

*Ama*2

$C_{2v}^{16}$

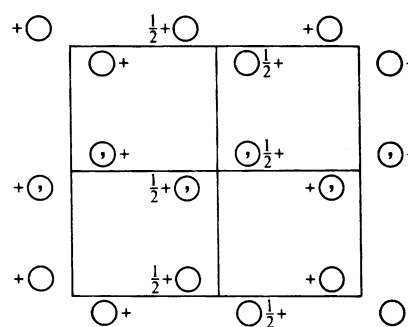
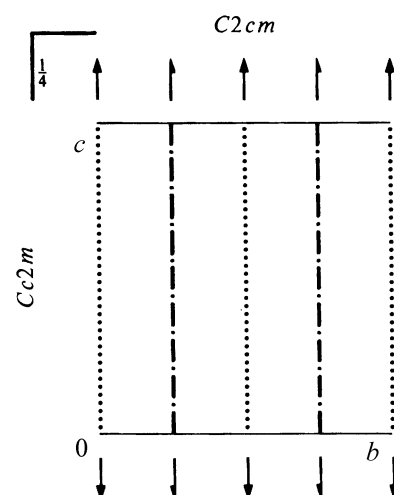
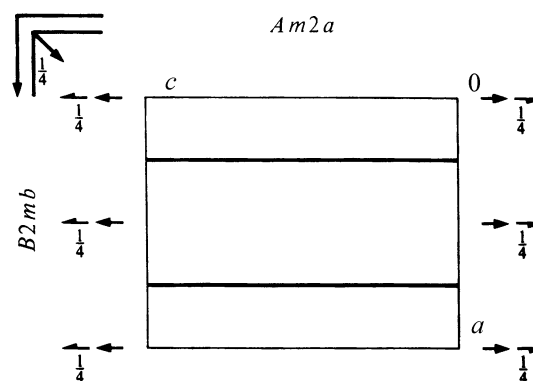
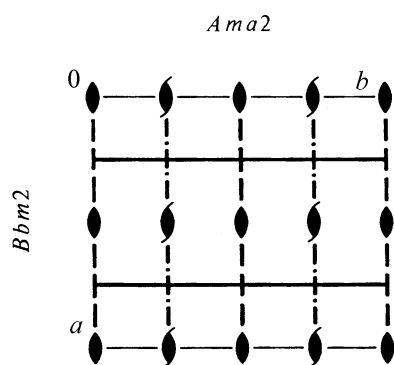
*mm*2

Orthorhombic

No. 40

*Ama*2

Patterson symmetry *Ammm* (*Cmmm*)



Origin on *1a*2

Asymmetric unit  $0 \leq x \leq \frac{1}{4}; 0 \leq y \leq \frac{1}{2}; 0 \leq z \leq 1$

Symmetry operations

For (0,0,0)+ set

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

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

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

**Generators selected** (1);  $t(1,0,0)$ ;  $t(0,1,0)$ ;  $t(0,0,1)$ ;  $t(0, \frac{1}{2}, \frac{1}{2})$ ; (2); (3)

**Positions**

Multiplicity,  
Wyckoff letter,  
Site symmetry

Coordinates

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

Reflection conditions

General:

8  $c$  1 (1)  $x, y, z$  (2)  $\bar{x}, \bar{y}, z$  (3)  $x + \frac{1}{2}, \bar{y}, z$  (4)  $\bar{x} + \frac{1}{2}, y, z$

$hkl: k + l = 2n$

$0kl: k + l = 2n$

$h0l: h, l = 2n$

$hk0: k = 2n$

$h00: h = 2n$

$0k0: k = 2n$

$00l: l = 2n$

Special: as above, plus

4  $b$   $m..$   $\frac{1}{4}, y, z$   $\frac{3}{4}, \bar{y}, z$

no extra conditions

4  $a$   $..2$   $0, 0, z$   $\frac{1}{2}, 0, z$

$hkl: h = 2n$

**Symmetry of special projections**

Along  $[001]$   $p2mg$

$\mathbf{a}' = \mathbf{a}$   $\mathbf{b}' = \frac{1}{2}\mathbf{b}$

Origin at  $0, 0, z$

Along  $[100]$   $c1m1$

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

Origin at  $x, 0, 0$

Along  $[010]$   $p11m$

$\mathbf{a}' = \frac{1}{2}\mathbf{c}$   $\mathbf{b}' = \frac{1}{2}\mathbf{a}$

Origin at  $0, y, 0$