

Table 3.2 Average Bond Energies ^a

Diatomic Molecules (Dissociation Energy of Gaseous Molecules)				
H—H 435	F—F 155	O=O 495		
H—F 565	Cl—Cl 240	N=O 605		
H—Cl 430	Br—Br 190	N ≡ N 945		
H—Br 365	I—I 150	C ≡ O 1070		
H—I 295				
Single Covalent Bonds (Average Values)				
H—C 415	C—C 345	Si—Si 225	N—N 160	O—O 145
H—N 390	C—N 305	Si—F 565	N—O 200	O—Si 450
H—O 460	C—O 360	Si—Cl 390	N—F 285	O—P 335
H—Si 320	C—Si 300	Si—Br 310	N—Cl 200	O—F 190
H—P 320	C—P 265	Si—N 320	P—P 210	O—Cl 220
H—S 365	C—S 270	Sn—Sn 145	P—F 490	O—Br 200
H—Te 240	C—F 485	Sn—Cl 315	P—Cl 320	S—O 265
	C—Cl 330		P—Br 270	S—F 285
Multiple Covalent Bonds (Average Values)				
C=C 615	N=N 420	C ≡ C 835		
C=N 615	N=O 605	C ≡ N 890		
C=O 750-800 ^b	O=P 545			
C=S 575	O=S 515			