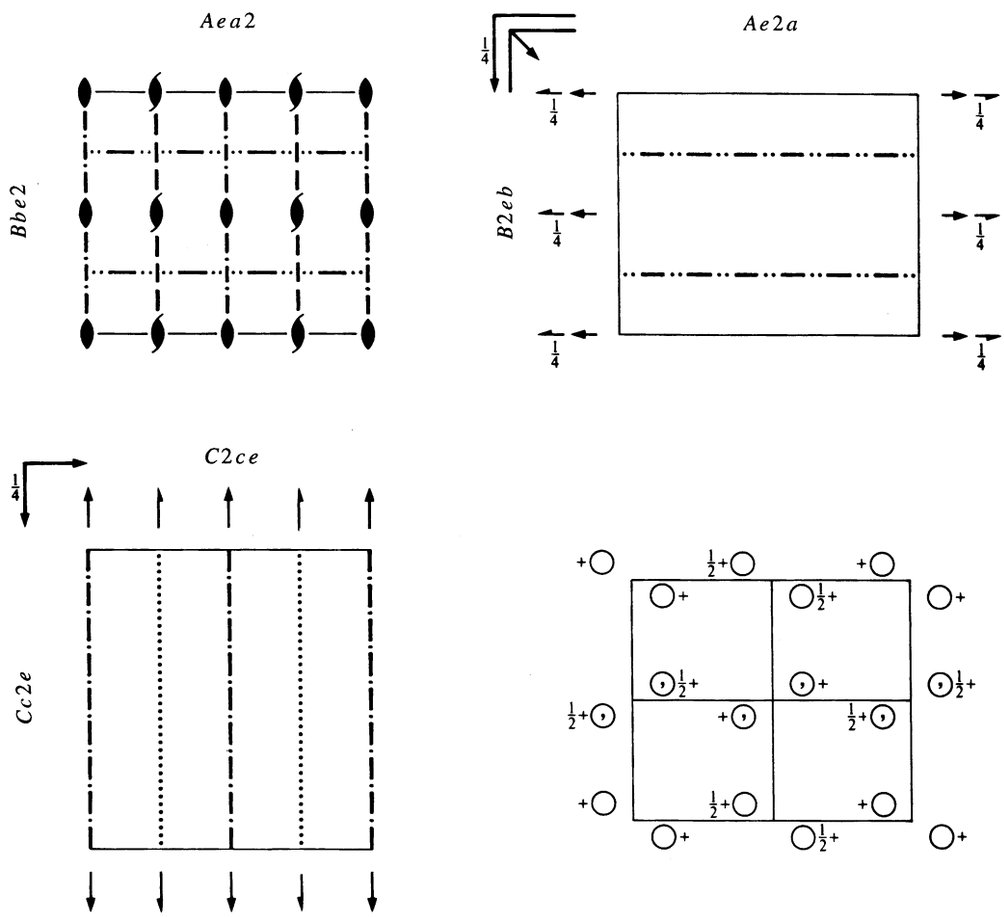
International Tables for Crystallography (2006). Vol. A, Space group 41, pp. 250–251.

$Aea2$ $\quad C_{2v}^{17}$ $\quad mm2$ $\quad$ Orthorhombic

No. 41 $\quad Aea2$ $\quad$ Patterson symmetry $Ammm$ ($Cmmm$)

Former space-group symbol $Aba2$; *cf.* Chapter 1.3



Origin on $1n2$

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

Symmetry operations

For $(0,0,0)+$ set

(1) 1	(2) $2 \quad 0,0,z$	(3) $a \quad x,\frac{1}{4},z$	(4) $b \quad \frac{1}{4},y,z$

For $(0,\frac{1}{2},\frac{1}{2})+$ set

(1) $t(0,\frac{1}{2},\frac{1}{2})$	(2) $2(0,0,\frac{1}{2}) \quad 0,\frac{1}{4},z$	(3) $n(\frac{1}{2},0,\frac{1}{2}) \quad x,0,z$	(4) $c \quad \frac{1}{4},y,z$

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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)

Positions

Multiplicity, Wyckoff letter, Site symmetry			Coordinates				Reflection conditions
			$(0,0,0)+$	$(0,\frac{1}{2},\frac{1}{2})+$			General:
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) $\bar{x}+\frac{1}{2},y+\frac{1}{2},z$	hkl : $k+l=2n$ $0kl$: $k,l=2n$ $h0l$: $h,l=2n$ $hk0$: $k=2n$ $h00$: $h=2n$ $0k0$: $k=2n$ $00l$: $l=2n$
							Special: as above, plus
4	a	$..2$	$0,0,z$	$\frac{1}{2},\frac{1}{2},z$			hkl : $h+k=2n$

Symmetry of special projections

Along [001] $p2mg$
$\mathbf{a}'=\mathbf{a}$ $\mathbf{b}'=\frac{1}{2}\mathbf{b}$
Origin at $0,0,z$

Along [100] $p1m1$
$\mathbf{a}'=\frac{1}{2}\mathbf{b}$ $\mathbf{b}'=\frac{1}{2}\mathbf{c}$
Origin at $x,0,0$

Along [010] $p11m$
$\mathbf{a}'=\frac{1}{2}\mathbf{c}$ $\mathbf{b}'=\frac{1}{2}\mathbf{a}$
Origin at $0,y,0$

Maximal non-isomorphic subgroups

I	[2] $A1a1$ (Cc, 9)	$(1;\ 3)+$
	[2] $Ae11$ (Pc, 7)	$(1;\ 4)+$
	[2] $A112$ ($C2$, 5)	$(1;\ 2)+$
IIa	[2] $Pbn2_1$ ($Pna2_1$, 33)	$1;\ 4;\ (2;\ 3)+(0,\frac{1}{2},\frac{1}{2})$
	[2] $Pba2$ (32)	$1;\ 2;\ 3;\ 4$
	[2] $Pcn2$ ($Pnc2$, 30)	$1;\ 2;\ (3;\ 4)+(0,\frac{1}{2},\frac{1}{2})$
	[2] $Pca2_1$ (29)	$1;\ 3;\ (2;\ 4)+(0,\frac{1}{2},\frac{1}{2})$
IIb	none	

Maximal isomorphic subgroups of lowest index

IIc [3] $Aea2$ ($\mathbf{a}'=3\mathbf{a}$) (41); [3] $Aea2$ ($\mathbf{b}'=3\mathbf{b}$) (41); [3] $Aea2$ ($\mathbf{c}'=3\mathbf{c}$) (41)

Minimal non-isomorphic supergroups

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

II [2] $Fmm2$ (42); [2] $Pma2$ ($\mathbf{b}'=\frac{1}{2}\mathbf{b},\mathbf{c}'=\frac{1}{2}\mathbf{c}$) (28); [2] $Aem2$ ($\mathbf{a}'=\frac{1}{2}\mathbf{a}$) (39)