$SrZn(VO)(PO_4)_2$ Structure: A9B2CDE_oP112_61_9c_2c_c_c_c-001

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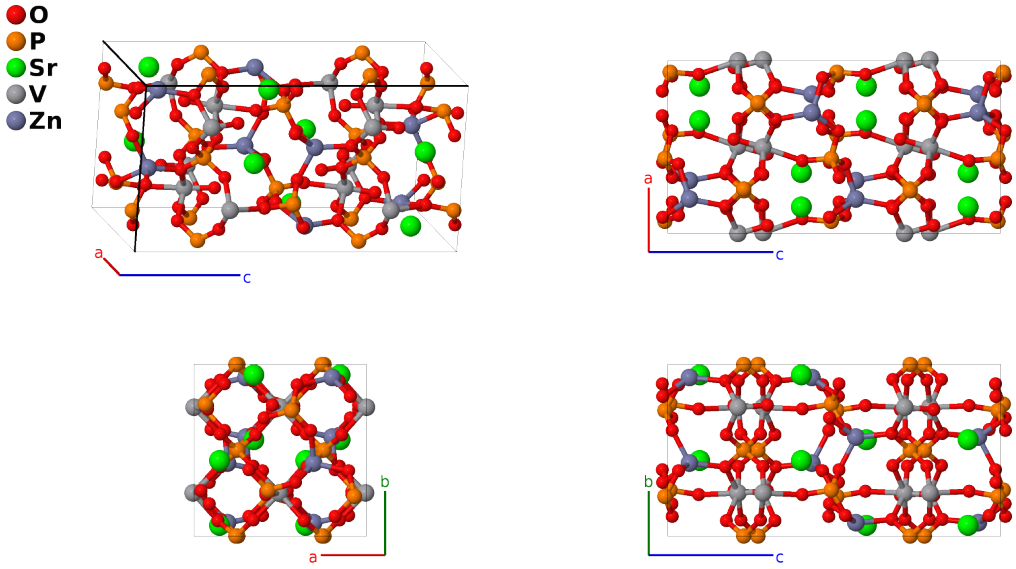
https://aflow.org/p/VHVW

https://aflow.org/p/A9B2CDE_oP112_61_9c_2c_c_c_c-001



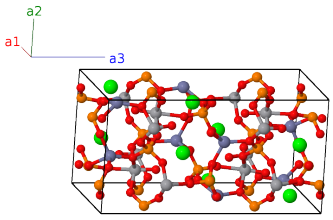
Prototype	O_9P_2SrVZn
AFLOW prototype label	A9B2CDE_oP112_61_9c_2c_c_c_c-001
ICSD	407046
Pearson symbol	oP112
Space group number	61
Space group symbol	*Pbca*
AFLOW prototype command	`aflow --proto=A9B2CDE_oP112_61_9c_2c_c_c_c-001 --params=`$a, b/a, c/a, x_1, y_1, z_1, x_2, y_2, z_2, x_3, y_3, z_3, x_4, y_4, z_4, x_5, y_5, z_5, x_6, y_6, z_6, x_7, y_7, z_7, x_8, y_8, z_8, x_9, y_9, z_9, x_{10}, y_{10}, z_{10}, x_{11}, y_{11}, z_{11}, x_{12}, y_{12}, z_{12}, x_{13}, y_{13}, z_{13}, x_{14}, y_{14}, z_{14}$

Other compounds with this structure

$BaCd(VO)(PO_4)_2$, $BaPb(VO)(PO_4)_2$, $BaSr(VO)(PO_4)_2$, $BaZn(VO)(PO_4)_2$, $CdPb(VO)(PO_4)_2$, $CdSr(VO)(PO_4)_2$, $CdZn(VO)(PO_4)_2$, $PbSr(VO)(PO_4)_2$, $PbZn(VO)(PO_4)_2$, $SrZn(VO)(PO_4)_2$, $Pb_2(VO)(PO_4)_2$

Simple Orthorhombic primitive vectors

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



Basis vectors

		Lattice coordinates		Cartesian coordinates	Wyckoff position	Atom type
$\mathbf{B_1}$	=	$x_1\,\mathbf{a}_1 + y_1\,\mathbf{a}_2 + z_1\,\mathbf{a}_3$	=	$ax_1\,\hat{\mathbf{x}} + by_1\,\hat{\mathbf{y}} + cz_1\,\hat{\mathbf{z}}$	(8c)	O I
$\mathbf{B_2}$	=	$-\left(x_1-\frac{1}{2}\right)\,\mathbf{a}_1 - y_1\,\mathbf{a}_2 + \left(z_1+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(x_1-\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_1\,\hat{\mathbf{y}} + c\left(z_1+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(8c)	O I
$\mathbf{B_3}$	=	$-x_1\,\mathbf{a}_1 + \left(y_1+\frac{1}{2}\right)\,\mathbf{a}_2 - \left(z_1-\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-ax_1\,\hat{\mathbf{x}} + b\left(y_1+\frac{1}{2}\right)\,\hat{\mathbf{y}} - c\left(z_1-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(8c)	O I
$\mathbf{B_4}$	=	$\left(x_1+\frac{1}{2}\right)\,\mathbf{a}_1 - \left(y_1-\frac{1}{2}\right)\,\mathbf{a}_2 - z_1\,\mathbf{a}_3$	=	$a\left(x_1+\frac{1}{2}\right)\,\hat{\mathbf{x}} - b\left(y_1-\frac{1}{2}\right)\,\hat{\mathbf{y}} - cz_1\,\hat{\mathbf{z}}$	(8c)	O I
$\mathbf{B_5}$	=	$-x_1\,\mathbf{a}_1 - y_1\,\mathbf{a}_2 - z_1\,\mathbf{a}_3$	=	$-ax_1\,\hat{\mathbf{x}} - by_1\,\hat{\mathbf{y}} - cz_1\,\hat{\mathbf{z}}$	(8c)	O I
$\mathbf{B_6}$	=	$\left(x_1+\frac{1}{2}\right)\,\mathbf{a}_1 + y_1\,\mathbf{a}_2 - \left(z_1-\frac{1}{2}\right)\,\mathbf{a}_3$	=	$a\left(x_1+\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_1\,\hat{\mathbf{y}} - c\left(z_1-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(8c)	O I
$\mathbf{B_7}$	=	$x_1\,\mathbf{a}_1 - \left(y_1-\frac{1}{2}\right)\,\mathbf{a}_2 + \left(z_1+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$ax_1\,\hat{\mathbf{x}} - b\left(y_1-\frac{1}{2}\right)\,\hat{\mathbf{y}} + c\left(z_1+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(8c)	O I
$\mathbf{B_8}$	=	$-\left(x_1-\frac{1}{2}\right)\,\mathbf{a}_1 + \left(y_1+\frac{1}{2}\right)\,\mathbf{a}_2 + z_1\,\mathbf{a}_3$	=	$-a\left(x_1-\frac{1}{2}\right)\,\hat{\mathbf{x}} + b\left(y_1+\frac{1}{2}\right)\,\hat{\mathbf{y}} + cz_1\,\hat{\mathbf{z}}$	(8c)	O I
$\mathbf{B_9}$	=	$x_2\,\mathbf{a}_1 + y_2\,\mathbf{a}_2 + z_2\,\mathbf{a}_3$	=	$ax_2\,\hat{\mathbf{x}} + by_2\,\hat{\mathbf{y}} + cz_2\,\hat{\mathbf{z}}$	(8c)	O II
$\mathbf{B_{10}}$	=	$-\left(x_2-\frac{1}{2}\right)\,\mathbf{a}_1 - y_2\,\mathbf{a}_2 + \left(z_2+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(x_2-\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_2\,\hat{\mathbf{y}} + c\left(z_2+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(8c)	O II
$\mathbf{B_{11}}$	=	$-x_2\,\mathbf{a}_1 + \left(y_2+\frac{1}{2}\right)\,\mathbf{a}_2 - \left(z_2-\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-ax_2\,\hat{\mathbf{x}} + b\left(y_2+\frac{1}{2}\right)\,\hat{\mathbf{y}} - c\left(z_2-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(8c)	O II
$\mathbf{B_{12}}$	=	$\left(x_2+\frac{1}{2}\right)\,\mathbf{a}_1 - \left(y_2-\frac{1}{2}\right)\,\mathbf{a}_2 - z_2\,\mathbf{a}_3$	=	$a\left(x_2+\frac{1}{2}\right)\,\hat{\mathbf{x}} - b\left(y_2-\frac{1}{2}\right)\,\hat{\mathbf{y}} - cz_2\,\hat{\mathbf{z}}$	(8c)	O II
$\mathbf{B_{13}}$	=	$-x_2\,\mathbf{a}_1 - y_2\,\mathbf{a}_2 - z_2\,\mathbf{a}_3$	=	$-ax_2\,\hat{\mathbf{x}} - by_2\,\hat{\mathbf{y}} - cz_2\,\hat{\mathbf{z}}$	(8c)	O II
$\mathbf{B_{14}}$	=	$\left(x_2+\frac{1}{2}\right)\,\mathbf{a}_1 + y_2\,\mathbf{a}_2 - \left(z_2-\frac{1}{2}\right)\,\mathbf{a}_3$	=	$a\left(x_2+\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_2\,\hat{\mathbf{y}} - c\left(z_2-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(8c)	O II
$\mathbf{B_{15}}$	=	$x_2\,\mathbf{a}_1 - \left(y_2-\frac{1}{2}\right)\,\mathbf{a}_2 + \left(z_2+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$ax_2\,\hat{\mathbf{x}} - b\left(y_2-\frac{1}{2}\right)\,\hat{\mathbf{y}} + c\left(z_2+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(8c)	O II
$\mathbf{B_{16}}$	=	$-\left(x_2-\frac{1}{2}\right)\,\mathbf{a}_1 + \left(y_2+\frac{1}{2}\right)\,\mathbf{a}_2 + z_2\,\mathbf{a}_3$	=	$-a\left(x_2-\frac{1}{2}\right)\,\hat{\mathbf{x}} + b\left(y_2+\frac{1}{2}\right)\,\hat{\mathbf{y}} + cz_2\,\hat{\mathbf{z}}$	(8c)	O II
$\mathbf{B_{17}}$	=	$x_3\,\mathbf{a}_1 + y_3\,\mathbf{a}_2 + z_3\,\mathbf{a}_3$	=	$ax_3\,\hat{\mathbf{x}} + by_3\,\hat{\mathbf{y}} + cz_3\,\hat{\mathbf{z}}$	(8c)	O III
$\mathbf{B_{18}}$	=	$-\left(x_3-\frac{1}{2}\right)\,\mathbf{a}_1 - y_3\,\mathbf{a}_2 + \left(z_3+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(x_3-\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_3\,\hat{\mathbf{y}} + c\left(z_3+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(8c)	O III
$\mathbf{B_{19}}$	=	$-x_3\,\mathbf{a}_1 + \left(y_3+\frac{1}{2}\right)\,\mathbf{a}_2 - \left(z_3-\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-ax_3\,\hat{\mathbf{x}} + b\left(y_3+\frac{1}{2}\right)\,\hat{\mathbf{y}} - c\left(z_3-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(8c)	O III
$\mathbf{B_{20}}$	=	$\left(x_3+\frac{1}{2}\right)\,\mathbf{a}_1 - \left(y_3-\frac{1}{2}\right)\,\mathbf{a}_2 - z_3\,\mathbf{a}_3$	=	$a\left(x_3+\frac{1}{2}\right)\,\hat{\mathbf{x}} - b\left(y_3-\frac{1}{2}\right)\,\hat{\mathbf{y}} - cz_3\,\hat{\mathbf{z}}$	(8c)	O III
$\mathbf{B_{21}}$	=	$-x_3\,\mathbf{a}_1 - y_3\,\mathbf{a}_2 - z_3\,\mathbf{a}_3$	=	$-ax_3\,\hat{\mathbf{x}} - by_3\,\hat{\mathbf{y}} - cz_3\,\hat{\mathbf{z}}$	(8c)	O III
$\mathbf{B_{22}}$	=	$\left(x_3+\frac{1}{2}\right)\,\mathbf{a}_1 + y_3\,\mathbf{a}_2 - \left(z_3-\frac{1}{2}\right)\,\mathbf{a}_3$	=	$a\left(x_3+\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_3\,\hat{\mathbf{y}} - c\left(z_3-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(8c)	O III
$\mathbf{B_{23}}$	=	$x_3\,\mathbf{a}_1 - \left(y_3-\frac{1}{2}\right)\,\mathbf{a}_2 + \left(z_3+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$ax_3\,\hat{\mathbf{x}} - b\left(y_3-\frac{1}{2}\right)\,\hat{\mathbf{y}} + c\left(z_3+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(8c)	O III
$\mathbf{B_{24}}$	=	$-\left(x_3-\frac{1}{2}\right)\,\mathbf{a}_1 + \left(y_3+\frac{1}{2}\right)\,\mathbf{a}_2 + z_3\,\mathbf{a}_3$	=	$-a\left(x_3-\frac{1}{2}\right)\,\hat{\mathbf{x}} + b\left(y_3+\frac{1}{2}\right)\,\hat{\mathbf{y}} + cz_3\,\hat{\mathbf{z}}$	(8c)	O III
$\mathbf{B_{25}}$	=	$x_4\,\mathbf{a}_1 + y_4\,\mathbf{a}_2 + z_4\,\mathbf{a}_3$	=	$ax_4\,\hat{\mathbf{x}} + by_4\,\hat{\mathbf{y}} + cz_4\,\hat{\mathbf{z}}$	(8c)	O IV
$\mathbf{B_{26}}$	=	$-\left(x_4-\frac{1}{2}\right)\,\mathbf{a}_1 - y_4\,\mathbf{a}_2 + \left(z_4+\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(x_4-\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_4\,\hat{\mathbf{y}} + c\left(z_4+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(8c)	O IV
$\mathbf{B_{27}}$	=	$-x_4\,\mathbf{a}_1 + \left(y_4+\frac{1}{2}\right)\,\mathbf{a}_2 - \left(z_4-\frac{1}{2}\right)\,\mathbf{a}_3$	=	$-ax_4\,\hat{\mathbf{x}} + b\left(y_4+\frac{1}{2}\right)\,\hat{\mathbf{y}} - c\left(z_4-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(8c)	O IV
$\mathbf{B_{28}}$	=	$\left(x_4+\frac{1}{2}\right)\,\mathbf{a}_1 - \left(y_4-\frac{1}{2}\right)\,\mathbf{a}_2 - z_4\,\mathbf{a}_3$	=	$a\left(x_4+\frac{1}{2}\right)\,\hat{\mathbf{x}} - b\left(y_4-\frac{1}{2}\right)\,\hat{\mathbf{y}} - cz_4\,\hat{\mathbf{z}}$	(8c)	O IV
$\mathbf{B_{29}}$	=	$-x_4\,\mathbf{a}_1 - y_4\,\mathbf{a}_2 - z_4\,\mathbf{a}_3$	=	$-ax_4\,\hat{\mathbf{x}} - by_4\,\hat{\mathbf{y}} - cz_4\,\hat{\mathbf{z}}$	(8c)	O IV
$\mathbf{B_{30}}$	=	$\left(x_4+\frac{1}{2}\right)\,\mathbf{a}_1 + y_4\,\mathbf{a}_2 - \left(z_4-\frac{1}{2}\right)\,\mathbf{a}_3$	=	$a\left(x_4+\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_4\,\hat{\mathbf{y}} - c\left(z_4-\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(8c)	O IV

$$
\begin{array}{lcccccc}
\mathbf{B_{31}} & = & x_4\,\mathbf{a}_1-\left(y_4-\frac{1}{2}\right)\,\mathbf{a}_2+\left(z_4+\frac{1}{2}\right)\,\mathbf{a}_3 & = & ax_4\,\hat{\mathbf{x}}-b\left(y_4-\frac{1}{2}\right)\,\hat{\mathbf{y}}+c\left(z_4+\frac{1}{2}\right)\,\hat{\mathbf{z}} & (8c) & \text{O IV}\\
\mathbf{B_{32}} & = & -\left(x_4-\frac{1}{2}\right)\,\mathbf{a}_1+\left(y_4+\frac{1}{2}\right)\,\mathbf{a}_2+ z_4\,\mathbf{a}_3 & = & -a\left(x_4-\frac{1}{2}\right)\,\hat{\mathbf{x}}+b\left(y_4+\frac{1}{2}\right)\,\hat{\mathbf{y}}+cz_4\,\hat{\mathbf{z}} & (8c) & \text{O IV}\\
\mathbf{B_{33}} & = & x_5\,\mathbf{a}_1+y_5\,\mathbf{a}_2+z_5\,\mathbf{a}_3 & = & ax_5\,\hat{\mathbf{x}}+by_5\,\hat{\mathbf{y}}+cz_5\,\hat{\mathbf{z}} & (8c) & \text{O V}\\
\mathbf{B_{34}} & = & -\left(x_5-\frac{1}{2}\right)\,\mathbf{a}_1-y_5\,\mathbf{a}_2+ \left(z_5+\frac{1}{2}\right)\,\mathbf{a}_3 & = & -a\left(x_5-\frac{1}{2}\right)\,\hat{\mathbf{x}}-by_5\,\hat{\mathbf{y}}+c\left(z_5+\frac{1}{2}\right)\,\hat{\mathbf{z}} & (8c) & \text{O V}\\
\mathbf{B_{35}} & = & -x_5\,\mathbf{a}_1+\left(y_5+\frac{1}{2}\right)\,\mathbf{a}_2- \left(z_5-\frac{1}{2}\right)\,\mathbf{a}_3 & = & -ax_5\,\hat{\mathbf{x}}+b\left(y_5+\frac{1}{2}\right)\,\hat{\mathbf{y}}-c\left(z_5-\frac{1}{2}\right)\,\hat{\mathbf{z}} & (8c) & \text{O V}\\
\mathbf{B_{36}} & = & \left(x_5+\frac{1}{2}\right)\,\mathbf{a}_1-\left(y_5-\frac{1}{2}\right)\,\mathbf{a}_2-z_5\,\mathbf{a}_3 & = & a\left(x_5+\frac{1}{2}\right)\,\hat{\mathbf{x}}-b\left(y_5-\frac{1}{2}\right)\,\hat{\mathbf{y}}-cz_5\,\hat{\mathbf{z}} & (8c) & \text{O V}\\
\mathbf{B_{37}} & = & -x_5\,\mathbf{a}_1-y_5\,\mathbf{a}_2-z_5\,\mathbf{a}_3 & = & -ax_5\,\hat{\mathbf{x}}-by_5\,\hat{\mathbf{y}}-cz_5\,\hat{\mathbf{z}} & (8c) & \text{O V}\\
\mathbf{B_{38}} & = & \left(x_5+\frac{1}{2}\right)\,\mathbf{a}_1+y_5\,\mathbf{a}_2-\left(z_5-\frac{1}{2}\right)\,\mathbf{a}_3 & = & a\left(x_5+\frac{1}{2}\right)\,\hat{\mathbf{x}}+by_5\,\hat{\mathbf{y}}-c\left(z_5-\frac{1}{2}\right)\,\hat{\mathbf{z}} & (8c) & \text{O V}\\
\mathbf{B_{39}} & = & x_5\,\mathbf{a}_1-\left(y_5-\frac{1}{2}\right)\,\mathbf{a}_2+\left(z_5+\frac{1}{2}\right)\,\mathbf{a}_3 & = & ax_5\,\hat{\mathbf{x}}-b\left(y_5-\frac{1}{2}\right)\,\hat{\mathbf{y}}+c\left(z_5+\frac{1}{2}\right)\,\hat{\mathbf{z}} & (8c) & \text{O V}\\
\mathbf{B_{40}} & = & -\left(x_5-\frac{1}{2}\right)\,\mathbf{a}_1+\left(y_5+\frac{1}{2}\right)\,\mathbf{a}_2+ z_5\,\mathbf{a}_3 & = & -a\left(x_5-\frac{1}{2}\right)\,\hat{\mathbf{x}}+b\left(y_5+\frac{1}{2}\right)\,\hat{\mathbf{y}}+cz_5\,\hat{\mathbf{z}} & (8c) & \text{O V}\\
\mathbf{B_{41}} & = & x_6\,\mathbf{a}_1+y_6\,\mathbf{a}_2+z_6\,\mathbf{a}_3 & = & ax_6\,\hat{\mathbf{x}}+by_6\,\hat{\mathbf{y}}+cz_6\,\hat{\mathbf{z}} & (8c) & \text{O VI}\\
\mathbf{B_{42}} & = & -\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}}-by_6\,\hat{\mathbf{y}}+c\left(z_6+\frac{1}{2}\right)\,\hat{\mathbf{z}} & (8c) & \text{O VI}\\
\mathbf{B_{43}} & = & -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}}+b\left(y_6+\frac{1}{2}\right)\,\hat{\mathbf{y}}-c\left(z_6-\frac{1}{2}\right)\,\hat{\mathbf{z}} & (8c) & \text{O VI}\\
\mathbf{B_{44}} & = & \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}}-b\left(y_6-\frac{1}{2}\right)\,\hat{\mathbf{y}}-cz_6\,\hat{\mathbf{z}} & (8c) & \text{O VI}\\
\mathbf{B_{45}} & = & -x_6\,\mathbf{a}_1-y_6\,\mathbf{a}_2-z_6\,\mathbf{a}_3 & = & -ax_6\,\hat{\mathbf{x}}-by_6\,\hat{\mathbf{y}}-cz_6\,\hat{\mathbf{z}} & (8c) & \text{O VI}\\
\mathbf{B_{46}} & = & \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}}+by_6\,\hat{\mathbf{y}}-c\left(z_6-\frac{1}{2}\right)\,\hat{\mathbf{z}} & (8c) & \text{O VI}\\
\mathbf{B_{47}} & = & 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}}-b\left(y_6-\frac{1}{2}\right)\,\hat{\mathbf{y}}+c\left(z_6+\frac{1}{2}\right)\,\hat{\mathbf{z}} & (8c) & \text{O VI}\\
\mathbf{B_{48}} & = & -\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}}+b\left(y_6+\frac{1}{2}\right)\,\hat{\mathbf{y}}+cz_6\,\hat{\mathbf{z}} & (8c) & \text{O VI}\\
\mathbf{B_{49}} & = & x_7\,\mathbf{a}_1+y_7\,\mathbf{a}_2+z_7\,\mathbf{a}_3 & = & ax_7\,\hat{\mathbf{x}}+by_7\,\hat{\mathbf{y}}+cz_7\,\hat{\mathbf{z}} & (8c) & \text{O VII}\\
\mathbf{B_{50}} & = & -\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}}-by_7\,\hat{\mathbf{y}}+c\left(z_7+\frac{1}{2}\right)\,\hat{\mathbf{z}} & (8c) & \text{O VII}\\
\mathbf{B_{51}} & = & -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}}+b\left(y_7+\frac{1}{2}\right)\,\hat{\mathbf{y}}-c\left(z_7-\frac{1}{2}\right)\,\hat{\mathbf{z}} & (8c) & \text{O VII}\\
\mathbf{B_{52}} & = & \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}}-b\left(y_7-\frac{1}{2}\right)\,\hat{\mathbf{y}}-cz_7\,\hat{\mathbf{z}} & (8c) & \text{O VII}\\
\mathbf{B_{53}} & = & -x_7\,\mathbf{a}_1-y_7\,\mathbf{a}_2-z_7\,\mathbf{a}_3 & = & -ax_7\,\hat{\mathbf{x}}-by_7\,\hat{\mathbf{y}}-cz_7\,\hat{\mathbf{z}} & (8c) & \text{O VII}\\
\mathbf{B_{54}} & = & \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}}+by_7\,\hat{\mathbf{y}}-c\left(z_7-\frac{1}{2}\right)\,\hat{\mathbf{z}} & (8c) & \text{O VII}\\
\mathbf{B_{55}} & = & 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}}-b\left(y_7-\frac{1}{2}\right)\,\hat{\mathbf{y}}+c\left(z_7+\frac{1}{2}\right)\,\hat{\mathbf{z}} & (8c) & \text{O VII}\\
\mathbf{B_{56}} & = & -\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}}+b\left(y_7+\frac{1}{2}\right)\,\hat{\mathbf{y}}+cz_7\,\hat{\mathbf{z}} & (8c) & \text{O VII}\\
\mathbf{B_{57}} & = & x_8\,\mathbf{a}_1+y_8\,\mathbf{a}_2+z_8\,\mathbf{a}_3 & = & ax_8\,\hat{\mathbf{x}}+by_8\,\hat{\mathbf{y}}+cz_8\,\hat{\mathbf{z}} & (8c) & \text{O VIII}\\
\mathbf{B_{58}} & = & -\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}}-by_8\,\hat{\mathbf{y}}+c\left(z_8+\frac{1}{2}\right)\,\hat{\mathbf{z}} & (8c) & \text{O VIII}\\
\mathbf{B_{59}} & = & -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}}+b\left(y_8+\frac{1}{2}\right)\,\hat{\mathbf{y}}-c\left(z_8-\frac{1}{2}\right)\,\hat{\mathbf{z}} & (8c) & \text{O VIII}\\
\mathbf{B_{60}} & = & \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}}-b\left(y_8-\frac{1}{2}\right)\,\hat{\mathbf{y}}-cz_8\,\hat{\mathbf{z}} & (8c) & \text{O VIII}\\
\mathbf{B_{61}} & = & -x_8\,\mathbf{a}_1-y_8\,\mathbf{a}_2-z_8\,\mathbf{a}_3 & = & -ax_8\,\hat{\mathbf{x}}-by_8\,\hat{\mathbf{y}}-cz_8\,\hat{\mathbf{z}} & (8c) & \text{O VIII}\\
\mathbf{B_{62}} & = & \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}}+by_8\,\hat{\mathbf{y}}-c\left(z_8-\frac{1}{2}\right)\,\hat{\mathbf{z}} & (8c) & \text{O VIII}
\end{array}
$$

$$\mathbf{B_{63}} = x_8\,\mathbf{a}_1-\left(y_8-\tfrac{1}{2}\right)\,\mathbf{a}_2+\left(z_8+\tfrac{1}{2}\right)\,\mathbf{a}_3 = ax_8\,\hat{\mathbf{x}}-b\left(y_8-\tfrac{1}{2}\right)\,\hat{\mathbf{y}}+c\left(z_8+\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{O VIII}$$

$$\mathbf{B_{64}} = -\left(x_8-\tfrac{1}{2}\right)\,\mathbf{a}_1+\left(y_8+\tfrac{1}{2}\right)\,\mathbf{a}_2+z_8\,\mathbf{a}_3 = -a\left(x_8-\tfrac{1}{2}\right)\,\hat{\mathbf{x}}+b\left(y_8+\tfrac{1}{2}\right)\,\hat{\mathbf{y}}+cz_8\,\hat{\mathbf{z}} \quad (8c) \quad \text{O VIII}$$

$$\mathbf{B_{65}} = x_9\,\mathbf{a}_1+y_9\,\mathbf{a}_2+z_9\,\mathbf{a}_3 = ax_9\,\hat{\mathbf{x}}+by_9\,\hat{\mathbf{y}}+cz_9\,\hat{\mathbf{z}} \quad (8c) \quad \text{O IX}$$

$$\mathbf{B_{66}} = -\left(x_9-\tfrac{1}{2}\right)\,\mathbf{a}_1-y_9\,\mathbf{a}_2+\left(z_9+\tfrac{1}{2}\right)\,\mathbf{a}_3 = -a\left(x_9-\tfrac{1}{2}\right)\,\hat{\mathbf{x}}-by_9\,\hat{\mathbf{y}}+c\left(z_9+\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{O IX}$$

$$\mathbf{B_{67}} = -x_9\,\mathbf{a}_1+\left(y_9+\tfrac{1}{2}\right)\,\mathbf{a}_2-\left(z_9-\tfrac{1}{2}\right)\,\mathbf{a}_3 = -ax_9\,\hat{\mathbf{x}}+b\left(y_9+\tfrac{1}{2}\right)\,\hat{\mathbf{y}}-c\left(z_9-\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{O IX}$$

$$\mathbf{B_{68}} = \left(x_9+\tfrac{1}{2}\right)\,\mathbf{a}_1-\left(y_9-\tfrac{1}{2}\right)\,\mathbf{a}_2-z_9\,\mathbf{a}_3 = a\left(x_9+\tfrac{1}{2}\right)\,\hat{\mathbf{x}}-b\left(y_9-\tfrac{1}{2}\right)\,\hat{\mathbf{y}}-cz_9\,\hat{\mathbf{z}} \quad (8c) \quad \text{O IX}$$

$$\mathbf{B_{69}} = -x_9\,\mathbf{a}_1-y_9\,\mathbf{a}_2-z_9\,\mathbf{a}_3 = -ax_9\,\hat{\mathbf{x}}-by_9\,\hat{\mathbf{y}}-cz_9\,\hat{\mathbf{z}} \quad (8c) \quad \text{O IX}$$

$$\mathbf{B_{70}} = \left(x_9+\tfrac{1}{2}\right)\,\mathbf{a}_1+y_9\,\mathbf{a}_2-\left(z_9-\tfrac{1}{2}\right)\,\mathbf{a}_3 = a\left(x_9+\tfrac{1}{2}\right)\,\hat{\mathbf{x}}+by_9\,\hat{\mathbf{y}}-c\left(z_9-\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{O IX}$$

$$\mathbf{B_{71}} = x_9\,\mathbf{a}_1-\left(y_9-\tfrac{1}{2}\right)\,\mathbf{a}_2+\left(z_9+\tfrac{1}{2}\right)\,\mathbf{a}_3 = ax_9\,\hat{\mathbf{x}}-b\left(y_9-\tfrac{1}{2}\right)\,\hat{\mathbf{y}}+c\left(z_9+\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{O IX}$$

$$\mathbf{B_{72}} = -\left(x_9-\tfrac{1}{2}\right)\,\mathbf{a}_1+\left(y_9+\tfrac{1}{2}\right)\,\mathbf{a}_2+z_9\,\mathbf{a}_3 = -a\left(x_9-\tfrac{1}{2}\right)\,\hat{\mathbf{x}}+b\left(y_9+\tfrac{1}{2}\right)\,\hat{\mathbf{y}}+cz_9\,\hat{\mathbf{z}} \quad (8c) \quad \text{O IX}$$

$$\mathbf{B_{73}} = x_{10}\,\mathbf{a}_1+y_{10}\,\mathbf{a}_2+z_{10}\,\mathbf{a}_3 = ax_{10}\,\hat{\mathbf{x}}+by_{10}\,\hat{\mathbf{y}}+cz_{10}\,\hat{\mathbf{z}} \quad (8c) \quad \text{P I}$$

$$\mathbf{B_{74}} = -\left(x_{10}-\tfrac{1}{2}\right)\,\mathbf{a}_1-y_{10}\,\mathbf{a}_2+\left(z_{10}+\tfrac{1}{2}\right)\,\mathbf{a}_3 = -a\left(x_{10}-\tfrac{1}{2}\right)\,\hat{\mathbf{x}}-by_{10}\,\hat{\mathbf{y}}+c\left(z_{10}+\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{P I}$$

$$\mathbf{B_{75}} = -x_{10}\,\mathbf{a}_1+\left(y_{10}+\tfrac{1}{2}\right)\,\mathbf{a}_2-\left(z_{10}-\tfrac{1}{2}\right)\,\mathbf{a}_3 = -ax_{10}\,\hat{\mathbf{x}}+b\left(y_{10}+\tfrac{1}{2}\right)\,\hat{\mathbf{y}}-c\left(z_{10}-\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{P I}$$

$$\mathbf{B_{76}} = \left(x_{10}+\tfrac{1}{2}\right)\,\mathbf{a}_1-\left(y_{10}-\tfrac{1}{2}\right)\,\mathbf{a}_2-z_{10}\,\mathbf{a}_3 = a\left(x_{10}+\tfrac{1}{2}\right)\,\hat{\mathbf{x}}-b\left(y_{10}-\tfrac{1}{2}\right)\,\hat{\mathbf{y}}-cz_{10}\,\hat{\mathbf{z}} \quad (8c) \quad \text{P I}$$

$$\mathbf{B_{77}} = -x_{10}\,\mathbf{a}_1-y_{10}\,\mathbf{a}_2-z_{10}\,\mathbf{a}_3 = -ax_{10}\,\hat{\mathbf{x}}-by_{10}\,\hat{\mathbf{y}}-cz_{10}\,\hat{\mathbf{z}} \quad (8c) \quad \text{P I}$$

$$\mathbf{B_{78}} = \left(x_{10}+\tfrac{1}{2}\right)\,\mathbf{a}_1+y_{10}\,\mathbf{a}_2-\left(z_{10}-\tfrac{1}{2}\right)\,\mathbf{a}_3 = a\left(x_{10}+\tfrac{1}{2}\right)\,\hat{\mathbf{x}}+by_{10}\,\hat{\mathbf{y}}-c\left(z_{10}-\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{P I}$$

$$\mathbf{B_{79}} = x_{10}\,\mathbf{a}_1-\left(y_{10}-\tfrac{1}{2}\right)\,\mathbf{a}_2+\left(z_{10}+\tfrac{1}{2}\right)\,\mathbf{a}_3 = ax_{10}\,\hat{\mathbf{x}}-b\left(y_{10}-\tfrac{1}{2}\right)\,\hat{\mathbf{y}}+c\left(z_{10}+\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{P I}$$

$$\mathbf{B_{80}} = -\left(x_{10}-\tfrac{1}{2}\right)\,\mathbf{a}_1+\left(y_{10}+\tfrac{1}{2}\right)\,\mathbf{a}_2+z_{10}\,\mathbf{a}_3 = -a\left(x_{10}-\tfrac{1}{2}\right)\,\hat{\mathbf{x}}+b\left(y_{10}+\tfrac{1}{2}\right)\,\hat{\mathbf{y}}+cz_{10}\,\hat{\mathbf{z}} \quad (8c) \quad \text{P I}$$

$$\mathbf{B_{81}} = x_{11}\,\mathbf{a}_1+y_{11}\,\mathbf{a}_2+z_{11}\,\mathbf{a}_3 = ax_{11}\,\hat{\mathbf{x}}+by_{11}\,\hat{\mathbf{y}}+cz_{11}\,\hat{\mathbf{z}} \quad (8c) \quad \text{P II}$$

$$\mathbf{B_{82}} = -\left(x_{11}-\tfrac{1}{2}\right)\,\mathbf{a}_1-y_{11}\,\mathbf{a}_2+\left(z_{11}+\tfrac{1}{2}\right)\,\mathbf{a}_3 = -a\left(x_{11}-\tfrac{1}{2}\right)\,\hat{\mathbf{x}}-by_{11}\,\hat{\mathbf{y}}+c\left(z_{11}+\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{P II}$$

$$\mathbf{B_{83}} = -x_{11}\,\mathbf{a}_1+\left(y_{11}+\tfrac{1}{2}\right)\,\mathbf{a}_2-\left(z_{11}-\tfrac{1}{2}\right)\,\mathbf{a}_3 = -ax_{11}\,\hat{\mathbf{x}}+b\left(y_{11}+\tfrac{1}{2}\right)\,\hat{\mathbf{y}}-c\left(z_{11}-\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{P II}$$

$$\mathbf{B_{84}} = \left(x_{11}+\tfrac{1}{2}\right)\,\mathbf{a}_1-\left(y_{11}-\tfrac{1}{2}\right)\,\mathbf{a}_2-z_{11}\,\mathbf{a}_3 = a\left(x_{11}+\tfrac{1}{2}\right)\,\hat{\mathbf{x}}-b\left(y_{11}-\tfrac{1}{2}\right)\,\hat{\mathbf{y}}-cz_{11}\,\hat{\mathbf{z}} \quad (8c) \quad \text{P II}$$

$$\mathbf{B_{85}} = -x_{11}\,\mathbf{a}_1-y_{11}\,\mathbf{a}_2-z_{11}\,\mathbf{a}_3 = -ax_{11}\,\hat{\mathbf{x}}-by_{11}\,\hat{\mathbf{y}}-cz_{11}\,\hat{\mathbf{z}} \quad (8c) \quad \text{P II}$$

$$\mathbf{B_{86}} = \left(x_{11}+\tfrac{1}{2}\right)\,\mathbf{a}_1+y_{11}\,\mathbf{a}_2-\left(z_{11}-\tfrac{1}{2}\right)\,\mathbf{a}_3 = a\left(x_{11}+\tfrac{1}{2}\right)\,\hat{\mathbf{x}}+by_{11}\,\hat{\mathbf{y}}-c\left(z_{11}-\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{P II}$$

$$\mathbf{B_{87}} = x_{11}\,\mathbf{a}_1-\left(y_{11}-\tfrac{1}{2}\right)\,\mathbf{a}_2+\left(z_{11}+\tfrac{1}{2}\right)\,\mathbf{a}_3 = ax_{11}\,\hat{\mathbf{x}}-b\left(y_{11}-\tfrac{1}{2}\right)\,\hat{\mathbf{y}}+c\left(z_{11}+\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{P II}$$

$$\mathbf{B_{88}} = -\left(x_{11}-\tfrac{1}{2}\right)\,\mathbf{a}_1+\left(y_{11}+\tfrac{1}{2}\right)\,\mathbf{a}_2+z_{11}\,\mathbf{a}_3 = -a\left(x_{11}-\tfrac{1}{2}\right)\,\hat{\mathbf{x}}+b\left(y_{11}+\tfrac{1}{2}\right)\,\hat{\mathbf{y}}+cz_{11}\,\hat{\mathbf{z}} \quad (8c) \quad \text{P II}$$

$$\mathbf{B_{89}} = x_{12}\,\mathbf{a}_1+y_{12}\,\mathbf{a}_2+z_{12}\,\mathbf{a}_3 = ax_{12}\,\hat{\mathbf{x}}+by_{12}\,\hat{\mathbf{y}}+cz_{12}\,\hat{\mathbf{z}} \quad (8c) \quad \text{Sr I}$$

$$\mathbf{B_{90}} = -\left(x_{12}-\tfrac{1}{2}\right)\,\mathbf{a}_1-y_{12}\,\mathbf{a}_2+\left(z_{12}+\tfrac{1}{2}\right)\,\mathbf{a}_3 = -a\left(x_{12}-\tfrac{1}{2}\right)\,\hat{\mathbf{x}}-by_{12}\,\hat{\mathbf{y}}+c\left(z_{12}+\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{Sr I}$$

$$\mathbf{B_{91}} = -x_{12}\,\mathbf{a}_1 + \left(y_{12}+\tfrac{1}{2}\right)\,\mathbf{a}_2 - \left(z_{12}-\tfrac{1}{2}\right)\,\mathbf{a}_3 = -ax_{12}\,\hat{\mathbf{x}} + b\left(y_{12}+\tfrac{1}{2}\right)\,\hat{\mathbf{y}} - c\left(z_{12}-\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{Sr I}$$

$$\mathbf{B_{92}} = \left(x_{12}+\tfrac{1}{2}\right)\,\mathbf{a}_1 - \left(y_{12}-\tfrac{1}{2}\right)\,\mathbf{a}_2 - z_{12}\,\mathbf{a}_3 = a\left(x_{12}+\tfrac{1}{2}\right)\,\hat{\mathbf{x}} - b\left(y_{12}-\tfrac{1}{2}\right)\,\hat{\mathbf{y}} - cz_{12}\,\hat{\mathbf{z}} \quad (8c) \quad \text{Sr I}$$

$$\mathbf{B_{93}} = -x_{12}\,\mathbf{a}_1 - y_{12}\,\mathbf{a}_2 - z_{12}\,\mathbf{a}_3 = -ax_{12}\,\hat{\mathbf{x}} - by_{12}\,\hat{\mathbf{y}} - cz_{12}\,\hat{\mathbf{z}} \quad (8c) \quad \text{Sr I}$$

$$\mathbf{B_{94}} = \left(x_{12}+\tfrac{1}{2}\right)\,\mathbf{a}_1 + y_{12}\,\mathbf{a}_2 - \left(z_{12}-\tfrac{1}{2}\right)\,\mathbf{a}_3 = a\left(x_{12}+\tfrac{1}{2}\right)\,\hat{\mathbf{x}} + by_{12}\,\hat{\mathbf{y}} - c\left(z_{12}-\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{Sr I}$$

$$\mathbf{B_{95}} = x_{12}\,\mathbf{a}_1 - \left(y_{12}-\tfrac{1}{2}\right)\,\mathbf{a}_2 + \left(z_{12}+\tfrac{1}{2}\right)\,\mathbf{a}_3 = ax_{12}\,\hat{\mathbf{x}} - b\left(y_{12}-\tfrac{1}{2}\right)\,\hat{\mathbf{y}} + c\left(z_{12}+\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{Sr I}$$

$$\mathbf{B_{96}} = -\left(x_{12}-\tfrac{1}{2}\right)\,\mathbf{a}_1 + \left(y_{12}+\tfrac{1}{2}\right)\,\mathbf{a}_2 + z_{12}\,\mathbf{a}_3 = -a\left(x_{12}-\tfrac{1}{2}\right)\,\hat{\mathbf{x}} + b\left(y_{12}+\tfrac{1}{2}\right)\,\hat{\mathbf{y}} + cz_{12}\,\hat{\mathbf{z}} \quad (8c) \quad \text{Sr I}$$

$$\mathbf{B_{97}} = x_{13}\,\mathbf{a}_1 + y_{13}\,\mathbf{a}_2 + z_{13}\,\mathbf{a}_3 = ax_{13}\,\hat{\mathbf{x}} + by_{13}\,\hat{\mathbf{y}} + cz_{13}\,\hat{\mathbf{z}} \quad (8c) \quad \text{V I}$$

$$\mathbf{B_{98}} = -\left(x_{13}-\tfrac{1}{2}\right)\,\mathbf{a}_1 - y_{13}\,\mathbf{a}_2 + \left(z_{13}+\tfrac{1}{2}\right)\,\mathbf{a}_3 = -a\left(x_{13}-\tfrac{1}{2}\right)\,\hat{\mathbf{x}} - by_{13}\,\hat{\mathbf{y}} + c\left(z_{13}+\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{V I}$$

$$\mathbf{B_{99}} = -x_{13}\,\mathbf{a}_1 + \left(y_{13}+\tfrac{1}{2}\right)\,\mathbf{a}_2 - \left(z_{13}-\tfrac{1}{2}\right)\,\mathbf{a}_3 = -ax_{13}\,\hat{\mathbf{x}} + b\left(y_{13}+\tfrac{1}{2}\right)\,\hat{\mathbf{y}} - c\left(z_{13}-\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{V I}$$

$$\mathbf{B_{100}} = \left(x_{13}+\tfrac{1}{2}\right)\,\mathbf{a}_1 - \left(y_{13}-\tfrac{1}{2}\right)\,\mathbf{a}_2 - z_{13}\,\mathbf{a}_3 = a\left(x_{13}+\tfrac{1}{2}\right)\,\hat{\mathbf{x}} - b\left(y_{13}-\tfrac{1}{2}\right)\,\hat{\mathbf{y}} - cz_{13}\,\hat{\mathbf{z}} \quad (8c) \quad \text{V I}$$

$$\mathbf{B_{101}} = -x_{13}\,\mathbf{a}_1 - y_{13}\,\mathbf{a}_2 - z_{13}\,\mathbf{a}_3 = -ax_{13}\,\hat{\mathbf{x}} - by_{13}\,\hat{\mathbf{y}} - cz_{13}\,\hat{\mathbf{z}} \quad (8c) \quad \text{V I}$$

$$\mathbf{B_{102}} = \left(x_{13}+\tfrac{1}{2}\right)\,\mathbf{a}_1 + y_{13}\,\mathbf{a}_2 - \left(z_{13}-\tfrac{1}{2}\right)\,\mathbf{a}_3 = a\left(x_{13}+\tfrac{1}{2}\right)\,\hat{\mathbf{x}} + by_{13}\,\hat{\mathbf{y}} - c\left(z_{13}-\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{V I}$$

$$\mathbf{B_{103}} = x_{13}\,\mathbf{a}_1 - \left(y_{13}-\tfrac{1}{2}\right)\,\mathbf{a}_2 + \left(z_{13}+\tfrac{1}{2}\right)\,\mathbf{a}_3 = ax_{13}\,\hat{\mathbf{x}} - b\left(y_{13}-\tfrac{1}{2}\right)\,\hat{\mathbf{y}} + c\left(z_{13}+\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{V I}$$

$$\mathbf{B_{104}} = -\left(x_{13}-\tfrac{1}{2}\right)\,\mathbf{a}_1 + \left(y_{13}+\tfrac{1}{2}\right)\,\mathbf{a}_2 + z_{13}\,\mathbf{a}_3 = -a\left(x_{13}-\tfrac{1}{2}\right)\,\hat{\mathbf{x}} + b\left(y_{13}+\tfrac{1}{2}\right)\,\hat{\mathbf{y}} + cz_{13}\,\hat{\mathbf{z}} \quad (8c) \quad \text{V I}$$

$$\mathbf{B_{105}} = x_{14}\,\mathbf{a}_1 + y_{14}\,\mathbf{a}_2 + z_{14}\,\mathbf{a}_3 = ax_{14}\,\hat{\mathbf{x}} + by_{14}\,\hat{\mathbf{y}} + cz_{14}\,\hat{\mathbf{z}} \quad (8c) \quad \text{Zn I}$$

$$\mathbf{B_{106}} = -\left(x_{14}-\tfrac{1}{2}\right)\,\mathbf{a}_1 - y_{14}\,\mathbf{a}_2 + \left(z_{14}+\tfrac{1}{2}\right)\,\mathbf{a}_3 = -a\left(x_{14}-\tfrac{1}{2}\right)\,\hat{\mathbf{x}} - by_{14}\,\hat{\mathbf{y}} + c\left(z_{14}+\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{Zn I}$$

$$\mathbf{B_{107}} = -x_{14}\,\mathbf{a}_1 + \left(y_{14}+\tfrac{1}{2}\right)\,\mathbf{a}_2 - \left(z_{14}-\tfrac{1}{2}\right)\,\mathbf{a}_3 = -ax_{14}\,\hat{\mathbf{x}} + b\left(y_{14}+\tfrac{1}{2}\right)\,\hat{\mathbf{y}} - c\left(z_{14}-\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{Zn I}$$

$$\mathbf{B_{108}} = \left(x_{14}+\tfrac{1}{2}\right)\,\mathbf{a}_1 - \left(y_{14}-\tfrac{1}{2}\right)\,\mathbf{a}_2 - z_{14}\,\mathbf{a}_3 = a\left(x_{14}+\tfrac{1}{2}\right)\,\hat{\mathbf{x}} - b\left(y_{14}-\tfrac{1}{2}\right)\,\hat{\mathbf{y}} - cz_{14}\,\hat{\mathbf{z}} \quad (8c) \quad \text{Zn I}$$

$$\mathbf{B_{109}} = -x_{14}\,\mathbf{a}_1 - y_{14}\,\mathbf{a}_2 - z_{14}\,\mathbf{a}_3 = -ax_{14}\,\hat{\mathbf{x}} - by_{14}\,\hat{\mathbf{y}} - cz_{14}\,\hat{\mathbf{z}} \quad (8c) \quad \text{Zn I}$$

$$\mathbf{B_{110}} = \left(x_{14}+\tfrac{1}{2}\right)\,\mathbf{a}_1 + y_{14}\,\mathbf{a}_2 - \left(z_{14}-\tfrac{1}{2}\right)\,\mathbf{a}_3 = a\left(x_{14}+\tfrac{1}{2}\right)\,\hat{\mathbf{x}} + by_{14}\,\hat{\mathbf{y}} - c\left(z_{14}-\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{Zn I}$$

$$\mathbf{B_{111}} = x_{14}\,\mathbf{a}_1 - \left(y_{14}-\tfrac{1}{2}\right)\,\mathbf{a}_2 + \left(z_{14}+\tfrac{1}{2}\right)\,\mathbf{a}_3 = ax_{14}\,\hat{\mathbf{x}} - b\left(y_{14}-\tfrac{1}{2}\right)\,\hat{\mathbf{y}} + c\left(z_{14}+\tfrac{1}{2}\right)\,\hat{\mathbf{z}} \quad (8c) \quad \text{Zn I}$$

$$\mathbf{B_{112}} = -\left(x_{14}-\tfrac{1}{2}\right)\,\mathbf{a}_1 + \left(y_{14}+\tfrac{1}{2}\right)\,\mathbf{a}_2 + z_{14}\,\mathbf{a}_3 = -a\left(x_{14}-\tfrac{1}{2}\right)\,\hat{\mathbf{x}} + b\left(y_{14}+\tfrac{1}{2}\right)\,\hat{\mathbf{y}} + cz_{14}\,\hat{\mathbf{z}} \quad (8c) \quad \text{Zn I}$$

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