Symmetry Classification for Serial Crystallography Experiments

Groups with white backgrounds are merohedral and will exhibit indexing ambiguities. Move directly downwards to the nearest cell with a shaded background to find the corresponding "source symmetry".
Chiral groups are shown in bold, centrosymmetric groups are underlined.

Point Groups		Space Groups	

Triclinic lattice

$\bar{1}$	**1**	P$\bar{1}$	**P1**

Monoclinic lattice

2	m	**P2, P2$_1$, C2**	Pm, Pc, Cm, Cc
	2/m		P2/m, P2$_1$/m, C2/m, P2/c, P2$_1$/c, C2/c

Orthorhombic lattice

222	mm2	**P222, P222$_1$, P2$_1$2$_1$2, P2$_1$2$_1$2$_1$, C222$_1$, C222, F222, I222, I2$_1$2$_1$2$_1$**	Pmm2, Pmc2$_1$, Pcc2, Pma2, Pca2$_1$, Pnc2, Pmn2$_1$, Pba2, Pna2$_1$, Pnn2, Cmm2, Cmc2$_1$, Ccc2, Amm2, Aem2, Ama2, Aea2, Fmm2, Fdd2, Imm2, Iba2, Ima2
	mmm		Pmmm, Pnnn, Pccm, Pban, Pmma, Pnna, Pmna, Pcca, Pbam, Pccn, Pbcm, Pnnm, Pmmn, Pbcn, Pbca, Pnma, Cmcm, Cmce, Cmmm, Cccm, Cmme, Ccce, Fmmm, Fddd, Immm, Ibam, Ibca, Imma

Tetragonal lattice

4	$\bar{4}$			4/m	**P4, P4$_1$, P4$_2$, P4$_3$, I4, I4$_1$**	P$\bar{4}$, I$\bar{4}$			P4/m, P4$_2$/m, P4/n, P4$_2$/n, I4/m, I4$_1$/a
422	$\bar{4}$2m	$\bar{4}$m2	4mm		**P422, P42$_1$2, P4$_1$22, P4$_1$2$_1$2, P4$_2$22, P4$_2$2$_1$2, P4$_3$22, P4$_3$2$_1$2, I422, I4$_1$22**	P$\bar{4}$2m, P$\bar{4}$2c, P$\bar{4}$2$_1$m, P$\bar{4}$2$_1$c, I$\bar{4}$2m, I$\bar{4}$2d	P$\bar{4}$m2, P$\bar{4}$c2, P$\bar{4}$b2, P$\bar{4}$n2, I$\bar{4}$m2, I$\bar{4}$c2	P4mm, P4bm, P4$_2$cm, P4$_2$nm, P4cc, P4nc, P4$_2$mc, P4$_2$bc, I4mm, I4cm, I4$_1$md, I4$_1$cd	
	4/mmm					P4/mmm, P4/mcc, P4/nbm, P4/nnc, P4/mbm, P4/mnc, P4/nmm, P4/ncc, P4$_2$/mmc, P4$_2$/mcm, P4$_2$/nbc, P4$_2$/nnm, P4$_2$/mbc, P4$_2$/mnm, P4$_2$/nmc, P4$_2$/ncm, I4/mmm, I4/mcm, I4$_1$/amd, I4$_1$/acd			

Trigonal lattice

3	$\bar{3}$		**R3 (H3)**	$\underline{R\bar{3}\ (H\bar{3})}$
32		3m	**R32 (H32)**	R3m (H3m), R3c (H3c)
	$\underline{\bar{3}m}$			$\underline{R\bar{3}m\ (H\bar{3}m)},\ \underline{R\bar{3}c\ (H\bar{3}c)}$

Hexagonal lattice

	3		$\bar{3}$				**P3, P3$_1$, P3$_2$**	$\underline{P\bar{3}}$		
		3m1		31m				P3m1, P3c1	P31m, P31c	
6			$\bar{6}$		6/m		**P6, P6$_1$, P6$_5$, P6$_2$, P6$_4$, P6$_3$**	$P\bar{6}$		$\underline{P6/m}$, $\underline{P6_3/m}$
	312			$\underline{\bar{3}1m}$			**P312, P3$_1$12, P3$_2$12**		$\underline{P\bar{3}1m},\ \underline{P\bar{3}1c}$	
	321	$\underline{\bar{3}m1}$					**P321, P3$_1$21, P3$_2$21**	$\underline{P\bar{3}m1},\ \underline{P\bar{3}c1}$		
		$\bar{6}m2$	$\bar{6}2m$		6mm			P$\bar{6}$m2, P$\bar{6}$c2	P$\bar{6}$2m, P$\bar{6}$2c	P6mm, P6cc, P6$_3$cm, P6$_3$mc
	622		$\underline{6/mmm}$				**P622, P6$_1$22, P6$_5$22, P6$_2$22, P6$_4$22, P6$_3$22**	$\underline{P6/mmm},\ \underline{P6/mcc},\ \underline{P6_3/mcm},\ \underline{P6_3/mmc}$		

Cubic lattice

23		$\underline{m\bar{3}}$	**P23, F23, I23, P2$_1$3, I2$_1$3**		$\underline{Pm\bar{3}},\ \underline{Pn\bar{3}},\ \underline{Fm\bar{3}},\ \underline{Fd\bar{3}},\ \underline{Im\bar{3}},\ \underline{Pa\bar{3}},\ \underline{Ia\bar{3}}$
432	$\bar{4}32$		**P432, P4$_2$32, F432, F4$_1$32, I432, P4$_3$32, P4$_1$32, I4$_1$32**	P$\bar{4}$3m, F$\bar{4}$3m, I$\bar{4}$3m, P$\bar{4}$3n, F$\bar{4}$3c, I$\bar{4}$3d	
	$\underline{m\bar{3}m}$				$\underline{Pm\bar{3}m},\ \underline{Pn\bar{3}n},\ \underline{Pm\bar{3}n},\ \underline{Pn\bar{3}m},\ \underline{Fm\bar{3}m},\ \underline{Fm\bar{3}c},\ \underline{Fd\bar{3}m},\ \underline{Fd\bar{3}c},\ \underline{Im\bar{3}m},\ \underline{Ia\bar{3}d}$