

Point Group	Characteristic Symmetry Elements	Group Order (h)
C_1	no symmetry (only E)	1
C_i	(only) i	2
C_s	(only) σ	2
C_n	(only) C_n	n
S_n	S_n (n even, $n \neq 2$), $C_{n/2}$, sometimes i	n
C_{nv}	C_n , n σ_v 's	2n
C_{nh}	C_n , σ_h , S_n , i for n even	2n
D_n	C_n , n $\perp C_2$'s (no σ 's)	2n
D_{nd}	C_n , n $\perp C_2$'s, n σ_d 's, S_{2n} , (i for n odd)	4n
D_{nh}	C_n , n $\perp C_2$'s, σ_h , S_n , n σ_d 's, (i for n even)	4n
$C_{\infty v}$	C_{∞}	∞
$D_{\infty h}$	C_{∞} , i	∞
T_d	4 C_3 's, 3 C_2 's	24
O_h	4 C_3 's, 3 C_4 's	48