

Point Group

1 point group

type I		type II		type III		(abbreviation)		
C_1	1			C_i	$\bar{1}$		$n \in 2Z + 1$	
C_n	n			S_n	\bar{n}			
C_2	2	C_s	m	C_{2h}	$\frac{2}{m}$		$n \in 4Z$	
C_n	n	S_n	\bar{n}	C_{nh}	$\frac{n}{m}$			
C_n	n	$C_{(n/2)h}$	\bar{n}	C_{nh}	$\frac{n}{m}$		$n \in 4Z + 2$	
D_n	$n2$			C_{nv}	nm	D_{nd}	$\bar{n} \frac{2}{m} \frac{2}{m} \frac{2}{m}$ ($\bar{n}m$)	$n \in 2Z + 1$
D_2	222			C_{2v}	$2mm$	D_{2h}	$\frac{2}{m} \frac{2}{m} \frac{2}{m}$ (mmm)	
D_n	$n22$	$D_{n/2d}$	$\bar{n}2m$	C_{nv}	nmm	D_{nh}	$\frac{n}{m} \frac{2}{m} \frac{2}{m}$ (n/mmm)	
D_n	$n22$	$D_{n/2h}$	$\bar{n}m2$	C_{nv}	nmm	D_{nh}	$\frac{n}{m} \frac{2}{m} \frac{2}{m}$ (n/mmm)	
T	23					T_h	$\frac{2}{m} \frac{3}{m} \frac{3}{m}$ ($m\bar{3}$)	
O	432	T_d	$\bar{4}3m$			O_h	$\frac{4}{m} \frac{3}{m} \frac{2}{m}$ ($m\bar{3}m$)	
I	235					I_h	$\frac{2}{m} \frac{3}{m} \frac{5}{m}$ ($m\bar{3}5$)	

2 crystal point group

type I		type II		type III		abbreviation	crystal system	
C_1	1			C_i	$\bar{1}$		triclinic	
C_3	3			S_6	$\bar{3}$		trigonal	
C_2	2	C_{1h}	m	C_{2h}	$\frac{2}{m}$		monoclinic	
C_4	4	S_4	$\bar{4}$	C_{4h}	$\frac{4}{m}$		tetragonal	
C_6	6	C_{3h}	$\bar{6}$	C_{6h}	$\frac{6}{m}$		hexagonal	
D_3	32			C_{3v}	$3m$	D_{3d}	$\frac{3}{m} \frac{2}{m} \frac{2}{m}$ ($\bar{3}m$)	trigonal
D_2	222			C_{2v}	$2mm$	D_{2h}	$\frac{2}{m} \frac{2}{m} \frac{2}{m}$ (mmm)	orthorhombic
D_4	422	D_{2d}	$\bar{4}2m$	C_{4v}	$4mm$	D_{4h}	$\frac{4}{m} \frac{2}{m} \frac{2}{m}$ ($4/mmm$)	tetragonal
D_6	622	D_{3h}	$\bar{6}m2$	C_{6v}	$6mm$	D_{6h}	$\frac{6}{m} \frac{2}{m} \frac{2}{m}$ ($6/mmm$)	hexagonal
T	23					T_h	$\frac{2}{m} \frac{3}{m} \frac{3}{m}$ ($m\bar{3}$)	cubic
O	432	T_d	$\bar{4}3m$			O_h	$\frac{4}{m} \frac{3}{m} \frac{2}{m}$ ($m\bar{3}m$)	cubic