

ENERGIES of COVALENT BONDS

The table shows some representative examples of some of the more common bonds.

		kJ/mol	kcal/mol
Homonuclear diatomics	H-H	435	104
	F-F	159	38
	Cl-Cl	242	58
	Br-Br	192	46
	I-I	150	36
H-X bonds	H-F	568	136
	H-Cl	431	103
	H-Br	366	87.5
	H-I	297	71
	H-OH	497	119
	CH ₃ O-H	426	102
C-H bonds	CH ₃ -H	435	104
	CH ₃ CH ₂ -H	410	98
	(CH ₃) ₂ CH-H	397	95
	(CH ₃) ₃ C-H	380	91
	C=C-H	450	108
	C≡C-H	535	128
	Ar-H	460	110
	C=CCH ₂ -H	368	88
	ArCH ₂ -H	355	85
C-C bonds	CH ₃ -CH ₃	368	88
	CH ₃ CH ₂ -CH ₃	355	85
	(CH ₃) ₂ CH-CH ₃	351	84
	(CH ₃) ₃ C-CH ₃	334	80
C-X bonds	CH ₃ -NH ₂	364	87
	CH ₃ -OH	380	91
	CH ₃ -F	451	108
	CH ₃ -Cl	349	83.5
	CH ₃ -Br	293	70
	CH ₃ -I	234	56

Multiple bonds	C=C	611	146
	C≡C	837	200
	C=N	615	147
	C=N	891	213
	C=O	749	179