

***P*4**

***C*₄¹**

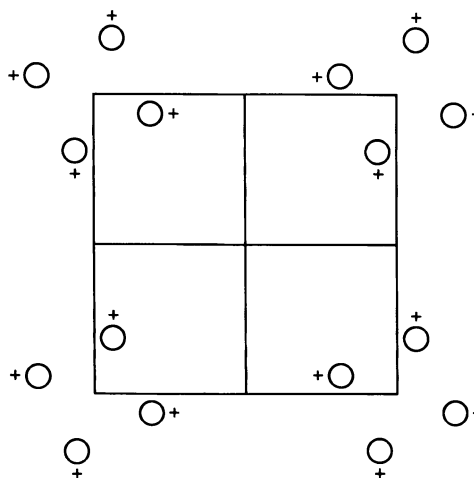
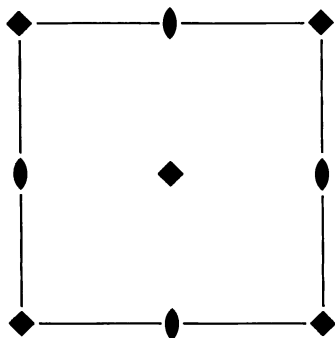
4

Tetragonal

No. 75

***P*4**

Patterson symmetry *P*4/*m*



Origin on 4

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

Symmetry operations

(1) 1 (2) 2 $0,0,z$ (3) 4⁺ $0,0,z$ (4) 4⁻ $0,0,z$

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

Positions

Multiplicity,
Wyckoff letter,
Site symmetry

Coordinates

Reflection conditions

4 *d* 1 (1) x,y,z (2) \bar{x},\bar{y},z (3) \bar{y},x,z (4) y,\bar{x},z

General:

no conditions

2 *c* 2.. $0, \frac{1}{2}, z$ $\frac{1}{2}, 0, z$

Special:

hkl: $h+k=2n$

1 *b* 4.. $\frac{1}{2}, \frac{1}{2}, z$

no extra conditions

1 *a* 4.. $0,0,z$

no extra conditions

Symmetry of special projections

Along [001] *p*4
a' = **a** **b'** = **b**
Origin at 0, 0, *z*

Along [100] *p*1*m*1
a' = **b** **b'** = **c**
Origin at *x*, 0, 0

Along [110] *p*1*m*1
a' = $\frac{1}{2}(-\mathbf{a} + \mathbf{b})$ **b'** = **c**
Origin at *x*, *x*, 0