$Zn(BrO_3)_2 \cdot 6H_2O$ ($J1_{10}$) Structure: A2B6C6D_cP60_205_c_d_d_a-001

This structure originally had the label `A2B6C6D_cP60_205_c_d_d_a`. Calls to that address will be redirected here.

https://aflow.org/p/Q0QA

https://aflow.org/p/A2B6C6D_cP60_205_c_d_d_a-001
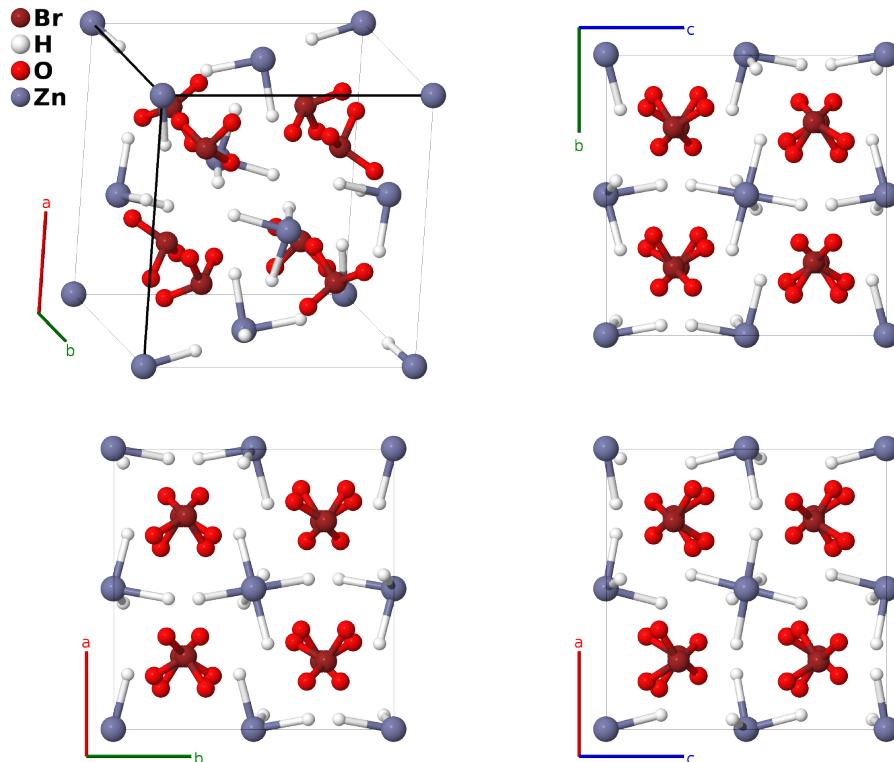
Prototype	$Br_2(H_2O)_6O_6Zn$
AFLOW prototype label	A2B6C6D_cP60_205_c_d_d_a-001
***Strukturbericht* designation**	$J1_{10}$
ICSD	15981
Pearson symbol	cP60
Space group number	205
Space group symbol	$Pa\overline{3}$
AFLOW prototype command	aflow --proto=A2B6C6D_cP60_205_c_d_d_a-001
	--params=$a, x_2, x_3, y_3, z_3, x_4, y_4, z_4$

- The positions of the hydrogen atoms in the water molecules were not determined, so we only provide the positions of the oxygen atom (labeled as H_2O).

Simple Cubic primitive vectors

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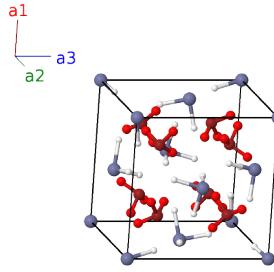
Basis vectors

		Lattice coordinates		Cartesian coordinates	Wyckoff position	Atom type
$\mathbf{B_1}$	=	0	=	0	(4a)	Zn I
$\mathbf{B_2}$	=	$\frac{1}{2}\mathbf{a_1} + \frac{1}{2}\mathbf{a_3}$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{1}{2}a\,\hat{\mathbf{z}}$	(4a)	Zn I
$\mathbf{B_3}$	=	$\frac{1}{2}\mathbf{a_2} + \frac{1}{2}\mathbf{a_3}$	=	$\frac{1}{2}a\,\hat{\mathbf{y}} + \frac{1}{2}a\,\hat{\mathbf{z}}$	(4a)	Zn I
$\mathbf{B_4}$	=	$\frac{1}{2}\mathbf{a_1} + \frac{1}{2}\mathbf{a_2}$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{1}{2}a\,\hat{\mathbf{y}}$	(4a)	Zn I
$\mathbf{B_5}$	=	$x_2\,\mathbf{a_1} + x_2\,\mathbf{a_2} + x_2\,\mathbf{a_3}$	=	$ax_2\,\hat{\mathbf{x}} + ax_2\,\hat{\mathbf{y}} + ax_2\,\hat{\mathbf{z}}$	(8c)	Br I
$\mathbf{B_6}$	=	$-\left(x_2 - \frac{1}{2}\right)\mathbf{a_1} - x_2\,\mathbf{a_2} + \left(x_2 + \frac{1}{2}\right)\mathbf{a_3}$	=	$-a\left(x_2 - \frac{1}{2}\right)\hat{\mathbf{x}} - ax_2\,\hat{\mathbf{y}} + a\left(x_2 + \frac{1}{2}\right)\hat{\mathbf{z}}$	(8c)	Br I
$\mathbf{B_7}$	=	$-x_2\,\mathbf{a_1} + \left(x_2 + \frac{1}{2}\right)\mathbf{a_2} - \left(x_2 - \frac{1}{2}\right)\mathbf{a_3}$	=	$-ax_2\,\hat{\mathbf{x}} + a\left(x_2 + \frac{1}{2}\right)\hat{\mathbf{y}} - a\left(x_2 - \frac{1}{2}\right)\hat{\mathbf{z}}$	(8c)	Br I
$\mathbf{B_8}$	=	$\left(x_2 + \frac{1}{2}\right)\mathbf{a_1} - \left(x_2 - \frac{1}{2}\right)\mathbf{a_2} - x_2\,\mathbf{a_3}$	=	$a\left(x_2 + \frac{1}{2}\right)\hat{\mathbf{x}} - a\left(x_2 - \frac{1}{2}\right)\hat{\mathbf{y}} - ax_2\,\hat{\mathbf{z}}$	(8c)	Br I
$\mathbf{B_9}$	=	$-x_2\,\mathbf{a_1} - x_2\,\mathbf{a_2} - x_2\,\mathbf{a_3}$	=	$-ax_2\,\hat{\mathbf{x}} - ax_2\,\hat{\mathbf{y}} - ax_2\,\hat{\mathbf{z}}$	(8c)	Br I
$\mathbf{B_{10}}$	=	$\left(x_2 + \frac{1}{2}\right)\mathbf{a_1} + x_2\,\mathbf{a_2} - \left(x_2 - \frac{1}{2}\right)\mathbf{a_3}$	=	$a\left(x_2 + \frac{1}{2}\right)\hat{\mathbf{x}} + ax_2\,\hat{\mathbf{y}} - a\left(x_2 - \frac{1}{2}\right)\hat{\mathbf{z}}$	(8c)	Br I
$\mathbf{B_{11}}$	=	$x_2\,\mathbf{a_1} - \left(x_2 - \frac{1}{2}\right)\mathbf{a_2} + \left(x_2 + \frac{1}{2}\right)\mathbf{a_3}$	=	$ax_2\,\hat{\mathbf{x}} - a\left(x_2 - \frac{1}{2}\right)\hat{\mathbf{y}} + a\left(x_2 + \frac{1}{2}\right)\hat{\mathbf{z}}$	(8c)	Br I
$\mathbf{B_{12}}$	=	$-\left(x_2 - \frac{1}{2}\right)\mathbf{a_1} + \left(x_2 + \frac{1}{2}\right)\mathbf{a_2} + x_2\,\mathbf{a_3}$	=	$-a\left(x_2 - \frac{1}{2}\right)\hat{\mathbf{x}} + a\left(x_2 + \frac{1}{2}\right)\hat{\mathbf{y}} + ax_2\,\hat{\mathbf{z}}$	(8c)	Br I
$\mathbf{B_{13}}$	=	$x_3\,\mathbf{a_1} + y_3\,\mathbf{a_2} + z_3\,\mathbf{a_3}$	=	$ax_3\,\hat{\mathbf{x}} + ay_3\,\hat{\mathbf{y}} + az_3\,\hat{\mathbf{z}}$	(24d)	H I
$\mathbf{B_{14}}$	=	$-\left(x_3 - \frac{1}{2}\right)\mathbf{a_1} - y_3\,\mathbf{a_2} + \left(z_3 + \frac{1}{2}\right)\mathbf{a_3}$	=	$-a\left(x_3 - \frac{1}{2}\right)\hat{\mathbf{x}} - ay_3\,\hat{\mathbf{y}} + a\left(z_3 + \frac{1}{2}\right)\hat{\mathbf{z}}$	(24d)	H I
$\mathbf{B_{15}}$	=	$-x_3\,\mathbf{a_1} + \left(y_3 + \frac{1}{2}\right)\mathbf{a_2} - \left(z_3 - \frac{1}{2}\right)\mathbf{a_3}$	=	$-ax_3\,\hat{\mathbf{x}} + a\left(y_3 + \frac{1}{2}\right)\hat{\mathbf{y}} - a\left(z_3 - \frac{1}{2}\right)\hat{\mathbf{z}}$	(24d)	H I
$\mathbf{B_{16}}$	=	$\left(x_3 + \frac{1}{2}\right)\mathbf{a_1} - \left(y_3 - \frac{1}{2}\right)\mathbf{a_2} - z_3\,\mathbf{a_3}$	=	$a\left(x_3 + \frac{1}{2}\right)\hat{\mathbf{x}} - a\left(y_3 - \frac{1}{2}\right)\hat{\mathbf{y}} - az_3\,\hat{\mathbf{z}}$	(24d)	H I
$\mathbf{B_{17}}$	=	$z_3\,\mathbf{a_1} + x_3\,\mathbf{a_2} + y_3\,\mathbf{a_3}$	=	$az_3\,\hat{\mathbf{x}} + ax_3\,\hat{\mathbf{y}} + ay_3\,\hat{\mathbf{z}}$	(24d)	H I
$\mathbf{B_{18}}$	=	$\left(z_3 + \frac{1}{2}\right)\mathbf{a_1} - \left(x_3 - \frac{1}{2}\right)\mathbf{a_2} - y_3\,\mathbf{a_3}$	=	$a\left(z_3 + \frac{1}{2}\right)\hat{\mathbf{x}} - a\left(x_3 - \frac{1}{2}\right)\hat{\mathbf{y}} - ay_3\,\hat{\mathbf{z}}$	(24d)	H I
$\mathbf{B_{19}}$	=	$-\left(z_3 - \frac{1}{2}\right)\mathbf{a_1} - x_3\,\mathbf{a_2} + \left(y_3 + \frac{1}{2}\right)\mathbf{a_3}$	=	$-a\left(z_3 - \frac{1}{2}\right)\hat{\mathbf{x}} - ax_3\,\hat{\mathbf{y}} + a\left(y_3 + \frac{1}{2}\right)\hat{\mathbf{z}}$	(24d)	H I
$\mathbf{B_{20}}$	=	$-z_3\,\mathbf{a_1} + \left(x_3 + \frac{1}{2}\right)\mathbf{a_2} - \left(y_3 - \frac{1}{2}\right)\mathbf{a_3}$	=	$-az_3\,\hat{\mathbf{x}} + a\left(x_3 + \frac{1}{2}\right)\hat{\mathbf{y}} - a\left(y_3 - \frac{1}{2}\right)\hat{\mathbf{z}}$	(24d)	H I
$\mathbf{B_{21}}$	=	$y_3\,\mathbf{a_1} + z_3\,\mathbf{a_2} + x_3\,\mathbf{a_3}$	=	$ay_3\,\hat{\mathbf{x}} + az_3\,\hat{\mathbf{y}} + ax_3\,\hat{\mathbf{z}}$	(24d)	H I
$\mathbf{B_{22}}$	=	$-y_3\,\mathbf{a_1} + \left(z_3 + \frac{1}{2}\right)\mathbf{a_2} - \left(x_3 - \frac{1}{2}\right)\mathbf{a_3}$	=	$-ay_3\,\hat{\mathbf{x}} + a\left(z_3 + \frac{1}{2}\right)\hat{\mathbf{y}} - a\left(x_3 - \frac{1}{2}\right)\hat{\mathbf{z}}$	(24d)	H I

$$\mathbf{B_{23}} = \left(y_3 + \tfrac{1}{2}\right)\mathbf{a}_1 - \left(z_3 - \tfrac{1}{2}\right)\mathbf{a}_2 - x_3\,\mathbf{a}_3 = a\left(y_3 + \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(z_3 - \tfrac{1}{2}\right)\hat{\mathbf{y}} - ax_3\,\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{H I}$$

$$\mathbf{B_{24}} = -\left(y_3 - \tfrac{1}{2}\right)\mathbf{a}_1 - z_3\,\mathbf{a}_2 + \left(x_3 + \tfrac{1}{2}\right)\mathbf{a}_3 = -a\left(y_3 - \tfrac{1}{2}\right)\hat{\mathbf{x}} - az_3\,\hat{\mathbf{y}} + a\left(x_3 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{H I}$$

$$\mathbf{B_{25}} = -x_3\,\mathbf{a}_1 - y_3\,\mathbf{a}_2 - z_3\,\mathbf{a}_3 = -ax_3\,\hat{\mathbf{x}} - ay_3\,\hat{\mathbf{y}} - az_3\,\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{H I}$$

$$\mathbf{B_{26}} = \left(x_3 + \tfrac{1}{2}\right)\mathbf{a}_1 + y_3\,\mathbf{a}_2 - \left(z_3 - \tfrac{1}{2}\right)\mathbf{a}_3 = a\left(x_3 + \tfrac{1}{2}\right)\hat{\mathbf{x}} + ay_3\,\hat{\mathbf{y}} - a\left(z_3 - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{H I}$$

$$\mathbf{B_{27}} = x_3\,\mathbf{a}_1 - \left(y_3 - \tfrac{1}{2}\right)\mathbf{a}_2 + \left(z_3 + \tfrac{1}{2}\right)\mathbf{a}_3 = ax_3\,\hat{\mathbf{x}} - a\left(y_3 - \tfrac{1}{2}\right)\hat{\mathbf{y}} + a\left(z_3 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{H I}$$

$$\mathbf{B_{28}} = -\left(x_3 - \tfrac{1}{2}\right)\mathbf{a}_1 + \left(y_3 + \tfrac{1}{2}\right)\mathbf{a}_2 + z_3\,\mathbf{a}_3 = -a\left(x_3 - \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(y_3 + \tfrac{1}{2}\right)\hat{\mathbf{y}} + az_3\,\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{H I}$$

$$\mathbf{B_{29}} = -z_3\,\mathbf{a}_1 - x_3\,\mathbf{a}_2 - y_3\,\mathbf{a}_3 = -az_3\,\hat{\mathbf{x}} - ax_3\,\hat{\mathbf{y}} - ay_3\,\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{H I}$$

$$\mathbf{B_{30}} = -\left(z_3 - \tfrac{1}{2}\right)\mathbf{a}_1 + \left(x_3 + \tfrac{1}{2}\right)\mathbf{a}_2 + y_3\,\mathbf{a}_3 = -a\left(z_3 - \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(x_3 + \tfrac{1}{2}\right)\hat{\mathbf{y}} + ay_3\,\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{H I}$$

$$\mathbf{B_{31}} = \left(z_3 + \tfrac{1}{2}\right)\mathbf{a}_1 + x_3\,\mathbf{a}_2 - \left(y_3 - \tfrac{1}{2}\right)\mathbf{a}_3 = a\left(z_3 + \tfrac{1}{2}\right)\hat{\mathbf{x}} + ax_3\,\hat{\mathbf{y}} - a\left(y_3 - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{H I}$$

$$\mathbf{B_{32}} = z_3\,\mathbf{a}_1 - \left(x_3 - \tfrac{1}{2}\right)\mathbf{a}_2 + \left(y_3 + \tfrac{1}{2}\right)\mathbf{a}_3 = az_3\,\hat{\mathbf{x}} - a\left(x_3 - \tfrac{1}{2}\right)\hat{\mathbf{y}} + a\left(y_3 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{H I}$$

$$\mathbf{B_{33}} = -y_3\,\mathbf{a}_1 - z_3\,\mathbf{a}_2 - x_3\,\mathbf{a}_3 = -ay_3\,\hat{\mathbf{x}} - az_3\,\hat{\mathbf{y}} - ax_3\,\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{H I}$$

$$\mathbf{B_{34}} = y_3\,\mathbf{a}_1 - \left(z_3 - \tfrac{1}{2}\right)\mathbf{a}_2 + \left(x_3 + \tfrac{1}{2}\right)\mathbf{a}_3 = ay_3\,\hat{\mathbf{x}} - a\left(z_3 - \tfrac{1}{2}\right)\hat{\mathbf{y}} + a\left(x_3 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{H I}$$

$$\mathbf{B_{35}} = -\left(y_3 - \tfrac{1}{2}\right)\mathbf{a}_1 + \left(z_3 + \tfrac{1}{2}\right)\mathbf{a}_2 + x_3\,\mathbf{a}_3 = -a\left(y_3 - \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(z_3 + \tfrac{1}{2}\right)\hat{\mathbf{y}} + ax_3\,\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{H I}$$

$$\mathbf{B_{36}} = \left(y_3 + \tfrac{1}{2}\right)\mathbf{a}_1 + z_3\,\mathbf{a}_2 - \left(x_3 - \tfrac{1}{2}\right)\mathbf{a}_3 = a\left(y_3 + \tfrac{1}{2}\right)\hat{\mathbf{x}} + az_3\,\hat{\mathbf{y}} - a\left(x_3 - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{H I}$$

$$\mathbf{B_{37}} = x_4\,\mathbf{a}_1 + y_4\,\mathbf{a}_2 + z_4\,\mathbf{a}_3 = ax_4\,\hat{\mathbf{x}} + ay_4\,\hat{\mathbf{y}} + az_4\,\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{O I}$$

$$\mathbf{B_{38}} = -\left(x_4 - \tfrac{1}{2}\right)\mathbf{a}_1 - y_4\,\mathbf{a}_2 + \left(z_4 + \tfrac{1}{2}\right)\mathbf{a}_3 = -a\left(x_4 - \tfrac{1}{2}\right)\hat{\mathbf{x}} - ay_4\,\hat{\mathbf{y}} + a\left(z_4 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{O I}$$

$$\mathbf{B_{39}} = -x_4\,\mathbf{a}_1 + \left(y_4 + \tfrac{1}{2}\right)\mathbf{a}_2 - \left(z_4 - \tfrac{1}{2}\right)\mathbf{a}_3 = -ax_4\,\hat{\mathbf{x}} + a\left(y_4 + \tfrac{1}{2}\right)\hat{\mathbf{y}} - a\left(z_4 - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{O I}$$

$$\mathbf{B_{40}} = \left(x_4 + \tfrac{1}{2}\right)\mathbf{a}_1 - \left(y_4 - \tfrac{1}{2}\right)\mathbf{a}_2 - z_4\,\mathbf{a}_3 = a\left(x_4 + \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(y_4 - \tfrac{1}{2}\right)\hat{\mathbf{y}} - az_4\,\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{O I}$$

$$\mathbf{B_{41}} = z_4\,\mathbf{a}_1 + x_4\,\mathbf{a}_2 + y_4\,\mathbf{a}_3 = az_4\,\hat{\mathbf{x}} + ax_4\,\hat{\mathbf{y}} + ay_4\,\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{O I}$$

$$\mathbf{B_{42}} = \left(z_4 + \tfrac{1}{2}\right)\mathbf{a}_1 - \left(x_4 - \tfrac{1}{2}\right)\mathbf{a}_2 - y_4\,\mathbf{a}_3 = a\left(z_4 + \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(x_4 - \tfrac{1}{2}\right)\hat{\mathbf{y}} - ay_4\,\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{O I}$$

$$\mathbf{B_{43}} = -\left(z_4 - \tfrac{1}{2}\right)\mathbf{a}_1 - x_4\,\mathbf{a}_2 + \left(y_4 + \tfrac{1}{2}\right)\mathbf{a}_3 = -a\left(z_4 - \tfrac{1}{2}\right)\hat{\mathbf{x}} - ax_4\,\hat{\mathbf{y}} + a\left(y_4 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{O I}$$

$$\mathbf{B_{44}} = -z_4\,\mathbf{a}_1 + \left(x_4 + \tfrac{1}{2}\right)\mathbf{a}_2 - \left(y_4 - \tfrac{1}{2}\right)\mathbf{a}_3 = -az_4\,\hat{\mathbf{x}} + a\left(x_4 + \tfrac{1}{2}\right)\hat{\mathbf{y}} - a\left(y_4 - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{O I}$$

$$\mathbf{B_{45}} = y_4\,\mathbf{a}_1 + z_4\,\mathbf{a}_2 + x_4\,\mathbf{a}_3 = ay_4\,\hat{\mathbf{x}} + az_4\,\hat{\mathbf{y}} + ax_4\,\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{O I}$$

$$\mathbf{B_{46}} = -y_4\,\mathbf{a}_1 + \left(z_4 + \tfrac{1}{2}\right)\mathbf{a}_2 - \left(x_4 - \tfrac{1}{2}\right)\mathbf{a}_3 = -ay_4\,\hat{\mathbf{x}} + a\left(z_4 + \tfrac{1}{2}\right)\hat{\mathbf{y}} - a\left(x_4 - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{O I}$$

$$\mathbf{B_{47}} = \left(y_4 + \tfrac{1}{2}\right)\mathbf{a}_1 - \left(z_4 - \tfrac{1}{2}\right)\mathbf{a}_2 - x_4\,\mathbf{a}_3 = a\left(y_4 + \tfrac{1}{2}\right)\hat{\mathbf{x}} - a\left(z_4 - \tfrac{1}{2}\right)\hat{\mathbf{y}} - ax_4\,\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{O I}$$

$$\mathbf{B_{48}} = -\left(y_4 - \tfrac{1}{2}\right)\mathbf{a}_1 - z_4\,\mathbf{a}_2 + \left(x_4 + \tfrac{1}{2}\right)\mathbf{a}_3 = -a\left(y_4 - \tfrac{1}{2}\right)\hat{\mathbf{x}} - az_4\,\hat{\mathbf{y}} + a\left(x_4 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{O I}$$

$$\mathbf{B_{49}} = -x_4\,\mathbf{a}_1 - y_4\,\mathbf{a}_2 - z_4\,\mathbf{a}_3 = -ax_4\,\hat{\mathbf{x}} - ay_4\,\hat{\mathbf{y}} - az_4\,\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{O I}$$

$$\mathbf{B_{50}} = \left(x_4 + \tfrac{1}{2}\right)\mathbf{a}_1 + y_4\,\mathbf{a}_2 - \left(z_4 - \tfrac{1}{2}\right)\mathbf{a}_3 = a\left(x_4 + \tfrac{1}{2}\right)\hat{\mathbf{x}} + ay_4\,\hat{\mathbf{y}} - a\left(z_4 - \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{O I}$$

$$\mathbf{B_{51}} = x_4\,\mathbf{a}_1 - \left(y_4 - \tfrac{1}{2}\right)\mathbf{a}_2 + \left(z_4 + \tfrac{1}{2}\right)\mathbf{a}_3 = ax_4\,\hat{\mathbf{x}} - a\left(y_4 - \tfrac{1}{2}\right)\hat{\mathbf{y}} + a\left(z_4 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{O I}$$

$$\mathbf{B_{52}} = -\left(x_4 - \tfrac{1}{2}\right)\mathbf{a}_1 + \left(y_4 + \tfrac{1}{2}\right)\mathbf{a}_2 + z_4\,\mathbf{a}_3 = -a\left(x_4 - \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(y_4 + \tfrac{1}{2}\right)\hat{\mathbf{y}} + az_4\,\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{O I}$$

$$\mathbf{B_{53}} = -z_4\,\mathbf{a}_1 - x_4\,\mathbf{a}_2 - y_4\,\mathbf{a}_3 = -az_4\,\hat{\mathbf{x}} - ax_4\,\hat{\mathbf{y}} - ay_4\,\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{O I}$$

$$\mathbf{B_{54}} = -\left(z_4 - \tfrac{1}{2}\right)\mathbf{a}_1 + \left(x_4 + \tfrac{1}{2}\right)\mathbf{a}_2 + y_4\,\mathbf{a}_3 = -a\left(z_4 - \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(x_4 + \tfrac{1}{2}\right)\hat{\mathbf{y}} + ay_4\,\hat{\mathbf{z}} \quad (24\text{d}) \quad \text{O I}$$

$$\mathbf{B_{55}} = \left(z_4 + \tfrac{1}{2}\right)\mathbf{a}_1 + x_4\,\mathbf{a}_2 - \left(y_4 - \tfrac{1}{2}\right)\mathbf{a}_3 = a\left(z_4 + \tfrac{1}{2}\right)\hat{\mathbf{x}} + ax_4\,\hat{\mathbf{y}} - a\left(y_4 - \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(24d)} \qquad \text{O I}$$

$$\mathbf{B_{56}} = z_4\,\mathbf{a}_1 - \left(x_4 - \tfrac{1}{2}\right)\mathbf{a}_2 + \left(y_4 + \tfrac{1}{2}\right)\mathbf{a}_3 = az_4\,\hat{\mathbf{x}} - a\left(x_4 - \tfrac{1}{2}\right)\hat{\mathbf{y}} + a\left(y_4 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(24d)} \qquad \text{O I}$$

$$\mathbf{B_{57}} = -y_4\,\mathbf{a}_1 - z_4\,\mathbf{a}_2 - x_4\,\mathbf{a}_3 = -ay_4\,\hat{\mathbf{x}} - az_4\,\hat{\mathbf{y}} - ax_4\,\hat{\mathbf{z}} \qquad \text{(24d)} \qquad \text{O I}$$

$$\mathbf{B_{58}} = y_4\,\mathbf{a}_1 - \left(z_4 - \tfrac{1}{2}\right)\mathbf{a}_2 + \left(x_4 + \tfrac{1}{2}\right)\mathbf{a}_3 = ay_4\,\hat{\mathbf{x}} - a\left(z_4 - \tfrac{1}{2}\right)\hat{\mathbf{y}} + a\left(x_4 + \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(24d)} \qquad \text{O I}$$

$$\mathbf{B_{59}} = -\left(y_4 - \tfrac{1}{2}\right)\mathbf{a}_1 + \left(z_4 + \tfrac{1}{2}\right)\mathbf{a}_2 + x_4\,\mathbf{a}_3 = -a\left(y_4 - \tfrac{1}{2}\right)\hat{\mathbf{x}} + a\left(z_4 + \tfrac{1}{2}\right)\hat{\mathbf{y}} + ax_4\,\hat{\mathbf{z}} \qquad \text{(24d)} \qquad \text{O I}$$

$$\mathbf{B_{60}} = \left(y_4 + \tfrac{1}{2}\right)\mathbf{a}_1 + z_4\,\mathbf{a}_2 - \left(x_4 - \tfrac{1}{2}\right)\mathbf{a}_3 = a\left(y_4 + \tfrac{1}{2}\right)\hat{\mathbf{x}} + az_4\,\hat{\mathbf{y}} - a\left(x_4 - \tfrac{1}{2}\right)\hat{\mathbf{z}} \qquad \text{(24d)} \qquad \text{O I}$$

References

[1] Z. H. Yü and C. A. Beevers, *The Crystal Structure of Zinc Bromate Hexahydrate [Zn(BrO$_3$)$_2$ · 6H$_2$O]*, Z. Kristallogr. **95**, 426–434 (1936), doi:10.1524/zkri.1936.95.1.426.

Found in

[1] C. Gottfried, ed., *Strukturbericht Band IV 1936* (Akademische Verlagsgesellschaft M. B. H., Leipzig, 1938).