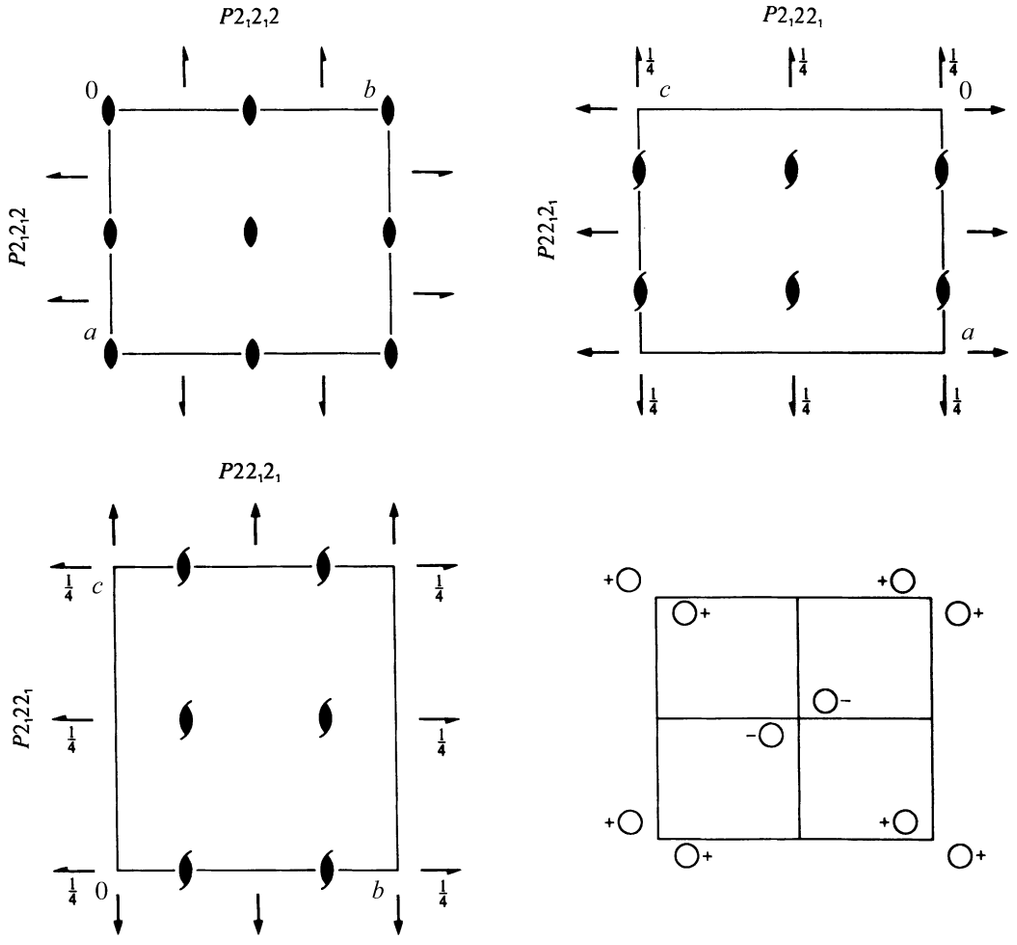
$P2_12_12$ D_2^3 222 Orthorhombic

No. 18 $P2_12_12$ Patterson symmetry $Pmmm$



Origin at intersection of 2 with perpendicular plane containing 2_1 axes

Asymmetric unit $0 \le x \le \frac{1}{2}; \quad 0 \le y \le \frac{1}{2}; \quad 0 \le z \le 1$

Symmetry operations

(1) 1 (2) 2 $0,0,z$ (3) $2(0,\frac{1}{2},0)$ $\frac{1}{4},y,0$ (4) $2(\frac{1}{2},0,0)$ $x,\frac{1}{4},0$

Generators selected (1); $t(1,0,0)$; $t(0,1,0)$; $t(0,0,1)$; (2); (3)

Positions

Multiplicity, Wyckoff letter, Site symmetry	Coordinates				Reflection conditions
					General:
4 c 1	(1) x,y,z	(2) $\bar{x},\bar{y},z$	(3) $\bar{x}+\frac{1}{2},y+\frac{1}{2},\bar{z}$	(4) $x+\frac{1}{2},\bar{y}+\frac{1}{2},\bar{z}$	$h00$: $h=2n$ $0k0$: $k=2n$
					Special: as above, plus
2 b . . 2	$0,\frac{1}{2},z$	$\frac{1}{2},0,\bar{z}$			$hk0$: $h+k=2n$
2 a . . 2	$0,0,z$	$\frac{1}{2},\frac{1}{2},\bar{z}$			$hk0$: $h+k=2n$

Symmetry of special projections

Along [001] $p2gg$
$\mathbf{a}' = \mathbf{a}$ $\mathbf{b}' = \mathbf{b}$
Origin at $0,0,z$

Along [100] $p2mg$
$\mathbf{a}' = \mathbf{b}$ $\mathbf{b}' = \mathbf{c}$
Origin at $x,\frac{1}{4},0$

Along [010] $p2gm$
$\mathbf{a}' = \mathbf{c}$ $\mathbf{b}' = \mathbf{a}$
Origin at $\frac{1}{4},y,0$

