

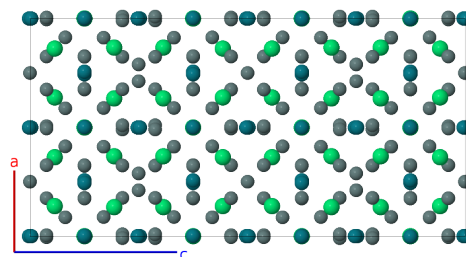
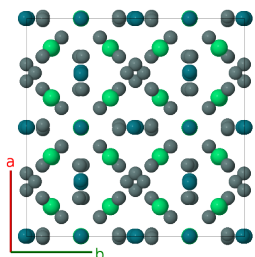
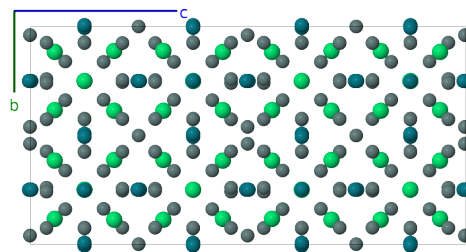
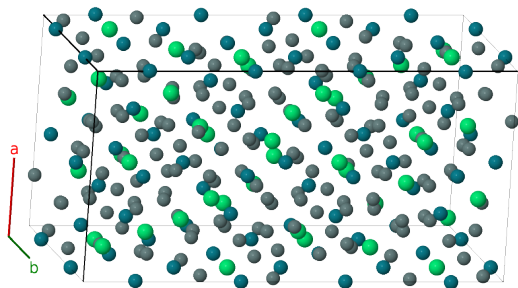
# Er<sub>5</sub>Rh<sub>6</sub>Sn<sub>18</sub> Structure: A5B6C18\_tI232\_142\_bg\_dg\_e2f3g-001

Cite this page as: H. Eckert, S. Divilov, A. Zettel, M. J. Mehl, D. Hicks, and S. Curtarolo, *The AFLOW Library of Crystallographic Prototypes: Part 4*. In preparation.

<https://afLOW.org/p/21TS>

[https://afLOW.org/p/A5B6C18\\_tI232\\_142\\_bg\\_dg\\_e2f3g-001](https://afLOW.org/p/A5B6C18_tI232_142_bg_dg_e2f3g-001)

● Er  
● Rh  
● Sn



Prototype	Er <sub>5</sub> Rh <sub>6</sub> Sn <sub>18</sub>
AFLOW prototype label	A5B6C18_tI232_142_bg_dg_e2f3g-001
ICSD	103302
Pearson symbol	tI232
Space group number	142
Space group symbol	<i>I</i> 4 <sub>1</sub> / <i>acd</i>
AFLOW prototype command	<code>afLOW --proto=A5B6C18_tI232_142_bg_dg_e2f3g-001 --params=a, c/a, z<sub>2</sub>, x<sub>3</sub>, x<sub>4</sub>, x<sub>5</sub>, x<sub>6</sub>, y<sub>6</sub>, z<sub>6</sub>, x<sub>7</sub>, y<sub>7</sub>, z<sub>7</sub>, x<sub>8</sub>, y<sub>8</sub>, z<sub>8</sub>, x<sub>9</sub>, y<sub>9</sub>, z<sub>9</sub>, x<sub>10</sub>, y<sub>10</sub>, z<sub>10</sub></code>

## Other compounds with this structure

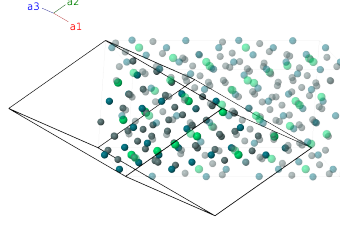
Lu<sub>5</sub>Rh<sub>6</sub>Sn<sub>18</sub>, Sc<sub>5</sub>Rh<sub>6</sub>Sn<sub>18</sub>, Y<sub>5</sub>Rh<sub>6</sub>Sn<sub>18</sub>

- (Hodeau, 1984) found that the Er-I site is actually a mixture of erbium and tin atoms in a 2:1 ratio. The ICSD entry assumes a 1:2 ratio.

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### Body-centered Tetragonal primitive vectors

$$\begin{aligned}\mathbf{a}_1 &= -\frac{1}{2}a\hat{\mathbf{x}} + \frac{1}{2}a\hat{\mathbf{y}} + \frac{1}{2}c\hat{\mathbf{z}} \\ \mathbf{a}_2 &= \frac{1}{2}a\hat{\mathbf{x}} - \frac{1}{2}a\hat{\mathbf{y}} + \frac{1}{2}c\hat{\mathbf{z}} \\ \mathbf{a}_3 &= \frac{1}{2}a\hat{\mathbf{x}} + \frac{1}{2}a\hat{\mathbf{y}} - \frac{1}{2}c\hat{\mathbf{z}}\end{aligned}$$




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### Basis vectors

	Lattice coordinates		Cartesian coordinates	Wyckoff position	Atom type
$\mathbf{B}_1$	$= \frac{3}{8}\mathbf{a}_1 + \frac{1}{8}\mathbf{a}_2 + \frac{1}{4}\mathbf{a}_3$	$=$	$\frac{1}{4}a\hat{\mathbf{y}} + \frac{1}{8}c\hat{\mathbf{z}}$	(8b)	Er I
$\mathbf{B}_2$	$= \frac{1}{8}\mathbf{a}_1 + \frac{3}{8}\mathbf{a}_2 + \frac{3}{4}\mathbf{a}_3$	$=$	$\frac{1}{2}a\hat{\mathbf{x}} + \frac{1}{4}a\hat{\mathbf{y}} - \frac{1}{8}c\hat{\mathbf{z}}$	(8b)	Er I
$\mathbf{B}_3$	$= \frac{5}{8}\mathbf{a}_1 + \frac{7}{8}\mathbf{a}_2 + \frac{3}{4}\mathbf{a}_3$	$=$	$\frac{1}{2}a\hat{\mathbf{x}} + \frac{1}{4}a\hat{\mathbf{y}} + \frac{3}{8}c\hat{\mathbf{z}}$	(8b)	Er I
$\mathbf{B}_4$	$= \frac{7}{8}\mathbf{a}_1 + \frac{5}{8}\mathbf{a}_2 + \frac{1}{4}\mathbf{a}_3$	$=$	$\frac{1}{4}a\hat{\mathbf{y}} + \frac{5}{8}c\hat{\mathbf{z}}$	(8b)	Er I
$\mathbf{B}_5$	$= (z_2 + \frac{1}{4})\mathbf{a}_1 + z_2\mathbf{a}_2 + \frac{1}{4}\mathbf{a}_3$	$=$	$\frac{1}{4}a\hat{\mathbf{y}} + cz_2\hat{\mathbf{z}}$	(16d)	Rh I
$\mathbf{B}_6$	$= z_2\mathbf{a}_1 + (z_2 + \frac{1}{4})\mathbf{a}_2 + \frac{3}{4}\mathbf{a}_3$	$=$	$\frac{1}{2}a\hat{\mathbf{x}} + \frac{1}{4}a\hat{\mathbf{y}} + c(z_2 - \frac{1}{4})\hat{\mathbf{z}}$	(16d)	Rh I
$\mathbf{B}_7$	$= -(z_2 - \frac{1}{4})\mathbf{a}_1 - (z_2 - \frac{1}{2})\mathbf{a}_2 + \frac{3}{4}\mathbf{a}_3$	$=$	$\frac{1}{2}a\hat{\mathbf{x}} + \frac{1}{4}a\hat{\mathbf{y}} - cz_2\hat{\mathbf{z}}$	(16d)	Rh I
$\mathbf{B}_8$	$= -(z_2 - \frac{1}{2})\mathbf{a}_1 - (z_2 - \frac{1}{4})\mathbf{a}_2 + \frac{1}{4}\mathbf{a}_3$	$=$	$\frac{1}{4}a\hat{\mathbf{y}} - c(z_2 - \frac{1}{4})\hat{\mathbf{z}}$	(16d)	Rh I
$\mathbf{B}_9$	$= -(z_2 - \frac{3}{4})\mathbf{a}_1 - z_2\mathbf{a}_2 + \frac{3}{4}\mathbf{a}_3$	$=$	$\frac{3}{4}a\hat{\mathbf{y}} - cz_2\hat{\mathbf{z}}$	(16d)	Rh I
$\mathbf{B}_{10}$	$= -z_2\mathbf{a}_1 - (z_2 - \frac{3}{4})\mathbf{a}_2 + \frac{1}{4}\mathbf{a}_3$	$=$	$\frac{1}{2}a\hat{\mathbf{x}} - \frac{1}{4}a\hat{\mathbf{y}} - c(z_2 - \frac{1}{4})\hat{\mathbf{z}}$	(16d)	Rh I
$\mathbf{B}_{11}$	$= (z_2 + \frac{3}{4})\mathbf{a}_1 + (z_2 + \frac{1}{2})\mathbf{a}_2 + \frac{1}{4}\mathbf{a}_3$	$=$	$\frac{1}{4}a\hat{\mathbf{y}} + c(z_2 + \frac{1}{2})\hat{\mathbf{z}}$	(16d)	Rh I
$\mathbf{B}_{12}$	$= (z_2 + \frac{1}{2})\mathbf{a}_1 + (z_2 + \frac{3}{4})\mathbf{a}_2 + \frac{3}{4}\mathbf{a}_3$	$=$	$\frac{1}{2}a\hat{\mathbf{x}} + \frac{1}{4}a\hat{\mathbf{y}} + c(z_2 + \frac{1}{4})\hat{\mathbf{z}}$	(16d)	Rh I
$\mathbf{B}_{13}$	$= \frac{1}{4}\mathbf{a}_1 + (x_3 + \frac{1}{4})\mathbf{a}_2 + x_3\mathbf{a}_3$	$=$	$ax_3\hat{\mathbf{x}} + \frac{1}{4}c\hat{\mathbf{z}}$	(16e)	Sn I
$\mathbf{B}_{14}$	$= \frac{3}{4}\mathbf{a}_1 - (x_3 - \frac{1}{4})\mathbf{a}_2 - (x_3 - \frac{1}{2})\mathbf{a}_3$	$=$	$-ax_3\hat{\mathbf{x}} + \frac{1}{2}a\hat{\mathbf{y}} + \frac{1}{4}c\hat{\mathbf{z}}$	(16e)	Sn I
$\mathbf{B}_{15}$	$= (x_3 + \frac{1}{4})\mathbf{a}_1 + \frac{3}{4}\mathbf{a}_2 + x_3\mathbf{a}_3$	$=$	$\frac{1}{4}a\hat{\mathbf{x}} + a(x_3 - \frac{1}{4})\hat{\mathbf{y}} + \frac{1}{2}c\hat{\mathbf{z}}$	(16e)	Sn I
$\mathbf{B}_{16}$	$= -(x_3 - \frac{1}{4})\mathbf{a}_1 + \frac{1}{4}\mathbf{a}_2 - (x_3 - \frac{1}{2})\mathbf{a}_3$	$=$	$\frac{1}{4}a\hat{\mathbf{x}} - a(x_3 - \frac{1}{4})\hat{\mathbf{y}}$	(16e)	Sn I
$\mathbf{B}_{17}$	$= \frac{3}{4}\mathbf{a}_1 - (x_3 - \frac{3}{4})\mathbf{a}_2 - x_3\mathbf{a}_3$	$=$	$-ax_3\hat{\mathbf{x}} + \frac{3}{4}c\hat{\mathbf{z}}$	(16e)	Sn I
$\mathbf{B}_{18}$	$= \frac{1}{4}\mathbf{a}_1 + (x_3 + \frac{3}{4})\mathbf{a}_2 + (x_3 + \frac{1}{2})\mathbf{a}_3$	$=$	$a(x_3 + \frac{1}{2})\hat{\mathbf{x}} + \frac{1}{4}c\hat{\mathbf{z}}$	(16e)	Sn I
$\mathbf{B}_{19}$	$= -(x_3 - \frac{3}{4})\mathbf{a}_1 + \frac{1}{4}\mathbf{a}_2 - x_3\mathbf{a}_3$	$=$	$-\frac{1}{4}a\hat{\mathbf{x}} - a(x_3 - \frac{1}{4})\hat{\mathbf{y}} + \frac{1}{2}c\hat{\mathbf{z}}$	(16e)	Sn I
$\mathbf{B}_{20}$	$= (x_3 + \frac{3}{4})\mathbf{a}_1 + \frac{3}{4}\mathbf{a}_2 + (x_3 + \frac{1}{2})\mathbf{a}_3$	$=$	$\frac{1}{4}a\hat{\mathbf{x}} + a(x_3 + \frac{1}{4})\hat{\mathbf{y}} + \frac{1}{2}c\hat{\mathbf{z}}$	(16e)	Sn I
$\mathbf{B}_{21}$	$= (x_4 + \frac{3}{8})\mathbf{a}_1 + (x_4 + \frac{1}{8})\mathbf{a}_2 + (2x_4 + \frac{1}{4})\mathbf{a}_3$	$=$	$ax_4\hat{\mathbf{x}} + a(x_4 + \frac{1}{4})\hat{\mathbf{y}} + \frac{1}{8}c\hat{\mathbf{z}}$	(16f)	Sn II
$\mathbf{B}_{22}$	$= -(x_4 - \frac{3}{8})\mathbf{a}_1 - (x_4 - \frac{1}{8})\mathbf{a}_2 - (2x_4 - \frac{1}{4})\mathbf{a}_3$	$=$	$-ax_4\hat{\mathbf{x}} - a(x_4 - \frac{1}{4})\hat{\mathbf{y}} + \frac{1}{8}c\hat{\mathbf{z}}$	(16f)	Sn II
$\mathbf{B}_{23}$	$= (x_4 + \frac{1}{8})\mathbf{a}_1 - (x_4 - \frac{3}{8})\mathbf{a}_2 + \frac{3}{4}\mathbf{a}_3$	$=$	$-a(x_4 - \frac{1}{2})\hat{\mathbf{x}} + a(x_4 + \frac{1}{4})\hat{\mathbf{y}} - \frac{1}{8}c\hat{\mathbf{z}}$	(16f)	Sn II
$\mathbf{B}_{24}$	$= -(x_4 - \frac{1}{8})\mathbf{a}_1 + (x_4 + \frac{3}{8})\mathbf{a}_2 + \frac{3}{4}\mathbf{a}_3$	$=$	$a(x_4 + \frac{1}{2})\hat{\mathbf{x}} - a(x_4 - \frac{1}{4})\hat{\mathbf{y}} - \frac{1}{8}c\hat{\mathbf{z}}$	(16f)	Sn II

$$\begin{aligned}
\mathbf{B}_{25} &= -\left(x_4 - \frac{5}{8}\right) \mathbf{a}_1 - \left(x_4 - \frac{7}{8}\right) \mathbf{a}_2 - \left(2x_4 - \frac{3}{4}\right) \mathbf{a}_3 = -a\left(x_4 - \frac{1}{2}\right) \hat{\mathbf{x}} - a\left(x_4 - \frac{1}{4}\right) \hat{\mathbf{y}} + \frac{3}{8}c\hat{\mathbf{z}} & (16f) & \text{Sn II} \\
\mathbf{B}_{26} &= \left(x_4 + \frac{5}{8}\right) \mathbf{a}_1 + \left(x_4 + \frac{7}{8}\right) \mathbf{a}_2 + \left(2x_4 + \frac{3}{4}\right) \mathbf{a}_3 = a\left(x_4 + \frac{1}{2}\right) \hat{\mathbf{x}} + a\left(x_4 + \frac{1}{4}\right) \hat{\mathbf{y}} + \frac{3}{8}c\hat{\mathbf{z}} & (16f) & \text{Sn II} \\
\mathbf{B}_{27} &= -\left(x_4 - \frac{7}{8}\right) \mathbf{a}_1 + \left(x_4 + \frac{5}{8}\right) \mathbf{a}_2 + \frac{1}{4}\mathbf{a}_3 = ax_4\hat{\mathbf{x}} - a\left(x_4 - \frac{1}{4}\right) \hat{\mathbf{y}} + \frac{5}{8}c\hat{\mathbf{z}} & (16f) & \text{Sn II} \\
\mathbf{B}_{28} &= \left(x_4 + \frac{7}{8}\right) \mathbf{a}_1 - \left(x_4 - \frac{5}{8}\right) \mathbf{a}_2 + \frac{1}{4}\mathbf{a}_3 = -ax_4\hat{\mathbf{x}} + a\left(x_4 + \frac{1}{4}\right) \hat{\mathbf{y}} + \frac{5}{8}c\hat{\mathbf{z}} & (16f) & \text{Sn II} \\
\mathbf{B}_{29} &= \left(x_5 + \frac{3}{8}\right) \mathbf{a}_1 + \left(x_5 + \frac{1}{8}\right) \mathbf{a}_2 + \left(2x_5 + \frac{1}{4}\right) \mathbf{a}_3 = ax_5\hat{\mathbf{x}} + a\left(x_5 + \frac{1}{4}\right) \hat{\mathbf{y}} + \frac{1}{8}c\hat{\mathbf{z}} & (16f) & \text{Sn III} \\
\mathbf{B}_{30} &= -\left(x_5 - \frac{3}{8}\right) \mathbf{a}_1 - \left(x_5 - \frac{1}{8}\right) \mathbf{a}_2 - \left(2x_5 - \frac{1}{4}\right) \mathbf{a}_3 = -ax_5\hat{\mathbf{x}} - a\left(x_5 - \frac{1}{4}\right) \hat{\mathbf{y}} + \frac{1}{8}c\hat{\mathbf{z}} & (16f) & \text{Sn III} \\
\mathbf{B}_{31} &= \left(x_5 + \frac{1}{8}\right) \mathbf{a}_1 - \left(x_5 - \frac{3}{8}\right) \mathbf{a}_2 + \frac{3}{4}\mathbf{a}_3 = -a\left(x_5 - \frac{1}{2}\right) \hat{\mathbf{x}} + a\left(x_5 + \frac{1}{4}\right) \hat{\mathbf{y}} - \frac{1}{8}c\hat{\mathbf{z}} & (16f) & \text{Sn III} \\
\mathbf{B}_{32} &= -\left(x_5 - \frac{1}{8}\right) \mathbf{a}_1 + \left(x_5 + \frac{3}{8}\right) \mathbf{a}_2 + \frac{3}{4}\mathbf{a}_3 = a\left(x_5 + \frac{1}{2}\right) \hat{\mathbf{x}} - a\left(x_5 - \frac{1}{4}\right) \hat{\mathbf{y}} - \frac{1}{8}c\hat{\mathbf{z}} & (16f) & \text{Sn III} \\
\mathbf{B}_{33} &= -\left(x_5 - \frac{5}{8}\right) \mathbf{a}_1 - \left(x_5 - \frac{7}{8}\right) \mathbf{a}_2 - \left(2x_5 - \frac{3}{4}\right) \mathbf{a}_3 = -a\left(x_5 - \frac{1}{2}\right) \hat{\mathbf{x}} - a\left(x_5 - \frac{1}{4}\right) \hat{\mathbf{y}} + \frac{3}{8}c\hat{\mathbf{z}} & (16f) & \text{Sn III} \\
\mathbf{B}_{34} &= \left(x_5 + \frac{5}{8}\right) \mathbf{a}_1 + \left(x_5 + \frac{7}{8}\right) \mathbf{a}_2 + \left(2x_5 + \frac{3}{4}\right) \mathbf{a}_3 = a\left(x_5 + \frac{1}{2}\right) \hat{\mathbf{x}} + a\left(x_5 + \frac{1}{4}\right) \hat{\mathbf{y}} + \frac{3}{8}c\hat{\mathbf{z}} & (16f) & \text{Sn III} \\
\mathbf{B}_{35} &= -\left(x_5 - \frac{7}{8}\right) \mathbf{a}_1 + \left(x_5 + \frac{5}{8}\right) \mathbf{a}_2 + \frac{1}{4}\mathbf{a}_3 = ax_5\hat{\mathbf{x}} - a\left(x_5 - \frac{1}{4}\right) \hat{\mathbf{y}} + \frac{5}{8}c\hat{\mathbf{z}} & (16f) & \text{Sn III} \\
\mathbf{B}_{36} &= \left(x_5 + \frac{7}{8}\right) \mathbf{a}_1 - \left(x_5 - \frac{5}{8}\right) \mathbf{a}_2 + \frac{1}{4}\mathbf{a}_3 = -ax_5\hat{\mathbf{x}} + a\left(x_5 + \frac{1}{4}\right) \hat{\mathbf{y}} + \frac{5}{8}c\hat{\mathbf{z}} & (16f) & \text{Sn III} \\
\mathbf{B}_{37} &= (y_6 + z_6) \mathbf{a}_1 + (x_6 + z_6) \mathbf{a}_2 + (x_6 + y_6) \mathbf{a}_3 = ax_6\hat{\mathbf{x}} + ay_6\hat{\mathbf{y}} + cz_6\hat{\mathbf{z}} & (32g) & \text{Er II} \\
\mathbf{B}_{38} &= \left(-y_6 + z_6 + \frac{1}{2}\right) \mathbf{a}_1 - \left(x_6 - z_6\right) \mathbf{a}_2 - \left(x_6 + y_6 - \frac{1}{2}\right) \mathbf{a}_3 = -ax_6\hat{\mathbf{x}} - a\left(y_6 - \frac{1}{2}\right) \hat{\mathbf{y}} + cz_6\hat{\mathbf{z}} & (32g) & \text{Er II} \\
\mathbf{B}_{39} &= (x_6 + z_6) \mathbf{a}_1 + \left(-y_6 + z_6 + \frac{1}{2}\right) \mathbf{a}_2 + (x_6 - y_6) \mathbf{a}_3 = -a\left(y_6 - \frac{1}{4}\right) \hat{\mathbf{x}} + a\left(x_6 - \frac{1}{4}\right) \hat{\mathbf{y}} + c\left(z_6 + \frac{1}{4}\right) \hat{\mathbf{z}} & (32g) & \text{Er II} \\
\mathbf{B}_{40} &= -\left(x_6 - z_6\right) \mathbf{a}_1 + (y_6 + z_6) \mathbf{a}_2 + \left(-x_6 + y_6 + \frac{1}{2}\right) \mathbf{a}_3 = a\left(y_6 + \frac{1}{4}\right) \hat{\mathbf{x}} - a\left(x_6 - \frac{1}{4}\right) \hat{\mathbf{y}} + c\left(z_6 - \frac{1}{4}\right) \hat{\mathbf{z}} & (32g) & \text{Er II} \\
\mathbf{B}_{41} &= (y_6 - z_6) \mathbf{a}_1 - \left(x_6 + z_6 - \frac{1}{2}\right) \mathbf{a}_2 + \left(-x_6 + y_6 + \frac{1}{2}\right) \mathbf{a}_3 = -a\left(x_6 - \frac{1}{2}\right) \hat{\mathbf{x}} + ay_6\hat{\mathbf{y}} - cz_6\hat{\mathbf{z}} & (32g) & \text{Er II} \\
\mathbf{B}_{42} &= -\left(y_6 + z_6 - \frac{1}{2}\right) \mathbf{a}_1 + \left(x_6 - z_6 + \frac{1}{2}\right) \mathbf{a}_2 + (x_6 - y_6) \mathbf{a}_3 = ax_6\hat{\mathbf{x}} - ay_6\hat{\mathbf{y}} - c\left(z_6 - \frac{1}{2}\right) \hat{\mathbf{z}} & (32g) & \text{Er II} \\
\mathbf{B}_{43} &= \left(x_6 - z_6 + \frac{1}{2}\right) \mathbf{a}_1 + (y_6 - z_6) \mathbf{a}_2 + (x_6 + y_6) \mathbf{a}_3 = a\left(y_6 - \frac{1}{4}\right) \hat{\mathbf{x}} + a\left(x_6 + \frac{1}{4}\right) \hat{\mathbf{y}} - c\left(z_6 - \frac{1}{4}\right) \hat{\mathbf{z}} & (32g) & \text{Er II} \\
\mathbf{B}_{44} &= -\left(x_6 + z_6 - \frac{1}{2}\right) \mathbf{a}_1 - \left(y_6 + z_6 - \frac{1}{2}\right) \mathbf{a}_2 - \left(x_6 + y_6 - \frac{1}{2}\right) \mathbf{a}_3 = -a\left(y_6 - \frac{1}{4}\right) \hat{\mathbf{x}} - a\left(x_6 - \frac{1}{4}\right) \hat{\mathbf{y}} - c\left(z_6 - \frac{1}{4}\right) \hat{\mathbf{z}} & (32g) & \text{Er II} \\
\mathbf{B}_{45} &= -(y_6 + z_6) \mathbf{a}_1 - (x_6 + z_6) \mathbf{a}_2 - (x_6 + y_6) \mathbf{a}_3 = -ax_6\hat{\mathbf{x}} - ay_6\hat{\mathbf{y}} - cz_6\hat{\mathbf{z}} & (32g) & \text{Er II} \\
\mathbf{B}_{46} &= \left(y_6 - z_6 + \frac{1}{2}\right) \mathbf{a}_1 + (x_6 - z_6) \mathbf{a}_2 + \left(x_6 + y_6 + \frac{1}{2}\right) \mathbf{a}_3 = ax_6\hat{\mathbf{x}} + a\left(y_6 + \frac{1}{2}\right) \hat{\mathbf{y}} - cz_6\hat{\mathbf{z}} & (32g) & \text{Er II} \\
\mathbf{B}_{47} &= -\left(x_6 + z_6\right) \mathbf{a}_1 + \left(y_6 - z_6 + \frac{1}{2}\right) \mathbf{a}_2 - (x_6 - y_6) \mathbf{a}_3 = a\left(y_6 + \frac{1}{4}\right) \hat{\mathbf{x}} - a\left(x_6 + \frac{1}{4}\right) \hat{\mathbf{y}} - c\left(z_6 - \frac{1}{4}\right) \hat{\mathbf{z}} & (32g) & \text{Er II} \\
\mathbf{B}_{48} &= \left(x_6 - z_6\right) \mathbf{a}_1 - (y_6 + z_6) \mathbf{a}_2 + \left(x_6 - y_6 + \frac{1}{2}\right) \mathbf{a}_3 = -a\left(y_6 - \frac{1}{4}\right) \hat{\mathbf{x}} + a\left(x_6 + \frac{1}{4}\right) \hat{\mathbf{y}} - c\left(z_6 + \frac{1}{4}\right) \hat{\mathbf{z}} & (32g) & \text{Er II}
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{49} &= \begin{aligned} &-(y_6 - z_6) \mathbf{a}_1 + \\ &(x_6 + z_6 + \frac{1}{2}) \mathbf{a}_2 + \\ &(x_6 - y_6 + \frac{1}{2}) \mathbf{a}_3 \end{aligned} &= a(x_6 + \frac{1}{2}) \hat{\mathbf{x}} - ay_6 \hat{\mathbf{y}} + cz_6 \hat{\mathbf{z}} &(32g) &\text{Er II} \\
\mathbf{B}_{50} &= \begin{aligned} &(y_6 + z_6 + \frac{1}{2}) \mathbf{a}_1 + \\ &(-x_6 + z_6 + \frac{1}{2}) \mathbf{a}_2 - (x_6 - y_6) \mathbf{a}_3 \end{aligned} &= -ax_6 \hat{\mathbf{x}} + ay_6 \hat{\mathbf{y}} + c(z_6 + \frac{1}{2}) \hat{\mathbf{z}} &(32g) &\text{Er II} \\
\mathbf{B}_{51} &= \begin{aligned} &(-x_6 + z_6 + \frac{1}{2}) \mathbf{a}_1 - \\ &(y_6 - z_6) \mathbf{a}_2 - (x_6 + y_6) \mathbf{a}_3 \end{aligned} &= -a(y_6 + \frac{1}{4}) \hat{\mathbf{x}} - a(x_6 - \frac{1}{4}) \hat{\mathbf{y}} + c(z_6 + \frac{1}{4}) \hat{\mathbf{z}} &(32g) &\text{Er II} \\
\mathbf{B}_{52} &= \begin{aligned} &(x_6 + z_6 + \frac{1}{2}) \mathbf{a}_1 + \\ &(y_6 + z_6 + \frac{1}{2}) \mathbf{a}_2 + \\ &(x_6 + y_6 + \frac{1}{2}) \mathbf{a}_3 \end{aligned} &= a(y_6 + \frac{1}{4}) \hat{\mathbf{x}} + a(x_6 + \frac{1}{4}) \hat{\mathbf{y}} + c(z_6 + \frac{1}{4}) \hat{\mathbf{z}} &(32g) &\text{Er II} \\
\mathbf{B}_{53} &= \begin{aligned} &(y_7 + z_7) \mathbf{a}_1 + (x_7 + z_7) \mathbf{a}_2 + \\ &(x_7 + y_7) \mathbf{a}_3 \end{aligned} &= ax_7 \hat{\mathbf{x}} + ay_7 \hat{\mathbf{y}} + cz_7 \hat{\mathbf{z}} &(32g) &\text{Rh II} \\
\mathbf{B}_{54} &= \begin{aligned} &(-y_7 + z_7 + \frac{1}{2}) \mathbf{a}_1 - \\ &(x_7 - z_7) \mathbf{a}_2 - (x_7 + y_7 - \frac{1}{2}) \mathbf{a}_3 \end{aligned} &= -ax_7 \hat{\mathbf{x}} - a(y_7 - \frac{1}{2}) \hat{\mathbf{y}} + cz_7 \hat{\mathbf{z}} &(32g) &\text{Rh II} \\
\mathbf{B}_{55} &= \begin{aligned} &(x_7 + z_7) \mathbf{a}_1 + \\ &(-y_7 + z_7 + \frac{1}{2}) \mathbf{a}_2 + (x_7 - y_7) \mathbf{a}_3 \end{aligned} &= -a(y_7 - \frac{1}{4}) \hat{\mathbf{x}} + a(x_7 - \frac{1}{4}) \hat{\mathbf{y}} + c(z_7 + \frac{1}{4}) \hat{\mathbf{z}} &(32g) &\text{Rh II} \\
\mathbf{B}_{56} &= \begin{aligned} &-(x_7 - z_7) \mathbf{a}_1 + (y_7 + z_7) \mathbf{a}_2 + \\ &(-x_7 + y_7 + \frac{1}{2}) \mathbf{a}_3 \end{aligned} &= a(y_7 + \frac{1}{4}) \hat{\mathbf{x}} - a(x_7 - \frac{1}{4}) \hat{\mathbf{y}} + c(z_7 - \frac{1}{4}) \hat{\mathbf{z}} &(32g) &\text{Rh II} \\
\mathbf{B}_{57} &= \begin{aligned} &(y_7 - z_7) \mathbf{a}_1 - (x_7 + z_7 - \frac{1}{2}) \mathbf{a}_2 + \\ &(-x_7 + y_7 + \frac{1}{2}) \mathbf{a}_3 \end{aligned} &= -a(x_7 - \frac{1}{2}) \hat{\mathbf{x}} + ay_7 \hat{\mathbf{y}} - cz_7 \hat{\mathbf{z}} &(32g) &\text{Rh II} \\
\mathbf{B}_{58} &= \begin{aligned} &-(y_7 + z_7 - \frac{1}{2}) \mathbf{a}_1 + \\ &(x_7 - z_7 + \frac{1}{2}) \mathbf{a}_2 + (x_7 - y_7) \mathbf{a}_3 \end{aligned} &= ax_7 \hat{\mathbf{x}} - ay_7 \hat{\mathbf{y}} - c(z_7 - \frac{1}{2}) \hat{\mathbf{z}} &(32g) &\text{Rh II} \\
\mathbf{B}_{59} &= \begin{aligned} &(x_7 - z_7 + \frac{1}{2}) \mathbf{a}_1 + \\ &(y_7 - z_7) \mathbf{a}_2 + (x_7 + y_7) \mathbf{a}_3 \end{aligned} &= a(y_7 - \frac{1}{4}) \hat{\mathbf{x}} + a(x_7 + \frac{1}{4}) \hat{\mathbf{y}} - c(z_7 - \frac{1}{4}) \hat{\mathbf{z}} &(32g) &\text{Rh II} \\
\mathbf{B}_{60} &= \begin{aligned} &-(x_7 + z_7 - \frac{1}{2}) \mathbf{a}_1 - \\ &(y_7 + z_7 - \frac{1}{2}) \mathbf{a}_2 - \\ &(x_7 + y_7 - \frac{1}{2}) \mathbf{a}_3 \end{aligned} &= -a(y_7 - \frac{1}{4}) \hat{\mathbf{x}} - a(x_7 - \frac{1}{4}) \hat{\mathbf{y}} - c(z_7 - \frac{1}{4}) \hat{\mathbf{z}} &(32g) &\text{Rh II} \\
\mathbf{B}_{61} &= \begin{aligned} &-(y_7 + z_7) \mathbf{a}_1 - (x_7 + z_7) \mathbf{a}_2 - \\ &(x_7 + y_7) \mathbf{a}_3 \end{aligned} &= -ax_7 \hat{\mathbf{x}} - ay_7 \hat{\mathbf{y}} - cz_7 \hat{\mathbf{z}} &(32g) &\text{Rh II} \\
\mathbf{B}_{62} &= \begin{aligned} &(y_7 - z_7 + \frac{1}{2}) \mathbf{a}_1 + \\ &(x_7 - z_7) \mathbf{a}_2 + (x_7 + y_7 + \frac{1}{2}) \mathbf{a}_3 \end{aligned} &= ax_7 \hat{\mathbf{x}} + a(y_7 + \frac{1}{2}) \hat{\mathbf{y}} - cz_7 \hat{\mathbf{z}} &(32g) &\text{Rh II} \\
\mathbf{B}_{63} &= \begin{aligned} &-(x_7 + z_7) \mathbf{a}_1 + \\ &(y_7 - z_7 + \frac{1}{2}) \mathbf{a}_2 - (x_7 - y_7) \mathbf{a}_3 \end{aligned} &= a(y_7 + \frac{1}{4}) \hat{\mathbf{x}} - a(x_7 + \frac{1}{4}) \hat{\mathbf{y}} - c(z_7 - \frac{1}{4}) \hat{\mathbf{z}} &(32g) &\text{Rh II} \\
\mathbf{B}_{64} &= \begin{aligned} &(x_7 - z_7) \mathbf{a}_1 - (y_7 + z_7) \mathbf{a}_2 + \\ &(x_7 - y_7 + \frac{1}{2}) \mathbf{a}_3 \end{aligned} &= -a(y_7 - \frac{1}{4}) \hat{\mathbf{x}} + a(x_7 + \frac{1}{4}) \hat{\mathbf{y}} - c(z_7 + \frac{1}{4}) \hat{\mathbf{z}} &(32g) &\text{Rh II} \\
\mathbf{B}_{65} &= \begin{aligned} &-(y_7 - z_7) \mathbf{a}_1 + \\ &(x_7 + z_7 + \frac{1}{2}) \mathbf{a}_2 + \\ &(x_7 - y_7 + \frac{1}{2}) \mathbf{a}_3 \end{aligned} &= a(x_7 + \frac{1}{2}) \hat{\mathbf{x}} - ay_7 \hat{\mathbf{y}} + cz_7 \hat{\mathbf{z}} &(32g) &\text{Rh II} \\
\mathbf{B}_{66} &= \begin{aligned} &(y_7 + z_7 + \frac{1}{2}) \mathbf{a}_1 + \\ &(-x_7 + z_7 + \frac{1}{2}) \mathbf{a}_2 - (x_7 - y_7) \mathbf{a}_3 \end{aligned} &= -ax_7 \hat{\mathbf{x}} + ay_7 \hat{\mathbf{y}} + c(z_7 + \frac{1}{2}) \hat{\mathbf{z}} &(32g) &\text{Rh II} \\
\mathbf{B}_{67} &= \begin{aligned} &(-x_7 + z_7 + \frac{1}{2}) \mathbf{a}_1 - \\ &(y_7 - z_7) \mathbf{a}_2 - (x_7 + y_7) \mathbf{a}_3 \end{aligned} &= -a(y_7 + \frac{1}{4}) \hat{\mathbf{x}} - a(x_7 - \frac{1}{4}) \hat{\mathbf{y}} + c(z_7 + \frac{1}{4}) \hat{\mathbf{z}} &(32g) &\text{Rh II} \\
\mathbf{B}_{68} &= \begin{aligned} &(x_7 + z_7 + \frac{1}{2}) \mathbf{a}_1 + \\ &(y_7 + z_7 + \frac{1}{2}) \mathbf{a}_2 + \\ &(x_7 + y_7 + \frac{1}{2}) \mathbf{a}_3 \end{aligned} &= a(y_7 + \frac{1}{4}) \hat{\mathbf{x}} + a(x_7 + \frac{1}{4}) \hat{\mathbf{y}} + c(z_7 + \frac{1}{4}) \hat{\mathbf{z}} &(32g) &\text{Rh II} \\
\mathbf{B}_{69} &= \begin{aligned} &(y_8 + z_8) \mathbf{a}_1 + (x_8 + z_8) \mathbf{a}_2 + \\ &(x_8 + y_8) \mathbf{a}_3 \end{aligned} &= ax_8 \hat{\mathbf{x}} + ay_8 \hat{\mathbf{y}} + cz_8 \hat{\mathbf{z}} &(32g) &\text{Sn IV}
\end{aligned}$$



$$\begin{aligned}
\mathbf{B}_{92} &= \begin{aligned} & - (x_9 + z_9 - \frac{1}{2}) \mathbf{a}_1 - \\ & (y_9 + z_9 - \frac{1}{2}) \mathbf{a}_2 - \\ & (x_9 + y_9 - \frac{1}{2}) \mathbf{a}_3 \end{aligned} &= & -a (y_9 - \frac{1}{4}) \hat{\mathbf{x}} - a (x_9 - \frac{1}{4}) \hat{\mathbf{y}} - c (z_9 - \frac{1}{4}) \hat{\mathbf{z}} & (32g) & \text{Sn V} \\
\mathbf{B}_{93} &= \begin{aligned} & - (y_9 + z_9) \mathbf{a}_1 - (x_9 + z_9) \mathbf{a}_2 - \\ & (x_9 + y_9) \mathbf{a}_3 \end{aligned} &= & -ax_9 \hat{\mathbf{x}} - ay_9 \hat{\mathbf{y}} - cz_9 \hat{\mathbf{z}} & (32g) & \text{Sn V} \\
\mathbf{B}_{94} &= \begin{aligned} & (y_9 - z_9 + \frac{1}{2}) \mathbf{a}_1 + \\ & (x_9 - z_9) \mathbf{a}_2 + (x_9 + y_9 + \frac{1}{2}) \mathbf{a}_3 \end{aligned} &= & ax_9 \hat{\mathbf{x}} + a (y_9 + \frac{1}{2}) \hat{\mathbf{y}} - cz_9 \hat{\mathbf{z}} & (32g) & \text{Sn V} \\
\mathbf{B}_{95} &= \begin{aligned} & - (x_9 + z_9) \mathbf{a}_1 + \\ & (y_9 - z_9 + \frac{1}{2}) \mathbf{a}_2 - (x_9 - y_9) \mathbf{a}_3 \end{aligned} &= & a (y_9 + \frac{1}{4}) \hat{\mathbf{x}} - a (x_9 + \frac{1}{4}) \hat{\mathbf{y}} - c (z_9 - \frac{1}{4}) \hat{\mathbf{z}} & (32g) & \text{Sn V} \\
\mathbf{B}_{96} &= \begin{aligned} & (x_9 - z_9) \mathbf{a}_1 - (y_9 + z_9) \mathbf{a}_2 + \\ & (x_9 - y_9 + \frac{1}{2}) \mathbf{a}_3 \end{aligned} &= & -a (y_9 - \frac{1}{4}) \hat{\mathbf{x}} + a (x_9 + \frac{1}{4}) \hat{\mathbf{y}} - c (z_9 + \frac{1}{4}) \hat{\mathbf{z}} & (32g) & \text{Sn V} \\
\mathbf{B}_{97} &= \begin{aligned} & - (y_9 - z_9) \mathbf{a}_1 + \\ & (x_9 + z_9 + \frac{1}{2}) \mathbf{a}_2 + \\ & (x_9 - y_9 + \frac{1}{2}) \mathbf{a}_3 \end{aligned} &= & a (x_9 + \frac{1}{2}) \hat{\mathbf{x}} - ay_9 \hat{\mathbf{y}} + cz_9 \hat{\mathbf{z}} & (32g) & \text{Sn V} \\
\mathbf{B}_{98} &= \begin{aligned} & (y_9 + z_9 + \frac{1}{2}) \mathbf{a}_1 + \\ & (-x_9 + z_9 + \frac{1}{2}) \mathbf{a}_2 - (x_9 - y_9) \mathbf{a}_3 \end{aligned} &= & -ax_9 \hat{\mathbf{x}} + ay_9 \hat{\mathbf{y}} + c (z_9 + \frac{1}{2}) \hat{\mathbf{z}} & (32g) & \text{Sn V} \\
\mathbf{B}_{99} &= \begin{aligned} & (-x_9 + z_9 + \frac{1}{2}) \mathbf{a}_1 - \\ & (y_9 - z_9) \mathbf{a}_2 - (x_9 + y_9) \mathbf{a}_3 \end{aligned} &= & -a (y_9 + \frac{1}{4}) \hat{\mathbf{x}} - a (x_9 - \frac{1}{4}) \hat{\mathbf{y}} + c (z_9 + \frac{1}{4}) \hat{\mathbf{z}} & (32g) & \text{Sn V} \\
\mathbf{B}_{100} &= \begin{aligned} & (x_9 + z_9 + \frac{1}{2}) \mathbf{a}_1 + \\ & (y_9 + z_9 + \frac{1}{2}) \mathbf{a}_2 + \\ & (x_9 + y_9 + \frac{1}{2}) \mathbf{a}_3 \end{aligned} &= & a (y_9 + \frac{1}{4}) \hat{\mathbf{x}} + a (x_9 + \frac{1}{4}) \hat{\mathbf{y}} + c (z_9 + \frac{1}{4}) \hat{\mathbf{z}} & (32g) & \text{Sn V} \\
\mathbf{B}_{101} &= \begin{aligned} & (y_{10} + z_{10}) \mathbf{a}_1 + (x_{10} + z_{10}) \mathbf{a}_2 + \\ & (x_{10} + y_{10}) \mathbf{a}_3 \end{aligned} &= & ax_{10} \hat{\mathbf{x}} + ay_{10} \hat{\mathbf{y}} + cz_{10} \hat{\mathbf{z}} & (32g) & \text{Sn VI} \\
\mathbf{B}_{102} &= \begin{aligned} & (-y_{10} + z_{10} + \frac{1}{2}) \mathbf{a}_1 - \\ & (x_{10} - z_{10}) \mathbf{a}_2 - \\ & (x_{10} + y_{10} - \frac{1}{2}) \mathbf{a}_3 \end{aligned} &= & -ax_{10} \hat{\mathbf{x}} - a (y_{10} - \frac{1}{2}) \hat{\mathbf{y}} + cz_{10} \hat{\mathbf{z}} & (32g) & \text{Sn VI} \\
\mathbf{B}_{103} &= \begin{aligned} & (x_{10} + z_{10}) \mathbf{a}_1 + \\ & (-y_{10} + z_{10} + \frac{1}{2}) \mathbf{a}_2 + \\ & (x_{10} - y_{10}) \mathbf{a}_3 \end{aligned} &= & -a (y_{10} - \frac{1}{4}) \hat{\mathbf{x}} + a (x_{10} - \frac{1}{4}) \hat{\mathbf{y}} + \\ & & & c (z_{10} + \frac{1}{4}) \hat{\mathbf{z}} & (32g) & \text{Sn VI} \\
\mathbf{B}_{104} &= \begin{aligned} & - (x_{10} - z_{10}) \mathbf{a}_1 + \\ & (y_{10} + z_{10}) \mathbf{a}_2 + \\ & (-x_{10} + y_{10} + \frac{1}{2}) \mathbf{a}_3 \end{aligned} &= & a (y_{10} + \frac{1}{4}) \hat{\mathbf{x}} - a (x_{10} - \frac{1}{4}) \hat{\mathbf{y}} + \\ & & & c (z_{10} - \frac{1}{4}) \hat{\mathbf{z}} & (32g) & \text{Sn VI} \\
\mathbf{B}_{105} &= \begin{aligned} & (y_{10} - z_{10}) \mathbf{a}_1 - \\ & (x_{10} + z_{10} - \frac{1}{2}) \mathbf{a}_2 + \\ & (-x_{10} + y_{10} + \frac{1}{2}) \mathbf{a}_3 \end{aligned} &= & -a (x_{10} - \frac{1}{2}) \hat{\mathbf{x}} + ay_{10} \hat{\mathbf{y}} - cz_{10} \hat{\mathbf{z}} & (32g) & \text{Sn VI} \\
\mathbf{B}_{106} &= \begin{aligned} & - (y_{10} + z_{10} - \frac{1}{2}) \mathbf{a}_1 + \\ & (x_{10} - z_{10} + \frac{1}{2}) \mathbf{a}_2 + \\ & (x_{10} - y_{10}) \mathbf{a}_3 \end{aligned} &= & ax_{10} \hat{\mathbf{x}} - ay_{10} \hat{\mathbf{y}} - c (z_{10} - \frac{1}{2}) \hat{\mathbf{z}} & (32g) & \text{Sn VI} \\
\mathbf{B}_{107} &= \begin{aligned} & (x_{10} - z_{10} + \frac{1}{2}) \mathbf{a}_1 + \\ & (y_{10} - z_{10}) \mathbf{a}_2 + (x_{10} + y_{10}) \mathbf{a}_3 \end{aligned} &= & a (y_{10} - \frac{1}{4}) \hat{\mathbf{x}} + a (x_{10} + \frac{1}{4}) \hat{\mathbf{y}} - \\ & & & c (z_{10} - \frac{1}{4}) \hat{\mathbf{z}} & (32g) & \text{Sn VI} \\
\mathbf{B}_{108} &= \begin{aligned} & - (x_{10} + z_{10} - \frac{1}{2}) \mathbf{a}_1 - \\ & (y_{10} + z_{10} - \frac{1}{2}) \mathbf{a}_2 - \\ & (x_{10} + y_{10} - \frac{1}{2}) \mathbf{a}_3 \end{aligned} &= & -a (y_{10} - \frac{1}{4}) \hat{\mathbf{x}} - a (x_{10} - \frac{1}{4}) \hat{\mathbf{y}} - \\ & & & c (z_{10} - \frac{1}{4}) \hat{\mathbf{z}} & (32g) & \text{Sn VI} \\
\mathbf{B}_{109} &= \begin{aligned} & - (y_{10} + z_{10}) \mathbf{a}_1 - \\ & (x_{10} + z_{10}) \mathbf{a}_2 - (x_{10} + y_{10}) \mathbf{a}_3 \end{aligned} &= & -ax_{10} \hat{\mathbf{x}} - ay_{10} \hat{\mathbf{y}} - cz_{10} \hat{\mathbf{z}} & (32g) & \text{Sn VI} \\
\mathbf{B}_{110} &= \begin{aligned} & (y_{10} - z_{10} + \frac{1}{2}) \mathbf{a}_1 + \\ & (x_{10} - z_{10}) \mathbf{a}_2 + \\ & (x_{10} + y_{10} + \frac{1}{2}) \mathbf{a}_3 \end{aligned} &= & ax_{10} \hat{\mathbf{x}} + a (y_{10} + \frac{1}{2}) \hat{\mathbf{y}} - cz_{10} \hat{\mathbf{z}} & (32g) & \text{Sn VI}
\end{aligned}$$

$$\mathbf{B}_{111} = \begin{pmatrix} -(x_{10} + z_{10}) \mathbf{a}_1 + \\ (y_{10} - z_{10} + \frac{1}{2}) \mathbf{a}_2 - \\ (x_{10} - y_{10}) \mathbf{a}_3 \end{pmatrix} = \begin{pmatrix} a(y_{10} + \frac{1}{4}) \hat{\mathbf{x}} - a(x_{10} + \frac{1}{4}) \hat{\mathbf{y}} - \\ c(z_{10} - \frac{1}{4}) \hat{\mathbf{z}} \end{pmatrix} \quad (32g) \quad \text{Sn VI}$$

$$\mathbf{B}_{112} = \begin{pmatrix} (x_{10} - z_{10}) \mathbf{a}_1 - (y_{10} + z_{10}) \mathbf{a}_2 + \\ (x_{10} - y_{10} + \frac{1}{2}) \mathbf{a}_3 \end{pmatrix} = \begin{pmatrix} -a(y_{10} - \frac{1}{4}) \hat{\mathbf{x}} + a(x_{10} + \frac{1}{4}) \hat{\mathbf{y}} - \\ c(z_{10} + \frac{1}{4}) \hat{\mathbf{z}} \end{pmatrix} \quad (32g) \quad \text{Sn VI}$$

$$\mathbf{B}_{113} = \begin{pmatrix} -(y_{10} - z_{10}) \mathbf{a}_1 + \\ (x_{10} + z_{10} + \frac{1}{2}) \mathbf{a}_2 + \\ (x_{10} - y_{10} + \frac{1}{2}) \mathbf{a}_3 \end{pmatrix} = \begin{pmatrix} a(x_{10} + \frac{1}{2}) \hat{\mathbf{x}} - ay_{10} \hat{\mathbf{y}} + cz_{10} \hat{\mathbf{z}} \end{pmatrix} \quad (32g) \quad \text{Sn VI}$$

$$\mathbf{B}_{114} = \begin{pmatrix} (y_{10} + z_{10} + \frac{1}{2}) \mathbf{a}_1 + \\ (-x_{10} + z_{10} + \frac{1}{2}) \mathbf{a}_2 - \\ (x_{10} - y_{10}) \mathbf{a}_3 \end{pmatrix} = \begin{pmatrix} -ax_{10} \hat{\mathbf{x}} + ay_{10} \hat{\mathbf{y}} + c(z_{10} + \frac{1}{2}) \hat{\mathbf{z}} \end{pmatrix} \quad (32g) \quad \text{Sn VI}$$

$$\mathbf{B}_{115} = \begin{pmatrix} (-x_{10} + z_{10} + \frac{1}{2}) \mathbf{a}_1 - \\ (y_{10} - z_{10}) \mathbf{a}_2 - (x_{10} + y_{10}) \mathbf{a}_3 \end{pmatrix} = \begin{pmatrix} -a(y_{10} + \frac{1}{4}) \hat{\mathbf{x}} - a(x_{10} - \frac{1}{4}) \hat{\mathbf{y}} + \\ c(z_{10} + \frac{1}{4}) \hat{\mathbf{z}} \end{pmatrix} \quad (32g) \quad \text{Sn VI}$$

$$\mathbf{B}_{116} = \begin{pmatrix} (x_{10} + z_{10} + \frac{1}{2}) \mathbf{a}_1 + \\ (y_{10} + z_{10} + \frac{1}{2}) \mathbf{a}_2 + \\ (x_{10} + y_{10} + \frac{1}{2}) \mathbf{a}_3 \end{pmatrix} = \begin{pmatrix} a(y_{10} + \frac{1}{4}) \hat{\mathbf{x}} + a(x_{10} + \frac{1}{4}) \hat{\mathbf{y}} + \\ c(z_{10} + \frac{1}{4}) \hat{\mathbf{z}} \end{pmatrix} \quad (32g) \quad \text{Sn VI}$$

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