000.0, 20000.0
-9.374928000E-01, 3.950399000E+00, -3.095268000E-01
1.926422000E-02, 5.872932000E+00, -2.126227000E+00
2.818547000E-01, -5.350573000E+04, 3.052077000E+01
1.037993256E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.621208769E+04, 2.327768796E+01

condensed, coo4s(c), 154.9970, co, 1, o, 4, s, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
250.0, 2000.0, 20000.0
1.762499000E+01, 1.335090000E+00, 8.446103000E-02
-6.929293000E-03, 1.916270000E+00, -2.309434000E+00
3.697950000E-01, -2.295134000E+05, 6.584267000E+01
2.100458065E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.324043452E+05, 6.543171723E+01

condensed, cu2o5s(c), 239.1640, cu, 2, o, 5, s, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 1500.0, 20000.0
1.968906000E+01, 5.073408000E+00, -2.387327000E-02
6.531626000E-04, 2.723074000E+00, -2.180779000E+00
2.958650000E-01, -2.384932000E+05, 8.311491000E+01
2.818147283E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.475647430E+05, 8.864073668E+01

condensed, camgc2o6(c), 184.4200, ca, 1, mg, 1, c, 2, o, 6
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 1500.0, 20000.0
3.170100000E+01, 3.262700000E-01, 0.000000000E+00
0.000000000E+00, 1.864900000E+00, -4.387400000E+00
8.032500000E-01, -5.921420000E+05, 9.659700000E+01
3.172171611E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.845137738E+05, 9.686206693E+01

condensed, f2hg(c), 238.5900, f, 2, hg, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 918.0, 20000.0

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8.196803000E+00, 2.544165000E+00, -6.068830000E-03
4.538437000E-04, 4.982830000E-02, -1.930040000E-02
2.605518000E-03, -1.060609000E+05, 4.618710000E+01
1.222909034E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.058688188E+05, 5.700863645E+01

condensed, f2hg2(c), 439.1800, f, 2, hg, 2
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 1500.0, 20000.0
1.804703000E+01, -1.020703000E+00, 4.007737000E-01
-2.763595000E-02, -3.597289000E+00, 7.758746000E-01
-6.258696000E-02, -1.307889000E+05, 6.550240000E+01
1.525254120E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.278131386E+05, 6.998118856E+01

condensed, bif3(c), 265.9800, bi, 1, f, 3
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 922.0, 20000.0
1.257478000E+01, -1.199618000E+01, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.222470000E+05, 6.664885000E+01
2.220088000E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.227321000E+05, 1.179909000E+02
0.000000000E+00, 0.000000000E+00, 0.000000000E+00

condensed, f6mo(c), 209.9400, f, 6, mo, 1
cpc, tiger, tot, 2, liq, 2, sol, 0
200.0, 1000.0, 20000.0
1.399346000E+01, 2.101531000E+01, -1.998091000E-02
1.467198000E-03, 1.664457000E-01, -6.264830000E-02
8.269548000E-03, -3.890529000E+05, 8.388684000E+01
3.510232324E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.100164821E+05, 1.253568433E+02

condensed, f6w(c), 297.8500, f, 6, w, 1
cpc, tiger, tot, 2, liq, 2, sol, 0
200.0, 1000.0, 20000.0
2.052852000E+01, -7.418633000E-02, 1.572418000E-02
-1.158357000E-03, -1.299801000E-01, 4.867125000E-02
-6.354928000E-03, -4.300861000E+05, 1.084945000E+02
2.038123571E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.299476891E+05, 1.085760818E+02

condensed, fef2(c), 93.8500, f, 2, fe, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
100.0, 1213.0, 20000.0
1.214822000E+01, -9.132573000E-01, 2.042338000E-01
-1.409646000E-02, -1.756611000E+00, 1.977618000E-01
-8.574426000E-04, -1.787366000E+05, 4.100932000E+01
1.182585318E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.682388303E+05, 5.038780963E+01

condensed, fef3(c), 112.8500, f, 3, fe, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
1.445677000E+01, -1.269820000E-01, 3.195038000E-01
-2.225357000E-02, -3.916133000E+00, 1.799253000E+00
-2.803644000E-01, -2.581192000E+05, 4.531660000E+01
1.375949384E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.614487613E+05, 5.039177877E+01

condensed, fei2(c), 309.65, fe, 1, i, 2
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 860.0, 20000.0

9.479245000E+01, -3.563486000E+01, 7.004356000E+00
-4.858956000E-01, -7.150128000E+01, 2.426175000E+01
-2.857577000E+00, -1.203211000E+05, 1.166326000E+01
1.358934089E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.503217099E+04, 7.938832996E+01

condensed, h2o4w(c), 249.8660, h, 2, o, 4, w, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 1000.0, 20000.0
5.122436000E+00, 1.028929000E+01, -7.276773000E-01
4.577488000E-02, 1.391302000E+01, -7.094210000E+00
1.022572000E+00, -2.768268000E+05, 7.988087000E+01
2.257120558E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.886555993E+05, 7.835850427E+01

condensed, h2ti(c), 49.9160, h, 2, ti, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
100.0, 2000.0, 20000.0
1.541095000E+01, -2.865729000E+00, 5.796973000E-01
-3.920025000E-02, -5.542509000E+00, 6.581771000E-01
5.390048000E-03, -5.226989000E+04, 1.635939000E+01
9.078642731E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.402141328E+04, 2.113155898E+01

condensed, h4in(c), 144.9400, h, 4, i, 1, n, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
9.040475000E+01, -2.508810000E+01, 2.252722000E+00
-5.766869000E-03, -7.588898000E+01, 2.852079000E+01
-3.703242000E+00, -1.334882000E+05, -2.050143000E+01
1.791610530E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.515515592E+04, 5.718624312E+01

condensed, haf(c), 178.4900, hf, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
100.0, 2504.0, 20000.0
1.803510000E+00, 1.110840000E+00, -1.503144000E-04
6.934370000E-07, -6.057500000E-04, 2.102489000E-04
-9.973446000E-06, 3.299136000E+03, 1.828116000E+01
4.646640545E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 2.210022499E+03, 2.123918201E+01

condensed, hg2br2(c), 560.98, br, 2, hg, 2
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 1500.0, 20000.0
1.192078000E+01, 1.680145000E+00, -6.138861000E-02
3.117114000E-03, 1.959816000E+00, -1.048462000E+00
1.428417000E-01, -5.668893000E+04, 8.487460000E+01
1.519627774E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.992087352E+04, 8.495190790E+01

condensed, hg2i2(c), 654.9800, hg, 2, i, 2
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 1500.0, 20000.0
1.181654000E+01, 1.710963000E+00, -6.814474000E-02
3.456093000E-03, 2.087339000E+00, -1.081404000E+00
1.478602000E-01, -3.614855000E+04, 9.060043000E+01
1.638488673E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.271892629E+04, 1.056327743E+02

condensed, hgcl2(c), 271.5040, cl, 2, hg, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 549.0, 20000.0
1.062145000E+01, 1.071504000E+00, 1.435186000E-01

-9.834953000E-03, -1.380310000E+00, 3.537129000E-01
-3.744733000E-02, -6.277083000E+04, 5.324873000E+01
1.232419436E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.904375345E+04, 6.950296115E+01

condensed, hgi2(c), 454.3900, hg, 1, i, 2
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 530.0, 20000.0
9.223401000E+00, 4.342331000E-01, -8.910972000E-02
6.380338000E-03, 7.615311000E-01, -2.090729000E-01
-5.369842000E-03, -3.032385000E+04, 6.787449000E+01
1.231815236E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.845234486E+04, 8.042810365E+01

condensed, i2mo(c), 349.7400, i, 2, mo, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 1500.0, 20000.0
9.438512000E+00, 1.529116000E+00, -5.448148000E-03
3.866486000E-04, 5.534269000E-02, -2.134176000E-02
2.857150000E-03, -3.054452000E+04, 5.776488000E+01
1.174948907E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.395429540E+04, 6.038513107E+01

condensed, i2ti(c), 301.7000, i, 2, ti, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
1.012592000E+01, 8.675038000E-01, 1.707687000E-03
-1.263296000E-04, -1.535561000E-02, 6.147240000E-03
-8.447582000E-04, -6.968168000E+04, 5.308293000E+01
1.186050112E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.314690071E+04, 5.416143722E+01

condensed, i2zr(c), 345.0200, i, 2, zr, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 2000.0, 20000.0
1.475299000E+01, 6.556705000E+00, 6.804590000E-01
-4.320145000E-02, -1.281361000E+01, 6.659976000E+00
-9.914048000E-01, -6.282346000E+04, 4.028756000E+01
2.537688780E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.974757345E+04, 6.534852972E+01

condensed, i3mo(c), 476.6400, i, 3, mo, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 1000.0, 20000.0
1.246411000E+01, 2.016020000E+00, -3.023624000E-03
2.042949000E-04, 3.314495000E-02, -1.301622000E-02
1.760960000E-03, -3.735039000E+04, 7.560016000E+01
1.449920036E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.936925024E+04, 7.954954602E+01

condensed, i3ti(c), 428.6000, i, 3, ti, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 1500.0, 20000.0
1.380505000E+01, 8.653900000E-01, 2.007615000E-03
-1.392389000E-04, -2.153724000E-02, 8.799997000E-03
-1.222969000E-03, -8.526280000E+04, 7.861109000E+01
1.509637279E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.720170118E+04, 8.017928451E+01

condensed, i3zr(c), 471.9200, i, 3, zr, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
250.0, 2000.0, 20000.0
1.373977000E+01, -3.444279000E-01, 7.892448000E-02
-5.564965000E-03, -8.053228000E-01, 3.030366000E-01

-4.941148000E-02, -1.035810000E+05, 7.892155000E+01
1.298901371E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.029901616E+05, 7.959995782E+01

condensed, i4mo(c), 603.5400, i, 4, mo, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 600.0, 20000.0
1.647066000E+01, 1.230526000E-02, -2.205372000E-03
1.403689000E-04, 2.991772000E-02, -1.243591000E-02
1.739502000E-03, -3.915144000E+04, 1.032971000E+02
1.650065146E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.917708831E+04, 1.032713481E+02

condensed, i4si(c), 535.6860, i, 4, si, 1
cpc, tiger, tot, 3, liq, 2, sol, 1, 1
298.0, 393.6, 700.0, 20000.0
9.644807000E+00, 1.061893000E+01, -2.091996000E-02
1.504870000E-03, 1.943924000E-01, -7.476023000E-02
9.924384000E-03, -5.187202000E+04, 7.931296000E+01
1.765628000E+01, 5.006851000E+00, -8.411884000E-03
6.130636000E-04, 7.204437000E-02, -2.722025000E-02
3.594398000E-03, -5.260246000E+04, 1.101035000E+02
2.121501245E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.509813518E+04, 1.194306605E+02

condensed, i4ti(c), 555.5000, i, 4, ti, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
250.0, 423.6, 20000.0
2.577245000E+01, -3.309798000E+00, 6.191287000E-01
-4.181430000E-02, -8.960459000E+00, 4.507295000E+00
-8.059069000E-01, -1.053033000E+05, 9.323306000E+01
1.881993459E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.440104049E+04, 1.197918522E+02

condensed, i4zr, 598.8200, i, 4, zr, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
100.0, 1000.0, 20000.0
1.492134000E+01, 1.625639000E+00, -2.990580000E-02
1.934737000E-03, 4.308491000E-01, -1.719608000E-01
1.209784000E-02, -1.257588000E+05, 9.838170000E+01
1.678999408E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.275461568E+05, 1.008904760E+02

condensed, ina, 149.8910, i, 1, na, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
250.0, 934.0, 20000.0
6.487959000E+00, 1.086188000E+00, 1.944885000E-02
-1.085022000E-03, -4.135838000E-01, 1.418263000E-01
-1.963643000E-02, -7.300920000E+04, 3.683748000E+01
7.826062257E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.915503665E+04, 4.585793990E+01

condensed, k3al2cl9(c), 490.3730, al, 2, cl, 9, k, 3
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 1500.0, 20000.0
-1.580281000E+01, 3.849069000E+01, -3.701118000E+00
2.473614000E-01, 4.493570000E+01, -1.590112000E+01
1.945830000E+00, -6.537425000E+05, 2.219169000E+02
5.790706534E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.386487378E+05, 2.166467748E+02

condensed, li2o3ti(c), 109.7780, li, 2, o, 3, ti, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
250.0, 3000.0, 20000.0

-3.571796000E-02, 1.225410000E+01, -1.806144000E+00
1.352798000E-01, 1.112146000E+01, -3.511006000E+00
3.170333000E-01, -3.934422000E+05, 5.754720000E+01
2.401172184E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.001644106E+05, 7.337121653E+01

condensed, li2o5si2(c), 150.0500, li, 2, o, 5, si, 2
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 2200.0, 20000.0
5.037888000E+01, -6.012568000E+00, 8.551712000E-01
-4.225099000E-02, -2.350581000E+01, 7.826620000E+00
-1.094412000E+00, -6.579988000E+05, 5.810133000E+01
2.999241629E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.238951107E+05, 9.664528168E+01

condensed, mn2o3(c), 157.8800, mn, 2, o, 3
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
1.244393000E+01, 4.216770000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, -1.624795000E-01
0.000000000E+00, -2.380285000E+05, 5.201181000E+01
2.083685013E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.544652476E+05, 5.725086526E+01

condensed, mn3o4(c), 228.8200, mn, 3, o, 4
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 1840.0, 20000.0
1.743064000E+01, 5.444566000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, -1.106448000E-01
0.000000000E+00, -3.432461000E+05, 7.465628000E+01
2.465648000E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.463090000E+05, 9.649635000E+01

condensed, mn7c3(c), 420.6100, mn, 7, c, 3
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
2.966327000E+01, 6.591785000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, -4.780577000E-01
0.000000000E+00, -4.812616000E+04, 1.121479000E+02
4.272732558E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.337531617E+04, 1.204705725E+02
eos, tiger, S, 1, L, 0
5.706000000E+01, 0.000000000E+00, 0.000000000E+00
-4.860000000E-05, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00

condensed, mnco3(c), 114.9500, mn, 1, c, 1, o, 3
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
1.476026000E+01, -2.487103000E-01, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, -4.966990000E-01
0.000000000E+00, -2.257342000E+05, 5.059232000E+01
1.413866465E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.237586259E+05, 5.058342470E+01

condensed, mg2si(c), 76.7260, mg, 2, si, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 1375.0, 20000.0
9.718251000E+00, 1.737083000E+00, -1.354062000E-01
1.196130000E-02, -1.109336000E+00, 3.692982000E-01
-6.625444000E-02, -2.545612000E+04, 3.693188000E+01
1.132225847E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.501561370E+03, 5.678881123E+01

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condensed, mg3o8p(c), 262.9100, mg, 3, o, 8, p, 2
cpc, tiger, tot, 3, liq, 2, sol, 1, 1
298.0, 1457.0, 6000.0, 20000.0
1.155484000E+02, -3.042025000E+01, 5.760427000E+00
-3.894005000E-01, -6.647540000E+01, 2.018153000E+01
-2.265069000E+00, -1.011644000E+06, 6.629794000E+01
2.377766000E+02, -7.174265000E+01, 1.262569000E+01
-8.097610000E-01, -1.940902000E+02, 7.194619000E+01
-9.289257000E+00, -1.102719000E+06, -5.364483000E+01
5.654429679E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.376010112E+05, 1.343338134E+02

condensed, mgo4w(c), 272.1700, mg, 1, o, 4, w, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
250.0, 2000.0, 20000.0
1.129831000E+01, 6.377188000E+00, -2.033863000E-01
1.483268000E-02, 1.639962000E+00, -4.645882000E-01
-8.731753000E-03, -3.688043000E+05, 5.311406000E+01
2.406054472E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.924189215E+05, 5.863766214E+01

condensed, mn3c(c), 176.8300, mn, 3, c, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
1.912135000E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.022943000E+04, 6.958492000E+01
1.912135000E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.022943000E+04, 6.958492000E+01

condensed, mnc2(c), 78.9600, mn, 1, c, 2
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
9.077564000E+00, 1.590038000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, -6.891248000E-02
0.000000000E+00, -1.212002000E+05, 4.809824000E+01
1.224041188E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.273828908E+05, 5.007828816E+01

condensed, mnf2(c), 92.9400, mn, 1, f, 2
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 1173.0, 20000.0
7.442186000E+00, 2.868226000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, -2.369242000E-02
0.000000000E+00, -1.938208000E+05, 3.798346000E+01
1.107025000E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.913321000E+05, 7.872285000E+01

condensed, mnf3(c), 111.9400, mn, 1, f, 3
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
9.862540000E+00, 3.723679000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.460115000E+05, 4.651213000E+01
1.730989800E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.608113365E+05, 5.105350157E+01

condensed, mno(c), 70.9400, mn, 1, o, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 2218.0, 20000.0
5.590449000E+00, 9.761998000E-01, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, -4.425792000E-02
0.000000000E+00, -9.576357000E+04, 2.664137000E+01
7.296303000E+00, 0.000000000E+00, 0.000000000E+00

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0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.848307000E+04, 2.746877000E+00

condensed, mno2(c), 86.9400, mn, 1, o, 2
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
8.352962000E+00, 1.227797000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, -1.951919000E-01
0.000000000E+00, -1.306486000E+05, 2.985875000E+01
1.075975803E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.351406066E+05, 3.147186678E+01

condensed, mns(c), 87.0040, mn, 1, s, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 1883.0, 20000.0
5.736453000E+00, 9.057240000E-01, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.444486000E+04, 3.145895000E+01
8.051093000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.983828000E+04, 6.521207000E+01

condensed, mns2(c), 119.0680, mn, 1, s, 2
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
8.383148000E+00, 2.123418000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, -5.231575000E-02
0.000000000E+00, -5.896729000E+04, 4.217773000E+01
1.261690506E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.730289224E+04, 4.479844639E+01

condensed, mo2s3(c), 288.0720, mo, 2, s, 3
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 2080.0, 20000.0
1.332675000E+01, 3.922469000E+00, 1.142473000E-02
-7.174290000E-04, -3.923469000E-02, -1.051978000E-01
-9.684823000E-04, -1.063491000E+05, 5.574283000E+01
1.884914371E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.088265317E+04, 7.909349631E+01
eos, tiger, S, 1, L, 1
4.870000000E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
5.110000000E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00

condensed, mobr2(c), 255.7400, mo, 1, br, 2
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 1800.0, 20000.0
9.189457000E+00, 1.267005000E+00, -1.806721000E-03
1.270286000E-04, 1.834505000E-02, -7.461313000E-03
1.038210000E-03, -5.405066000E+04, 5.121400000E+01
1.147301989E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.811714255E+04, 5.305535862E+01

condensed, mobr3(c), 335.6400, mo, 1, br, 3
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 1500.0, 20000.0
1.212312000E+01, 1.773145000E+00, -2.510625000E-03
1.839104000E-04, 2.217508000E-02, -8.755410000E-03
1.202289000E-03, -7.513113000E+04, 6.988451000E+01
1.478905762E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.909004801E+04, 7.299099238E+01

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condensed, mobr4(c), 415.5400, mo, 1, br, 4
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 1000.0, 20000.0
1.601474000E+01, 1.764427000E+00, 5.279350000E-02
-3.826082000E-03, -3.014545000E-01, 4.404736000E-02
-6.953478000E-04, -8.278466000E+04, 8.592950000E+01
1.757003193E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.417601385E+04, 9.004156020E+01

condensed, moo2(c), 127.9400, mo, 1, o, 2
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 1500.0, 20000.0
6.574869000E+00, 1.499950000E+00, 9.179256000E-01
-7.126393000E-02, 1.591438000E+00, -8.273546000E-01
9.532362000E-02, -1.451658000E+05, 2.968927000E+01
1.137110038E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -1.519001693E+05, 3.042693720E+01

condensed, mos2(c), 160.0680, mo, 1, s, 2
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
250.0, 2400.0, 20000.0
8.632854000E+00, 8.895217000E-01, 9.997385000E-04
5.727344000E-05, -3.345109000E-03, -1.114646000E-01
2.780393000E-04, -7.194145000E+04, 3.392774000E+01
1.075353115E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -7.686832437E+04, 3.450895698E+01

condensed, n5p3(c), 162.9650, n, 5, p, 3
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 1500.0, 20000.0
4.218591000E+01, -5.076731000E+00, 1.174760000E+00
-8.494437000E-02, -5.498930000E+00, -1.087482000E+00
2.074101000E-01, -1.067215000E+05, 1.047348000E+02
3.283951243E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -9.087977110E+04, 1.072938250E+02

condensed, na2o3si(c), 122.0680, na, 2, o, 3, si, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
250.0, 1361.0, 20000.0
2.214768000E+01, 1.737433000E+00, 2.500319000E-01
-1.440968000E-02, -4.431592000E+00, 7.832799000E-01
-8.404911000E-02, -3.928466000E+05, 5.653842000E+01
2.117805812E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.775521887E+05, 7.772724857E+01

condensed, na2o5si2(c), 182.1540, na, 2, o, 5, si, 2
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
250.0, 1147.0, 20000.0
1.308016000E+02, -4.406433000E+01, 8.715275000E+00
-6.077971000E-01, -8.812601000E+01, 2.949757000E+01
-3.600504000E+00, -7.196882000E+05, 3.146467000E+01
3.129279474E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -6.060321812E+05, 1.077268327E+02

condensed, na3alcl6(c), 308.6950, al, 1, cl, 6, na, 3
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
4.721413000E+01, -1.845086000E+00, 8.112195000E-01
-4.902977000E-02, -1.331943000E+01, 3.775092000E+00
-4.018006000E-01, -5.121865000E+05, 1.409443000E+02
4.061043077E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -5.113623572E+05, 1.580018003E+02

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condensed, naalcl4(c), 191.7990, al, 1, cl, 4, na, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
2.886664000E+01, -2.432951000E+00, 5.812190000E-01
-4.258986000E-02, -2.221227000E+00, -1.160106000E+00
2.906166000E-01, -2.997245000E+05, 9.530333000E+01
2.462058219E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.917558653E+05, 9.603786851E+01

condensed, nv2(c), 115.8880, n, 1, v, 2
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
250.0, 3500.0, 20000.0
4.239980000E+00, 1.469053000E+00, -1.228962000E-01
1.050393000E-02, -7.046179000E-01, 2.611413000E-01
-4.693501000E-02, -3.471841000E+04, 1.277039000E+01
8.145446612E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.860722861E+04, 1.244739361E+01

condensed, o3pbsi(c), 283.2860, o, 3, pb, 1, si, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
250.0, 2000.0, 20000.0
1.594528000E+01, 2.342493000E-01, 2.962495000E-02
-1.618713000E-03, 6.894626000E-01, -1.457139000E+00
2.358473000E-01, -2.885468000E+05, 5.868100000E+01
1.652925616E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.874536899E+05, 5.857415419E+01

condensed, o4pb2si(c), 506.4860, o, 4, pb, 2, si, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
100.0, 2000.0, 20000.0
5.587098000E+01, -3.029758000E+01, 1.374903000E+01
-2.272120000E+00, -1.678096000E+01, 2.599411000E+00
-1.186991000E-01, -3.843374000E+05, 1.100337000E+02
2.433951536E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.503019439E+05, 9.169200291E+01

condensed, p4s3, 220.0920, p, 4, s, 3
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 446.0, 20000.0
1.755049000E+01, 3.224726000E-02, -7.130612000E-03
5.424740000E-04, 5.285251000E-02, -1.963217000E-02
2.554394000E-03, -4.737661000E+04, 9.038535000E+01
2.214087189E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.919474905E+04, 1.027572444E+02

condensed, sili2o3(c), 89.9640, li, 2, o, 3, si, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
250.0, 1550.0, 20000.0
2.082878000E+01, 1.201312000E+00, 1.127622000E-01
-3.758013000E-03, -5.134754000E+00, 1.528465000E+00
-2.405559000E-01, -4.115389000E+05, 4.540824000E+01
2.020658533E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.128193876E+05, 5.590431668E+01

condensed, tif3(c), 104.9000, f, 3, ti, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
2.403750000E+01, -2.174223000E+00, 3.845267000E-01
-1.472163000E-02, -1.345704000E+01, 5.175395000E+00
-6.749375000E-01, -3.625685000E+05, 3.134730000E+01
1.559034932E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.592272528E+05, 4.793334229E+01

condensed, tif4(c), 123.9000, f, 4, ti, 1

```

```

cpc, tiger, tot, 2, liq, 0, sol, 1, 2
250.0, 1500.0, 20000.0
1.955463000E+01, -1.543360000E-01, 2.759625000E-01
-2.001860000E-02, -1.025152000E+00, -4.966787000E-01
8.597097000E-02, -4.105922000E+05, 6.887436000E+01
1.899777097E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.089166747E+05, 7.099583265E+01

condensed, wna2o4(c), 293.8320, na, 2, o, 4, w, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
100.0, 1500.0, 20000.0
1.275197000E+01, 1.295772000E+01, -1.156428000E-01
8.129369000E-03, 1.116299000E+00, -3.473938000E-01
9.808660000E-03, -3.774193000E+05, 6.512236000E+01
3.254849868E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.063441294E+05, 8.622876268E+01

condensed, wof4(c), 275.8500, f, 4, o, 1, w, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 379.0, 20000.0
1.007502000E+01, 7.236686000E+00, -6.182458000E-01
3.804892000E-02, 1.308951000E+01, -6.888047000E+00
9.935925000E-01, -3.461828000E+05, 9.708163000E+01
2.189063154E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.488097495E+05, 9.544248392E+01

condensed, zno(c), 81.3800, zn, 1, o, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 2000.0, 20000.0
7.398524900E+00, -9.622870200E-02, 7.501150800E-03
-1.381969600E-04, -8.981926600E-01, 4.421853200E-02
-6.966789700E-04, -8.944839000E+04, 2.273919200E+01
6.796837742E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -8.868177405E+04, 2.409615705E+01

condensed, zrf2(c), 129.2200, f, 2, zr, 1
cpc, tiger, tot, 2, liq, 1, sol, 1, 1
298.0, 1175.0, 20000.0
1.660374000E+01, -2.082739000E+00, 3.249849000E-01
-1.836234000E-02, -6.422700000E+00, 1.943893000E+00
-2.229178000E-01, -2.446405000E+05, 3.248359000E+01
1.193989911E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -2.317958535E+05, 4.715882582E+01

condensed, zrf3(c), 148.2200, f, 3, zr, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
298.0, 1500.0, 20000.0
1.523956000E+01, -1.051328000E+00, 2.944101000E-01
-2.139984000E-02, -1.452902000E+00, -1.362869000E-01
4.106504000E-02, -3.478852000E+05, 4.806586000E+01
1.323576040E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -3.446664074E+05, 4.913390666E+01

condensed, zrf4(c), 167.2200, f, 4, zr, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2
250.0, 1400.0, 20000.0
1.115788000E+01, 3.513848000E+00, -1.762099000E-01
1.160580000E-02, 2.775459000E+00, -1.307150000E+00
1.501564000E-01, -4.640778000E+05, 5.743219000E+01
1.713402128E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.705241049E+05, 5.957695357E+01

condensed, zrsio4(c), 183.3060, o, 4, si, 1, zr, 1
cpc, tiger, tot, 2, liq, 0, sol, 1, 2

```

```
250.0, 3000.0, 20000.0
2.180945000E+01, -2.031294000E+00, 4.319406000E-01
-3.128853000E-02, -1.727146000E+00, -9.486252000E-01
1.882806000E-01, -5.048581000E+05, 5.628884000E+01
1.808409831E+01, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, 0.000000000E+00, 0.000000000E+00
0.000000000E+00, -4.975104262E+05, 5.685930952E+01
end
```


Appendix B: Fortran program to extract plot files

The program shown below has three main functions in developing the graphs presented in this report. First, this program converts the coefficients of each species listed in Appendix A to the Specific Heat (C_p) fits used to create the graphs. Then, as discussed earlier, the specific heats are held constant from the greatest valid data point to 20,000 K. Finally, this code translates the fits from Specific Heat (C_p) to Enthalpy (h), Entropy (S), and Gibbs Free Energy (u) using the formula's shown above.

```

program cplt
!
!*****
!
! Purpose
! To read specific heat coefficients from the binary file jczs2i.bin
! and create tecplot files for gas constituents. The plots will be
! created based on the piecewise tiger or nasa cp polynomial.
! TECPLOT files for Cp/R, H/RT, S/R, and u/rt will be created.
!
!*****
!MLH MODULE declarations-----
use tigpar_module
use tiger_module
!MLH Begin variable declarations-----
implicit none
integer :: i,j,k,jum,numele,ipos,ierr
integer, parameter :: nout = 21, maxint=10
integer :: ngi,nci,nli,nsi ! number of gas, cond., liquid, & solid cp intervals
character(len=20) :: telm,cpform,eosform
character(len=30) :: filename
double precision :: mw,numa,vele,sele,fac
double precision, dimension(9,maxint) :: cp,cpl,cps
double precision, dimension(maxint+1) :: tgi,tci,tli,tsi
double precision, dimension(5) :: eosnum ! eos constants (bkw,jcz2,jcz2,jcz3,jcz3)
character(len=20), dimension(7) :: estr ! element names
double precision, dimension(7) :: enum ! element amounts
double precision :: cpf,cp,c(9),hf,sf,cnasa,hnasa,snasa,cein,hein,sein
double precision :: zphase ! -1=solid;1=liquid; 0=both
double precision, dimension(12) :: eossol,eosliq
double precision, parameter :: tmax = 20000D0, tmin = 10D0, tinc = 5.0D0
integer :: igas, icond, npts
r = 1.98726D0 ! cal/mol-K
lib = 11
npts = int((tmax-tmin)/tinc)+1
open(unit=lib,file='jczs2i.bin',status='old',form='unformatted', iostat=ierr)
!*****
! read element data
!*****

```

```

jum = 1 ! reading element data when jum=1
do while (jum == 1)
  read (lib) jum,telm,mw,numa,vele,sele,fac
  if (jum == 2) exit
end do
!*****
! read gas data
!*****
jum = 1 ! reading gas data when jum = 1
do while (jum == 1)
  read(lib) jum,zname,cpform,ngi,(tgi(i),i=1,maxint),&
  ((cpg(i,j),i=1,9),j=1,maxint),(eosnum(i),i=1,5),numele,&
  estr(1),enum(1),estr(2),enum(2),estr(3),enum(3),estr(4),enum(4),&
  estr(5),enum(5),estr(6),enum(6),estr(7),enum(7)
  ipos = index(zname,'+') ! replace + with cation for better tecplot name
  if(ipos /= 0) zname = zname(1:ipos-1)//'_cation'
  filename = 'cpg'//trim(zname)//'.plt'
  close(nout)
  open(unit=nout,file=filename,status='unknown')
  write(nout,*) 'Variables = T_K Cp/R h/RT, S/R, u/RT'
  write(nout,*) 'Zone T = "',trim(zname),' ',trim(cpform),' "'
  t = tmin-tinc
  do i = 1,npts
    t = t+tinc
    do j = 2,ngi+1 ! to find cp interval for t
      if (t < tgi(j)) then
        igas = j-1
        exit
      end if
    end do
    if (t >= tgi(ngi+1)) igas = ngi
    do j = 1,9
      c(j) = cpg(j,igas)
    end do
    if (cpform == 'einstein') then
      do k = 1,9
        c(k) = cps(k,1)
      end do
      cp = cein(t,c)
      h = hein(t,c)
      s = sein(t,c)
      write(nout,1000) t, cp, h, s, h-s
    else if (cpform == 'tiger') then
      cp = cpf(t,c)
      h = hf(t,c)
      s = sf(t,c)
      write(nout,1000) t, cp, h, s, h-s
    else ! cpform is assumed to be 'nasa'
      cp = cnasa(t,c)
      h = hnasa(t,c)
      s = snasa(t,c)
      write(nout,1000) t, cp, h, s, h-s
    end if
  end do
  close(nout)

```

```

end do
!*****
! read condensed data
!*****
jum = 1 ! reading condensed data when jum = 1
do while (jum == 1)
  read (lib) jum,zname,cpform,eosform,zphase,nli,(tli(i),i=1,maxint+1),&
  ((cpl(i,j),i=1,9),j=1,maxint),(eosliq(i),i=1,12),nsi,&
  (tsi(i),i=1,maxint+1),((cps(i,j),i=1,9),j=1,maxint),&
  (eossol(i),i=1,12),numele,estr(1),enum(1),estr(2),&
  enum(2),estr(3),enum(3),estr(4),enum(4),estr(5),&
  enum(5),estr(6),enum(6),estr(7),enum(7)
  filename = 'cpc'//trim(zname)//'.plt'
  close(nout)
  open(unit=nout,file=filename,status='unknown')
  write(nout,*) 'Variables = T_K Cp/R h/RT, S/R, u/RT'
  if (nli == 0) then ! solid only
    write(nout,*) 'Zone T = "solid, ',trim(zname),', ',trim(cpform),'"
    t = tmin-tinc
    do i = 1,npts
      t = t+tinc
      do j = 2,nsi+1 ! to find cp interval for t
        if (t < tsi(j)) then
          icond = j-1
          exit
        end if
      end do
      if (t >= tsi(nsi+1)) icond = nsi
      do j = 1,9
        c(j) = cps(j,icond)
      end do
      if (cpform == 'einstein') then
        do k = 1,9
          c(k) = cps(k,1)
        end do
        cp = cein(t,c)
        h = hein(t,c)
        s = sein(t,c)
        write(nout,1000) t, cp, h, s, h-s
      else if (cpform == 'tiger') then
!*****
!      Do linear extrapolation when T > T(nsi+1)
!*****
        if (t > tsi(nsi+1)) then ! set constant coeff.
          cp = cpf(tsi(nsi+1),c)
          h = r*tsi(nsi+1)*hf(tsi(nsi+1),c)
          s = r*sf(tsi(nsi+1),c)
          do k = 1,9
            c(k) = 0d0
          end do
          c(1) = cp
          c(8) = h-r*tsi(nsi+1)*c(1)
          c(9) = s-r*c(1)*dlog(tsi(nsi+1)/1000D0)
        endif
        cp = cpf(t,c)

```

```

        h = hf(t,c)
        s = sf(t,c)
        write(nout,1000) t, cp, h, s, h-s
        else ! cpform is assumed to be 'nasa'
!*****
!      Do linear extrapolation when T > T(nsi+1)
!*****
        if (t > tsi(nsi+1)) then ! set constant coeff.
            cp = cnasa(tsi(nsi+1),c)
            h = hnasa(tsi(nsi+1),c)
            s = snasa(tsi(nsi+1),c)
            do k = 1,9
                c(k) = 0d0
            end do
            c(3) = cp
            c(8) = tsi(nsi+1)*(h-c(3))
            c(9) = s-c(3)*dlog(tsi(nsi+1))
        endif
        cp = cnasa(t,c)
        h = hnasa(t,c)
        s = snasa(t,c)
        write(nout,1000) t, cp, h, s, h-s
    end if
end do
close(nout)
else if (nsi == 0) then ! liquid only
    write(nout,*) 'Zone T = "liquid, ', trim(zname), ', ', trim(cpform), '"'
    t = tmin-tinc
    do i = 1,npts
        t = t+tinc
        do j = 2,nli+1 ! to find cp interval for t
            if (t < tli(j)) then
                icond = j-1
                exit
            end if
        end do
        if (t >= tli(nsi+1)) icond = nli
        do j = 1,9
            c(j) = cpl(j,icond)
        end do
        if (cpform == 'einstein') then
            do k = 1,9
                c(k) = cpl(k,1)
            end do
            cp = cein(t,c)
            h = hein(t,c)
            s = sein(t,c)
            write(nout+1,1000) t, cp, h, s, h-s
        else if (cpform == 'tiger') then
!*****
!      Do linear extrapolation when T > T(nsi+1)
!*****
            if (t > tli(nli+1)) then ! set constant coeff.
                cp = cpf(tli(nli+1),c)
                h = r*tli(nli+1)*hf(tli(nli+1),c)

```

```

        s = r*sf(tli(nli+1),c)
        do k = 1,9
            c(k) = 0d0
        end do
        c(1) = cp
        c(8) = h-r*tli(nli+1)*c(1)
        c(9) = s-r*c(1)*dlog(tli(nli+1)/1000D0)
    endif
    cp = cpf(t,c)
    h = hf(t,c)
    s = sf(t,c)
    write(nout,1000) t, cp, h, s, h-s
    write(nout,1000) t, cp, h, s, h-s
    else ! cpform is assumed to be 'nasa'
!*****
!      Do linear extrapolation when T > T(nsi+1)
!*****
        if (t > tli(nli+1)) then ! set constant coeff.
            cp = cnasa(tli(nli+1),c)
            h = hnasa(tli(nli+1),c)
            s = snasa(tli(nli+1),c)
            do k = 1,9
                c(k) = 0d0
            end do
            c(3) = cp
            c(8) = tli(nli+1)*(h-c(3))
            c(9) = s-c(3)*dlog(tli(nli+1))
        endif
        cp = cnasa(t,c)
        h = hnasa(t,c)
        s = snasa(t,c)
        write(nout,1000) t, cp, h, s, h-s
    end if
end do
close(nout)
else ! both liquid and solid
    write(nout,*) 'Zone T = "SOLID, ',trim(zname),', ',trim(cpform),'"
    t = tmin-tinc
    do i = 1,npts
        t = t+tinc
        do j = 2,nsi+1 ! to find cp interval for t
            if (t < tsi(j)) then
                icond = j-1
                exit
            end if
        end do
        if (t >= tsi(nsi+1)) icond = nsi
        do j = 1,9
            c(j) = cps(j,icond)
        end do
        if (cpform == 'einstein') then
            do k = 1,9
                c(k) = cpl(k,1)
            end do
            cp = cein(t,c)
        end if
    end do
end if

```

```

        h = hein(t,c)
        s = sein(t,c)
        write(nout+1,1000) t, cp, h, s, h-s
        else if (cpform == 'tiger') then
!*****
!      Do linear extrapolation when T > T(nsi+1)
!*****
        if (t > tsi(nsi+1)) then ! set constant coeff.
            cp = cpf(tsi(nsi+1),c)
            h = r*tsi(nsi+1)*hf(tsi(nsi+1),c)
            s = r*sf(tsi(nsi+1),c)
            do k = 1,9
                c(k) = 0d0
            end do
            c(1) = cp
            c(8) = h-r*tsi(nsi+1)*c(1)
            c(9) = s-r*c(1)*dlog(tsi(nsi+1)/1000D0)
        endif
        cp = cpf(t,c)
        h = hf(t,c)
        s = sf(t,c)
        write(nout,1000) t, cp, h, s, h-s
        else ! cpform is assumed to be 'nasa'
!*****
!      Do linear extrapolation when T > T(nsi+1)
!*****
        if (t > tsi(nsi+1)) then ! set constant coeff.
            cp = cnasa(tsi(nsi+1),c)
            h = hnasa(tsi(nsi+1),c)
            s = snasa(tsi(nsi+1),c)
            do k = 1,9
                c(k) = 0d0
            end do
            c(3) = cp
            c(8) = tsi(nsi+1)*(h-c(3))
            c(9) = s-c(3)*dlog(tsi(nsi+1))
        endif
        cp = cnasa(t,c)
        h = hnasa(t,c)
        s = snasa(t,c)
        write(nout,1000) t, cp, h, s, h-s
    end if
end do
write(nout,*) 'Zone T = "LIQUID, ',trim(zname),', ',trim(cpform),'"
t = tmin-tinc
do i = 1,npts
    t = t+tinc
    do j = 2,nli+1 ! to find cp interval for t
        if (t < tli(j)) then
            icond = j-1
            exit
        end if
    end do
    if (t >= tli(nsi+1)) icond = nli
    do j = 1,9

```

```

        c(j) = cpl(j,icond)
    end do
    if (cpform == 'einstein') then
        do k = 1,9
            c(k) = cpl(k,1)
        end do
        cp = cein(t,c)
        h = hein(t,c)
        s = sein(t,c)
        write(nout+1,1000) t, cp, h, s, h-s
        else if (cpform == 'tiger') then
!*****
!      Do linear extrapolation when T > T(nsi+1)
!*****
        if (t > tli(nli+1)) then ! set constant coeff.
            cp = cpf(tli(nli+1),c)
            h = r*tli(nli+1)*hf(tli(nli+1),c)
            s = r*sf(tli(nli+1),c)
            do k = 1,9
                c(k) = 0d0
            end do
            c(1) = cp
            c(8) = h-r*tli(nli+1)*c(1)
            c(9) = s-r*c(1)*dlog(tli(nli+1)/1000D0)
        endif
        cp = cpf(t,c)
        h = hf(t,c)
        s = sf(t,c)
        write(nout,1000) t, cp, h, s, h-s
        else ! cpform is assumed to be 'nasa'
!*****
!      Do linear extrapolation when T > T(nsi+1)
!*****
        if (t > tsi(nsi+1)) then ! set constant coeff.
            cp = cnasa(tsi(nsi+1),c)
            h = hnasa(tsi(nsi+1),c)
            s = snasa(tsi(nsi+1),c)
            do k = 1,9
                c(k) = 0d0
            end do
            c(3) = cp
            c(8) = tsi(nsi+1)*(h-c(3))
            c(9) = s-c(3)*dlog(tsi(nsi+1))
        endif
        cp = cnasa(t,c)
        h = hnasa(t,c)
        s = snasa(t,c)
        write(nout,1000) t, cp, h, s, h-s
    end if
end do
close(nout)
endif
end do
stop
1000 format (4(G12.5,1x),G12.5)

```

end

```
double precision function cpf(t,coef)
implicit none
double precision :: t, coef(9)
double precision :: th,th2,th3,thn1,thn2,thn3,thlg
double precision :: ta,tb,tc,td,te,tf,tg,t1,t2
double precision, parameter :: r = 1.98726 ! cal/mol-K
th = t/1000D0
th2 = th*th
th3 = th2*th
thn1 = 1.D0/th
thn2 = thn1*thn1
thn3 = thn2*thn1
thlg = dlog(th)
ta = coef(1)
tb = coef(2)
tc = coef(3)
td = coef(4)
te = coef(5)
tf = coef(6)
tg = coef(7)
t1 = coef(8)
t2 = coef(9)
! remaining calculations
tb = tb*th
tc = tc*th2
td = td*th3
te = te*thn1
tf = tf*thn2
tg = tg*thn3
t1 = t1/(r*t)
t2 = t2/r
! calculate Cp
cpf = ta+tb+tc+td+te+tf+tg
return
end
```

```
double precision function hf(t,coef)
implicit none
double precision :: t, coef(9)
double precision :: th,th2,th3,thn1,thn2,thn3,thlg
double precision :: ta,tb,tc,td,te,tf,tg,t1,t2
double precision, parameter :: r = 1.98726 ! cal/mol-K
th = t/1000D0
th2 = th*th
th3 = th2*th
thn1 = 1.D0/th
thn2 = thn1*thn1
thn3 = thn2*thn1
thlg = dlog(th)
ta = coef(1)
tb = coef(2)
tc = coef(3)
td = coef(4)
```



```

te = coef(5)
tf = coef(6)
tg = coef(7)
t1 = coef(8)
t2 = coef(9)
! remaining calculations
tb = tb*th
tc = tc*th2
td = td*th3
te = te*thn1
tf = tf*thn2
tg = tg*thn3
t1 = t1/(r*t)
t2 = t2/r
! calculate h
hf = ta+tb/2.D0+tc/3.D0+td/4.d0+te*thlg-tf-tg/2d0+t1
return
end

```

```

double precision function sf(t,coef)
implicit none
double precision :: t, coef(9)
double precision :: th,th2,th3,thn1,thn2,thn3,thlg
double precision :: ta,tb,tc,td,te,tf,tg,t1,t2
double precision, parameter :: r = 1.98726 ! cal/mol-K
th = t/1000D0
th2 = th*th
th3 = th2*th
thn1 = 1.D0/th
thn2 = thn1*thn1
thn3 = thn2*thn1
thlg = dlog(th)
ta = coef(1)
tb = coef(2)
tc = coef(3)
td = coef(4)
te = coef(5)
tf = coef(6)
tg = coef(7)
t1 = coef(8)
t2 = coef(9)
! remaining calculations
tb = tb*th
tc = tc*th2
td = td*th3
te = te*thn1
tf = tf*thn2
tg = tg*thn3
t1 = t1/(r*t)
t2 = t2/r
! calculate s
sf = ta*thlg+tb+tc/2.D0+td/3.d0-te-tf/2.D0-tg/3d0+t2
return
end

```

```

double precision function cnasa(t,coef)
implicit none
double precision :: t,tsq,t3,t4,coef(9)
tsq = t*t
t3 = tsq*t
t4 = t3*t
! calculate Cp
cnasa = coef(1)/t+coef(2)/t+coef(3)+coef(4)*t+coef(5)*tsq+&
coef(6)*t3+coef(7)*t4
return
end

double precision function hnasa(t,coef)
implicit none
double precision :: t,tsq,t3,t4,lnt,coef(9)
! calculate h
tsq = t*t
t3 = tsq*t
t4 = t3*t
lnt = dlog(t)
hnasa = -coef(1)/t+coef(2)*lnt/t+coef(3)+coef(4)*t/2.D0+&
coef(5)*tsq/3.D0+coef(6)*t3/4.D0+coef(7)*t4/5.D0+coef(8)/t
return
end

double precision function snasa(t,coef)
implicit none
double precision :: t,tsq,t3,t4,lnt,coef(9)
! calculate s
tsq = t*t
t3 = tsq*t
t4 = t3*t
lnt = dlog(t)
snasa = -coef(1)/t/t/2.D0-coef(2)/t+coef(3)*lnt+coef(4)*t+&
coef(5)*tsq/2.D0+coef(6)*t3/3+coef(7)*t4/4+coef(9)
return
end

double precision function cein(t,a)
implicit none
double precision :: t,a(9)
double precision :: a4t,a5t,a6t,num1,num2,num3,denom1,denom2,denom3
a4t = a(4)/t
a5t = a(5)/t
a6t = a(6)/t
num1 = a(1)*a4t*a4t*dexp(a4t)
num2 = a(2)*a5t*a5t*dexp(a5t)
num3 = a(3)*a6t*a6t*dexp(a6t)
denom1 = (dexp(a4t)-1)**2D0
denom2 = (dexp(a5t)-1)**2D0
denom3 = (dexp(a6t)-1)**2D0
! calculate Cp
cein = num1/denom1+num2/denom2+num3/denom3+a(7)
!write(6,*) 't,a(1:9),a4t,a5t,a6t,num1,num2,num3,denom1,denom2,denom3,cein'
!write(6,*) t,a(1:9),a4t,a5t,a6t,num1,num2,num3,denom1,denom2,denom3,cein

```

```

return
end

double precision function hein(t,a)
implicit none
double precision :: t,a(9)
double precision :: a1t,a2t,a3t,a4t,a5t,a6t
double precision :: num1,num2,num3,denom1,denom2,denom3
!   calculate h
a1t = a(1)/t
a2t = a(2)/t
a3t = a(3)/t
a4t = a(4)/t
a5t = a(5)/t
a6t = a(6)/t
num1 = a1t*a(4)
num2 = a2t*a(5)
num3 = a3t*a(6)
denom1 = dexp(a4t)-1D0
denom2 = dexp(a5t)-1D0
denom3 = dexp(a6t)-1D0
hein = num1/denom1+num2/denom2+num3/denom3+a(7)+a(8)/t
return
end

```

```

double precision function sein(t,a)
implicit none
double precision :: t,a(9)
double precision :: a4t,a5t,a6t,expa4t,expa5t,expa6t
double precision :: term1a,term1b,term2a,term2b,term3a,term3b
!   calculate s
a4t = a(4)/t
a5t = a(5)/t
a6t = a(6)/t
expa4t = dexp(a4t)
expa5t = dexp(a5t)
expa6t = dexp(a6t)
term1a = a4t*(1D0/(expa4t-1D0)+1D0)
term1b = dlog(expa4t-1D0)
term2a = a5t*(1D0/(expa5t-1D0)+1D0)
term2b = dlog(expa5t-1D0)
term3a = a6t*(1D0/(expa6t-1D0)+1D0)
term3b = dlog(expa6t-1D0)
sein = a(1)*(term1a-term1b)+a(2)*(term2a-term2b)+a(3)*(term3a-term3b)+a(7)*dlog(t)+a(9)
return
end

```

Appendix C: Reference guide to the NASA fits

The following table is a reference guide to the NASA fits. It has been included with the intent that further research may be done and can be used a bibliography for the coefficients used in this report. This is a reference guide extracted from the entire NASA fit library and so many extraneous species have been included. Before the reference guide, a brief description of the abbreviations have been included as well as a list of the organization of the table.

Letters	Reference
GRC	Glenn Research Center
JANAF	NIST-JANAF Thermochemical Tables. Chase,1998
TPIS	Thermodynamic Properties of Individual Substances. Gurvich, 1978,1979,1982,1989,1991,1996
TRC	TRC Thermodynamic Tables, NIST
BAR	Barin:Thermochemical Data of Pure Substances. Barin,1989
CODA	CODATA Key Values for Thermodynamics. Cox,1989
SRD	Standard Reference Data

ORDER OF SPECIES

- 1) Gaseous products/reactants
- 2) Condensed products/reactants
- 3) Gaseous/condensed reactants only (starts with "Air")

Species	Phase	References	Species	Phase	References	Species	Phase	References
e-	Gas	GRC	ALCL+	Gas	JANAF	ALHCL	Gas	TPIS
Ag	Gas	GRC	ALCL2	Gas	TPIS	ALHCL2	Gas	TPIS
Ag+	Gas	GRC	ALCL3	Gas	TPIS	ALHF	Gas	TPIS
Ag-	Gas	GRC	ALF	Gas	TPIS	ALHFCL	Gas	TPIS
AL	Gas	GRC	ALF+	Gas	JANAF	ALHF2	Gas	TPIS
AL+	Gas	GRC	ALFCL	Gas	TPIS	ALH2	Gas	TPIS
AL-	Gas	GRC	ALFCL2	Gas	TPIS	ALH2CL	Gas	TPIS
ALBr	Gas	TPIS	ALF2	Gas	TPIS	ALH2F	Gas	TPIS
ALBr2	Gas	TPIS	ALF2-	Gas	TPIS	ALH3	Gas	TPIS
ALBr3	Gas	TPIS	ALF2CL	Gas	TPIS	ALI	Gas	TPIS
ALC	Gas	TPIS	ALF3	Gas	TPIS	ALI2	Gas	TPIS
ALC2	Gas	TPIS	ALF4-	Gas	TPIS	ALI3	Gas	TPIS
ALCL	Gas	TPIS	ALH	Gas	TPIS	ALN	Gas	TPIS

Species	Phase	References	Species	Phase	References	Species	Phase	References
ALO	Gas	TPIS	BF	Gas	GRC	B2O2	Gas	TPIS
ALO+	Gas	JANAF	BFCL	Gas	TPIS	B2O3	Gas	TPIS
ALO-	Gas	GRC	BFCL2	Gas	TPIS	B2(OH)4	Gas	GRC
ALOCL	Gas	TPIS	BFOH	Gas	GRC	B2S	Gas	GRC
ALOCL2	Gas	TPIS	BF(OH)2	Gas	TPIS	B2S2	Gas	TPIS
ALOF	Gas	TPIS	BF2	Gas	TPIS	B2S3	Gas	TPIS
ALOF2	Gas	TPIS	BF2+	Gas	JANAF	B3H9	Gas	GRC
ALOF2-	Gas	GRC	BF2-	Gas	TPIS	B3N3H6	Gas	TPIS
ALOH	Gas	TPIS	BF2CL	Gas	TPIS	B3O3CL3	Gas	TPIS
ALOHCL	Gas	TPIS	BF2OH	Gas	TPIS	B3O3FCL2	Gas	TPIS
ALOHCL2	Gas	TPIS	BF3	Gas	TPIS	B3O3F2CL	Gas	TPIS
ALOHF	Gas	TPIS	BF4-	Gas	TPIS	B3O3F3	Gas	TPIS
ALOHF2	Gas	TPIS	BH	Gas	GRC	B4H4	Gas	GRC
ALO2	Gas	TPIS	BHCL	Gas	GRC	B4H10	Gas	GRC
ALO2-	Gas	TPIS	BHCL2	Gas	TPIS	B4H12	Gas	GRC
AL(OH)2	Gas	TPIS	BHF	Gas	GRC	B5H9	Gas	GRC
AL(OH)2CL	Gas	TPIS	BHFCL	Gas	TPIS	Ba	Gas	GRC
AL(OH)2F	Gas	TPIS	BHF2	Gas	TPIS	Ba+	Gas	GRC
AL(OH)3	Gas	TPIS	BH2	Gas	GRC	BaBr	Gas	TPIS
ALS	Gas	TPIS	BH2CL	Gas	TPIS	BaBr2	Gas	TPIS
ALS2	Gas	TPIS	BH2F	Gas	TPIS	BaCL	Gas	TPIS
AL2	Gas	TPIS	BH3	Gas	GRC	BaCL+	Gas	GRC
AL2Br6	Gas	TPIS	BH4	Gas	GRC	BaCL2	Gas	TPIS
AL2C2	Gas	TPIS	BH5	Gas	GRC	BaF	Gas	TPIS
AL2CL6	Gas	TPIS	BH3NH3	Gas	TPIS	BaF+	Gas	GRC
AL2F6	Gas	TPIS	BI	Gas	GRC	BaF2	Gas	TPIS
AL2I6	Gas	TPIS	BI2	Gas	GRC	BaH	Gas	TPIS
AL2O	Gas	TPIS	BI3	Gas	TPIS	BaI	Gas	TPIS
AL2O+	Gas	GRC	BN	Gas	GRC	BaI2	Gas	TPIS
AL2O2	Gas	TPIS	BO	Gas	GRC	BaO	Gas	TPIS
AL2O2+	Gas	GRC	BO-	Gas	GRC	BaO+	Gas	GRC
AL2O3	Gas	TPIS	BOCL	Gas	TPIS	BaOH	Gas	TPIS
AL2S	Gas	TPIS	BOCL2	Gas	TPIS	BaOH+	Gas	TPIS
AL2S2	Gas	TPIS	BOF	Gas	TPIS	Ba(OH)2	Gas	TPIS
Ar	Gas	GRC	BOF2	Gas	TPIS	BaS	Gas	TPIS
Ar+	Gas	GRC	BOH	Gas	TPIS	Ba2	Gas	TPIS
B	Gas	GRC	BO2	Gas	GRC	Be	Gas	GRC
B+	Gas	GRC	BO2-	Gas	TPIS	Be+	Gas	GRC
B-	Gas	GRC	B(OH)2	Gas	GRC	Be++	Gas	GRC
BBr	Gas	GRC	BS	Gas	GRC	BeBr	Gas	TPIS
BBr2	Gas	GRC	BS2	Gas	GRC	BeBr2	Gas	TPIS
BBr3	Gas	TPIS	B2	Gas	GRC	BeCL	Gas	TPIS
BC	Gas	GRC	B2C	Gas	GRC	BeCL2	Gas	TPIS
BC2	Gas	GRC	B2CL4	Gas	GRC	BeF	Gas	TPIS
BCL	Gas	GRC	B2F4	Gas	GRC	BeF2	Gas	TPIS
BCL+	Gas	JANAF	B2H	Gas	GRC	BeH	Gas	TPIS
BCLOH	Gas	GRC	B2H2	Gas	GRC	BeH+	Gas	GRC
BCL(OH)2	Gas	TPIS	B2H3	Gas	GRC	BeH2	Gas	GRC
BCL2	Gas	TPIS	B2H4	Gas	GRC	BeI	Gas	TPIS
BCL2+	Gas	GRC	B2H5	Gas	GRC	BeI2	Gas	TPIS
BCL2OH	Gas	TPIS	B2H6	Gas	GRC	BeN	Gas	JANAF
BCL3	Gas	TPIS	B2O	Gas	GRC	BeO	Gas	TPIS

Species	Phase	References	Species	Phase	References	Species	Phase	References
BeOH	Gas	TPIS	CF2CLBr	Gas	TPIS	CN-	Gas	TPIS
BeOH+	Gas	JANAF	CF2CL2	Gas	GRC	CNN	Gas	GRC
Be(OH)2	Gas	TPIS	CF3	Gas	GRC	CO	Gas	TPIS
BeS	Gas	TPIS	CF3+	Gas	GRC	CO+	Gas	TPIS
Be2	Gas	TPIS	CF3Br	Gas	TPIS	COCL	Gas	TPIS
Be2CL4	Gas	TPIS	CF3CL	Gas	GRC	COCL2	Gas	TPIS
Be2F4	Gas	TPIS	CF4	Gas	GRC	COFCL	Gas	TPIS
Be2O	Gas	TPIS	CH	Gas	TPIS	COF2	Gas	TPIS
Be2OF2	Gas	JANAF	CH+	Gas	TPIS	COHCL	Gas	TPIS
Be2O2	Gas	TPIS	CHBr3	Gas	GRC	COHF	Gas	TPIS
Be3O3	Gas	TPIS	CHCL	Gas	GRC	COS	Gas	GRC
Be4O4	Gas	TPIS	CHCLBr2	Gas	TPIS	CO2	Gas	GRC
Br	Gas	GRC	CHCL2	Gas	TRC	CO2+	Gas	GRC
Br+	Gas	GRC	CHCL2Br	Gas	TPIS	COOH	Gas	TPIS
Br-	Gas	GRC	CHCL3	Gas	GRC	CP	Gas	TPIS
BrCL	Gas	TPIS	CHF	Gas	GRC	CS	Gas	GRC
BrF	Gas	TPIS	CHFBr2	Gas	TPIS	CS2	Gas	GRC
BrF3	Gas	TPIS	CHFCL	Gas	TPIS	C2	Gas	TPIS
BrF5	Gas	TPIS	CHFCLBr	Gas	TPIS	C2+	Gas	TPIS
BrO	Gas	JANAF	CHFCL2	Gas	GRC	C2-	Gas	TPIS
OBBrO	Gas	JANAF	CHF2	Gas	TRC	C2CL	Gas	TPIS
BrOO	Gas	JANAF	CHF2Br	Gas	TPIS	C2CL2	Gas	GRC
BrO3	Gas	JANAF	CHF2CL	Gas	GRC	C2CL3	Gas	TPIS
Br2	Gas	TPIS	CHF3	Gas	GRC	C2CL4	Gas	GRC
BrBrO	Gas	JANAF	CHI3	Gas	GRC	C2CL6	Gas	GRC
BrOBr	Gas	JANAF	CH2	Gas	GRC	C2F	Gas	TPIS
C	Gas	GRC	CH2Br2	Gas	GRC	C2FCL	Gas	TPIS
C+	Gas	GRC	CH2CL	Gas	GRC	C2FCL3	Gas	TPIS
C-	Gas	GRC	CH2CLBr	Gas	TPIS	C2F2	Gas	TPIS
CBr	Gas	TPIS	CH2CL2	Gas	TPIS	C2F2CL2	Gas	TPIS
CBr2	Gas	TPIS	CH2F	Gas	TRC	C2F3	Gas	TPIS
CBr3	Gas	TPIS	CH2FBr	Gas	TPIS	C2F3CL	Gas	TPIS
CBr4	Gas	GRC	CH2FCL	Gas	GRC	C2F4	Gas	TPIS
CCL	Gas	GRC	CH2F2	Gas	GRC	C2F6	Gas	GRC
CCLBr3	Gas	TPIS	CH2I2	Gas	GRC	C2H	Gas	GRC
CCL2	Gas	GRC	CH3	Gas	GRC	C2HCL	Gas	GRC
CCL2Br2	Gas	TPIS	CH3Br	Gas	GRC	C2HCL3	Gas	GRC
CCL3	Gas	TRC	CH3CL	Gas	TPIS	C2HF	Gas	TPIS
CCL3Br	Gas	TPIS	CH3F	Gas	GRC	C2HFCL2	Gas	TPIS
CCL4	Gas	TPIS	CH3I	Gas	GRC	C2HF2CL	Gas	TPIS
CF	Gas	TPIS	CH2OH	Gas	GRC	C2HF3	Gas	TPIS
CF+	Gas	GRC	CH2OH+	Gas	GRC	C2H2CL2	Gas	TPIS
CFBr3	Gas	TPIS	CH3O	Gas	GRC	C2H2FCL	Gas	TPIS
CFCL	Gas	GRC	CH4	Gas	GRC	C2H2F2	Gas	TPIS
CFCLBr2	Gas	TPIS	CH3OH	Gas	GRC	O(CH)2O	Gas	GRC
CFCL2	Gas	TPIS	CH3OOH	Gas	SRD	HO(CO)2OH	Gas	SRD
CFCL2Br	Gas	TPIS	Cl	Gas	TPIS	CH2Br-COOH	Gas	SRD
CFCL3	Gas	GRC	Cl2	Gas	TPIS	C2H3CL	Gas	GRC
CF2	Gas	GRC	Cl3	Gas	GRC	CH2CL-COOH	Gas	SRD
CF2+	Gas	GRC	Cl4	Gas	GRC	C2H3F	Gas	TPIS
CF2Br2	Gas	TPIS	CN	Gas	GRC	CH3CN	Gas	GRC
CF2CL	Gas	TPIS	CN+	Gas	TPIS	C2H4	Gas	GRC

Species	Phase	References	Species	Phase	References	Species	Phase	References
CH3COOH	Gas	GRC	Cd+	Gas	GRC	Cu-	Gas	GRC
OHCH2COOH	Gas	SRD	CL	Gas	GRC	CuCL	Gas	JANAF
C2H5	Gas	GRC	CL+	Gas	GRC	CuF	Gas	JANAF
C2H5Br	Gas	TRC	CL-	Gas	GRC	CuF2	Gas	JANAF
C2H6	Gas	GRC	CLCN	Gas	GRC	CuO	Gas	JANAF
CH3N2CH3	Gas	GRC	CLF	Gas	TPIS	CuOH	Gas	GRC
C2H5OH	Gas	GRC	CLF3	Gas	TPIS	Cu2	Gas	JANAF
CH3OCH3	Gas	GRC	CLF5	Gas	TPIS	Cu3CL3	Gas	JANAF
CH3O2CH3	Gas	SRD	CLO	Gas	TPIS	D	Gas	GRC
CCN	Gas	GRC	CLO2	Gas	GRC	D+	Gas	GRC
CNC	Gas	TPIS	CL2	Gas	TPIS	D-	Gas	GRC
OCCN	Gas	SRD	CL2O	Gas	TPIS	DBr	Gas	TPIS
C2N2	Gas	TPIS	Co	Gas	GRC	DCL	Gas	TPIS
C2O	Gas	GRC	Co+	Gas	GRC	DF	Gas	TPIS
C2S2	Gas	TRC	Co-	Gas	GRC	DOCL	Gas	GRC
C3	Gas	TPIS	Cr	Gas	GRC	DO2	Gas	TPIS
C3H8	Gas	GRC	Cr+	Gas	GRC	DO2-	Gas	TPIS
CNCOCN	Gas	SRD	Cr-	Gas	GRC	D2	Gas	TPIS
C3OS	Gas	TRC	CrN	Gas	JANAF	D2+	Gas	JANAF
C3O2	Gas	GRC	CrO	Gas	TPIS	D2-	Gas	JANAF
C3S2	Gas	TRC	CrO2	Gas	TPIS	D2O	Gas	GRC
C4	Gas	GRC	CrO3	Gas	TPIS	D2O2	Gas	GRC
(CH3COOH)2	Gas	GRC	CrO3-	Gas	TPIS	D2S	Gas	GRC
C4N2	Gas	GRC	Cs	Gas	GRC	F	Gas	GRC
C5	Gas	GRC	Cs+	Gas	GRC	F+	Gas	GRC
CH3C(CH3)2			Cs-	Gas	GRC	F-	Gas	GRC
CH3	Gas	TRC	CsBO2	Gas	TPIS	FCN	Gas	GRC
C6D6	Gas	GRC	CsBr	Gas	TPIS	FCO	Gas	GRC
C6H2	Gas	GRC	CsCL	Gas	TPIS	FO	Gas	JANAF
C6H6	Gas	GRC	CsF	Gas	TPIS	F2	Gas	TPIS
C7H8	Gas	GRC	CsH	Gas	TPIS	F2O	Gas	GRC
Ca	Gas	GRC	CsI	Gas	TPIS	F2O2	Gas	JANAF
Ca+	Gas	GRC	CsLi	Gas	TPIS	FS2F	Gas	JANAF
CaBr	Gas	TPIS	CsNO2	Gas	TPIS	Fe	Gas	GRC
CaBr2	Gas	TPIS	CsNO3	Gas	TPIS	Fe+	Gas	GRC
CaCL	Gas	TPIS	CsNa	Gas	TPIS	Fe-	Gas	GRC
CaCL+	Gas	TPIS	CsO	Gas	TPIS	Fe(CO)5	Gas	JANAF
CaCL2	Gas	TPIS	CsOH	Gas	GRC	FeCL	Gas	JANAF
CaF	Gas	TPIS	CsRb	Gas	TPIS	FeCL2	Gas	JANAF
CaF+	Gas	TPIS	Cs2	Gas	TPIS	FeCL3	Gas	JANAF
CaF2	Gas	TPIS	Cs2Br2	Gas	TPIS	FeO	Gas	JANAF
CaH	Gas	TPIS	Cs2CO3	Gas	TPIS	Fe(OH)2	Gas	JANAF
CaI	Gas	TPIS	Cs2CL2	Gas	TPIS	Fe2CL4	Gas	JANAF
CaI2	Gas	TPIS	Cs2F2	Gas	TPIS	Fe2CL6	Gas	JANAF
CaO	Gas	TPIS	Cs2I2	Gas	TPIS	Ga	Gas	GRC
CaO+	Gas	TPIS	Cs2O	Gas	TPIS	Ga+	Gas	GRC
CaOH	Gas	TPIS	Cs2O+	Gas	TPIS	GaBr	Gas	TPIS
CaOH+	Gas	TPIS	Cs2O2	Gas	TPIS	GaBr2	Gas	TPIS
Ca(OH)2	Gas	TPIS	Cs2O2H2	Gas	GRC	GaBr3	Gas	TPIS
CaS	Gas	TPIS	Cs2SO4	Gas	GRC	GaCL	Gas	TPIS
Ca2	Gas	TPIS	Cu	Gas	GRC	GaCL2	Gas	TPIS
Cd	Gas	GRC	Cu+	Gas	GRC	GaCL3	Gas	TPIS

Species	Phase	References	Species	Phase	References	Species	Phase	References
GaF	Gas	TPIS	HBS	Gas	GRC	Hg+	Gas	GRC
GaF2	Gas	TPIS	HBS+	Gas	GRC	HgBr2	Gas	GRC
GaF3	Gas	TPIS	HBr	Gas	TPIS	I	Gas	GRC
GaH	Gas	TPIS	HCN	Gas	GRC	I+	Gas	GRC
GaI	Gas	TPIS	HCO	Gas	GRC	I-	Gas	GRC
GaI2	Gas	TPIS	HCO+	Gas	GRC	IF5	Gas	TPIS
GaI3	Gas	TPIS	HCCN	Gas	TPIS	IF7	Gas	TPIS
GaO	Gas	TPIS	HCCO	Gas	GRC	I2	Gas	TPIS
GaOH	Gas	TPIS	HCL	Gas	TPIS	In	Gas	GRC
Ga2Br2	Gas	TPIS	HD	Gas	TPIS	In+	Gas	GRC
Ga2Br4	Gas	TPIS	HD+	Gas	JANAF	InBr	Gas	TPIS
Ga2Br6	Gas	TPIS	HDO	Gas	GRC	InBr2	Gas	TPIS
Ga2CL2	Gas	TPIS	HDO2	Gas	GRC	InBr3	Gas	TPIS
Ga2CL4	Gas	TPIS	HF	Gas	TPIS	InCL	Gas	TPIS
Ga2CL6	Gas	TPIS	HI	Gas	JANAF	InCL2	Gas	TPIS
Ga2F2	Gas	TPIS	HNC	Gas	GRC	InCL3	Gas	TPIS
Ga2F4	Gas	TPIS	HNCO	Gas	GRC	InF	Gas	TPIS
Ga2F6	Gas	TPIS	HNO	Gas	GRC	InF2	Gas	TPIS
Ga2I2	Gas	TPIS	HNO2	Gas	TPIS	InF3	Gas	TPIS
Ga2I4	Gas	TPIS	HNO3	Gas	GRC	InH	Gas	TPIS
Ga2I6	Gas	TPIS	HOCL	Gas	GRC	InI	Gas	TPIS
Ga2O	Gas	TPIS	HOF	Gas	TPIS	InI2	Gas	TPIS
Ge	Gas	GRC	HO2	Gas	GRC	InI3	Gas	TPIS
Ge+	Gas	GRC	HO2-	Gas	GRC	InO	Gas	TPIS
Ge-	Gas	GRC	HPO	Gas	TPIS	InOH	Gas	TPIS
GeBr	Gas	TPIS	HSO3F	Gas	JANAF	In2Br2	Gas	TPIS
GeBr2	Gas	TPIS	H2	Gas	TPIS	In2Br4	Gas	TPIS
GeBr3	Gas	TPIS	H2+	Gas	TPIS	In2Br6	Gas	TPIS
GeBr4	Gas	TPIS	H2-	Gas	JANAF	In2CL2	Gas	TPIS
GeCL	Gas	TPIS	HBOH	Gas	GRC	In2CL4	Gas	TPIS
GeCL2	Gas	TPIS	HCOOH	Gas	GRC	In2CL6	Gas	TPIS
GeCL3	Gas	GRC	H2F2	Gas	TPIS	In2F2	Gas	TPIS
GeCL4	Gas	TPIS	H2O	Gas	GRC	In2F4	Gas	TPIS
GeF	Gas	TPIS	H2O+	Gas	TPIS	In2F6	Gas	TPIS
GeF2	Gas	TPIS	H2O2	Gas	GRC	In2I2	Gas	TPIS
GeF3	Gas	GRC	H2S	Gas	GRC	In2I4	Gas	TPIS
GeF4	Gas	TPIS	H2SO4	Gas	TPIS	In2I6	Gas	TPIS
GeH4	Gas	BAR	H2BOH	Gas	TPIS	In2O	Gas	TPIS
GeI	Gas	TPIS	HB(OH)2	Gas	TPIS	K	Gas	GRC
GeO	Gas	TPIS	H3BO3	Gas	TPIS	K+	Gas	GRC
GeO2	Gas	TPIS	H3B3O3	Gas	TPIS	K-	Gas	GRC
GeS	Gas	TPIS	H3B3O6	Gas	TPIS	KALF4	Gas	TPIS
GeS2	Gas	TPIS	H3F3	Gas	TPIS	KBO2	Gas	TPIS
Ge2	Gas	TPIS	H3O+	Gas	TPIS	KBr	Gas	TPIS
H	Gas	GRC	(HCOOH)2	Gas	GRC	KCN	Gas	JANAF
H+	Gas	GRC	H4F4	Gas	TPIS	KCL	Gas	TPIS
H-	Gas	GRC	H5F5	Gas	TPIS	KF	Gas	TPIS
HALO	Gas	TPIS	H6F6	Gas	TPIS	KH	Gas	TPIS
HALO2	Gas	TPIS	H7F7	Gas	TPIS	KI	Gas	TPIS
HBO	Gas	TPIS	He	Gas	GRC	KLi	Gas	TPIS
HBO+	Gas	GRC	He+	Gas	GRC	KNO2	Gas	TPIS
HBO2	Gas	TPIS	Hg	Gas	GRC	KNO3	Gas	TPIS

Species	Phase	References	Species	Phase	References	Species	Phase	References
KNa	Gas	TPIS	Mg+	Gas	GRC	NH4+	Gas	TPIS
KO	Gas	TPIS	MgBr	Gas	TPIS	NO	Gas	TPIS
KOH	Gas	GRC	MgBr2	Gas	TPIS	NO+	Gas	GRC
K2	Gas	TPIS	MgCL	Gas	TPIS	NOCL	Gas	GRC
K2+	Gas	TPIS	MgCL+	Gas	GRC	NOF	Gas	GRC
K2Br2	Gas	TPIS	MgCL2	Gas	TPIS	NOF3	Gas	TPIS
K2CO3	Gas	TPIS	MgF	Gas	TPIS	NO2	Gas	GRC
K2C2N2	Gas	JANAF	MgF+	Gas	GRC	NO2-	Gas	TPIS
K2CL2	Gas	TPIS	MgF2	Gas	TPIS	NO2CL	Gas	GRC
K2F2	Gas	TPIS	MgF2+	Gas	GRC	NO2F	Gas	GRC
K2I2	Gas	TPIS	MgH	Gas	TPIS	NO3	Gas	JANAF
K2O	Gas	TPIS	MgI	Gas	TPIS	NO3-	Gas	TPIS
K2O+	Gas	TPIS	MgI2	Gas	TPIS	NO3F	Gas	TPIS
K2O2	Gas	TPIS	MgN	Gas	JANAF	N2	Gas	TPIS
K2O2H2	Gas	GRC	MgO	Gas	TPIS	N2+	Gas	TPIS
K2SO4	Gas	GRC	MgOH	Gas	TPIS	N2-	Gas	JANAF
Kr	Gas	GRC	MgOH+	Gas	GRC	NCN	Gas	GRC
Kr+	Gas	GRC	Mg(OH)2	Gas	TPIS	N2F2	Gas	TPIS
Li	Gas	GRC	MgS	Gas	TPIS	N2F4	Gas	TPIS
Li+	Gas	GRC	Mg2	Gas	TPIS	N2H2	Gas	GRC
Li-	Gas	GRC	Mg2F4	Gas	JANAF	NH2NO2	Gas	TPIS
LiALF4	Gas	TPIS	Mn	Gas	GRC	N2H4	Gas	GRC
LiBO2	Gas	TPIS	Mn+	Gas	GRC	N2O	Gas	GRC
LiBr	Gas	TPIS	Mo	Gas	GRC	N2O+	Gas	JANAF
LiCL	Gas	TPIS	Mo+	Gas	GRC	N2O3	Gas	GRC
LiF	Gas	TPIS	Mo-	Gas	GRC	N2O4	Gas	TPIS
LiH	Gas	TPIS	MoO	Gas	TPIS	N2O5	Gas	GRC
LiI	Gas	TPIS	MoO2	Gas	TPIS	N3	Gas	TPIS
LiN	Gas	JANAF	MoO3	Gas	TPIS	N3H	Gas	GRC
LiNO2	Gas	TPIS	MoO3-	Gas	TPIS	Na	Gas	GRC
LiNO3	Gas	TPIS	Mo2O6	Gas	TPIS	Na+	Gas	GRC
LiO	Gas	TPIS	Mo3O9	Gas	TPIS	Na-	Gas	GRC
LiOF	Gas	JANAF	Mo4O12	Gas	TPIS	NaALF4	Gas	TPIS
LiOH	Gas	GRC	Mo5O15	Gas	TPIS	NaBO2	Gas	TPIS
LiON	Gas	JANAF	N	Gas	GRC	NaBr	Gas	TPIS
Li2	Gas	JANAF	N+	Gas	GRC	NaCN	Gas	JANAF
Li2+	Gas	TPIS	N-	Gas	JANAF	NaCL	Gas	TPIS
Li2Br2	Gas	TPIS	NCO	Gas	GRC	NaF	Gas	TPIS
Li2CL2	Gas	TPIS	ND	Gas	GRC	NaH	Gas	TPIS
Li2F2	Gas	TPIS	ND2	Gas	GRC	NaI	Gas	TPIS
Li2I2	Gas	TPIS	ND3	Gas	GRC	NaLi	Gas	TPIS
Li2O	Gas	TPIS	NF	Gas	TPIS	NaNO2	Gas	GRC
Li2O+	Gas	TPIS	NF2	Gas	GRC	NaNO3	Gas	TPIS
Li2O2	Gas	TPIS	NF3	Gas	GRC	NaO	Gas	TPIS
Li2O2H2	Gas	GRC	NH	Gas	GRC	NaOH	Gas	GRC
Li2SO4	Gas	JANAF	NH+	Gas	GRC	NaOH+	Gas	GRC
Li3+	Gas	TPIS	NHF	Gas	TPIS	Na2	Gas	TPIS
Li3Br3	Gas	TPIS	NHF2	Gas	TPIS	Na2Br2	Gas	TPIS
Li3CL3	Gas	TPIS	NH2	Gas	GRC	Na2CL2	Gas	TPIS
Li3F3	Gas	TPIS	NH2F	Gas	TPIS	Na2F2	Gas	TPIS
Li3I3	Gas	TPIS	NH3	Gas	TPIS	Na2I2	Gas	TPIS
Mg	Gas	GRC	NH2OH	Gas	TPIS	Na2O	Gas	TPIS

Species	Phase	References	Species	Phase	References	Species	Phase	References
Na2O+	Gas	TPIS	PF2CL3	Gas	TPIS	PbS	Gas	TPIS
Na2O2	Gas	TPIS	PF3	Gas	TPIS	PbS2	Gas	TPIS
Na2O2H2	Gas	GRC	PF3CL2	Gas	TPIS	Rb	Gas	GRC
Na2SO4	Gas	TPIS	PF4CL	Gas	TPIS	Rb+	Gas	GRC
Na3CL3	Gas	TPIS	PF5	Gas	TPIS	Rb-	Gas	GRC
Na3F3	Gas	TPIS	PH	Gas	TPIS	RbBO2	Gas	TPIS
Nb	Gas	GRC	PH2	Gas	TPIS	RbBr	Gas	TPIS
Nb+	Gas	GRC	PH2-	Gas	TPIS	RbCL	Gas	TPIS
Nb-	Gas	GRC	PH3	Gas	JANAF	RbF	Gas	TPIS
NbCL5	Gas	JANAF	PN	Gas	TPIS	RbH	Gas	TPIS
NbO	Gas	TPIS	PO	Gas	TPIS	RbI	Gas	TPIS
NbOCL3	Gas	BAR	PO-	Gas	TPIS	RbK	Gas	TPIS
NbO2	Gas	TPIS	POCL3	Gas	TPIS	RbLi	Gas	TPIS
Ne	Gas	GRC	POFCL2	Gas	TPIS	RbNO2	Gas	TPIS
Ne+	Gas	GRC	POF2CL	Gas	TPIS	RbNO3	Gas	TPIS
Ni	Gas	GRC	POF3	Gas	TPIS	RbNa	Gas	TPIS
Ni+	Gas	GRC	PO2	Gas	TPIS	RbO	Gas	TPIS
Ni-	Gas	GRC	PO2-	Gas	TPIS	RbOH	Gas	GRC
NiCL	Gas	JANAF	PS	Gas	TPIS	Rb2Br2	Gas	TPIS
NiCL2	Gas	JANAF	P2	Gas	TPIS	Rb2CL2	Gas	TPIS
NiO	Gas	GRC	P2O3	Gas	TPIS	Rb2I2	Gas	TPIS
NiS	Gas	JANAF	P2O4	Gas	TPIS	Rb2O	Gas	TPIS
O	Gas	GRC	P2O5	Gas	TPIS	Rb2O2	Gas	TPIS
O+	Gas	GRC	P3	Gas	TPIS	Rb2O2H2	Gas	GRC
O-	Gas	GRC	P3O6	Gas	TPIS	Rb2SO4	Gas	GRC
OD	Gas	GRC	P4	Gas	TPIS	Rn	Gas	GRC
OD-	Gas	GRC	P4O6	Gas	TPIS	Rn+	Gas	GRC
OH	Gas	GRC	P4O7	Gas	TPIS	S	Gas	GRC
OH+	Gas	GRC	P4O8	Gas	TPIS	S+	Gas	GRC
OH-	Gas	GRC	P4O9	Gas	TPIS	S-	Gas	GRC
O2	Gas	TPIS	P4O10	Gas	TPIS	SCL	Gas	JANAF
O2+	Gas	TPIS	Pb	Gas	GRC	SCL2	Gas	JANAF
O2-	Gas	GRC	Pb+	Gas	GRC	SCL2+	Gas	JANAF
O3	Gas	GRC	Pb-	Gas	GRC	SD	Gas	JANAF
P	Gas	GRC	PbBr	Gas	TPIS	SF	Gas	TPIS
P+	Gas	GRC	PbBr2	Gas	TPIS	SF+	Gas	GRC
P-	Gas	GRC	PbBr3	Gas	TPIS	SF-	Gas	TPIS
PCL	Gas	TPIS	PbBr4	Gas	TPIS	SF2	Gas	TPIS
PCL2	Gas	TPIS	PbCL	Gas	TPIS	SF2+	Gas	GRC
PCL2-	Gas	TPIS	PbCL2	Gas	TPIS	SF2-	Gas	GRC
PCL3	Gas	TPIS	PbCL3	Gas	TPIS	SF3	Gas	TPIS
PCL5	Gas	TPIS	PbCL4	Gas	TPIS	SF3+	Gas	JANAF
PF	Gas	TPIS	PbF	Gas	TPIS	SF3-	Gas	TPIS
PF+	Gas	JANAF	PbF2	Gas	TPIS	SF4	Gas	TPIS
PF-	Gas	JANAF	PbF3	Gas	TPIS	SF4+	Gas	JANAF
PFCL	Gas	TPIS	PbF4	Gas	TPIS	SF4-	Gas	JANAF
PFCL-	Gas	TPIS	PbI	Gas	TPIS	SF5	Gas	TPIS
PFCL2	Gas	TPIS	PbI2	Gas	TPIS	SF5+	Gas	JANAF
PFCL4	Gas	TPIS	PbI3	Gas	TPIS	SF5-	Gas	TPIS
PF2	Gas	TPIS	PbI4	Gas	TPIS	SF6	Gas	TPIS
PF2-	Gas	TPIS	PbO	Gas	TPIS	SF6-	Gas	JANAF
PF2CL	Gas	TPIS	PbO2	Gas	TPIS	SH	Gas	GRC

Species	Phase	References	Species	Phase	References	Species	Phase	References
SH-	Gas	GRC	SiHCL3	Gas	JANAF	Sr+	Gas	GRC
SN	Gas	TPIS	SiHF	Gas	TPIS	SrBr	Gas	TPIS
SO	Gas	TPIS	SiHF3	Gas	JANAF	SrBr2	Gas	TPIS
SO-	Gas	TPIS	SiHI3	Gas	JANAF	SrCL	Gas	TPIS
SOF2	Gas	TPIS	SiH2	Gas	GRC	SrCL+	Gas	GRC
SO2	Gas	TPIS	SiH2Br2	Gas	JANAF	SrCL2	Gas	TPIS
SO2-	Gas	TPIS	SiH2CL2	Gas	JANAF	SrF	Gas	TPIS
SO2CL2	Gas	JANAF	SiH2F2	Gas	JANAF	SrF+	Gas	GRC
SO2FCL	Gas	JANAF	SiH2I2	Gas	JANAF	SrF2	Gas	TPIS
SO2F2	Gas	TPIS	SiH3	Gas	GRC	SrH	Gas	TPIS
SO3	Gas	TPIS	SiH3Br	Gas	JANAF	SrI	Gas	TPIS
S2	Gas	TPIS	SiH3CL	Gas	JANAF	SrI2	Gas	TPIS
S2-	Gas	TPIS	SiH3F	Gas	JANAF	SrO	Gas	TPIS
S2CL2	Gas	GRC	SiH3I	Gas	JANAF	SrO+	Gas	GRC
S2F2	Gas	JANAF	SiH4	Gas	TPIS	SrOH	Gas	TPIS
S2O	Gas	TPIS	SiI	Gas	TPIS	SrOH+	Gas	TPIS
S3	Gas	TPIS	SiI2	Gas	JANAF	Sr(OH)2	Gas	TPIS
S4	Gas	TPIS	SiN	Gas	GRC	SrS	Gas	TPIS
S5	Gas	TPIS	SiO	Gas	TPIS	Sr2	Gas	TPIS
S6	Gas	TPIS	SiO2	Gas	TPIS	Ta	Gas	GRC
S7	Gas	TPIS	SiS	Gas	TPIS	Ta+	Gas	GRC
S8	Gas	TPIS	SiS2	Gas	TPIS	Ta-	Gas	GRC
Sc	Gas	GRC	Si2	Gas	TPIS	TaCL5	Gas	JANAF
Sc+	Gas	GRC	Si2C	Gas	TPIS	TaO	Gas	TPIS
Sc-	Gas	GRC	Si2F6	Gas	GRC	TaO2	Gas	TPIS
ScO	Gas	TPIS	Si2N	Gas	JANAF	Ti	Gas	GRC
ScO+	Gas	GRC	Si3	Gas	GRC	Ti+	Gas	GRC
ScO2	Gas	TPIS	Sn	Gas	GRC	Ti-	Gas	GRC
Sc2O	Gas	TPIS	Sn+	Gas	GRC	TiCL	Gas	JANAF
Sc2O2	Gas	TPIS	Sn-	Gas	GRC	TiCL2	Gas	JANAF
Si	Gas	GRC	SnBr	Gas	TPIS	TiCL3	Gas	JANAF
Si+	Gas	GRC	SnBr2	Gas	TPIS	TiCL4	Gas	JANAF
Si-	Gas	GRC	SnBr3	Gas	TPIS	TiO	Gas	TPIS
SiBr	Gas	TPIS	SnBr4	Gas	TPIS	TiO+	Gas	TPIS
SiBr2	Gas	TPIS	SnCL	Gas	TPIS	TiOCL	Gas	JANAF
SiBr3	Gas	TPIS	SnCL2	Gas	TPIS	TiOCL2	Gas	JANAF
SiBr4	Gas	TPIS	SnCL3	Gas	TPIS	TiO2	Gas	GRC
SiC	Gas	TPIS	SnCL4	Gas	TPIS	U	Gas	GRC
SiC2	Gas	TPIS	SnF	Gas	TPIS	UF	Gas	TPIS
SiCL	Gas	TPIS	SnF2	Gas	TPIS	UF+	Gas	TPIS
SiCL2	Gas	TPIS	SnF3	Gas	TPIS	UF-	Gas	GRC
SiCL3	Gas	TPIS	SnF4	Gas	TPIS	UF2	Gas	TPIS
SiCL4	Gas	TPIS	SnI	Gas	TPIS	UF2+	Gas	TPIS
SiF	Gas	TPIS	SnI2	Gas	TPIS	UF2-	Gas	TPIS
SiFCL	Gas	TPIS	SnI3	Gas	TPIS	UF3	Gas	TPIS
SiF2	Gas	TPIS	SnI4	Gas	TPIS	UF3+	Gas	TPIS
SiF3	Gas	TPIS	SnO	Gas	TPIS	UF3-	Gas	TPIS
SiF4	Gas	GRC	SnO2	Gas	TPIS	UF4	Gas	TPIS
SiH	Gas	TPIS	SnS	Gas	TPIS	UF4+	Gas	TPIS
SiH+	Gas	JANAF	SnS2	Gas	TPIS	UF4-	Gas	TPIS
SiHBr3	Gas	JANAF	Sn2	Gas	TPIS	UF5	Gas	TPIS
SiHCL	Gas	TPIS	Sr	Gas	GRC	UF5+	Gas	TPIS

Species	Phase	References	Species	Phase	References	Species	Phase	References
UF5-	Gas	TPIS	AL	Liquid	CODATA	Be	Solid	SRD
UF6	Gas	TPIS	ALBr3	Solid	TPIS	Be	Liquid	SRD
UF6-	Gas	TPIS	ALBr3	Liquid	TPIS	BeAL2O4	Solid	JANAF
UO	Gas	TPIS	ALCL3	Solid	TPIS	BeAL2O4	Liquid	JANAF
UO+	Gas	TPIS	ALCL3	Liquid	TPIS	BeBr2	Solid	TPIS
UOF	Gas	TPIS	ALF3	Solid	TPIS	BeBr2	Liquid	TPIS
UOF2	Gas	TPIS	ALH3	Solid	TPIS	BeCO3	Solid	TPIS
UOF3	Gas	TPIS	ALi3	Solid	TPIS	BeCL2	Solid	TPIS
UOF4	Gas	TPIS	ALi3	Liquid	TPIS	BeCL2	Liquid	TPIS
UO2	Gas	TPIS	ALN	Solid	TPIS	BeF2	Solid	TPIS
UO2+	Gas	TPIS	ALN	Liquid	TPIS	BeF2	Liquid	TPIS
UO2-	Gas	TPIS	AL(OH)3	Solid	TPIS	BeI2	Solid	TPIS
UO2F	Gas	TPIS	AL2O3	Solid	TPIS	BeI2	Liquid	TPIS
UO2F2	Gas	TPIS	AL2O3	Liquid	TPIS	BeO	Solid	TPIS
UO3	Gas	TPIS	AL2S3	Solid	TPIS	BeO	Liquid	TPIS
UO3-	Gas	TPIS	AL2S3	Liquid	TPIS	Be(OH)2	Solid	TPIS
V	Gas	GRC	AL2SiO5	Solid	JANAF	BeS	Solid	TPIS
V+	Gas	GRC	AL4C3	Solid	TPIS	BeSO4	Solid	TPIS
V-	Gas	GRC	B	Solid	JANAF	BeSO4	Liquid	TPIS
VCL4	Gas	GRC	B	Liquid	JANAF	Be2C	Solid	BAR
VN	Gas	JANAF	BN	Solid	TPIS	Be2C	Liquid	BAR
VO	Gas	TPIS	BN	Liquid	TPIS	Be3N2	Solid	TPIS
VO2	Gas	TPIS	B2O3	Solid	TPIS	Be3N2	Liquid	TPIS
V4O10	Gas	GRC	B2O3	Liquid	TPIS	Br2	Solid	GRC
W	Gas	GRC	B2S3	Solid	TPIS	Br2	Liquid	GRC
W+	Gas	GRC	B2S3	Liquid	TPIS	C	Solid	TRC
W-	Gas	GRC	B3O3H3	Solid	JANAF	Ca	Solid	SRD
WCL6	Gas	JANAF	B4C	Solid	TPIS	Ca	Liquid	SRD
WO	Gas	TPIS	B4C	Liquid	JANAF	CaBr2	Solid	TPIS
WOCL4	Gas	JANAF	Ba	Solid	SRD	CaBr2	Liquid	TPIS
WO2	Gas	TPIS	Ba	Liquid	SRD	CaCO3	Solid	TPIS
WO2CL2	Gas	JANAF	BaBr2	Solid	TPIS	CaCO3	Liquid	TPIS
WO3	Gas	TPIS	BaBr2	Liquid	TPIS	CaCL2	Solid	TPIS
WO3-	Gas	TPIS	BaCO3	Solid	TPIS	CaCL2	Liquid	TPIS
(WO3)2	Gas	TPIS	BaCO3	Liquid	TPIS	CaF2	Solid	TPIS
(WO3)3	Gas	TPIS	BaCL2	Solid	TPIS	CaF2	Liquid	TPIS
(WO3)4	Gas	TPIS	BaCL2	Liquid	TPIS	CaH2	Solid	TPIS
(WO3)5	Gas	TPIS	BaF2	Solid	TPIS	CaH2	Liquid	TPIS
Xe	Gas	GRC	BaF2	Liquid	TPIS	CaI2	Solid	TPIS
Xe+	Gas	GRC	BaH2	Solid	TPIS	CaI2	Liquid	TPIS
Zn	Gas	GRC	BaH2	Liquid	TPIS	CaO	Solid	TPIS
Zn+	Gas	GRC	BaI2	Solid	TPIS	CaO	Liquid	TPIS
Zr	Gas	GRC	BaI2	Liquid	TPIS	Ca(OH)2	Solid	TPIS
Zr+	Gas	GRC	BaO	Solid	TPIS	Ca(OH)2	Liquid	TPIS
Zr-	Gas	GRC	BaO	Liquid	TPIS	CaS	Solid	TPIS
ZrN	Gas	JANAF	Ba(OH)2	Solid	TPIS	CaS	Liquid	TPIS
ZrO	Gas	TPIS	Ba(OH)2	Liquid	TPIS	CaSO4	Solid	TPIS
ZrO+	Gas	TPIS	BaS	Solid	TPIS	CaSO4	Liquid	TPIS
ZrO2	Gas	GRC	BaS	Liquid	TPIS	Cd	Solid	CODATA
Ag	Solid	CODATA	BaSO4	Solid	TPIS	Cd	Liquid	CODATA
Ag	Liquid	CODATA	BaSO4	Liquid	TPIS	Co	Solid	JANAF
AL	Solid	CODATA	Be	Solid	SRD	Co	Liquid	JANAF

Species	Phase	References	Species	Phase	References	Species	Phase	References
Cr	Solid	JANAF	CuS	Solid	GRC	H3PO4	Solid	JANAF
Cr	Liquid	JANAF	CuSO4	Solid	GRC	H3PO4	Liquid	JANAF
CrN	Solid	JANAF	Cu2O	Solid	GRC	Hg	Solid	JANAF
Cr2N	Solid	JANAF	Cu2O	Liquid	GRC	Hg	Liquid	JANAF
Cr2O3	Solid	TPIS	Cu2S	Solid	GRC	HgBr2	Solid	GRC
Cr2O3	Liquid	TPIS	Cu2S	Liquid	GRC	HgBr2	Liquid	GRC
Cs	Solid	CODATA	Fe	Solid	JANAF	HgO	Solid	JANAF
Cs	Liquid	CODATA	Fe	Liquid	JANAF	I2	Solid	TPIS
CsBO2	Solid	TPIS	Fe(CO)5	Liquid	JANAF	I2	Liquid	TPIS
CsBO2	Liquid	TPIS	FeCL2	Solid	JANAF	In	Solid	TPIS
CsBr	Solid	TPIS	FeCL2	Liquid	JANAF	In	Liquid	TPIS
CsBr	Liquid	TPIS	FeCL3	Solid	GRC	InBr	Solid	TPIS
CsCL	Solid	TPIS	FeCL3	Liquid	GRC	InBr	Liquid	TPIS
CsCL	Liquid	TPIS	Fe.947O	Solid	GRC	InBr3	Solid	TPIS
CsF	Solid	TPIS	Fe.947O	Liquid	GRC	InBr3	Liquid	TPIS
CsF	Liquid	TPIS	FeOCL	Solid	GRC	InCL	Solid	TPIS
CsH	Solid	TPIS	Fe(OH)2	Solid	JANAF	InCL	Liquid	TPIS
CsH	Liquid	TPIS	Fe(OH)3	Solid	JANAF	InCL3	Solid	TPIS
CsI	Solid	TPIS	FeS	Solid	GRC	InCL3	Liquid	TPIS
CsI	Liquid	TPIS	FeS	Liquid	GRC	InF3	Solid	TPIS
CsNO2	Solid	TPIS	FeSO4	Solid	JANAF	InF3	Liquid	TPIS
CsNO2	Liquid	TPIS	FeS2	Solid	JANAF	InI	Solid	TPIS
CsNO3	Solid	TPIS	Fe2O3	Solid	GRC	InI	Liquid	TPIS
CsNO3	Liquid	TPIS	Fe2(SO4)3	Solid	JANAF	InI2	Solid	TPIS
CsOH	Solid	GRC	Fe3O4	Solid	GRC	InI2	Liquid	TPIS
CsOH	Liquid	GRC	Fe3O4	Liquid	GRC	InI3	Solid	TPIS
CsO2	Solid	TPIS	Ga	Solid	TPIS	InI3	Liquid	TPIS
CsO2	Liquid	TPIS	Ga	Liquid	TPIS	In2O3	Solid	TPIS
Cs2CO3	Solid	TPIS	GaBr3	Solid	TPIS	In2O3	Liquid	TPIS
Cs2CO3	Liquid	TPIS	GaBr3	Liquid	TPIS	K	Solid	CODATA
Cs2O	Solid	TPIS	GaCL3	Solid	TPIS	K	Liquid	CODATA
Cs2O	Liquid	TPIS	GaCL3	Liquid	TPIS	KALO2	Solid	TPIS
Cs2O2	Solid	TPIS	GaF3	Solid	TPIS	KALO2	Liquid	TPIS
Cs2O2	Liquid	TPIS	Gal3	Solid	TPIS	KBO2	Solid	TPIS
Cs2SO4	Solid	TPIS	Gal3	Liquid	TPIS	KBO2	Liquid	TPIS
Cs2SO4	Liquid	TPIS	Ga2O3	Solid	TPIS	KBr	Solid	TPIS
Cu	Solid	CODATA	Ga2O3	Liquid	TPIS	KBr	Liquid	TPIS
Cu	Liquid	CODATA	Ge	Solid	TPIS	KCN	Solid	JANAF
CuBr	Solid	GRC	Ge	Liquid	TPIS	KCN	Liquid	JANAF
CuBr	Liquid	GRC	GeO2	Solid	TPIS	KCL	Solid	TPIS
CuBr2	Solid	GRC	GeO2	Liquid	TPIS	KCL	Liquid	TPIS
CuCL	Solid	GRC	GeS	Solid	TPIS	KF	Solid	TPIS
CuCL	Liquid	GRC	GeS	Liquid	TPIS	KF	Liquid	TPIS
CuCL2	Solid	GRC	GeS2	Solid	TPIS	KH	Solid	TPIS
CuCL2	Liquid	GRC	GeS2	Liquid	TPIS	KH	Liquid	TPIS
CuF	Solid	GRC	HBO2	Solid	TPIS	K	Solid	JANAF
CuF2	Solid	GRC	HBO2	Liquid	TPIS	KI	Solid	TPIS
CuF2	Liquid	GRC	H2O	Solid	GRC	KI	Liquid	TPIS
CuI	Solid	GRC	H2O	Liquid	GRC	KNO2	Solid	TPIS
CuI	Liquid	GRC	H2SO4	Liquid	JANAF	KNO2	Liquid	TPIS
CuO	Solid	GRC	H3BO3	Solid	TPIS	KNO3	Solid	TPIS
Cu(OH)2	Solid	GRC	H3BO3	Liquid	TPIS	KNO3	Liquid	TPIS

Species	Phase	References	Species	Phase	References	Species	Phase	References
KOH	Solid	GRC	Mg	Solid	SRD	NaCN	Liquid	GRC
KOH	Liquid	GRC	Mg	Liquid	SRD	NaCL	Solid	TPIS
KO2	Solid	TPIS	MgAL2O4	Solid	JANAF	NaCL	Liquid	TPIS
KO2	Liquid	TPIS	MgAL2O4	Liquid	JANAF	NaF	Solid	TPIS
K2CO3	Solid	TPIS	MgBr2	Solid	TPIS	NaF	Liquid	TPIS
K2CO3	Liquid	TPIS	MgBr2	Liquid	TPIS	NaH	Solid	TPIS
K2O	Solid	TPIS	MgCO3	Solid	TPIS	NaH	Liquid	TPIS
K2O	Liquid	TPIS	MgCO3	Liquid	TPIS	NaI	Solid	TPIS
K2O2	Solid	TPIS	MgCL2	Solid	TPIS	NaI	Liquid	TPIS
K2O2	Liquid	TPIS	MgCL2	Liquid	TPIS	NaNO2	Solid	TPIS
K2S	Solid	JANAF	MgF2	Solid	TPIS	NaNO2	Liquid	TPIS
K2S	Liquid	JANAF	MgF2	Liquid	TPIS	NaNO3	Solid	TPIS
K2SO4	Solid	TPIS	MgH2	Solid	TPIS	NaNO3	Liquid	TPIS
K2SO4	Liquid	TPIS	MgH2	Liquid	TPIS	NaOH	Solid	GRC
K2SiO3	Solid	TPIS	MgI2	Solid	TPIS	NaOH	Liquid	GRC
K2SiO3	Liquid	TPIS	MgI2	Liquid	TPIS	NaO2	Solid	GRC
K2Si2O5	Solid	TPIS	MgO	Solid	TPIS	NaO2	Liquid	GRC
K2Si2O5	Liquid	TPIS	MgO	Liquid	TPIS	Na2CO3	Solid	TPIS
K3ALF6	Solid	TPIS	Mg(OH)2	Solid	TPIS	Na2CO3	Solid	TPIS
K3ALF6	Liquid	TPIS	Mg(OH)2	Liquid	TPIS	Na2CO3	Liquid	TPIS
Li	Solid	TPIS	MgS	Solid	TPIS	Na2O	Solid	TPIS
Li	Liquid	TPIS	MgS	Liquid	TPIS	Na2O	Liquid	TPIS
LiALO2	Solid	JANAF	MgSO4	Solid	TPIS	Na2O2	Solid	TPIS
LiALO2	Liquid	JANAF	MgSO4	Liquid	TPIS	Na2O2	Liquid	TPIS
LiBO2	Solid	TPIS	MgSiO3	Solid	JANAF	Na2S	Solid	JANAF
LiBO2	Liquid	TPIS	MgSiO3	Liquid	JANAF	Na2S	Liquid	JANAF
LiBr	Solid	TPIS	MgTiO3	Solid	JANAF	Na2SO3	Solid	BAR
LiBr	Liquid	TPIS	MgTiO3	Liquid	JANAF	Na2SO3	Liquid	BAR
LiCL	Solid	TPIS	MgTi2O5	Solid	GRC	Na2SO4	Solid	TPIS
LiCL	Liquid	TPIS	MgTi2O5	Liquid	GRC	Na2SO4	Liquid	TPIS
LiF	Solid	TPIS	Mg2SiO4	Solid	GRC	Na3ALF6	Solid	TPIS
LiF	Liquid	TPIS	Mg2SiO4	Liquid	GRC	Na3ALF6	Liquid	TPIS
LiH	Solid	TPIS	Mg2TiO4	Solid	GRC	Na5AL3F14	Solid	TPIS
LiH	Liquid	TPIS	Mg2TiO4	Liquid	GRC	Na5AL3F14	Liquid	TPIS
LiI	Solid	TPIS	Mg3N2	Solid	TPIS	Nb	Solid	JANAF
LiI	Liquid	TPIS	Mn	Solid	JANAF	Nb	Liquid	JANAF
LiNO2	Solid	TPIS	Mn	Liquid	JANAF	NbO	Solid	TPIS
LiNO2	Liquid	TPIS	Mo	Solid	JANAF	NbO	Liquid	TPIS
LiNO3	Solid	TPIS	Mo	Liquid	JANAF	NbOCL3	Solid	BAR
LiNO3	Liquid	TPIS	MoO3	Solid	TPIS	NbO2	Solid	TPIS
LiOH	Solid	GRC	MoO3	Liquid	TPIS	NbO2	Liquid	TPIS
LiOH	Liquid	GRC	NH4CL	Solid	JANAF	Nb2O5	Solid	TPIS
Li2CO3	Solid	TPIS	NH4F	Solid	TPIS	Nb2O5	Liquid	TPIS
Li2CO3	Liquid	TPIS	NH4F	Liquid	TPIS	Ni	Solid	JANAF
Li2O	Solid	TPIS	Na	Solid	CODATA	Ni	Liquid	JANAF
Li2O	Liquid	TPIS	Na	Liquid	CODATA	NiS	Solid	JANAF
Li2O2	Solid	TPIS	NaALO2	Solid	JANAF	NiS	Liquid	JANAF
Li2SO4	Solid	TPIS	NaBO2	Solid	TPIS	NiS2	Solid	JANAF
Li2SO4	Liquid	TPIS	NaBO2	Liquid	TPIS	NiS2	Liquid	JANAF
Li3ALF6	Solid	TPIS	NaBr	Solid	TPIS	Ni3S2	Solid	GRC
Li3ALF6	Liquid	TPIS	NaBr	Liquid	TPIS	Ni3S2	Liquid	GRC
Li3N	Solid	JANAF	NaCN	Solid	GRC	Ni3S4	Solid	JANAF

Species	Phase	References	Species	Phase	References	Species	Phase	References
P	Solid	TPIS	S	Liquid	TPIS	SrH2	Liquid	TPIS
P	Liquid	TPIS	SCL2	Liquid	JANAF	SrI2	Solid	TPIS
P4O10	Solid	TPIS	S2CL2	Liquid	JANAF	SrI2	Liquid	TPIS
P4O10	Liquid	TPIS	Sc	Solid	TPIS	SrO	Solid	TPIS
Pb	Solid	TPIS	Sc	Liquid	TPIS	SrO	Liquid	TPIS
Pb	Liquid	TPIS	Sc2O3	Solid	TPIS	Sr(OH)2	Solid	TPIS
PbBr2	Solid	TPIS	Sc2O3	Liquid	TPIS	Sr(OH)2	Liquid	TPIS
PbBr2	Liquid	TPIS	Si	Solid	TPIS	SrS	Solid	TPIS
PbCL2	Solid	TPIS	Si	Liquid	TPIS	SrS	Liquid	TPIS
PbCL2	Liquid	TPIS	SiC	Solid	TPIS	SrSO4	Solid	TPIS
PbF2	Solid	TPIS	SiC	Liquid	TPIS	SrSO4	Liquid	TPIS
PbF2	Liquid	TPIS	SiO2	Solid	TPIS	Ta	Solid	JANAF
PbI2	Solid	TPIS	SiO2	Liquid	TPIS	Ta	Liquid	JANAF
PbI2	Liquid	TPIS	SiS	Solid	TPIS	TaC	Solid	JANAF
PbO	Solid	TPIS	SiS	Liquid	TPIS	TaC	Liquid	JANAF
PbO	Liquid	TPIS	SiS2	Solid	TPIS	Ta2O5	Solid	TPIS
PbO2	Solid	TPIS	SiS2	Liquid	TPIS	Ta2O5	Liquid	TPIS
PbS	Solid	TPIS	Si2N2O	Solid	GRC	Th	Solid	CODATA
PbS	Liquid	TPIS	Si3N4	Solid	TPIS	Th	Liquid	CODATA
Pb2O3	Solid	TPIS	Sn	Solid	TPIS	Ti	Solid	CODATA
Pb3O4	Solid	TPIS	Sn	Liquid	TPIS	Ti	Liquid	CODATA
Rb	Solid	CODATA	SnBr2	Solid	TPIS	TiB	Solid	JANAF
Rb	Liquid	CODATA	SnBr2	Liquid	TPIS	TiB2	Solid	JANAF
RbBO2	Solid	TPIS	SnBr4	Solid	TPIS	TiB2	Liquid	JANAF
RbBO2	Liquid	TPIS	SnBr4	Liquid	TPIS	TiC	Solid	JANAF
RbBr	Solid	TPIS	SnCL2	Solid	TPIS	TiC	Liquid	JANAF
RbBr	Liquid	TPIS	SnCL2	Liquid	TPIS	TiCL2	Solid	JANAF
RbCL	Solid	TPIS	SnCL4	Liquid	TPIS	TiCL3	Solid	JANAF
RbCL	Liquid	TPIS	SnF2	Solid	TPIS	TiCL4	Liquid	JANAF
RbF	Solid	TPIS	SnF2	Liquid	TPIS	TiN	Solid	JANAF
RbF	Liquid	TPIS	SnI2	Solid	TPIS	TiN	Liquid	JANAF
RbH	Solid	TPIS	SnI2	Liquid	TPIS	TiO	Solid	TPIS
RbH	Liquid	TPIS	SnI4	Solid	TPIS	TiO	Liquid	TPIS
RbI	Solid	TPIS	SnI4	Liquid	TPIS	TiO2	Solid	TPIS
RbI	Liquid	TPIS	SnO	Solid	TPIS	TiO2	Liquid	TPIS
RbNO2	Solid	TPIS	SnO	Liquid	TPIS	Ti2O3	Solid	TPIS
RbNO2	Liquid	TPIS	SnO2	Solid	TPIS	Ti2O3	Liquid	TPIS
RbNO3	Solid	TPIS	SnO2	Liquid	TPIS	Ti3O5	Solid	TPIS
RbNO3	Liquid	TPIS	SnS	Solid	TPIS	Ti3O5	Liquid	TPIS
RbOH	Solid	GRC	SnS	Liquid	TPIS	Ti4O7	Solid	TPIS
RbOH	Liquid	GRC	SnS2	Solid	TPIS	Ti4O7	Liquid	TPIS
RbO2	Solid	TPIS	Sr	Solid	SRD	U	Solid	CODATA
RbO2	Liquid	TPIS	Sr	Liquid	SRD	U	Liquid	CODATA
Rb2CO3	Solid	TPIS	SrBr2	Solid	TPIS	UF3	Solid	TPIS
Rb2CO3	Liquid	TPIS	SrBr2	Liquid	TPIS	UF3	Liquid	TPIS
Rb2O	Solid	TPIS	SrCO3	Solid	TPIS	UF4	Solid	TPIS
Rb2O	Liquid	TPIS	SrCO3	Liquid	TPIS	UF4	Liquid	TPIS
Rb2O2	Solid	TPIS	SrCL2	Solid	TPIS	UF5	Solid	TPIS
Rb2O2	Liquid	TPIS	SrCL2	Liquid	TPIS	UF5	Liquid	TPIS
Rb2SO4	Solid	TPIS	SrF2	Solid	TPIS	UF6	Solid	TPIS
Rb2SO4	Liquid	TPIS	SrF2	Liquid	TPIS	UF6	Liquid	TPIS
S	Solid	TPIS	SrH2	Solid	TPIS	UO2	Solid	TPIS

Species	Phase	References	Species	Phase	References	Species	Phase	References
UO2	Liquid	TPIS	WO3	Liquid	TPIS	C7H8	Liquid	TRC
UO2F2	Solid	TPIS	Zn	Solid	CODATA	CLF3	Liquid	GRC
UO3	Solid	TPIS	Zn	Liquid	CODATA	CLO3F	Gas	GRC
U3O8	Solid	TPIS	ZnSO4	Solid	JANAF	CLO3F	Liquid	GRC
U4O9	Solid	TPIS	Zr	Solid	JANAF	CL2	Liquid	GRC
V	Solid	JANAF	Zr	Liquid	JANAF	F2	Liquid	GRC
V	Liquid	JANAF	ZrC	Solid	JANAF	F2O	Liquid	GRC
VCL2	Solid	GRC	ZrC	Liquid	JANAF	HNO3	Liquid	GRC
VCL3	Solid	GRC	ZrN	Solid	GRC	H2	Liquid	GRC
VN	Solid	JANAF	ZrN	Liquid	GRC	H2O2	Liquid	TPIS
VO	Solid	TPIS	ZrO2	Solid	TPIS	IRFNA	Gas	GRC
VO	Liquid	TPIS	ZrO2	Liquid	TPIS	JP-4	Gas	GRC
V2O3	Solid	TPIS	Air	Gas	GRC	JP-5	Gas	GRC
V2O3	Liquid	TPIS	B2H6	Liquid	GRC	JP-10	Liquid	GRC
V2O4	Solid	TPIS	B5H9	Liquid	JANAF	JP-10	Gas	GRC
V2O4	Liquid	TPIS	CH2	Solid	GRC	Jet-A	Liquid	GRC
V2O5	Solid	TPIS	CH3NO2	Liquid	GRC	Jet-A	Gas	GRC
V2O5	Liquid	TPIS	CH4	Liquid	GRC	LiCLO4	Solid	GRC
W	Solid	JANAF	CH3OH	Liquid	TRC	NF3	Liquid	GRC
W	Liquid	JANAF	CH6N2	Liquid	TRC	NH3	Liquid	GRC
WC	Solid	BAR	CH3CN	Liquid	GRC	NH4CLO4	Solid	JANAF
WCL6	Solid	JANAF	C2H4	Liquid	GRC	NH4NO3	Solid	TPIS
WCL6	Liquid	JANAF	C2H6	Liquid	GRC	NH4NO3	Liquid	TPIS
WOCL4	Solid	JANAF	C2H5OH	Liquid	TRC	N2	Liquid	GRC
WOCL4	Liquid	JANAF	C2N2	Liquid	GRC	N2H4	Liquid	GRC
WO2	Solid	TPIS	C3H7NO3	Liquid	GRC	N2O4	Liquid	GRC
WO2CL2	Solid	JANAF	C3H8	Liquid	GRC	O2	Liquid	GRC
WO3	Solid	TPIS	C6H6	Liquid	TRC	O3	Liquid	GRC

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