$FONO_2$: Fluoro nitrate

Enthalpy of Formation at 0 K:

JANAF [1]:	ΔH(0K)=18.05 ± 2.10 kJ/mol
Gurvich et al[2]:	ΔH(0K)=22.33 ± 3.00 kJ/mol
ChemNet Russia[3]:	ΔH(0K)=20.48 ± 0.00 kJ/mol
ORCA[4] DFT:	ΔH(0K)=18.12 ± 20.00 kJ/mol

Molar Mass : 81.003304 g/mol

σ 1

Vibrational Frequencies and Degeneraties (cm^{-1}) [4]:

1824.78(1) 1349.68(1) 1003.58(1) 815.16(1)
728.66(1) 652.68(1) 456.12(1) 293.94(1) 161.88(1)

Inertia Moment IA.IB.IC [4]:

3.23465e-135 $(kg*m^2)^3$

Electronic Levels Energy and Degeneraties (cm^{-1}) [4]:

0.00(1)

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References:

[1] NIST-JANAF Thermochemical Tables NIST Standard Reference Database 13 Last Update to Data Content: 1998 DOI: 10.18434/T42S31

[2] L.V. Gurvich, I.V. Veyts, C.B. Alcock, Thermodynamic Properties of Individual Substances, Hemisphere Publishing Corporation, 1991

[3] ChemNet Russia https://www.chem.msu.ru/cgi-bin/tkv.pl?show=welcome.html

[4] Neese,F. Software update: the ORCA program system, version 5.0 WIRES Comput. Molec. Sci., 2022 12(1)e1606 doi.org/10.1002/wcms.1606

CALCULATION AT THERMAL EQUILIBRIUM Tex=Tvib=Trot=Th
(P=1 bar=0.1 MPa)

T	Cp	h	s	g	zint	ztr
K	J/K/mol	kJ/mol	J/K/mol	kJ/mol	-	-
100.00	41.484	3.595	235.526	-19.957	1.404e+04	1.892e+06
150.00	47.857	5.829	253.552	-32.204	3.141e+04	5.213e+06
200.00	54.241	8.382	268.196	-45.257	6.170e+04	1.070e+07
250.00	60.370	11.249	280.965	-58.993	1.132e+05	1.869e+07
298.15	65.757	14.288	292.068	-72.792	1.948e+05	2.904e+07
300.00	65.952	14.409	292.475	-73.333	1.988e+05	2.949e+07
350.00	70.887	17.833	303.021	-88.224	3.384e+05	4.335e+07
400.00	75.190	21.488	312.774	-103.622	5.614e+05	6.053e+07
450.00	78.924	25.343	321.851	-119.490	9.117e+05	8.126e+07
500.00	82.156	29.372	330.338	-135.797	1.452e+06	1.057e+08
550.00	84.956	33.551	338.303	-152.515	2.273e+06	1.342e+08
600.00	87.384	37.861	345.801	-169.620	3.500e+06	1.668e+08
650.00	89.492	42.284	352.881	-187.088	5.310e+06	2.038e+08
700.00	91.328	46.806	359.582	-204.902	7.942e+06	2.452e+08
750.00	92.930	51.413	365.939	-223.041	1.172e+07	2.914e+08
800.00	94.332	56.095	371.982	-241.490	1.709e+07	3.424e+08
850.00	95.563	60.843	377.738	-260.234	2.462e+07	3.985e+08
900.00	96.648	65.649	383.232	-279.260	3.507e+07	4.597e+08
950.00	97.607	70.506	388.484	-298.553	4.944e+07	5.262e+08
1000.00	98.457	75.408	393.512	-318.104	6.899e+07	5.982e+08
1050.00	99.213	80.350	398.335	-337.901	9.537e+07	6.758e+08
1100.00	99.888	85.328	402.966	-357.935	1.307e+08	7.592e+08
1150.00	100.492	90.338	407.420	-378.195	1.775e+08	8.484e+08
1200.00	101.035	95.376	411.708	-398.674	2.391e+08	9.436e+08
1250.00	101.524	100.440	415.843	-419.363	3.196e+08	1.045e+09
1300.00	101.965	105.528	419.833	-440.256	4.242e+08	1.153e+09
1350.00	102.365	110.636	423.689	-461.344	5.589e+08	1.267e+09
1400.00	102.729	115.764	427.419	-482.623	7.315e+08	1.387e+09
1450.00	103.060	120.909	431.030	-504.084	9.514e+08	1.515e+09
1500.00	103.362	126.069	434.529	-525.724	1.230e+09	1.648e+09
1550.00	103.638	131.244	437.922	-547.535	1.580e+09	1.789e+09
1600.00	103.891	136.433	441.217	-569.514	2.019e+09	1.937e+09
1650.00	104.124	141.633	444.417	-591.655	2.566e+09	2.092e+09
1700.00	104.338	146.845	447.529	-613.954	3.244e+09	2.254e+09
1750.00	104.536	152.067	450.556	-636.407	4.081e+09	2.424e+09
1800.00	104.719	157.298	453.504	-659.009	5.110e+09	2.600e+09
1850.00	104.889	162.538	456.375	-681.756	6.369e+09	2.785e+09
1900.00	105.046	167.787	459.175	-704.645	7.903e+09	2.977e+09
1950.00	105.192	173.043	461.905	-727.672	9.766e+09	3.176e+09
2000.00	105.328	178.306	464.570	-750.834	1.202e+10	3.384e+09
2050.00	105.455	183.575	467.173	-774.128	1.473e+10	3.599e+09
2100.00	105.573	188.851	469.715	-797.551	1.799e+10	3.823e+09
2150.00	105.684	194.133	472.201	-821.099	2.189e+10	4.055e+09
2200.00	105.787	199.419	474.631	-844.770	2.654e+10	4.294e+09
2250.00	105.884	204.711	477.010	-868.561	3.208e+10	4.543e+09
2300.00	105.976	210.008	479.338	-892.470	3.863e+10	4.799e+09
2350.00	106.061	215.309	481.618	-916.494	4.638e+10	5.064e+09
2400.00	106.142	220.614	483.852	-940.631	5.551e+10	5.338e+09
2450.00	106.218	225.923	486.041	-964.879	6.625e+10	5.620e+09
2500.00	106.290	231.235	488.188	-989.235	7.883e+10	5.912e+09
2550.00	106.357	236.552	490.293	-1013.697	9.354e+10	6.212e+09
2600.00	106.421	241.871	492.359	-1038.263	1.107e+11	6.521e+09
2650.00	106.482	247.194	494.387	-1062.932	1.307e+11	6.839e+09
2700.00	106.539	252.519	496.378	-1087.701	1.538e+11	7.166e+09

2750.00	106.594	257.848	498.333	-1112.569	1.807e+11	7.502e+09
2800.00	106.645	263.179	500.255	-1137.534	2.117e+11	7.848e+09
2850.00	106.694	268.512	502.143	-1162.594	2.474e+11	8.203e+09
2900.00	106.741	273.848	503.999	-1187.748	2.886e+11	8.567e+09
2950.00	106.785	279.186	505.824	-1212.994	3.358e+11	8.941e+09
3000.00	106.827	284.526	507.619	-1238.330	3.900e+11	9.325e+09
3050.00	106.867	289.869	509.385	-1263.755	4.519e+11	9.719e+09
3100.00	106.905	295.213	511.123	-1289.268	5.226e+11	1.012e+10
3150.00	106.942	300.559	512.834	-1314.867	6.033e+11	1.053e+10
3200.00	106.977	305.907	514.518	-1340.551	6.950e+11	1.096e+10
3250.00	107.010	311.257	516.177	-1366.318	7.991e+11	1.139e+10
3300.00	107.042	316.608	517.811	-1392.168	9.172e+11	1.183e+10
3350.00	107.072	321.961	519.421	-1418.099	1.051e+12	1.229e+10
3400.00	107.101	327.315	521.007	-1444.110	1.202e+12	1.275e+10
3450.00	107.129	332.671	522.571	-1470.199	1.373e+12	1.323e+10
3500.00	107.156	338.028	524.113	-1496.366	1.565e+12	1.371e+10
3550.00	107.182	343.387	525.633	-1522.610	1.781e+12	1.420e+10
3600.00	107.206	348.746	527.132	-1548.929	2.024e+12	1.471e+10
3650.00	107.230	354.107	528.611	-1575.323	2.297e+12	1.523e+10
3700.00	107.253	359.469	530.070	-1601.790	2.602e+12	1.575e+10
3750.00	107.275	364.833	531.510	-1628.330	2.944e+12	1.629e+10
3800.00	107.295	370.197	532.931	-1654.941	3.326e+12	1.684e+10
3850.00	107.316	375.562	534.334	-1681.622	3.752e+12	1.740e+10
3900.00	107.335	380.928	535.719	-1708.374	4.227e+12	1.797e+10
3950.00	107.354	386.296	537.086	-1735.194	4.756e+12	1.855e+10
4000.00	107.372	391.664	538.436	-1762.082	5.344e+12	1.914e+10
4050.00	107.389	397.033	539.770	-1789.037	5.997e+12	1.975e+10
4100.00	107.406	402.403	541.088	-1816.059	6.722e+12	2.036e+10
4150.00	107.422	407.773	542.390	-1843.146	7.525e+12	2.099e+10
4200.00	107.438	413.145	543.677	-1870.298	8.414e+12	2.163e+10
4250.00	107.453	418.517	544.948	-1897.513	9.397e+12	2.228e+10
4300.00	107.467	423.890	546.205	-1924.792	1.048e+13	2.294e+10
4350.00	107.481	429.264	547.448	-1952.134	1.168e+13	2.361e+10
4400.00	107.495	434.638	548.676	-1979.537	1.300e+13	2.429e+10
4450.00	107.508	440.013	549.891	-2007.001	1.446e+13	2.499e+10
4500.00	107.521	445.389	551.092	-2034.526	1.606e+13	2.570e+10
4550.00	107.533	450.765	552.280	-2062.110	1.782e+13	2.642e+10
4600.00	107.545	456.142	553.456	-2089.753	1.975e+13	2.715e+10
4650.00	107.556	461.520	554.618	-2117.455	2.187e+13	2.789e+10
4700.00	107.568	466.898	555.769	-2145.215	2.419e+13	2.865e+10
4750.00	107.578	472.277	556.907	-2173.032	2.674e+13	2.942e+10
4800.00	107.589	477.656	558.034	-2200.906	2.952e+13	3.020e+10
4850.00	107.599	483.036	559.149	-2228.835	3.257e+13	3.099e+10
4900.00	107.609	488.416	560.252	-2256.820	3.590e+13	3.179e+10
4950.00	107.618	493.796	561.345	-2284.860	3.953e+13	3.261e+10
5000.00	107.628	499.178	562.426	-2312.955	4.349e+13	3.344e+10
5050.00	107.637	504.559	563.497	-2341.103	4.781e+13	3.428e+10
5100.00	107.645	509.941	564.558	-2369.304	5.251e+13	3.514e+10
5150.00	107.654	515.324	565.608	-2397.558	5.762e+13	3.601e+10
5200.00	107.662	520.707	566.648	-2425.865	6.319e+13	3.689e+10
5250.00	107.670	526.090	567.679	-2454.223	6.923e+13	3.778e+10
5300.00	107.678	531.474	568.699	-2482.633	7.580e+13	3.869e+10
5350.00	107.686	536.858	569.710	-2511.093	8.292e+13	3.960e+10
5400.00	107.693	542.242	570.712	-2539.603	9.064e+13	4.054e+10
5450.00	107.700	547.627	571.705	-2568.164	9.901e+13	4.148e+10
5500.00	107.707	553.012	572.688	-2596.774	1.081e+14	4.244e+10
5550.00	107.714	558.398	573.663	-2625.433	1.179e+14	4.341e+10
5600.00	107.721	563.784	574.629	-2654.140	1.285e+14	4.439e+10

5650.00	107.727	569.170	575.587	-2682.895	1.399e+14	4.539e+10
5700.00	107.733	574.556	576.536	-2711.698	1.523e+14	4.640e+10
5750.00	107.739	579.943	577.477	-2740.549	1.657e+14	4.743e+10
5800.00	107.745	585.330	578.410	-2769.446	1.801e+14	4.846e+10
5850.00	107.751	590.718	579.335	-2798.390	1.956e+14	4.952e+10
5900.00	107.757	596.105	580.252	-2827.379	2.124e+14	5.058e+10
5950.00	107.762	601.493	581.161	-2856.415	2.304e+14	5.166e+10
6000.00	107.768	606.882	582.063	-2885.495	2.498e+14	5.275e+10
6050.00	107.773	612.270	582.957	-2914.621	2.707e+14	5.386e+10
6100.00	107.778	617.659	583.844	-2943.791	2.931e+14	5.498e+10
6150.00	107.783	623.048	584.724	-2973.005	3.172e+14	5.611e+10
6200.00	107.788	628.437	585.597	-3002.263	3.431e+14	5.726e+10
6250.00	107.793	633.827	586.463	-3031.565	3.709e+14	5.842e+10
6300.00	107.797	639.217	587.322	-3060.909	4.007e+14	5.959e+10
6350.00	107.802	644.607	588.174	-3090.297	4.326e+14	6.078e+10
6400.00	107.806	649.997	589.019	-3119.727	4.669e+14	6.199e+10
6450.00	107.811	655.387	589.858	-3149.198	5.036e+14	6.321e+10
6500.00	107.815	660.778	590.691	-3178.712	5.428e+14	6.444e+10
6550.00	107.819	666.169	591.517	-3208.268	5.848e+14	6.568e+10
6600.00	107.823	671.560	592.337	-3237.864	6.298e+14	6.694e+10
6650.00	107.827	676.951	593.151	-3267.501	6.778e+14	6.822e+10
6700.00	107.831	682.342	593.958	-3297.179	7.292e+14	6.951e+10
6750.00	107.835	687.734	594.760	-3326.897	7.840e+14	7.081e+10
6800.00	107.838	693.126	595.556	-3356.655	8.425e+14	7.213e+10
6850.00	107.842	698.518	596.346	-3386.452	9.050e+14	7.346e+10
6900.00	107.846	703.910	597.130	-3416.289	9.716e+14	7.481e+10
6950.00	107.849	709.302	597.909	-3446.165	1.043e+15	7.618e+10
7000.00	107.853	714.695	598.682	-3476.080	1.118e+15	7.755e+10
7050.00	107.856	720.088	599.450	-3506.033	1.199e+15	7.895e+10
7100.00	107.859	725.481	600.212	-3536.025	1.285e+15	8.035e+10
7150.00	107.862	730.874	600.969	-3566.054	1.376e+15	8.177e+10
7200.00	107.865	736.267	601.721	-3596.122	1.473e+15	8.321e+10
7250.00	107.868	741.660	602.467	-3626.227	1.577e+15	8.466e+10
7300.00	107.871	747.054	603.208	-3656.368	1.687e+15	8.613e+10
7350.00	107.874	752.447	603.945	-3686.547	1.804e+15	8.761e+10
7400.00	107.877	757.841	604.676	-3716.763	1.928e+15	8.911e+10
7450.00	107.880	763.235	605.403	-3747.015	2.060e+15	9.062e+10
7500.00	107.883	768.629	606.124	-3777.303	2.199e+15	9.215e+10
7550.00	107.886	774.023	606.841	-3807.627	2.348e+15	9.370e+10
7600.00	107.888	779.418	607.553	-3837.987	2.505e+15	9.526e+10
7650.00	107.891	784.812	608.261	-3868.382	2.672e+15	9.683e+10
7700.00	107.893	790.207	608.964	-3898.813	2.849e+15	9.842e+10
7750.00	107.896	795.602	609.662	-3929.279	3.037e+15	1.000e+11
7800.00	107.898	800.996	610.356	-3959.779	3.235e+15	1.016e+11
7850.00	107.901	806.391	611.045	-3990.314	3.445e+15	1.033e+11
7900.00	107.903	811.786	611.730	-4020.884	3.668e+15	1.049e+11
7950.00	107.905	817.182	612.411	-4051.487	3.903e+15	1.066e+11
8000.00	107.908	822.577	613.088	-4082.125	4.152e+15	1.083e+11
8050.00	107.910	827.972	613.760	-4112.796	4.416e+15	1.100e+11
8100.00	107.912	833.368	614.428	-4143.500	4.694e+15	1.117e+11
8150.00	107.914	838.764	615.092	-4174.239	4.988e+15	1.134e+11
8200.00	107.916	844.159	615.752	-4205.010	5.299e+15	1.152e+11
8250.00	107.918	849.555	616.408	-4235.814	5.627e+15	1.169e+11
8300.00	107.920	854.951	617.060	-4266.650	5.973e+15	1.187e+11
8350.00	107.922	860.347	617.709	-4297.520	6.339e+15	1.205e+11
8400.00	107.924	865.743	618.353	-4328.421	6.725e+15	1.223e+11
8450.00	107.926	871.140	618.993	-4359.355	7.131e+15	1.242e+11
8500.00	107.928	876.536	619.630	-4390.321	7.560e+15	1.260e+11

8550.00	107.930	881.933	620.263	-4421.318	8.013e+15	1.279e+11
8600.00	107.932	887.329	620.893	-4452.347	8.489e+15	1.297e+11
8650.00	107.934	892.726	621.518	-4483.407	8.991e+15	1.316e+11
8700.00	107.936	898.122	622.140	-4514.499	9.520e+15	1.336e+11
8750.00	107.937	903.519	622.759	-4545.621	1.008e+16	1.355e+11
8800.00	107.939	908.916	623.374	-4576.774	1.066e+16	1.374e+11
8850.00	107.941	914.313	623.985	-4607.958	1.128e+16	1.394e+11
8900.00	107.942	919.710	624.594	-4639.173	1.193e+16	1.414e+11
8950.00	107.944	925.107	625.198	-4670.417	1.261e+16	1.434e+11
9000.00	107.946	930.505	625.800	-4701.693	1.333e+16	1.454e+11
9050.00	107.947	935.902	626.398	-4732.998	1.408e+16	1.474e+11
9100.00	107.949	941.299	626.992	-4764.333	1.487e+16	1.494e+11
9150.00	107.950	946.697	627.584	-4795.697	1.571e+16	1.515e+11
9200.00	107.952	952.094	628.172	-4827.091	1.658e+16	1.536e+11
9250.00	107.953	957.492	628.757	-4858.514	1.750e+16	1.557e+11
9300.00	107.955	962.890	629.339	-4889.966	1.847e+16	1.578e+11
9350.00	107.956	968.288	629.918	-4921.448	1.948e+16	1.599e+11
9400.00	107.957	973.685	630.494	-4952.958	2.054e+16	1.621e+11
9450.00	107.959	979.083	631.067	-4984.497	2.165e+16	1.642e+11
9500.00	107.960	984.481	631.636	-5016.065	2.282e+16	1.664e+11
9550.00	107.962	989.879	632.203	-5047.661	2.405e+16	1.686e+11
9600.00	107.963	995.277	632.767	-5079.285	2.533e+16	1.708e+11
9650.00	107.964	1000.676	633.328	-5110.938	2.668e+16	1.731e+11
9700.00	107.965	1006.074	633.886	-5142.618	2.809e+16	1.753e+11
9750.00	107.967	1011.472	634.441	-5174.326	2.957e+16	1.776e+11
9800.00	107.968	1016.870	634.993	-5206.062	3.112e+16	1.799e+11
9850.00	107.969	1022.269	635.543	-5237.825	3.274e+16	1.822e+11
9900.00	107.970	1027.667	636.089	-5269.616	3.444e+16	1.845e+11
9950.00	107.972	1033.066	636.633	-5301.434	3.622e+16	1.868e+11
10000.00	107.973	1038.465	637.174	-5333.279	3.807e+16	1.892e+11

CALCULATION OUT THERMAL EQUILIBRIUM: Tex=1.5*Th Tvib=√ 1.5 Trot=Th
(P=1 bar=0.1 MPa)

Th	Cp	h	s	g	zint	ztr
K	J/K/mol	kJ/mol	J/K/mol	kJ/mol	-	-
100.00	44.351	3.813	237.475	-20.062	1.522e+04	1.892e+06
150.00	52.170	6.394	256.934	-32.538	3.688e+04	5.213e+06
200.00	59.772	9.450	272.997	-45.963	7.872e+04	1.070e+07
250.00	66.598	12.951	287.085	-60.212	1.569e+05	1.869e+07
298.15	72.256	16.690	299.312	-74.637	2.918e+05	2.904e+07
300.00	72.455	16.840	299.760	-75.204	2.986e+05	2.949e+07
350.00	77.396	21.059	311.311	-90.874	5.483e+05	4.335e+07
400.00	81.540	25.555	321.925	-107.168	9.766e+05	6.053e+07
450.00	85.015	30.284	331.735	-124.040	1.694e+06	8.126e+07
500.00	87.934	35.208	340.848	-141.450	2.867e+06	1.057e+08
550.00	90.391	40.297	349.348	-159.361	4.746e+06	1.342e+08
600.00	92.467	45.524	357.304	-177.741	7.697e+06	1.668e+08
650.00	94.229	50.868	364.777	-196.563	1.225e+07	2.038e+08
700.00	95.731	56.311	371.816	-215.799	1.914e+07	2.452e+08
750.00	97.017	61.840	378.466	-235.428	2.943e+07	2.914e+08
800.00	98.125	67.443	384.764	-255.428	4.454e+07	3.424e+08
850.00	99.084	73.108	390.742	-275.781	6.644e+07	3.985e+08
900.00	99.917	78.828	396.430	-296.469	9.776e+07	4.597e+08
950.00	100.644	84.595	401.852	-317.476	1.420e+08	5.262e+08
1000.00	101.283	90.405	407.031	-338.787	2.039e+08	5.982e+08
1050.00	101.846	96.251	411.986	-360.391	2.893e+08	6.758e+08
1100.00	102.344	102.130	416.736	-382.273	4.062e+08	7.592e+08
1150.00	102.787	108.037	421.295	-404.424	5.645e+08	8.484e+08
1200.00	103.182	113.970	425.678	-426.832	7.771e+08	9.436e+08
1250.00	103.535	119.926	429.898	-449.487	1.060e+09	1.045e+09
1300.00	103.853	125.902	433.965	-472.382	1.434e+09	1.153e+09
1350.00	104.139	131.897	437.889	-495.506	1.924e+09	1.267e+09
1400.00	104.398	137.909	441.682	-518.853	2.561e+09	1.387e+09
1450.00	104.633	143.935	445.349	-542.416	3.385e+09	1.515e+09
1500.00	104.846	149.976	448.900	-566.186	4.442e+09	1.648e+09
1550.00	105.041	156.028	452.341	-590.158	5.790e+09	1.789e+09
1600.00	105.219	162.093	455.679	-614.325	7.500e+09	1.937e+09
1650.00	105.382	168.167	458.919	-638.682	9.657e+09	2.092e+09
1700.00	105.531	174.251	462.067	-663.223	1.236e+10	2.254e+09
1750.00	105.669	180.344	465.129	-687.943	1.574e+10	2.424e+09
1800.00	105.796	186.445	468.107	-712.838	1.993e+10	2.600e+09
1850.00	105.914	192.554	471.007	-737.902	2.510e+10	2.785e+09
1900.00	106.023	198.670	473.833	-763.131	3.147e+10	2.977e+09
1950.00	106.124	204.792	476.589	-788.522	3.927e+10	3.176e+09
2000.00	106.217	210.919	479.277	-814.069	4.879e+10	3.384e+09
2050.00	106.305	217.053	481.901	-839.770	6.035e+10	3.599e+09
2100.00	106.386	223.191	484.463	-865.620	7.434e+10	3.823e+09
2150.00	106.462	229.335	486.968	-891.617	9.120e+10	4.055e+09
2200.00	106.533	235.483	489.416	-917.756	1.115e+11	4.294e+09
2250.00	106.600	241.635	491.811	-944.036	1.357e+11	4.543e+09
2300.00	106.662	247.791	494.154	-970.452	1.647e+11	4.799e+09
2350.00	106.721	253.951	496.449	-997.002	1.991e+11	5.064e+09
2400.00	106.776	260.114	498.696	-1023.683	2.400e+11	5.338e+09
2450.00	106.827	266.280	500.898	-1050.493	2.883e+11	5.620e+09
2500.00	106.876	272.450	503.057	-1077.428	3.452e+11	5.912e+09
2550.00	106.922	278.623	505.174	-1104.487	4.121e+11	6.212e+09
2600.00	106.966	284.798	507.251	-1131.667	4.906e+11	6.521e+09
2650.00	107.007	290.976	509.289	-1158.966	5.824e+11	6.839e+09
2700.00	107.046	297.156	511.289	-1186.381	6.895e+11	7.166e+09

2750.00	107.083	303.339	513.254	-1213.911	8.141e+11	7.502e+09
2800.00	107.118	309.523	515.183	-1241.553	9.587e+11	7.848e+09
2850.00	107.151	315.710	517.080	-1269.306	1.126e+12	8.203e+09
2900.00	107.183	321.899	518.944	-1297.167	1.320e+12	8.567e+09
2950.00	107.213	328.090	520.776	-1325.135	1.543e+12	8.941e+09
3000.00	107.241	334.283	522.578	-1353.208	1.800e+12	9.325e+09
3050.00	107.268	340.477	524.351	-1381.384	2.096e+12	9.719e+09
3100.00	107.294	346.673	526.096	-1409.662	2.434e+12	1.012e+10
3150.00	107.319	352.870	527.812	-1438.040	2.821e+12	1.053e+10
3200.00	107.342	359.069	529.503	-1466.516	3.263e+12	1.096e+10
3250.00	107.365	365.269	531.167	-1495.089	3.767e+12	1.139e+10
3300.00	107.386	371.471	532.807	-1523.757	4.341e+12	1.183e+10
3350.00	107.407	377.674	534.422	-1552.519	4.992e+12	1.229e+10
3400.00	107.427	383.878	536.013	-1581.374	5.730e+12	1.275e+10
3450.00	107.445	390.083	537.581	-1610.320	6.566e+12	1.323e+10
3500.00	107.463	396.290	539.128	-1639.356	7.512e+12	1.371e+10
3550.00	107.481	402.497	540.652	-1668.481	8.578e+12	1.420e+10
3600.00	107.497	408.706	542.155	-1697.693	9.780e+12	1.471e+10
3650.00	107.513	414.916	543.638	-1726.992	1.113e+13	1.523e+10
3700.00	107.529	421.126	545.101	-1756.375	1.265e+13	1.575e+10
3750.00	107.543	427.338	546.544	-1785.843	1.436e+13	1.629e+10
3800.00	107.557	433.550	547.969	-1815.393	1.627e+13	1.684e+10
3850.00	107.571	439.763	549.375	-1845.025	1.840e+13	1.740e+10
3900.00	107.584	445.977	550.763	-1874.738	2.079e+13	1.797e+10
3950.00	107.597	452.192	552.134	-1904.531	2.346e+13	1.855e+10
4000.00	107.609	458.408	553.487	-1934.402	2.643e+13	1.914e+10
4050.00	107.620	464.624	554.824	-1964.350	2.974e+13	1.975e+10
4100.00	107.632	470.841	556.145	-1994.376	3.342e+13	2.036e+10
4150.00	107.642	477.059	557.449	-2024.477	3.751e+13	2.099e+10
4200.00	107.653	483.277	558.739	-2054.654	4.204e+13	2.163e+10
4250.00	107.663	489.496	560.013	-2084.904	4.706e+13	2.228e+10
4300.00	107.673	495.715	561.272	-2115.228	5.262e+13	2.294e+10
4350.00	107.682	501.936	562.517	-2145.623	5.877e+13	2.361e+10
4400.00	107.691	508.156	563.748	-2176.091	6.557e+13	2.429e+10
4450.00	107.700	514.378	564.965	-2206.629	7.306e+13	2.499e+10
4500.00	107.709	520.599	566.168	-2237.237	8.133e+13	2.570e+10
4550.00	107.717	526.822	567.358	-2267.914	9.043e+13	2.642e+10
4600.00	107.725	533.044	568.535	-2298.659	1.004e+14	2.715e+10
4650.00	107.733	539.268	569.700	-2329.472	1.114e+14	2.789e+10
4700.00	107.740	545.492	570.852	-2360.352	1.235e+14	2.865e+10
4750.00	107.747	551.716	571.993	-2391.298	1.368e+14	2.942e+10
4800.00	107.754	557.940	573.121	-2422.310	1.513e+14	3.020e+10
4850.00	107.761	564.165	574.237	-2453.387	1.673e+14	3.099e+10
4900.00	107.768	570.391	575.343	-2484.528	1.847e+14	3.179e+10
4950.00	107.774	576.617	576.437	-2515.732	2.037e+14	3.261e+10
5000.00	107.781	582.843	577.520	-2546.999	2.245e+14	3.344e+10
5050.00	107.787	589.070	578.593	-2578.328	2.472e+14	3.428e+10
5100.00	107.792	595.297	579.655	-2609.719	2.720e+14	3.514e+10
5150.00	107.798	601.524	580.706	-2641.172	2.990e+14	3.601e+10
5200.00	107.804	607.752	581.748	-2672.684	3.284e+14	3.689e+10
5250.00	107.809	613.980	582.779	-2704.257	3.604e+14	3.778e+10
5300.00	107.814	620.208	583.801	-2735.889	3.952e+14	3.869e+10
5350.00	107.819	626.437	584.814	-2767.579	4.330e+14	3.960e+10
5400.00	107.824	632.666	585.817	-2799.328	4.741e+14	4.054e+10
5450.00	107.829	638.895	586.811	-2831.135	5.186e+14	4.148e+10
5500.00	107.834	645.125	587.795	-2862.998	5.669e+14	4.244e+10
5550.00	107.838	651.355	588.771	-2894.918	6.192e+14	4.341e+10
5600.00	107.843	657.585	589.738	-2926.895	6.759e+14	4.439e+10

5650.00	107.847	663.815	590.697	-2958.927	7.372e+14	4.539e+10
5700.00	107.851	670.046	591.647	-2991.014	8.035e+14	4.640e+10
5750.00	107.855	676.277	592.589	-3023.156	8.752e+14	4.743e+10
5800.00	107.859	682.508	593.523	-3055.352	9.526e+14	4.846e+10
5850.00	107.863	688.739	594.449	-3087.601	1.036e+15	4.952e+10
5900.00	107.867	694.971	595.367	-3119.904	1.126e+15	5.058e+10
5950.00	107.871	701.203	596.277	-3152.260	1.223e+15	5.166e+10
6000.00	107.874	707.435	597.180	-3184.668	1.328e+15	5.275e+10
6050.00	107.878	713.667	598.075	-3217.128	1.441e+15	5.386e+10
6100.00	107.881	719.900	598.963	-3249.640	1.562e+15	5.498e+10
6150.00	107.885	726.132	599.844	-3282.203	1.692e+15	5.611e+10
6200.00	107.888	732.365	600.717	-3314.816	1.833e+15	5.726e+10
6250.00	107.891	738.598	601.584	-3347.480	1.983e+15	5.842e+10
6300.00	107.894	744.832	602.444	-3380.193	2.145e+15	5.959e+10
6350.00	107.897	751.065	603.297	-3412.956	2.319e+15	6.078e+10
6400.00	107.900	757.299	604.143	-3445.768	2.505e+15	6.199e+10
6450.00	107.903	763.533	604.982	-3478.629	2.705e+15	6.321e+10
6500.00	107.906	769.767	605.816	-3511.538	2.919e+15	6.444e+10
6550.00	107.909	776.001	606.643	-3544.495	3.148e+15	6.568e+10
6600.00	107.911	782.235	607.463	-3577.500	3.393e+15	6.694e+10
6650.00	107.914	788.470	608.278	-3610.552	3.656e+15	6.822e+10
6700.00	107.917	794.705	609.086	-3643.650	3.937e+15	6.951e+10
6750.00	107.919	800.940	609.888	-3676.795	4.237e+15	7.081e+10
6800.00	107.922	807.175	610.685	-3709.987	4.558e+15	7.213e+10
6850.00	107.924	813.410	611.476	-3743.224	4.900e+15	7.346e+10
6900.00	107.926	819.645	612.260	-3776.507	5.266e+15	7.481e+10
6950.00	107.929	825.880	613.040	-3809.835	5.656e+15	7.618e+10
7000.00	107.931	832.116	613.813	-3843.208	6.073e+15	7.755e+10
7050.00	107.933	838.352	614.582	-3876.625	6.516e+15	7.895e+10
7100.00	107.935	844.588	615.344	-3910.087	6.989e+15	8.035e+10
7150.00	107.938	850.824	616.102	-3943.592	7.493e+15	8.177e+10
7200.00	107.940	857.060	616.854	-3977.142	8.029e+15	8.321e+10
7250.00	107.942	863.296	617.601	-4010.734	8.600e+15	8.466e+10
7300.00	107.944	869.532	618.343	-4044.369	9.208e+15	8.613e+10
7350.00	107.946	875.769	619.080	-4078.048	9.854e+15	8.761e+10
7400.00	107.948	882.006	619.812	-4111.768	1.054e+16	8.911e+10
7450.00	107.949	888.242	620.538	-4145.531	1.127e+16	9.062e+10
7500.00	107.951	894.479	621.261	-4179.335	1.205e+16	9.215e+10
7550.00	107.953	900.716	621.978	-4213.182	1.287e+16	9.370e+10
7600.00	107.955	906.953	622.690	-4247.069	1.374e+16	9.526e+10
7650.00	107.957	913.190	623.398	-4280.998	1.467e+16	9.683e+10
7700.00	107.958	919.428	624.102	-4314.967	1.565e+16	9.842e+10
7750.00	107.960	925.665	624.800	-4348.977	1.669e+16	1.000e+11
7800.00	107.962	931.903	625.495	-4383.027	1.780e+16	1.016e+11
7850.00	107.963	938.140	626.185	-4417.117	1.897e+16	1.033e+11
7900.00	107.965	944.378	626.870	-4451.247	2.021e+16	1.049e+11
7950.00	107.966	950.616	627.551	-4485.416	2.152e+16	1.066e+11
8000.00	107.968	956.854	628.228	-4519.624	2.291e+16	1.083e+11
8050.00	107.969	963.091	628.901	-4553.872	2.438e+16	1.100e+11
8100.00	107.971	969.330	629.569	-4588.158	2.594e+16	1.117e+11
8150.00	107.972	975.568	630.234	-4622.482	2.758e+16	1.134e+11
8200.00	107.974	981.806	630.894	-4656.845	2.932e+16	1.152e+11
8250.00	107.975	988.044	631.551	-4691.247	3.116e+16	1.169e+11
8300.00	107.976	994.283	632.203	-4725.685	3.309e+16	1.187e+11
8350.00	107.978	1000.521	632.852	-4760.162	3.514e+16	1.205e+11
8400.00	107.979	1006.760	633.496	-4794.675	3.731e+16	1.223e+11
8450.00	107.980	1012.998	634.137	-4829.226	3.959e+16	1.242e+11
8500.00	107.982	1019.237	634.774	-4863.814	4.200e+16	1.260e+11

8550.00	107.983	1025.476	635.407	-4898.438	4.454e+16	1.279e+11
8600.00	107.984	1031.715	636.037	-4933.100	4.721e+16	1.297e+11
8650.00	107.985	1037.954	636.663	-4967.797	5.004e+16	1.316e+11
8700.00	107.986	1044.193	637.285	-5002.530	5.301e+16	1.336e+11
8750.00	107.988	1050.432	637.904	-5037.299	5.614e+16	1.355e+11
8800.00	107.989	1056.671	638.520	-5072.104	5.944e+16	1.374e+11
8850.00	107.990	1062.910	639.131	-5106.944	6.292e+16	1.394e+11
8900.00	107.991	1069.150	639.740	-5141.820	6.658e+16	1.414e+11
8950.00	107.992	1075.389	640.345	-5176.730	7.043e+16	1.434e+11
9000.00	107.993	1081.628	640.946	-5211.676	7.447e+16	1.454e+11
9050.00	107.994	1087.868	641.545	-5246.656	7.873e+16	1.474e+11
9100.00	107.995	1094.108	642.140	-5281.670	8.321e+16	1.494e+11
9150.00	107.996	1100.347	642.732	-5316.720	8.792e+16	1.515e+11
9200.00	107.997	1106.587	643.320	-5351.802	9.286e+16	1.536e+11
9250.00	107.998	1112.827	643.905	-5386.919	9.806e+16	1.557e+11
9300.00	107.999	1119.066	644.488	-5422.070	1.035e+17	1.578e+11
9350.00	108.000	1125.306	645.067	-5457.254	1.093e+17	1.599e+11
9400.00	108.001	1131.546	645.643	-5492.472	1.153e+17	1.621e+11
9450.00	108.002	1137.786	646.216	-5527.722	1.216e+17	1.642e+11
9500.00	108.003	1144.026	646.786	-5563.006	1.282e+17	1.664e+11
9550.00	108.004	1150.266	647.353	-5598.323	1.352e+17	1.686e+11
9600.00	108.005	1156.506	647.917	-5633.672	1.425e+17	1.708e+11
9650.00	108.006	1162.747	648.478	-5669.054	1.501e+17	1.731e+11
9700.00	108.006	1168.987	649.036	-5704.468	1.581e+17	1.753e+11
9750.00	108.007	1175.227	649.591	-5739.914	1.665e+17	1.776e+11
9800.00	108.008	1181.468	650.144	-5775.392	1.753e+17	1.799e+11
9850.00	108.009	1187.708	650.693	-5810.902	1.846e+17	1.822e+11
9900.00	108.010	1193.948	651.240	-5846.444	1.942e+17	1.845e+11
9950.00	108.010	1200.189	651.784	-5882.017	2.043e+17	1.868e+11
10000.00	108.011	1206.430	652.326	-5917.622	2.149e+17	1.892e+11

CALCULATION OUT THERMAL EQUILIBRIUM: Tex=2.0*Th Tvib=√ 2.0 Trot=Th
(P=1 bar=0.1 MPa)

Th	Cp	h	s	g	zint	ztr
K	J/K/mol	kJ/mol	J/K/mol	kJ/mol	-	-
100.00	46.762	4.046	239.240	-20.185	1.646e+04	1.892e+06
150.00	55.765	6.983	259.908	-32.909	4.272e+04	5.213e+06
200.00	64.108	10.538	277.119	-46.726	9.783e+04	1.070e+07
250.00	71.213	14.642	292.212	-61.507	2.087e+05	1.869e+07
298.15	76.873	19.026	305.255	-76.565	4.128e+05	2.904e+07
300.00	77.069	19.202	305.731	-77.158	4.234e+05	2.949e+07
350.00	81.852	24.138	317.983	-93.604	8.246e+05	4.335e+07
400.00	85.755	29.380	329.176	-110.779	1.550e+06	6.053e+07
450.00	88.948	34.871	339.467	-128.626	2.823e+06	8.126e+07
500.00	91.569	40.568	348.979	-147.096	4.995e+06	1.057e+08
550.00	93.733	46.433	357.811	-166.145	8.610e+06	1.342e+08
600.00	95.529	52.437	366.047	-185.734	1.448e+07	1.668e+08
650.00	97.031	58.558	373.754	-205.829	2.383e+07	2.038e+08
700.00	98.294	64.776	380.992	-226.399	3.839e+07	2.452e+08
750.00	99.363	71.077	387.811	-247.417	6.069e+07	2.914e+08
800.00	100.275	77.447	394.254	-268.857	9.424e+07	3.424e+08
850.00	101.056	83.877	400.357	-290.698	1.439e+08	3.985e+08
900.00	101.731	90.358	406.153	-312.918	2.164e+08	4.597e+08
950.00	102.316	96.884	411.669	-335.500	3.208e+08	5.262e+08
1000.00	102.826	103.449	416.931	-358.427	4.690e+08	5.982e+08
1050.00	103.273	110.047	421.959	-381.683	6.771e+08	6.758e+08
1100.00	103.668	116.675	426.772	-405.254	9.661e+08	7.592e+08
1150.00	104.016	123.329	431.388	-429.127	1.363e+09	8.484e+08
1200.00	104.326	130.006	435.822	-453.290	1.903e+09	9.436e+08
1250.00	104.603	136.705	440.086	-477.732	2.630e+09	1.045e+09
1300.00	104.851	143.421	444.194	-502.441	3.601e+09	1.153e+09
1350.00	105.073	150.155	448.155	-527.410	4.887e+09	1.267e+09
1400.00	105.274	156.903	451.980	-552.629	6.577e+09	1.387e+09
1450.00	105.456	163.665	455.678	-578.088	8.782e+09	1.515e+09
1500.00	105.621	170.439	459.255	-603.781	1.164e+10	1.648e+09
1550.00	105.771	177.224	462.721	-629.701	1.531e+10	1.789e+09
1600.00	105.908	184.019	466.082	-655.839	2.000e+10	1.937e+09
1650.00	106.034	190.824	469.342	-682.190	2.597e+10	2.092e+09
1700.00	106.149	197.637	472.510	-708.747	3.350e+10	2.254e+09
1750.00	106.254	204.457	475.588	-735.504	4.297e+10	2.424e+09
1800.00	106.352	211.285	478.583	-762.457	5.479e+10	2.600e+09
1850.00	106.441	218.120	481.498	-789.599	6.950e+10	2.785e+09
1900.00	106.525	224.961	484.338	-816.927	8.769e+10	2.977e+09
1950.00	106.602	231.807	487.106	-844.434	1.101e+11	3.176e+09
2000.00	106.673	238.659	489.806	-872.117	1.376e+11	3.384e+09
2050.00	106.740	245.515	492.440	-899.971	1.711e+11	3.599e+09
2100.00	106.802	252.376	495.013	-927.993	2.119e+11	3.823e+09
2150.00	106.860	259.242	497.527	-956.178	2.614e+11	4.055e+09
2200.00	106.914	266.111	499.984	-984.523	3.210e+11	4.294e+09
2250.00	106.964	272.984	502.388	-1013.024	3.928e+11	4.543e+09
2300.00	107.012	279.860	504.739	-1041.678	4.787e+11	4.799e+09
2350.00	107.056	286.740	507.041	-1070.481	5.814e+11	5.064e+09
2400.00	107.098	293.623	509.295	-1099.431	7.036e+11	5.338e+09
2450.00	107.137	300.508	511.504	-1128.524	8.486e+11	5.620e+09
2500.00	107.174	307.397	513.669	-1157.758	1.020e+12	5.912e+09
2550.00	107.209	314.287	515.792	-1187.129	1.223e+12	6.212e+09
2600.00	107.242	321.181	517.874	-1216.636	1.461e+12	6.521e+09
2650.00	107.274	328.076	519.917	-1246.275	1.740e+12	6.839e+09
2700.00	107.303	334.974	521.922	-1276.045	2.067e+12	7.166e+09

2750.00	107.331	341.873	523.891	-1305.942	2.449e+12	7.502e+09
2800.00	107.357	348.775	525.826	-1335.965	2.893e+12	7.848e+09
2850.00	107.382	355.678	527.726	-1366.110	3.410e+12	8.203e+09
2900.00	107.406	362.583	529.594	-1396.377	4.008e+12	8.567e+09
2950.00	107.429	369.490	531.430	-1426.764	4.700e+12	8.941e+09
3000.00	107.451	376.399	533.236	-1457.267	5.498e+12	9.325e+09
3050.00	107.471	383.308	535.012	-1487.885	6.417e+12	9.719e+09
3100.00	107.491	390.220	536.760	-1518.617	7.472e+12	1.012e+10
3150.00	107.509	397.132	538.480	-1549.460	8.683e+12	1.053e+10
3200.00	107.527	404.046	540.173	-1580.413	1.007e+13	1.096e+10
3250.00	107.544	410.961	541.840	-1611.474	1.165e+13	1.139e+10
3300.00	107.560	417.878	543.482	-1642.641	1.346e+13	1.183e+10
3350.00	107.576	424.795	545.100	-1673.913	1.551e+13	1.229e+10
3400.00	107.591	431.714	546.694	-1705.289	1.785e+13	1.275e+10
3450.00	107.605	438.633	548.265	-1736.766	2.049e+13	1.323e+10
3500.00	107.618	445.554	549.813	-1768.343	2.349e+13	1.371e+10
3550.00	107.631	452.475	551.340	-1800.019	2.688e+13	1.420e+10
3600.00	107.644	459.397	552.845	-1831.793	3.071e+13	1.471e+10
3650.00	107.656	466.321	554.330	-1863.663	3.502e+13	1.523e+10
3700.00	107.667	473.245	555.795	-1895.628	3.988e+13	1.575e+10
3750.00	107.679	480.169	557.240	-1927.686	4.534e+13	1.629e+10
3800.00	107.689	487.095	558.666	-1959.837	5.146e+13	1.684e+10
3850.00	107.699	494.021	560.074	-1992.079	5.833e+13	1.740e+10
3900.00	107.709	500.948	561.464	-2024.411	6.601e+13	1.797e+10
3950.00	107.719	507.876	562.836	-2056.831	7.460e+13	1.855e+10
4000.00	107.728	514.805	564.191	-2089.340	8.419e+13	1.914e+10
4050.00	107.737	521.734	565.529	-2121.935	9.488e+13	1.975e+10
4100.00	107.745	528.663	566.851	-2154.615	1.068e+14	2.036e+10
4150.00	107.753	535.593	568.157	-2187.380	1.200e+14	2.099e+10
4200.00	107.761	542.524	569.448	-2220.229	1.347e+14	2.163e+10
4250.00	107.769	549.456	570.723	-2253.159	1.510e+14	2.228e+10
4300.00	107.776	556.387	571.984	-2286.172	1.691e+14	2.294e+10
4350.00	107.783	563.320	573.230	-2319.265	1.892e+14	2.361e+10
4400.00	107.790	570.253	574.462	-2352.438	2.113e+14	2.429e+10
4450.00	107.797	577.186	575.680	-2385.690	2.358e+14	2.499e+10
4500.00	107.803	584.120	576.884	-2419.019	2.628e+14	2.570e+10
4550.00	107.809	591.054	578.075	-2452.426	2.926e+14	2.642e+10
4600.00	107.815	597.989	579.254	-2485.909	3.254e+14	2.715e+10
4650.00	107.821	604.924	580.419	-2519.467	3.615e+14	2.789e+10
4700.00	107.827	611.859	581.573	-2553.100	4.012e+14	2.865e+10
4750.00	107.832	618.795	582.714	-2586.806	4.447e+14	2.942e+10
4800.00	107.838	625.732	583.843	-2620.586	4.926e+14	3.020e+10
4850.00	107.843	632.668	584.960	-2654.438	5.450e+14	3.099e+10
4900.00	107.848	639.605	586.066	-2688.361	6.024e+14	3.179e+10
4950.00	107.853	646.543	587.161	-2722.355	6.653e+14	3.261e+10
5000.00	107.857	653.480	588.245	-2756.419	7.340e+14	3.344e+10
5050.00	107.862	660.418	589.319	-2790.553	8.091e+14	3.428e+10
5100.00	107.866	667.357	590.381	-2824.755	8.911e+14	3.514e+10
5150.00	107.870	674.295	591.434	-2859.025	9.806e+14	3.601e+10
5200.00	107.875	681.234	592.476	-2893.363	1.078e+15	3.689e+10
5250.00	107.879	688.174	593.508	-2927.767	1.184e+15	3.778e+10
5300.00	107.883	695.113	594.531	-2962.238	1.300e+15	3.869e+10
5350.00	107.886	702.053	595.544	-2996.774	1.425e+15	3.960e+10
5400.00	107.890	708.993	596.547	-3031.375	1.562e+15	4.054e+10
5450.00	107.894	715.933	597.542	-3066.040	1.710e+15	4.148e+10
5500.00	107.897	722.874	598.527	-3100.768	1.871e+15	4.244e+10
5550.00	107.901	729.815	599.504	-3135.560	2.046e+15	4.341e+10
5600.00	107.904	736.756	600.471	-3170.415	2.235e+15	4.439e+10

5650.00	107.907	743.697	601.431	-3205.331	2.440e+15	4.539e+10
5700.00	107.910	750.638	602.381	-3240.309	2.661e+15	4.640e+10
5750.00	107.913	757.580	603.324	-3275.347	2.901e+15	4.743e+10
5800.00	107.916	764.522	604.258	-3310.446	3.160e+15	4.846e+10
5850.00	107.919	771.464	605.184	-3345.605	3.440e+15	4.952e+10
5900.00	107.922	778.407	606.103	-3380.823	3.742e+15	5.058e+10
5950.00	107.925	785.349	607.014	-3416.100	4.068e+15	5.166e+10
6000.00	107.928	792.292	607.917	-3451.436	4.419e+15	5.275e+10
6050.00	107.930	799.235	608.812	-3486.829	4.797e+15	5.386e+10
6100.00	107.933	806.178	609.701	-3522.280	5.205e+15	5.498e+10
6150.00	107.935	813.121	610.582	-3557.787	5.644e+15	5.611e+10
6200.00	107.938	820.065	611.456	-3593.351	6.116e+15	5.726e+10
6250.00	107.940	827.008	612.323	-3628.971	6.623e+15	5.842e+10
6300.00	107.943	833.952	613.183	-3664.647	7.168e+15	5.959e+10
6350.00	107.945	840.896	614.036	-3700.377	7.754e+15	6.078e+10
6400.00	107.947	847.840	614.883	-3736.163	8.382e+15	6.199e+10
6450.00	107.949	854.785	615.723	-3772.002	9.056e+15	6.321e+10
6500.00	107.951	861.729	616.557	-3807.896	9.779e+15	6.444e+10
6550.00	107.954	868.674	617.384	-3843.843	1.055e+16	6.568e+10
6600.00	107.956	875.619	618.205	-3879.843	1.138e+16	6.694e+10
6650.00	107.958	882.563	619.020	-3915.895	1.227e+16	6.822e+10
6700.00	107.960	889.508	619.828	-3952.000	1.322e+16	6.951e+10
6750.00	107.961	896.454	620.631	-3988.156	1.424e+16	7.081e+10
6800.00	107.963	903.399	621.428	-4024.364	1.533e+16	7.213e+10
6850.00	107.965	910.344	622.219	-4060.623	1.649e+16	7.346e+10
6900.00	107.967	917.290	623.004	-4096.933	1.773e+16	7.481e+10
6950.00	107.969	924.236	623.783	-4133.293	1.905e+16	7.618e+10
7000.00	107.970	931.181	624.557	-4169.703	2.047e+16	7.755e+10
7050.00	107.972	938.127	625.326	-4206.163	2.197e+16	7.895e+10
7100.00	107.974	945.073	626.089	-4242.671	2.358e+16	8.035e+10
7150.00	107.975	952.019	626.847	-4279.229	2.530e+16	8.177e+10
7200.00	107.977	958.966	627.599	-4315.835	2.712e+16	8.321e+10
7250.00	107.978	965.912	628.346	-4352.490	2.906e+16	8.466e+10
7300.00	107.980	972.859	629.088	-4389.193	3.113e+16	8.613e+10
7350.00	107.981	979.805	629.826	-4425.943	3.333e+16	8.761e+10
7400.00	107.983	986.752	630.558	-4462.740	3.567e+16	8.911e+10
7450.00	107.984	993.699	631.285	-4499.584	3.816e+16	9.062e+10
7500.00	107.986	1000.646	632.007	-4536.476	4.081e+16	9.215e+10
7550.00	107.987	1007.592	632.725	-4573.413	4.362e+16	9.370e+10
7600.00	107.988	1014.540	633.437	-4610.396	4.660e+16	9.526e+10
7650.00	107.990	1021.487	634.146	-4647.425	4.977e+16	9.683e+10
7700.00	107.991	1028.434	634.849	-4684.500	5.313e+16	9.842e+10
7750.00	107.992	1035.381	635.548	-4721.619	5.669e+16	1.000e+11
7800.00	107.993	1042.329	636.242	-4758.783	6.047e+16	1.016e+11
7850.00	107.995	1049.276	636.933	-4795.992	6.447e+16	1.033e+11
7900.00	107.996	1056.224	637.618	-4833.245	6.872e+16	1.049e+11
7950.00	107.997	1063.172	638.300	-4870.542	7.321e+16	1.066e+11
8000.00	107.998	1070.119	638.977	-4907.883	7.797e+16	1.083e+11
8050.00	107.999	1077.067	639.650	-4945.267	8.301e+16	1.100e+11
8100.00	108.000	1084.015	640.318	-4982.694	8.834e+16	1.117e+11
8150.00	108.001	1090.963	640.983	-5020.165	9.398e+16	1.134e+11
8200.00	108.002	1097.911	641.644	-5057.677	9.994e+16	1.152e+11
8250.00	108.003	1104.859	642.300	-5095.232	1.062e+17	1.169e+11
8300.00	108.004	1111.808	642.953	-5132.830	1.129e+17	1.187e+11
8350.00	108.005	1118.756	643.601	-5170.469	1.199e+17	1.205e+11
8400.00	108.006	1125.704	644.246	-5208.150	1.274e+17	1.223e+11
8450.00	108.007	1132.653	644.887	-5245.872	1.352e+17	1.242e+11
8500.00	108.008	1139.601	645.524	-5283.635	1.435e+17	1.260e+11

8550.00	108.009	1146.550	646.158	-5321.439	1.522e+17	1.279e+11
8600.00	108.010	1153.499	646.788	-5359.284	1.614e+17	1.297e+11
8650.00	108.011	1160.447	647.414	-5397.169	1.712e+17	1.316e+11
8700.00	108.012	1167.396	648.036	-5435.095	1.814e+17	1.336e+11
8750.00	108.013	1174.345	648.655	-5473.060	1.922e+17	1.355e+11
8800.00	108.014	1181.294	649.271	-5511.065	2.036e+17	1.374e+11
8850.00	108.015	1188.243	649.883	-5549.109	2.155e+17	1.394e+11
8900.00	108.015	1195.192	650.491	-5587.193	2.281e+17	1.414e+11
8950.00	108.016	1202.141	651.096	-5625.316	2.414e+17	1.434e+11
9000.00	108.017	1209.090	651.698	-5663.478	2.554e+17	1.454e+11
9050.00	108.018	1216.039	652.297	-5701.678	2.701e+17	1.474e+11
9100.00	108.019	1222.988	652.892	-5739.917	2.855e+17	1.494e+11
9150.00	108.019	1229.938	653.484	-5778.193	3.018e+17	1.515e+11
9200.00	108.020	1236.887	654.072	-5816.508	3.189e+17	1.536e+11
9250.00	108.021	1243.836	654.658	-5854.860	3.368e+17	1.557e+11
9300.00	108.022	1250.786	655.240	-5893.250	3.557e+17	1.578e+11
9350.00	108.022	1257.735	655.819	-5931.678	3.755e+17	1.599e+11
9400.00	108.023	1264.685	656.396	-5970.143	3.963e+17	1.621e+11
9450.00	108.024	1271.635	656.969	-6008.644	4.181e+17	1.642e+11
9500.00	108.024	1278.584	657.539	-6047.183	4.411e+17	1.664e+11
9550.00	108.025	1285.534	658.106	-6085.757	4.651e+17	1.686e+11
9600.00	108.026	1292.484	658.670	-6124.369	4.904e+17	1.708e+11
9650.00	108.026	1299.433	659.231	-6163.016	5.169e+17	1.731e+11
9700.00	108.027	1306.383	659.789	-6201.700	5.446e+17	1.753e+11
9750.00	108.028	1313.333	660.345	-6240.419	5.737e+17	1.776e+11
9800.00	108.028	1320.283	660.897	-6279.174	6.042e+17	1.799e+11
9850.00	108.029	1327.233	661.447	-6317.964	6.362e+17	1.822e+11
9900.00	108.029	1334.183	661.994	-6356.790	6.697e+17	1.845e+11
9950.00	108.030	1341.133	662.538	-6395.651	7.048e+17	1.868e+11
10000.00	108.031	1348.083	663.080	-6434.547	7.415e+17	1.892e+11

CALCULATION OUT THERMAL EQUILIBRIUM: Tex=3.0*Th Tvib=√ 3.0 Trot=Th
(P=1 bar=0.1 MPa)

Th	Cp	h	s	g	zint	ztr
K	J/K/mol	kJ/mol	J/K/mol	kJ/mol	-	-
100.00	50.827	4.539	242.376	-20.469	1.906e+04	1.892e+06
150.00	61.513	8.194	265.042	-33.726	5.562e+04	5.213e+06
200.00	70.554	12.710	284.023	-48.359	1.430e+05	1.070e+07
250.00	77.715	17.925	300.568	-64.217	3.400e+05	1.869e+07
298.15	83.120	23.469	314.738	-80.533	7.393e+05	2.904e+07
300.00	83.303	23.690	315.252	-81.179	7.610e+05	2.949e+07
350.00	87.663	29.884	328.435	-99.141	1.619e+06	4.335e+07
400.00	91.080	36.412	340.373	-118.016	3.291e+06	6.053e+07
450.00	93.777	43.204	351.262	-137.725	6.429e+06	8.126e+07
500.00	95.926	50.204	361.258	-158.201	1.211e+07	1.057e+08
550.00	97.654	57.372	370.485	-179.388	2.208e+07	1.342e+08
600.00	99.057	64.675	379.044	-201.233	3.905e+07	1.668e+08
650.00	100.208	72.087	387.020	-223.691	6.721e+07	2.038e+08
700.00	101.161	79.591	394.482	-246.725	1.128e+08	2.452e+08
750.00	101.957	87.170	401.489	-270.297	1.851e+08	2.914e+08
800.00	102.628	94.812	408.091	-294.377	2.972e+08	3.424e+08
850.00	103.197	102.508	414.331	-318.937	4.682e+08	3.985e+08
900.00	103.684	110.249	420.243	-343.951	7.242e+08	4.597e+08
950.00	104.104	118.030	425.861	-369.396	1.102e+09	5.262e+08
1000.00	104.467	125.844	431.210	-395.252	1.650e+09	5.982e+08
1050.00	104.784	133.688	436.315	-421.500	2.435e+09	6.758e+08
1100.00	105.062	141.558	441.196	-448.122	3.546e+09	7.592e+08
1150.00	105.306	149.450	445.872	-475.102	5.099e+09	8.484e+08
1200.00	105.523	157.362	450.358	-502.426	7.245e+09	9.436e+08
1250.00	105.716	165.292	454.670	-530.080	1.018e+10	1.045e+09
1300.00	105.888	173.237	458.819	-558.051	1.416e+10	1.153e+09
1350.00	106.042	181.197	462.819	-586.329	1.950e+10	1.267e+09
1400.00	106.180	189.169	466.678	-614.902	2.660e+10	1.387e+09
1450.00	106.306	197.153	470.406	-643.759	3.598e+10	1.515e+09
1500.00	106.419	205.147	474.012	-672.892	4.825e+10	1.648e+09
1550.00	106.522	213.150	477.503	-702.292	6.421e+10	1.789e+09
1600.00	106.616	221.162	480.886	-731.951	8.481e+10	1.937e+09
1650.00	106.702	229.181	484.168	-761.859	1.112e+11	2.092e+09
1700.00	106.780	237.208	487.355	-792.011	1.449e+11	2.254e+09
1750.00	106.852	245.241	490.451	-822.399	1.875e+11	2.424e+09
1800.00	106.918	253.281	493.462	-853.017	2.413e+11	2.600e+09
1850.00	106.980	261.325	496.393	-883.858	3.086e+11	2.785e+09
1900.00	107.036	269.375	499.246	-914.917	3.925e+11	2.977e+09
1950.00	107.088	277.430	502.027	-946.188	4.965e+11	3.176e+09
2000.00	107.137	285.489	504.739	-977.665	6.249e+11	3.384e+09
2050.00	107.182	293.552	507.385	-1009.344	7.827e+11	3.599e+09
2100.00	107.224	301.619	509.969	-1041.219	9.758e+11	3.823e+09
2150.00	107.263	309.689	512.492	-1073.287	1.211e+12	4.055e+09
2200.00	107.300	317.762	514.958	-1105.542	1.497e+12	4.294e+09
2250.00	107.334	325.839	517.370	-1137.981	1.842e+12	4.543e+09
2300.00	107.366	333.918	519.730	-1170.600	2.257e+12	4.799e+09
2350.00	107.396	342.001	522.039	-1203.394	2.756e+12	5.064e+09
2400.00	107.424	350.085	524.300	-1236.360	3.353e+12	5.338e+09
2450.00	107.451	358.172	526.516	-1269.495	4.064e+12	5.620e+09
2500.00	107.476	366.262	528.687	-1302.794	4.909e+12	5.912e+09
2550.00	107.499	374.353	530.815	-1336.256	5.911e+12	6.212e+09
2600.00	107.522	382.446	532.903	-1369.876	7.093e+12	6.521e+09
2650.00	107.543	390.542	534.951	-1403.652	8.487e+12	6.839e+09
2700.00	107.562	398.639	536.962	-1437.580	1.012e+13	7.166e+09

2750.00	107.581	406.737	538.935	-1471.659	1.204e+13	7.502e+09
2800.00	107.599	414.837	540.874	-1505.885	1.428e+13	7.848e+09
2850.00	107.616	422.939	542.779	-1540.255	1.689e+13	8.203e+09
2900.00	107.632	431.042	544.650	-1574.768	1.993e+13	8.567e+09
2950.00	107.647	439.147	546.490	-1609.420	2.345e+13	8.941e+09
3000.00	107.662	447.253	548.300	-1644.210	2.752e+13	9.325e+09
3050.00	107.675	455.360	550.080	-1679.135	3.223e+13	9.719e+09
3100.00	107.689	463.468	551.830	-1714.193	3.766e+13	1.012e+10
3150.00	107.701	471.577	553.554	-1749.381	4.389e+13	1.053e+10
3200.00	107.713	479.688	555.250	-1784.699	5.105e+13	1.096e+10
3250.00	107.724	487.799	556.920	-1820.143	5.925e+13	1.139e+10
3300.00	107.735	495.911	558.565	-1855.712	6.862e+13	1.183e+10
3350.00	107.746	504.025	560.185	-1891.404	7.932e+13	1.229e+10
3400.00	107.756	512.139	561.781	-1927.217	9.150e+13	1.275e+10
3450.00	107.765	520.254	563.354	-1963.149	1.054e+14	1.323e+10
3500.00	107.774	528.370	564.905	-1999.199	1.211e+14	1.371e+10
3550.00	107.783	536.486	566.434	-2035.365	1.389e+14	1.420e+10
3600.00	107.791	544.604	567.941	-2071.645	1.591e+14	1.471e+10
3650.00	107.799	552.722	569.428	-2108.038	1.818e+14	1.523e+10
3700.00	107.807	560.840	570.895	-2144.542	2.075e+14	1.575e+10
3750.00	107.815	568.960	572.342	-2181.156	2.364e+14	1.629e+10
3800.00	107.822	577.080	573.770	-2217.877	2.689e+14	1.684e+10
3850.00	107.829	585.200	575.180	-2254.707	3.055e+14	1.740e+10
3900.00	107.835	593.321	576.571	-2291.641	3.464e+14	1.797e+10
3950.00	107.842	601.443	577.945	-2328.679	3.923e+14	1.855e+10
4000.00	107.848	609.565	579.301	-2365.821	4.436e+14	1.914e+10
4050.00	107.854	617.688	580.641	-2403.064	5.008e+14	1.975e+10
4100.00	107.859	625.812	581.965	-2440.407	5.647e+14	2.036e+10
4150.00	107.865	633.935	583.272	-2477.849	6.359e+14	2.099e+10
4200.00	107.870	642.060	584.564	-2515.389	7.151e+14	2.163e+10
4250.00	107.875	650.184	585.840	-2553.026	8.032e+14	2.228e+10
4300.00	107.880	658.309	587.102	-2590.759	9.009e+14	2.294e+10
4350.00	107.885	666.435	588.349	-2628.585	1.009e+15	2.361e+10
4400.00	107.889	674.561	589.582	-2666.506	1.129e+15	2.429e+10
4450.00	107.894	682.687	590.802	-2704.518	1.262e+15	2.499e+10
4500.00	107.898	690.814	592.007	-2742.622	1.409e+15	2.570e+10
4550.00	107.902	698.941	593.199	-2780.817	1.571e+15	2.642e+10
4600.00	107.906	707.069	594.379	-2819.100	1.750e+15	2.715e+10
4650.00	107.910	715.196	595.545	-2857.472	1.947e+15	2.789e+10
4700.00	107.914	723.325	596.699	-2895.931	2.164e+15	2.865e+10
4750.00	107.918	731.453	597.841	-2934.477	2.402e+15	2.942e+10
4800.00	107.921	739.582	598.971	-2973.109	2.664e+15	3.020e+10
4850.00	107.924	747.711	600.090	-3011.825	2.952e+15	3.099e+10
4900.00	107.928	755.840	601.197	-3050.625	3.267e+15	3.179e+10
4950.00	107.931	763.970	602.293	-3089.507	3.613e+15	3.261e+10
5000.00	107.934	772.100	603.377	-3128.472	3.991e+15	3.344e+10
5050.00	107.937	780.230	604.451	-3167.519	4.405e+15	3.428e+10
5100.00	107.940	788.360	605.515	-3206.645	4.857e+15	3.514e+10
5150.00	107.943	796.491	606.568	-3245.852	5.351e+15	3.601e+10
5200.00	107.946	804.622	607.611	-3285.137	5.890e+15	3.689e+10
5250.00	107.948	812.753	608.644	-3324.501	6.478e+15	3.778e+10
5300.00	107.951	820.884	609.667	-3363.942	7.118e+15	3.869e+10
5350.00	107.954	829.016	610.681	-3403.459	7.815e+15	3.960e+10
5400.00	107.956	837.148	611.685	-3443.053	8.573e+15	4.054e+10
5450.00	107.959	845.280	612.680	-3482.722	9.397e+15	4.148e+10
5500.00	107.961	853.412	613.666	-3522.466	1.029e+16	4.244e+10
5550.00	107.963	861.545	614.643	-3562.283	1.126e+16	4.341e+10
5600.00	107.965	869.677	615.611	-3602.174	1.232e+16	4.439e+10

5650.00	107.968	877.810	616.571	-3642.138	1.346e+16	4.539e+10
5700.00	107.970	885.943	617.522	-3682.173	1.470e+16	4.640e+10
5750.00	107.972	894.076	618.465	-3722.280	1.604e+16	4.743e+10
5800.00	107.974	902.210	619.400	-3762.457	1.748e+16	4.846e+10
5850.00	107.976	910.343	620.327	-3802.705	1.905e+16	4.952e+10
5900.00	107.978	918.477	621.246	-3843.022	2.074e+16	5.058e+10
5950.00	107.979	926.611	622.157	-3883.408	2.257e+16	5.166e+10
6000.00	107.981	934.745	623.061	-3923.863	2.454e+16	5.275e+10
6050.00	107.983	942.879	623.957	-3964.385	2.667e+16	5.386e+10
6100.00	107.985	951.014	624.845	-4004.974	2.896e+16	5.498e+10
6150.00	107.986	959.148	625.727	-4045.630	3.143e+16	5.611e+10
6200.00	107.988	967.283	626.601	-4086.353	3.408e+16	5.726e+10
6250.00	107.990	975.417	627.469	-4127.140	3.694e+16	5.842e+10
6300.00	107.991	983.552	628.329	-4167.993	4.001e+16	5.959e+10
6350.00	107.993	991.687	629.183	-4208.911	4.332e+16	6.078e+10
6400.00	107.994	999.823	630.030	-4249.892	4.687e+16	6.199e+10
6450.00	107.996	1007.958	630.870	-4290.938	5.067e+16	6.321e+10
6500.00	107.997	1016.093	631.704	-4332.045	5.476e+16	6.444e+10
6550.00	107.999	1024.229	632.532	-4373.216	5.914e+16	6.568e+10
6600.00	108.000	1032.365	633.353	-4414.449	6.384e+16	6.694e+10
6650.00	108.001	1040.500	634.168	-4455.744	6.887e+16	6.822e+10
6700.00	108.002	1048.636	634.977	-4497.099	7.426e+16	6.951e+10
6750.00	108.004	1056.772	635.780	-4538.516	8.003e+16	7.081e+10
6800.00	108.005	1064.908	636.577	-4579.992	8.620e+16	7.213e+10
6850.00	108.006	1073.045	637.369	-4621.529	9.280e+16	7.346e+10
6900.00	108.007	1081.181	638.154	-4663.125	9.985e+16	7.481e+10
6950.00	108.009	1089.318	638.934	-4704.779	1.074e+17	7.618e+10
7000.00	108.010	1097.454	639.708	-4746.493	1.154e+17	7.755e+10
7050.00	108.011	1105.591	640.477	-4788.264	1.240e+17	7.895e+10
7100.00	108.012	1113.727	641.240	-4830.093	1.332e+17	8.035e+10
7150.00	108.013	1121.864	641.998	-4871.980	1.429e+17	8.177e+10
7200.00	108.014	1130.001	642.751	-4913.923	1.533e+17	8.321e+10
7250.00	108.015	1138.138	643.499	-4955.923	1.644e+17	8.466e+10
7300.00	108.016	1146.275	644.241	-4997.979	1.762e+17	8.613e+10
7350.00	108.017	1154.412	644.978	-5040.091	1.888e+17	8.761e+10
7400.00	108.018	1162.550	645.711	-5082.258	2.022e+17	8.911e+10
7450.00	108.019	1170.687	646.438	-5124.480	2.164e+17	9.062e+10
7500.00	108.020	1178.824	647.161	-5166.757	2.316e+17	9.215e+10
7550.00	108.021	1186.962	647.878	-5209.088	2.476e+17	9.370e+10
7600.00	108.022	1195.099	648.591	-5251.473	2.647e+17	9.526e+10
7650.00	108.023	1203.237	649.300	-5293.911	2.829e+17	9.683e+10
7700.00	108.023	1211.375	650.003	-5336.402	3.021e+17	9.842e+10
7750.00	108.024	1219.513	650.703	-5378.947	3.226e+17	1.000e+11
7800.00	108.025	1227.651	651.397	-5421.544	3.443e+17	1.016e+11
7850.00	108.026	1235.788	652.087	-5464.193	3.673e+17	1.033e+11
7900.00	108.027	1243.927	652.773	-5506.894	3.917e+17	1.049e+11
7950.00	108.027	1252.065	653.455	-5549.646	4.175e+17	1.066e+11
8000.00	108.028	1260.203	654.132	-5592.450	4.449e+17	1.083e+11
8050.00	108.029	1268.341	654.805	-5635.304	4.738e+17	1.100e+11
8100.00	108.030	1276.479	655.474	-5678.209	5.045e+17	1.117e+11
8150.00	108.030	1284.618	656.139	-5721.165	5.370e+17	1.134e+11
8200.00	108.031	1292.756	656.800	-5764.169	5.713e+17	1.152e+11
8250.00	108.032	1300.895	657.456	-5807.224	6.077e+17	1.169e+11
8300.00	108.032	1309.033	658.109	-5850.329	6.461e+17	1.187e+11
8350.00	108.033	1317.172	658.758	-5893.481	6.866e+17	1.205e+11
8400.00	108.034	1325.310	659.403	-5936.684	7.295e+17	1.223e+11
8450.00	108.034	1333.449	660.044	-5979.934	7.748e+17	1.242e+11
8500.00	108.035	1341.588	660.682	-6023.232	8.226e+17	1.260e+11

8550.00	108.036	1349.727	661.315	-6066.579	8.731e+17	1.279e+11
8600.00	108.036	1357.865	661.945	-6109.973	9.263e+17	1.297e+11
8650.00	108.037	1366.004	662.571	-6153.414	9.825e+17	1.316e+11
8700.00	108.038	1374.143	663.194	-6196.902	1.042e+18	1.336e+11
8750.00	108.038	1382.282	663.813	-6240.438	1.104e+18	1.355e+11
8800.00	108.039	1390.421	664.429	-6284.019	1.170e+18	1.374e+11
8850.00	108.039	1398.560	665.041	-6327.647	1.239e+18	1.394e+11
8900.00	108.040	1406.700	665.650	-6371.321	1.312e+18	1.414e+11
8950.00	108.040	1414.839	666.255	-6415.040	1.389e+18	1.434e+11
9000.00	108.041	1422.978	666.857	-6458.805	1.470e+18	1.454e+11
9050.00	108.041	1431.117	667.455	-6502.616	1.556e+18	1.474e+11
9100.00	108.042	1439.257	668.051	-6546.471	1.645e+18	1.494e+11
9150.00	108.042	1447.396	668.643	-6590.371	1.739e+18	1.515e+11
9200.00	108.043	1455.536	669.232	-6634.315	1.839e+18	1.536e+11
9250.00	108.043	1463.675	669.817	-6678.304	1.943e+18	1.557e+11
9300.00	108.044	1471.815	670.400	-6722.336	2.053e+18	1.578e+11
9350.00	108.044	1479.954	670.979	-6766.413	2.168e+18	1.599e+11
9400.00	108.045	1488.094	671.555	-6810.533	2.289e+18	1.621e+11
9450.00	108.045	1496.233	672.128	-6854.696	2.416e+18	1.642e+11
9500.00	108.046	1504.373	672.698	-6898.902	2.549e+18	1.664e+11
9550.00	108.046	1512.513	673.266	-6943.151	2.689e+18	1.686e+11
9600.00	108.047	1520.653	673.830	-6987.443	2.836e+18	1.708e+11
9650.00	108.047	1528.792	674.391	-7031.777	2.990e+18	1.731e+11
9700.00	108.048	1536.932	674.950	-7076.154	3.152e+18	1.753e+11
9750.00	108.048	1545.072	675.505	-7120.572	3.322e+18	1.776e+11
9800.00	108.048	1553.212	676.058	-7165.032	3.499e+18	1.799e+11
9850.00	108.049	1561.352	676.608	-7209.534	3.686e+18	1.822e+11
9900.00	108.049	1569.492	677.155	-7254.077	3.881e+18	1.845e+11
9950.00	108.050	1577.632	677.699	-7298.661	4.086e+18	1.868e+11
10000.00	108.050	1585.772	678.241	-7343.285	4.300e+18	1.892e+11