

C_{2v}^{21}

No. 45

 $Iba2$

Axes	Coordinates	Wyckoff positions		
		4a	4b	8c

I Maximal translationengleiche subgroups

[2] $Ic11$ (9)		4a	4a	$2 \times 4a$
$\hat{\equiv} I1a1$	$\mathbf{c}, \mathbf{a}, \mathbf{b}$	z, x, y		
$\hat{\equiv} C1c1$	$-\mathbf{b}-\mathbf{c}, \mathbf{a}, \mathbf{c}$	$-y, x, -y+z$		
[2] $I1c1$ (9)		4a	4a	$2 \times 4a$
$\hat{\equiv} I1a1$		$x, y+\frac{1}{4}, y$		
$\hat{\equiv} C1c1$	$\mathbf{a}-\mathbf{c}, \mathbf{b}, \mathbf{c}$	$x, y, x+z$		
[2] $I112$ (5)		$2 \times 2a$	$2 \times 2b$	$2 \times 4c$
$\hat{\equiv} A112$	$\mathbf{b}, -\mathbf{a}-\mathbf{b}, \mathbf{c}$	$x+y, -x, z$		

II Maximal klassengleiche subgroups

Loss of centring translations

[2] $Pba2$ (32)		$2 \times 2a$	$2 \times 2b$	$2 \times 4c$
[2] $Pca2_1$ (29)	$x+\frac{1}{4}, y+\frac{1}{4}, z$	4a	4a	$2 \times 4a$
[2] $Pbc2_1$ (29)	$x+\frac{1}{4}, y+\frac{1}{4}, z$	4a	4a	$2 \times 4a$
$\hat{\equiv} Pca2_1$	$\mathbf{b}, \mathbf{a}, -\mathbf{c}$	$y+\frac{1}{4}, x+\frac{1}{4}, -z$		
[2] $Pcc2$ (27)		$2a; 2d$	$2b; 2c$	$2 \times 4e$

Enlarged unit cell, isomorphic

[3] $Iba2$	$3\mathbf{a}, \mathbf{b}, \mathbf{c}$	$\frac{1}{3}x, y, z; \pm(\frac{1}{3}, 0, 0)$	4a; 8c	4b; 8c	$3 \times 8c$
[p] $Iba2$	$p\mathbf{a}, \mathbf{b}, \mathbf{c}$	$\frac{1}{p}x, y, z; +(\frac{u}{p}, 0, 0)$ $p = \text{prime} > 2; u = 1, \dots, p-1$	$4a; \frac{p-1}{2} \times 8c$	$4b; \frac{p-1}{2} \times 8c$	$p \times 8c$
[3] $Iba2$	$\mathbf{a}, 3\mathbf{b}, \mathbf{c}$	$x, \frac{1}{3}y, z; \pm(0, \frac{1}{3}, 0)$	4a; 8c	4b; 8c	$3 \times 8c$
[p] $Iba2$	$\mathbf{a}, p\mathbf{b}, \mathbf{c}$	$x, \frac{1}{p}y, z; +(0, \frac{u}{p}, 0)$ $p = \text{prime} > 2; u = 1, \dots, p-1$	$4a; \frac{p-1}{2} \times 8c$	$4b; \frac{p-1}{2} \times 8c$	$p \times 8c$
[3] $Iba2$	$\mathbf{a}, \mathbf{b}, 3\mathbf{c}$	$x, y, \frac{1}{3}z; \pm(0, 0, \frac{1}{3})$	$3 \times 4a$	$3 \times 4b$	$3 \times 8c$
[p] $Iba2$	$\mathbf{a}, \mathbf{b}, p\mathbf{c}$	$x, y, \frac{1}{p}z; +(0, 0, \frac{u}{p})$ $p = \text{prime} > 2; u = 1, \dots, p-1$	$p \times 4a$	$p \times 4b$	$p \times 8c$

Nonconventional settings

interchange letters and sequences in Hermann–Mauguin symbols, axes and coordinates:

 $I2cb$ $A \rightarrow B; C \rightarrow A$ $a \rightarrow b \rightarrow c \rightarrow a$ $\mathbf{a} \rightarrow \mathbf{b} \rightarrow \mathbf{c} \rightarrow \mathbf{a}$ $x \rightarrow y \rightarrow z \rightarrow x$ $Ic2a$ $A \rightarrow C; C \rightarrow B$ $a \leftarrow b \leftarrow c \leftarrow a$ $\mathbf{a} \leftarrow \mathbf{b} \leftarrow \mathbf{c} \leftarrow \mathbf{a}$ $x \leftarrow y \leftarrow z \leftarrow x$