

Square

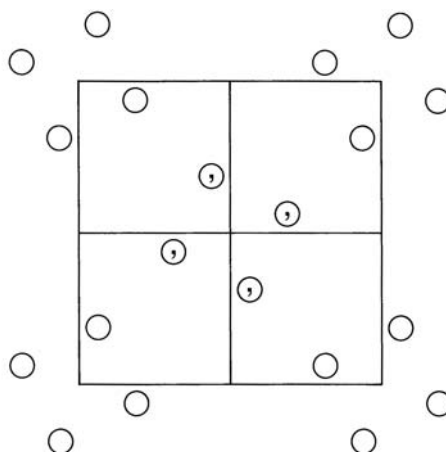
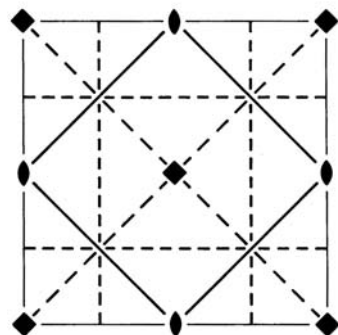
$4mm$

$p4gm$

Patterson symmetry $p4mm$

$p4gm$

No. 12



Origin at $41g$

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

Symmetry operations

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

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

Positions

Multiplicity,
Wyckoff letter,
Site symmetry

Coordinates

Reflection conditions

8	d	1	(1) x, y (5) $\bar{x} + \frac{1}{2}, y + \frac{1}{2}$	(2) \bar{x}, \bar{y} (6) $x + \frac{1}{2}, \bar{y} + \frac{1}{2}$	(3) \bar{y}, x (7) $y + \frac{1}{2}, x + \frac{1}{2}$	(4) y, \bar{x} (8) $\bar{y} + \frac{1}{2}, \bar{x} + \frac{1}{2}$	General: $h0: h = 2n$ $0k: k = 2n$
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Special: as above, plus

4	c	$\dots m$	$x, x + \frac{1}{2}$	$\bar{x}, \bar{x} + \frac{1}{2}$	$\bar{x} + \frac{1}{2}, x$	$x + \frac{1}{2}, \bar{x}$	no extra conditions
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2	b	$2 \dots mm$	$\frac{1}{2}, 0$	$0, \frac{1}{2}$			$hk: h + k = 2n$
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2	a	$4 \dots$	$0, 0$	$\frac{1}{2}, \frac{1}{2}$			$hk: h + k = 2n$
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