

TABLE 3.1 Strengths of covalent bonds

Bond type	Strength (kJ mol <sup>-1</sup> )	Bond type	Strength (kJ mol <sup>-1</sup> )
C≡N (HCN)	870	Si—O	370
C=O (HCHO)	690	C—C (C <sub>2</sub> H <sub>6</sub> )	360
C=C (C <sub>2</sub> H <sub>4</sub> )	600	C—O (CH <sub>3</sub> OH)	340
O—H (H <sub>2</sub> O)	460	N—O (NH <sub>2</sub> OH)	200
C—H (CH <sub>4</sub> )	430	F—F (F <sub>2</sub> )	150

<sup>a</sup>The strength of a covalent bond depends on the type of other bonds nearby in the molecule. For example, the C—H bond strength can be as low as 360 kJ mol<sup>-1</sup> (in H—CHO) and as high as 500 kJ mol<sup>-1</sup> (in H—C≡N). Note that 1 kJ mol<sup>-1</sup> corresponds to about 0.4 kT per bond at 298 K.