

$p2_122$

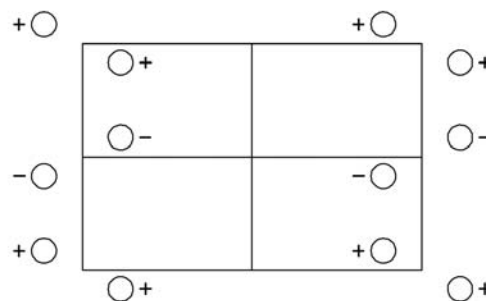
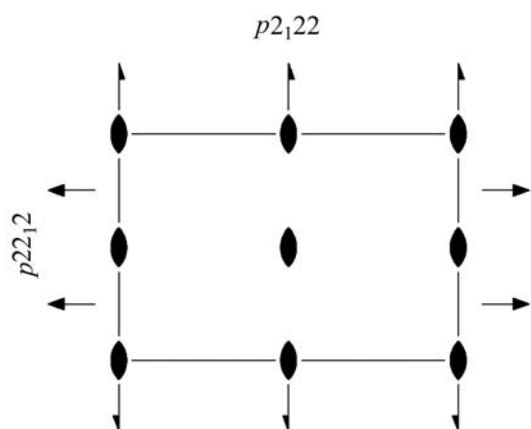
222

Orthorhombic/Rectangular

No. 20

$p2_122$

Patterson symmetry $pmmm$



Origin at 2_112

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

Symmetry operations

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

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

Positions

		Coordinates				Reflection conditions
Multiplicity, Wyckoff letter, Site symmetry						General:
4	d 1	(1) x, y, z	(2) $x + \frac{1}{2}, \bar{y}, \bar{z}$	(3) $\bar{x} + \frac{1}{2}, y, \bar{z}$	(4) \bar{x}, \bar{y}, z	$h0: h = 2n$
2	c . 2 .	$\frac{1}{4}, y, 0$	$\frac{3}{4}, \bar{y}, 0$			Special: as above, plus no extra conditions
2	b . . 2	$0, \frac{1}{2}, z$	$\frac{1}{2}, \frac{1}{2}, \bar{z}$			$hk: h = 2n$
2	a . . 2	$0, 0, z$	$\frac{1}{2}, 0, \bar{z}$			$hk: h = 2n$

Symmetry of special projections

Along [001] $p2mg$
 $\mathbf{a}' = \mathbf{a}$ $\mathbf{b}' = \mathbf{b}$
 Origin at $0, 0, z$

Along [100] $\not p2mm$
 $\mathbf{a}' = \mathbf{b}$
 Origin at $x, 0, 0$

Along [010] $\not p2mg$
 $\mathbf{a}' = \mathbf{a}$
 Origin at $\frac{1}{4}, y, 0$

Maximal non-isotypic subgroups

I [2] $p2_111$ (9) 1; 2
 [2] $p121$ ($p211$, 8) 1; 3
 [2] $p112$ (3) 1; 4

IIa none

IIb [2] $p2_12_12$ ($\mathbf{b}' = 2\mathbf{b}$) (21)

Maximal isotypic subgroups of lowest index

IIc [2] $p2_122$ ($\mathbf{b}' = 2\mathbf{b}$) (20); [3] $p2_122$ ($\mathbf{a}' = 3\mathbf{a}$) (20)

Minimal non-isotypic supergroups

I [2] $pmam$ (40); [2] $pmma$ (41); [2] $pman$ (42); [2] $pbaa$ (43); [2] $pbma$ (45)

II [2] $c222$ (22); [2] $p222$ ($\mathbf{a}' = \frac{1}{2}\mathbf{a}$) (19)