

$p4mm$

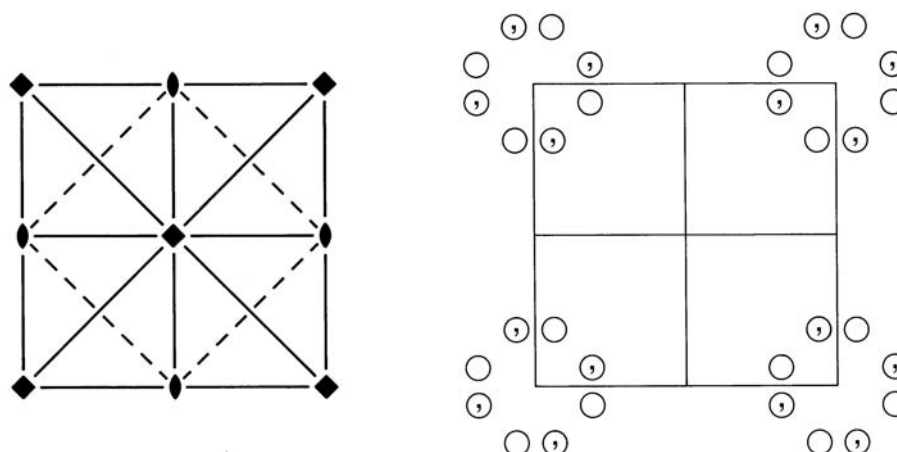
$4mm$

Square

No. 11

$p4mm$

Patterson symmetry $p4mm$



Origin at $4mm$

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

Symmetry operations

- (1) 1 (2) 2 0,0 (3) 4^+ 0,0 (4) 4^- 0,0
 (5) m 0,y (6) m x,0 (7) m x,x (8) m x, \bar{x}

Generators selected (1); $t(1,0)$; $t(0,1)$; (2); (3); (5)

Positions

Multiplicity, Wyckoff letter, Site symmetry	Coordinates	Reflection conditions
8 <i>g</i> 1	(1) x,y (2) \bar{x},\bar{y} (3) \bar{y},x (4) y,\bar{x} (5) \bar{x},y (6) x,\bar{y} (7) y,x (8) \bar{y},\bar{x}	General: no conditions Special:
4 <i>f</i> $. . m$	x,x \bar{x},\bar{x} \bar{x},x x,\bar{x}	no extra conditions
4 <i>e</i> $. m .$	$x, \frac{1}{2}$ $\bar{x}, \frac{1}{2}$ $\frac{1}{2}, x$ $\frac{1}{2}, \bar{x}$	no extra conditions
4 <i>d</i> $. m .$	$x,0$ $\bar{x},0$ $0,x$ $0,\bar{x}$	no extra conditions
2 <i>c</i> $2mm.$	$\frac{1}{2},0$ $0,\frac{1}{2}$	$hk: h+k=2n$
1 <i>b</i> $4mm$	$\frac{1}{2}, \frac{1}{2}$	no extra conditions
1 <i>a</i> $4mm$	0,0	no extra conditions

Maximal non-isomorphic subgroups

- I** [2] $p411$ ($p4$, 10) 1; 2; 3; 4
 [2] $p21m$ ($c2mm$, 9) 1; 2; 7; 8
 [2] $p2m1$ ($p2mm$, 6) 1; 2; 5; 6

IIa none

IIb [2] $c4mg$ ($a' = 2a, b' = 2b$) ($p4gm$, 12)

Maximal isomorphic subgroups of lowest index

IIc [2] $c4mm$ ($a' = 2a, b' = 2b$) ($p4mm$, 11)

Minimal non-isomorphic supergroups

I none

II none