APPENDIX 2: Experimental Data

2A THERMODYNAMIC DATA AT 25°C

Inorganic Substances

Substance	Molar mass, M (g·mol^{-1})	Enthalpy of formation, $\Delta H_f°$ (kJ·mol^{-1})	Gibbs free energy of formation, $\Delta G_f°$ (kJ·mol^{-1})	Molar heat capacity, $C_{P,m}$ (J·K^{-1}·mol^{-1})	Molar entropy,* $S_m°$ (J·K^{-1}·mol^{-1})
Aluminum					
Al(s)	26.98	0	0	24.35	28.33
Al^{3+}(aq)	26.98	−524.7	−481.2	—	−321.7
Al_2O_3(s)	101.96	−1675.7	−1582.35	79.04	50.92
$Al(OH)_3$(s)	78.00	−1276	—	—	—
$AlCl_3$(s)	133.33	−704.2	−628.8	91.84	110.67
Antimony					
Sb(s)	121.76	0	0	25.23	45.69
SbH_3(g)	124.78	+145.11	+147.75	41.05	232.78
$SbCl_3$(g)	228.11	−313.8	−301.2	76.69	337.80
$SbCl_5$(g)	299.01	−394.34	−334.29	121.13	401.94
Arsenic					
As(s), gray	74.92	0	0	24.64	35.1
As_2S_3(s)	246.05	−169.0	−168.6	116.3	163.6
AsO_4^{3-}(aq)	138.92	−888.14	−648.41	—	−162.8
Barium					
Ba(s)	137.33	0	0	28.07	62.8
Ba^{2+}(aq)	137.33	−537.64	−560.77	—	+9.6
BaO(s)	153.33	−553.5	−525.1	47.78	70.42
$BaCO_3$(s)	197.34	−1216.3	−1137.6	85.35	112.1
$BaCO_3$(aq)	197.34	−1214.78	−1088.59	—	−47.3
Boron					
B(s)	10.81	0	0	11.09	5.86
B_2O_3(s)	69.62	−1272.8	−1193.7	62.93	53.97
BF_3(g)	67.81	−1137.0	−1120.3	50.46	254.12
Bromine					
Br_2(l)	159.80	0	0	75.69	152.23
Br_2(g)	159.80	+30.91	+3.11	36.02	245.46
Br(g)	79.90	+111.88	+82.40	20.79	175.02