

$cm11$

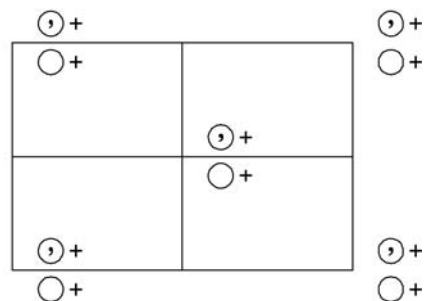
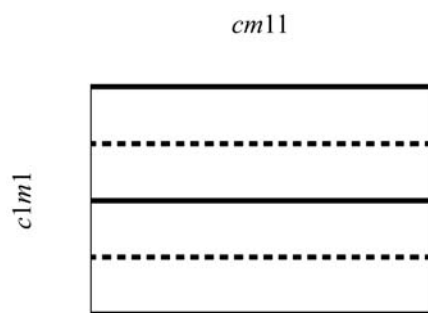
m

Monoclinic/Rectangular

No. 13

$cm11$

Patterson symmetry $c2/m11$



Origin on mirror plane m

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

Symmetry operations

For $(0,0,0)+$ set

- (1) 1 (2) $m \ 0,y,z$
- $(1|0,0,0)$ $(m_x|0,0,0)$

For $(\frac{1}{2}, \frac{1}{2}, 0)+$ set

- (1) $t(\frac{1}{2}, \frac{1}{2}, 0)$ (2) $b \ \frac{1}{4},y,z$
- $(1|\frac{1}{2}, \frac{1}{2}, 0)$ $(m_x|\frac{1}{2}, \frac{1}{2}, 0)$

Generators selected (1); $t(1,0,0)$; $t(0,1,0)$; $t(\frac{1}{2}, \frac{1}{2}, 0)$; (2)

Positions

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

Symmetry of special projections

Along [001] $c1m1$
 $\mathbf{a}' = \mathbf{a}$ $\mathbf{b}' = \mathbf{b}_p$
 Origin at $0, 0, z$

Along [100] $\cancel{1}111$
 $\mathbf{a}' = \frac{1}{2}\mathbf{b}$
 Origin at $x, 0, 0$

Along [010] $\cancel{1}m1$
 $\mathbf{a}' = \frac{1}{2}\mathbf{a}$
 Origin at $0, y, 0$

Maximal non-isotypic subgroups

I [2] $c1(p1, 1)$ 1+
IIa [2] $pb11(12)$ 1; $2 + (\frac{1}{2}, \frac{1}{2}, 0)$
 [2] $pm11(11)$ 1; 2
IIb none

Maximal isotypic subgroups of lowest index

IIc [3] $cm11(\mathbf{a}' = 3\mathbf{a})$ (13)

Minimal non-isotypic supergroups

I [2] $c2/m11(18)$; [2] $mmm2(26)$; [2] $cm2m(35)$; [2] $cm2e(36)$; [3] $p3m1(69)$; [3] $p31m(70)$
II [2] $pm11(\mathbf{a}' = \frac{1}{2}\mathbf{a}, \mathbf{b}' = \frac{1}{2}\mathbf{b})$ (11)