

$pm2_1n$

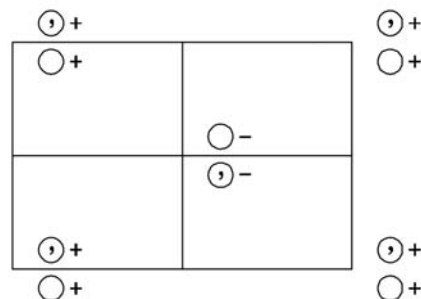
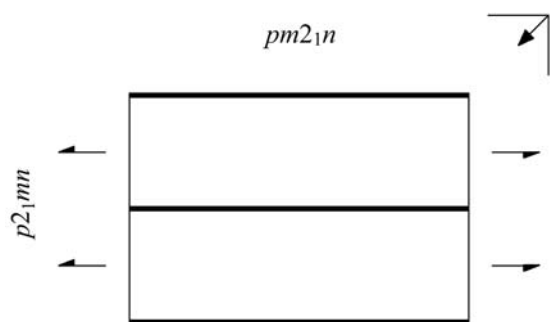
$m2m$

Orthorhombic/Rectangular

No. 32

$pm2_1n$

Patterson symmetry  $pmmm$



Origin on  $m1n$

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

Symmetry operations

- |             |   |   |                           |
|-------------|---|---|---------------------------|
| (1) 1       | (2) $2(0, \frac{1}{2}, 0) \frac{1}{4}, y, 0$      | (3) $n(\frac{1}{2}, \frac{1}{2}, 0) x, y, 0$      | (4) $m 0, y, z$           |
| (1 0, 0, 0) | (2 <sub>y</sub>   $\frac{1}{2}, \frac{1}{2}, 0$ ) | (m <sub>z</sub>   $\frac{1}{2}, \frac{1}{2}, 0$ ) | (m <sub>x</sub>  0, 0, 0) |

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

**Positions**

Multiplicity, Wyckoff letter, Site symmetry	Coordinates				Reflection conditions
4 <i>b</i> 1	(1) $x, y, z$	(2) $\bar{x} + \frac{1}{2}, y + \frac{1}{2}, \bar{z}$	(3) $x + \frac{1}{2}, y + \frac{1}{2}, \bar{z}$	(4) $\bar{x}, y, z$	General: $hk: h + k = 2n$ $h0: h = 2n$ $0k: k = 2n$  Special: no extra conditions
2 <i>a</i> $m..$	$0, y, z$	$\frac{1}{2}, y + \frac{1}{2}, \bar{z}$			

**Symmetry of special projections**

Along [001] $c1m1$ $\mathbf{a}' = \mathbf{a}$ $\mathbf{b}' = \mathbf{b}$ Origin at $0, 0, z$	Along [100] $\neq 11g$ $\mathbf{a}' = \mathbf{b}$ Origin at $x, 0, 0$	Along [010] $\neq 2mg$ $\mathbf{a}' = \mathbf{a}$ Origin at $\frac{1}{4}, y, 0$
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**Maximal non-isotypic subgroups**

<b>I</b>	[2] $pm11$ (11)	1; 4
	[2] $p12_11$ ( $p2_111, 9$ )	1; 2
	[2] $p11n$ ( $p11a, 5$ )	1; 3

**IIa** none

**IIb** none

**Maximal isotypic subgroups of lowest index**

**IIc** [3]  $pm2_1n$  ( $\mathbf{a}' = 3\mathbf{a}$ ) (32); [3]  $pm2_1n$  ( $\mathbf{b}' = 3\mathbf{b}$ ) (32)

**Minimal non-isotypic supergroups**

<b>I</b>	[2] $pman$ (42); [2] $pmmn$ (46)
<b>II</b>	[2] $cm2m$ (35); [2] $pm2_1b$ ( $\mathbf{a}' = \frac{1}{2}\mathbf{a}$ ) (28); [2] $pm2a$ ( $\mathbf{b}' = \frac{1}{2}\mathbf{b}$ ) (31)