Vesuvianite (Ca$_{10}$Al$_4$(Mg,Fe)$_2$Si$_9$O$_{34}$(OH)$_4$, $S2_3$) Structure: A4B10C2D34E4F9_tP252_126_k_ce2k_f_h8k_k_d2k-001

This structure originally had the label `A4B10C2D34E4F9_tP252_126_k_ce2k_f_h8k_k_d2k`. Calls to that address will be redirected here.

https://aflow.org/p/QSJ3

https://aflow.org/p/A4B10C2D34E4F9_tP252_126_k_ce2k_f_h8k_k_d2k-001
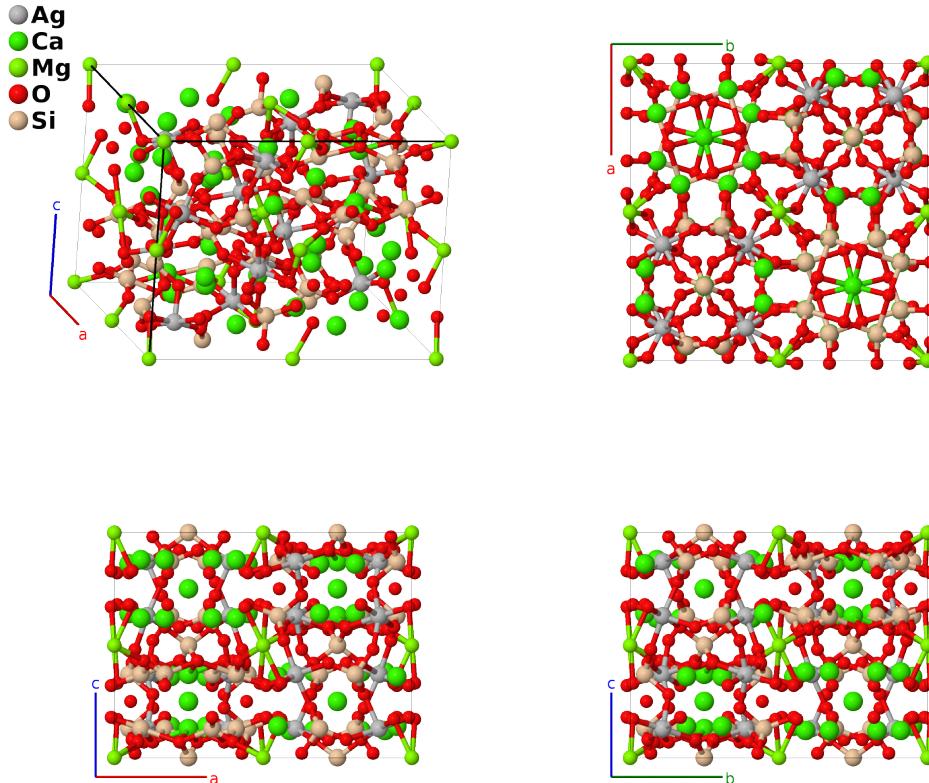
|	
Prototype	Ag$_4$Ca$_{10}$Mg$_2$O$_{34}$(OH)$_4$Si$_9$
AFLOW prototype label	A4B10C2D34E4F9_tP252_126_k_ce2k_f_h8k_k_d2k-001
***Strukturbericht* designation**	$S2_3$
Mineral name	vesuvianite
ICSD	36198
Pearson symbol	tP252
Space group number	126
Space group symbol	$P4/nnc$
AFLOW prototype command	aflow --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

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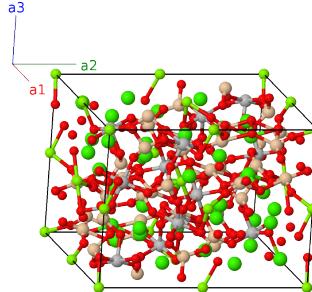
Basis vectors

		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

$$\mathbf{B_{23}} = -\left(x_5 - \tfrac{1}{2}\right)\mathbf{a_1} + x_5\,\mathbf{a_2} + \tfrac{1}{4}\mathbf{a_3} = -a\left(x_5 - \tfrac{1}{2}\right)\mathbf{\hat{x}} + ax_5\,\mathbf{\hat{y}} + \tfrac{1}{4}c\,\mathbf{\hat{z}} \quad (8h) \quad \text{O I}$$

$$\mathbf{B_{24}} = x_5\,\mathbf{a_1} - \left(x_5 - \tfrac{1}{2}\right)\mathbf{a_2} + \tfrac{1}{4}\mathbf{a_3} = ax_5\,\mathbf{\hat{x}} - a\left(x_5 - \tfrac{1}{2}\right)\mathbf{\hat{y}} + \tfrac{1}{4}c\,\mathbf{\hat{z}} \quad (8h) \quad \text{O I}$$

$$\mathbf{B_{25}} = -x_5\,\mathbf{a_1} - x_5\,\mathbf{a_2} + \tfrac{3}{4}\mathbf{a_3} = -ax_5\,\mathbf{\hat{x}} - ax_5\,\mathbf{\hat{y}} + \tfrac{3}{4}c\,\mathbf{\hat{z}} \quad (8h) \quad \text{O I}$$

$$\mathbf{B_{26}} = \left(x_5 + \tfrac{1}{2}\right)\mathbf{a_1} + \left(x_5 + \tfrac{1}{2}\right)\mathbf{a_2} + \tfrac{3}{4}\mathbf{a_3} = a\left(x_5 + \tfrac{1}{2}\right)\mathbf{\hat{x}} + a\left(x_5 + \tfrac{1}{2}\right)\mathbf{\hat{y}} + \tfrac{3}{4}c\,\mathbf{\hat{z}} \quad (8h) \quad \text{O I}$$

$$\mathbf{B_{27}} = \left(x_5 + \tfrac{1}{2}\right)\mathbf{a_1} - x_5\,\mathbf{a_2} + \tfrac{3}{4}\mathbf{a_3} = a\left(x_5 + \tfrac{1}{2}\right)\mathbf{\hat{x}} - ax_5\,\mathbf{\hat{y}} + \tfrac{3}{4}c\,\mathbf{\hat{z}} \quad (8h) \quad \text{O I}$$

$$\mathbf{B_{28}} = -x_5\,\mathbf{a_1} + \left(x_5 + \tfrac{1}{2}\right)\mathbf{a_2} + \tfrac{3}{4}\mathbf{a_3} = -ax_5\,\mathbf{\hat{x}} + a\left(x_5 + \tfrac{1}{2}\right)\mathbf{\hat{y}} + \tfrac{3}{4}c\,\mathbf{\hat{z}} \quad (8h) \quad \text{O I}$$

$$\mathbf{B_{29}} = x_6\,\mathbf{a_1} + y_6\,\mathbf{a_2} + z_6\,\mathbf{a_3} = ax_6\,\mathbf{\hat{x}} + ay_6\,\mathbf{\hat{y}} + cz_6\,\mathbf{\hat{z}} \quad (16k) \quad \text{Ag I}$$

$$\mathbf{B_{30}} = -\left(x_6 - \tfrac{1}{2}\right)\mathbf{a_1} - \left(y_6 - \tfrac{1}{2}\right)\mathbf{a_2} + z_6\,\mathbf{a_3} = -a\left(x_6 - \tfrac{1}{2}\right)\mathbf{\hat{x}} - a\left(y_6 - \tfrac{1}{2}\right)\mathbf{\hat{y}} + cz_6\,\mathbf{\hat{z}} \quad (16k) \quad \text{Ag I}$$

$$\mathbf{B_{31}} = -\left(y_6 - \tfrac{1}{2}\right)\mathbf{a_1} + x_6\,\mathbf{a_2} + z_6\,\mathbf{a_3} = -a\left(y_6 - \tfrac{1}{2}\right)\mathbf{\hat{x}} + ax_6\,\mathbf{\hat{y}} + cz_6\,\mathbf{\hat{z}} \quad (16k) \quad \text{Ag I}$$

$$\mathbf{B_{32}} = y_6\,\mathbf{a_1} - \left(x_6 - \tfrac{1}{2}\right)\mathbf{a_2} + z_6\,\mathbf{a_3} = ay_6\,\mathbf{\hat{x}} - a\left(x_6 - \tfrac{1}{2}\right)\mathbf{\hat{y}} + cz_6\,\mathbf{\hat{z}} \quad (16k) \quad \text{Ag I}$$

$$\mathbf{B_{33}} = -\left(x_6 - \tfrac{1}{2}\right)\mathbf{a_1} + y_6\,\mathbf{a_2} - \left(z_6 - \tfrac{1}{2}\right)\mathbf{a_3} = -a\left(x_6 - \tfrac{1}{2}\right)\mathbf{\hat{x}} + ay_6\,\mathbf{\hat{y}} - c\left(z_6 - \tfrac{1}{2}\right)\mathbf{\hat{z}} \quad (16k) \quad \text{Ag I}$$

$$\mathbf{B_{34}} = x_6\,\mathbf{a_1} - \left(y_6 - \tfrac{1}{2}\right)\mathbf{a_2} - \left(z_6 - \tfrac{1}{2}\right)\mathbf{a_3} = ax_6\,\mathbf{\hat{x}} - a\left(y_6 - \tfrac{1}{2}\right)\mathbf{\hat{y}} - c\left(z_6 - \tfrac{1}{2}\right)\mathbf{\hat{z}} \quad (16k) \quad \text{Ag I}$$

$$\mathbf{B_{35}} = y_6\,\mathbf{a_1} + x_6\,\mathbf{a_2} - \left(z_6 - \tfrac{1}{2}\right)\mathbf{a_3} = ay_6\,\mathbf{\hat{x}} + ax_6\,\mathbf{\hat{y}} - c\left(z_6 - \tfrac{1}{2}\right)\mathbf{\hat{z}} \quad (16k) \quad \text{Ag I}$$

$$\mathbf{B_{36}} = -\left(y_6 - \tfrac{1}{2}\right)\mathbf{a_1} - \left(x_6 - \tfrac{1}{2}\right)\mathbf{a_2} - \left(z_6 - \tfrac{1}{2}\right)\mathbf{a_3} = -a\left(y_6 - \tfrac{1}{2}\right)\mathbf{\hat{x}} - a\left(x_6 - \tfrac{1}{2}\right)\mathbf{\hat{y}} - c\left(z_6 - \tfrac{1}{2}\right)\mathbf{\hat{z}} \quad (16k) \quad \text{Ag I}$$

$$\mathbf{B_{37}} = -x_6\,\mathbf{a_1} - y_6\,\mathbf{a_2} - z_6\,\mathbf{a_3} = -ax_6\,\mathbf{\hat{x}} - ay_6\,\mathbf{\hat{y}} - cz_6\,\mathbf{\hat{z}} \quad (16k) \quad \text{Ag I}$$

$$\mathbf{B_{38}} = \left(x_6 + \tfrac{1}{2}\right)\mathbf{a_1} + \left(y_6 + \tfrac{1}{2}\right)\mathbf{a_2} - z_6\,\mathbf{a_3} = a\left(x_6 + \tfrac{1}{2}\right)\mathbf{\hat{x}} + a\left(y_6 + \tfrac{1}{2}\right)\mathbf{\hat{y}} - cz_6\,\mathbf{\hat{z}} \quad (16k) \quad \text{Ag I}$$

$$\mathbf{B_{39}} = \left(y_6 + \tfrac{1}{2}\right)\mathbf{a_1} - x_6\,\mathbf{a_2} - z_6\,\mathbf{a_3} = a\left(y_6 + \tfrac{1}{2}\right)\mathbf{\hat{x}} - ax_6\,\mathbf{\hat{y}} - cz_6\,\mathbf{\hat{z}} \quad (16k) \quad \text{Ag I}$$

$$\mathbf{B_{40}} = -y_6\,\mathbf{a_1} + \left(x_6 + \tfrac{1}{2}\right)\mathbf{a_2} - z_6\,\mathbf{a_3} = -ay_6\,\mathbf{\hat{x}} + a\left(x_6 + \tfrac{1}{2}\right)\mathbf{\hat{y}} - cz_6\,\mathbf{\hat{z}} \quad (16k) \quad \text{Ag I}$$

$$\mathbf{B_{41}} = \left(x_6 + \tfrac{1}{2}\right)\mathbf{a_1} - y_6\,\mathbf{a_2} + \left(z_6 + \tfrac{1}{2}\right)\mathbf{a_3} = a\left(x_6 + \tfrac{1}{2}\right)\mathbf{\hat{x}} - ay_6\,\mathbf{\hat{y}} + c\left(z_6 + \tfrac{1}{2}\right)\mathbf{\hat{z}} \quad (16k) \quad \text{Ag I}$$

$$\mathbf{B_{42}} = -x_6\,\mathbf{a_1} + \left(y_6 + \tfrac{1}{2}\right)\mathbf{a_2} + \left(z_6 + \tfrac{1}{2}\right)\mathbf{a_3} = -ax_6\,\mathbf{\hat{x}} + a\left(y_6 + \tfrac{1}{2}\right)\mathbf{\hat{y}} + c\left(z_6 + \tfrac{1}{2}\right)\mathbf{\hat{z}} \quad (16k) \quad \text{Ag I}$$

$$\mathbf{B_{43}} = -y_6\,\mathbf{a_1} - x_6\,\mathbf{a_2} + \left(z_6 + \tfrac{1}{2}\right)\mathbf{a_3} = -ay_6\,\mathbf{\hat{x}} - ax_6\,\mathbf{\hat{y}} + c\left(z_6 + \tfrac{1}{2}\right)\mathbf{\hat{z}} \quad (16k) \quad \text{Ag I}$$

$$\mathbf{B_{44}} = \left(y_6 + \tfrac{1}{2}\right)\mathbf{a_1} + \left(x_6 + \tfrac{1}{2}\right)\mathbf{a_2} + \left(z_6 + \tfrac{1}{2}\right)\mathbf{a_3} = a\left(y_6 + \tfrac{1}{2}\right)\mathbf{\hat{x}} + a\left(x_6 + \tfrac{1}{2}\right)\mathbf{\hat{y}} + c\left(z_6 + \tfrac{1}{2}\right)\mathbf{\hat{z}} \quad (16k) \quad \text{Ag I}$$

$$\mathbf{B_{45}} = x_7\,\mathbf{a_1} + y_7\,\mathbf{a_2} + z_7\,\mathbf{a_3} = ax_7\,\mathbf{\hat{x}} + ay_7\,\mathbf{\hat{y}} + cz_7\,\mathbf{\hat{z}} \quad (16k) \quad \text{Ca III}$$

$$\mathbf{B_{46}} = -\left(x_7 - \tfrac{1}{2}\right)\mathbf{a_1} - \left(y_7 - \tfrac{1}{2}\right)\mathbf{a_2} + z_7\,\mathbf{a_3} = -a\left(x_7 - \tfrac{1}{2}\right)\mathbf{\hat{x}} - a\left(y_7 - \tfrac{1}{2}\right)\mathbf{\hat{y}} + cz_7\,\mathbf{\hat{z}} \quad (16k) \quad \text{Ca III}$$

$$\mathbf{B_{47}} = -\left(y_7 - \tfrac{1}{2}\right)\mathbf{a_1} + x_7\,\mathbf{a_2} + z_7\,\mathbf{a_3} = -a\left(y_7 - \tfrac{1}{2}\right)\mathbf{\hat{x}} + ax_7\,\mathbf{\hat{y}} + cz_7\,\mathbf{\hat{z}} \quad (16k) \quad \text{Ca III}$$

$$\mathbf{B_{48}} = y_7\,\mathbf{a_1} - \left(x_7 - \tfrac{1}{2}\right)\mathbf{a_2} + z_7\,\mathbf{a_3} = ay_7\,\mathbf{\hat{x}} - a\left(x_7 - \tfrac{1}{2}\right)\mathbf{\hat{y}} + cz_7\,\mathbf{\hat{z}} \quad (16k) \quad \text{Ca III}$$

$$\mathbf{B_{49}} = -\left(x_7 - \tfrac{1}{2}\right)\mathbf{a_1} + y_7\,\mathbf{a_2} - \left(z_7 - \tfrac{1}{2}\right)\mathbf{a_3} = -a\left(x_7 - \tfrac{1}{2}\right)\mathbf{\hat{x}} + ay_7\,\mathbf{\hat{y}} - c\left(z_7 - \tfrac{1}{2}\right)\mathbf{\hat{z}} \quad (16k) \quad \text{Ca III}$$

$$\mathbf{B_{50}} = x_7\,\mathbf{a_1} - \left(y_7 - \tfrac{1}{2}\right)\mathbf{a_2} - \left(z_7 - \tfrac{1}{2}\right)\mathbf{a_3} = ax_7\,\mathbf{\hat{x}} - a\left(y_7 - \tfrac{1}{2}\right)\mathbf{\hat{y}} - c\left(z_7 - \tfrac{1}{2}\right)\mathbf{\hat{z}} \quad (16k) \quad \text{Ca III}$$

$$\mathbf{B_{51}} = y_7\,\mathbf{a_1} + x_7\,\mathbf{a_2} - \left(z_7 - \tfrac{1}{2}\right)\mathbf{a_3} = ay_7\,\mathbf{\hat{x}} + ax_7\,\mathbf{\hat{y}} - c\left(z_7 - \tfrac{1}{2}\right)\mathbf{\hat{z}} \quad (16k) \quad \text{Ca III}$$

$$\mathbf{B_{52}} = -\left(y_7 - \tfrac{1}{2}\right)\mathbf{a_1} - \left(x_7 - \tfrac{1}{2}\right)\mathbf{a_2} - \left(z_7 - \tfrac{1}{2}\right)\mathbf{a_3} = -a\left(y_7 - \tfrac{1}{2}\right)\mathbf{\hat{x}} - a\left(x_7 - \tfrac{1}{2}\right)\mathbf{\hat{y}} - c\left(z_7 - \tfrac{1}{2}\right)\mathbf{\hat{z}} \quad (16k) \quad \text{Ca III}$$

$$\mathbf{B_{53}} = -x_7\,\mathbf{a_1} - y_7\,\mathbf{a_2} - z_7\,\mathbf{a_3} = -ax_7\,\mathbf{\hat{x}} - ay_7\,\mathbf{\hat{y}} - cz_7\,\mathbf{\hat{z}} \quad (16k) \quad \text{Ca III}$$

$$\mathbf{B_{54}} = \left(x_7 + \tfrac{1}{2}\right)\mathbf{a_1} + \left(y_7 + \tfrac{1}{2}\right)\mathbf{a_2} - z_7\,\mathbf{a_3} = a\left(x_7 + \tfrac{1}{2}\right)\mathbf{\hat{x}} + a\left(y_7 + \tfrac{1}{2}\right)\mathbf{\hat{y}} - cz_7\,\mathbf{\hat{z}} \quad (16k) \quad \text{Ca III}$$

$$\mathbf{B_{55}} = \left(y_7 + \tfrac{1}{2}\right)\mathbf{a_1} - x_7\,\mathbf{a_2} - z_7\,\mathbf{a_3} = a\left(y_7 + \tfrac{1}{2}\right)\mathbf{\hat{x}} - ax_7\,\mathbf{\hat{y}} - cz_7\,\mathbf{\hat{z}} \quad (16k) \quad \text{Ca III}$$

$$\mathbf{B_{56}} = -y_7\,\mathbf{a_1} + \left(x_7 + \tfrac{1}{2}\right)\mathbf{a_2} - z_7\,\mathbf{a_3} = -ay_7\,\mathbf{\hat{x}} + a\left(x_7 + \tfrac{1}{2}\right)\mathbf{\hat{y}} - cz_7\,\mathbf{\hat{z}} \quad (16k) \quad \text{Ca III}$$

$$\mathbf{B_{57}} = \left(x_7 + \tfrac{1}{2}\right)\mathbf{a_1} - y_7\,\mathbf{a_2} + \left(z_7 + \tfrac{1}{2}\right)\mathbf{a_3} = a\left(x_7 + \tfrac{1}{2}\right)\mathbf{\hat{x}} - ay_7\,\mathbf{\hat{y}} + c\left(z_7 + \tfrac{1}{2}\right)\mathbf{\hat{z}} \quad (16k) \quad \text{Ca III}$$

$$\mathbf{B_{58}} = \begin{matrix} -x_7\,\mathbf{a}_1 + \left(y_7 + \frac{1}{2}\right)\mathbf{a}_2 + \\ \left(z_7 + \frac{1}{2}\right)\mathbf{a}_3 \end{matrix} = -ax_7\,\hat{\mathbf{x}} + a\left(y_7 + \frac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_7 + \frac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{Ca III}$$

$$\mathbf{B_{59}} = -y_7\,\mathbf{a}_1 - x_7\,\mathbf{a}_2 + \left(z_7 + \tfrac{1}{2}\right)\mathbf{a}_3 = -ay_7\,\hat{\mathbf{x}} - ax_7\,\hat{\mathbf{y}} + c\left(z_7 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{Ca III}$$

$$\mathbf{B_{60}} = \begin{matrix} \left(y_7 + \frac{1}{2}\right)\mathbf{a}_1 + \left(x_7 + \frac{1}{2}\right)\mathbf{a}_2 + \\ \left(z_7 + \frac{1}{2}\right)\mathbf{a}_3 \end{matrix} = a\left(y_7 + \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(x_7 + \tfrac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_7 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{Ca III}$$

$$\mathbf{B_{61}} = x_8\,\mathbf{a}_1 + y_8\,\mathbf{a}_2 + z_8\,\mathbf{a}_3 = ax_8\,\hat{\mathbf{x}} + ay_8\,\hat{\mathbf{y}} + cz_8\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{Ca IV}$$

$$\mathbf{B_{62}} = \begin{matrix} -\left(x_8 - \frac{1}{2}\right)\mathbf{a}_1 - \left(y_8 - \frac{1}{2}\right)\mathbf{a}_2 + \\ z_8\,\mathbf{a}_3 \end{matrix} = -a\left(x_8 - \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(y_8 - \tfrac{1}{2}\right)\hat{\mathbf{y}} + cz_8\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{Ca IV}$$

$$\mathbf{B_{63}} = -\left(y_8 - \tfrac{1}{2}\right)\mathbf{a}_1 + x_8\,\mathbf{a}_2 + z_8\,\mathbf{a}_3 = -a\left(y_8 - \tfrac{1}{2}\right)\hat{\mathbf{x}} + ax_8\,\hat{\mathbf{y}} + cz_8\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{Ca IV}$$

$$\mathbf{B_{64}} = y_8\,\mathbf{a}_1 - \left(x_8 - \tfrac{1}{2}\right)\mathbf{a}_2 + z_8\,\mathbf{a}_3 = ay_8\,\hat{\mathbf{x}} - a\left(x_8 - \tfrac{1}{2}\right)\hat{\mathbf{y}} + cz_8\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{Ca IV}$$

$$\mathbf{B_{65}} = \begin{matrix} -\left(x_8 - \frac{1}{2}\right)\mathbf{a}_1 + y_8\,\mathbf{a}_2 - \\ \left(z_8 - \frac{1}{2}\right)\mathbf{a}_3 \end{matrix} = -a\left(x_8 - \tfrac{1}{2}\right)\hat{\mathbf{x}} + ay_8\,\hat{\mathbf{y}} - c\left(z_8 - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{Ca IV}$$

$$\mathbf{B_{66}} = x_8\,\mathbf{a}_1 - \left(y_8 - \tfrac{1}{2}\right)\mathbf{a}_2 - \left(z_8 - \tfrac{1}{2}\right)\mathbf{a}_3 = ax_8\,\hat{\mathbf{x}} - a\left(y_8 - \tfrac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_8 - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{Ca IV}$$

$$\mathbf{B_{67}} = y_8\,\mathbf{a}_1 + x_8\,\mathbf{a}_2 - \left(z_8 - \tfrac{1}{2}\right)\mathbf{a}_3 = ay_8\,\hat{\mathbf{x}} + ax_8\,\hat{\mathbf{y}} - c\left(z_8 - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{Ca IV}$$

$$\mathbf{B_{68}} = \begin{matrix} -\left(y_8 - \frac{1}{2}\right)\mathbf{a}_1 - \left(x_8 - \frac{1}{2}\right)\mathbf{a}_2 - \\ \left(z_8 - \frac{1}{2}\right)\mathbf{a}_3 \end{matrix} = -a\left(y_8 - \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(x_8 - \tfrac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_8 - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{Ca IV}$$

$$\mathbf{B_{69}} = -x_8\,\mathbf{a}_1 - y_8\,\mathbf{a}_2 - z_8\,\mathbf{a}_3 = -ax_8\,\hat{\mathbf{x}} - ay_8\,\hat{\mathbf{y}} - cz_8\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{Ca IV}$$

$$\mathbf{B_{70}} = \left(x_8 + \tfrac{1}{2}\right)\mathbf{a}_1 + \left(y_8 + \tfrac{1}{2}\right)\mathbf{a}_2 - z_8\,\mathbf{a}_3 = a\left(x_8 + \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(y_8 + \tfrac{1}{2}\right)\hat{\mathbf{y}} - cz_8\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{Ca IV}$$

$$\mathbf{B_{71}} = \left(y_8 + \tfrac{1}{2}\right)\mathbf{a}_1 - x_8\,\mathbf{a}_2 - z_8\,\mathbf{a}_3 = a\left(y_8 + \tfrac{1}{2}\right)\hat{\mathbf{x}} - ax_8\,\hat{\mathbf{y}} - cz_8\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{Ca IV}$$

$$\mathbf{B_{72}} = -y_8\,\mathbf{a}_1 + \left(x_8 + \tfrac{1}{2}\right)\mathbf{a}_2 - z_8\,\mathbf{a}_3 = -ay_8\,\hat{\mathbf{x}} + a\left(x_8 + \tfrac{1}{2}\right)\hat{\mathbf{y}} - cz_8\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{Ca IV}$$

$$\mathbf{B_{73}} = \left(x_8 + \tfrac{1}{2}\right)\mathbf{a}_1 - y_8\,\mathbf{a}_2 + \left(z_8 + \tfrac{1}{2}\right)\mathbf{a}_3 = a\left(x_8 + \tfrac{1}{2}\right)\hat{\mathbf{x}} - ay_8\,\hat{\mathbf{y}} + c\left(z_8 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{Ca IV}$$

$$\mathbf{B_{74}} = \begin{matrix} -x_8\,\mathbf{a}_1 + \left(y_8 + \frac{1}{2}\right)\mathbf{a}_2 + \\ \left(z_8 + \frac{1}{2}\right)\mathbf{a}_3 \end{matrix} = -ax_8\,\hat{\mathbf{x}} + a\left(y_8 + \tfrac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_8 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{Ca IV}$$

$$\mathbf{B_{75}} = -y_8\,\mathbf{a}_1 - x_8\,\mathbf{a}_2 + \left(z_8 + \tfrac{1}{2}\right)\mathbf{a}_3 = -ay_8\,\hat{\mathbf{x}} - ax_8\,\hat{\mathbf{y}} + c\left(z_8 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{Ca IV}$$

$$\mathbf{B_{76}} = \begin{matrix} \left(y_8 + \frac{1}{2}\right)\mathbf{a}_1 + \left(x_8 + \frac{1}{2}\right)\mathbf{a}_2 + \\ \left(z_8 + \frac{1}{2}\right)\mathbf{a}_3 \end{matrix} = a\left(y_8 + \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(x_8 + \tfrac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_8 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{Ca IV}$$

$$\mathbf{B_{77}} = x_9\,\mathbf{a}_1 + y_9\,\mathbf{a}_2 + z_9\,\mathbf{a}_3 = ax_9\,\hat{\mathbf{x}} + ay_9\,\hat{\mathbf{y}} + cz_9\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{O II}$$

$$\mathbf{B_{78}} = \begin{matrix} -\left(x_9 - \frac{1}{2}\right)\mathbf{a}_1 - \left(y_9 - \frac{1}{2}\right)\mathbf{a}_2 + \\ z_9\,\mathbf{a}_3 \end{matrix} = -a\left(x_9 - \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(y_9 - \tfrac{1}{2}\right)\hat{\mathbf{y}} + cz_9\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{O II}$$

$$\mathbf{B_{79}} = -\left(y_9 - \tfrac{1}{2}\right)\mathbf{a}_1 + x_9\,\mathbf{a}_2 + z_9\,\mathbf{a}_3 = -a\left(y_9 - \tfrac{1}{2}\right)\hat{\mathbf{x}} + ax_9\,\hat{\mathbf{y}} + cz_9\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{O II}$$

$$\mathbf{B_{80}} = y_9\,\mathbf{a}_1 - \left(x_9 - \tfrac{1}{2}\right)\mathbf{a}_2 + z_9\,\mathbf{a}_3 = ay_9\,\hat{\mathbf{x}} - a\left(x_9 - \tfrac{1}{2}\right)\hat{\mathbf{y}} + cz_9\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{O II}$$

$$\mathbf{B_{81}} = \begin{matrix} -\left(x_9 - \frac{1}{2}\right)\mathbf{a}_1 + y_9\,\mathbf{a}_2 - \\ \left(z_9 - \frac{1}{2}\right)\mathbf{a}_3 \end{matrix} = -a\left(x_9 - \tfrac{1}{2}\right)\hat{\mathbf{x}} + ay_9\,\hat{\mathbf{y}} - c\left(z_9 - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{O II}$$

$$\mathbf{B_{82}} = x_9\,\mathbf{a}_1 - \left(y_9 - \tfrac{1}{2}\right)\mathbf{a}_2 - \left(z_9 - \tfrac{1}{2}\right)\mathbf{a}_3 = ax_9\,\hat{\mathbf{x}} - a\left(y_9 - \tfrac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_9 - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{O II}$$

$$\mathbf{B_{83}} = y_9\,\mathbf{a}_1 + x_9\,\mathbf{a}_2 - \left(z_9 - \tfrac{1}{2}\right)\mathbf{a}_3 = ay_9\,\hat{\mathbf{x}} + ax_9\,\hat{\mathbf{y}} - c\left(z_9 - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{O II}$$

$$\mathbf{B_{84}} = \begin{matrix} -\left(y_9 - \frac{1}{2}\right)\mathbf{a}_1 - \left(x_9 - \frac{1}{2}\right)\mathbf{a}_2 - \\ \left(z_9 - \frac{1}{2}\right)\mathbf{a}_3 \end{matrix} = -a\left(y_9 - \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(x_9 - \tfrac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_9 - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{O II}$$

$$\mathbf{B_{85}} = -x_9\,\mathbf{a}_1 - y_9\,\mathbf{a}_2 - z_9\,\mathbf{a}_3 = -ax_9\,\hat{\mathbf{x}} - ay_9\,\hat{\mathbf{y}} - cz_9\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{O II}$$

$$\mathbf{B_{86}} = \left(x_9 + \tfrac{1}{2}\right)\mathbf{a}_1 + \left(y_9 + \tfrac{1}{2}\right)\mathbf{a}_2 - z_9\,\mathbf{a}_3 = a\left(x_9 + \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(y_9 + \tfrac{1}{2}\right)\hat{\mathbf{y}} - cz_9\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{O II}$$

$$\mathbf{B_{87}} = \left(y_9 + \tfrac{1}{2}\right)\mathbf{a}_1 - x_9\,\mathbf{a}_2 - z_9\,\mathbf{a}_3 = a\left(y_9 + \tfrac{1}{2}\right)\hat{\mathbf{x}} - ax_9\,\hat{\mathbf{y}} - cz_9\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{O II}$$

$$\mathbf{B_{88}} = -y_9\,\mathbf{a}_1 + \left(x_9 + \tfrac{1}{2}\right)\mathbf{a}_2 - z_9\,\mathbf{a}_3 = -ay_9\,\hat{\mathbf{x}} + a\left(x_9 + \tfrac{1}{2}\right)\hat{\mathbf{y}} - cz_9\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{O II}$$

$$\mathbf{B_{89}} = \left(x_9 + \tfrac{1}{2}\right)\mathbf{a}_1 - y_9\,\mathbf{a}_2 + \left(z_9 + \tfrac{1}{2}\right)\mathbf{a}_3 = a\left(x_9 + \tfrac{1}{2}\right)\hat{\mathbf{x}} - ay_9\,\hat{\mathbf{y}} + c\left(z_9 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{O II}$$

$$\mathbf{B_{90}} = \begin{matrix} -x_9\,\mathbf{a}_1 + \left(y_9 + \frac{1}{2}\right)\mathbf{a}_2 + \\ \left(z_9 + \frac{1}{2}\right)\mathbf{a}_3 \end{matrix} = -ax_9\,\hat{\mathbf{x}} + a\left(y_9 + \tfrac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_9 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \text{O II}$$

$$\mathbf{B_{91}} = -y_9\,\mathbf{a}_1 - x_9\,\mathbf{a}_2 + \left(z_9 + \tfrac{1}{2}\right)\mathbf{a}_3 = -ay_9\,\hat{\mathbf{x}} - ax_9\,\hat{\mathbf{y}} + c\left(z_9 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O II}$$

$$\mathbf{B_{92}} = \left(y_9 + \tfrac{1}{2}\right)\mathbf{a}_1 + \left(x_9 + \tfrac{1}{2}\right)\mathbf{a}_2 + \left(z_9 + \tfrac{1}{2}\right)\mathbf{a}_3 = a\left(y_9 + \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(x_9 + \tfrac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_9 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O II}$$

$$\mathbf{B_{93}} = x_{10}\,\mathbf{a}_1 + y_{10}\,\mathbf{a}_2 + z_{10}\,\mathbf{a}_3 = ax_{10}\,\hat{\mathbf{x}} + ay_{10}\,\hat{\mathbf{y}} + cz_{10}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O III}$$

$$\mathbf{B_{94}} = -\left(x_{10} - \tfrac{1}{2}\right)\mathbf{a}_1 - \left(y_{10} - \tfrac{1}{2}\right)\mathbf{a}_2 + z_{10}\,\mathbf{a}_3 = -a\left(x_{10} - \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(y_{10} - \tfrac{1}{2}\right)\hat{\mathbf{y}} + cz_{10}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O III}$$

$$\mathbf{B_{95}} = -\left(y_{10} - \tfrac{1}{2}\right)\mathbf{a}_1 + x_{10}\,\mathbf{a}_2 + z_{10}\,\mathbf{a}_3 = -a\left(y_{10} - \tfrac{1}{2}\right)\hat{\mathbf{x}} + ax_{10}\,\hat{\mathbf{y}} + cz_{10}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O III}$$

$$\mathbf{B_{96}} = y_{10}\,\mathbf{a}_1 - \left(x_{10} - \tfrac{1}{2}\right)\mathbf{a}_2 + z_{10}\,\mathbf{a}_3 = ay_{10}\,\hat{\mathbf{x}} - a\left(x_{10} - \tfrac{1}{2}\right)\hat{\mathbf{y}} + cz_{10}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O III}$$

$$\mathbf{B_{97}} = -\left(x_{10} - \tfrac{1}{2}\right)\mathbf{a}_1 + y_{10}\,\mathbf{a}_2 - \left(z_{10} - \tfrac{1}{2}\right)\mathbf{a}_3 = -a\left(x_{10} - \tfrac{1}{2}\right)\hat{\mathbf{x}} + ay_{10}\,\hat{\mathbf{y}} - c\left(z_{10} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O III}$$

$$\mathbf{B_{98}} = x_{10}\,\mathbf{a}_1 - \left(y_{10} - \tfrac{1}{2}\right)\mathbf{a}_2 - \left(z_{10} - \tfrac{1}{2}\right)\mathbf{a}_3 = ax_{10}\,\hat{\mathbf{x}} - a\left(y_{10} - \tfrac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_{10} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O III}$$

$$\mathbf{B_{99}} = y_{10}\,\mathbf{a}_1 + x_{10}\,\mathbf{a}_2 - \left(z_{10} - \tfrac{1}{2}\right)\mathbf{a}_3 = ay_{10}\,\hat{\mathbf{x}} + ax_{10}\,\hat{\mathbf{y}} - c\left(z_{10} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O III}$$

$$\mathbf{B_{100}} = -\left(y_{10} - \tfrac{1}{2}\right)\mathbf{a}_1 - \left(x_{10} - \tfrac{1}{2}\right)\mathbf{a}_2 - \left(z_{10} - \tfrac{1}{2}\right)\mathbf{a}_3 = -a\left(y_{10} - \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(x_{10} - \tfrac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_{10} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O III}$$

$$\mathbf{B_{101}} = -x_{10}\,\mathbf{a}_1 - y_{10}\,\mathbf{a}_2 - z_{10}\,\mathbf{a}_3 = -ax_{10}\,\hat{\mathbf{x}} - ay_{10}\,\hat{\mathbf{y}} - cz_{10}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O III}$$

$$\mathbf{B_{102}} = \left(x_{10} + \tfrac{1}{2}\right)\mathbf{a}_1 + \left(y_{10} + \tfrac{1}{2}\right)\mathbf{a}_2 - z_{10}\,\mathbf{a}_3 = a\left(x_{10} + \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(y_{10} + \tfrac{1}{2}\right)\hat{\mathbf{y}} - cz_{10}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O III}$$

$$\mathbf{B_{103}} = \left(y_{10} + \tfrac{1}{2}\right)\mathbf{a}_1 - x_{10}\,\mathbf{a}_2 - z_{10}\,\mathbf{a}_3 = a\left(y_{10} + \tfrac{1}{2}\right)\hat{\mathbf{x}} - ax_{10}\,\hat{\mathbf{y}} - cz_{10}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O III}$$

$$\mathbf{B_{104}} = -y_{10}\,\mathbf{a}_1 + \left(x_{10} + \tfrac{1}{2}\right)\mathbf{a}_2 - z_{10}\,\mathbf{a}_3 = -ay_{10}\,\hat{\mathbf{x}} + a\left(x_{10} + \tfrac{1}{2}\right)\hat{\mathbf{y}} - cz_{10}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O III}$$

$$\mathbf{B_{105}} = \left(x_{10} + \tfrac{1}{2}\right)\mathbf{a}_1 - y_{10}\,\mathbf{a}_2 + \left(z_{10} + \tfrac{1}{2}\right)\mathbf{a}_3 = a\left(x_{10} + \tfrac{1}{2}\right)\hat{\mathbf{x}} - ay_{10}\,\hat{\mathbf{y}} + c\left(z_{10} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O III}$$

$$\mathbf{B_{106}} = -x_{10}\,\mathbf{a}_1 + \left(y_{10} + \tfrac{1}{2}\right)\mathbf{a}_2 + \left(z_{10} + \tfrac{1}{2}\right)\mathbf{a}_3 = -ax_{10}\,\hat{\mathbf{x}} + a\left(y_{10} + \tfrac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_{10} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O III}$$

$$\mathbf{B_{107}} = -y_{10}\,\mathbf{a}_1 - x_{10}\,\mathbf{a}_2 + \left(z_{10} + \tfrac{1}{2}\right)\mathbf{a}_3 = -ay_{10}\,\hat{\mathbf{x}} - ax_{10}\,\hat{\mathbf{y}} + c\left(z_{10} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O III}$$

$$\mathbf{B_{108}} = \left(y_{10} + \tfrac{1}{2}\right)\mathbf{a}_1 + \left(x_{10} + \tfrac{1}{2}\right)\mathbf{a}_2 + \left(z_{10} + \tfrac{1}{2}\right)\mathbf{a}_3 = a\left(y_{10} + \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(x_{10} + \tfrac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_{10} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O III}$$

$$\mathbf{B_{109}} = x_{11}\,\mathbf{a}_1 + y_{11}\,\mathbf{a}_2 + z_{11}\,\mathbf{a}_3 = ax_{11}\,\hat{\mathbf{x}} + ay_{11}\,\hat{\mathbf{y}} + cz_{11}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O IV}$$

$$\mathbf{B_{110}} = -\left(x_{11} - \tfrac{1}{2}\right)\mathbf{a}_1 - \left(y_{11} - \tfrac{1}{2}\right)\mathbf{a}_2 + z_{11}\,\mathbf{a}_3 = -a\left(x_{11} - \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(y_{11} - \tfrac{1}{2}\right)\hat{\mathbf{y}} + cz_{11}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O IV}$$

$$\mathbf{B_{111}} = -\left(y_{11} - \tfrac{1}{2}\right)\mathbf{a}_1 + x_{11}\,\mathbf{a}_2 + z_{11}\,\mathbf{a}_3 = -a\left(y_{11} - \tfrac{1}{2}\right)\hat{\mathbf{x}} + ax_{11}\,\hat{\mathbf{y}} + cz_{11}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O IV}$$

$$\mathbf{B_{112}} = y_{11}\,\mathbf{a}_1 - \left(x_{11} - \tfrac{1}{2}\right)\mathbf{a}_2 + z_{11}\,\mathbf{a}_3 = ay_{11}\,\hat{\mathbf{x}} - a\left(x_{11} - \tfrac{1}{2}\right)\hat{\mathbf{y}} + cz_{11}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O IV}$$

$$\mathbf{B_{113}} = -\left(x_{11} - \tfrac{1}{2}\right)\mathbf{a}_1 + y_{11}\,\mathbf{a}_2 - \left(z_{11} - \tfrac{1}{2}\right)\mathbf{a}_3 = -a\left(x_{11} - \tfrac{1}{2}\right)\hat{\mathbf{x}} + ay_{11}\,\hat{\mathbf{y}} - c\left(z_{11} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O IV}$$

$$\mathbf{B_{114}} = x_{11}\,\mathbf{a}_1 - \left(y_{11} - \tfrac{1}{2}\right)\mathbf{a}_2 - \left(z_{11} - \tfrac{1}{2}\right)\mathbf{a}_3 = ax_{11}\,\hat{\mathbf{x}} - a\left(y_{11} - \tfrac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_{11} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O IV}$$

$$\mathbf{B_{115}} = y_{11}\,\mathbf{a}_1 + x_{11}\,\mathbf{a}_2 - \left(z_{11} - \tfrac{1}{2}\right)\mathbf{a}_3 = ay_{11}\,\hat{\mathbf{x}} + ax_{11}\,\hat{\mathbf{y}} - c\left(z_{11} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O IV}$$

$$\mathbf{B_{116}} = -\left(y_{11} - \tfrac{1}{2}\right)\mathbf{a}_1 - \left(x_{11} - \tfrac{1}{2}\right)\mathbf{a}_2 - \left(z_{11} - \tfrac{1}{2}\right)\mathbf{a}_3 = -a\left(y_{11} - \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(x_{11} - \tfrac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_{11} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O IV}$$

$$\mathbf{B_{117}} = -x_{11}\,\mathbf{a}_1 - y_{11}\,\mathbf{a}_2 - z_{11}\,\mathbf{a}_3 = -ax_{11}\,\hat{\mathbf{x}} - ay_{11}\,\hat{\mathbf{y}} - cz_{11}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O IV}$$

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

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

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

$$\mathbf{B_{121}} = \left(x_{11} + \tfrac{1}{2}\right)\mathbf{a_1} - y_{11}\,\mathbf{a_2} + \left(z_{11} + \tfrac{1}{2}\right)\mathbf{a_3} = a\left(x_{11} + \tfrac{1}{2}\right)\hat{\mathbf{x}} - ay_{11}\,\hat{\mathbf{y}} + c\left(z_{11} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ IV}$$

$$\mathbf{B_{122}} = -x_{11}\,\mathbf{a_1} + \left(y_{11} + \tfrac{1}{2}\right)\mathbf{a_2} + \left(z_{11} + \tfrac{1}{2}\right)\mathbf{a_3} = -ax_{11}\,\hat{\mathbf{x}} + a\left(y_{11} + \tfrac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_{11} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ IV}$$

$$\mathbf{B_{123}} = -y_{11}\,\mathbf{a_1} - x_{11}\,\mathbf{a_2} + \left(z_{11} + \tfrac{1}{2}\right)\mathbf{a_3} = -ay_{11}\,\hat{\mathbf{x}} - ax_{11}\,\hat{\mathbf{y}} + c\left(z_{11} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ IV}$$

$$\mathbf{B_{124}} = \left(y_{11} + \tfrac{1}{2}\right)\mathbf{a_1} + \left(x_{11} + \tfrac{1}{2}\right)\mathbf{a_2} + \left(z_{11} + \tfrac{1}{2}\right)\mathbf{a_3} = a\left(y_{11} + \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(x_{11} + \tfrac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_{11} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ IV}$$

$$\mathbf{B_{125}} = x_{12}\,\mathbf{a_1} + y_{12}\,\mathbf{a_2} + z_{12}\,\mathbf{a_3} = ax_{12}\,\hat{\mathbf{x}} + ay_{12}\,\hat{\mathbf{y}} + cz_{12}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ V}$$

$$\mathbf{B_{126}} = -\left(x_{12} - \tfrac{1}{2}\right)\mathbf{a_1} - \left(y_{12} - \tfrac{1}{2}\right)\mathbf{a_2} + z_{12}\,\mathbf{a_3} = -a\left(x_{12} - \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(y_{12} - \tfrac{1}{2}\right)\hat{\mathbf{y}} + cz_{12}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ V}$$

$$\mathbf{B_{127}} = -\left(y_{12} - \tfrac{1}{2}\right)\mathbf{a_1} + x_{12}\,\mathbf{a_2} + z_{12}\,\mathbf{a_3} = -a\left(y_{12} - \tfrac{1}{2}\right)\hat{\mathbf{x}} + ax_{12}\,\hat{\mathbf{y}} + cz_{12}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ V}$$

$$\mathbf{B_{128}} = y_{12}\,\mathbf{a_1} - \left(x_{12} - \tfrac{1}{2}\right)\mathbf{a_2} + z_{12}\,\mathbf{a_3} = ay_{12}\,\hat{\mathbf{x}} - a\left(x_{12} - \tfrac{1}{2}\right)\hat{\mathbf{y}} + cz_{12}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ V}$$

$$\mathbf{B_{129}} = -\left(x_{12} - \tfrac{1}{2}\right)\mathbf{a_1} + y_{12}\,\mathbf{a_2} - \left(z_{12} - \tfrac{1}{2}\right)\mathbf{a_3} = -a\left(x_{12} - \tfrac{1}{2}\right)\hat{\mathbf{x}} + ay_{12}\,\hat{\mathbf{y}} - c\left(z_{12} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ V}$$

$$\mathbf{B_{130}} = x_{12}\,\mathbf{a_1} - \left(y_{12} - \tfrac{1}{2}\right)\mathbf{a_2} - \left(z_{12} - \tfrac{1}{2}\right)\mathbf{a_3} = ax_{12}\,\hat{\mathbf{x}} - a\left(y_{12} - \tfrac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_{12} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ V}$$

$$\mathbf{B_{131}} = y_{12}\,\mathbf{a_1} + x_{12}\,\mathbf{a_2} - \left(z_{12} - \tfrac{1}{2}\right)\mathbf{a_3} = ay_{12}\,\hat{\mathbf{x}} + ax_{12}\,\hat{\mathbf{y}} - c\left(z_{12} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ V}$$

$$\mathbf{B_{132}} = -\left(y_{12} - \tfrac{1}{2}\right)\mathbf{a_1} - \left(x_{12} - \tfrac{1}{2}\right)\mathbf{a_2} - \left(z_{12} - \tfrac{1}{2}\right)\mathbf{a_3} = -a\left(y_{12} - \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(x_{12} - \tfrac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_{12} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ V}$$

$$\mathbf{B_{133}} = -x_{12}\,\mathbf{a_1} - y_{12}\,\mathbf{a_2} - z_{12}\,\mathbf{a_3} = -ax_{12}\,\hat{\mathbf{x}} - ay_{12}\,\hat{\mathbf{y}} - cz_{12}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ V}$$

$$\mathbf{B_{134}} = \left(x_{12} + \tfrac{1}{2}\right)\mathbf{a_1} + \left(y_{12} + \tfrac{1}{2}\right)\mathbf{a_2} - z_{12}\,\mathbf{a_3} = a\left(x_{12} + \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(y_{12} + \tfrac{1}{2}\right)\hat{\mathbf{y}} - cz_{12}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ V}$$

$$\mathbf{B_{135}} = \left(y_{12} + \tfrac{1}{2}\right)\mathbf{a_1} - x_{12}\,\mathbf{a_2} - z_{12}\,\mathbf{a_3} = a\left(y_{12} + \tfrac{1}{2}\right)\hat{\mathbf{x}} - ax_{12}\,\hat{\mathbf{y}} - cz_{12}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ V}$$

$$\mathbf{B_{136}} = -y_{12}\,\mathbf{a_1} + \left(x_{12} + \tfrac{1}{2}\right)\mathbf{a_2} - z_{12}\,\mathbf{a_3} = -ay_{12}\,\hat{\mathbf{x}} + a\left(x_{12} + \tfrac{1}{2}\right)\hat{\mathbf{y}} - cz_{12}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ V}$$

$$\mathbf{B_{137}} = \left(x_{12} + \tfrac{1}{2}\right)\mathbf{a_1} - y_{12}\,\mathbf{a_2} + \left(z_{12} + \tfrac{1}{2}\right)\mathbf{a_3} = a\left(x_{12} + \tfrac{1}{2}\right)\hat{\mathbf{x}} - ay_{12}\,\hat{\mathbf{y}} + c\left(z_{12} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ V}$$

$$\mathbf{B_{138}} = -x_{12}\,\mathbf{a_1} + \left(y_{12} + \tfrac{1}{2}\right)\mathbf{a_2} + \left(z_{12} + \tfrac{1}{2}\right)\mathbf{a_3} = -ax_{12}\,\hat{\mathbf{x}} + a\left(y_{12} + \tfrac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_{12} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ V}$$

$$\mathbf{B_{139}} = -y_{12}\,\mathbf{a_1} - x_{12}\,\mathbf{a_2} + \left(z_{12} + \tfrac{1}{2}\right)\mathbf{a_3} = -ay_{12}\,\hat{\mathbf{x}} - ax_{12}\,\hat{\mathbf{y}} + c\left(z_{12} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ V}$$

$$\mathbf{B_{140}} = \left(y_{12} + \tfrac{1}{2}\right)\mathbf{a_1} + \left(x_{12} + \tfrac{1}{2}\right)\mathbf{a_2} + \left(z_{12} + \tfrac{1}{2}\right)\mathbf{a_3} = a\left(y_{12} + \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(x_{12} + \tfrac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_{12} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ V}$$

$$\mathbf{B_{141}} = x_{13}\,\mathbf{a_1} + y_{13}\,\mathbf{a_2} + z_{13}\,\mathbf{a_3} = ax_{13}\,\hat{\mathbf{x}} + ay_{13}\,\hat{\mathbf{y}} + cz_{13}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ VI}$$

$$\mathbf{B_{142}} = -\left(x_{13} - \tfrac{1}{2}\right)\mathbf{a_1} - \left(y_{13} - \tfrac{1}{2}\right)\mathbf{a_2} + z_{13}\,\mathbf{a_3} = -a\left(x_{13} - \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(y_{13} - \tfrac{1}{2}\right)\hat{\mathbf{y}} + cz_{13}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ VI}$$

$$\mathbf{B_{143}} = -\left(y_{13} - \tfrac{1}{2}\right)\mathbf{a_1} + x_{13}\,\mathbf{a_2} + z_{13}\,\mathbf{a_3} = -a\left(y_{13} - \tfrac{1}{2}\right)\hat{\mathbf{x}} + ax_{13}\,\hat{\mathbf{y}} + cz_{13}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ VI}$$

$$\mathbf{B_{144}} = y_{13}\,\mathbf{a_1} - \left(x_{13} - \tfrac{1}{2}\right)\mathbf{a_2} + z_{13}\,\mathbf{a_3} = ay_{13}\,\hat{\mathbf{x}} - a\left(x_{13} - \tfrac{1}{2}\right)\hat{\mathbf{y}} + cz_{13}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ VI}$$

$$\mathbf{B_{145}} = -\left(x_{13} - \tfrac{1}{2}\right)\mathbf{a_1} + y_{13}\,\mathbf{a_2} - \left(z_{13} - \tfrac{1}{2}\right)\mathbf{a_3} = -a\left(x_{13} - \tfrac{1}{2}\right)\hat{\mathbf{x}} + ay_{13}\,\hat{\mathbf{y}} - c\left(z_{13} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ VI}$$

$$\mathbf{B_{146}} = x_{13}\,\mathbf{a_1} - \left(y_{13} - \tfrac{1}{2}\right)\mathbf{a_2} - \left(z_{13} - \tfrac{1}{2}\right)\mathbf{a_3} = ax_{13}\,\hat{\mathbf{x}} - a\left(y_{13} - \tfrac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_{13} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ VI}$$

$$\mathbf{B_{147}} = y_{13}\,\mathbf{a_1} + x_{13}\,\mathbf{a_2} - \left(z_{13} - \tfrac{1}{2}\right)\mathbf{a_3} = ay_{13}\,\hat{\mathbf{x}} + ax_{13}\,\hat{\mathbf{y}} - c\left(z_{13} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ VI}$$

$$\mathbf{B_{148}} = -\left(y_{13} - \tfrac{1}{2}\right)\mathbf{a_1} - \left(x_{13} - \tfrac{1}{2}\right)\mathbf{a_2} - \left(z_{13} - \tfrac{1}{2}\right)\mathbf{a_3} = -a\left(y_{13} - \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(x_{13} - \tfrac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_{13} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ VI}$$

$$\mathbf{B_{149}} = -x_{13}\,\mathbf{a_1} - y_{13}\,\mathbf{a_2} - z_{13}\,\mathbf{a_3} = -ax_{13}\,\hat{\mathbf{x}} - ay_{13}\,\hat{\mathbf{y}} - cz_{13}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{O\ VI}$$

$$\mathbf{B_{150}} = \left(x_{13} + \tfrac{1}{2}\right)\mathbf{a_1} + \left(y_{13} + \tfrac{1}{2}\right)\mathbf{a_2} - z_{13}\,\mathbf{a_3} \quad = \quad a\left(x_{13} + \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(y_{13} + \tfrac{1}{2}\right)\hat{\mathbf{y}} - cz_{13}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VI}$$

$$\mathbf{B_{151}} = \left(y_{13} + \tfrac{1}{2}\right)\mathbf{a_1} - x_{13}\,\mathbf{a_2} - z_{13}\,\mathbf{a_3} \quad = \quad a\left(y_{13} + \tfrac{1}{2}\right)\hat{\mathbf{x}} - ax_{13}\,\hat{\mathbf{y}} - cz_{13}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VI}$$

$$\mathbf{B_{152}} = -y_{13}\,\mathbf{a_1} + \left(x_{13} + \tfrac{1}{2}\right)\mathbf{a_2} - z_{13}\,\mathbf{a_3} \quad = \quad -ay_{13}\,\hat{\mathbf{x}} + a\left(x_{13} + \tfrac{1}{2}\right)\hat{\mathbf{y}} - cz_{13}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VI}$$

$$\mathbf{B_{153}} = \left(x_{13} + \tfrac{1}{2}\right)\mathbf{a_1} - y_{13}\,\mathbf{a_2} + \left(z_{13} + \tfrac{1}{2}\right)\mathbf{a_3} \quad = \quad a\left(x_{13} + \tfrac{1}{2}\right)\hat{\mathbf{x}} - ay_{13}\,\hat{\mathbf{y}} + c\left(z_{13} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VI}$$

$$\mathbf{B_{154}} = -x_{13}\,\mathbf{a_1} + \left(y_{13} + \tfrac{1}{2}\right)\mathbf{a_2} + \left(z_{13} + \tfrac{1}{2}\right)\mathbf{a_3} \quad = \quad -ax_{13}\,\hat{\mathbf{x}} + a\left(y_{13} + \tfrac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_{13} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VI}$$

$$\mathbf{B_{155}} = -y_{13}\,\mathbf{a_1} - x_{13}\,\mathbf{a_2} + \left(z_{13} + \tfrac{1}{2}\right)\mathbf{a_3} \quad = \quad -ay_{13}\,\hat{\mathbf{x}} - ax_{13}\,\hat{\mathbf{y}} + c\left(z_{13} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VI}$$

$$\mathbf{B_{156}} = \left(y_{13} + \tfrac{1}{2}\right)\mathbf{a_1} + \left(x_{13} + \tfrac{1}{2}\right)\mathbf{a_2} + \left(z_{13} + \tfrac{1}{2}\right)\mathbf{a_3} \quad = \quad a\left(y_{13} + \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(x_{13} + \tfrac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_{13} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VI}$$

$$\mathbf{B_{157}} = x_{14}\,\mathbf{a_1} + y_{14}\,\mathbf{a_2} + z_{14}\,\mathbf{a_3} \quad = \quad ax_{14}\,\hat{\mathbf{x}} + ay_{14}\,\hat{\mathbf{y}} + cz_{14}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VII}$$

$$\mathbf{B_{158}} = -\left(x_{14} - \tfrac{1}{2}\right)\mathbf{a_1} - \left(y_{14} - \tfrac{1}{2}\right)\mathbf{a_2} + z_{14}\,\mathbf{a_3} \quad = \quad -a\left(x_{14} - \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(y_{14} - \tfrac{1}{2}\right)\hat{\mathbf{y}} + cz_{14}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VII}$$

$$\mathbf{B_{159}} = -\left(y_{14} - \tfrac{1}{2}\right)\mathbf{a_1} + x_{14}\,\mathbf{a_2} + z_{14}\,\mathbf{a_3} \quad = \quad -a\left(y_{14} - \tfrac{1}{2}\right)\hat{\mathbf{x}} + ax_{14}\,\hat{\mathbf{y}} + cz_{14}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VII}$$

$$\mathbf{B_{160}} = y_{14}\,\mathbf{a_1} - \left(x_{14} - \tfrac{1}{2}\right)\mathbf{a_2} + z_{14}\,\mathbf{a_3} \quad = \quad ay_{14}\,\hat{\mathbf{x}} - a\left(x_{14} - \tfrac{1}{2}\right)\hat{\mathbf{y}} + cz_{14}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VII}$$

$$\mathbf{B_{161}} = -\left(x_{14} - \tfrac{1}{2}\right)\mathbf{a_1} + y_{14}\,\mathbf{a_2} - \left(z_{14} - \tfrac{1}{2}\right)\mathbf{a_3} \quad = \quad -a\left(x_{14} - \tfrac{1}{2}\right)\hat{\mathbf{x}} + ay_{14}\,\hat{\mathbf{y}} - c\left(z_{14} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VII}$$

$$\mathbf{B_{162}} = x_{14}\,\mathbf{a_1} - \left(y_{14} - \tfrac{1}{2}\right)\mathbf{a_2} - \left(z_{14} - \tfrac{1}{2}\right)\mathbf{a_3} \quad = \quad ax_{14}\,\hat{\mathbf{x}} - a\left(y_{14} - \tfrac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_{14} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VII}$$

$$\mathbf{B_{163}} = y_{14}\,\mathbf{a_1} + x_{14}\,\mathbf{a_2} - \left(z_{14} - \tfrac{1}{2}\right)\mathbf{a_3} \quad = \quad ay_{14}\,\hat{\mathbf{x}} + ax_{14}\,\hat{\mathbf{y}} - c\left(z_{14} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VII}$$

$$\mathbf{B_{164}} = -\left(y_{14} - \tfrac{1}{2}\right)\mathbf{a_1} - \left(x_{14} - \tfrac{1}{2}\right)\mathbf{a_2} - \left(z_{14} - \tfrac{1}{2}\right)\mathbf{a_3} \quad = \quad -a\left(y_{14} - \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(x_{14} - \tfrac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_{14} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VII}$$

$$\mathbf{B_{165}} = -x_{14}\,\mathbf{a_1} - y_{14}\,\mathbf{a_2} - z_{14}\,\mathbf{a_3} \quad = \quad -ax_{14}\,\hat{\mathbf{x}} - ay_{14}\,\hat{\mathbf{y}} - cz_{14}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VII}$$

$$\mathbf{B_{166}} = \left(x_{14} + \tfrac{1}{2}\right)\mathbf{a_1} + \left(y_{14} + \tfrac{1}{2}\right)\mathbf{a_2} - z_{14}\,\mathbf{a_3} \quad = \quad a\left(x_{14} + \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(y_{14} + \tfrac{1}{2}\right)\hat{\mathbf{y}} - cz_{14}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VII}$$

$$\mathbf{B_{167}} = \left(y_{14} + \tfrac{1}{2}\right)\mathbf{a_1} - x_{14}\,\mathbf{a_2} - z_{14}\,\mathbf{a_3} \quad = \quad a\left(y_{14} + \tfrac{1}{2}\right)\hat{\mathbf{x}} - ax_{14}\,\hat{\mathbf{y}} - cz_{14}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VII}$$

$$\mathbf{B_{168}} = -y_{14}\,\mathbf{a_1} + \left(x_{14} + \tfrac{1}{2}\right)\mathbf{a_2} - z_{14}\,\mathbf{a_3} \quad = \quad -ay_{14}\,\hat{\mathbf{x}} + a\left(x_{14} + \tfrac{1}{2}\right)\hat{\mathbf{y}} - cz_{14}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VII}$$

$$\mathbf{B_{169}} = \left(x_{14} + \tfrac{1}{2}\right)\mathbf{a_1} - y_{14}\,\mathbf{a_2} + \left(z_{14} + \tfrac{1}{2}\right)\mathbf{a_3} \quad = \quad a\left(x_{14} + \tfrac{1}{2}\right)\hat{\mathbf{x}} - ay_{14}\,\hat{\mathbf{y}} + c\left(z_{14} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VII}$$

$$\mathbf{B_{170}} = -x_{14}\,\mathbf{a_1} + \left(y_{14} + \tfrac{1}{2}\right)\mathbf{a_2} + \left(z_{14} + \tfrac{1}{2}\right)\mathbf{a_3} \quad = \quad -ax_{14}\,\hat{\mathbf{x}} + a\left(y_{14} + \tfrac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_{14} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VII}$$

$$\mathbf{B_{171}} = -y_{14}\,\mathbf{a_1} - x_{14}\,\mathbf{a_2} + \left(z_{14} + \tfrac{1}{2}\right)\mathbf{a_3} \quad = \quad -ay_{14}\,\hat{\mathbf{x}} - ax_{14}\,\hat{\mathbf{y}} + c\left(z_{14} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VII}$$

$$\mathbf{B_{172}} = \left(y_{14} + \tfrac{1}{2}\right)\mathbf{a_1} + \left(x_{14} + \tfrac{1}{2}\right)\mathbf{a_2} + \left(z_{14} + \tfrac{1}{2}\right)\mathbf{a_3} \quad = \quad a\left(y_{14} + \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(x_{14} + \tfrac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_{14} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VII}$$

$$\mathbf{B_{173}} = x_{15}\,\mathbf{a_1} + y_{15}\,\mathbf{a_2} + z_{15}\,\mathbf{a_3} \quad = \quad ax_{15}\,\hat{\mathbf{x}} + ay_{15}\,\hat{\mathbf{y}} + cz_{15}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VIII}$$

$$\mathbf{B_{174}} = -\left(x_{15} - \tfrac{1}{2}\right)\mathbf{a_1} - \left(y_{15} - \tfrac{1}{2}\right)\mathbf{a_2} + z_{15}\,\mathbf{a_3} \quad = \quad -a\left(x_{15} - \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(y_{15} - \tfrac{1}{2}\right)\hat{\mathbf{y}} + cz_{15}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VIII}$$

$$\mathbf{B_{175}} = -\left(y_{15} - \tfrac{1}{2}\right)\mathbf{a_1} + x_{15}\,\mathbf{a_2} + z_{15}\,\mathbf{a_3} \quad = \quad -a\left(y_{15} - \tfrac{1}{2}\right)\hat{\mathbf{x}} + ax_{15}\,\hat{\mathbf{y}} + cz_{15}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VIII}$$

$$\mathbf{B_{176}} = y_{15}\,\mathbf{a_1} - \left(x_{15} - \tfrac{1}{2}\right)\mathbf{a_2} + z_{15}\,\mathbf{a_3} \quad = \quad ay_{15}\,\hat{\mathbf{x}} - a\left(x_{15} - \tfrac{1}{2}\right)\hat{\mathbf{y}} + cz_{15}\,\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VIII}$$

$$\mathbf{B_{177}} = -\left(x_{15} - \tfrac{1}{2}\right)\mathbf{a_1} + y_{15}\,\mathbf{a_2} - \left(z_{15} - \tfrac{1}{2}\right)\mathbf{a_3} \quad = \quad -a\left(x_{15} - \tfrac{1}{2}\right)\hat{\mathbf{x}} + ay_{15}\,\hat{\mathbf{y}} - c\left(z_{15} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VIII}$$

$$\mathbf{B_{178}} = x_{15}\,\mathbf{a_1} - \left(y_{15} - \tfrac{1}{2}\right)\mathbf{a_2} - \left(z_{15} - \tfrac{1}{2}\right)\mathbf{a_3} \quad = \quad ax_{15}\,\hat{\mathbf{x}} - a\left(y_{15} - \tfrac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_{15} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VIII}$$

$$\mathbf{B_{179}} = y_{15}\,\mathbf{a_1} + x_{15}\,\mathbf{a_2} - \left(z_{15} - \tfrac{1}{2}\right)\mathbf{a_3} \quad = \quad ay_{15}\,\hat{\mathbf{x}} + ax_{15}\,\hat{\mathbf{y}} - c\left(z_{15} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(16k)} \qquad \text{O VIII}$$

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

$$\mathbf{B_{208}} = y_{17}\mathbf{a}_1 - \left(x_{17} - \tfrac{1}{2}\right)\mathbf{a}_2 + z_{17}\mathbf{a}_3 \quad = \quad ay_{17}\hat{\mathbf{x}} - a\left(x_{17} - \tfrac{1}{2}\right)\hat{\mathbf{y}} + cz_{17}\hat{\mathbf{z}} \qquad (16k) \qquad \text{OH I}$$

$$\mathbf{B_{209}} = -\left(x_{17} - \tfrac{1}{2}\right)\mathbf{a}_1 + y_{17}\mathbf{a}_2 - \left(z_{17} - \tfrac{1}{2}\right)\mathbf{a}_3 \quad = \quad -a\left(x_{17} - \tfrac{1}{2}\right)\hat{\mathbf{x}} + ay_{17}\hat{\mathbf{y}} - c\left(z_{17} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad (16k) \qquad \text{OH I}$$

$$\mathbf{B}_{210} = x_{17}\,\mathbf{a}_1 - \left(y_{17} - \tfrac{1}{2}\right)\mathbf{a}_2 - \left(z_{17} - \tfrac{1}{2}\right)\mathbf{a}_3 \quad = \quad ax_{17}\,\hat{\mathbf{x}} - a\left(y_{17} - \tfrac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_{17} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{OH\ I}$$

$$\mathbf{B}_{211} = y_{17}\,\mathbf{a}_1 + x_{17}\,\mathbf{a}_2 - \left(z_{17} - \tfrac{1}{2}\right)\mathbf{a}_3 \quad = \quad ay_{17}\,\hat{\mathbf{x}} + ax_{17}\,\hat{\mathbf{y}} - c\left(z_{17} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{OH\ I}$$

$$\mathbf{B}_{212} = -\left(y_{17} - \tfrac{1}{2}\right)\mathbf{a}_1 - \left(x_{17} - \tfrac{1}{2}\right)\mathbf{a}_2 - \left(z_{17} - \tfrac{1}{2}\right)\mathbf{a}_3 \quad = \quad -a\left(y_{17} - \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(x_{17} - \tfrac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_{17} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{OH\ I}$$

$$\mathbf{B}_{213} = -x_{17}\,\mathbf{a}_1 - y_{17}\,\mathbf{a}_2 - z_{17}\,\mathbf{a}_3 \quad = \quad -ax_{17}\,\hat{\mathbf{x}} - ay_{17}\,\hat{\mathbf{y}} - cz_{17}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{OH\ I}$$

$$\mathbf{B}_{214} = \left(x_{17} + \tfrac{1}{2}\right)\mathbf{a}_1 + \left(y_{17} + \tfrac{1}{2}\right)\mathbf{a}_2 - z_{17}\,\mathbf{a}_3 \quad = \quad a\left(x_{17} + \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(y_{17} + \tfrac{1}{2}\right)\hat{\mathbf{y}} - cz_{17}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{OH\ I}$$

$$\mathbf{B}_{215} = \left(y_{17} + \tfrac{1}{2}\right)\mathbf{a}_1 - x_{17}\,\mathbf{a}_2 - z_{17}\,\mathbf{a}_3 \quad = \quad a\left(y_{17} + \tfrac{1}{2}\right)\hat{\mathbf{x}} - ax_{17}\,\hat{\mathbf{y}} - cz_{17}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{OH\ I}$$

$$\mathbf{B}_{216} = -y_{17}\,\mathbf{a}_1 + \left(x_{17} + \tfrac{1}{2}\right)\mathbf{a}_2 - z_{17}\,\mathbf{a}_3 \quad = \quad -ay_{17}\,\hat{\mathbf{x}} + a\left(x_{17} + \tfrac{1}{2}\right)\hat{\mathbf{y}} - cz_{17}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{OH\ I}$$

$$\mathbf{B}_{217} = \left(x_{17} + \tfrac{1}{2}\right)\mathbf{a}_1 - y_{17}\,\mathbf{a}_2 + \left(z_{17} + \tfrac{1}{2}\right)\mathbf{a}_3 \quad = \quad a\left(x_{17} + \tfrac{1}{2}\right)\hat{\mathbf{x}} - ay_{17}\,\hat{\mathbf{y}} + c\left(z_{17} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{OH\ I}$$

$$\mathbf{B}_{218} = -x_{17}\,\mathbf{a}_1 + \left(y_{17} + \tfrac{1}{2}\right)\mathbf{a}_2 + \left(z_{17} + \tfrac{1}{2}\right)\mathbf{a}_3 \quad = \quad -ax_{17}\,\hat{\mathbf{x}} + a\left(y_{17} + \tfrac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_{17} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{OH\ I}$$

$$\mathbf{B}_{219} = -y_{17}\,\mathbf{a}_1 - x_{17}\,\mathbf{a}_2 + \left(z_{17} + \tfrac{1}{2}\right)\mathbf{a}_3 \quad = \quad -ay_{17}\,\hat{\mathbf{x}} - ax_{17}\,\hat{\mathbf{y}} + c\left(z_{17} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{OH\ I}$$

$$\mathbf{B}_{220} = \left(y_{17} + \tfrac{1}{2}\right)\mathbf{a}_1 + \left(x_{17} + \tfrac{1}{2}\right)\mathbf{a}_2 + \left(z_{17} + \tfrac{1}{2}\right)\mathbf{a}_3 \quad = \quad a\left(y_{17} + \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(x_{17} + \tfrac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_{17} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{OH\ I}$$

$$\mathbf{B}_{221} = x_{18}\,\mathbf{a}_1 + y_{18}\,\mathbf{a}_2 + z_{18}\,\mathbf{a}_3 \quad = \quad ax_{18}\,\hat{\mathbf{x}} + ay_{18}\,\hat{\mathbf{y}} + cz_{18}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{Si\ II}$$

$$\mathbf{B}_{222} = -\left(x_{18} - \tfrac{1}{2}\right)\mathbf{a}_1 - \left(y_{18} - \tfrac{1}{2}\right)\mathbf{a}_2 + z_{18}\,\mathbf{a}_3 \quad = \quad -a\left(x_{18} - \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(y_{18} - \tfrac{1}{2}\right)\hat{\mathbf{y}} + cz_{18}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{Si\ II}$$

$$\mathbf{B}_{223} = -\left(y_{18} - \tfrac{1}{2}\right)\mathbf{a}_1 + x_{18}\,\mathbf{a}_2 + z_{18}\,\mathbf{a}_3 \quad = \quad -a\left(y_{18} - \tfrac{1}{2}\right)\hat{\mathbf{x}} + ax_{18}\,\hat{\mathbf{y}} + cz_{18}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{Si\ II}$$

$$\mathbf{B}_{224} = y_{18}\,\mathbf{a}_1 - \left(x_{18} - \tfrac{1}{2}\right)\mathbf{a}_2 + z_{18}\,\mathbf{a}_3 \quad = \quad ay_{18}\,\hat{\mathbf{x}} - a\left(x_{18} - \tfrac{1}{2}\right)\hat{\mathbf{y}} + cz_{18}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{Si\ II}$$

$$\mathbf{B}_{225} = -\left(x_{18} - \tfrac{1}{2}\right)\mathbf{a}_1 + y_{18}\,\mathbf{a}_2 - \left(z_{18} - \tfrac{1}{2}\right)\mathbf{a}_3 \quad = \quad -a\left(x_{18} - \tfrac{1}{2}\right)\hat{\mathbf{x}} + ay_{18}\,\hat{\mathbf{y}} - c\left(z_{18} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{Si\ II}$$

$$\mathbf{B}_{226} = x_{18}\,\mathbf{a}_1 - \left(y_{18} - \tfrac{1}{2}\right)\mathbf{a}_2 - \left(z_{18} - \tfrac{1}{2}\right)\mathbf{a}_3 \quad = \quad ax_{18}\,\hat{\mathbf{x}} - a\left(y_{18} - \tfrac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_{18} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{Si\ II}$$

$$\mathbf{B}_{227} = y_{18}\,\mathbf{a}_1 + x_{18}\,\mathbf{a}_2 - \left(z_{18} - \tfrac{1}{2}\right)\mathbf{a}_3 \quad = \quad ay_{18}\,\hat{\mathbf{x}} + ax_{18}\,\hat{\mathbf{y}} - c\left(z_{18} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{Si\ II}$$

$$\mathbf{B}_{228} = -\left(y_{18} - \tfrac{1}{2}\right)\mathbf{a}_1 - \left(x_{18} - \tfrac{1}{2}\right)\mathbf{a}_2 - \left(z_{18} - \tfrac{1}{2}\right)\mathbf{a}_3 \quad = \quad -a\left(y_{18} - \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(x_{18} - \tfrac{1}{2}\right)\hat{\mathbf{y}} - c\left(z_{18} - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{Si\ II}$$

$$\mathbf{B}_{229} = -x_{18}\,\mathbf{a}_1 - y_{18}\,\mathbf{a}_2 - z_{18}\,\mathbf{a}_3 \quad = \quad -ax_{18}\,\hat{\mathbf{x}} - ay_{18}\,\hat{\mathbf{y}} - cz_{18}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{Si\ II}$$

$$\mathbf{B}_{230} = \left(x_{18} + \tfrac{1}{2}\right)\mathbf{a}_1 + \left(y_{18} + \tfrac{1}{2}\right)\mathbf{a}_2 - z_{18}\,\mathbf{a}_3 \quad = \quad a\left(x_{18} + \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(y_{18} + \tfrac{1}{2}\right)\hat{\mathbf{y}} - cz_{18}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{Si\ II}$$

$$\mathbf{B}_{231} = \left(y_{18} + \tfrac{1}{2}\right)\mathbf{a}_1 - x_{18}\,\mathbf{a}_2 - z_{18}\,\mathbf{a}_3 \quad = \quad a\left(y_{18} + \tfrac{1}{2}\right)\hat{\mathbf{x}} - ax_{18}\,\hat{\mathbf{y}} - cz_{18}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{Si\ II}$$

$$\mathbf{B}_{232} = -y_{18}\,\mathbf{a}_1 + \left(x_{18} + \tfrac{1}{2}\right)\mathbf{a}_2 - z_{18}\,\mathbf{a}_3 \quad = \quad -ay_{18}\,\hat{\mathbf{x}} + a\left(x_{18} + \tfrac{1}{2}\right)\hat{\mathbf{y}} - cz_{18}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{Si\ II}$$

$$\mathbf{B}_{233} = \left(x_{18} + \tfrac{1}{2}\right)\mathbf{a}_1 - y_{18}\,\mathbf{a}_2 + \left(z_{18} + \tfrac{1}{2}\right)\mathbf{a}_3 \quad = \quad a\left(x_{18} + \tfrac{1}{2}\right)\hat{\mathbf{x}} - ay_{18}\,\hat{\mathbf{y}} + c\left(z_{18} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{Si\ II}$$

$$\mathbf{B}_{234} = -x_{18}\,\mathbf{a}_1 + \left(y_{18} + \tfrac{1}{2}\right)\mathbf{a}_2 + \left(z_{18} + \tfrac{1}{2}\right)\mathbf{a}_3 \quad = \quad -ax_{18}\,\hat{\mathbf{x}} + a\left(y_{18} + \tfrac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_{18} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{Si\ II}$$

$$\mathbf{B}_{235} = -y_{18}\,\mathbf{a}_1 - x_{18}\,\mathbf{a}_2 + \left(z_{18} + \tfrac{1}{2}\right)\mathbf{a}_3 \quad = \quad -ay_{18}\,\hat{\mathbf{x}} - ax_{18}\,\hat{\mathbf{y}} + c\left(z_{18} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{Si\ II}$$

$$\mathbf{B}_{236} = \left(y_{18} + \tfrac{1}{2}\right)\mathbf{a}_1 + \left(x_{18} + \tfrac{1}{2}\right)\mathbf{a}_2 + \left(z_{18} + \tfrac{1}{2}\right)\mathbf{a}_3 \quad = \quad a\left(y_{18} + \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(x_{18} + \tfrac{1}{2}\right)\hat{\mathbf{y}} + c\left(z_{18} + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{Si\ II}$$

$$\mathbf{B}_{237} = x_{19}\,\mathbf{a}_1 + y_{19}\,\mathbf{a}_2 + z_{19}\,\mathbf{a}_3 \quad = \quad ax_{19}\,\hat{\mathbf{x}} + ay_{19}\,\hat{\mathbf{y}} + cz_{19}\,\hat{\mathbf{z}} \quad (16\mathrm{k}) \quad \mathrm{Si\ III}$$

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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