

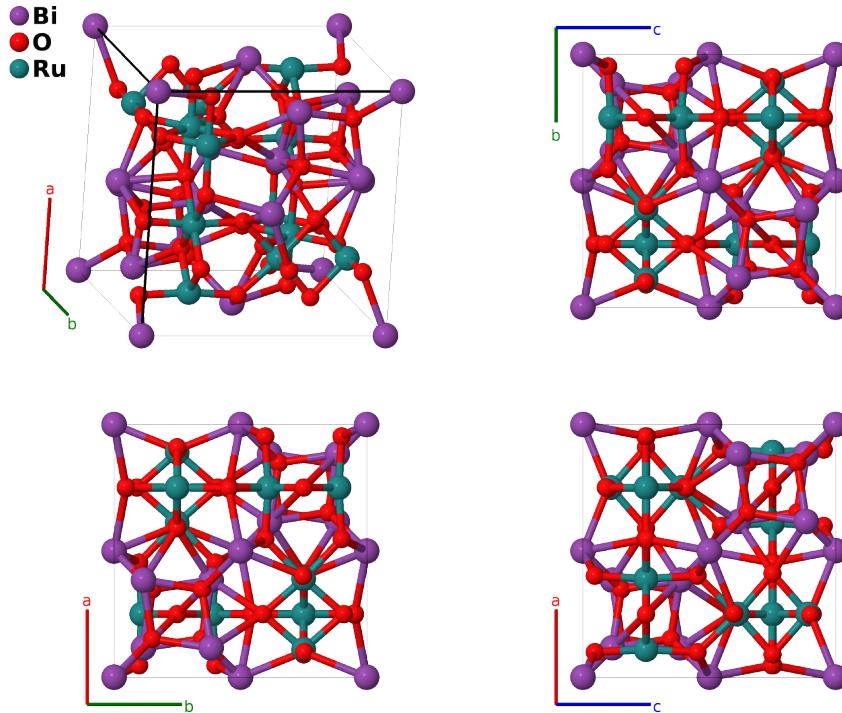
Bi₃Ru₃O₁₁ Structure: A3B11C3_cP68_201_be_efh_g-001

This structure originally had the label A3B11C3_cP68_201_be_efh_g. Calls to that address will be redirected here.

Cite this page as: 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.

<https://aflow.org/p/0WEU>

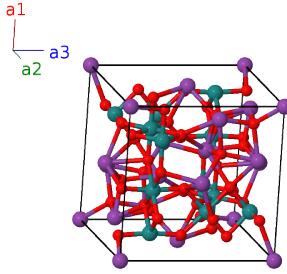
https://aflow.org/p/A3B11C3_cP68_201_be_efh_g-001



Prototype	Bi ₃ O ₁₁ Ru ₃
AFLOW prototype label	A3B11C3_cP68_201_be_efh_g-001
ICSD	4194
Pearson symbol	cP68
Space group number	201
Space group symbol	$Pn\bar{3}$
AFLOW prototype command	aflow --proto=A3B11C3_cP68_201_be_efh_g-001 --params=a, x ₂ , x ₃ , x ₄ , x ₅ , x ₆ , y ₆ , z ₆

Simple Cubic primitive vectors

$$\begin{aligned}\mathbf{a}_1 &= a \hat{\mathbf{x}} \\ \mathbf{a}_2 &= a \hat{\mathbf{y}} \\ \mathbf{a}_3 &= a \hat{\mathbf{z}}\end{aligned}$$



Basis vectors

	Lattice coordinates	Cartesian coordinates	Wyckoff position	Atom type
\mathbf{B}_1	= 0	= 0	(4b)	Bi I
\mathbf{B}_2	= $\frac{1}{2} \mathbf{a}_1 + \frac{1}{2} \mathbf{a}_2$	= $\frac{1}{2}a \hat{\mathbf{x}} + \frac{1}{2}a \hat{\mathbf{y}}$	(4b)	Bi I
\mathbf{B}_3	= $\frac{1}{2} \mathbf{a}_1 + \frac{1}{2} \mathbf{a}_3$	= $\frac{1}{2}a \hat{\mathbf{x}} + \frac{1}{2}a \hat{\mathbf{z}}$	(4b)	Bi I
\mathbf{B}_4	= $\frac{1}{2} \mathbf{a}_2 + \frac{1}{2} \mathbf{a}_3$	= $\frac{1}{2}a \hat{\mathbf{y}} + \frac{1}{2}a \hat{\mathbf{z}}$	(4b)	Bi I
\mathbf{B}_5	= $x_2 \mathbf{a}_1 + x_2 \mathbf{a}_2 + x_2 \mathbf{a}_3$	= $ax_2 \hat{\mathbf{x}} + ax_2 \hat{\mathbf{y}} + ax_2 \hat{\mathbf{z}}$	(8e)	Bi II
\mathbf{B}_6	= $-(x_2 - \frac{1}{2}) \mathbf{a}_1 - (x_2 - \frac{1}{2}) \mathbf{a}_2 + x_2 \mathbf{a}_3$	= $-a(x_2 - \frac{1}{2}) \hat{\mathbf{x}} - a(x_2 - \frac{1}{2}) \hat{\mathbf{y}} + ax_2 \hat{\mathbf{z}}$	(8e)	Bi II
\mathbf{B}_7	= $-(x_2 - \frac{1}{2}) \mathbf{a}_1 + x_2 \mathbf{a}_2 - (x_2 - \frac{1}{2}) \mathbf{a}_3$	= $-a(x_2 - \frac{1}{2}) \hat{\mathbf{x}} + ax_2 \hat{\mathbf{y}} - a(x_2 - \frac{1}{2}) \hat{\mathbf{z}}$	(8e)	Bi II
\mathbf{B}_8	= $x_2 \mathbf{a}_1 - (x_2 - \frac{1}{2}) \mathbf{a}_2 - (x_2 - \frac{1}{2}) \mathbf{a}_3$	= $ax_2 \hat{\mathbf{x}} - a(x_2 - \frac{1}{2}) \hat{\mathbf{y}} - a(x_2 - \frac{1}{2}) \hat{\mathbf{z}}$	(8e)	Bi II
\mathbf{B}_9	= $-x_2 \mathbf{a}_1 - x_2 \mathbf{a}_2 - x_2 \mathbf{a}_3$	= $-ax_2 \hat{\mathbf{x}} - ax_2 \hat{\mathbf{y}} - ax_2 \hat{\mathbf{z}}$	(8e)	Bi II
\mathbf{B}_{10}	= $(x_2 + \frac{1}{2}) \mathbf{a}_1 + (x_2 + \frac{1}{2}) \mathbf{a}_2 - x_2 \mathbf{a}_3$	= $a(x_2 + \frac{1}{2}) \hat{\mathbf{x}} + a(x_2 + \frac{1}{2}) \hat{\mathbf{y}} - ax_2 \hat{\mathbf{z}}$	(8e)	Bi II
\mathbf{B}_{11}	= $(x_2 + \frac{1}{2}) \mathbf{a}_1 - x_2 \mathbf{a}_2 + (x_2 + \frac{1}{2}) \mathbf{a}_3$	= $a(x_2 + \frac{1}{2}) \hat{\mathbf{x}} - ax_2 \hat{\mathbf{y}} + a(x_2 + \frac{1}{2}) \hat{\mathbf{z}}$	(8e)	Bi II
\mathbf{B}_{12}	= $-x_2 \mathbf{a}_1 + (x_2 + \frac{1}{2}) \mathbf{a}_2 + (x_2 + \frac{1}{2}) \mathbf{a}_3$	= $-ax_2 \hat{\mathbf{x}} + a(x_2 + \frac{1}{2}) \hat{\mathbf{y}} + a(x_2 + \frac{1}{2}) \hat{\mathbf{z}}$	(8e)	Bi II
\mathbf{B}_{13}	= $x_3 \mathbf{a}_1 + x_3 \mathbf{a}_2 + x_3 \mathbf{a}_3$	= $ax_3 \hat{\mathbf{x}} + ax_3 \hat{\mathbf{y}} + ax_3 \hat{\mathbf{z}}$	(8e)	O I
\mathbf{B}_{14}	= $-(x_3 - \frac{1}{2}) \mathbf{a}_1 - (x_3 - \frac{1}{2}) \mathbf{a}_2 + x_3 \mathbf{a}_3$	= $-a(x_3 - \frac{1}{2}) \hat{\mathbf{x}} - a(x_3 - \frac{1}{2}) \hat{\mathbf{y}} + ax_3 \hat{\mathbf{z}}$	(8e)	O I
\mathbf{B}_{15}	= $-(x_3 - \frac{1}{2}) \mathbf{a}_1 + x_3 \mathbf{a}_2 - (x_3 - \frac{1}{2}) \mathbf{a}_3$	= $-a(x_3 - \frac{1}{2}) \hat{\mathbf{x}} + ax_3 \hat{\mathbf{y}} - a(x_3 - \frac{1}{2}) \hat{\mathbf{z}}$	(8e)	O I
\mathbf{B}_{16}	= $x_3 \mathbf{a}_1 - (x_3 - \frac{1}{2}) \mathbf{a}_2 - (x_3 - \frac{1}{2}) \mathbf{a}_3$	= $ax_3 \hat{\mathbf{x}} - a(x_3 - \frac{1}{2}) \hat{\mathbf{y}} - a(x_3 - \frac{1}{2}) \hat{\mathbf{z}}$	(8e)	O I
\mathbf{B}_{17}	= $-x_3 \mathbf{a}_1 - x_3 \mathbf{a}_2 - x_3 \mathbf{a}_3$	= $-ax_3 \hat{\mathbf{x}} - ax_3 \hat{\mathbf{y}} - ax_3 \hat{\mathbf{z}}$	(8e)	O I
\mathbf{B}_{18}	= $(x_3 + \frac{1}{2}) \mathbf{a}_1 + (x_3 + \frac{1}{2}) \mathbf{a}_2 - x_3 \mathbf{a}_3$	= $a(x_3 + \frac{1}{2}) \hat{\mathbf{x}} + a(x_3 + \frac{1}{2}) \hat{\mathbf{y}} - ax_3 \hat{\mathbf{z}}$	(8e)	O I
\mathbf{B}_{19}	= $(x_3 + \frac{1}{2}) \mathbf{a}_1 - x_3 \mathbf{a}_2 + (x_3 + \frac{1}{2}) \mathbf{a}_3$	= $a(x_3 + \frac{1}{2}) \hat{\mathbf{x}} - ax_3 \hat{\mathbf{y}} + a(x_3 + \frac{1}{2}) \hat{\mathbf{z}}$	(8e)	O I
\mathbf{B}_{20}	= $-x_3 \mathbf{a}_1 + (x_3 + \frac{1}{2}) \mathbf{a}_2 + (x_3 + \frac{1}{2}) \mathbf{a}_3$	= $-ax_3 \hat{\mathbf{x}} + a(x_3 + \frac{1}{2}) \hat{\mathbf{y}} + a(x_3 + \frac{1}{2}) \hat{\mathbf{z}}$	(8e)	O I
\mathbf{B}_{21}	= $x_4 \mathbf{a}_1 + \frac{1}{4} \mathbf{a}_2 + \frac{1}{4} \mathbf{a}_3$	= $ax_4 \hat{\mathbf{x}} + \frac{1}{4}a \hat{\mathbf{y}} + \frac{1}{4}a \hat{\mathbf{z}}$	(12f)	O II
\mathbf{B}_{22}	= $-(x_4 - \frac{1}{2}) \mathbf{a}_1 + \frac{1}{4} \mathbf{a}_2 + \frac{1}{4} \mathbf{a}_3$	= $-a(x_4 - \frac{1}{2}) \hat{\mathbf{x}} + \frac{1}{4}a \hat{\mathbf{y}} + \frac{1}{4}a \hat{\mathbf{z}}$	(12f)	O II
\mathbf{B}_{23}	= $\frac{1}{4} \mathbf{a}_1 + x_4 \mathbf{a}_2 + \frac{1}{4} \mathbf{a}_3$	= $\frac{1}{4}a \hat{\mathbf{x}} + ax_4 \hat{\mathbf{y}} + \frac{1}{4}a \hat{\mathbf{z}}$	(12f)	O II
\mathbf{B}_{24}	= $\frac{1}{4} \mathbf{a}_1 - (x_4 - \frac{1}{2}) \mathbf{a}_2 + \frac{1}{4} \mathbf{a}_3$	= $\frac{1}{4}a \hat{\mathbf{x}} - a(x_4 - \frac{1}{2}) \hat{\mathbf{y}} + \frac{1}{4}a \hat{\mathbf{z}}$	(12f)	O II
\mathbf{B}_{25}	= $\frac{1}{4} \mathbf{a}_1 + \frac{1}{4} \mathbf{a}_2 + x_4 \mathbf{a}_3$	= $\frac{1}{4}a \hat{\mathbf{x}} + \frac{1}{4}a \hat{\mathbf{y}} + ax_4 \hat{\mathbf{z}}$	(12f)	O II

\mathbf{B}_{26}	$\frac{1}{4}\mathbf{a}_1 + \frac{1}{4}\mathbf{a}_2 - (x_4 - \frac{1}{2})\mathbf{a}_3$	$=$	$\frac{1}{4}a\hat{\mathbf{x}} + \frac{1}{4}a\hat{\mathbf{y}} - a(x_4 - \frac{1}{2})\hat{\mathbf{z}}$	(12f)	O II
\mathbf{B}_{27}	$-x_4\mathbf{a}_1 + \frac{3}{4}\mathbf{a}_2 + \frac{3}{4}\mathbf{a}_3$	$=$	$-ax_4\hat{\mathbf{x}} + \frac{3}{4}a\hat{\mathbf{y}} + \frac{3}{4}a\hat{\mathbf{z}}$	(12f)	O II
\mathbf{B}_{28}	$(x_4 + \frac{1}{2})\mathbf{a}_1 + \frac{3}{4}\mathbf{a}_2 + \frac{3}{4}\mathbf{a}_3$	$=$	$a(x_4 + \frac{1}{2})\hat{\mathbf{x}} + \frac{3}{4}a\hat{\mathbf{y}} + \frac{3}{4}a\hat{\mathbf{z}}$	(12f)	O II
\mathbf{B}_{29}	$\frac{3}{4}\mathbf{a}_1 - x_4\mathbf{a}_2 + \frac{3}{4}\mathbf{a}_3$	$=$	$\frac{3}{4}a\hat{\mathbf{x}} - ax_4\hat{\mathbf{y}} + \frac{3}{4}a\hat{\mathbf{z}}$	(12f)	O II
\mathbf{B}_{30}	$\frac{3}{4}\mathbf{a}_1 + (x_4 + \frac{1}{2})\mathbf{a}_2 + \frac{3}{4}\mathbf{a}_3$	$=$	$\frac{3}{4}a\hat{\mathbf{x}} + a(x_4 + \frac{1}{2})\hat{\mathbf{y}} + \frac{3}{4}a\hat{\mathbf{z}}$	(12f)	O II
\mathbf{B}_{31}	$\frac{3}{4}\mathbf{a}_1 + \frac{3}{4}\mathbf{a}_2 - x_4\mathbf{a}_3$	$=$	$\frac{3}{4}a\hat{\mathbf{x}} + \frac{3}{4}a\hat{\mathbf{y}} - ax_4\hat{\mathbf{z}}$	(12f)	O II
\mathbf{B}_{32}	$\frac{3}{4}\mathbf{a}_1 + \frac{3}{4}\mathbf{a}_2 + (x_4 + \frac{1}{2})\mathbf{a}_3$	$=$	$\frac{3}{4}a\hat{\mathbf{x}} + \frac{3}{4}a\hat{\mathbf{y}} + a(x_4 + \frac{1}{2})\hat{\mathbf{z}}$	(12f)	O II
\mathbf{B}_{33}	$x_5\mathbf{a}_1 + \frac{3}{4}\mathbf{a}_2 + \frac{1}{4}\mathbf{a}_3$	$=$	$ax_5\hat{\mathbf{x}} + \frac{3}{4}a\hat{\mathbf{y}} + \frac{1}{4}a\hat{\mathbf{z}}$	(12g)	Ru I
\mathbf{B}_{34}	$-(x_5 - \frac{1}{2})\mathbf{a}_1 + \frac{3}{4}\mathbf{a}_2 + \frac{1}{4}\mathbf{a}_3$	$=$	$-a(x_5 - \frac{1}{2})\hat{\mathbf{x}} + \frac{3}{4}a\hat{\mathbf{y}} + \frac{1}{4}a\hat{\mathbf{z}}$	(12g)	Ru I
\mathbf{B}_{35}	$\frac{1}{4}\mathbf{a}_1 + x_5\mathbf{a}_2 + \frac{3}{4}\mathbf{a}_3$	$=$	$\frac{1}{4}a\hat{\mathbf{x}} + ax_5\hat{\mathbf{y}} + \frac{3}{4}a\hat{\mathbf{z}}$	(12g)	Ru I
\mathbf{B}_{36}	$\frac{1}{4}\mathbf{a}_1 - (x_5 - \frac{1}{2})\mathbf{a}_2 + \frac{3}{4}\mathbf{a}_3$	$=$	$\frac{1}{4}a\hat{\mathbf{x}} - a(x_5 - \frac{1}{2})\hat{\mathbf{y}} + \frac{3}{4}a\hat{\mathbf{z}}$	(12g)	Ru I
\mathbf{B}_{37}	$\frac{3}{4}\mathbf{a}_1 + \frac{1}{4}\mathbf{a}_2 + x_5\mathbf{a}_3$	$=$	$\frac{3}{4}a\hat{\mathbf{x}} + \frac{1}{4}a\hat{\mathbf{y}} + ax_5\hat{\mathbf{z}}$	(12g)	Ru I
\mathbf{B}_{38}	$\frac{3}{4}\mathbf{a}_1 + \frac{1}{4}\mathbf{a}_2 - (x_5 - \frac{1}{2})\mathbf{a}_3$	$=$	$\frac{3}{4}a\hat{\mathbf{x}} + \frac{1}{4}a\hat{\mathbf{y}} - a(x_5 - \frac{1}{2})\hat{\mathbf{z}}$	(12g)	Ru I
\mathbf{B}_{39}	$-x_5\mathbf{a}_1 + \frac{1}{4}\mathbf{a}_2 + \frac{3}{4}\mathbf{a}_3$	$=$	$-ax_5\hat{\mathbf{x}} + \frac{1}{4}a\hat{\mathbf{y}} + \frac{3}{4}a\hat{\mathbf{z}}$	(12g)	Ru I
\mathbf{B}_{40}	$(x_5 + \frac{1}{2})\mathbf{a}_1 + \frac{1}{4}\mathbf{a}_2 + \frac{3}{4}\mathbf{a}_3$	$=$	$a(x_5 + \frac{1}{2})\hat{\mathbf{x}} + \frac{1}{4}a\hat{\mathbf{y}} + \frac{3}{4}a\hat{\mathbf{z}}$	(12g)	Ru I
\mathbf{B}_{41}	$\frac{3}{4}\mathbf{a}_1 - x_5\mathbf{a}_2 + \frac{1}{4}\mathbf{a}_3$	$=$	$\frac{3}{4}a\hat{\mathbf{x}} - ax_5\hat{\mathbf{y}} + \frac{1}{4}a\hat{\mathbf{z}}$	(12g)	Ru I
\mathbf{B}_{42}	$\frac{3}{4}\mathbf{a}_1 + (x_5 + \frac{1}{2})\mathbf{a}_2 + \frac{1}{4}\mathbf{a}_3$	$=$	$\frac{3}{4}a\hat{\mathbf{x}} + a(x_5 + \frac{1}{2})\hat{\mathbf{y}} + \frac{1}{4}a\hat{\mathbf{z}}$	(12g)	Ru I
\mathbf{B}_{43}	$\frac{1}{4}\mathbf{a}_1 + \frac{3}{4}\mathbf{a}_2 - x_5\mathbf{a}_3$	$=$	$\frac{1}{4}a\hat{\mathbf{x}} + \frac{3}{4}a\hat{\mathbf{y}} - ax_5\hat{\mathbf{z}}$	(12g)	Ru I
\mathbf{B}_{44}	$\frac{1}{4}\mathbf{a}_1 + \frac{3}{4}\mathbf{a}_2 + (x_5 + \frac{1}{2})\mathbf{a}_3$	$=$	$\frac{1}{4}a\hat{\mathbf{x}} + \frac{3}{4}a\hat{\mathbf{y}} + a(x_5 + \frac{1}{2})\hat{\mathbf{z}}$	(12g)	Ru I
\mathbf{B}_{45}	$x_6\mathbf{a}_1 + y_6\mathbf{a}_2 + z_6\mathbf{a}_3$	$=$	$ax_6\hat{\mathbf{x}} + ay_6\hat{\mathbf{y}} + az_6\hat{\mathbf{z}}$	(24h)	O III
\mathbf{B}_{46}	$-(x_6 - \frac{1}{2})\mathbf{a}_1 - (y_6 - \frac{1}{2})\mathbf{a}_2 + z_6\mathbf{a}_3$	$=$	$-a(x_6 - \frac{1}{2})\hat{\mathbf{x}} - a(y_6 - \frac{1}{2})\hat{\mathbf{y}} + az_6\hat{\mathbf{z}}$	(24h)	O III
\mathbf{B}_{47}	$-(x_6 - \frac{1}{2})\mathbf{a}_1 + y_6\mathbf{a}_2 - (z_6 - \frac{1}{2})\mathbf{a}_3$	$=$	$-a(x_6 - \frac{1}{2})\hat{\mathbf{x}} + ay_6\hat{\mathbf{y}} - a(z_6 - \frac{1}{2})\hat{\mathbf{z}}$	(24h)	O III
\mathbf{B}_{48}	$x_6\mathbf{a}_1 - (y_6 - \frac{1}{2})\mathbf{a}_2 - (z_6 - \frac{1}{2})\mathbf{a}_3$	$=$	$ax_6\hat{\mathbf{x}} - a(y_6 - \frac{1}{2})\hat{\mathbf{y}} - a(z_6 - \frac{1}{2})\hat{\mathbf{z}}$	(24h)	O III
\mathbf{B}_{49}	$z_6\mathbf{a}_1 + x_6\mathbf{a}_2 + y_6\mathbf{a}_3$	$=$	$az_6\hat{\mathbf{x}} + ax_6\hat{\mathbf{y}} + ay_6\hat{\mathbf{z}}$	(24h)	O III
\mathbf{B}_{50}	$z_6\mathbf{a}_1 - (x_6 - \frac{1}{2})\mathbf{a}_2 - (y_6 - \frac{1}{2})\mathbf{a}_3$	$=$	$az_6\hat{\mathbf{x}} - a(x_6 - \frac{1}{2})\hat{\mathbf{y}} - a(y_6 - \frac{1}{2})\hat{\mathbf{z}}$	(24h)	O III
\mathbf{B}_{51}	$-(z_6 - \frac{1}{2})\mathbf{a}_1 - (x_6 - \frac{1}{2})\mathbf{a}_2 + y_6\mathbf{a}_3$	$=$	$-a(z_6 - \frac{1}{2})\hat{\mathbf{x}} - a(x_6 - \frac{1}{2})\hat{\mathbf{y}} + ay_6\hat{\mathbf{z}}$	(24h)	O III
\mathbf{B}_{52}	$-(z_6 - \frac{1}{2})\mathbf{a}_1 + x_6\mathbf{a}_2 - (y_6 - \frac{1}{2})\mathbf{a}_3$	$=$	$-a(z_6 - \frac{1}{2})\hat{\mathbf{x}} + ax_6\hat{\mathbf{y}} - a(y_6 - \frac{1}{2})\hat{\mathbf{z}}$	(24h)	O III
\mathbf{B}_{53}	$y_6\mathbf{a}_1 + z_6\mathbf{a}_2 + x_6\mathbf{a}_3$	$=$	$ay_6\hat{\mathbf{x}} + az_6\hat{\mathbf{y}} + ax_6\hat{\mathbf{z}}$	(24h)	O III
\mathbf{B}_{54}	$-(y_6 - \frac{1}{2})\mathbf{a}_1 + z_6\mathbf{a}_2 - (x_6 - \frac{1}{2})\mathbf{a}_3$	$=$	$-a(y_6 - \frac{1}{2})\hat{\mathbf{x}} + az_6\hat{\mathbf{y}} - a(x_6 - \frac{1}{2})\hat{\mathbf{z}}$	(24h)	O III
\mathbf{B}_{55}	$y_6\mathbf{a}_1 - (z_6 - \frac{1}{2})\mathbf{a}_2 - (x_6 - \frac{1}{2})\mathbf{a}_3$	$=$	$ay_6\hat{\mathbf{x}} - a(z_6 - \frac{1}{2})\hat{\mathbf{y}} - a(x_6 - \frac{1}{2})\hat{\mathbf{z}}$	(24h)	O III
\mathbf{B}_{56}	$-(y_6 - \frac{1}{2})\mathbf{a}_1 - (z_6 - \frac{1}{2})\mathbf{a}_2 + x_6\mathbf{a}_3$	$=$	$-a(y_6 - \frac{1}{2})\hat{\mathbf{x}} - a(z_6 - \frac{1}{2})\hat{\mathbf{y}} + ax_6\hat{\mathbf{z}}$	(24h)	O III
\mathbf{B}_{57}	$-x_6\mathbf{a}_1 - y_6\mathbf{a}_2 - z_6\mathbf{a}_3$	$=$	$-ax_6\hat{\mathbf{x}} - ay_6\hat{\mathbf{y}} - az_6\hat{\mathbf{z}}$	(24h)	O III
\mathbf{B}_{58}	$(x_6 + \frac{1}{2})\mathbf{a}_1 + (y_6 + \frac{1}{2})\mathbf{a}_2 - z_6\mathbf{a}_3$	$=$	$a(x_6 + \frac{1}{2})\hat{\mathbf{x}} + a(y_6 + \frac{1}{2})\hat{\mathbf{y}} - az_6\hat{\mathbf{z}}$	(24h)	O III
\mathbf{B}_{59}	$(x_6 + \frac{1}{2})\mathbf{a}_1 - y_6\mathbf{a}_2 + (z_6 + \frac{1}{2})\mathbf{a}_3$	$=$	$a(x_6 + \frac{1}{2})\hat{\mathbf{x}} - ay_6\hat{\mathbf{y}} + a(z_6 + \frac{1}{2})\hat{\mathbf{z}}$	(24h)	O III
\mathbf{B}_{60}	$-x_6\mathbf{a}_1 + (y_6 + \frac{1}{2})\mathbf{a}_2 + (z_6 + \frac{1}{2})\mathbf{a}_3$	$=$	$-ax_6\hat{\mathbf{x}} + a(y_6 + \frac{1}{2})\hat{\mathbf{y}} + a(z_6 + \frac{1}{2})\hat{\mathbf{z}}$	(24h)	O III
\mathbf{B}_{61}	$-z_6\mathbf{a}_1 - x_6\mathbf{a}_2 - y_6\mathbf{a}_3$	$=$	$-az_6\hat{\mathbf{x}} - ax_6\hat{\mathbf{y}} - ay_6\hat{\mathbf{z}}$	(24h)	O III

$$\begin{aligned}
\mathbf{B}_{62} &= -z_6 \mathbf{a}_1 + \left(x_6 + \frac{1}{2} \right) \mathbf{a}_2 + \left(y_6 + \frac{1}{2} \right) \mathbf{a}_3 & = & -az_6 \hat{\mathbf{x}} + a \left(x_6 + \frac{1}{2} \right) \hat{\mathbf{y}} + a \left(y_6 + \frac{1}{2} \right) \hat{\mathbf{z}} & (24h) & \text{O III} \\
\mathbf{B}_{63} &= \left(z_6 + \frac{1}{2} \right) \mathbf{a}_1 + \left(x_6 + \frac{1}{2} \right) \mathbf{a}_2 - y_6 \mathbf{a}_3 & = & a \left(z_6 + \frac{1}{2} \right) \hat{\mathbf{x}} + a \left(x_6 + \frac{1}{2} \right) \hat{\mathbf{y}} - ay_6 \hat{\mathbf{z}} & (24h) & \text{O III} \\
\mathbf{B}_{64} &= \left(z_6 + \frac{1}{2} \right) \mathbf{a}_1 - x_6 \mathbf{a}_2 + \left(y_6 + \frac{1}{2} \right) \mathbf{a}_3 & = & a \left(z_6 + \frac{1}{2} \right) \hat{\mathbf{x}} - ax_6 \hat{\mathbf{y}} + a \left(y_6 + \frac{1}{2} \right) \hat{\mathbf{z}} & (24h) & \text{O III} \\
\mathbf{B}_{65} &= -y_6 \mathbf{a}_1 - z_6 \mathbf{a}_2 - x_6 \mathbf{a}_3 & = & -ay_6 \hat{\mathbf{x}} - az_6 \hat{\mathbf{y}} - ax_6 \hat{\mathbf{z}} & (24h) & \text{O III} \\
\mathbf{B}_{66} &= \left(y_6 + \frac{1}{2} \right) \mathbf{a}_1 - z_6 \mathbf{a}_2 + \left(x_6 + \frac{1}{2} \right) \mathbf{a}_3 & = & a \left(y_6 + \frac{1}{2} \right) \hat{\mathbf{x}} - az_6 \hat{\mathbf{y}} + a \left(x_6 + \frac{1}{2} \right) \hat{\mathbf{z}} & (24h) & \text{O III} \\
\mathbf{B}_{67} &= -y_6 \mathbf{a}_1 + \left(z_6 + \frac{1}{2} \right) \mathbf{a}_2 + \left(x_6 + \frac{1}{2} \right) \mathbf{a}_3 & = & -ay_6 \hat{\mathbf{x}} + a \left(z_6 + \frac{1}{2} \right) \hat{\mathbf{y}} + a \left(x_6 + \frac{1}{2} \right) \hat{\mathbf{z}} & (24h) & \text{O III} \\
\mathbf{B}_{68} &= \left(y_6 + \frac{1}{2} \right) \mathbf{a}_1 + \left(z_6 + \frac{1}{2} \right) \mathbf{a}_2 - x_6 \mathbf{a}_3 & = & a \left(y_6 + \frac{1}{2} \right) \hat{\mathbf{x}} + a \left(z_6 + \frac{1}{2} \right) \hat{\mathbf{y}} - ax_6 \hat{\mathbf{z}} & (24h) & \text{O III}
\end{aligned}$$

References

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