$A\,e\,a\,2$ No. 41 $A\,e\,a\,2$ C_{2v}^{17}

Former space-group symbol *Aba*2

Generators selected   (1); $t(1,0,0)$; $t(0,1,0)$; $t(0,0,1)$; $t(0,\frac{1}{2},\frac{1}{2})$; (2); (3)

General position

Multiplicity, Wyckoff letter, Site symmetry	Coordinates
	$(0,0,0)+$ $(0,\frac{1}{2},\frac{1}{2})+$

8   *b*   1   (1) x,y,z (2) $\bar{x},\bar{y},z$ (3) $x+\frac{1}{2},\bar{y}+\frac{1}{2},z$ (4) $\bar{x}+\frac{1}{2},y+\frac{1}{2},z$

I Maximal *translationengleiche* subgroups

[2] $A1a1$ $(9, C1c1)$	$(1;\ 3)+$	$\mathbf{c},\mathbf{b},-\mathbf{a}$	$0,1/4,0$
[2] $Ae11$ $(7, P1c1)$	$(1;\ 4)+$	$1/2(-\mathbf{b}+\mathbf{c}),\mathbf{a},\mathbf{b}$	$1/4,0,0$
[2] $A112$ (5)	$(1;\ 2)+$		

II Maximal *klassengleiche* subgroups

● **Loss of centring translations**

[2] $Pbn2_1$ $(33, Pna2_1)$	$1;\ 4;\ (2;\ 3)+(0,\frac{1}{2},\frac{1}{2})$	$-\mathbf{b},\mathbf{a},\mathbf{c}$	$0,1/4,0$
[2] $Pba2$ (32)	$1;\ 2;\ 3;\ 4$		
[2] $Pcn2$ $(30, Pnc2)$	$1;\ 2;\ (3;\ 4)+(0,\frac{1}{2},\frac{1}{2})$	$-\mathbf{b},\mathbf{a},\mathbf{c}$	
[2] $Pca2_1$ (29)	$1;\ 3;\ (2;\ 4)+(0,\frac{1}{2},\frac{1}{2})$		$0,1/4,0$

● **Enlarged unit cell**

[3] $\mathbf{a}'=3\mathbf{a}$			
$Aea2$ (41)	$\langle 2;\ 3+(1,0,0)\rangle$	$3\mathbf{a},\mathbf{b},\mathbf{c}$	
$Aea2$ (41)	$\langle 2+(2,0,0);\ 3+(1,0,0)\rangle$	$3\mathbf{a},\mathbf{b},\mathbf{c}$	$1,0,0$
$Aea2$ (41)	$\langle 2+(4,0,0);\ 3+(1,0,0)\rangle$	$3\mathbf{a},\mathbf{b},\mathbf{c}$	$2,0,0$
[3] $\mathbf{b}'=3\mathbf{b}$			
$Aea2$ (41)	$\langle 2;\ 3+(0,1,0)\rangle$	$\mathbf{a},3\mathbf{b},\mathbf{c}$	
$Aea2$ (41)	$\langle 2+(0,2,0);\ 3+(0,3,0)\rangle$	$\mathbf{a},3\mathbf{b},\mathbf{c}$	$0,1,0$
$Aea2$ (41)	$\langle 2+(0,4,0);\ 3+(0,5,0)\rangle$	$\mathbf{a},3\mathbf{b},\mathbf{c}$	$0,2,0$
[3] $\mathbf{c}'=3\mathbf{c}$			
$Aea2$ (41)	$\langle 2;\ 3\rangle$	$\mathbf{a},\mathbf{b},3\mathbf{c}$	

● **Series of maximal isomorphic subgroups**

[p] $\mathbf{a}'=p\mathbf{a}$			
$Aea2$ (41)	$\langle 2+(2u,0,0);\ 3+(\frac{p}{2}-\frac{1}{2},0,0)\rangle$ $p>2;\ 0\le u<p$ p conjugate subgroups for the prime p	$p\mathbf{a},\mathbf{b},\mathbf{c}$	$u,0,0$
[p] $\mathbf{b}'=p\mathbf{b}$			
$Aea2$ (41)	$\langle 2+(0,2u,0);\ 3+(0,\frac{p}{2}-\frac{1}{2}+2u,0)\rangle$ $p>2;\ 0\le u<p$ p conjugate subgroups for the prime p	$\mathbf{a},p\mathbf{b},\mathbf{c}$	$0,u,0$
[p] $\mathbf{c}'=p\mathbf{c}$			
$Aea2$ (41)	$\langle 2;\ 3\rangle$ $p>2$ no conjugate subgroups	$\mathbf{a},\mathbf{b},p\mathbf{c}$	

I Minimal *translationengleiche* supergroups

[2] $Cmce$ (64); [2] $Ccce$ (68)

II Minimal non-isomorphic *klassengleiche* supergroups

● **Additional centring translations**

[2] $Fmm2$ (42)

● **Decreased unit cell**

[2] $\mathbf{b}'=\frac{1}{2}\mathbf{b}$, $\mathbf{c}'=\frac{1}{2}\mathbf{c}$ $Pma2$ (28); [2] $\mathbf{a}'=\frac{1}{2}\mathbf{a}$ $Aem2$ (39)