TABLE 2

Table of constants suitable for the calculations of thermodynamic function data of important elements and compounds

How can we calculate the molar heat capacity and the thermodynamic functions at standard pressure (10^5 Pa) applying this table?

The first, important step is the calculation of a dimentionless quantity *X,* the 1/1000 part of the temperature in Kelvin

$X = T/1000\ \mathrm{K}$

The molar heat capacity is:

$$C_m^0 = a + bX + cX^{-2} + dX^2 \qquad (\mathrm{JK^{-1}\ mol^{-1}})$$

The molar enthalpy is:

$$H_m^0 = 10^3\left[H(+) + aX + \frac{b}{2}X^2 - cX^{-1} + \frac{d}{3}X^3 \right] \qquad (\mathrm{Jmol^{-1}})$$

The molar entropy is:

$$S_m^0 = S(+) + a\ln\left(\frac{T}{\mathrm{K}}\right) + bX - \frac{c}{2}X^{-2} + \frac{d}{2}X^2 \qquad (\mathrm{JK^{-1}\ mol^{-1}})$$

The mlar Gibbs function is:

$$\mu_0 = 10^3\left[H(+) - S(+)X - aX\left(\ln\frac{T}{\mathrm{K}} - 1 \right) - \frac{b}{2}X^2 - \frac{c}{2}X^{-1} - \frac{d}{6}X^3 \right] \qquad (\mathrm{Jmol^{-1}})$$

The equilibrium constant of a chemical reaction is calculable using the molar Gibbs function as

$\Delta_r \mu^0 = -RT\ln K$

A. ELEMENTS

Element	Phase	*T*-limits	*a*	*b*	*c*	*d*	*H*(+)	*S*(+)	*H*(298)	*S*(298)
Ag	S	298-1235	24,221	2,741		2,837	-7,368	-96,269	0	42,677
	L	1235-2432	33,472				-3,625	-147,429		
	G	>2432	20,786				277,897	54,559		
Al	S	298-933	20,108	13,166	0,033		-6,468	-90,031	0	28,257
	L	933-2790	31,752				-0,926	-145,913		
	G	>2790	20,778	0,004	0,054		323,549	46,476		
As	S	298-875	23,029	5,745			-7,121	-97,232	0	35,69
Au	S	298-1338	31,497	-13,514	-0,289	10,979	-9,855	-30,052	0	17,488
	L	1338-3127	30,372				1,087	-120,743		
	G	>3127	21,64	-2,117	-0,029	1,234	361,975	57,509		
B	S	298-2350	18,874	8,167	-0,929	-1,356	-9,094	-109,308		
	L	2350-4139	31,748				27,934	-172,344		
	G	>4139	20,794				553,694	34,957		
Ba	S	298-468	13,259	52,321			-6,279	-28,728	0	62,417
	S	468-1002	40,907	0,151			-13,241	-173,911		
	L	1002-2167	43,104	-1,427			-6,902	-179,775		
	G	>2167	-6,042	15,866	10,715		205,292	226,622		
Be	A	298-1527	21,213	5,69	-0,586		-8,551	-116,399	0	9,498
	B	1527-1560	32,217				-14,642	-185,461		
	L	1560-2742	29,455				1,883	-157,326		
	G	>2742	20,786				317,787	17,841		
Bi	S	298-545	28,033	-24,267			-7,723	-97,981	0	56,735
	L	545-1835	23,359	3,138	1,661		7,847	-52,382		
Br	G	298-2000	19,874	1,49	0,042		106,008	61,574	111850	175,017
Br_2	L	298-333	75,488				-22,507	-277,885	0	152,214
	G	298-2000	37,028	0,879	-0,109		19,463	33,549	30907	245,396
C(grafit)	S	298-1100	0,109	38,94	-0,146	-17,385	-2,101	-6,54	0	5,74
	S	1100-4055	24,435	0,435	-3,163		-16,019	-146,304		
Ca	A	298-716	16,38	22,112	0,264		-4,983	-56,85	0	41,589
	B	716-1115	6,276	32,384	1,046		1,641	4,279		
	L	1115-1774	34,999				-2,654	-153,914		
	G	1774-2000	20,786				171,653	36,457		
Cl	G	298-2000	23,736	-1,284	-0,126		113,853	29,624	121294	165,184
Cl_2	G	298-2000	36,61	1,079	-0,272		-11,875	12,638	0	223,078
Co	A	298-700	19,125	20,468		-4,682	-6,571	-84,795	0	30,066
	B	700-1000	4,469	29,987	2,515		4,866	6,622		
	B	1000-1400	-7,644	43,271			7,822	75,752		
	B	1400-1768	-145,24	72,601	171,921		294,518	1075,35		
	L	1768-3200	40,501				-1,458	-203,559		
Cr	S	298-2130	24,514	2,05	-0,18	5,95	-8,056	-117,919	0	23,64
	L	2130-2954	39,33				4,784	-203,957		
	G	>2954	20,983	-1,992	0,038	1,828	391,422	55,484		
Cu	S	298-1358	20,531	8,611	0,165		-5,985	-85,511	0	33,162
	L	1358-2000	32,844				-1,743	-153,012		
F	G	298-2000	21,824	-0,548	0,113		73,296	35,205	79399	158,749
F_2	G	298-2000	35,1	2,138	-0,431		-12,005	-0,263	0	202,782
Fe	A1	298-800	14,954	28,079	0,155		-5,187	-65,421	0	27,28
	A2	800-1184	26,439	20,677			-12,2	-136,394		
	G	>3158	28,271	-5,782	-0,444	1,176	403,63	18,297		
Ge	S	298-1210	23,351	3,899	-0,105		-7,486	-103,708	0	31,087
	L	1210-2000	27,614				27,241	-98,685		

ELEMENTS (continuation)

Element	Phase	*T*-limits	*a*	*b*	*c*	*d*	*H*(+)	*S*(+)	*H*(298)	*S*(298)
H	G	298-3000	20,786				211,768	-3,714	217965	114,717
H_2	G	298-3000	26,882	3,586	0,105		-7,823	-22,966	0	130,679
Hg	L	298-629	28,794	-2,761			-8,462	-87,337	0	75,898
	G	629-2000	20,786				55,186	56,582		
I	G	298-2000	20,393	0,402	0,029		100,776	64,637	106775	180,782
I_2	S	298-387	30,125	81,63			-12,61	-79,842	0	116,135
	L	387-458	82,006				-10,927	-316,949		
	G	298-2000	37,254	0,778	-0,05		50,881	47,387	62190	260,161
K	S	298-336	8,452	70,751			-5,665	-4,577	0	64,672
	L	336-1036	37,179	-19,121		12,318	-8,065	-135,237		
Mg	S	298-923	21,389	11,778			-6,901	-92,698	0	32,677
	L	923-1366	34,309				-5,332	-160,857		
	G	1366-2000	20,786				140,639	30,109		
N	G	298-3000	20,878	-0,146	0,038	0,054	466,587	34,599	472679	153,302
N_2	G	298-3000	30,418	2,544	-0,238		-9,982	16,203	0	191,61
Na	S	298-371	-62,35	200,715	2,732		18,832	361,94	0	51,17
	L	371-1154	37,468	-19,154		10,636	-8,016	-150,648		
Na	G	298-2000	20,78				101,85	35,235	108047	153,666
Ni	S1	298-400	19,355	22,456	0,017		-6,713	-87,005	0	29,874
	S2	400-700	22,288	17,464			-7,528	-102,634		
	S3	700-1728	20,589	10,159	1,615		-2,242	-84,744		
O	G	298-3000	21,008	-0,247	0,088	0,071	243,211	41,929	249169	161,059
O_2	G	298-3200	29,154	6,477	-0,184	-1,017	-9,589	36,116	0	205,146
O_3	G	298-2000	54,258	2,004	-1,556		121,188	-79,561	142674	238,932
P(fehér)	W	298-317	13,899	33,125			-5,616	-47,977	0	41,091
	L	317-552	26,326				-7,23	-106,954		
P(vörös)	R	298-703	16,736	14,895			-23,141	-76,993	-17489	22,803
Pb	S	298-601	24,221	8,711			-7,609	-75,815	0	64,785
	L	601-2020	36,112	-9,736	-0,28	3,238	-7,325	-133,801		
	G	>2020	17,974	27,99	0,222		190,276	73,408		
Pt	S	298-2042	24,389	5,259	-0,008		-7,533	-98,94	0	41,631
	L	2042-4089	34,727				1,972	-157,376		
	G	>4089	32,48	-11,372	-0,305	3,079	554,43	8,883		
S(romb,)	R	298-368	14,795	24,075	0,071		-5,242	-59,014	0	32,058
S(mon,)	M	368-388	17,552	19,606			-5,746	-72,831		
	L	388-717	45,032	-16,636			-11,957	-218,137		
S	G	298-2000	24,234	-4,109	0,059	1,343	270,119	31,249	276976	167,829
Sb	S	298-904	30,514	-15,498	-0,201	18,02	-9,242	-125,644	0	45,522
	L	904-1858	31,38				8,177	-116,078		
Si	S	298-1685	22,811	3,87	-0,356		-8,166	-114,295	0	18,828
	L	1685-2500	27,196				40,35	-110,496		
Sn	S	298-505	21,589	18,159			-7,214	-77,226	0	51,195
	L	505-700	21,69	6,146			3,818	-55,34		
	G	>2000	31,585	2,025	-1,125	-1,372	288,244	-18,347		
Ti	A	298-1166	22,238	10,205	-0,008		-7,112	-99,032	0	30,761
	B	1166-1939	17,405	10,344	-0,096		-0,631	-64,213		
	L	1939-2500	47,237				-24,891	-262,732		
	G	>2500	23,334	-5,025	0,209	2,812	467,57	49,898		
U	A	298-941	27,589	-4,042	-0,109	27,493	-8,654	-107,53	0	50,292
	L	1405-3000	47,907				-9,712	-228,001		
Zn	S	298-693	21,334	11,648	0,054		-6,696	-83,09	0	41,631
	L	693-1179	31,38				-3,617	-130,218		

B. INORGANIC COMPOUNDS

Compound	Phase	*T*-limits	*a*	*b*	*c*	*d*	*H*(+)	*S*(+)	*H*(298)	*S*(298)
AgF	S	298-708	53,053	16,15	-0,978		-225,335	-228,353	-205852	83,68
AgCl	S	298-730	30,1	52,961	0,628		-136,291	-87,524	-127068	96,232
	L	730-1835	67,655	-8,87			-134,87	-272,47		
AgCl	G	298-2000	37,405		-0,142		77,36	32,143	88989	246,061
AgBr	S	298-700	33,179	64,434			-113,423	-101,142	-100667	107,11
	L	700-1831	62,342				-108,846	-233,934		
AgBr	G	298-2000	37,405		-0,142		128,823	58,293	140452	272,211
AgI	A	298-420	35,773	71,128			-75,75	-109,55	-61923	115,478
	B	420-830	43,664	14,828	1,523		-64,197	-114,38		
	G	298-2000	38,924		-0,13		143,847	52,551		
Ag_2O	S	298-460	59,329	40,79	-0,46		-51,945	-232,332	-30898	120,453
Ag_2S	A	298-451	64,601	39,957			-52,626	-236,472	-31589	143,511
	B	451-895	81,337	2,929			-51,994	-213,241		
	C	895-1115	82,718				-51,994	-319,443		
	L	1115-1500	93,094				-55,698	-385,195		
Ag_2SO_4	A	298-933	96,65	116,734			-751,142	-385,651	-717137	199,828
	L	933-1300	205,016				-767,759	-976,185		
$AgNO_2$	S	298-517	42,886	129,026			-63,583	-154,614	-45061	128,202
$AgNO_3$	A	298-433	36,652	189,117			-143,711	-124,295	-124377	140,917
	B	433-483	106,692				-153,841	-161,902		
	L	483-665	128,03				-152,433	-569,519		
Ag_2CO_3	A	298-491	79,37	108,156			-538,35	-313,761	-509878	170,707
AlH_3	S	298-400	45,187				-24,895	-227,417	-11422	30,041
AlF_3	A	298-728	70,584	51,087	-0,92		-1536,404	-356,089		
	B	728-1548	92,676	9,063	-0,088		-1539,642	-469,524		
AlF_3	G	298-2000	79,161	2,259	-1,544		-1238,199	-183,699		
$(AlF_3)_2$	G	298-2000	182,046	0,331	-6,561		-2697,927	-686,923		
AlOF	G	298-2000	58,66	2,05	-1,113		-602,889	-103,749		
$AlCl_3$	S	298-454	64,936	87,864			-728,63	-286,884	-705363	109,29
$AlCl_3$	G	298-2000	81,965	0,628	-0,992		-612,38	-158,275	-584588	314,49
$(AlCl_3)_2$	G	298-2000	180,916	1,046	-2,042		-1356,574	-567,583	-1295738	475,001
AlOCl	S	298-452	55,354	34,351	-0,778		-813,915	-275,613	-793273	54,392
	G	298-2000	60,363	1,046	-1		-301,696	-60,438	-280298	289,42
$AlBr_3$	S	298-371	50,166	169,034			-533,751	-156,002	-511280	180,222
	L	371-527	124,976				-538,621	-505,556		
$AlBr_3$	G	298-2000	80,709	2,812	-0,548		-436,477	-114,331	-410450	349,439
$(AlBr_3)_2$	G	298-2000	182,004	0,469	-1,377		-996,453	-497,667	-937550	547,2
AlI_3	S	298-464	70,634	94,818			-328,175	-234,616	-302900	196,1
	L	464-647	121,336				-325,594	-467,657		
AlI_3	G	298-2000	82,76	0,205	-0,569		-220,115	-101,173	-193522	373,619
AsH_3	G	298-2000	42,007	22,803	-0,908		49,817	-28,13	66400	223,116
$AsCl_3$	G	298-2000	82,103	0,946	-0,623		-287,254	-144,387	-260642	327,189
As_2O_3	S	298-607	93,709	58,484	-1,259		-689,739	-445,105	-654975	113,332
As_2O_5	S	298-1084	112,211	82,939	-1,812		-968,037	-568,851	-924818	105,399
B_2O_3	S	298-723	57,028	73,011	-1,406		-1296,861	-300,649		
	L	723-2329	129,704				-1304,309	-691,681	-1271898	53,948
	G	>2329	88,01	8,933	-2,414		-870,314	-233,89		
$BaCl_2$	A	298-1198	66,367	23,472	0,159		-878,854	-260,555	-858556	123,679
	B	1198-1235	123,846				-914,08	-625,804		
	L	1235-2000	108,7				-879,391	-505,04		

INORGANIC COMPOUNDS (continuation)

Compound	Phase	*T*-limits	*a*	*b*	*c*	*d*	*H*(+)	*S*(+)	*H*(298)	*S*(298)
	G	>2000	58,132	0,042	-0,176		-516,624	-6,477		
$BaCO_3$	A	298-1079	86,902	48,953	-1,197		-1229,995	-404,359	-1197896	112,089
	B	1079-1241	154,808				-1254,832	-807,819		
	C	1241-1646	163,176				-1262,288	-865,07		
BaO	S	298-2286	50,559	7,017	-0,523		-565,244	-221,032	-548104	72,069
	L	2286-2500	66,944				-522,561	-306,045		
	G	>2500	36,317	0,929	-0,331		-136,034	26,897		
$BaSO_4$	S	298-1623	141,419		-3,527		-1527,193	-693,387	-1473199	132,202
BeO	A	298-2370	41,589	10,209	-1,736	-1,339	-627,065	-235,938	-608399	13,77
	B	2370-2780	46,861	4,602			-626,328	-264,397		
Bi_2O_3	A	298-1003	119,604	15,28	-0,946		-612,719	-593,868	-573208	151,461
	B	1003-1098	138,49				-591,486	-623,139		
	L	1098-1835	179,912				-582,575	-863,605		
Bi_2S_3	S	298-1048	114,474	27,698			-237,03	-406,073	-201668	200,414
	L	1048-1641	188,28				-219,798	-868,602		
CN	G	298-2000	29,096	4,397	0,159		425,732	34,659	435136	202,639
C_2N_2	G	298-2000	56,066	27,434	-0,623	-6,849	298,106	-89,258	309072	241,563
CO	G	298-3000	30,962	2,439	-0,28		-120,809	18,937	-110528	197,648
CO_2	G	298-3000	51,128	4,368	-1,469		-413,886	-87,078	-393521	213,794
$COCl_2$	G	298-2000	65,019	18,159	-1,113	-4,979	-243,96	-98,081	-220078	283,826
CS_2	L	298-319	76,986				66,158	-287,59	89110	151,042
	G	319-2000	49,58	13,682	-0,699	-3,766	99,279	-51,855		
$CaCO_3$	S	298-1170	104,516	21,924	-2,594		-1249,193	-523,567	-1208356	93,052
$CaCl_2$	S	298-1045	69,839	15,389	-0,159		-817,431	-295,029	-795390	108,37
	L	1045-2279	102,533				-815,724	-480,014		
	G	>2279	62,132	0,142	-0,251		-489,909	-65,203		
$CrCl_2$	S	298-1088	71,362	12,996	-0,527		-419,01	-298,164	-395388	115,269
	L	1088-1576	100,416				-395,584	-443,878		
	G	1576-2000	61,116	1,356	-0,364		-155,691	-42,603		
Cr_2O_3	S	298-2000	109,65	15,456			-1173,938	-548,181	1140558	81,17
CuBr	A	298-657	-51,999	206,439	4,017		-85,804	353,413	-105604	96,102
	B	657-741	73,224				-125,033	-321,011		
	C	741-759	58,994				-112,354	-224,101		
	L	759-1677	45,953	3,489	-8,485		-109,536	-140,897		
CuCl	A	298-683	51,087	17,656	-0,268		-153,731	-210,396	136816	87,416
	B	683-709	62,76				-151,42	-265,782		
	L	709-1482	64,343				-145,703	-267,03		
$CuCl_2$	S1	298-709	78,868	2,929	-0,711		-243,888	-346,191	-217957	108,043
CuO	S	298-1364	48,597	7,427	-0,761		-173,432	-240,795	-156059	42,589
CuS	S	298-774	44,35	11,046			-67,432	-189,458	-53718	66,526
$CuSO_4$	S	298-1075	73,429	152,842	-1,23	-71,388	-802,161	-358,432	-769981	109,244
Cu_2S	A	298-376	52,844	78,743			-98,751	-203,643	-79496	120,918
	B	376-717	112,048	-30,752			-109,423	-503,288		
	C	717-1402	84,642				-96,417	-343,472		
	L	1402-2000	89,119				-93,13	-369,046		
$FeCl_2$	S	298-950	78,262	9,95	-0,418		-366,803	-333,277	-341623	117,947
	L	950-1293	102,09				-341,54	-441,736		
FeO	S	298-843	48,794	8,372	-0,289		-281,844	-222,719	265955	59,409
Fe_3O_4	S	298-900	91,558	201,97			-1151,755	-435,65	-1115479	146,231
	S	900-1870	200,832				-1168,303	-997,198		
Fe_2O_3	S	298-950	98,278	77,818	-1,485		-861,153	-504,059	-823411	87,446
	S	950-1050	150,599				-873,51	-787,34		

INORGANIC COMPOUNDS (continuation 2)

Compound	Phase	*T*-limits	*a*	*b*	*c*	*d*	*H*(+)	*S*(+)	*H*(298)	*S*(298)
	S	1050-1729	132,67	7,364			-858,744	-670,352		
FeS	A	298-411	-0,562	170,707			-109,109	12,256	101671	60,291
	B	411-598	72,802				-122,434	-352,966		
	C	598_1461	51,045	9,958			-110,702	-218,977		
	L	1461-2000	71,128				-97,073	-328,635		
FeS_2	S	298-1016	68,952	14,1	-0,987		-196,041	-349,693	-171544	52,928
$FeSO_4$	S	298-944	122,005	37,823	-2,929		-976,728	-601,933	-928848	120,955
$FeCO_3$	S	298-458	48,66	112,089			-760,012	-217,763	-740522	92,902
HF	G	298-2000	26,359	3,828	0,172		-280	23,418	-272545	173,778
HCl	G	298-2000	26,527	4,602	0,109		-100,056	35,01	-92307	186,908
HBr	G	298-2000	27,531	4,59	-0,008		-44,841	40,42	-36400	198,694
HI	G	298-2000	26,359	3,828	0,172		19,027	56,233	26480	206,593
H_2O	L	298-500	20,355	109,198	2,033		-289,932	-67,147	-285829	69,948
H_2O	G	298-3000	34,376	7,841	-0,423		-253,871	-11,75	-241856	188,824
H_2O_2	L	298-425	89,098				-214,343	-398,046	-187777	109,6
	G	425-1500	42,719	19,096	-0,54		-151,179	-17,676		
H_2SO_4	L	298-608	80,835	193,719			-846,7	-361,418	-813988	156,904
	G	608-1500	117,596	17,184	-3,845		-783,855	-398,069		
HNO_3	L	298-357	109,872				-206,859	-470,369	-174100	155,636
	G	357-1000	62,576	30,564	-1,72		-159,585	-105,961		
HCN	G	298-2000	41,489	9,088	-0,824		119,601	-41,903	135139	201,828
Hg_2Cl_2	S	298-655	98,742	23,012	-0,36		-298,743	-378,944	-267073	192,535
$HgCl_2$	S	298-550	69,998	20,292	-0,188		-249,595	-261,437	-227191	144,494
	L	550-576	102,09				-244,42	-417,161		
	G	576-2000	62,132	0,126	-0,364		-163,008	-61,294		
HgO	S	298-720	48,493	12,97	-0,753		-108,391	-214,145	-90830	70,249
HgS	R	298-618	43,765	15,564			-67,086	-171,569	-53346	82,425
	B	618-862	44,016	15,188			-63,195	-166,518		
KF	S	298-1131	47,363	13,263	-0,197		-584,394	-208,369	-569024	66,547
	L	1131-1788	71,965				-576,366	-342,218		
KCl	S	298-1045	39,94	25,468	0,364		-448,286	-150,543	-436466	82,567
	L	1045-1714	73,387				-443,526	-331,583		
KBr	S	298-1007	69,162	-45,564	-0,649	45,02	-414,757	-290,179	-393588	95,939
	L	1007-1669	69,873				-397,085	-292,489		
KI	S	298-954	38,828	28,911	0,494		-339,022	-120,793	-327816	106,274
	L	954-1616	72,383				-334,379	-298,523		
K_2SO_4	A	298-857	100,29	124,6	-0,515		-1474,872	-435,915	-1437706	175,544
	B	857-1342	114,056	81,588			-1461,822	-481,805		
	L	1342-2000	201,46				-1471,257	-976,161		
K_2CO_3	S	298-1173	97,947	92,09	-0,978		-1187,626	-435,556	-1151018	155,519
	L	1173-2000	209,2				-1226,064	-1089,678		
$KAl(SO_4)_2$	S	298-1100	234,137	82,341	-5,841		-2563,292	-1186,82	-2470233	204,598
$KHCO_3$	S	298-423	47,698	143,093			-985,42	-198,925	-964838	115,499
	B	402-607	120,499				-527,366	-546,41		
	L	607-700	123,428				-519,395	-549,119		
$MgCl_2$	S	298-980	76,4	9,247	-0,699		-669,827	-352,445	-644294	89,538
	L	980-1634	92,801				-640,811	-415,233		
$MgCO_3$	S	298-812	77,906	57,739	-1,741		-1127,43	-405,181	-1095798	65,701
$Mg(OH)_2$	S	298-700	46,819	102,926			-943,533	-234,202	-924998	63,241
$MgSO_4$	S	298-1270	106,441	46,275	-2,188		-1302,921	-541,163	-1261789	91,399
MnO	S	298-2083	46,484	8,117	-0,368		-397,998	-210,345	-382543	58,994
MnO_2	S	298-803	70,835	7,598	-1,661		-549,083	-362,061	-522054	53,137

INORGANIC COMPOUNDS (continuation 3)

Compound	Phase	*T*-limits	*a*	*b*	*c*	*d*	*H*(+)	*S*(+)	*H*(298)	*S*(298)
$MnCO_3$	S	298-656	79,831	50,208			-907,543	-360,192	-881510	109,621
NH_3	G	298-1500	37,321	18,661	-0,649		-60,244	-29,402	-46111	192,451
NH_4Cl	A	298-458	38,869	160,247			-333,223	-174,263	-314511	94,977
	B	458-614	34,644	111,713			-322,247	-117,519		
NH_4NO_3	S	298-500	71,128	225,936			-396,679	-321,579	-365430	151,042
	L	443-500	188,28	225,936			-380,183	-827,425		
$(NH_4)_2O_4$	S	298-630	103,554	280,746			-1223,659	-453,635	-1180306	220,078
NOCl	G	298-2000	48,827	6,807	-0,565		35,671	-21,671	52425	261,734
NO	G	298-2000	29,414	3,849	-0,059		81,112	41,697	90248	210,761
NO_2	G	298-2000	34,526	24,665	-0,423	-6,866	20,353	33,893	33099	240,036
N_2O_5	G	298-2000	136,942	6,678	-3,899		-42,908	-457,623	11296	346,544
NaF	S	298-1269	45,049	16,041	-0,259		-588,662	-211,618	51,296	
	L	1269-2075	69,747				-573,285	-341,198		
NaCl	S	298-1074	42,003	22,393	1,619		-419,241	-164,754	-411153	72,132
	L	1074-1757	68,45				-407,954	-299,649		
NaBr	S	298-1020	40,974	24,51	0,28		-373,428	-152,366	-361062	86,818
	L	1020-1659	68,032				-362,318	-289,226		
NaI	S	298-934	41,953	25,422	0,226		-300,656	-146,807	-287775	98,533
	L	934-1686	67,111				-289,563	-269,84		
	G	1686-2000	37,371	0,82	-0,084		-96,209	35,396		
NaOH	A	298-572	71,756	-110,88		235,768	-444,48	-321,822	-425931	64,434
	B	572-596	85,981				-448,851	-424,413		
	L	596-1828	89,454	-5,858			-443,27	-432,021		
	G	1828-200-	51,212	3,899	-0,347		-213,973	-66,46		
Na_2SO_4	A	298-458	82,341	154,348			-1419,226	-365,571	-1387816	149,595
	B	458-514	92,964	131,804			-1421,472	-149,775		
	C	514-1157	131,44	67,538			-1421,852	-605,697		
	L	1157-2000	197,033				-1428,689	-968,606		
	G	>2000	145,101	6,661	-4,012		-1090,631	-504,427		
$NaNO_3$	S	298-580	25,673	225,936			-485,547	-97,117	-467850	116,52
	L	580-700	155,645				-507,866	-767,119		
Na_2CO_3	A	298-723	11,004	244,053	2,448		-1136,687	17,09	-1130767	138,783
	B	723-1123	50,082	129,076			-1137,585	-158,438		
	L	1123-2000	189,535				-1183,135	-966,552		
$NaHSO_3$	S	298-543	45,313	143,093			-956,207	-199,584	-936337	101,253
Na_2SO_3	S	298-1184	107,11	43,541			-1128,822	-477,224	-1094952	146,022
	L	1184-1800	182,004				-1161,139	-933,861		
$NiCO_3$	S	298-381	88,701	38,911	-1,234		-728,617	-437,735	-696301	86,19
NiO	A	298-525	-6,322	131,235	1,021		-240,267	40,625	-239743	37,991
	B	525-565	-34,25	168,448			-232,636	194,242		
	C	565-2228	39,915	12,368	2,188		-245,712	-184,046		
	G	>2228	39,819	1,54	-0,573		295,754	10,803		
NiS	A	298-652	44,685	19,037	-0,289		-103,001	-208,886	-87864	53,011
	B	652-1249	34,392	28,66			-91,45	-138,242		
	L	1249-1700	34,585	28,46	0,013		-61,399	-115,24		
$NiSO_4$	S	298-1152	125,938	27,824	-3,264		-922,932	-642,904	-873200	101,295
PH_3	G	298-1600	51,396	14,849	-2,565		-1,574	-101,376	23012	210,313
PCl_3	G	298-2000	82,366	0,406	-1,067		-315,076	-163,428	-286922	311,984
PCl_5	G	298-1000	131,587	0,837	-1,778		-420,003	-395,102	-374769	364,878
P_4O_{10}	S	298-631	149,787	324,678	-3,121		-3079,528	-739,005	-3009969	228,781
	G	631-2000	149,787	324,678	-3,121		-3079,528	-739,005		
$PbCO_3$	S	298-581	51,84	119,662			-720,339	-200,08	-699564	130,959

INORGANIC COMPOUNDS (continuation 4)

Compound	Phase	*T*-limits	*a*	*b*	*c*	*d*	*H*(+)	*S*(+)	*H*(298)	*S*(298)
PbO	R	298-672	52,384	8,661	-0,82		-238,761	-240,176	-220007	65,48
	J	762-1159	45,271	12,803	-0,301		-233,147	-194,747		
	L	1159-1897	65,22				-220,904	-297,675		
	G	>1897	36,175	1,054	-0,356		60,346	31,614		
PbO_2	S	298-587	57,049	29,003	-0,418		-302,486	-261,567	-28784	74,475
PbS	S	298-1387	46,735	9,414			-112,677	-177,749	-98324	91,337
	L	1387-1587	66,944				-112,823	-297,325		
$PbSO_4$	A	298-1139	74,182	102,508	-0,155		-947,133	-305,525	-919940	148,57
	B	1139-1443	184,096				-988,542	-947,21		
	L	1443-1600	179,922				-942,338	-888,938		
Pb_3O_4	S	298-901	178,828	32,133	-2,975		-795,396	-826,967	-730672	218,237
SO	G	298-2000	34,56	1,339	-0,042		-5,496	24,402	5008	221,944
SO_2	G	298-2000	49,936	4,766	-1,046		-315,442	-43,725	-296833	248,094
SO_3	G	298-2000	69,998	6,611	-1,937		-423,384	-154,578	-395722	257,111
SO_2Cl_2	G	298-2000	97,232	5,732	-2,1		-391,092	-256,41	-354803	311,101
Sb_4O_6	S	298-928	228,028	16,636	-2,686		-1495,275	-1073,26	-1417539	246,019
Sb_2O_5	S	298-798	141,327	-3,732	-2,013		-1042,467	-690,498	-993746	124,934
SiH_4	G	298-1000	14,255	110,278	-0,071	-40,003	25,272	91,945	34308	204,665
SiF_4	G	298-2000	99,391	4,506	-2,636		-1653,615	-299,7	-1614940	282,759
$SiCl_4$	L	298-330	154,808				-739,943	-645,491	-693786	236,542
	G	330-2000	106,525	0,753	-1,473		-699,476	-284,511		
$SiBr_4$	L	298-426	146,44				-500,972	-556,12	-457311	278,236
$SiBr_4$	G	298-2000	106,951	0,669	-0,904		-450,323	-235,29	-415374	379,359
SiH_2Cl_2	G	298-1685	77,212	23,004	-1,979	-4,573	-351,135	-170,973	-320494	286,734
$SiHCl_3$	G	298-1685	85,722	21,414	-0,151	-5,745	-523,187	-181,668	-496222	313,716
SiH_3Cl	G	298-1685	63,467	33,229	-2,029	-6,602	-168,985	-131,865	-141837	250,772
SiO_2(kvarc)	A	298-847	40,497	44,601	-0,833		-927,706	-207,253	-910856	41,463
	B	847-1823	67,593	2,577	-0,138		-934,034	-352,985		
SiO_2(T)	A	298-390	14,113	102,634			-918,823	-67,662	-910053	43,346
	B	390-500	41,07	38,493			-924,249	-202,943		
	C	500-1743	70,341	2,536	-3,167		-940,537	-372,832		
SiO_2(C)	A	298-543	46,903	31,506	-1,008		-927,113	-238,901	-908346	43,396
	S	543-2001	71,63	1,883	-3,908		-940,169	-380,971		
	L	2001-2500	85,772				-951,155	-477,464		
SiC	S	298-2818	42,593	8,36	-1,661	-1,272	-91,851	-237,847	-73220	16,61
$SnCl_2$	S	298-520	64,726	44,61			-349,307	-247,984	-328025	134,101
	L	520-885	100,5				-347,233	-420,345		
	G	885-2000	57,986	0,134	-0,301		-216,28	-26,276		
$SnCl_4$	L	298-382	91,487	247,467			-549,561	-336,302	-511284	258,739
	G	382-2000	106,629	1,414	-0,766		-505,912	-247,302		
SnO	S	298-1250	50,493	9,171	-0,485		-303,024	-235,997	-285934	57,153
	L	1250-2100	62,76				-289,885	-295,12		
	G	>2100	35,229	1,339	-0,351		9,18	29,012		
SnO_2	S	298-1893	66,467	16,644	-1,674		-606,993	-340,736	-580822	52,342
SnS	A	298-875	35,69	31,296	-0,377		-121,242	-137,808	-107947	76,986
	B	875-1153	40,92	15,648			-118,728	-158,534		
	L	1153-1477	74,894				-115,91	-352,616		
	G	1477-2000	36,945	0,335	-0,23		97,206	30,473		
TiO	A	298-1213	44,225	15,062	-0,778		-559,13	-226,05	-542664	34,794
	B	1213-2023	42,179	17,556	-0,653		-554,195	-211,054		
TiO_2(R)	S	298-2130	73,346	3,054	-1,703		-972,462	-377,756	-944747	50,626
TiC	S	289-2000	46,882	5,899	-1,301		-203,119	-251,505	-184514	24,686

INORGANIC COMPOUNDS (continuation 5)

Compound	Phase	*T*-limits	*a*	*b*	*c*	*d*	*H*(+)	*S*(+)	*H*(298)	*S*(298)
UO_2	S1	298-2000	77,898	8,979	-1,51		-1,113,69	-377,975	-1084994	77,027
	S2	2000-3115	-179,12	109,119	248,01		-675,177	1406,48		
ZnO	S	298-2242	45,338	7,289	-0,573		-366,383	-220,075	-350619	43,639
$ZnSO_4$	A	298-591	65,823	135,712	-0,644		-1007,962	-308,577	-980143	110,541
	B	591-1013	130,306	11,623	0,063		-1018,361	-636,763		
	C	1013-1214	145,185				-1007,197	-707,914		
$ZnCl_2$	S	298-591	59,831	37,656			-434,565	-240,659	-415052	111,462
	L	591-1004	61,714		-0,431		-441,862	-462,551		
	G	1004-2000	61,714		-0,431		-287,126	-76,947		
$ZnCO_3$	S	298-422	38,911	138,072			-835,656	-180,442	-817917	82,425

C. ORGANIC COMPOUNDS

Compound	Phase	*T*-limits	*a*	*b*	*c*	*d*	*H*(+)	*S*(+)	*H*(298)	*S*(298)
CH_4	G	298-2000	11,933	77,647	0,142	-18,414	-81,242	96,731	-74872	186,251
C_2H_2	G	298-1000	43,627	31,652	-0,749	-6,309	209,903	-60,995	226772	200,941
C_2H_4	G	298-1000	39,292	57,128	-1,297		33,863	-28,868	52467	219,329
C_2H_6	G	298-1000	28,188	122,612	-0,912	-27,836	-101,393	28,55	-84726	229,601
n-C_3H_8	G	298-1000	19,008	224,48	-0,582	-66,467	-120,855	94,474	-103846	270,019
n-C_4H_{10}	G	298-1000	40,25	265,077	-1,268	-76,362	-152,093	-1,955	-124733	310,143
n-C_5H_{12}	L	298-309	165,686				-223,228	-684,154	-173828	259,86
	G	309-1000	124,675	136,9	-3,238	-25,623	-200,328	-419,709		
n-C_6H_{14}	L	298-342	195,016				-256,926	-818,641	-198781	292,483
	G	342-1000	65,647	377,593	-2,008	-109,123	-208,741	-106,123		
CH_3OH	L	298-338	81,588				-263,776	-338,248	-239450	126,608
	G	338-800	4,310	128,725	0,452	-44,099	-206,369	181,421		
C_2H_5OH	L	298-351	112,131				-310,413	-477,878	-276980	161,000
	G	351-700	31,380	112,968			-248,903	70,051		
HCOOH	L	298-373	99,161				-454,287	-436,027	-424722	128,951
	G	373-1500	37,238	68,998	-0,665	-20,556	-403,159	-4,195		
CH_2O	G	298-2000	21,075	53,873	-0,079	-13,410	-124,723	82,960	-115896	218,949
CF_4	G	298-2000	74,651	36,275	-2,222	-10,527	-964,427	-186,759	-933199	261,416
CCl_4	L	298-349	131,796				-174,735	-534,520	-135440	216,401
	G	349-2000	104,182	2,008	-1,983		-140,836	-295,528	-103026	309,808
$COCl_2$	G	298-2000	65,019	18,159	-1,113	-4,979	-243,960	-98,081	-220078	283,826
CBr_4	A	298-320	114,964	107,479			-20,435	-474,515	18618	212,547
	B	320-363	236,622	-165,645			-39,499	-1070,495		
	L	363-462	153,134				-16,136	-627,577		
	G	462-1500	104,357	2,536	-1,243		44,162	-244,239	79558	358,096
C_6H_6	L	298-353	136,106				8,457	-603,935	49036	171,54
C_6H_6	G	353-1500	44,141	245,312	-2,632	-75,525	52,32	-62,602		