

Table 10.2. Experimental $\Delta H_{f,0}^{\circ}$, $\Delta H_{f,298}^{\circ}$, $\Delta G_{f,298}^{\circ}$ values and spin-orbit corrections (kcal mol⁻¹) for the atoms.

Atom	$\Delta H_{f,0}^{\circ}$ ^a	$\Delta H_{f,298}^{\circ}$ ^a	$G_{f,298}^{\circ}$ ^a	Spin-orbit ^b
H (2S)	51.63 ± 0.001	52.103	43.93	
Li (2S)	37.69 ± 0.20	38.074	28.19	
Be (1S)	76.48 ± 1.20	77.438	67.73	
	75.8 ± 0.8 ^c	76.75 ± 0.8 ^c	66.04 ± 1.2 ^c	
B (2P)	136.2 ± 0.2	133.84	122.91 ± 0.2	-0.03
C (3P)	169.98 ± 0.10	171.29	160.03	-0.09
N (4S)	112.53 ± 0.02	112.97	102.05 ± 0.02	
O (3P)	58.99 ± 0.02	59.553	48.08	-0.23
F (2P)	18.47 ± 0.07	18.97	7.66	-0.38
Na (2S)	25.69 ± 0.17	25.645	14.70	
Mg (1S)	34.87 ± 0.20	35.158	24.57	
Al (2P)	78.23 ± 1.00	78.800	67.08	-0.21
Si (3P)	106.6 ± 1.9	107.55	95.59	-0.43
	108.1 ± 0.5 ^c	109.0 ± 0.5 ^c	97.1 ± 0.5 ^c	
P (4S)	75.42 ± 0.20	75.619	64.00	
S (3P)	65.66 ± 0.06	66.200	54.25	-0.56
Cl (2P)	28.59 ± 0.001	28.991	17.23	-0.84

^a All data, unless otherwise noted, are from the JANAF tables, see Chase, M. W., Jr. (1998) *J. Phys. Chem. Ref. Data, Monograph 9*, 1 for most recent versions. ^b Amount by which lower energy spin-orbit state lies below unsplit term, see Moore, C. Natl. Bur. Stand. (US) Circ 467, 1952. ^c Estimates considered to improve on experimental values, see Ochterski, J. W.; Petersson, G. A.; Wiberg, K. B. *J. Am. Chem. Soc.* **1995**, *117*, 11299.