

$p2_1/m11$

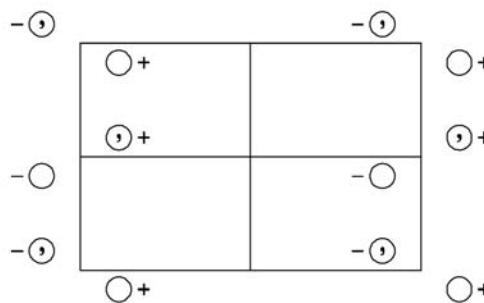
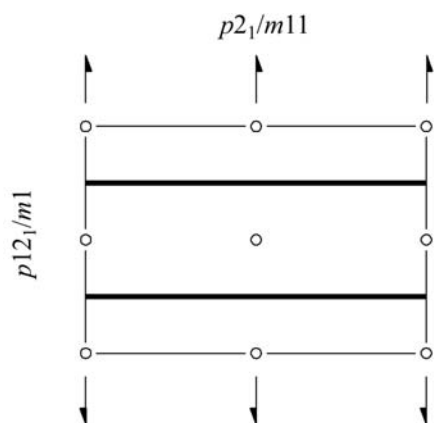
$2/m$

Monoclinic/Rectangular

No. 15

$p2_1/m11$

Patterson symmetry $p2_1/m11$



Origin at $\bar{1}$ on 2_1

Asymmetric unit $0 \leq x \leq \frac{1}{4}; 0 \leq y \leq 1$

Symmetry operations

- (1) 1 (2) $2(\frac{1}{2}, 0, 0) \quad x, 0, 0$ (3) $\bar{1} \quad 0, 0, 0$ (4) $m \quad \frac{1}{4}, y, z$
 (1|0, 0, 0) (2_x|\frac{1}{2}, 0, 0) ($\bar{1}$ |0, 0, 0) (m_x |\frac{1}{2}, 0, 0)

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) $\bar{x}, \bar{y}, \bar{z}$	(4) $\bar{x} + \frac{1}{2}, y, z$	$h0: h = 2n$
2	c m	$\frac{1}{4}, y, z$	$\frac{3}{4}, \bar{y}, \bar{z}$			Special: as above, plus no extra conditions
2	b $\bar{1}$	$0, \frac{1}{2}, 0$	$\frac{1}{2}, \frac{1}{2}, 0$			$hk: h = 2n$
2	a $\bar{1}$	$0, 0, 0$	$\frac{1}{2}, 0, 0$			$hk: h = 2n$

Symmetry of special projections

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

Along $[100]$ $\cancel{p211}$
 $\mathbf{a}' = \mathbf{b}$
 Origin at $x, 0, 0$

Along $[010]$ $\cancel{p2mg}$
 $\mathbf{a}' = \mathbf{a}$
 Origin at $0, y, 0$

Maximal non-isotypic subgroups

I $[2] pm11$ (11) 1; 4
 $[2] p2_111$ (9) 1; 2
 $[2] p\bar{1}$ (2) 1; 3

IIa none

IIb $[2] p2_1/b11$ ($\mathbf{b}' = 2\mathbf{b}$) (17)

Maximal isotypic subgroups of lowest index

IIc $[2] p2_1/m11$ ($\mathbf{b}' = 2\mathbf{b}$) (15); $[3] p2_1/m11$ ($\mathbf{a}' = 3\mathbf{a}$) (15)

Minimal non-isotypic supergroups

I $[2] pmam$ (40); $[2] pmma$ (41); $[2] pbma$ (45); $[2] pmmn$ (46)

II $[2] c2/m11$ (18); $[2] p2/m11$ ($\mathbf{a}' = \frac{1}{2}\mathbf{a}$) (14)