β-B (R-105) Structure: A_hR105_166_ac9h4i-001

This structure previously used the label(s) `A_hR105_166_bc9h4i`. Calls to these addresses will be redirected here.

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- D. Hicks, M. J. Mehl, M. Esters, C. Oses, O. Levy, G. L. W. Hart, C. Toher, and S. Curtarolo, *The AFLOW Library of Crystallographic Prototypes: Part 3*, Comput. Mater. Sci. **199**, 110450 (2021), doi: 10.1016/j.commatsci.2021.110450.

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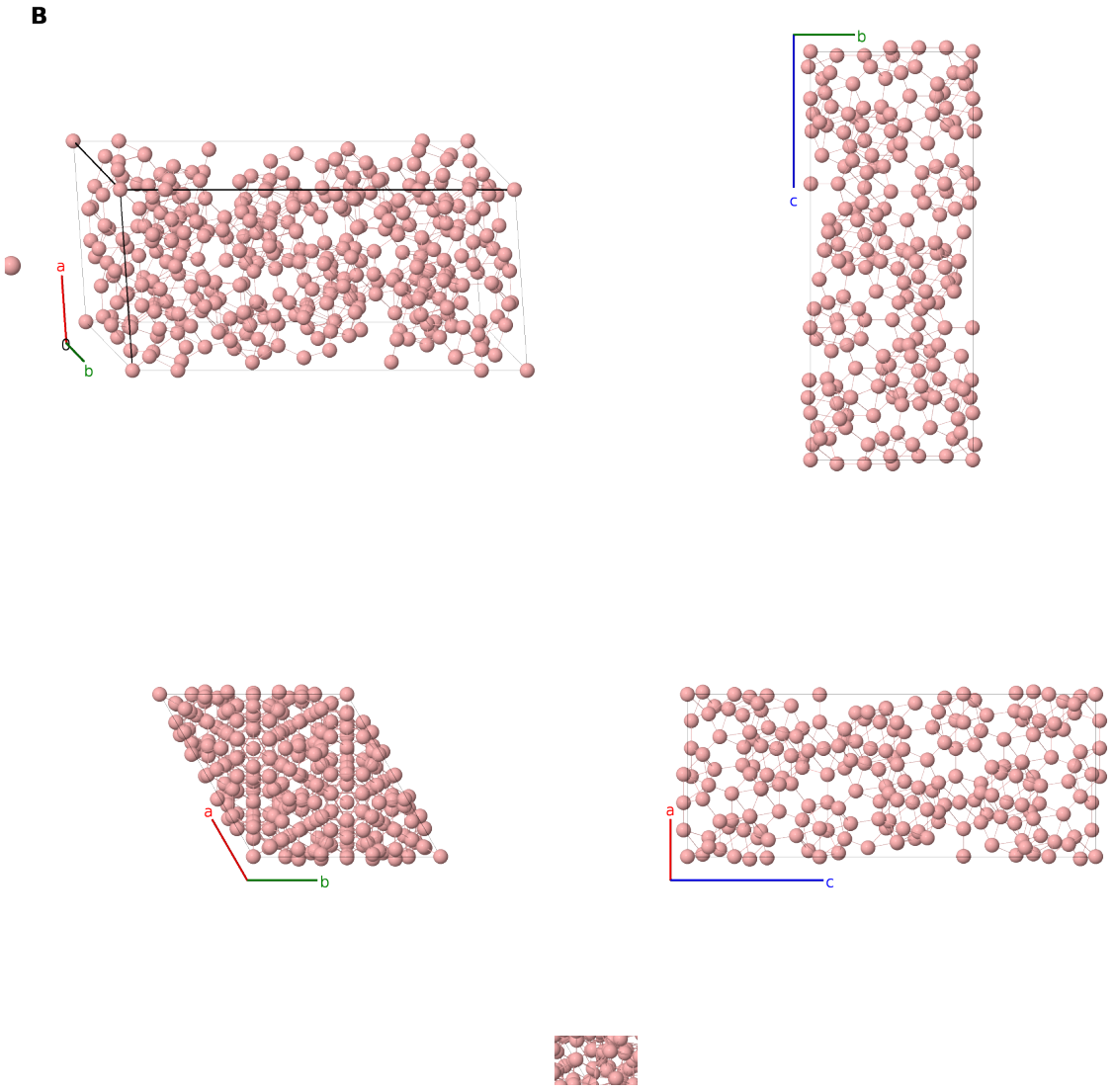
https://aflow.org/prototype-encyclopedia/Y6TF

https://aflow.org/prototype-encyclopedia/A_hR105_166_ac9h4i-001



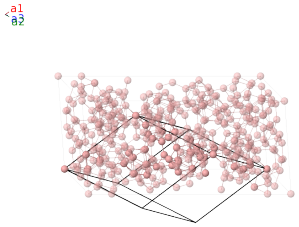
Prototype	B
AFLOW prototype label	A_hR105_166_ac9h4i-001
ICSD	14288

CCDC	1595681
Pearson symbol	hR105
Space group number	166
Space group symbol	$R\bar{3}m$
AFLOW prototype command	`aflow --proto=A_hR105_166_ac9h4i-001 --params=`$a, c/a, x_2, x_3, z_3, x_4, z_4, x_5, z_5, x_6, z_6, x_7, z_7, x_8, z_8, x_9, z_9, x_{10}, z_{10}, x_{11}, z_{11}, x_{12}, y_{12}, z_{12}, x_{13}, y_{13}, z_{13}, x_{14}, y_{14}, z_{14}, x_{15}, y_{15}, z_{15}$

- This is apparently the ground state of boron, with 105 atoms in the unit cell.
- (Donohue, 1982) gives two possible sets of internal coordinates for the atoms on page 64. We use the second set (Geist, 1970), as it has no partially filled sites.
- Note the relationship between the icosahedra in this structure, α-B and T-50 B.
- Hexagonal settings for rhombohedral structures can be obtained with the option `--hex`.

Rhombohedral primitive vectors

$$\mathbf{a_1} = \frac{1}{2}a\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{6}a\,\hat{\mathbf{y}} + \frac{1}{3}c\,\hat{\mathbf{z}}$$
$$\mathbf{a_2} = \frac{1}{\sqrt{3}}a\,\hat{\mathbf{y}} + \frac{1}{3}c\,\hat{\mathbf{z}}$$
$$\mathbf{a_3} = -\frac{1}{2}a\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{6}a\,\hat{\mathbf{y}} + \frac{1}{3}c\,\hat{\mathbf{z}}$$



Basis vectors

		Lattice coordinates		Cartesian coordinates	Wyckoff position	Atom type
$\mathbf{B_1}$	=	0	=	0	(1a)	B I
$\mathbf{B_2}$	=	$x_2\,\mathbf{a}_1 + x_2\,\mathbf{a}_2 + x_2\,\mathbf{a}_3$	=	$cx_2\,\hat{\mathbf{z}}$	(2c)	B II
$\mathbf{B_3}$	=	$-x_2\,\mathbf{a}_1 - x_2\,\mathbf{a}_2 - x_2\,\mathbf{a}_3$	=	$-cx_2\,\hat{\mathbf{z}}$	(2c)	B II
$\mathbf{B_4}$	=	$x_3\,\mathbf{a}_1 + x_3\,\mathbf{a}_2 + z_3\,\mathbf{a}_3$	=	$\frac{1}{2}a\,(x_3 - z_3)\,\hat{\mathbf{x}} + \frac{\sqrt{3}}{6}a\,(x_3 - z_3)\,\hat{\mathbf{y}} + \frac{1}{3}c\,(2x_3 + z_3)\,\hat{\mathbf{z}}$	(6h)	B III
$\mathbf{B_5}$	=	$z_3\,\mathbf{a}_1 + x_3\,\mathbf{a}_2 + x_3\,\mathbf{a}_3$	=	$-\frac{1}{2}a\,(x_3 - z_3)\,\hat{\mathbf{x}} + \frac{\sqrt{3}}{6}a\,(x_3 - z_3)\,\hat{\mathbf{y}} + \frac{1}{3}c\,(2x_3 + z_3)\,\hat{\mathbf{z}}$	(6h)	B III
$\mathbf{B_6}$	=	$x_3\,\mathbf{a}_1 + z_3\,\mathbf{a}_2 + x_3\,\mathbf{a}_3$	=	$-\frac{1}{\sqrt{3}}a\,(x_3 - z_3)\,\hat{\mathbf{y}} + \frac{1}{3}c\,(2x_3 + z_3)\,\hat{\mathbf{z}}$	(6h)	B III
$\mathbf{B_7}$	=	$-z_3\,\mathbf{a}_1 - x_3\,\mathbf{a}_2 - x_3\,\mathbf{a}_3$	=	$\frac{1}{2}a\,(x_3 - z_3)\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{6}a\,(x_3 - z_3)\,\hat{\mathbf{y}} - \frac{1}{3}c\,(2x_3 + z_3)\,\hat{\mathbf{z}}$	(6h)	B III
$\mathbf{B_8}$	=	$-x_3\,\mathbf{a}_1 - x_3\,\mathbf{a}_2 - z_3\,\mathbf{a}_3$	=	$-\frac{1}{2}a\,(x_3 - z_3)\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{6}a\,(x_3 - z_3)\,\hat{\mathbf{y}} - \frac{1}{3}c\,(2x_3 + z_3)\,\hat{\mathbf{z}}$	(6h)	B III
$\mathbf{B_9}$	=	$-x_3\,\mathbf{a}_1 - z_3\,\mathbf{a}_2 - x_3\,\mathbf{a}_3$	=	$\frac{1}{\sqrt{3}}a\,(x_3 - z_3)\,\hat{\mathbf{y}} - \frac{1}{3}c\,(2x_3 + z_3)\,\hat{\mathbf{z}}$	(6h)	B III
$\mathbf{B_{10}}$	=	$x_4\,\mathbf{a}_1 + x_4\,\mathbf{a}_2 + z_4\,\mathbf{a}_3$	=	$\frac{1}{2}a\,(x_4 - z_4)\,\hat{\mathbf{x}} + \frac{\sqrt{3}}{6}a\,(x_4 - z_4)\,\hat{\mathbf{y}} + \frac{1}{3}c\,(2x_4 + z_4)\,\hat{\mathbf{z}}$	(6h)	B IV

$$\mathbf{B_{11}} = z_4\,\mathbf{a}_1 + x_4\,\mathbf{a}_2 + x_4\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(x_4 - z_4)\;\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(x_4 - z_4)\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(2x_4 + z_4)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B IV}$$

$$\mathbf{B_{12}} = x_4\,\mathbf{a}_1 + z_4\,\mathbf{a}_2 + x_4\,\mathbf{a}_3 = -\tfrac{1}{\sqrt{3}}a\,(x_4 - z_4)\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(2x_4 + z_4)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B IV}$$

$$\mathbf{B_{13}} = -z_4\,\mathbf{a}_1 - x_4\,\mathbf{a}_2 - x_4\,\mathbf{a}_3 = \tfrac{1}{2}a\,(x_4 - z_4)\;\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(x_4 - z_4)\;\hat{\mathbf{y}} - \tfrac{1}{3}c\,(2x_4 + z_4)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B IV}$$

$$\mathbf{B_{14}} = -x_4\,\mathbf{a}_1 - x_4\,\mathbf{a}_2 - z_4\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(x_4 - z_4)\;\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(x_4 - z_4)\;\hat{\mathbf{y}} - \tfrac{1}{3}c\,(2x_4 + z_4)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B IV}$$

$$\mathbf{B_{15}} = -x_4\,\mathbf{a}_1 - z_4\,\mathbf{a}_2 - x_4\,\mathbf{a}_3 = \tfrac{1}{\sqrt{3}}a\,(x_4 - z_4)\;\hat{\mathbf{y}} - \tfrac{1}{3}c\,(2x_4 + z_4)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B IV}$$

$$\mathbf{B_{16}} = x_5\,\mathbf{a}_1 + x_5\,\mathbf{a}_2 + z_5\,\mathbf{a}_3 = \tfrac{1}{2}a\,(x_5 - z_5)\;\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(x_5 - z_5)\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(2x_5 + z_5)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B V}$$

$$\mathbf{B_{17}} = z_5\,\mathbf{a}_1 + x_5\,\mathbf{a}_2 + x_5\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(x_5 - z_5)\;\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(x_5 - z_5)\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(2x_5 + z_5)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B V}$$

$$\mathbf{B_{18}} = x_5\,\mathbf{a}_1 + z_5\,\mathbf{a}_2 + x_5\,\mathbf{a}_3 = -\tfrac{1}{\sqrt{3}}a\,(x_5 - z_5)\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(2x_5 + z_5)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B V}$$

$$\mathbf{B_{19}} = -z_5\,\mathbf{a}_1 - x_5\,\mathbf{a}_2 - x_5\,\mathbf{a}_3 = \tfrac{1}{2}a\,(x_5 - z_5)\;\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(x_5 - z_5)\;\hat{\mathbf{y}} - \tfrac{1}{3}c\,(2x_5 + z_5)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B V}$$

$$\mathbf{B_{20}} = -x_5\,\mathbf{a}_1 - x_5\,\mathbf{a}_2 - z_5\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(x_5 - z_5)\;\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(x_5 - z_5)\;\hat{\mathbf{y}} - \tfrac{1}{3}c\,(2x_5 + z_5)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B V}$$

$$\mathbf{B_{21}} = -x_5\,\mathbf{a}_1 - z_5\,\mathbf{a}_2 - x_5\,\mathbf{a}_3 = \tfrac{1}{\sqrt{3}}a\,(x_5 - z_5)\;\hat{\mathbf{y}} - \tfrac{1}{3}c\,(2x_5 + z_5)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B V}$$

$$\mathbf{B_{22}} = x_6\,\mathbf{a}_1 + x_6\,\mathbf{a}_2 + z_6\,\mathbf{a}_3 = \tfrac{1}{2}a\,(x_6 - z_6)\;\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(x_6 - z_6)\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(2x_6 + z_6)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B VI}$$

$$\mathbf{B_{23}} = z_6\,\mathbf{a}_1 + x_6\,\mathbf{a}_2 + x_6\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(x_6 - z_6)\;\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(x_6 - z_6)\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(2x_6 + z_6)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B VI}$$

$$\mathbf{B_{24}} = x_6\,\mathbf{a}_1 + z_6\,\mathbf{a}_2 + x_6\,\mathbf{a}_3 = -\tfrac{1}{\sqrt{3}}a\,(x_6 - z_6)\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(2x_6 + z_6)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B VI}$$

$$\mathbf{B_{25}} = -z_6\,\mathbf{a}_1 - x_6\,\mathbf{a}_2 - x_6\,\mathbf{a}_3 = \tfrac{1}{2}a\,(x_6 - z_6)\;\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(x_6 - z_6)\;\hat{\mathbf{y}} - \tfrac{1}{3}c\,(2x_6 + z_6)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B VI}$$

$$\mathbf{B_{26}} = -x_6\,\mathbf{a}_1 - x_6\,\mathbf{a}_2 - z_6\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(x_6 - z_6)\;\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(x_6 - z_6)\;\hat{\mathbf{y}} - \tfrac{1}{3}c\,(2x_6 + z_6)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B VI}$$

$$\mathbf{B_{27}} = -x_6\,\mathbf{a}_1 - z_6\,\mathbf{a}_2 - x_6\,\mathbf{a}_3 = \tfrac{1}{\sqrt{3}}a\,(x_6 - z_6)\;\hat{\mathbf{y}} - \tfrac{1}{3}c\,(2x_6 + z_6)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B VI}$$

$$\mathbf{B_{28}} = x_7\,\mathbf{a}_1 + x_7\,\mathbf{a}_2 + z_7\,\mathbf{a}_3 = \tfrac{1}{2}a\,(x_7 - z_7)\;\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(x_7 - z_7)\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(2x_7 + z_7)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B VII}$$

$$\mathbf{B_{29}} = z_7\,\mathbf{a}_1 + x_7\,\mathbf{a}_2 + x_7\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(x_7 - z_7)\;\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(x_7 - z_7)\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(2x_7 + z_7)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B VII}$$

$$\mathbf{B_{30}} = x_7\,\mathbf{a}_1 + z_7\,\mathbf{a}_2 + x_7\,\mathbf{a}_3 = -\tfrac{1}{\sqrt{3}}a\,(x_7 - z_7)\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(2x_7 + z_7)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B VII}$$

$$\mathbf{B_{31}} = -z_7\,\mathbf{a}_1 - x_7\,\mathbf{a}_2 - x_7\,\mathbf{a}_3 = \tfrac{1}{2}a\,(x_7 - z_7)\;\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(x_7 - z_7)\;\hat{\mathbf{y}} - \tfrac{1}{3}c\,(2x_7 + z_7)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B VII}$$

$$\mathbf{B_{32}} = -x_7\,\mathbf{a}_1 - x_7\,\mathbf{a}_2 - z_7\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(x_7 - z_7)\;\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(x_7 - z_7)\;\hat{\mathbf{y}} - \tfrac{1}{3}c\,(2x_7 + z_7)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B VII}$$

$$\mathbf{B_{33}} = -x_7\,\mathbf{a}_1 - z_7\,\mathbf{a}_2 - x_7\,\mathbf{a}_3 = \tfrac{1}{\sqrt{3}}a\,(x_7 - z_7)\;\hat{\mathbf{y}} - \tfrac{1}{3}c\,(2x_7 + z_7)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B VII}$$

$$\mathbf{B_{34}} = x_8\,\mathbf{a}_1 + x_8\,\mathbf{a}_2 + z_8\,\mathbf{a}_3 = \tfrac{1}{2}a\,(x_8 - z_8)\;\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(x_8 - z_8)\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(2x_8 + z_8)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B VIII}$$

$$\mathbf{B_{35}} = z_8\,\mathbf{a}_1 + x_8\,\mathbf{a}_2 + x_8\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(x_8 - z_8)\;\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(x_8 - z_8)\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(2x_8 + z_8)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B VIII}$$

$$\mathbf{B_{36}} = x_8\,\mathbf{a}_1 + z_8\,\mathbf{a}_2 + x_8\,\mathbf{a}_3 = -\tfrac{1}{\sqrt{3}}a\,(x_8 - z_8)\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(2x_8 + z_8)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B VIII}$$

$$\mathbf{B_{37}} = -z_8\,\mathbf{a}_1 - x_8\,\mathbf{a}_2 - x_8\,\mathbf{a}_3 = \tfrac{1}{2}a\,(x_8 - z_8)\;\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(x_8 - z_8)\;\hat{\mathbf{y}} - \tfrac{1}{3}c\,(2x_8 + z_8)\;\hat{\mathbf{z}} \quad \text{(6h)} \quad \text{B VIII}$$

$$
\begin{array}{lcccll}
\mathbf{B_{38}} & = & -x_8\,\mathbf{a}_1 - x_8\,\mathbf{a}_2 - z_8\,\mathbf{a}_3 & = & -\frac{1}{2}a\,(x_8 - z_8)\;\hat{\mathbf{x}} - \frac{\sqrt{3}}{6}a\,(x_8 - z_8)\;\hat{\mathbf{y}} - \frac{1}{3}c\,(2x_8 + z_8)\;\hat{\mathbf{z}} & \text{(6h)} \quad \text{B VIII} \\
\mathbf{B_{39}} & = & -x_8\,\mathbf{a}_1 - z_8\,\mathbf{a}_2 - x_8\,\mathbf{a}_3 & = & \frac{1}{\sqrt{3}}a\,(x_8 - z_8)\;\hat{\mathbf{y}} - \frac{1}{3}c\,(2x_8 + z_8)\;\hat{\mathbf{z}} & \text{(6h)} \quad \text{B VIII} \\
\mathbf{B_{40}} & = & x_9\,\mathbf{a}_1 + x_9\,\mathbf{a}_2 + z_9\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_9 - z_9)\;\hat{\mathbf{x}} + \frac{\sqrt{3}}{6}a\,(x_9 - z_9)\;\hat{\mathbf{y}} + \frac{1}{3}c\,(2x_9 + z_9)\;\hat{\mathbf{z}} & \text{(6h)} \quad \text{B IX} \\
\mathbf{B_{41}} & = & z_9\,\mathbf{a}_1 + x_9\,\mathbf{a}_2 + x_9\,\mathbf{a}_3 & = & -\frac{1}{2}a\,(x_9 - z_9)\;\hat{\mathbf{x}} + \frac{\sqrt{3}}{6}a\,(x_9 - z_9)\;\hat{\mathbf{y}} + \frac{1}{3}c\,(2x_9 + z_9)\;\hat{\mathbf{z}} & \text{(6h)} \quad \text{B IX} \\
\mathbf{B_{42}} & = & x_9\,\mathbf{a}_1 + z_9\,\mathbf{a}_2 + x_9\,\mathbf{a}_3 & = & -\frac{1}{\sqrt{3}}a\,(x_9 - z_9)\;\hat{\mathbf{y}} + \frac{1}{3}c\,(2x_9 + z_9)\;\hat{\mathbf{z}} & \text{(6h)} \quad \text{B IX} \\
\mathbf{B_{43}} & = & -z_9\,\mathbf{a}_1 - x_9\,\mathbf{a}_2 - x_9\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_9 - z_9)\;\hat{\mathbf{x}} - \frac{\sqrt{3}}{6}a\,(x_9 - z_9)\;\hat{\mathbf{y}} - \frac{1}{3}c\,(2x_9 + z_9)\;\hat{\mathbf{z}} & \text{(6h)} \quad \text{B IX} \\
\mathbf{B_{44}} & = & -x_9\,\mathbf{a}_1 - x_9\,\mathbf{a}_2 - z_9\,\mathbf{a}_3 & = & -\frac{1}{2}a\,(x_9 - z_9)\;\hat{\mathbf{x}} - \frac{\sqrt{3}}{6}a\,(x_9 - z_9)\;\hat{\mathbf{y}} - \frac{1}{3}c\,(2x_9 + z_9)\;\hat{\mathbf{z}} & \text{(6h)} \quad \text{B IX} \\
\mathbf{B_{45}} & = & -x_9\,\mathbf{a}_1 - z_9\,\mathbf{a}_2 - x_9\,\mathbf{a}_3 & = & \frac{1}{\sqrt{3}}a\,(x_9 - z_9)\;\hat{\mathbf{y}} - \frac{1}{3}c\,(2x_9 + z_9)\;\hat{\mathbf{z}} & \text{(6h)} \quad \text{B IX} \\
\mathbf{B_{46}} & = & x_{10}\,\mathbf{a}_1 + x_{10}\,\mathbf{a}_2 + z_{10}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{10} - z_{10})\;\hat{\mathbf{x}} + \frac{\sqrt{3}}{6}a\,(x_{10} - z_{10})\;\hat{\mathbf{y}} + \frac{1}{3}c\,(2x_{10} + z_{10})\;\hat{\mathbf{z}} & \text{(6h)} \quad \text{B X} \\
\mathbf{B_{47}} & = & z_{10}\,\mathbf{a}_1 + x_{10}\,\mathbf{a}_2 + x_{10}\,\mathbf{a}_3 & = & -\frac{1}{2}a\,(x_{10} - z_{10})\;\hat{\mathbf{x}} + \frac{\sqrt{3}}{6}a\,(x_{10} - z_{10})\;\hat{\mathbf{y}} + \frac{1}{3}c\,(2x_{10} + z_{10})\;\hat{\mathbf{z}} & \text{(6h)} \quad \text{B X} \\
\mathbf{B_{48}} & = & x_{10}\,\mathbf{a}_1 + z_{10}\,\mathbf{a}_2 + x_{10}\,\mathbf{a}_3 & = & -\frac{1}{\sqrt{3}}a\,(x_{10} - z_{10})\;\hat{\mathbf{y}} + \frac{1}{3}c\,(2x_{10} + z_{10})\;\hat{\mathbf{z}} & \text{(6h)} \quad \text{B X} \\
\mathbf{B_{49}} & = & -z_{10}\,\mathbf{a}_1 - x_{10}\,\mathbf{a}_2 - x_{10}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{10} - z_{10})\;\hat{\mathbf{x}} - \frac{\sqrt{3}}{6}a\,(x_{10} - z_{10})\;\hat{\mathbf{y}} - \frac{1}{3}c\,(2x_{10} + z_{10})\;\hat{\mathbf{z}} & \text{(6h)} \quad \text{B X} \\
\mathbf{B_{50}} & = & -x_{10}\,\mathbf{a}_1 - x_{10}\,\mathbf{a}_2 - z_{10}\,\mathbf{a}_3 & = & -\frac{1}{2}a\,(x_{10} - z_{10})\;\hat{\mathbf{x}} - \frac{\sqrt{3}}{6}a\,(x_{10} - z_{10})\;\hat{\mathbf{y}} - \frac{1}{3}c\,(2x_{10} + z_{10})\;\hat{\mathbf{z}} & \text{(6h)} \quad \text{B X} \\
\mathbf{B_{51}} & = & -x_{10}\,\mathbf{a}_1 - z_{10}\,\mathbf{a}_2 - x_{10}\,\mathbf{a}_3 & = & \frac{1}{\sqrt{3}}a\,(x_{10} - z_{10})\;\hat{\mathbf{y}} - \frac{1}{3}c\,(2x_{10} + z_{10})\;\hat{\mathbf{z}} & \text{(6h)} \quad \text{B X} \\
\mathbf{B_{52}} & = & x_{11}\,\mathbf{a}_1 + x_{11}\,\mathbf{a}_2 + z_{11}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{11} - z_{11})\;\hat{\mathbf{x}} + \frac{\sqrt{3}}{6}a\,(x_{11} - z_{11})\;\hat{\mathbf{y}} + \frac{1}{3}c\,(2x_{11} + z_{11})\;\hat{\mathbf{z}} & \text{(6h)} \quad \text{B XI} \\
\mathbf{B_{53}} & = & z_{11}\,\mathbf{a}_1 + x_{11}\,\mathbf{a}_2 + x_{11}\,\mathbf{a}_3 & = & -\frac{1}{2}a\,(x_{11} - z_{11})\;\hat{\mathbf{x}} + \frac{\sqrt{3}}{6}a\,(x_{11} - z_{11})\;\hat{\mathbf{y}} + \frac{1}{3}c\,(2x_{11} + z_{11})\;\hat{\mathbf{z}} & \text{(6h)} \quad \text{B XI} \\
\mathbf{B_{54}} & = & x_{11}\,\mathbf{a}_1 + z_{11}\,\mathbf{a}_2 + x_{11}\,\mathbf{a}_3 & = & -\frac{1}{\sqrt{3}}a\,(x_{11} - z_{11})\;\hat{\mathbf{y}} + \frac{1}{3}c\,(2x_{11} + z_{11})\;\hat{\mathbf{z}} & \text{(6h)} \quad \text{B XI} \\
\mathbf{B_{55}} & = & -z_{11}\,\mathbf{a}_1 - x_{11}\,\mathbf{a}_2 - x_{11}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{11} - z_{11})\;\hat{\mathbf{x}} - \frac{\sqrt{3}}{6}a\,(x_{11} - z_{11})\;\hat{\mathbf{y}} - \frac{1}{3}c\,(2x_{11} + z_{11})\;\hat{\mathbf{z}} & \text{(6h)} \quad \text{B XI} \\
\mathbf{B_{56}} & = & -x_{11}\,\mathbf{a}_1 - x_{11}\,\mathbf{a}_2 - z_{11}\,\mathbf{a}_3 & = & -\frac{1}{2}a\,(x_{11} - z_{11})\;\hat{\mathbf{x}} - \frac{\sqrt{3}}{6}a\,(x_{11} - z_{11})\;\hat{\mathbf{y}} - \frac{1}{3}c\,(2x_{11} + z_{11})\;\hat{\mathbf{z}} & \text{(6h)} \quad \text{B XI} \\
\mathbf{B_{57}} & = & -x_{11}\,\mathbf{a}_1 - z_{11}\,\mathbf{a}_2 - x_{11}\,\mathbf{a}_3 & = & \frac{1}{\sqrt{3}}a\,(x_{11} - z_{11})\;\hat{\mathbf{y}} - \frac{1}{3}c\,(2x_{11} + z_{11})\;\hat{\mathbf{z}} & \text{(6h)} \quad \text{B XI} \\
\mathbf{B_{58}} & = & x_{12}\,\mathbf{a}_1 + y_{12}\,\mathbf{a}_2 + z_{12}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{12} - z_{12})\;\hat{\mathbf{x}} - \frac{\sqrt{3}}{6}a\,(x_{12} - 2y_{12} + z_{12})\;\hat{\mathbf{y}} + \frac{1}{3}c\,(x_{12} + y_{12} + z_{12})\;\hat{\mathbf{z}} & \text{(12i)} \quad \text{B XII} \\
\mathbf{B_{59}} & = & z_{12}\,\mathbf{a}_1 + x_{12}\,\mathbf{a}_2 + y_{12}\,\mathbf{a}_3 & = & -\frac{1}{2}a\,(y_{12} - z_{12})\;\hat{\mathbf{x}} + \frac{\sqrt{3}}{6}a\,(2x_{12} - y_{12} - z_{12})\;\hat{\mathbf{y}} + \frac{1}{3}c\,(x_{12} + y_{12} + z_{12})\;\hat{\mathbf{z}} & \text{(12i)} \quad \text{B XII} \\
\mathbf{B_{60}} & = & y_{12}\,\mathbf{a}_1 + z_{12}\,\mathbf{a}_2 + x_{12}\,\mathbf{a}_3 & = & -\frac{1}{2}a\,(x_{12} - y_{12})\;\hat{\mathbf{x}} - \frac{\sqrt{3}}{6}a\,(x_{12} + y_{12} - 2z_{12})\;\hat{\mathbf{y}} + \frac{1}{3}c\,(x_{12} + y_{12} + z_{12})\;\hat{\mathbf{z}} & \text{(12i)} \quad \text{B XII} \\
\mathbf{B_{61}} & = & -z_{12}\,\mathbf{a}_1 - y_{12}\,\mathbf{a}_2 - x_{12}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{12} - z_{12})\;\hat{\mathbf{x}} + \frac{\sqrt{3}}{6}a\,(x_{12} - 2y_{12} + z_{12})\;\hat{\mathbf{y}} - \frac{1}{3}c\,(x_{12} + y_{12} + z_{12})\;\hat{\mathbf{z}} & \text{(12i)} \quad \text{B XII}
\end{array}
$$

$$\mathbf{B_{62}} = -y_{12}\,\mathbf{a}_1 - x_{12}\,\mathbf{a}_2 - z_{12}\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(y_{12}-z_{12})\,\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(2x_{12}-y_{12}-z_{12})\,\hat{\mathbf{y}} - \tfrac{1}{3}c\,(x_{12}+y_{12}+z_{12})\,\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XII}$$

$$\mathbf{B_{63}} = -x_{12}\,\mathbf{a}_1 - z_{12}\,\mathbf{a}_2 - y_{12}\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(x_{12}-y_{12})\,\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(x_{12}+y_{12}-2z_{12})\,\hat{\mathbf{y}} - \tfrac{1}{3}c\,(x_{12}+y_{12}+z_{12})\,\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XII}$$

$$\mathbf{B_{64}} = -x_{12}\,\mathbf{a}_1 - y_{12}\,\mathbf{a}_2 - z_{12}\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(x_{12}-z_{12})\,\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(x_{12}-2y_{12}+z_{12})\,\hat{\mathbf{y}} - \tfrac{1}{3}c\,(x_{12}+y_{12}+z_{12})\,\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XII}$$

$$\mathbf{B_{65}} = -z_{12}\,\mathbf{a}_1 - x_{12}\,\mathbf{a}_2 - y_{12}\,\mathbf{a}_3 = \tfrac{1}{2}a\,(y_{12}-z_{12})\,\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(2x_{12}-y_{12}-z_{12})\,\hat{\mathbf{y}} - \tfrac{1}{3}c\,(x_{12}+y_{12}+z_{12})\,\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XII}$$

$$\mathbf{B_{66}} = -y_{12}\,\mathbf{a}_1 - z_{12}\,\mathbf{a}_2 - x_{12}\,\mathbf{a}_3 = \tfrac{1}{2}a\,(x_{12}-y_{12})\,\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(x_{12}+y_{12}-2z_{12})\,\hat{\mathbf{y}} - \tfrac{1}{3}c\,(x_{12}+y_{12}+z_{12})\,\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XII}$$

$$\mathbf{B_{67}} = z_{12}\,\mathbf{a}_1 + y_{12}\,\mathbf{a}_2 + x_{12}\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(x_{12}-z_{12})\,\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(x_{12}-2y_{12}+z_{12})\,\hat{\mathbf{y}} + \tfrac{1}{3}c\,(x_{12}+y_{12}+z_{12})\,\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XII}$$

$$\mathbf{B_{68}} = y_{12}\,\mathbf{a}_1 + x_{12}\,\mathbf{a}_2 + z_{12}\,\mathbf{a}_3 = \tfrac{1}{2}a\,(y_{12}-z_{12})\,\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(2x_{12}-y_{12}-z_{12})\,\hat{\mathbf{y}} + \tfrac{1}{3}c\,(x_{12}+y_{12}+z_{12})\,\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XII}$$

$$\mathbf{B_{69}} = x_{12}\,\mathbf{a}_1 + z_{12}\,\mathbf{a}_2 + y_{12}\,\mathbf{a}_3 = \tfrac{1}{2}a\,(x_{12}-y_{12})\,\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(x_{12}+y_{12}-2z_{12})\,\hat{\mathbf{y}} + \tfrac{1}{3}c\,(x_{12}+y_{12}+z_{12})\,\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XII}$$

$$\mathbf{B_{70}} = x_{13}\,\mathbf{a}_1 + y_{13}\,\mathbf{a}_2 + z_{13}\,\mathbf{a}_3 = \tfrac{1}{2}a\,(x_{13}-z_{13})\,\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(x_{13}-2y_{13}+z_{13})\,\hat{\mathbf{y}} + \tfrac{1}{3}c\,(x_{13}+y_{13}+z_{13})\,\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIII}$$

$$\mathbf{B_{71}} = z_{13}\,\mathbf{a}_1 + x_{13}\,\mathbf{a}_2 + y_{13}\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(y_{13}-z_{13})\,\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(2x_{13}-y_{13}-z_{13})\,\hat{\mathbf{y}} + \tfrac{1}{3}c\,(x_{13}+y_{13}+z_{13})\,\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIII}$$

$$\mathbf{B_{72}} = y_{13}\,\mathbf{a}_1 + z_{13}\,\mathbf{a}_2 + x_{13}\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(x_{13}-y_{13})\,\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(x_{13}+y_{13}-2z_{13})\,\hat{\mathbf{y}} + \tfrac{1}{3}c\,(x_{13}+y_{13}+z_{13})\,\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIII}$$

$$\mathbf{B_{73}} = -z_{13}\,\mathbf{a}_1 - y_{13}\,\mathbf{a}_2 - x_{13}\,\mathbf{a}_3 = \tfrac{1}{2}a\,(x_{13}-z_{13})\,\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(x_{13}-2y_{13}+z_{13})\,\hat{\mathbf{y}} - \tfrac{1}{3}c\,(x_{13}+y_{13}+z_{13})\,\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIII}$$

$$\mathbf{B_{74}} = -y_{13}\,\mathbf{a}_1 - x_{13}\,\mathbf{a}_2 - z_{13}\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(y_{13}-z_{13})\,\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(2x_{13}-y_{13}-z_{13})\,\hat{\mathbf{y}} - \tfrac{1}{3}c\,(x_{13}+y_{13}+z_{13})\,\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIII}$$

$$\mathbf{B_{75}} = -x_{13}\,\mathbf{a}_1 - z_{13}\,\mathbf{a}_2 - y_{13}\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(x_{13}-y_{13})\,\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(x_{13}+y_{13}-2z_{13})\,\hat{\mathbf{y}} - \tfrac{1}{3}c\,(x_{13}+y_{13}+z_{13})\,\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIII}$$

$$\mathbf{B_{76}} = -x_{13}\,\mathbf{a}_1 - y_{13}\,\mathbf{a}_2 - z_{13}\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(x_{13}-z_{13})\,\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(x_{13}-2y_{13}+z_{13})\,\hat{\mathbf{y}} - \tfrac{1}{3}c\,(x_{13}+y_{13}+z_{13})\,\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIII}$$

$$\mathbf{B_{77}} = -z_{13}\,\mathbf{a}_1 - x_{13}\,\mathbf{a}_2 - y_{13}\,\mathbf{a}_3 = \tfrac{1}{2}a\,(y_{13}-z_{13})\,\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(2x_{13}-y_{13}-z_{13})\,\hat{\mathbf{y}} - \tfrac{1}{3}c\,(x_{13}+y_{13}+z_{13})\,\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIII}$$

$$\mathbf{B_{78}} = -y_{13}\,\mathbf{a}_1 - z_{13}\,\mathbf{a}_2 - x_{13}\,\mathbf{a}_3 = \tfrac{1}{2}a\,(x_{13}-y_{13})\;\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(x_{13}+y_{13}-2z_{13})\;\hat{\mathbf{y}} - \tfrac{1}{3}c\,(x_{13}+y_{13}+z_{13})\;\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIII}$$

$$\mathbf{B_{79}} = z_{13}\,\mathbf{a}_1 + y_{13}\,\mathbf{a}_2 + x_{13}\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(x_{13}-z_{13})\;\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(x_{13}-2y_{13}+z_{13})\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(x_{13}+y_{13}+z_{13})\;\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIII}$$

$$\mathbf{B_{80}} = y_{13}\,\mathbf{a}_1 + x_{13}\,\mathbf{a}_2 + z_{13}\,\mathbf{a}_3 = \tfrac{1}{2}a\,(y_{13}-z_{13})\;\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(2x_{13}-y_{13}-z_{13})\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(x_{13}+y_{13}+z_{13})\;\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIII}$$

$$\mathbf{B_{81}} = x_{13}\,\mathbf{a}_1 + z_{13}\,\mathbf{a}_2 + y_{13}\,\mathbf{a}_3 = \tfrac{1}{2}a\,(x_{13}-y_{13})\;\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(x_{13}+y_{13}-2z_{13})\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(x_{13}+y_{13}+z_{13})\;\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIII}$$

$$\mathbf{B_{82}} = x_{14}\,\mathbf{a}_1 + y_{14}\,\mathbf{a}_2 + z_{14}\,\mathbf{a}_3 = \tfrac{1}{2}a\,(x_{14}-z_{14})\;\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(x_{14}-2y_{14}+z_{14})\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(x_{14}+y_{14}+z_{14})\;\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIV}$$

$$\mathbf{B_{83}} = z_{14}\,\mathbf{a}_1 + x_{14}\,\mathbf{a}_2 + y_{14}\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(y_{14}-z_{14})\;\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(2x_{14}-y_{14}-z_{14})\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(x_{14}+y_{14}+z_{14})\;\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIV}$$

$$\mathbf{B_{84}} = y_{14}\,\mathbf{a}_1 + z_{14}\,\mathbf{a}_2 + x_{14}\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(x_{14}-y_{14})\;\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(x_{14}+y_{14}-2z_{14})\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(x_{14}+y_{14}+z_{14})\;\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIV}$$

$$\mathbf{B_{85}} = -z_{14}\,\mathbf{a}_1 - y_{14}\,\mathbf{a}_2 - x_{14}\,\mathbf{a}_3 = \tfrac{1}{2}a\,(x_{14}-z_{14})\;\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(x_{14}-2y_{14}+z_{14})\;\hat{\mathbf{y}} - \tfrac{1}{3}c\,(x_{14}+y_{14}+z_{14})\;\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIV}$$

$$\mathbf{B_{86}} = -y_{14}\,\mathbf{a}_1 - x_{14}\,\mathbf{a}_2 - z_{14}\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(y_{14}-z_{14})\;\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(2x_{14}-y_{14}-z_{14})\;\hat{\mathbf{y}} - \tfrac{1}{3}c\,(x_{14}+y_{14}+z_{14})\;\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIV}$$

$$\mathbf{B_{87}} = -x_{14}\,\mathbf{a}_1 - z_{14}\,\mathbf{a}_2 - y_{14}\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(x_{14}-y_{14})\;\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(x_{14}+y_{14}-2z_{14})\;\hat{\mathbf{y}} - \tfrac{1}{3}c\,(x_{14}+y_{14}+z_{14})\;\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIV}$$

$$\mathbf{B_{88}} = -x_{14}\,\mathbf{a}_1 - y_{14}\,\mathbf{a}_2 - z_{14}\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(x_{14}-z_{14})\;\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(x_{14}-2y_{14}+z_{14})\;\hat{\mathbf{y}} - \tfrac{1}{3}c\,(x_{14}+y_{14}+z_{14})\;\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIV}$$

$$\mathbf{B_{89}} = -z_{14}\,\mathbf{a}_1 - x_{14}\,\mathbf{a}_2 - y_{14}\,\mathbf{a}_3 = \tfrac{1}{2}a\,(y_{14}-z_{14})\;\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(2x_{14}-y_{14}-z_{14})\;\hat{\mathbf{y}} - \tfrac{1}{3}c\,(x_{14}+y_{14}+z_{14})\;\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIV}$$

$$\mathbf{B_{90}} = -y_{14}\,\mathbf{a}_1 - z_{14}\,\mathbf{a}_2 - x_{14}\,\mathbf{a}_3 = \tfrac{1}{2}a\,(x_{14}-y_{14})\;\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(x_{14}+y_{14}-2z_{14})\;\hat{\mathbf{y}} - \tfrac{1}{3}c\,(x_{14}+y_{14}+z_{14})\;\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIV}$$

$$\mathbf{B_{91}} = z_{14}\,\mathbf{a}_1 + y_{14}\,\mathbf{a}_2 + x_{14}\,\mathbf{a}_3 = -\tfrac{1}{2}a\,(x_{14}-z_{14})\;\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(x_{14}-2y_{14}+z_{14})\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(x_{14}+y_{14}+z_{14})\;\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIV}$$

$$\mathbf{B_{92}} = y_{14}\,\mathbf{a}_1 + x_{14}\,\mathbf{a}_2 + z_{14}\,\mathbf{a}_3 = \tfrac{1}{2}a\,(y_{14}-z_{14})\;\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{6}a\,(2x_{14}-y_{14}-z_{14})\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(x_{14}+y_{14}+z_{14})\;\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIV}$$

$$\mathbf{B_{93}} = x_{14}\,\mathbf{a}_1 + z_{14}\,\mathbf{a}_2 + y_{14}\,\mathbf{a}_3 = \tfrac{1}{2}a\,(x_{14}-y_{14})\;\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{6}a\,(x_{14}+y_{14}-2z_{14})\;\hat{\mathbf{y}} + \tfrac{1}{3}c\,(x_{14}+y_{14}+z_{14})\;\hat{\mathbf{z}} \quad (12\text{i}) \quad \text{B XIV}$$

$$\mathbf{B_{94}} = x_{15}\,\mathbf{a}_1 + y_{15}\,\mathbf{a}_2 + z_{15}\,\mathbf{a}_3 = \frac{1}{2}a\,(x_{15} - z_{15})\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{6}a\,(x_{15} - 2y_{15} + z_{15})\,\hat{\mathbf{y}} + \frac{1}{3}c\,(x_{15} + y_{15} + z_{15})\,\hat{\mathbf{z}} \quad \text{(12i)} \quad \text{B XV}$$

$$\mathbf{B_{95}} = z_{15}\,\mathbf{a}_1 + x_{15}\,\mathbf{a}_2 + y_{15}\,\mathbf{a}_3 = -\frac{1}{2}a\,(y_{15} - z_{15})\,\hat{\mathbf{x}} + \frac{\sqrt{3}}{6}a\,(2x_{15} - y_{15} - z_{15})\,\hat{\mathbf{y}} + \frac{1}{3}c\,(x_{15} + y_{15} + z_{15})\,\hat{\mathbf{z}} \quad \text{(12i)} \quad \text{B XV}$$

$$\mathbf{B_{96}} = y_{15}\,\mathbf{a}_1 + z_{15}\,\mathbf{a}_2 + x_{15}\,\mathbf{a}_3 = -\frac{1}{2}a\,(x_{15} - y_{15})\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{6}a\,(x_{15} + y_{15} - 2z_{15})\,\hat{\mathbf{y}} + \frac{1}{3}c\,(x_{15} + y_{15} + z_{15})\,\hat{\mathbf{z}} \quad \text{(12i)} \quad \text{B XV}$$

$$\mathbf{B_{97}} = -z_{15}\,\mathbf{a}_1 - y_{15}\,\mathbf{a}_2 - x_{15}\,\mathbf{a}_3 = \frac{1}{2}a\,(x_{15} - z_{15})\,\hat{\mathbf{x}} + \frac{\sqrt{3}}{6}a\,(x_{15} - 2y_{15} + z_{15})\,\hat{\mathbf{y}} - \frac{1}{3}c\,(x_{15} + y_{15} + z_{15})\,\hat{\mathbf{z}} \quad \text{(12i)} \quad \text{B XV}$$

$$\mathbf{B_{98}} = -y_{15}\,\mathbf{a}_1 - x_{15}\,\mathbf{a}_2 - z_{15}\,\mathbf{a}_3 = -\frac{1}{2}a\,(y_{15} - z_{15})\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{6}a\,(2x_{15} - y_{15} - z_{15})\,\hat{\mathbf{y}} - \frac{1}{3}c\,(x_{15} + y_{15} + z_{15})\,\hat{\mathbf{z}} \quad \text{(12i)} \quad \text{B XV}$$

$$\mathbf{B_{99}} = -x_{15}\,\mathbf{a}_1 - z_{15}\,\mathbf{a}_2 - y_{15}\,\mathbf{a}_3 = -\frac{1}{2}a\,(x_{15} - y_{15})\,\hat{\mathbf{x}} + \frac{\sqrt{3}}{6}a\,(x_{15} + y_{15} - 2z_{15})\,\hat{\mathbf{y}} - \frac{1}{3}c\,(x_{15} + y_{15} + z_{15})\,\hat{\mathbf{z}} \quad \text{(12i)} \quad \text{B XV}$$

$$\mathbf{B_{100}} = -x_{15}\,\mathbf{a}_1 - y_{15}\,\mathbf{a}_2 - z_{15}\,\mathbf{a}_3 = -\frac{1}{2}a\,(x_{15} - z_{15})\,\hat{\mathbf{x}} + \frac{\sqrt{3}}{6}a\,(x_{15} - 2y_{15} + z_{15})\,\hat{\mathbf{y}} - \frac{1}{3}c\,(x_{15} + y_{15} + z_{15})\,\hat{\mathbf{z}} \quad \text{(12i)} \quad \text{B XV}$$

$$\mathbf{B_{101}} = -z_{15}\,\mathbf{a}_1 - x_{15}\,\mathbf{a}_2 - y_{15}\,\mathbf{a}_3 = \frac{1}{2}a\,(y_{15} - z_{15})\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{6}a\,(2x_{15} - y_{15} - z_{15})\,\hat{\mathbf{y}} - \frac{1}{3}c\,(x_{15} + y_{15} + z_{15})\,\hat{\mathbf{z}} \quad \text{(12i)} \quad \text{B XV}$$

$$\mathbf{B_{102}} = -y_{15}\,\mathbf{a}_1 - z_{15}\,\mathbf{a}_2 - x_{15}\,\mathbf{a}_3 = \frac{1}{2}a\,(x_{15} - y_{15})\,\hat{\mathbf{x}} + \frac{\sqrt{3}}{6}a\,(x_{15} + y_{15} - 2z_{15})\,\hat{\mathbf{y}} - \frac{1}{3}c\,(x_{15} + y_{15} + z_{15})\,\hat{\mathbf{z}} \quad \text{(12i)} \quad \text{B XV}$$

$$\mathbf{B_{103}} = z_{15}\,\mathbf{a}_1 + y_{15}\,\mathbf{a}_2 + x_{15}\,\mathbf{a}_3 = -\frac{1}{2}a\,(x_{15} - z_{15})\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{6}a\,(x_{15} - 2y_{15} + z_{15})\,\hat{\mathbf{y}} + \frac{1}{3}c\,(x_{15} + y_{15} + z_{15})\,\hat{\mathbf{z}} \quad \text{(12i)} \quad \text{B XV}$$

$$\mathbf{B_{104}} = y_{15}\,\mathbf{a}_1 + x_{15}\,\mathbf{a}_2 + z_{15}\,\mathbf{a}_3 = \frac{1}{2}a\,(y_{15} - z_{15})\,\hat{\mathbf{x}} + \frac{\sqrt{3}}{6}a\,(2x_{15} - y_{15} - z_{15})\,\hat{\mathbf{y}} + \frac{1}{3}c\,(x_{15} + y_{15} + z_{15})\,\hat{\mathbf{z}} \quad \text{(12i)} \quad \text{B XV}$$

$$\mathbf{B_{105}} = x_{15}\,\mathbf{a}_1 + z_{15}\,\mathbf{a}_2 + y_{15}\,\mathbf{a}_3 = \frac{1}{2}a\,(x_{15} - y_{15})\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{6}a\,(x_{15} + y_{15} - 2z_{15})\,\hat{\mathbf{y}} + \frac{1}{3}c\,(x_{15} + y_{15} + z_{15})\,\hat{\mathbf{z}} \quad \text{(12i)} \quad \text{B XV}$$

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