D_{2h}^{15} $P2_1/b2_1/c2_1/a$ No. 61 $Pbca$

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

General position

Multiplicity, Wyckoff letter, Site symmetry		Coordinates			
8 c 1	(1) x,y,z	(2) $\bar{x}+\frac{1}{2},\bar{y},z+\frac{1}{2}$	(3) $\bar{x},y+\frac{1}{2},\bar{z}+\frac{1}{2}$	(4) $x+\frac{1}{2},\bar{y}+\frac{1}{2},\bar{z}$	
	(5) $\bar{x},\bar{y},\bar{z}$	(6) $x+\frac{1}{2},y,\bar{z}+\frac{1}{2}$	(7) $x,\bar{y}+\frac{1}{2},z+\frac{1}{2}$	(8) $\bar{x}+\frac{1}{2},y+\frac{1}{2},z$	

I Maximal *translationengleiche* subgroups

[2] $Pbc2_1$ (29, $Pca2_1$)	1; 2; 7; 8	$-\mathbf{b},\mathbf{a},\mathbf{c}$	$1/4,0,0$
[2] $Pb2_1a$ (29, $Pca2_1$)	1; 3; 6; 8	$\mathbf{a},-\mathbf{c},\mathbf{b}$	$0,0,1/4$
[2] $P2_1ca$ (29, $Pca2_1$)	1; 4; 6; 7	$\mathbf{c},\mathbf{b},-\mathbf{a}$	$0,1/4,0$
[2] $P2_12_12_1$ (19)	1; 2; 3; 4		
[2] $P112_1/a$ (14)	1; 2; 5; 6		
[2] $P12_1/c1$ (14)	1; 3; 5; 7		
[2] $P2_1/b11$ (14, $P12_1/c1$)	1; 4; 5; 8	$\mathbf{c},\mathbf{a},\mathbf{b}$	

II Maximal *klassengleiche* subgroups

- **Enlarged unit cell**

[3] $\mathbf{a}'=3\mathbf{a}$			
$Pbca$ (61)	$\langle 3;\ 5;\ 2+(1,0,0)\rangle$	$3\mathbf{a},\mathbf{b},\mathbf{c}$	
$Pbca$ (61)	$\langle 2+(3,0,0);\ (3;\ 5)+(2,0,0)\rangle$	$3\mathbf{a},\mathbf{b},\mathbf{c}$	$1,0,0$
$Pbca$ (61)	$\langle 2+(5,0,0);\ (3;\ 5)+(4,0,0)\rangle$	$3\mathbf{a},\mathbf{b},\mathbf{c}$	$2,0,0$
[3] $\mathbf{b}'=3\mathbf{b}$			
$Pbca$ (61)	$\langle 2;\ 5;\ 3+(0,1,0)\rangle$	$\mathbf{a},3\mathbf{b},\mathbf{c}$	
$Pbca$ (61)	$\langle (2;\ 5)+(0,2,0);\ 3+(0,1,0)\rangle$	$\mathbf{a},3\mathbf{b},\mathbf{c}$	$0,1,0$
$Pbca$ (61)	$\langle (2;\ 5)+(0,4,0);\ 3+(0,1,0)\rangle$	$\mathbf{a},3\mathbf{b},\mathbf{c}$	$0,2,0$
[3] $\mathbf{c}'=3\mathbf{c}$			
$Pbca$ (61)	$\langle 5;\ (2;\ 3)+(0,0,1)\rangle$	$\mathbf{a},\mathbf{b},3\mathbf{c}$	
$Pbca$ (61)	$\langle 2+(0,0,1);\ 3+(0,0,3);\ 5+(0,0,2)\rangle$	$\mathbf{a},\mathbf{b},3\mathbf{c}$	$0,0,1$
$Pbca$ (61)	$\langle 2+(0,0,1);\ 3+(0,0,5);\ 5+(0,0,4)\rangle$	$\mathbf{a},\mathbf{b},3\mathbf{c}$	$0,0,2$

- **Series of maximal isomorphic subgroups**

[p] $\mathbf{a}'=p\mathbf{a}$			
$Pbca$ (61)	$\langle 2+(\frac{p}{2}-\frac{1}{2}+2u,0,0);\ (3;\ 5)+(2u,0,0)\rangle$ $p>2;\ 0\le u<p$ p conjugate subgroups for the prime p	$p\mathbf{a},\mathbf{b},\mathbf{c}$	$u,0,0$
[p] $\mathbf{b}'=p\mathbf{b}$			
$Pbca$ (61)	$\langle (2;\ 5)+(0,2u,0);\ 3+(0,\frac{p}{2}-\frac{1}{2},0)\rangle$ $p>2;\ 0\le u<p$ p conjugate subgroups for the prime p	$\mathbf{a},p\mathbf{b},\mathbf{c}$	$0,u,0$
[p] $\mathbf{c}'=p\mathbf{c}$			
$Pbca$ (61)	$\langle 2+(0,0,\frac{p}{2}-\frac{1}{2});\ 3+(0,0,\frac{p}{2}-\frac{1}{2}+2u);$ $5+(0,0,2u)\rangle$ $p>2;\ 0\le u<p$ p conjugate subgroups for the prime p	$\mathbf{a},\mathbf{b},p\mathbf{c}$	$0,0,u$

I Minimal *translationengleiche* supergroups

[3] $Pa\bar{3}$ (205)

II Minimal non-isomorphic *klassengleiche* supergroups

- **Additional centring translations**

[2] *Aema* (64, *Cmce*); [2] *Bbem* (64, *Cmce*); [2] *Cmce* (64); [2] *Ibca* (73)

- **Decreased unit cell**

[2] $\mathbf{a}'=\frac{1}{2}\mathbf{a}$ *Pbcm* (57); [2] $\mathbf{b}'=\frac{1}{2}\mathbf{b}$ *Pmca* (57, *Pbcm*); [2] $\mathbf{c}'=\frac{1}{2}\mathbf{c}$ *Pbma* (57, *Pbcm*)