

10. POINT GROUPS AND CRYSTAL CLASSES

Table 10.1.2.4. Names and symbols of the 32 crystal classes

System used in this volume	Point group		Schoenflies symbol	Class names	
	International symbol			Groth (1921)	Friedel (1926)
	Short	Full			
Triclinic	1 $\bar{1}$	1 $\bar{1}$	C_1 $C_i(S_2)$	Pedial (asymmetric) Pinacoidal	Hemihedry Holohedry
Monoclinic	2 m $2/m$	2 m $\frac{2}{m}$	C_2 $C_s(C_{1h})$ C_{2h}	Sphenoidal Domestic Prismatic	Holoaxial hemihedry Antihemihedry Holohedry
Orthorhombic	222 $mm2$ mmm	222 $mm2$ $\frac{2}{m} \frac{2}{m} \frac{2}{m}$	$D_2(V)$ C_{2v} $D_{2h}(V_h)$	Disphenoidal Pyramidal Dipyramidal	Holoaxial hemihedry Antihemihedry Holohedry
Tetragonal	4 $\bar{4}$ $4/m$ 422 $4mm$ $\bar{4}2m$ $4/mmm$	4 $\bar{4}$ $\frac{4}{m}$ 422 $4mm$ $\bar{4}2m$ $\frac{4}{m} \frac{2}{m} \frac{2}{m}$	C_4 S_4 C_{4h} D_4 C_{4v} $D_{2d}(V_d)$ D_{4h}	Pyramidal Disphenoidal Dipyramidal Trapezohedral Ditetragonal-pyramidal Scalenohedral Ditetragonal-dipyramidal	Tetartohedry with 4-axis Sphenohedral tetartohedry Parahemihedry Holoaxial hemihedry Antihemihedry with 4-axis Sphenohedral antihemihedry Holohedry
Trigonal	3 $\bar{3}$ 32 $3m$ $\bar{3}m$	3 $\bar{3}$ 32 $3m$ $\frac{3}{m} \frac{2}{m}$	C_3 $C_{3i}(S_6)$ D_3 C_{3v} D_{3d}	Pyramidal Rhombohedral Trapezohedral Ditrigonal-pyramidal Ditrigonal-scalenohedral	<i>Hexagonal</i> Ogdohedry Paratetartohedry Holoaxial tetartohedry with 3-axis Hemimorphic antitetartohedry Parahemihedry with 3-axis <i>Rhombohedral</i> Tetartohedry Parahemihedry Holoaxial hemihedry Antihemihedry Holohedry
Hexagonal	6 $\bar{6}$ $6/m$ 622 $6mm$ $\bar{6}2m$ $6/mmm$	6 $\bar{6}$ $\frac{6}{m}$ 622 $6mm$ $\bar{6}2m$ $\frac{6}{m} \frac{2}{m} \frac{2}{m}$	C_6 C_{3h} C_{6h} D_6 C_{6v} D_{3h} D_{6h}	Pyramidal Trigonal-dipyramidal Dipyramidal Trapezohedral Dihexagonal-pyramidal Ditrigonal-dipyramidal Dihexagonal-dipyramidal	Tetartohedry with 6-axis Trigonal antitetartohedry Parahemihedry with 6-axis Holoaxial hemihedry Antihemihedry with 6-axis Trigonal antihemihedry Holohedry
Cubic	23 $m\bar{3}$ 432 $\bar{4}3m$ $m\bar{3}m$	23 $\frac{2}{m} \bar{3}$ 432 $\bar{4}3m$ $\frac{4}{m} \frac{3}{m} \frac{2}{m}$	T T_h O T_d O_h	Tetrahedral-pentagondodecahedral (= tetartoidal) Disdodecahedral (= diploidal) Pentagon-icositetrahedral (= gyroidal) Hexakistetrahedral (= hextetrahedral) Hexakisoctahedral (= hexoctahedral)	Tetartohedry Parahemihedry Holoaxial hemihedry Antihemihedry Holohedry