Vesuvianite ($Ca_{10}Al_4(Mg,Fe)_2Si_9O_{34}(OH)_4$, $S2_3$) Structure: A4B10C2D34E4F9_tP252_126_k_ce2k_f_h8k_k_d2k-001

This structure previously used the label(s) `A4B10C2D34E4F9_tP252_126_k_ce2k_f_h8k_k_d2k`. Calls to these addresses will be redirected here.

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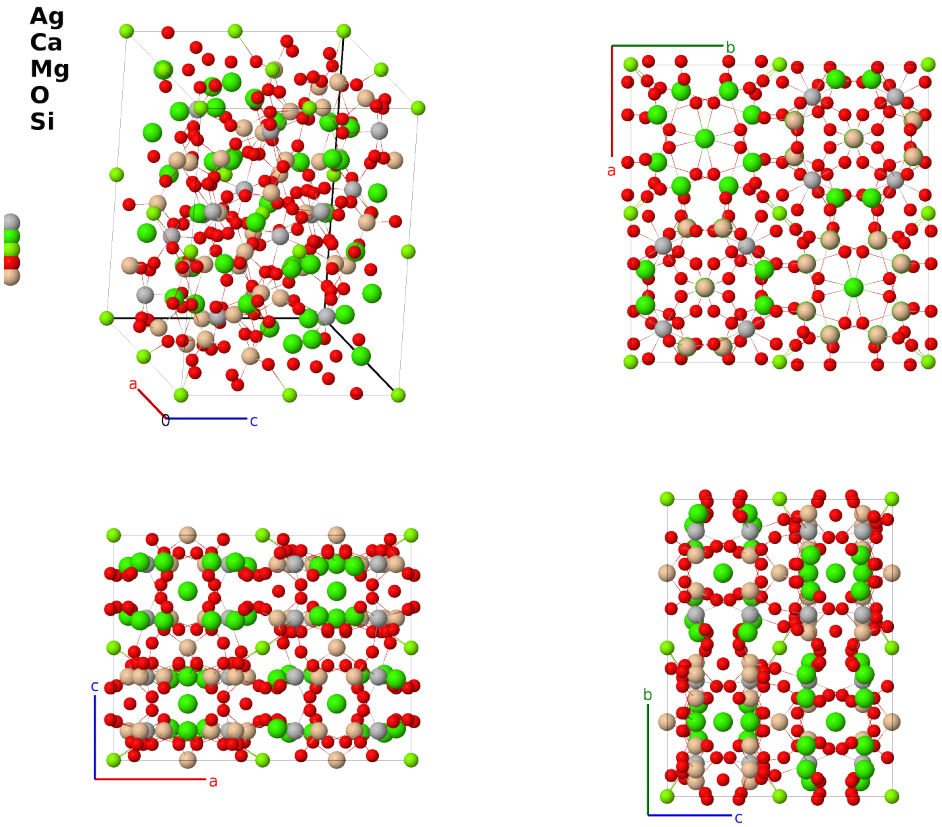
https://aflow.org/prototype-encyclopedia/QSJ3

https://aflow.org/prototype-encyclopedia/A4B10C2D34E4F9_tP252_126_k_ce2k_f_h8k_k_d2k-001



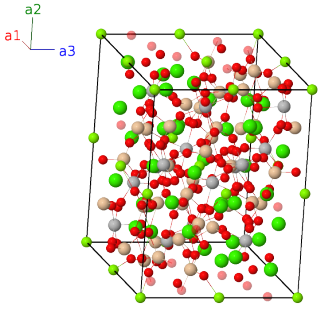
Prototype	$Ag_4Ca_{10}Mg_2O_{34}(OH)_4Si_9$
AFLOW prototype label	A4B10C2D34E4F9_tP252_126_k_ce2k_f_h8k_k_d2k-001
***Strukturbericht* designation**	$S2_3$
Mineral name	vesuvianite
ICSD	36198
CCDC	1607969
Pearson symbol	tP252
Space group number	126

Space group symbol	$P4/nnc$
AFLOW prototype command	`aflow --proto=A4B10C2D34E4F9_tP252_126_k_ce2k_f_h8k_k_d2k-001 --params=`$a, c/a, z_3, x_5, x_6, y_6, z_6, x_7, y_7, z_7, x_8, y_8, z_8, x_9, y_9, z_9, x_{10}, y_{10}, z_{10}, x_{11}, y_{11}, z_{11}, x_{12}, y_{12}, z_{12}, x_{13}, y_{13}, z_{13}, x_{14}, y_{14}, z_{14}, x_{15}, y_{15}, z_{15}, x_{16}, y_{16}, z_{16}, x_{17}, y_{17}, z_{17}, x_{18}, y_{18}, z_{18}, x_{19}, y_{19}, z_{19}$

- Vesuvianite, also known as idocrase, comes in a variety of compositions and structures, see *e.g.*, (Allen, 1992) and (Rucklidge, 1975) and references therein. For our example we use the original structure of (Warren, 1931), where the magnesium (8f) site is filled by a random (Mg,Fe) alloy.
- The positions of the hydrogen atoms in the OH ions were not determined, so we only give the positions of the oxygen atoms (labeled as OH).

Simple Tetragonal primitive vectors

$$\mathbf{a_1} = a\,\hat{\mathbf{x}}$$
$$\mathbf{a_2} = a\,\hat{\mathbf{y}}$$
$$\mathbf{a_3} = c\,\hat{\mathbf{z}}$$



Basis vectors

		Lattice coordinates		Cartesian coordinates	Wyckoff position	Atom type
$\mathbf{B_1}$	=	$\frac{1}{4}\,\mathbf{a}_1 + \frac{3}{4}\,\mathbf{a}_2 + \frac{3}{4}\,\mathbf{a}_3$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} + \frac{3}{4}a\,\hat{\mathbf{y}} + \frac{3}{4}c\,\hat{\mathbf{z}}$	(4c)	Ca I
$\mathbf{B_2}$	=	$\frac{3}{4}\,\mathbf{a}_1 + \frac{1}{4}\,\mathbf{a}_2 + \frac{3}{4}\,\mathbf{a}_3$	=	$\frac{3}{4}a\,\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{y}} + \frac{3}{4}c\,\hat{\mathbf{z}}$	(4c)	Ca I
$\mathbf{B_3}$	=	$\frac{3}{4}\,\mathbf{a}_1 + \frac{1}{4}\,\mathbf{a}_2 + \frac{1}{4}\,\mathbf{a}_3$	=	$\frac{3}{4}a\,\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{y}} + \frac{1}{4}c\,\hat{\mathbf{z}}$	(4c)	Ca I
$\mathbf{B_4}$	=	$\frac{1}{4}\,\mathbf{a}_1 + \frac{3}{4}\,\mathbf{a}_2 + \frac{1}{4}\,\mathbf{a}_3$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} + \frac{3}{4}a\,\hat{\mathbf{y}} + \frac{1}{4}c\,\hat{\mathbf{z}}$	(4c)	Ca I
$\mathbf{B_5}$	=	$\frac{1}{4}\,\mathbf{a}_1 + \frac{3}{4}\,\mathbf{a}_2$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} + \frac{3}{4}a\,\hat{\mathbf{y}}$	(4d)	Si I
$\mathbf{B_6}$	=	$\frac{3}{4}\,\mathbf{a}_1 + \frac{1}{4}\,\mathbf{a}_2$	=	$\frac{3}{4}a\,\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{y}}$	(4d)	Si I
$\mathbf{B_7}$	=	$\frac{1}{4}\,\mathbf{a}_1 + \frac{3}{4}\,\mathbf{a}_2 + \frac{1}{2}\,\mathbf{a}_3$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} + \frac{3}{4}a\,\hat{\mathbf{y}} + \frac{1}{2}c\,\hat{\mathbf{z}}$	(4d)	Si I
$\mathbf{B_8}$	=	$\frac{3}{4}\,\mathbf{a}_1 + \frac{1}{4}\,\mathbf{a}_2 + \frac{1}{2}\,\mathbf{a}_3$	=	$\frac{3}{4}a\,\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{y}} + \frac{1}{2}c\,\hat{\mathbf{z}}$	(4d)	Si I
$\mathbf{B_9}$	=	$\frac{1}{4}\,\mathbf{a}_1 + \frac{1}{4}\,\mathbf{a}_2 + z_3\,\mathbf{a}_3$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{y}} + cz_3\,\hat{\mathbf{z}}$	(4e)	Ca II
$\mathbf{B_{10}}$	=	$\frac{1}{4}\,\mathbf{a}_1 + \frac{1}{4}\,\mathbf{a}_2 - \left(z_3 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} + \frac{1}{4}a\,\hat{\mathbf{y}} - c\left(z_3 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4e)	Ca II
$\mathbf{B_{11}}$	=	$\frac{3}{4}\,\mathbf{a}_1 + \frac{3}{4}\,\mathbf{a}_2 - z_3\,\mathbf{a}_3$	=	$\frac{3}{4}a\,\hat{\mathbf{x}} + \frac{3}{4}a\,\hat{\mathbf{y}} - cz_3\,\hat{\mathbf{z}}$	(4e)	Ca II
$\mathbf{B_{12}}$	=	$\frac{3}{4}\,\mathbf{a}_1 + \frac{3}{4}\,\mathbf{a}_2 + \left(z_3 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$\frac{3}{4}a\,\hat{\mathbf{x}} + \frac{3}{4}a\,\hat{\mathbf{y}} + c\left(z_3 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4e)	Ca II
$\mathbf{B_{13}}$	=	0	=	0	(8f)	Mg I
$\mathbf{B_{14}}$	=	$\frac{1}{2}\,\mathbf{a}_1 + \frac{1}{2}\,\mathbf{a}_2$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{1}{2}a\,\hat{\mathbf{y}}$	(8f)	Mg I
$\mathbf{B_{15}}$	=	$\frac{1}{2}\,\mathbf{a}_1$	=	$\frac{1}{2}a\,\hat{\mathbf{x}}$	(8f)	Mg I
$\mathbf{B_{16}}$	=	$\frac{1}{2}\,\mathbf{a}_2$	=	$\frac{1}{2}a\,\hat{\mathbf{y}}$	(8f)	Mg I
$\mathbf{B_{17}}$	=	$\frac{1}{2}\,\mathbf{a}_1 + \frac{1}{2}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{1}{2}c\,\hat{\mathbf{z}}$	(8f)	Mg I
$\mathbf{B_{18}}$	=	$\frac{1}{2}\,\mathbf{a}_2 + \frac{1}{2}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{y}} + \frac{1}{2}c\,\hat{\mathbf{z}}$	(8f)	Mg I

$\mathbf{B_{19}}$	=	$\frac{1}{2}\,\mathbf{a}_3$	=	$\frac{1}{2}c\,\hat{\mathbf{z}}$	(8f)	Mg I
$\mathbf{B_{20}}$	=	$\frac{1}{2}\,\mathbf{a}_1 + \frac{1}{2}\,\mathbf{a}_2 + \frac{1}{2}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{1}{2}a\,\hat{\mathbf{y}} + \frac{1}{2}c\,\hat{\mathbf{z}}$	(8f)	Mg I
$\mathbf{B_{21}}$	=	$x_5\,\mathbf{a}_1 + x_5\,\mathbf{a}_2 + \frac{1}{4}\,\mathbf{a}_3$	=	$ax_5\,\hat{\mathbf{x}} + ax_5\,\hat{\mathbf{y}} + \frac{1}{4}c\,\hat{\mathbf{z}}$	(8h)	O I
$\mathbf{B_{22}}$	=	$-\left(x_5 - \frac{1}{2}\right)\,\mathbf{a}_1 - \left(x_5 - \frac{1}{2}\right)\,\mathbf{a}_2 + \frac{1}{4}\,\mathbf{a}_3$	=	$-a\left(x_5 - \frac{1}{2}\right)\,\hat{\mathbf{x}} - a\left(x_5 - \frac{1}{2}\right)\,\hat{\mathbf{y}} + \frac{1}{4}c\,\hat{\mathbf{z}}$	(8h)	O I
$\mathbf{B_{23}}$	=	$-\left(x_5 - \frac{1}{2}\right)\,\mathbf{a}_1 + x_5\,\mathbf{a}_2 + \frac{1}{4}\,\mathbf{a}_3$	=	$-a\left(x_5 - \frac{1}{2}\right)\,\hat{\mathbf{x}} + ax_5\,\hat{\mathbf{y}} + \frac{1}{4}c\,\hat{\mathbf{z}}$	(8h)	O I
$\mathbf{B_{24}}$	=	$x_5\,\mathbf{a}_1 - \left(x_5 - \frac{1}{2}\right)\,\mathbf{a}_2 + \frac{1}{4}\,\mathbf{a}_3$	=	$ax_5\,\hat{\mathbf{x}} - a\left(x_5 - \frac{1}{2}\right)\,\hat{\mathbf{y}} + \frac{1}{4}c\,\hat{\mathbf{z}}$	(8h)	O I
$\mathbf{B_{25}}$	=	$-x_5\,\mathbf{a}_1 - x_5\,\mathbf{a}_2 + \frac{3}{4}\,\mathbf{a}_3$	=	$-ax_5\,\hat{\mathbf{x}} - ax_5\,\hat{\mathbf{y}} + \frac{3}{4}c\,\hat{\mathbf{z}}$	(8h)	O I
$\mathbf{B_{26}}$	=	$\left(x_5 + \frac{1}{2}\right)\,\mathbf{a}_1 + \left(x_5 + \frac{1}{2}\right)\,\mathbf{a}_2 + \frac{3}{4}\,\mathbf{a}_3$	=	$a\left(x_5 + \frac{1}{2}\right)\,\hat{\mathbf{x}} + a\left(x_5 + \frac{1}{2}\right)\,\hat{\mathbf{y}} + \frac{3}{4}c\,\hat{\mathbf{z}}$	(8h)	O I
$\mathbf{B_{27}}$	=	$\left(x_5 + \frac{1}{2}\right)\,\mathbf{a}_1 - x_5\,\mathbf{a}_2 + \frac{3}{4}\,\mathbf{a}_3$	=	$a\left(x_5 + \frac{1}{2}\right)\,\hat{\mathbf{x}} - ax_5\,\hat{\mathbf{y}} + \frac{3}{4}c\,\hat{\mathbf{z}}$	(8h)	O I
$\mathbf{B_{28}}$	=	$-x_5\,\mathbf{a}_1 + \left(x_5 + \frac{1}{2}\right)\,\mathbf{a}_2 + \frac{3}{4}\,\mathbf{a}_3$	=	$-ax_5\,\hat{\mathbf{x}} + a\left(x_5 + \frac{1}{2}\right)\,\hat{\mathbf{y}} + \frac{3}{4}c\,\hat{\mathbf{z}}$	(8h)	O I
$\mathbf{B_{29}}$	=	$x_6\,\mathbf{a}_1 + y_6\,\mathbf{a}_2 + z_6\,\mathbf{a}_3$	=	$ax_6\,\hat{\mathbf{x}} + ay_6\,\hat{\mathbf{y}} + cz_6\,\hat{\mathbf{z}}$	(16k)	Ag I
$\mathbf{B_{30}}$	=	$-\left(x_6 - \frac{1}{2}\right)\,\mathbf{a}_1 - \left(y_6 - \frac{1}{2}\right)\,\mathbf{a}_2 + z_6\,\mathbf{a}_3$	=	$-a\left(x_6 - \frac{1}{2}\right)\,\hat{\mathbf{x}} - a\left(y_6 - \frac{1}{2}\right)\,\hat{\mathbf{y}} + cz_6\,\hat{\mathbf{z}}$	(16k)	Ag I
$\mathbf{B_{31}}$	=	$-\left(y_6 - \frac{1}{2}\right)\,\mathbf{a}_1 + x_6\,\mathbf{a}_2 + z_6\,\mathbf{a}_3$	=	$-a\left(y_6 - \frac{1}{2}\right)\,\hat{\mathbf{x}} + ax_6\,\hat{\mathbf{y}} + cz_6\,\hat{\mathbf{z}}$	(16k)	Ag I
$\mathbf{B_{32}}$	=	$y_6\,\mathbf{a}_1 - \left(x_6 - \frac{1}{2}\right)\,\mathbf{a}_2 + z_6\,\mathbf{a}_3$	=	$ay_6\,\hat{\mathbf{x}} - a\left(x_6 - \frac{1}{2}\right)\,\hat{\mathbf{y}} + cz_6\,\hat{\mathbf{z}}$	(16k)	Ag I
$\mathbf{B_{33}}$	=	$-\left(x_6 - \frac{1}{2}\right)\,\mathbf{a}_1 + y_6\,\mathbf{a}_2 - \left(z_6 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(x_6 - \frac{1}{2}\right)\,\hat{\mathbf{x}} + ay_6\,\hat{\mathbf{y}} - c\left(z_6 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ag I
$\mathbf{B_{34}}$	=	$x_6\,\mathbf{a}_1 - \left(y_6 - \frac{1}{2}\right)\,\mathbf{a}_2 - \left(z_6 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$ax_6\,\hat{\mathbf{x}} - a\left(y_6 - \frac{1}{2}\right)\,\hat{\mathbf{y}} - c\left(z_6 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ag I
$\mathbf{B_{35}}$	=	$y_6\,\mathbf{a}_1 + x_6\,\mathbf{a}_2 - \left(z_6 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$ay_6\,\hat{\mathbf{x}} + ax_6\,\hat{\mathbf{y}} - c\left(z_6 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ag I
$\mathbf{B_{36}}$	=	$-\left(y_6 - \frac{1}{2}\right)\,\mathbf{a}_1 - \left(x_6 - \frac{1}{2}\right)\,\mathbf{a}_2 - \left(z_6 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(y_6 - \frac{1}{2}\right)\,\hat{\mathbf{x}} - a\left(x_6 - \frac{1}{2}\right)\,\hat{\mathbf{y}} - c\left(z_6 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ag I
$\mathbf{B_{37}}$	=	$-x_6\,\mathbf{a}_1 - y_6\,\mathbf{a}_2 - z_6\,\mathbf{a}_3$	=	$-ax_6\,\hat{\mathbf{x}} - ay_6\,\hat{\mathbf{y}} - cz_6\,\hat{\mathbf{z}}$	(16k)	Ag I
$\mathbf{B_{38}}$	=	$\left(x_6 + \frac{1}{2}\right)\,\mathbf{a}_1 + \left(y_6 + \frac{1}{2}\right)\,\mathbf{a}_2 - z_6\,\mathbf{a}_3$	=	$a\left(x_6 + \frac{1}{2}\right)\,\hat{\mathbf{x}} + a\left(y_6 + \frac{1}{2}\right)\,\hat{\mathbf{y}} - cz_6\,\hat{\mathbf{z}}$	(16k)	Ag I
$\mathbf{B_{39}}$	=	$\left(y_6 + \frac{1}{2}\right)\,\mathbf{a}_1 - x_6\,\mathbf{a}_2 - z_6\,\mathbf{a}_3$	=	$a\left(y_6 + \frac{1}{2}\right)\,\hat{\mathbf{x}} - ax_6\,\hat{\mathbf{y}} - cz_6\,\hat{\mathbf{z}}$	(16k)	Ag I
$\mathbf{B_{40}}$	=	$-y_6\,\mathbf{a}_1 + \left(x_6 + \frac{1}{2}\right)\,\mathbf{a}_2 - z_6\,\mathbf{a}_3$	=	$-ay_6\,\hat{\mathbf{x}} + a\left(x_6 + \frac{1}{2}\right)\,\hat{\mathbf{y}} - cz_6\,\hat{\mathbf{z}}$	(16k)	Ag I
$\mathbf{B_{41}}$	=	$\left(x_6 + \frac{1}{2}\right)\,\mathbf{a}_1 - y_6\,\mathbf{a}_2 + \left(z_6 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$a\left(x_6 + \frac{1}{2}\right)\,\hat{\mathbf{x}} - ay_6\,\hat{\mathbf{y}} + c\left(z_6 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ag I
$\mathbf{B_{42}}$	=	$-x_6\,\mathbf{a}_1 + \left(y_6 + \frac{1}{2}\right)\,\mathbf{a}_2 + \left(z_6 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-ax_6\,\hat{\mathbf{x}} + a\left(y_6 + \frac{1}{2}\right)\,\hat{\mathbf{y}} + c\left(z_6 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ag I
$\mathbf{B_{43}}$	=	$-y_6\,\mathbf{a}_1 - x_6\,\mathbf{a}_2 + \left(z_6 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-ay_6\,\hat{\mathbf{x}} - ax_6\,\hat{\mathbf{y}} + c\left(z_6 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ag I
$\mathbf{B_{44}}$	=	$\left(y_6 + \frac{1}{2}\right)\,\mathbf{a}_1 + \left(x_6 + \frac{1}{2}\right)\,\mathbf{a}_2 + \left(z_6 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$a\left(y_6 + \frac{1}{2}\right)\,\hat{\mathbf{x}} + a\left(x_6 + \frac{1}{2}\right)\,\hat{\mathbf{y}} + c\left(z_6 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ag I
$\mathbf{B_{45}}$	=	$x_7\,\mathbf{a}_1 + y_7\,\mathbf{a}_2 + z_7\,\mathbf{a}_3$	=	$ax_7\,\hat{\mathbf{x}} + ay_7\,\hat{\mathbf{y}} + cz_7\,\hat{\mathbf{z}}$	(16k)	Ca III
$\mathbf{B_{46}}$	=	$-\left(x_7 - \frac{1}{2}\right)\,\mathbf{a}_1 - \left(y_7 - \frac{1}{2}\right)\,\mathbf{a}_2 + z_7\,\mathbf{a}_3$	=	$-a\left(x_7 - \frac{1}{2}\right)\,\hat{\mathbf{x}} - a\left(y_7 - \frac{1}{2}\right)\,\hat{\mathbf{y}} + cz_7\,\hat{\mathbf{z}}$	(16k)	Ca III
$\mathbf{B_{47}}$	=	$-\left(y_7 - \frac{1}{2}\right)\,\mathbf{a}_1 + x_7\,\mathbf{a}_2 + z_7\,\mathbf{a}_3$	=	$-a\left(y_7 - \frac{1}{2}\right)\,\hat{\mathbf{x}} + ax_7\,\hat{\mathbf{y}} + cz_7\,\hat{\mathbf{z}}$	(16k)	Ca III
$\mathbf{B_{48}}$	=	$y_7\,\mathbf{a}_1 - \left(x_7 - \frac{1}{2}\right)\,\mathbf{a}_2 + z_7\,\mathbf{a}_3$	=	$ay_7\,\hat{\mathbf{x}} - a\left(x_7 - \frac{1}{2}\right)\,\hat{\mathbf{y}} + cz_7\,\hat{\mathbf{z}}$	(16k)	Ca III
$\mathbf{B_{49}}$	=	$-\left(x_7 - \frac{1}{2}\right)\,\mathbf{a}_1 + y_7\,\mathbf{a}_2 - \left(z_7 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(x_7 - \frac{1}{2}\right)\,\hat{\mathbf{x}} + ay_7\,\hat{\mathbf{y}} - c\left(z_7 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ca III
$\mathbf{B_{50}}$	=	$x_7\,\mathbf{a}_1 - \left(y_7 - \frac{1}{2}\right)\,\mathbf{a}_2 - \left(z_7 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$ax_7\,\hat{\mathbf{x}} - a\left(y_7 - \frac{1}{2}\right)\,\hat{\mathbf{y}} - c\left(z_7 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ca III
$\mathbf{B_{51}}$	=	$y_7\,\mathbf{a}_1 + x_7\,\mathbf{a}_2 - \left(z_7 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$ay_7\,\hat{\mathbf{x}} + ax_7\,\hat{\mathbf{y}} - c\left(z_7 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ca III
$\mathbf{B_{52}}$	=	$-\left(y_7 - \frac{1}{2}\right)\,\mathbf{a}_1 - \left(x_7 - \frac{1}{2}\right)\,\mathbf{a}_2 - \left(z_7 - \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(y_7 - \frac{1}{2}\right)\,\hat{\mathbf{x}} - a\left(x_7 - \frac{1}{2}\right)\,\hat{\mathbf{y}} - c\left(z_7 - \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ca III

$\mathbf{B_{53}}$	=	$-x_7\,\mathbf{a}_1 - y_7\,\mathbf{a}_2 - z_7\,\mathbf{a}_3$	=	$-ax_7\,\hat{\mathbf{x}} - ay_7\,\hat{\mathbf{y}} - cz_7\,\hat{\mathbf{z}}$	(16k)	Ca III
$\mathbf{B_{54}}$	=	$\left(x_7+\frac{1}{2}\right)\,\mathbf{a}_1+\left(y_7+\frac{1}{2}\right)\,\mathbf{a}_2-z_7\,\mathbf{a}_3$	=	$a\left(x_7+\frac{1}{2}\right)\,\hat{\mathbf{x}}+a\left(y_7+\frac{1}{2}\right)\,\hat{\mathbf{y}}-cz_7\,\hat{\mathbf{z}}$	(16k)	Ca III
$\mathbf{B_{55}}$	=	$\left(y_7+\frac{1}{2}\right)\,\mathbf{a}_1 - x_7\,\mathbf{a}_2 - z_7\,\mathbf{a}_3$	=	$a\left(y_7+\frac{1}{2}\right)\,\hat{\mathbf{x}} - ax_7\,\hat{\mathbf{y}} - cz_7\,\hat{\mathbf{z}}$	(16k)	Ca III
$\mathbf{B_{56}}$	=	$-y_7\,\mathbf{a}_1 + \left(x_7+\frac{1}{2}\right)\,\mathbf{a}_2 - z_7\,\mathbf{a}_3$	=	$-ay_7\,\hat{\mathbf{x}} + a\left(x_7+\frac{1}{2}\right)\,\hat{\mathbf{y}} - cz_7\,\hat{\mathbf{z}}$	(16k)	Ca III
$\mathbf{B_{57}}$	=	$\left(x_7+\frac{1}{2}\right)\,\mathbf{a}_1-y_7\,\mathbf{a}_2+\left(z_7+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$a\left(x_7+\frac{1}{2}\right)\,\hat{\mathbf{x}} - ay_7\,\hat{\mathbf{y}} + c\left(z_7+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ca III
$\mathbf{B_{58}}$	=	$-x_7\,\mathbf{a}_1 + \left(y_7+\frac{1}{2}\right)\,\mathbf{a}_2 + \left(z_7+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-ax_7\,\hat{\mathbf{x}} + a\left(y_7+\frac{1}{2}\right)\,\hat{\mathbf{y}} + c\left(z_7+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ca III
$\mathbf{B_{59}}$	=	$-y_7\,\mathbf{a}_1 - x_7\,\mathbf{a}_2 + \left(z_7+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-ay_7\,\hat{\mathbf{x}} - ax_7\,\hat{\mathbf{y}} + c\left(z_7+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ca III
$\mathbf{B_{60}}$	=	$\left(y_7+\frac{1}{2}\right)\,\mathbf{a}_1 + \left(x_7+\frac{1}{2}\right)\,\mathbf{a}_2 + \left(z_7+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$a\left(y_7+\frac{1}{2}\right)\,\hat{\mathbf{x}} + a\left(x_7+\frac{1}{2}\right)\,\hat{\mathbf{y}} + c\left(z_7+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ca III
$\mathbf{B_{61}}$	=	$x_8\,\mathbf{a}_1 + y_8\,\mathbf{a}_2 + z_8\,\mathbf{a}_3$	=	$ax_8\,\hat{\mathbf{x}} + ay_8\,\hat{\mathbf{y}} + cz_8\,\hat{\mathbf{z}}$	(16k)	Ca IV
$\mathbf{B_{62}}$	=	$-\left(x_8-\frac{1}{2}\right)\,\mathbf{a}_1 - \left(y_8-\frac{1}{2}\right)\,\mathbf{a}_2 + z_8\,\mathbf{a}_3$	=	$-a\left(x_8-\frac{1}{2}\right)\,\hat{\mathbf{x}} - a\left(y_8-\frac{1}{2}\right)\,\hat{\mathbf{y}} + cz_8\,\hat{\mathbf{z}}$	(16k)	Ca IV
$\mathbf{B_{63}}$	=	$-\left(y_8-\frac{1}{2}\right)\,\mathbf{a}_1 + x_8\,\mathbf{a}_2 + z_8\,\mathbf{a}_3$	=	$-a\left(y_8-\frac{1}{2}\right)\,\hat{\mathbf{x}} + ax_8\,\hat{\mathbf{y}} + cz_8\,\hat{\mathbf{z}}$	(16k)	Ca IV
$\mathbf{B_{64}}$	=	$y_8\,\mathbf{a}_1 - \left(x_8-\frac{1}{2}\right)\,\mathbf{a}_2 + z_8\,\mathbf{a}_3$	=	$ay_8\,\hat{\mathbf{x}} - a\left(x_8-\frac{1}{2}\right)\,\hat{\mathbf{y}} + cz_8\,\hat{\mathbf{z}}$	(16k)	Ca IV
$\mathbf{B_{65}}$	=	$-\left(x_8-\frac{1}{2}\right)\,\mathbf{a}_1 + y_8\,\mathbf{a}_2 - \left(z_8-\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(x_8-\frac{1}{2}\right)\,\hat{\mathbf{x}} + ay_8\,\hat{\mathbf{y}} - c\left(z_8-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ca IV
$\mathbf{B_{66}}$	=	$x_8\,\mathbf{a}_1-\left(y_8-\frac{1}{2}\right)\,\mathbf{a}_2-\left(z_8-\frac{1}{2}\right)\,\mathbf{a}_3$	=	$ax_8\,\hat{\mathbf{x}} - a\left(y_8-\frac{1}{2}\right)\,\hat{\mathbf{y}} - c\left(z_8-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ca IV
$\mathbf{B_{67}}$	=	$y_8\,\mathbf{a}_1 + x_8\,\mathbf{a}_2 - \left(z_8-\frac{1}{2}\right)\,\mathbf{a}_3$	=	$ay_8\,\hat{\mathbf{x}} + ax_8\,\hat{\mathbf{y}} - c\left(z_8-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ca IV
$\mathbf{B_{68}}$	=	$-\left(y_8-\frac{1}{2}\right)\,\mathbf{a}_1 - \left(x_8-\frac{1}{2}\right)\,\mathbf{a}_2 - \left(z_8-\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(y_8-\frac{1}{2}\right)\,\hat{\mathbf{x}}-a\left(x_8-\frac{1}{2}\right)\,\hat{\mathbf{y}}-c\left(z_8-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ca IV
$\mathbf{B_{69}}$	=	$-x_8\,\mathbf{a}_1 - y_8\,\mathbf{a}_2 - z_8\,\mathbf{a}_3$	=	$-ax_8\,\hat{\mathbf{x}} - ay_8\,\hat{\mathbf{y}} - cz_8\,\hat{\mathbf{z}}$	(16k)	Ca IV
$\mathbf{B_{70}}$	=	$\left(x_8+\frac{1}{2}\right)\,\mathbf{a}_1+\left(y_8+\frac{1}{2}\right)\,\mathbf{a}_2-z_8\,\mathbf{a}_3$	=	$a\left(x_8+\frac{1}{2}\right)\,\hat{\mathbf{x}}+a\left(y_8+\frac{1}{2}\right)\,\hat{\mathbf{y}}-cz_8\,\hat{\mathbf{z}}$	(16k)	Ca IV
$\mathbf{B_{71}}$	=	$\left(y_8+\frac{1}{2}\right)\,\mathbf{a}_1 - x_8\,\mathbf{a}_2 - z_8\,\mathbf{a}_3$	=	$a\left(y_8+\frac{1}{2}\right)\,\hat{\mathbf{x}} - ax_8\,\hat{\mathbf{y}} - cz_8\,\hat{\mathbf{z}}$	(16k)	Ca IV
$\mathbf{B_{72}}$	=	$-y_8\,\mathbf{a}_1 + \left(x_8+\frac{1}{2}\right)\,\mathbf{a}_2 - z_8\,\mathbf{a}_3$	=	$-ay_8\,\hat{\mathbf{x}} + a\left(x_8+\frac{1}{2}\right)\,\hat{\mathbf{y}} - cz_8\,\hat{\mathbf{z}}$	(16k)	Ca IV
$\mathbf{B_{73}}$	=	$\left(x_8+\frac{1}{2}\right)\,\mathbf{a}_1-y_8\,\mathbf{a}_2+\left(z_8+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$a\left(x_8+\frac{1}{2}\right)\,\hat{\mathbf{x}} - ay_8\,\hat{\mathbf{y}} + c\left(z_8+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ca IV
$\mathbf{B_{74}}$	=	$-x_8\,\mathbf{a}_1 + \left(y_8+\frac{1}{2}\right)\,\mathbf{a}_2 + \left(z_8+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-ax_8\,\hat{\mathbf{x}} + a\left(y_8+\frac{1}{2}\right)\,\hat{\mathbf{y}} + c\left(z_8+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ca IV
$\mathbf{B_{75}}$	=	$-y_8\,\mathbf{a}_1 - x_8\,\mathbf{a}_2 + \left(z_8+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-ay_8\,\hat{\mathbf{x}} - ax_8\,\hat{\mathbf{y}} + c\left(z_8+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ca IV
$\mathbf{B_{76}}$	=	$\left(y_8+\frac{1}{2}\right)\,\mathbf{a}_1 + \left(x_8+\frac{1}{2}\right)\,\mathbf{a}_2 + \left(z_8+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$a\left(y_8+\frac{1}{2}\right)\,\hat{\mathbf{x}} + a\left(x_8+\frac{1}{2}\right)\,\hat{\mathbf{y}} + c\left(z_8+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	Ca IV
$\mathbf{B_{77}}$	=	$x_9\,\mathbf{a}_1 + y_9\,\mathbf{a}_2 + z_9\,\mathbf{a}_3$	=	$ax_9\,\hat{\mathbf{x}} + ay_9\,\hat{\mathbf{y}} + cz_9\,\hat{\mathbf{z}}$	(16k)	O II
$\mathbf{B_{78}}$	=	$-\left(x_9-\frac{1}{2}\right)\,\mathbf{a}_1 - \left(y_9-\frac{1}{2}\right)\,\mathbf{a}_2 + z_9\,\mathbf{a}_3$	=	$-a\left(x_9-\frac{1}{2}\right)\,\hat{\mathbf{x}} - a\left(y_9-\frac{1}{2}\right)\,\hat{\mathbf{y}} + cz_9\,\hat{\mathbf{z}}$	(16k)	O II
$\mathbf{B_{79}}$	=	$-\left(y_9-\frac{1}{2}\right)\,\mathbf{a}_1 + x_9\,\mathbf{a}_2 + z_9\,\mathbf{a}_3$	=	$-a\left(y_9-\frac{1}{2}\right)\,\hat{\mathbf{x}} + ax_9\,\hat{\mathbf{y}} + cz_9\,\hat{\mathbf{z}}$	(16k)	O II
$\mathbf{B_{80}}$	=	$y_9\,\mathbf{a}_1 - \left(x_9-\frac{1}{2}\right)\,\mathbf{a}_2 + z_9\,\mathbf{a}_3$	=	$ay_9\,\hat{\mathbf{x}} - a\left(x_9-\frac{1}{2}\right)\,\hat{\mathbf{y}} + cz_9\,\hat{\mathbf{z}}$	(16k)	O II
$\mathbf{B_{81}}$	=	$-\left(x_9-\frac{1}{2}\right)\,\mathbf{a}_1 + y_9\,\mathbf{a}_2 - \left(z_9-\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(x_9-\frac{1}{2}\right)\,\hat{\mathbf{x}} + ay_9\,\hat{\mathbf{y}} - c\left(z_9-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	O II
$\mathbf{B_{82}}$	=	$x_9\,\mathbf{a}_1-\left(y_9-\frac{1}{2}\right)\,\mathbf{a}_2-\left(z_9-\frac{1}{2}\right)\,\mathbf{a}_3$	=	$ax_9\,\hat{\mathbf{x}} - a\left(y_9-\frac{1}{2}\right)\,\hat{\mathbf{y}} - c\left(z_9-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	O II
$\mathbf{B_{83}}$	=	$y_9\,\mathbf{a}_1 + x_9\,\mathbf{a}_2 - \left(z_9-\frac{1}{2}\right)\,\mathbf{a}_3$	=	$ay_9\,\hat{\mathbf{x}} + ax_9\,\hat{\mathbf{y}} - c\left(z_9-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	O II
$\mathbf{B_{84}}$	=	$-\left(y_9-\frac{1}{2}\right)\,\mathbf{a}_1 - \left(x_9-\frac{1}{2}\right)\,\mathbf{a}_2 - \left(z_9-\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(y_9-\frac{1}{2}\right)\,\hat{\mathbf{x}}-a\left(x_9-\frac{1}{2}\right)\,\hat{\mathbf{y}}-c\left(z_9-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(16k)	O II
$\mathbf{B_{85}}$	=	$-x_9\,\mathbf{a}_1 - y_9\,\mathbf{a}_2 - z_9\,\mathbf{a}_3$	=	$-ax_9\,\hat{\mathbf{x}} - ay_9\,\hat{\mathbf{y}} - cz_9\,\hat{\mathbf{z}}$	(16k)	O II
$\mathbf{B_{86}}$	=	$\left(x_9+\frac{1}{2}\right)\,\mathbf{a}_1+\left(y_9+\frac{1}{2}\right)\,\mathbf{a}_2-z_9\,\mathbf{a}_3$	=	$a\left(x_9+\frac{1}{2}\right)\,\hat{\mathbf{x}}+a\left(y_9+\frac{1}{2}\right)\,\hat{\mathbf{y}}-cz_9\,\hat{\mathbf{z}}$	(16k)	O II

$$
\begin{array}{lcccccc}
\mathbf{B_{87}} & = & \left(y_9+\frac{1}{2}\right)\mathbf{a}_1 - x_9\,\mathbf{a}_2 - z_9\,\mathbf{a}_3 & = & a\left(y_9+\frac{1}{2}\right)\hat{\mathbf{x}} - ax_9\,\hat{\mathbf{y}} - cz_9\,\hat{\mathbf{z}} & (16k) & \text{O II} \\
\mathbf{B_{88}} & = & -y_9\,\mathbf{a}_1 + \left(x_9+\frac{1}{2}\right)\mathbf{a}_2 - z_9\,\mathbf{a}_3 & = & -ay_9\,\hat{\mathbf{x}} + a\left(x_9+\frac{1}{2}\right)\hat{\mathbf{y}} - cz_9\,\hat{\mathbf{z}} & (16k) & \text{O II} \\
\mathbf{B_{89}} & = & \left(x_9+\frac{1}{2}\right)\mathbf{a}_1 - y_9\,\mathbf{a}_2 + \left(z_9+\frac{1}{2}\right)\mathbf{a}_3 & = & a\left(x_9+\frac{1}{2}\right)\hat{\mathbf{x}} - ay_9\,\hat{\mathbf{y}} + c\left(z_9+\frac{1}{2}\right)\hat{\mathbf{z}} & (16k) & \text{O II} \\
\mathbf{B_{90}} & = & -x_9\,\mathbf{a}_1 + \left(y_9+\frac{1}{2}\right)\mathbf{a}_2 + \left(z_9+\frac{1}{2}\right)\mathbf{a}_3 & = & -ax_9\,\hat{\mathbf{x}} + a\left(y_9+\frac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_9+\frac{1}{2}\right)\hat{\mathbf{z}} & (16k) & \text{O II} \\
\mathbf{B_{91}} & = & -y_9\,\mathbf{a}_1 - x_9\,\mathbf{a}_2 + \left(z_9+\frac{1}{2}\right)\mathbf{a}_3 & = & -ay_9\,\hat{\mathbf{x}} - ax_9\,\hat{\mathbf{y}} + c\left(z_9+\frac{1}{2}\right)\hat{\mathbf{z}} & (16k) & \text{O II} \\
\mathbf{B_{92}} & = & \left(y_9+\frac{1}{2}\right)\mathbf{a}_1 + \left(x_9+\frac{1}{2}\right)\mathbf{a}_2 + \left(z_9+\frac{1}{2}\right)\mathbf{a}_3 & = & a\left(y_9+\frac{1}{2}\right)\hat{\mathbf{x}} + a\left(x_9+\frac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_9+\frac{1}{2}\right)\hat{\mathbf{z}} & (16k) & \text{O II} \\
\mathbf{B_{93}} & = & x_{10}\,\mathbf{a}_1 + y_{10}\,\mathbf{a}_2 + z_{10}\,\mathbf{a}_3 & = & ax_{10}\,\hat{\mathbf{x}} + ay_{10}\,\hat{\mathbf{y}} + cz_{10}\,\hat{\mathbf{z}} & (16k) & \text{O III} \\
\mathbf{B_{94}} & = & -\left(x_{10}-\frac{1}{2}\right)\mathbf{a}_1 - \left(y_{10}-\frac{1}{2}\right)\mathbf{a}_2 + z_{10}\,\mathbf{a}_3 & = & -a\left(x_{10}-\frac{1}{2}\right)\hat{\mathbf{x}} - a\left(y_{10}-\frac{1}{2}\right)\hat{\mathbf{y}} + cz_{10}\,\hat{\mathbf{z}} & (16k) & \text{O III} \\
\mathbf{B_{95}} & = & -\left(y_{10}-\frac{1}{2}\right)\mathbf{a}_1 + x_{10}\,\mathbf{a}_2 + z_{10}\,\mathbf{a}_3 & = & -a\left(y_{10}-\frac{1}{2}\right)\hat{\mathbf{x}} + ax_{10}\,\hat{\mathbf{y}} + cz_{10}\,\hat{\mathbf{z}} & (16k) & \text{O III} \\
\mathbf{B_{96}} & = & y_{10}\,\mathbf{a}_1 - \left(x_{10}-\frac{1}{2}\right)\mathbf{a}_2 + z_{10}\,\mathbf{a}_3 & = & ay_{10}\,\hat{\mathbf{x}} - a\left(x_{10}-\frac{1}{2}\right)\hat{\mathbf{y}} + cz_{10}\,\hat{\mathbf{z}} & (16k) & \text{O III} \\
\mathbf{B_{97}} & = & -\left(x_{10}-\frac{1}{2}\right)\mathbf{a}_1 + y_{10}\,\mathbf{a}_2 - \left(z_{10}-\frac{1}{2}\right)\mathbf{a}_3 & = & -a\left(x_{10}-\frac{1}{2}\right)\hat{\mathbf{x}} + ay_{10}\,\hat{\mathbf{y}} - c\left(z_{10}-\frac{1}{2}\right)\hat{\mathbf{z}} & (16k) & \text{O III} \\
\mathbf{B_{98}} & = & x_{10}\,\mathbf{a}_1 - \left(y_{10}-\frac{1}{2}\right)\mathbf{a}_2 - \left(z_{10}-\frac{1}{2}\right)\mathbf{a}_3 & = & ax_{10}\,\hat{\mathbf{x}} - a\left(y_{10}-\frac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_{10}-\frac{1}{2}\right)\hat{\mathbf{z}} & (16k) & \text{O III} \\
\mathbf{B_{99}} & = & y_{10}\,\mathbf{a}_1 + x_{10}\,\mathbf{a}_2 - \left(z_{10}-\frac{1}{2}\right)\mathbf{a}_3 & = & ay_{10}\,\hat{\mathbf{x}} + ax_{10}\,\hat{\mathbf{y}} - c\left(z_{10}-\frac{1}{2}\right)\hat{\mathbf{z}} & (16k) & \text{O III} \\
\mathbf{B_{100}} & = & -\left(y_{10}-\frac{1}{2}\right)\mathbf{a}_1 - \left(x_{10}-\frac{1}{2}\right)\mathbf{a}_2 - \left(z_{10}-\frac{1}{2}\right)\mathbf{a}_3 & = & -a\left(y_{10}-\frac{1}{2}\right)\hat{\mathbf{x}} - a\left(x_{10}-\frac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_{10}-\frac{1}{2}\right)\hat{\mathbf{z}} & (16k) & \text{O III} \\
\mathbf{B_{101}} & = & -x_{10}\,\mathbf{a}_1 - y_{10}\,\mathbf{a}_2 - z_{10}\,\mathbf{a}_3 & = & -ax_{10}\,\hat{\mathbf{x}} - ay_{10}\,\hat{\mathbf{y}} - cz_{10}\,\hat{\mathbf{z}} & (16k) & \text{O III} \\
\mathbf{B_{102}} & = & \left(x_{10}+\frac{1}{2}\right)\mathbf{a}_1 + \left(y_{10}+\frac{1}{2}\right)\mathbf{a}_2 - z_{10}\,\mathbf{a}_3 & = & a\left(x_{10}+\frac{1}{2}\right)\hat{\mathbf{x}} + a\left(y_{10}+\frac{1}{2}\right)\hat{\mathbf{y}} - cz_{10}\,\hat{\mathbf{z}} & (16k) & \text{O III} \\
\mathbf{B_{103}} & = & \left(y_{10}+\frac{1}{2}\right)\mathbf{a}_1 - x_{10}\,\mathbf{a}_2 - z_{10}\,\mathbf{a}_3 & = & a\left(y_{10}+\frac{1}{2}\right)\hat{\mathbf{x}} - ax_{10}\,\hat{\mathbf{y}} - cz_{10}\,\hat{\mathbf{z}} & (16k) & \text{O III} \\
\mathbf{B_{104}} & = & -y_{10}\,\mathbf{a}_1 + \left(x_{10}+\frac{1}{2}\right)\mathbf{a}_2 - z_{10}\,\mathbf{a}_3 & = & -ay_{10}\,\hat{\mathbf{x}} + a\left(x_{10}+\frac{1}{2}\right)\hat{\mathbf{y}} - cz_{10}\,\hat{\mathbf{z}} & (16k) & \text{O III} \\
\mathbf{B_{105}} & = & \left(x_{10}+\frac{1}{2}\right)\mathbf{a}_1 - y_{10}\,\mathbf{a}_2 + \left(z_{10}+\frac{1}{2}\right)\mathbf{a}_3 & = & a\left(x_{10}+\frac{1}{2}\right)\hat{\mathbf{x}} - ay_{10}\,\hat{\mathbf{y}} + c\left(z_{10}+\frac{1}{2}\right)\hat{\mathbf{z}} & (16k) & \text{O III} \\
\mathbf{B_{106}} & = & -x_{10}\,\mathbf{a}_1 + \left(y_{10}+\frac{1}{2}\right)\mathbf{a}_2 + \left(z_{10}+\frac{1}{2}\right)\mathbf{a}_3 & = & -ax_{10}\,\hat{\mathbf{x}} + a\left(y_{10}+\frac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_{10}+\frac{1}{2}\right)\hat{\mathbf{z}} & (16k) & \text{O III} \\
\mathbf{B_{107}} & = & -y_{10}\,\mathbf{a}_1 - x_{10}\,\mathbf{a}_2 + \left(z_{10}+\frac{1}{2}\right)\mathbf{a}_3 & = & -ay_{10}\,\hat{\mathbf{x}} - ax_{10}\,\hat{\mathbf{y}} + c\left(z_{10}+\frac{1}{2}\right)\hat{\mathbf{z}} & (16k) & \text{O III} \\
\mathbf{B_{108}} & = & \left(y_{10}+\frac{1}{2}\right)\mathbf{a}_1 + \left(x_{10}+\frac{1}{2}\right)\mathbf{a}_2 + \left(z_{10}+\frac{1}{2}\right)\mathbf{a}_3 & = & a\left(y_{10}+\frac{1}{2}\right)\hat{\mathbf{x}} + a\left(x_{10}+\frac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_{10}+\frac{1}{2}\right)\hat{\mathbf{z}} & (16k) & \text{O III} \\
\mathbf{B_{109}} & = & x_{11}\,\mathbf{a}_1 + y_{11}\,\mathbf{a}_2 + z_{11}\,\mathbf{a}_3 & = & ax_{11}\,\hat{\mathbf{x}} + ay_{11}\,\hat{\mathbf{y}} + cz_{11}\,\hat{\mathbf{z}} & (16k) & \text{O IV} \\
\mathbf{B_{110}} & = & -\left(x_{11}-\frac{1}{2}\right)\mathbf{a}_1 - \left(y_{11}-\frac{1}{2}\right)\mathbf{a}_2 + z_{11}\,\mathbf{a}_3 & = & -a\left(x_{11}-\frac{1}{2}\right)\hat{\mathbf{x}} - a\left(y_{11}-\frac{1}{2}\right)\hat{\mathbf{y}} + cz_{11}\,\hat{\mathbf{z}} & (16k) & \text{O IV} \\
\mathbf{B_{111}} & = & -\left(y_{11}-\frac{1}{2}\right)\mathbf{a}_1 + x_{11}\,\mathbf{a}_2 + z_{11}\,\mathbf{a}_3 & = & -a\left(y_{11}-\frac{1}{2}\right)\hat{\mathbf{x}} + ax_{11}\,\hat{\mathbf{y}} + cz_{11}\,\hat{\mathbf{z}} & (16k) & \text{O IV} \\
\mathbf{B_{112}} & = & y_{11}\,\mathbf{a}_1 - \left(x_{11}-\frac{1}{2}\right)\mathbf{a}_2 + z_{11}\,\mathbf{a}_3 & = & ay_{11}\,\hat{\mathbf{x}} - a\left(x_{11}-\frac{1}{2}\right)\hat{\mathbf{y}} + cz_{11}\,\hat{\mathbf{z}} & (16k) & \text{O IV} \\
\mathbf{B_{113}} & = & -\left(x_{11}-\frac{1}{2}\right)\mathbf{a}_1 + y_{11}\,\mathbf{a}_2 - \left(z_{11}-\frac{1}{2}\right)\mathbf{a}_3 & = & -a\left(x_{11}-\frac{1}{2}\right)\hat{\mathbf{x}} + ay_{11}\,\hat{\mathbf{y}} - c\left(z_{11}-\frac{1}{2}\right)\hat{\mathbf{z}} & (16k) & \text{O IV} \\
\mathbf{B_{114}} & = & x_{11}\,\mathbf{a}_1 - \left(y_{11}-\frac{1}{2}\right)\mathbf{a}_2 - \left(z_{11}-\frac{1}{2}\right)\mathbf{a}_3 & = & ax_{11}\,\hat{\mathbf{x}} - a\left(y_{11}-\frac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_{11}-\frac{1}{2}\right)\hat{\mathbf{z}} & (16k) & \text{O IV} \\
\mathbf{B_{115}} & = & y_{11}\,\mathbf{a}_1 + x_{11}\,\mathbf{a}_2 - \left(z_{11}-\frac{1}{2}\right)\mathbf{a}_3 & = & ay_{11}\,\hat{\mathbf{x}} + ax_{11}\,\hat{\mathbf{y}} - c\left(z_{11}-\frac{1}{2}\right)\hat{\mathbf{z}} & (16k) & \text{O IV} \\
\mathbf{B_{116}} & = & -\left(y_{11}-\frac{1}{2}\right)\mathbf{a}_1 - \left(x_{11}-\frac{1}{2}\right)\mathbf{a}_2 - \left(z_{11}-\frac{1}{2}\right)\mathbf{a}_3 & = & -a\left(y_{11}-\frac{1}{2}\right)\hat{\mathbf{x}} - a\left(x_{11}-\frac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_{11}-\frac{1}{2}\right)\hat{\mathbf{z}} & (16k) & \text{O IV} \\
\mathbf{B_{117}} & = & -x_{11}\,\mathbf{a}_1 - y_{11}\,\mathbf{a}_2 - z_{11}\,\mathbf{a}_3 & = & -ax_{11}\,\hat{\mathbf{x}} - ay_{11}\,\hat{\mathbf{y}} - cz_{11}\,\hat{\mathbf{z}} & (16k) & \text{O IV}
\end{array}
$$

$$\mathbf{B_{118}} = \left(x_{11}+\tfrac{1}{2}\right)\mathbf{a}_1+\left(y_{11}+\tfrac{1}{2}\right)\mathbf{a}_2-z_{11}\,\mathbf{a}_3 = a\left(x_{11}+\tfrac{1}{2}\right)\hat{\mathbf{x}}+a\left(y_{11}+\tfrac{1}{2}\right)\hat{\mathbf{y}}-cz_{11}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O IV}$$

$$\mathbf{B_{119}} = \left(y_{11}+\tfrac{1}{2}\right)\mathbf{a}_1-x_{11}\,\mathbf{a}_2-z_{11}\,\mathbf{a}_3 = a\left(y_{11}+\tfrac{1}{2}\right)\hat{\mathbf{x}}-ax_{11}\,\hat{\mathbf{y}}-cz_{11}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O IV}$$

$$\mathbf{B_{120}} = -y_{11}\,\mathbf{a}_1+\left(x_{11}+\tfrac{1}{2}\right)\mathbf{a}_2-z_{11}\,\mathbf{a}_3 = -ay_{11}\,\hat{\mathbf{x}}+a\left(x_{11}+\tfrac{1}{2}\right)\hat{\mathbf{y}}-cz_{11}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O IV}$$

$$\mathbf{B_{121}} = \left(x_{11}+\tfrac{1}{2}\right)\mathbf{a}_1-y_{11}\,\mathbf{a}_2+\left(z_{11}+\tfrac{1}{2}\right)\mathbf{a}_3 = a\left(x_{11}+\tfrac{1}{2}\right)\hat{\mathbf{x}}-ay_{11}\,\hat{\mathbf{y}}+c\left(z_{11}+\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O IV}$$

$$\mathbf{B_{122}} = -x_{11}\,\mathbf{a}_1+\left(y_{11}+\tfrac{1}{2}\right)\mathbf{a}_2+\left(z_{11}+\tfrac{1}{2}\right)\mathbf{a}_3 = -ax_{11}\,\hat{\mathbf{x}}+a\left(y_{11}+\tfrac{1}{2}\right)\hat{\mathbf{y}}+c\left(z_{11}+\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O IV}$$

$$\mathbf{B_{123}} = -y_{11}\,\mathbf{a}_1-x_{11}\,\mathbf{a}_2+\left(z_{11}+\tfrac{1}{2}\right)\mathbf{a}_3 = -ay_{11}\,\hat{\mathbf{x}}-ax_{11}\,\hat{\mathbf{y}}+c\left(z_{11}+\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O IV}$$

$$\mathbf{B_{124}} = \left(y_{11}+\tfrac{1}{2}\right)\mathbf{a}_1+\left(x_{11}+\tfrac{1}{2}\right)\mathbf{a}_2+\left(z_{11}+\tfrac{1}{2}\right)\mathbf{a}_3 = a\left(y_{11}+\tfrac{1}{2}\right)\hat{\mathbf{x}}+a\left(x_{11}+\tfrac{1}{2}\right)\hat{\mathbf{y}}+c\left(z_{11}+\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O IV}$$

$$\mathbf{B_{125}} = x_{12}\,\mathbf{a}_1+y_{12}\,\mathbf{a}_2+z_{12}\,\mathbf{a}_3 = ax_{12}\,\hat{\mathbf{x}}+ay_{12}\,\hat{\mathbf{y}}+cz_{12}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O V}$$

$$\mathbf{B_{126}} = -\left(x_{12}-\tfrac{1}{2}\right)\mathbf{a}_1-\left(y_{12}-\tfrac{1}{2}\right)\mathbf{a}_2+z_{12}\,\mathbf{a}_3 = -a\left(x_{12}-\tfrac{1}{2}\right)\hat{\mathbf{x}}-a\left(y_{12}-\tfrac{1}{2}\right)\hat{\mathbf{y}}+cz_{12}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O V}$$

$$\mathbf{B_{127}} = -\left(y_{12}-\tfrac{1}{2}\right)\mathbf{a}_1+x_{12}\,\mathbf{a}_2+z_{12}\,\mathbf{a}_3 = -a\left(y_{12}-\tfrac{1}{2}\right)\hat{\mathbf{x}}+ax_{12}\,\hat{\mathbf{y}}+cz_{12}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O V}$$

$$\mathbf{B_{128}} = y_{12}\,\mathbf{a}_1-\left(x_{12}-\tfrac{1}{2}\right)\mathbf{a}_2+z_{12}\,\mathbf{a}_3 = ay_{12}\,\hat{\mathbf{x}}-a\left(x_{12}-\tfrac{1}{2}\right)\hat{\mathbf{y}}+cz_{12}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O V}$$

$$\mathbf{B_{129}} = -\left(x_{12}-\tfrac{1}{2}\right)\mathbf{a}_1+y_{12}\,\mathbf{a}_2-\left(z_{12}-\tfrac{1}{2}\right)\mathbf{a}_3 = -a\left(x_{12}-\tfrac{1}{2}\right)\hat{\mathbf{x}}+ay_{12}\,\hat{\mathbf{y}}-c\left(z_{12}-\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O V}$$

$$\mathbf{B_{130}} = x_{12}\,\mathbf{a}_1-\left(y_{12}-\tfrac{1}{2}\right)\mathbf{a}_2-\left(z_{12}-\tfrac{1}{2}\right)\mathbf{a}_3 = ax_{12}\,\hat{\mathbf{x}}-a\left(y_{12}-\tfrac{1}{2}\right)\hat{\mathbf{y}}-c\left(z_{12}-\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O V}$$

$$\mathbf{B_{131}} = y_{12}\,\mathbf{a}_1+x_{12}\,\mathbf{a}_2-\left(z_{12}-\tfrac{1}{2}\right)\mathbf{a}_3 = ay_{12}\,\hat{\mathbf{x}}+ax_{12}\,\hat{\mathbf{y}}-c\left(z_{12}-\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O V}$$

$$\mathbf{B_{132}} = -\left(y_{12}-\tfrac{1}{2}\right)\mathbf{a}_1-\left(x_{12}-\tfrac{1}{2}\right)\mathbf{a}_2-\left(z_{12}-\tfrac{1}{2}\right)\mathbf{a}_3 = -a\left(y_{12}-\tfrac{1}{2}\right)\hat{\mathbf{x}}-a\left(x_{12}-\tfrac{1}{2}\right)\hat{\mathbf{y}}-c\left(z_{12}-\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O V}$$

$$\mathbf{B_{133}} = -x_{12}\,\mathbf{a}_1-y_{12}\,\mathbf{a}_2-z_{12}\,\mathbf{a}_3 = -ax_{12}\,\hat{\mathbf{x}}-ay_{12}\,\hat{\mathbf{y}}-cz_{12}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O V}$$

$$\mathbf{B_{134}} = \left(x_{12}+\tfrac{1}{2}\right)\mathbf{a}_1+\left(y_{12}+\tfrac{1}{2}\right)\mathbf{a}_2-z_{12}\,\mathbf{a}_3 = a\left(x_{12}+\tfrac{1}{2}\right)\hat{\mathbf{x}}+a\left(y_{12}+\tfrac{1}{2}\right)\hat{\mathbf{y}}-cz_{12}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O V}$$

$$\mathbf{B_{135}} = \left(y_{12}+\tfrac{1}{2}\right)\mathbf{a}_1-x_{12}\,\mathbf{a}_2-z_{12}\,\mathbf{a}_3 = a\left(y_{12}+\tfrac{1}{2}\right)\hat{\mathbf{x}}-ax_{12}\,\hat{\mathbf{y}}-cz_{12}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O V}$$

$$\mathbf{B_{136}} = -y_{12}\,\mathbf{a}_1+\left(x_{12}+\tfrac{1}{2}\right)\mathbf{a}_2-z_{12}\,\mathbf{a}_3 = -ay_{12}\,\hat{\mathbf{x}}+a\left(x_{12}+\tfrac{1}{2}\right)\hat{\mathbf{y}}-cz_{12}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O V}$$

$$\mathbf{B_{137}} = \left(x_{12}+\tfrac{1}{2}\right)\mathbf{a}_1-y_{12}\,\mathbf{a}_2+\left(z_{12}+\tfrac{1}{2}\right)\mathbf{a}_3 = a\left(x_{12}+\tfrac{1}{2}\right)\hat{\mathbf{x}}-ay_{12}\,\hat{\mathbf{y}}+c\left(z_{12}+\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O V}$$

$$\mathbf{B_{138}} = -x_{12}\,\mathbf{a}_1+\left(y_{12}+\tfrac{1}{2}\right)\mathbf{a}_2+\left(z_{12}+\tfrac{1}{2}\right)\mathbf{a}_3 = -ax_{12}\,\hat{\mathbf{x}}+a\left(y_{12}+\tfrac{1}{2}\right)\hat{\mathbf{y}}+c\left(z_{12}+\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O V}$$

$$\mathbf{B_{139}} = -y_{12}\,\mathbf{a}_1-x_{12}\,\mathbf{a}_2+\left(z_{12}+\tfrac{1}{2}\right)\mathbf{a}_3 = -ay_{12}\,\hat{\mathbf{x}}-ax_{12}\,\hat{\mathbf{y}}+c\left(z_{12}+\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O V}$$

$$\mathbf{B_{140}} = \left(y_{12}+\tfrac{1}{2}\right)\mathbf{a}_1+\left(x_{12}+\tfrac{1}{2}\right)\mathbf{a}_2+\left(z_{12}+\tfrac{1}{2}\right)\mathbf{a}_3 = a\left(y_{12}+\tfrac{1}{2}\right)\hat{\mathbf{x}}+a\left(x_{12}+\tfrac{1}{2}\right)\hat{\mathbf{y}}+c\left(z_{12}+\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O V}$$

$$\mathbf{B_{141}} = x_{13}\,\mathbf{a}_1+y_{13}\,\mathbf{a}_2+z_{13}\,\mathbf{a}_3 = ax_{13}\,\hat{\mathbf{x}}+ay_{13}\,\hat{\mathbf{y}}+cz_{13}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O VI}$$

$$\mathbf{B_{142}} = -\left(x_{13}-\tfrac{1}{2}\right)\mathbf{a}_1-\left(y_{13}-\tfrac{1}{2}\right)\mathbf{a}_2+z_{13}\,\mathbf{a}_3 = -a\left(x_{13}-\tfrac{1}{2}\right)\hat{\mathbf{x}}-a\left(y_{13}-\tfrac{1}{2}\right)\hat{\mathbf{y}}+cz_{13}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O VI}$$

$$\mathbf{B_{143}} = -\left(y_{13}-\tfrac{1}{2}\right)\mathbf{a}_1+x_{13}\,\mathbf{a}_2+z_{13}\,\mathbf{a}_3 = -a\left(y_{13}-\tfrac{1}{2}\right)\hat{\mathbf{x}}+ax_{13}\,\hat{\mathbf{y}}+cz_{13}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O VI}$$

$$\mathbf{B_{144}} = y_{13}\,\mathbf{a}_1-\left(x_{13}-\tfrac{1}{2}\right)\mathbf{a}_2+z_{13}\,\mathbf{a}_3 = ay_{13}\,\hat{\mathbf{x}}-a\left(x_{13}-\tfrac{1}{2}\right)\hat{\mathbf{y}}+cz_{13}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O VI}$$

$$\mathbf{B_{145}} = -\left(x_{13}-\tfrac{1}{2}\right)\mathbf{a}_1+y_{13}\,\mathbf{a}_2-\left(z_{13}-\tfrac{1}{2}\right)\mathbf{a}_3 = -a\left(x_{13}-\tfrac{1}{2}\right)\hat{\mathbf{x}}+ay_{13}\,\hat{\mathbf{y}}-c\left(z_{13}-\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O VI}$$

$$\mathbf{B_{146}} = x_{13}\,\mathbf{a}_1-\left(y_{13}-\tfrac{1}{2}\right)\mathbf{a}_2-\left(z_{13}-\tfrac{1}{2}\right)\mathbf{a}_3 = ax_{13}\,\hat{\mathbf{x}}-a\left(y_{13}-\tfrac{1}{2}\right)\hat{\mathbf{y}}-c\left(z_{13}-\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O VI}$$

$$\mathbf{B_{147}} = y_{13}\,\mathbf{a}_1+x_{13}\,\mathbf{a}_2-\left(z_{13}-\tfrac{1}{2}\right)\mathbf{a}_3 = ay_{13}\,\hat{\mathbf{x}}+ax_{13}\,\hat{\mathbf{y}}-c\left(z_{13}-\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O VI}$$

$$\mathbf{B_{148}} = -\left(y_{13}-\tfrac{1}{2}\right)\mathbf{a}_1-\left(x_{13}-\tfrac{1}{2}\right)\mathbf{a}_2-\left(z_{13}-\tfrac{1}{2}\right)\mathbf{a}_3 = -a\left(y_{13}-\tfrac{1}{2}\right)\hat{\mathbf{x}}-a\left(x_{13}-\tfrac{1}{2}\right)\hat{\mathbf{y}}-c\left(z_{13}-\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O VI}$$

$$\mathbf{B_{149}} = -x_{13}\mathbf{a}_1-y_{13}\mathbf{a}_2-z_{13}\mathbf{a}_3 = -ax_{13}\hat{\mathbf{x}}-ay_{13}\hat{\mathbf{y}}-cz_{13}\hat{\mathbf{z}} \quad (16k) \quad \text{O VI}$$

$$\mathbf{B_{150}} = \left(x_{13}+\tfrac{1}{2}\right)\mathbf{a}_1+\left(y_{13}+\tfrac{1}{2}\right)\mathbf{a}_2-z_{13}\mathbf{a}_3 = a\left(x_{13}+\tfrac{1}{2}\right)\hat{\mathbf{x}}+a\left(y_{13}+\tfrac{1}{2}\right)\hat{\mathbf{y}}-cz_{13}\hat{\mathbf{z}} \quad (16k) \quad \text{O VI}$$

$$\mathbf{B_{151}} = \left(y_{13}+\tfrac{1}{2}\right)\mathbf{a}_1-x_{13}\mathbf{a}_2-z_{13}\mathbf{a}_3 = a\left(y_{13}+\tfrac{1}{2}\right)\hat{\mathbf{x}}-ax_{13}\hat{\mathbf{y}}-cz_{13}\hat{\mathbf{z}} \quad (16k) \quad \text{O VI}$$

$$\mathbf{B_{152}} = -y_{13}\mathbf{a}_1+\left(x_{13}+\tfrac{1}{2}\right)\mathbf{a}_2-z_{13}\mathbf{a}_3 = -ay_{13}\hat{\mathbf{x}}+a\left(x_{13}+\tfrac{1}{2}\right)\hat{\mathbf{y}}-cz_{13}\hat{\mathbf{z}} \quad (16k) \quad \text{O VI}$$

$$\mathbf{B_{153}} = \left(x_{13}+\tfrac{1}{2}\right)\mathbf{a}_1-y_{13}\mathbf{a}_2+\left(z_{13}+\tfrac{1}{2}\right)\mathbf{a}_3 = a\left(x_{13}+\tfrac{1}{2}\right)\hat{\mathbf{x}}-ay_{13}\hat{\mathbf{y}}+c\left(z_{13}+\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O VI}$$

$$\mathbf{B_{154}} = -x_{13}\mathbf{a}_1+\left(y_{13}+\tfrac{1}{2}\right)\mathbf{a}_2+\left(z_{13}+\tfrac{1}{2}\right)\mathbf{a}_3 = -ax_{13}\hat{\mathbf{x}}+a\left(y_{13}+\tfrac{1}{2}\right)\hat{\mathbf{y}}+c\left(z_{13}+\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O VI}$$

$$\mathbf{B_{155}} = -y_{13}\mathbf{a}_1-x_{13}\mathbf{a}_2+\left(z_{13}+\tfrac{1}{2}\right)\mathbf{a}_3 = -ay_{13}\hat{\mathbf{x}}-ax_{13}\hat{\mathbf{y}}+c\left(z_{13}+\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O VI}$$

$$\mathbf{B_{156}} = \left(y_{13}+\tfrac{1}{2}\right)\mathbf{a}_1+\left(x_{13}+\tfrac{1}{2}\right)\mathbf{a}_2+\left(z_{13}+\tfrac{1}{2}\right)\mathbf{a}_3 = a\left(y_{13}+\tfrac{1}{2}\right)\hat{\mathbf{x}}+a\left(x_{13}+\tfrac{1}{2}\right)\hat{\mathbf{y}}+c\left(z_{13}+\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O VI}$$

$$\mathbf{B_{157}} = x_{14}\mathbf{a}_1+y_{14}\mathbf{a}_2+z_{14}\mathbf{a}_3 = ax_{14}\hat{\mathbf{x}}+ay_{14}\hat{\mathbf{y}}+cz_{14}\hat{\mathbf{z}} \quad (16k) \quad \text{O VII}$$

$$\mathbf{B_{158}} = -\left(x_{14}-\tfrac{1}{2}\right)\mathbf{a}_1-\left(y_{14}-\tfrac{1}{2}\right)\mathbf{a}_2+z_{14}\mathbf{a}_3 = -a\left(x_{14}-\tfrac{1}{2}\right)\hat{\mathbf{x}}-a\left(y_{14}-\tfrac{1}{2}\right)\hat{\mathbf{y}}+cz_{14}\hat{\mathbf{z}} \quad (16k) \quad \text{O VII}$$

$$\mathbf{B_{159}} = -\left(y_{14}-\tfrac{1}{2}\right)\mathbf{a}_1+x_{14}\mathbf{a}_2+z_{14}\mathbf{a}_3 = -a\left(y_{14}-\tfrac{1}{2}\right)\hat{\mathbf{x}}+ax_{14}\hat{\mathbf{y}}+cz_{14}\hat{\mathbf{z}} \quad (16k) \quad \text{O VII}$$

$$\mathbf{B_{160}} = y_{14}\mathbf{a}_1-\left(x_{14}-\tfrac{1}{2}\right)\mathbf{a}_2+z_{14}\mathbf{a}_3 = ay_{14}\hat{\mathbf{x}}-a\left(x_{14}-\tfrac{1}{2}\right)\hat{\mathbf{y}}+cz_{14}\hat{\mathbf{z}} \quad (16k) \quad \text{O VII}$$

$$\mathbf{B_{161}} = -\left(x_{14}-\tfrac{1}{2}\right)\mathbf{a}_1+y_{14}\mathbf{a}_2-\left(z_{14}-\tfrac{1}{2}\right)\mathbf{a}_3 = -a\left(x_{14}-\tfrac{1}{2}\right)\hat{\mathbf{x}}+ay_{14}\hat{\mathbf{y}}-c\left(z_{14}-\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O VII}$$

$$\mathbf{B_{162}} = x_{14}\mathbf{a}_1-\left(y_{14}-\tfrac{1}{2}\right)\mathbf{a}_2-\left(z_{14}-\tfrac{1}{2}\right)\mathbf{a}_3 = ax_{14}\hat{\mathbf{x}}-a\left(y_{14}-\tfrac{1}{2}\right)\hat{\mathbf{y}}-c\left(z_{14}-\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O VII}$$

$$\mathbf{B_{163}} = y_{14}\mathbf{a}_1+x_{14}\mathbf{a}_2-\left(z_{14}-\tfrac{1}{2}\right)\mathbf{a}_3 = ay_{14}\hat{\mathbf{x}}+ax_{14}\hat{\mathbf{y}}-c\left(z_{14}-\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O VII}$$

$$\mathbf{B_{164}} = -\left(y_{14}-\tfrac{1}{2}\right)\mathbf{a}_1-\left(x_{14}-\tfrac{1}{2}\right)\mathbf{a}_2-\left(z_{14}-\tfrac{1}{2}\right)\mathbf{a}_3 = -a\left(y_{14}-\tfrac{1}{2}\right)\hat{\mathbf{x}}-a\left(x_{14}-\tfrac{1}{2}\right)\hat{\mathbf{y}}-c\left(z_{14}-\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O VII}$$

$$\mathbf{B_{165}} = -x_{14}\mathbf{a}_1-y_{14}\mathbf{a}_2-z_{14}\mathbf{a}_3 = -ax_{14}\hat{\mathbf{x}}-ay_{14}\hat{\mathbf{y}}-cz_{14}\hat{\mathbf{z}} \quad (16k) \quad \text{O VII}$$

$$\mathbf{B_{166}} = \left(x_{14}+\tfrac{1}{2}\right)\mathbf{a}_1+\left(y_{14}+\tfrac{1}{2}\right)\mathbf{a}_2-z_{14}\mathbf{a}_3 = a\left(x_{14}+\tfrac{1}{2}\right)\hat{\mathbf{x}}+a\left(y_{14}+\tfrac{1}{2}\right)\hat{\mathbf{y}}-cz_{14}\hat{\mathbf{z}} \quad (16k) \quad \text{O VII}$$

$$\mathbf{B_{167}} = \left(y_{14}+\tfrac{1}{2}\right)\mathbf{a}_1-x_{14}\mathbf{a}_2-z_{14}\mathbf{a}_3 = a\left(y_{14}+\tfrac{1}{2}\right)\hat{\mathbf{x}}-ax_{14}\hat{\mathbf{y}}-cz_{14}\hat{\mathbf{z}} \quad (16k) \quad \text{O VII}$$

$$\mathbf{B_{168}} = -y_{14}\mathbf{a}_1+\left(x_{14}+\tfrac{1}{2}\right)\mathbf{a}_2-z_{14}\mathbf{a}_3 = -ay_{14}\hat{\mathbf{x}}+a\left(x_{14}+\tfrac{1}{2}\right)\hat{\mathbf{y}}-cz_{14}\hat{\mathbf{z}} \quad (16k) \quad \text{O VII}$$

$$\mathbf{B_{169}} = \left(x_{14}+\tfrac{1}{2}\right)\mathbf{a}_1-y_{14}\mathbf{a}_2+\left(z_{14}+\tfrac{1}{2}\right)\mathbf{a}_3 = a\left(x_{14}+\tfrac{1}{2}\right)\hat{\mathbf{x}}-ay_{14}\hat{\mathbf{y}}+c\left(z_{14}+\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O VII}$$

$$\mathbf{B_{170}} = -x_{14}\mathbf{a}_1+\left(y_{14}+\tfrac{1}{2}\right)\mathbf{a}_2+\left(z_{14}+\tfrac{1}{2}\right)\mathbf{a}_3 = -ax_{14}\hat{\mathbf{x}}+a\left(y_{14}+\tfrac{1}{2}\right)\hat{\mathbf{y}}+c\left(z_{14}+\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O VII}$$

$$\mathbf{B_{171}} = -y_{14}\mathbf{a}_1-x_{14}\mathbf{a}_2+\left(z_{14}+\tfrac{1}{2}\right)\mathbf{a}_3 = -ay_{14}\hat{\mathbf{x}}-ax_{14}\hat{\mathbf{y}}+c\left(z_{14}+\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O VII}$$

$$\mathbf{B_{172}} = \left(y_{14}+\tfrac{1}{2}\right)\mathbf{a}_1+\left(x_{14}+\tfrac{1}{2}\right)\mathbf{a}_2+\left(z_{14}+\tfrac{1}{2}\right)\mathbf{a}_3 = a\left(y_{14}+\tfrac{1}{2}\right)\hat{\mathbf{x}}+a\left(x_{14}+\tfrac{1}{2}\right)\hat{\mathbf{y}}+c\left(z_{14}+\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O VII}$$

$$\mathbf{B_{173}} = x_{15}\mathbf{a}_1+y_{15}\mathbf{a}_2+z_{15}\mathbf{a}_3 = ax_{15}\hat{\mathbf{x}}+ay_{15}\hat{\mathbf{y}}+cz_{15}\hat{\mathbf{z}} \quad (16k) \quad \text{O VIII}$$

$$\mathbf{B_{174}} = -\left(x_{15}-\tfrac{1}{2}\right)\mathbf{a}_1-\left(y_{15}-\tfrac{1}{2}\right)\mathbf{a}_2+z_{15}\mathbf{a}_3 = -a\left(x_{15}-\tfrac{1}{2}\right)\hat{\mathbf{x}}-a\left(y_{15}-\tfrac{1}{2}\right)\hat{\mathbf{y}}+cz_{15}\hat{\mathbf{z}} \quad (16k) \quad \text{O VIII}$$

$$\mathbf{B_{175}} = -\left(y_{15}-\tfrac{1}{2}\right)\mathbf{a}_1+x_{15}\mathbf{a}_2+z_{15}\mathbf{a}_3 = -a\left(y_{15}-\tfrac{1}{2}\right)\hat{\mathbf{x}}+ax_{15}\hat{\mathbf{y}}+cz_{15}\hat{\mathbf{z}} \quad (16k) \quad \text{O VIII}$$

$$\mathbf{B_{176}} = y_{15}\mathbf{a}_1-\left(x_{15}-\tfrac{1}{2}\right)\mathbf{a}_2+z_{15}\mathbf{a}_3 = ay_{15}\hat{\mathbf{x}}-a\left(x_{15}-\tfrac{1}{2}\right)\hat{\mathbf{y}}+cz_{15}\hat{\mathbf{z}} \quad (16k) \quad \text{O VIII}$$

$$\mathbf{B_{177}} = -\left(x_{15}-\tfrac{1}{2}\right)\mathbf{a}_1+y_{15}\mathbf{a}_2-\left(z_{15}-\tfrac{1}{2}\right)\mathbf{a}_3 = -a\left(x_{15}-\tfrac{1}{2}\right)\hat{\mathbf{x}}+ay_{15}\hat{\mathbf{y}}-c\left(z_{15}-\tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16k) \quad \text{O VIII}$$

$$\mathbf{B_{178}} = x_{15}\,\mathbf{a}_1 - \left(y_{15}-\tfrac{1}{2}\right)\,\mathbf{a}_2 - \left(z_{15}-\tfrac{1}{2}\right)\,\mathbf{a}_3 = a x_{15}\,\hat{\mathbf{x}} - a\left(y_{15}-\tfrac{1}{2}\right)\,\hat{\mathbf{y}} - c\left(z_{15}-\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (16k) \quad \text{O VIII}$$

$$\mathbf{B_{179}} = y_{15}\,\mathbf{a}_1 + x_{15}\,\mathbf{a}_2 - \left(z_{15}-\tfrac{1}{2}\right)\,\mathbf{a}_3 = a y_{15}\,\hat{\mathbf{x}} + a x_{15}\,\hat{\mathbf{y}} - c\left(z_{15}-\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (16k) \quad \text{O VIII}$$

$$\mathbf{B_{180}} = -\left(y_{15}-\tfrac{1}{2}\right)\,\mathbf{a}_1 - \left(x_{15}-\tfrac{1}{2}\right)\,\mathbf{a}_2 - \left(z_{15}-\tfrac{1}{2}\right)\,\mathbf{a}_3 = -a\left(y_{15}-\tfrac{1}{2}\right)\,\hat{\mathbf{x}} - a\left(x_{15}-\tfrac{1}{2}\right)\,\hat{\mathbf{y}} - c\left(z_{15}-\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (16k) \quad \text{O VIII}$$

$$\mathbf{B_{181}} = -x_{15}\,\mathbf{a}_1 - y_{15}\,\mathbf{a}_2 - z_{15}\,\mathbf{a}_3 = -a x_{15}\,\hat{\mathbf{x}} - a y_{15}\,\hat{\mathbf{y}} - c z_{15}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O VIII}$$

$$\mathbf{B_{182}} = \left(x_{15}+\tfrac{1}{2}\right)\,\mathbf{a}_1 + \left(y_{15}+\tfrac{1}{2}\right)\,\mathbf{a}_2 - z_{15}\,\mathbf{a}_3 = a\left(x_{15}+\tfrac{1}{2}\right)\,\hat{\mathbf{x}} + a\left(y_{15}+\tfrac{1}{2}\right)\,\hat{\mathbf{y}} - c z_{15}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O VIII}$$

$$\mathbf{B_{183}} = \left(y_{15}+\tfrac{1}{2}\right)\,\mathbf{a}_1 - x_{15}\,\mathbf{a}_2 - z_{15}\,\mathbf{a}_3 = a\left(y_{15}+\tfrac{1}{2}\right)\,\hat{\mathbf{x}} - a x_{15}\,\hat{\mathbf{y}} - c z_{15}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O VIII}$$

$$\mathbf{B_{184}} = -y_{15}\,\mathbf{a}_1 + \left(x_{15}+\tfrac{1}{2}\right)\,\mathbf{a}_2 - z_{15}\,\mathbf{a}_3 = -a y_{15}\,\hat{\mathbf{x}} + a\left(x_{15}+\tfrac{1}{2}\right)\,\hat{\mathbf{y}} - c z_{15}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O VIII}$$

$$\mathbf{B_{185}} = \left(x_{15}+\tfrac{1}{2}\right)\,\mathbf{a}_1 - y_{15}\,\mathbf{a}_2 + \left(z_{15}+\tfrac{1}{2}\right)\,\mathbf{a}_3 = a\left(x_{15}+\tfrac{1}{2}\right)\,\hat{\mathbf{x}} - a y_{15}\,\hat{\mathbf{y}} + c\left(z_{15}+\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (16k) \quad \text{O VIII}$$

$$\mathbf{B_{186}} = -x_{15}\,\mathbf{a}_1 + \left(y_{15}+\tfrac{1}{2}\right)\,\mathbf{a}_2 + \left(z_{15}+\tfrac{1}{2}\right)\,\mathbf{a}_3 = -a x_{15}\,\hat{\mathbf{x}} + a\left(y_{15}+\tfrac{1}{2}\right)\,\hat{\mathbf{y}} + c\left(z_{15}+\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (16k) \quad \text{O VIII}$$

$$\mathbf{B_{187}} = -y_{15}\,\mathbf{a}_1 - x_{15}\,\mathbf{a}_2 + \left(z_{15}+\tfrac{1}{2}\right)\,\mathbf{a}_3 = -a y_{15}\,\hat{\mathbf{x}} - a x_{15}\,\hat{\mathbf{y}} + c\left(z_{15}+\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (16k) \quad \text{O VIII}$$

$$\mathbf{B_{188}} = \left(y_{15}+\tfrac{1}{2}\right)\,\mathbf{a}_1 + \left(x_{15}+\tfrac{1}{2}\right)\,\mathbf{a}_2 + \left(z_{15}+\tfrac{1}{2}\right)\,\mathbf{a}_3 = a\left(y_{15}+\tfrac{1}{2}\right)\,\hat{\mathbf{x}} + a\left(x_{15}+\tfrac{1}{2}\right)\,\hat{\mathbf{y}} + c\left(z_{15}+\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (16k) \quad \text{O VIII}$$

$$\mathbf{B_{189}} = x_{16}\,\mathbf{a}_1 + y_{16}\,\mathbf{a}_2 + z_{16}\,\mathbf{a}_3 = a x_{16}\,\hat{\mathbf{x}} + a y_{16}\,\hat{\mathbf{y}} + c z_{16}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O IX}$$

$$\mathbf{B_{190}} = -\left(x_{16}-\tfrac{1}{2}\right)\,\mathbf{a}_1 - \left(y_{16}-\tfrac{1}{2}\right)\,\mathbf{a}_2 + z_{16}\,\mathbf{a}_3 = -a\left(x_{16}-\tfrac{1}{2}\right)\,\hat{\mathbf{x}} - a\left(y_{16}-\tfrac{1}{2}\right)\,\hat{\mathbf{y}} + c z_{16}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O IX}$$

$$\mathbf{B_{191}} = -\left(y_{16}-\tfrac{1}{2}\right)\,\mathbf{a}_1 + x_{16}\,\mathbf{a}_2 + z_{16}\,\mathbf{a}_3 = -a\left(y_{16}-\tfrac{1}{2}\right)\,\hat{\mathbf{x}} + a x_{16}\,\hat{\mathbf{y}} + c z_{16}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O IX}$$

$$\mathbf{B_{192}} = y_{16}\,\mathbf{a}_1 - \left(x_{16}-\tfrac{1}{2}\right)\,\mathbf{a}_2 + z_{16}\,\mathbf{a}_3 = a y_{16}\,\hat{\mathbf{x}} - a\left(x_{16}-\tfrac{1}{2}\right)\,\hat{\mathbf{y}} + c z_{16}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O IX}$$

$$\mathbf{B_{193}} = -\left(x_{16}-\tfrac{1}{2}\right)\,\mathbf{a}_1 + y_{16}\,\mathbf{a}_2 - \left(z_{16}-\tfrac{1}{2}\right)\,\mathbf{a}_3 = -a\left(x_{16}-\tfrac{1}{2}\right)\,\hat{\mathbf{x}} + a y_{16}\,\hat{\mathbf{y}} - c\left(z_{16}-\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (16k) \quad \text{O IX}$$

$$\mathbf{B_{194}} = x_{16}\,\mathbf{a}_1 - \left(y_{16}-\tfrac{1}{2}\right)\,\mathbf{a}_2 - \left(z_{16}-\tfrac{1}{2}\right)\,\mathbf{a}_3 = a x_{16}\,\hat{\mathbf{x}} - a\left(y_{16}-\tfrac{1}{2}\right)\,\hat{\mathbf{y}} - c\left(z_{16}-\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (16k) \quad \text{O IX}$$

$$\mathbf{B_{195}} = y_{16}\,\mathbf{a}_1 + x_{16}\,\mathbf{a}_2 - \left(z_{16}-\tfrac{1}{2}\right)\,\mathbf{a}_3 = a y_{16}\,\hat{\mathbf{x}} + a x_{16}\,\hat{\mathbf{y}} - c\left(z_{16}-\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (16k) \quad \text{O IX}$$

$$\mathbf{B_{196}} = -\left(y_{16}-\tfrac{1}{2}\right)\,\mathbf{a}_1 - \left(x_{16}-\tfrac{1}{2}\right)\,\mathbf{a}_2 - \left(z_{16}-\tfrac{1}{2}\right)\,\mathbf{a}_3 = -a\left(y_{16}-\tfrac{1}{2}\right)\,\hat{\mathbf{x}} - a\left(x_{16}-\tfrac{1}{2}\right)\,\hat{\mathbf{y}} - c\left(z_{16}-\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (16k) \quad \text{O IX}$$

$$\mathbf{B_{197}} = -x_{16}\,\mathbf{a}_1 - y_{16}\,\mathbf{a}_2 - z_{16}\,\mathbf{a}_3 = -a x_{16}\,\hat{\mathbf{x}} - a y_{16}\,\hat{\mathbf{y}} - c z_{16}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O IX}$$

$$\mathbf{B_{198}} = \left(x_{16}+\tfrac{1}{2}\right)\,\mathbf{a}_1 + \left(y_{16}+\tfrac{1}{2}\right)\,\mathbf{a}_2 - z_{16}\,\mathbf{a}_3 = a\left(x_{16}+\tfrac{1}{2}\right)\,\hat{\mathbf{x}} + a\left(y_{16}+\tfrac{1}{2}\right)\,\hat{\mathbf{y}} - c z_{16}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O IX}$$

$$\mathbf{B_{199}} = \left(y_{16}+\tfrac{1}{2}\right)\,\mathbf{a}_1 - x_{16}\,\mathbf{a}_2 - z_{16}\,\mathbf{a}_3 = a\left(y_{16}+\tfrac{1}{2}\right)\,\hat{\mathbf{x}} - a x_{16}\,\hat{\mathbf{y}} - c z_{16}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O IX}$$

$$\mathbf{B_{200}} = -y_{16}\,\mathbf{a}_1 + \left(x_{16}+\tfrac{1}{2}\right)\,\mathbf{a}_2 - z_{16}\,\mathbf{a}_3 = -a y_{16}\,\hat{\mathbf{x}} + a\left(x_{16}+\tfrac{1}{2}\right)\,\hat{\mathbf{y}} - c z_{16}\,\hat{\mathbf{z}} \quad (16k) \quad \text{O IX}$$

$$\mathbf{B_{201}} = \left(x_{16}+\tfrac{1}{2}\right)\,\mathbf{a}_1 - y_{16}\,\mathbf{a}_2 + \left(z_{16}+\tfrac{1}{2}\right)\,\mathbf{a}_3 = a\left(x_{16}+\tfrac{1}{2}\right)\,\hat{\mathbf{x}} - a y_{16}\,\hat{\mathbf{y}} + c\left(z_{16}+\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (16k) \quad \text{O IX}$$

$$\mathbf{B_{202}} = -x_{16}\,\mathbf{a}_1 + \left(y_{16}+\tfrac{1}{2}\right)\,\mathbf{a}_2 + \left(z_{16}+\tfrac{1}{2}\right)\,\mathbf{a}_3 = -a x_{16}\,\hat{\mathbf{x}} + a\left(y_{16}+\tfrac{1}{2}\right)\,\hat{\mathbf{y}} + c\left(z_{16}+\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (16k) \quad \text{O IX}$$

$$\mathbf{B_{203}} = -y_{16}\,\mathbf{a}_1 - x_{16}\,\mathbf{a}_2 + \left(z_{16}+\tfrac{1}{2}\right)\,\mathbf{a}_3 = -a y_{16}\,\hat{\mathbf{x}} - a x_{16}\,\hat{\mathbf{y}} + c\left(z_{16}+\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (16k) \quad \text{O IX}$$

$$\mathbf{B_{204}} = \left(y_{16}+\tfrac{1}{2}\right)\,\mathbf{a}_1 + \left(x_{16}+\tfrac{1}{2}\right)\,\mathbf{a}_2 + \left(z_{16}+\tfrac{1}{2}\right)\,\mathbf{a}_3 = a\left(y_{16}+\tfrac{1}{2}\right)\,\hat{\mathbf{x}} + a\left(x_{16}+\tfrac{1}{2}\right)\,\hat{\mathbf{y}} + c\left(z_{16}+\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (16k) \quad \text{O IX}$$

$$\mathbf{B_{205}} = x_{17}\,\mathbf{a}_1 + y_{17}\,\mathbf{a}_2 + z_{17}\,\mathbf{a}_3 = a x_{17}\,\hat{\mathbf{x}} + a y_{17}\,\hat{\mathbf{y}} + c z_{17}\,\hat{\mathbf{z}} \quad (16k) \quad \text{OH I}$$

$$\mathbf{B_{206}} = -\left(x_{17}-\tfrac{1}{2}\right)\,\mathbf{a}_1 - \left(y_{17}-\tfrac{1}{2}\right)\,\mathbf{a}_2 + z_{17}\,\mathbf{a}_3 = -a\left(x_{17}-\tfrac{1}{2}\right)\,\hat{\mathbf{x}} - a\left(y_{17}-\tfrac{1}{2}\right)\,\hat{\mathbf{y}} + c z_{17}\,\hat{\mathbf{z}} \quad (16k) \quad \text{OH I}$$

$$\mathbf{B_{207}} = -\left(y_{17}-\tfrac{1}{2}\right)\,\mathbf{a}_1 + x_{17}\,\mathbf{a}_2 + z_{17}\,\mathbf{a}_3 = -a\left(y_{17}-\tfrac{1}{2}\right)\,\hat{\mathbf{x}} + a x_{17}\,\hat{\mathbf{y}} + c z_{17}\,\hat{\mathbf{z}} \quad (16k) \quad \text{OH I}$$

$$
\begin{array}{lcccll}
\mathbf{B_{208}} = & y_{17}\,\mathbf{a}_1 - \left(x_{17} - \frac{1}{2}\right)\,\mathbf{a}_2 + z_{17}\,\mathbf{a}_3 & = & a y_{17}\,\hat{\mathbf{x}} - a\left(x_{17} - \frac{1}{2}\right)\,\hat{\mathbf{y}} + c z_{17}\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{OH I} \\
\mathbf{B_{209}} = & -\left(x_{17} - \frac{1}{2}\right)\,\mathbf{a}_1 + y_{17}\,\mathbf{a}_2 - \left(z_{17} - \frac{1}{2}\right)\,\mathbf{a}_3 & = & -a\left(x_{17} - \frac{1}{2}\right)\,\hat{\mathbf{x}} + a y_{17}\,\hat{\mathbf{y}} - c\left(z_{17} - \frac{1}{2}\right)\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{OH I} \\
\mathbf{B_{210}} = & x_{17}\,\mathbf{a}_1 - \left(y_{17} - \frac{1}{2}\right)\,\mathbf{a}_2 - \left(z_{17} - \frac{1}{2}\right)\,\mathbf{a}_3 & = & a x_{17}\,\hat{\mathbf{x}} - a\left(y_{17} - \frac{1}{2}\right)\,\hat{\mathbf{y}} - c\left(z_{17} - \frac{1}{2}\right)\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{OH I} \\
\mathbf{B_{211}} = & y_{17}\,\mathbf{a}_1 + x_{17}\,\mathbf{a}_2 - \left(z_{17} - \frac{1}{2}\right)\,\mathbf{a}_3 & = & a y_{17}\,\hat{\mathbf{x}} + a x_{17}\,\hat{\mathbf{y}} - c\left(z_{17} - \frac{1}{2}\right)\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{OH I} \\
\mathbf{B_{212}} = & -\left(y_{17} - \frac{1}{2}\right)\,\mathbf{a}_1 - \left(x_{17} - \frac{1}{2}\right)\,\mathbf{a}_2 - \left(z_{17} - \frac{1}{2}\right)\,\mathbf{a}_3 & = & -a\left(y_{17} - \frac{1}{2}\right)\,\hat{\mathbf{x}} - a\left(x_{17} - \frac{1}{2}\right)\,\hat{\mathbf{y}} - c\left(z_{17} - \frac{1}{2}\right)\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{OH I} \\
\mathbf{B_{213}} = & -x_{17}\,\mathbf{a}_1 - y_{17}\,\mathbf{a}_2 - z_{17}\,\mathbf{a}_3 & = & -a x_{17}\,\hat{\mathbf{x}} - a y_{17}\,\hat{\mathbf{y}} - c z_{17}\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{OH I} \\
\mathbf{B_{214}} = & \left(x_{17} + \frac{1}{2}\right)\,\mathbf{a}_1 + \left(y_{17} + \frac{1}{2}\right)\,\mathbf{a}_2 - z_{17}\,\mathbf{a}_3 & = & a\left(x_{17} + \frac{1}{2}\right)\,\hat{\mathbf{x}} + a\left(y_{17} + \frac{1}{2}\right)\,\hat{\mathbf{y}} - c z_{17}\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{OH I} \\
\mathbf{B_{215}} = & \left(y_{17} + \frac{1}{2}\right)\,\mathbf{a}_1 - x_{17}\,\mathbf{a}_2 - z_{17}\,\mathbf{a}_3 & = & a\left(y_{17} + \frac{1}{2}\right)\,\hat{\mathbf{x}} - a x_{17}\,\hat{\mathbf{y}} - c z_{17}\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{OH I} \\
\mathbf{B_{216}} = & -y_{17}\,\mathbf{a}_1 + \left(x_{17} + \frac{1}{2}\right)\,\mathbf{a}_2 - z_{17}\,\mathbf{a}_3 & = & -a y_{17}\,\hat{\mathbf{x}} + a\left(x_{17} + \frac{1}{2}\right)\,\hat{\mathbf{y}} - c z_{17}\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{OH I} \\
\mathbf{B_{217}} = & \left(x_{17} + \frac{1}{2}\right)\,\mathbf{a}_1 - y_{17}\,\mathbf{a}_2 + \left(z_{17} + \frac{1}{2}\right)\,\mathbf{a}_3 & = & a\left(x_{17} + \frac{1}{2}\right)\,\hat{\mathbf{x}} - a y_{17}\,\hat{\mathbf{y}} + c\left(z_{17} + \frac{1}{2}\right)\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{OH I} \\
\mathbf{B_{218}} = & -x_{17}\,\mathbf{a}_1 + \left(y_{17} + \frac{1}{2}\right)\,\mathbf{a}_2 + \left(z_{17} + \frac{1}{2}\right)\,\mathbf{a}_3 & = & -a x_{17}\,\hat{\mathbf{x}} + a\left(y_{17} + \frac{1}{2}\right)\,\hat{\mathbf{y}} + c\left(z_{17} + \frac{1}{2}\right)\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{OH I} \\
\mathbf{B_{219}} = & -y_{17}\,\mathbf{a}_1 - x_{17}\,\mathbf{a}_2 + \left(z_{17} + \frac{1}{2}\right)\,\mathbf{a}_3 & = & -a y_{17}\,\hat{\mathbf{x}} - a x_{17}\,\hat{\mathbf{y}} + c\left(z_{17} + \frac{1}{2}\right)\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{OH I} \\
\mathbf{B_{220}} = & \left(y_{17} + \frac{1}{2}\right)\,\mathbf{a}_1 + \left(x_{17} + \frac{1}{2}\right)\,\mathbf{a}_2 + \left(z_{17} + \frac{1}{2}\right)\,\mathbf{a}_3 & = & a\left(y_{17} + \frac{1}{2}\right)\,\hat{\mathbf{x}} + a\left(x_{17} + \frac{1}{2}\right)\,\hat{\mathbf{y}} + c\left(z_{17} + \frac{1}{2}\right)\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{OH I} \\
\mathbf{B_{221}} = & x_{18}\,\mathbf{a}_1 + y_{18}\,\mathbf{a}_2 + z_{18}\,\mathbf{a}_3 & = & a x_{18}\,\hat{\mathbf{x}} + a y_{18}\,\hat{\mathbf{y}} + c z_{18}\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{Si II} \\
\mathbf{B_{222}} = & -\left(x_{18} - \frac{1}{2}\right)\,\mathbf{a}_1 - \left(y_{18} - \frac{1}{2}\right)\,\mathbf{a}_2 + z_{18}\,\mathbf{a}_3 & = & -a\left(x_{18} - \frac{1}{2}\right)\,\hat{\mathbf{x}} - a\left(y_{18} - \frac{1}{2}\right)\,\hat{\mathbf{y}} + c z_{18}\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{Si II} \\
\mathbf{B_{223}} = & -\left(y_{18} - \frac{1}{2}\right)\,\mathbf{a}_1 + x_{18}\,\mathbf{a}_2 + z_{18}\,\mathbf{a}_3 & = & -a\left(y_{18} - \frac{1}{2}\right)\,\hat{\mathbf{x}} + a x_{18}\,\hat{\mathbf{y}} + c z_{18}\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{Si II} \\
\mathbf{B_{224}} = & y_{18}\,\mathbf{a}_1 - \left(x_{18} - \frac{1}{2}\right)\,\mathbf{a}_2 + z_{18}\,\mathbf{a}_3 & = & a y_{18}\,\hat{\mathbf{x}} - a\left(x_{18} - \frac{1}{2}\right)\,\hat{\mathbf{y}} + c z_{18}\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{Si II} \\
\mathbf{B_{225}} = & -\left(x_{18} - \frac{1}{2}\right)\,\mathbf{a}_1 + y_{18}\,\mathbf{a}_2 - \left(z_{18} - \frac{1}{2}\right)\,\mathbf{a}_3 & = & -a\left(x_{18} - \frac{1}{2}\right)\,\hat{\mathbf{x}} + a y_{18}\,\hat{\mathbf{y}} - c\left(z_{18} - \frac{1}{2}\right)\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{Si II} \\
\mathbf{B_{226}} = & x_{18}\,\mathbf{a}_1 - \left(y_{18} - \frac{1}{2}\right)\,\mathbf{a}_2 - \left(z_{18} - \frac{1}{2}\right)\,\mathbf{a}_3 & = & a x_{18}\,\hat{\mathbf{x}} - a\left(y_{18} - \frac{1}{2}\right)\,\hat{\mathbf{y}} - c\left(z_{18} - \frac{1}{2}\right)\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{Si II} \\
\mathbf{B_{227}} = & y_{18}\,\mathbf{a}_1 + x_{18}\,\mathbf{a}_2 - \left(z_{18} - \frac{1}{2}\right)\,\mathbf{a}_3 & = & a y_{18}\,\hat{\mathbf{x}} + a x_{18}\,\hat{\mathbf{y}} - c\left(z_{18} - \frac{1}{2}\right)\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{Si II} \\
\mathbf{B_{228}} = & -\left(y_{18} - \frac{1}{2}\right)\,\mathbf{a}_1 - \left(x_{18} - \frac{1}{2}\right)\,\mathbf{a}_2 - \left(z_{18} - \frac{1}{2}\right)\,\mathbf{a}_3 & = & -a\left(y_{18} - \frac{1}{2}\right)\,\hat{\mathbf{x}} - a\left(x_{18} - \frac{1}{2}\right)\,\hat{\mathbf{y}} - c\left(z_{18} - \frac{1}{2}\right)\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{Si II} \\
\mathbf{B_{229}} = & -x_{18}\,\mathbf{a}_1 - y_{18}\,\mathbf{a}_2 - z_{18}\,\mathbf{a}_3 & = & -a x_{18}\,\hat{\mathbf{x}} - a y_{18}\,\hat{\mathbf{y}} - c z_{18}\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{Si II} \\
\mathbf{B_{230}} = & \left(x_{18} + \frac{1}{2}\right)\,\mathbf{a}_1 + \left(y_{18} + \frac{1}{2}\right)\,\mathbf{a}_2 - z_{18}\,\mathbf{a}_3 & = & a\left(x_{18} + \frac{1}{2}\right)\,\hat{\mathbf{x}} + a\left(y_{18} + \frac{1}{2}\right)\,\hat{\mathbf{y}} - c z_{18}\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{Si II} \\
\mathbf{B_{231}} = & \left(y_{18} + \frac{1}{2}\right)\,\mathbf{a}_1 - x_{18}\,\mathbf{a}_2 - z_{18}\,\mathbf{a}_3 & = & a\left(y_{18} + \frac{1}{2}\right)\,\hat{\mathbf{x}} - a x_{18}\,\hat{\mathbf{y}} - c z_{18}\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{Si II} \\
\mathbf{B_{232}} = & -y_{18}\,\mathbf{a}_1 + \left(x_{18} + \frac{1}{2}\right)\,\mathbf{a}_2 - z_{18}\,\mathbf{a}_3 & = & -a y_{18}\,\hat{\mathbf{x}} + a\left(x_{18} + \frac{1}{2}\right)\,\hat{\mathbf{y}} - c z_{18}\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{Si II} \\
\mathbf{B_{233}} = & \left(x_{18} + \frac{1}{2}\right)\,\mathbf{a}_1 - y_{18}\,\mathbf{a}_2 + \left(z_{18} + \frac{1}{2}\right)\,\mathbf{a}_3 & = & a\left(x_{18} + \frac{1}{2}\right)\,\hat{\mathbf{x}} - a y_{18}\,\hat{\mathbf{y}} + c\left(z_{18} + \frac{1}{2}\right)\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{Si II} \\
\mathbf{B_{234}} = & -x_{18}\,\mathbf{a}_1 + \left(y_{18} + \frac{1}{2}\right)\,\mathbf{a}_2 + \left(z_{18} + \frac{1}{2}\right)\,\mathbf{a}_3 & = & -a x_{18}\,\hat{\mathbf{x}} + a\left(y_{18} + \frac{1}{2}\right)\,\hat{\mathbf{y}} + c\left(z_{18} + \frac{1}{2}\right)\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{Si II} \\
\mathbf{B_{235}} = & -y_{18}\,\mathbf{a}_1 - x_{18}\,\mathbf{a}_2 + \left(z_{18} + \frac{1}{2}\right)\,\mathbf{a}_3 & = & -a y_{18}\,\hat{\mathbf{x}} - a x_{18}\,\hat{\mathbf{y}} + c\left(z_{18} + \frac{1}{2}\right)\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{Si II} \\
\mathbf{B_{236}} = & \left(y_{18} + \frac{1}{2}\right)\,\mathbf{a}_1 + \left(x_{18} + \frac{1}{2}\right)\,\mathbf{a}_2 + \left(z_{18} + \frac{1}{2}\right)\,\mathbf{a}_3 & = & a\left(y_{18} + \frac{1}{2}\right)\,\hat{\mathbf{x}} + a\left(x_{18} + \frac{1}{2}\right)\,\hat{\mathbf{y}} + c\left(z_{18} + \frac{1}{2}\right)\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{Si II} \\
\mathbf{B_{237}} = & x_{19}\,\mathbf{a}_1 + y_{19}\,\mathbf{a}_2 + z_{19}\,\mathbf{a}_3 & = & a x_{19}\,\hat{\mathbf{x}} + a y_{19}\,\hat{\mathbf{y}} + c z_{19}\,\hat{\mathbf{z}} & (16\mathrm{k}) & \text{Si III}
\end{array}
$$

$\mathbf{B_{238}} = -\left(x_{19} - \frac{1}{2}\right)\mathbf{a}_1 - \left(y_{19} - \frac{1}{2}\right)\mathbf{a}_2 + z_{19}\,\mathbf{a}_3 = -a\left(x_{19} - \frac{1}{2}\right)\hat{\mathbf{x}} - a\left(y_{19} - \frac{1}{2}\right)\hat{\mathbf{y}} + cz_{19}\,\hat{\mathbf{z}}$ (16k) Si III

$\mathbf{B_{239}} = -\left(y_{19} - \frac{1}{2}\right)\mathbf{a}_1 + x_{19}\,\mathbf{a}_2 + z_{19}\,\mathbf{a}_3 = -a\left(y_{19} - \frac{1}{2}\right)\hat{\mathbf{x}} + ax_{19}\,\hat{\mathbf{y}} + cz_{19}\,\hat{\mathbf{z}}$ (16k) Si III

$\mathbf{B_{240}} = y_{19}\,\mathbf{a}_1 - \left(x_{19} - \frac{1}{2}\right)\mathbf{a}_2 + z_{19}\,\mathbf{a}_3 = ay_{19}\,\hat{\mathbf{x}} - a\left(x_{19} - \frac{1}{2}\right)\hat{\mathbf{y}} + cz_{19}\,\hat{\mathbf{z}}$ (16k) Si III

$\mathbf{B_{241}} = -\left(x_{19} - \frac{1}{2}\right)\mathbf{a}_1 + y_{19}\,\mathbf{a}_2 - \left(z_{19} - \frac{1}{2}\right)\mathbf{a}_3 = -a\left(x_{19} - \frac{1}{2}\right)\hat{\mathbf{x}} + ay_{19}\,\hat{\mathbf{y}} - c\left(z_{19} - \frac{1}{2}\right)\hat{\mathbf{z}}$ (16k) Si III

$\mathbf{B_{242}} = x_{19}\,\mathbf{a}_1 - \left(y_{19} - \frac{1}{2}\right)\mathbf{a}_2 - \left(z_{19} - \frac{1}{2}\right)\mathbf{a}_3 = ax_{19}\,\hat{\mathbf{x}} - a\left(y_{19} - \frac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_{19} - \frac{1}{2}\right)\hat{\mathbf{z}}$ (16k) Si III

$\mathbf{B_{243}} = y_{19}\,\mathbf{a}_1 + x_{19}\,\mathbf{a}_2 - \left(z_{19} - \frac{1}{2}\right)\mathbf{a}_3 = ay_{19}\,\hat{\mathbf{x}} + ax_{19}\,\hat{\mathbf{y}} - c\left(z_{19} - \frac{1}{2}\right)\hat{\mathbf{z}}$ (16k) Si III

$\mathbf{B_{244}} = -\left(y_{19} - \frac{1}{2}\right)\mathbf{a}_1 - \left(x_{19} - \frac{1}{2}\right)\mathbf{a}_2 - \left(z_{19} - \frac{1}{2}\right)\mathbf{a}_3 = -a\left(y_{19} - \frac{1}{2}\right)\hat{\mathbf{x}} - a\left(x_{19} - \frac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_{19} - \frac{1}{2}\right)\hat{\mathbf{z}}$ (16k) Si III

$\mathbf{B_{245}} = -x_{19}\,\mathbf{a}_1 - y_{19}\,\mathbf{a}_2 - z_{19}\,\mathbf{a}_3 = -ax_{19}\,\hat{\mathbf{x}} - ay_{19}\,\hat{\mathbf{y}} - cz_{19}\,\hat{\mathbf{z}}$ (16k) Si III

$\mathbf{B_{246}} = \left(x_{19} + \frac{1}{2}\right)\mathbf{a}_1 + \left(y_{19} + \frac{1}{2}\right)\mathbf{a}_2 - z_{19}\,\mathbf{a}_3 = a\left(x_{19} + \frac{1}{2}\right)\hat{\mathbf{x}} + a\left(y_{19} + \frac{1}{2}\right)\hat{\mathbf{y}} - cz_{19}\,\hat{\mathbf{z}}$ (16k) Si III

$\mathbf{B_{247}} = \left(y_{19} + \frac{1}{2}\right)\mathbf{a}_1 - x_{19}\,\mathbf{a}_2 - z_{19}\,\mathbf{a}_3 = a\left(y_{19} + \frac{1}{2}\right)\hat{\mathbf{x}} - ax_{19}\,\hat{\mathbf{y}} - cz_{19}\,\hat{\mathbf{z}}$ (16k) Si III

$\mathbf{B_{248}} = -y_{19}\,\mathbf{a}_1 + \left(x_{19} + \frac{1}{2}\right)\mathbf{a}_2 - z_{19}\,\mathbf{a}_3 = -ay_{19}\,\hat{\mathbf{x}} + a\left(x_{19} + \frac{1}{2}\right)\hat{\mathbf{y}} - cz_{19}\,\hat{\mathbf{z}}$ (16k) Si III

$\mathbf{B_{249}} = \left(x_{19} + \frac{1}{2}\right)\mathbf{a}_1 - y_{19}\,\mathbf{a}_2 + \left(z_{19} + \frac{1}{2}\right)\mathbf{a}_3 = a\left(x_{19} + \frac{1}{2}\right)\hat{\mathbf{x}} - ay_{19}\,\hat{\mathbf{y}} + c\left(z_{19} + \frac{1}{2}\right)\hat{\mathbf{z}}$ (16k) Si III

$\mathbf{B_{250}} = -x_{19}\,\mathbf{a}_1 + \left(y_{19} + \frac{1}{2}\right)\mathbf{a}_2 + \left(z_{19} + \frac{1}{2}\right)\mathbf{a}_3 = -ax_{19}\,\hat{\mathbf{x}} + a\left(y_{19} + \frac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_{19} + \frac{1}{2}\right)\hat{\mathbf{z}}$ (16k) Si III

$\mathbf{B_{251}} = -y_{19}\,\mathbf{a}_1 - x_{19}\,\mathbf{a}_2 + \left(z_{19} + \frac{1}{2}\right)\mathbf{a}_3 = -ay_{19}\,\hat{\mathbf{x}} - ax_{19}\,\hat{\mathbf{y}} + c\left(z_{19} + \frac{1}{2}\right)\hat{\mathbf{z}}$ (16k) Si III

$\mathbf{B_{252}} = \left(y_{19} + \frac{1}{2}\right)\mathbf{a}_1 + \left(x_{19} + \frac{1}{2}\right)\mathbf{a}_2 + \left(z_{19} + \frac{1}{2}\right)\mathbf{a}_3 = a\left(y_{19} + \frac{1}{2}\right)\hat{\mathbf{x}} + a\left(x_{19} + \frac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_{19} + \frac{1}{2}\right)\hat{\mathbf{z}}$ (16k) Si III

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