

$p112/m$

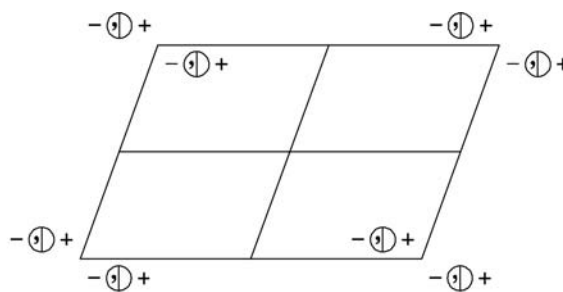
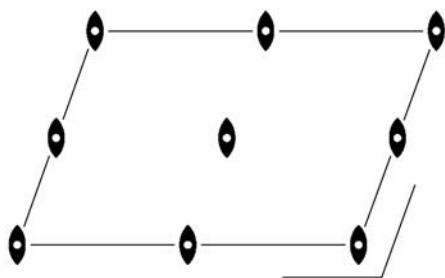
$2/m$

Monoclinic/Oblique

No. 6

$p112/m$

Patterson symmetry $p112/m$



Origin at centre ($2/m$)

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

Symmetry operations

- | | | | |
|-------------|---------------------------|-------------------------|-------------------|
| (1) 1 | (2) $2 \ 0, 0, z$ | (3) $\bar{1} \ 0, 0, 0$ | (4) $m \ x, y, 0$ |
| (1 0, 0, 0) | (2 _z 0, 0, 0) | ($\bar{1}$ 0, 0, 0) | (m_z 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
					General:
4 <i>j</i> 1	(1) x, y, z	(2) \bar{x}, \bar{y}, z	(3) $\bar{x}, \bar{y}, \bar{z}$	(4) x, y, \bar{z}	no conditions Special: no extra conditions
2 <i>i</i> <i>m</i>	$x, y, 0$	$\bar{x}, \bar{y}, 0$			
2 <i>h</i> 2	$\frac{1}{2}, \frac{1}{2}, z$	$\frac{1}{2}, \frac{1}{2}, \bar{z}$			
2 <i>g</i> 2	$\frac{1}{2}, 0, z$	$\frac{1}{2}, 0, \bar{z}$			
2 <i>f</i> 2	$0, \frac{1}{2}, z$	$0, \frac{1}{2}, \bar{z}$			
2 <i>e</i> 2	$0, 0, z$	$0, 0, \bar{z}$			
1 <i>d</i> $2/m$	$\frac{1}{2}, \frac{1}{2}, 0$				
1 <i>c</i> $2/m$	$0, \frac{1}{2}, 0$				
1 <i>b</i> $2/m$	$\frac{1}{2}, 0, 0$				
1 <i>a</i> $2/m$	$0, 0, 0$				

Symmetry of special projections

Along [001] $p2$

$\mathbf{a}' = \mathbf{a}$ $\mathbf{b}' = \mathbf{b}$

Origin at $0, 0, z$

Along [100] $\neq 2mm$

$\mathbf{a}' = \mathbf{b}_p$

Origin at $x, 0, 0$

Along [010] $\neq 2mm$

$\mathbf{a}' = \mathbf{a}_p$

Origin at $0, y, 0$

Maximal non-isotypic subgroups

I [2] $p11m$ (4) 1; 4

[2] $p112$ (3) 1; 2

[2] $p\bar{1}$ (2) 1; 3

IIa none

IIb [2] $p112/a$ ($\mathbf{a}' = 2\mathbf{a}$) (7); [2] $p112/b$ ($\mathbf{b}' = 2\mathbf{b}$) ($p112/a, 7$); [2] $c112/b$ ($\mathbf{a}' = 2\mathbf{a}, \mathbf{b}' = 2\mathbf{b}$) ($p112/a, 7$)

Maximal isotypic subgroups of lowest index

IIc [2] $p112/m$ ($\mathbf{a}' = 2\mathbf{a}$ or $\mathbf{b}' = 2\mathbf{b}$ or $\mathbf{a}' = \mathbf{a} - \mathbf{b}, \mathbf{b}' = \mathbf{a} + \mathbf{b}$) (6)

Minimal non-isotypic supergroups

I [2] $pmmm$ (37); [2] $pmam$ (40); [2] $pbam$ (44); [2] $cmmm$ (47); [2] $p4/m$ (51); [3] $p6/m$ (75)

II none