

C_{2v}^6 $Pnc2$

No. 30

 $Pnc2$ Generators selected (1); $t(1,0,0)$; $t(0,1,0)$; $t(0,0,1)$; (2); (3)

General position

Multiplicity,
Wyckoff letter,
Site symmetry

Coordinates

4 c 1 (1) x, y, z (2) \bar{x}, \bar{y}, z (3) $x, \bar{y} + \frac{1}{2}, z + \frac{1}{2}$ (4) $\bar{x}, y + \frac{1}{2}, z + \frac{1}{2}$ I Maximal *translationengleiche* subgroups

[2] $P1c1$ (7)	1; 3		0, 1/4, 0
[2] $Pn11$ (7, $P1c1$)	1; 4	$\mathbf{b, a, -b - c}$	
[2] $P112$ (3)	1; 2		

II Maximal *klassengleiche* subgroups

• Enlarged unit cell

[2] $\mathbf{a}' = 2\mathbf{a}$			
$Pnn2$ (34)	$\langle 2; 3 + (1, 0, 0) \rangle$	$2\mathbf{a, b, c}$	
$Pnn2$ (34)	$\langle \langle 2; 3 \rangle + (1, 0, 0) \rangle$	$2\mathbf{a, b, c}$	1/2, 0, 0
$Pnc2$ (30)	$\langle 2; 3 \rangle$	$2\mathbf{a, b, c}$	
$Pnc2$ (30)	$\langle 3; 2 + (1, 0, 0) \rangle$	$2\mathbf{a, b, c}$	1/2, 0, 0
[3] $\mathbf{a}' = 3\mathbf{a}$			
$Pnc2$ (30)	$\langle 2; 3 \rangle$	$3\mathbf{a, b, c}$	
$Pnc2$ (30)	$\langle 3; 2 + (2, 0, 0) \rangle$	$3\mathbf{a, b, c}$	1, 0, 0
$Pnc2$ (30)	$\langle 3; 2 + (4, 0, 0) \rangle$	$3\mathbf{a, b, c}$	2, 0, 0
[3] $\mathbf{b}' = 3\mathbf{b}$			
$Pnc2$ (30)	$\langle 2; 3 + (0, 1, 0) \rangle$	$\mathbf{a, 3b, c}$	
$Pnc2$ (30)	$\langle 2 + (0, 2, 0); 3 + (0, 3, 0) \rangle$	$\mathbf{a, 3b, c}$	0, 1, 0
$Pnc2$ (30)	$\langle 2 + (0, 4, 0); 3 + (0, 5, 0) \rangle$	$\mathbf{a, 3b, c}$	0, 2, 0
[3] $\mathbf{c}' = 3\mathbf{c}$			
$Pnc2$ (30)	$\langle 2; 3 + (0, 0, 1) \rangle$	$\mathbf{a, b, 3c}$	

• Series of maximal isomorphic subgroups

[p] $\mathbf{a}' = p\mathbf{a}$			
$Pnc2$ (30)	$\langle 3; 2 + (2u, 0, 0) \rangle$ prime $p > 2$; $0 \leq u < p$ p conjugate subgroups	$p\mathbf{a, b, c}$	$u, 0, 0$
[p] $\mathbf{b}' = p\mathbf{b}$			
$Pnc2$ (30)	$\langle 2 + (0, 2u, 0); 3 + (0, \frac{p}{2} - \frac{1}{2} + 2u, 0) \rangle$ prime $p > 2$; $0 \leq u < p$ p conjugate subgroups	$\mathbf{a, pb, c}$	$0, u, 0$
[p] $\mathbf{c}' = p\mathbf{c}$			
$Pnc2$ (30)	$\langle 2; 3 + (0, 0, \frac{p}{2} - \frac{1}{2}) \rangle$ prime $p > 2$ no conjugate subgroups	$\mathbf{a, b, pc}$	

I Minimal *translationengleiche* supergroups[2] $Pban$ (50); [2] $Pnna$ (52); [2] $Pmna$ (53); [2] $Pbcn$ (60)II Minimal non-isomorphic *klassengleiche* supergroups

• Additional centring translations

[2] $Ccc2$ (37); [2] $Amm2$ (38); [2] $Bbe2$ (41, $Aea2$); [2] $Ima2$ (46)

• Decreased unit cell

[2] $\mathbf{b}' = \frac{1}{2}\mathbf{b}$ $Pcc2$ (27); [2] $\mathbf{c}' = \frac{1}{2}\mathbf{c}$ $Pbm2$ (28, $Pma2$)