# Stützite ($Ag_{5-x}Te_3$) Structure: A12B7_hP57_174_2j2k4l_ghi3j2k-001

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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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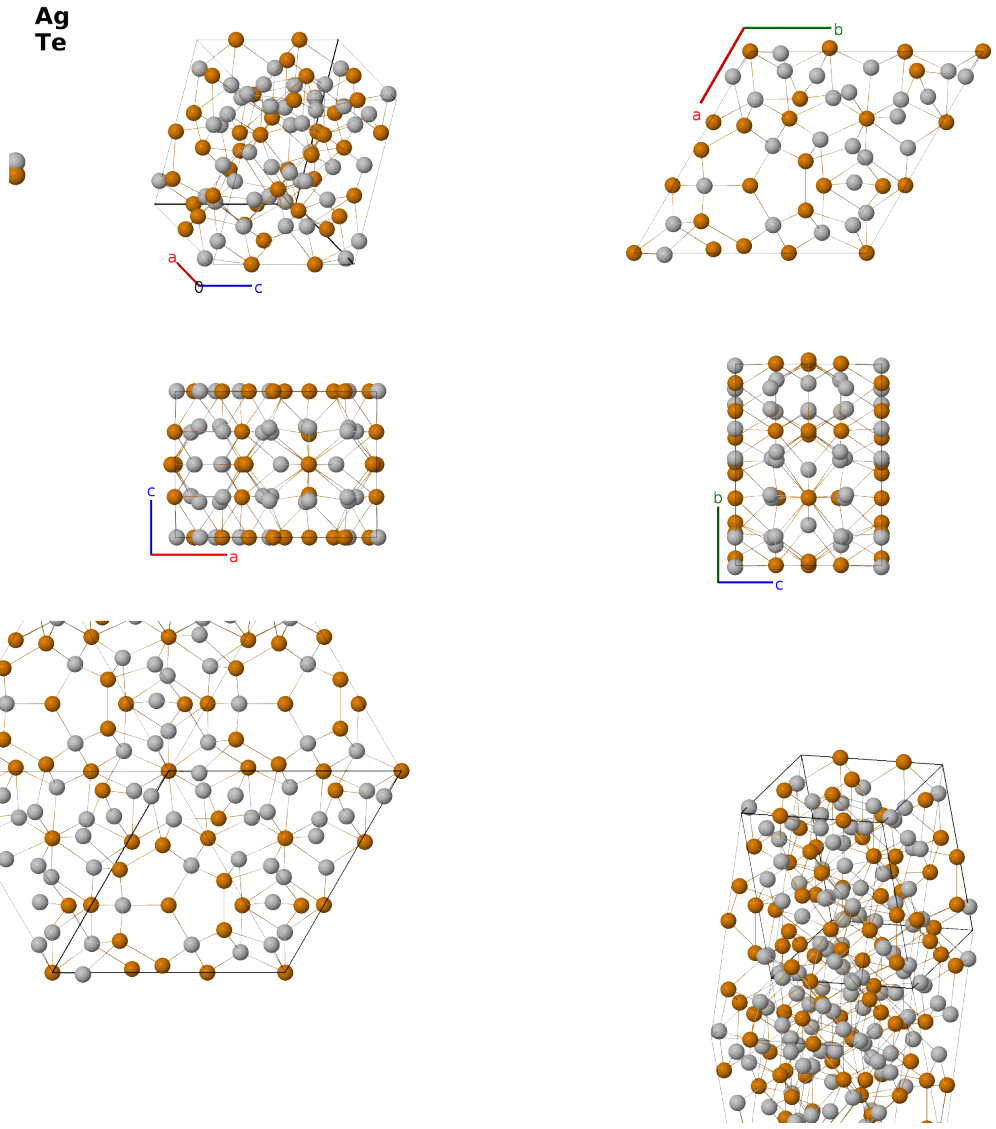
https://aflow.org/prototype-encyclopedia/T2R2

https://aflow.org/prototype-encyclopedia/A12B7_hP57_174_2j2k4l_ghi3j2k-001

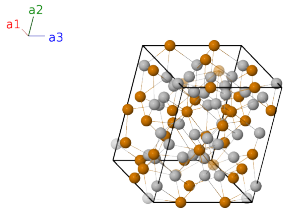



| | |
|---|---|
| **Prototype** | $Ag_{5-x}Te_3$ |
| **AFLOW prototype label** | A12B7_hP57_174_2j2k4l_ghi3j2k-001 |
| **Mineral name** | stützite |
| **ICSD** | 263525 |

| | |
|---|---|
| **CCDC** | 1930360 |
| **Pearson symbol** | hP57 |
| **Space group number** | 174 |
| **Space group symbol** | $P\overline{6}$ |
| **AFLOW prototype command** | `aflow --proto=A12B7_hP57_174_2j2k4l_ghi3j2k-001 --params=`$a, c/a, z_1, z_2, z_3, x_4, y_4, x_5, y_5, x_6, y_6, x_7, y_7, x_8, y_8, x_9, y_9, x_{10}, y_{10}, x_{11}, y_{11}, x_{12}, y_{12}, x_{13}, y_{13}, z_{13}, x_{14}, y_{14}, z_{14}, x_{15}, y_{15}, z_{15}, x_{16}, y_{16}, z_{16}$ |

## Hexagonal primitive vectors

$$
\begin{aligned}
\mathbf{a_1} &= \tfrac{1}{2}a\,\hat{\mathbf{x}} - \tfrac{\sqrt{3}}{2}a\,\hat{\mathbf{y}} \\
\mathbf{a_2} &= \tfrac{1}{2}a\,\hat{\mathbf{x}} + \tfrac{\sqrt{3}}{2}a\,\hat{\mathbf{y}} \\
\mathbf{a_3} &= c\,\hat{\mathbf{z}}
\end{aligned}
$$




## Basis vectors

| | | Lattice coordinates | | Cartesian coordinates | Wyckoff position | Atom type |
|---|---|---|---|---|---|---|
| $\mathbf{B_1}$ | = | $z_1\,\mathbf{a}_3$ | = | $cz_1\,\hat{\mathbf{z}}$ | (2g) | Te I |
| $\mathbf{B_2}$ | = | $-z_1\,\mathbf{a}_3$ | = | $-cz_1\,\hat{\mathbf{z}}$ | (2g) | Te I |
| $\mathbf{B_3}$ | = | $\frac{1}{3}\,\mathbf{a}_1 + \frac{2}{3}\,\mathbf{a}_2 + z_2\,\mathbf{a}_3$ | = | $\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{\sqrt{3}}{6}a\,\hat{\mathbf{y}} + cz_2\,\hat{\mathbf{z}}$ | (2h) | Te II |
| $\mathbf{B_4}$ | = | $\frac{1}{3}\,\mathbf{a}_1 + \frac{2}{3}\,\mathbf{a}_2 - z_2\,\mathbf{a}_3$ | = | $\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{\sqrt{3}}{6}a\,\hat{\mathbf{y}} - cz_2\,\hat{\mathbf{z}}$ | (2h) | Te II |
| $\mathbf{B_5}$ | = | $\frac{2}{3}\,\mathbf{a}_1 + \frac{1}{3}\,\mathbf{a}_2 + z_3\,\mathbf{a}_3$ | = | $\frac{1}{2}a\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{6}a\,\hat{\mathbf{y}} + cz_3\,\hat{\mathbf{z}}$ | (2i) | Te III |
| $\mathbf{B_6}$ | = | $\frac{2}{3}\,\mathbf{a}_1 + \frac{1}{3}\,\mathbf{a}_2 - z_3\,\mathbf{a}_3$ | = | $\frac{1}{2}a\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{6}a\,\hat{\mathbf{y}} - cz_3\,\hat{\mathbf{z}}$ | (2i) | Te III |
| $\mathbf{B_7}$ | = | $x_4\,\mathbf{a}_1 + y_4\,\mathbf{a}_2$ | = | $\frac{1}{2}a\,(x_4 + y_4)\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{2}a\,(x_4 - y_4)\,\hat{\mathbf{y}}$ | (3j) | Ag I |
| $\mathbf{B_8}$ | = | $-y_4\,\mathbf{a}_1 + (x_4 - y_4)\,\mathbf{a}_2$ | = | $\frac{1}{2}a\,(x_4 - 2y_4)\,\hat{\mathbf{x}} + \frac{\sqrt{3}}{2}ax_4\,\hat{\mathbf{y}}$ | (3j) | Ag I |
| $\mathbf{B_9}$ | = | $-(x_4 - y_4)\,\mathbf{a}_1 - x_4\,\mathbf{a}_2$ | = | $-\frac{1}{2}a\,(2x_4 - y_4)\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{2}ay_4\,\hat{\mathbf{y}}$ | (3j) | Ag I |
| $\mathbf{B_{10}}$ | = | $x_5\,\mathbf{a}_1 + y_5\,\mathbf{a}_2$ | = | $\frac{1}{2}a\,(x_5 + y_5)\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{2}a\,(x_5 - y_5)\,\hat{\mathbf{y}}$ | (3j) | Ag II |
| $\mathbf{B_{11}}$ | = | $-y_5\,\mathbf{a}_1 + (x_5 - y_5)\,\mathbf{a}_2$ | = | $\frac{1}{2}a\,(x_5 - 2y_5)\,\hat{\mathbf{x}} + \frac{\sqrt{3}}{2}ax_5\,\hat{\mathbf{y}}$ | (3j) | Ag II |
| $\mathbf{B_{12}}$ | = | $-(x_5 - y_5)\,\mathbf{a}_1 - x_5\,\mathbf{a}_2$ | = | $-\frac{1}{2}a\,(2x_5 - y_5)\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{2}ay_5\,\hat{\mathbf{y}}$ | (3j) | Ag II |
| $\mathbf{B_{13}}$ | = | $x_6\,\mathbf{a}_1 + y_6\,\mathbf{a}_2$ | = | $\frac{1}{2}a\,(x_6 + y_6)\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{2}a\,(x_6 - y_6)\,\hat{\mathbf{y}}$ | (3j) | Te IV |
| $\mathbf{B_{14}}$ | = | $-y_6\,\mathbf{a}_1 + (x_6 - y_6)\,\mathbf{a}_2$ | = | $\frac{1}{2}a\,(x_6 - 2y_6)\,\hat{\mathbf{x}} + \frac{\sqrt{3}}{2}ax_6\,\hat{\mathbf{y}}$ | (3j) | Te IV |
| $\mathbf{B_{15}}$ | = | $-(x_6 - y_6)\,\mathbf{a}_1 - x_6\,\mathbf{a}_2$ | = | $-\frac{1}{2}a\,(2x_6 - y_6)\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{2}ay_6\,\hat{\mathbf{y}}$ | (3j) | Te IV |
| $\mathbf{B_{16}}$ | = | $x_7\,\mathbf{a}_1 + y_7\,\mathbf{a}_2$ | = | $\frac{1}{2}a\,(x_7 + y_7)\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{2}a\,(x_7 - y_7)\,\hat{\mathbf{y}}$ | (3j) | Te V |
| $\mathbf{B_{17}}$ | = | $-y_7\,\mathbf{a}_1 + (x_7 - y_7)\,\mathbf{a}_2$ | = | $\frac{1}{2}a\,(x_7 - 2y_7)\,\hat{\mathbf{x}} + \frac{\sqrt{3}}{2}ax_7\,\hat{\mathbf{y}}$ | (3j) | Te V |
| $\mathbf{B_{18}}$ | = | $-(x_7 - y_7)\,\mathbf{a}_1 - x_7\,\mathbf{a}_2$ | = | $-\frac{1}{2}a\,(2x_7 - y_7)\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{2}ay_7\,\hat{\mathbf{y}}$ | (3j) | Te V |
| $\mathbf{B_{19}}$ | = | $x_8\,\mathbf{a}_1 + y_8\,\mathbf{a}_2$ | = | $\frac{1}{2}a\,(x_8 + y_8)\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{2}a\,(x_8 - y_8)\,\hat{\mathbf{y}}$ | (3j) | Te VI |
| $\mathbf{B_{20}}$ | = | $-y_8\,\mathbf{a}_1 + (x_8 - y_8)\,\mathbf{a}_2$ | = | $\frac{1}{2}a\,(x_8 - 2y_8)\,\hat{\mathbf{x}} + \frac{\sqrt{3}}{2}ax_8\,\hat{\mathbf{y}}$ | (3j) | Te VI |
| $\mathbf{B_{21}}$ | = | $-(x_8 - y_8)\,\mathbf{a}_1 - x_8\,\mathbf{a}_2$ | = | $-\frac{1}{2}a\,(2x_8 - y_8)\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{2}ay_8\,\hat{\mathbf{y}}$ | (3j) | Te VI |
| $\mathbf{B_{22}}$ | = | $x_9\,\mathbf{a}_1 + y_9\,\mathbf{a}_2 + \frac{1}{2}\,\mathbf{a}_3$ | = | $\frac{1}{2}a\,(x_9 + y_9)\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{2}a\,(x_9 - y_9)\,\hat{\mathbf{y}} + \frac{1}{2}c\,\hat{\mathbf{z}}$ | (3k) | Ag III |

$$
\begin{array}{lcccccc}
\mathbf{B_{23}} & = & -y_9\,\mathbf{a}_1+(x_9-y_9)\,\mathbf{a}_2+\frac{1}{2}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_9-2y_9)\,\hat{\mathbf{x}}+\frac{\sqrt{3}}{2}ax_9\,\hat{\mathbf{y}}+\frac{1}{2}c\,\hat{\mathbf{z}} & \text{(3k)} & \text{Ag III}\\
\mathbf{B_{24}} & = & -(x_9-y_9)\,\mathbf{a}_1-x_9\,\mathbf{a}_2+\frac{1}{2}\,\mathbf{a}_3 & = & -\frac{1}{2}a\,(2x_9-y_9)\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}ay_9\,\hat{\mathbf{y}}+\frac{1}{2}c\,\hat{\mathbf{z}} & \text{(3k)} & \text{Ag III}\\
\mathbf{B_{25}} & = & x_{10}\,\mathbf{a}_1+y_{10}\,\mathbf{a}_2+\frac{1}{2}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{10}+y_{10})\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}a\,(x_{10}-y_{10})\,\hat{\mathbf{y}}+\frac{1}{2}c\,\hat{\mathbf{z}} & \text{(3k)} & \text{Ag IV}\\
\mathbf{B_{26}} & = & -y_{10}\,\mathbf{a}_1+(x_{10}-y_{10})\,\mathbf{a}_2+\frac{1}{2}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{10}-2y_{10})\,\hat{\mathbf{x}}+\frac{\sqrt{3}}{2}ax_{10}\,\hat{\mathbf{y}}+\frac{1}{2}c\,\hat{\mathbf{z}} & \text{(3k)} & \text{Ag IV}\\
\mathbf{B_{27}} & = & -(x_{10}-y_{10})\,\mathbf{a}_1-x_{10}\,\mathbf{a}_2+\frac{1}{2}\,\mathbf{a}_3 & = & -\frac{1}{2}a\,(2x_{10}-y_{10})\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}ay_{10}\,\hat{\mathbf{y}}+\frac{1}{2}c\,\hat{\mathbf{z}} & \text{(3k)} & \text{Ag IV}\\
\mathbf{B_{28}} & = & x_{11}\,\mathbf{a}_1+y_{11}\,\mathbf{a}_2+\frac{1}{2}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{11}+y_{11})\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}a\,(x_{11}-y_{11})\,\hat{\mathbf{y}}+\frac{1}{2}c\,\hat{\mathbf{z}} & \text{(3k)} & \text{Te VII}\\
\mathbf{B_{29}} & = & -y_{11}\,\mathbf{a}_1+(x_{11}-y_{11})\,\mathbf{a}_2+\frac{1}{2}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{11}-2y_{11})\,\hat{\mathbf{x}}+\frac{\sqrt{3}}{2}ax_{11}\,\hat{\mathbf{y}}+\frac{1}{2}c\,\hat{\mathbf{z}} & \text{(3k)} & \text{Te VII}\\
\mathbf{B_{30}} & = & -(x_{11}-y_{11})\,\mathbf{a}_1-x_{11}\,\mathbf{a}_2+\frac{1}{2}\,\mathbf{a}_3 & = & -\frac{1}{2}a\,(2x_{11}-y_{11})\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}ay_{11}\,\hat{\mathbf{y}}+\frac{1}{2}c\,\hat{\mathbf{z}} & \text{(3k)} & \text{Te VII}\\
\mathbf{B_{31}} & = & x_{12}\,\mathbf{a}_1+y_{12}\,\mathbf{a}_2+\frac{1}{2}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{12}+y_{12})\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}a\,(x_{12}-y_{12})\,\hat{\mathbf{y}}+\frac{1}{2}c\,\hat{\mathbf{z}} & \text{(3k)} & \text{Te VIII}\\
\mathbf{B_{32}} & = & -y_{12}\,\mathbf{a}_1+(x_{12}-y_{12})\,\mathbf{a}_2+\frac{1}{2}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{12}-2y_{12})\,\hat{\mathbf{x}}+\frac{\sqrt{3}}{2}ax_{12}\,\hat{\mathbf{y}}+\frac{1}{2}c\,\hat{\mathbf{z}} & \text{(3k)} & \text{Te VIII}\\
\mathbf{B_{33}} & = & -(x_{12}-y_{12})\,\mathbf{a}_1-x_{12}\,\mathbf{a}_2+\frac{1}{2}\,\mathbf{a}_3 & = & -\frac{1}{2}a\,(2x_{12}-y_{12})\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}ay_{12}\,\hat{\mathbf{y}}+\frac{1}{2}c\,\hat{\mathbf{z}} & \text{(3k)} & \text{Te VIII}\\
\mathbf{B_{34}} & = & x_{13}\,\mathbf{a}_1+y_{13}\,\mathbf{a}_2+z_{13}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{13}+y_{13})\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}a\,(x_{13}-y_{13})\,\hat{\mathbf{y}}+cz_{13}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag V}\\
\mathbf{B_{35}} & = & -y_{13}\,\mathbf{a}_1+(x_{13}-y_{13})\,\mathbf{a}_2+z_{13}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{13}-2y_{13})\,\hat{\mathbf{x}}+\frac{\sqrt{3}}{2}ax_{13}\,\hat{\mathbf{y}}+cz_{13}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag V}\\
\mathbf{B_{36}} & = & -(x_{13}-y_{13})\,\mathbf{a}_1-x_{13}\,\mathbf{a}_2+z_{13}\,\mathbf{a}_3 & = & -\frac{1}{2}a\,(2x_{13}-y_{13})\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}ay_{13}\,\hat{\mathbf{y}}+cz_{13}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag V}\\
\mathbf{B_{37}} & = & x_{13}\,\mathbf{a}_1+y_{13}\,\mathbf{a}_2-z_{13}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{13}+y_{13})\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}a\,(x_{13}-y_{13})\,\hat{\mathbf{y}}-cz_{13}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag V}\\
\mathbf{B_{38}} & = & -y_{13}\,\mathbf{a}_1+(x_{13}-y_{13})\,\mathbf{a}_2-z_{13}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{13}-2y_{13})\,\hat{\mathbf{x}}+\frac{\sqrt{3}}{2}ax_{13}\,\hat{\mathbf{y}}-cz_{13}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag V}\\
\mathbf{B_{39}} & = & -(x_{13}-y_{13})\,\mathbf{a}_1-x_{13}\,\mathbf{a}_2-z_{13}\,\mathbf{a}_3 & = & -\frac{1}{2}a\,(2x_{13}-y_{13})\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}ay_{13}\,\hat{\mathbf{y}}-cz_{13}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag V}\\
\mathbf{B_{40}} & = & x_{14}\,\mathbf{a}_1+y_{14}\,\mathbf{a}_2+z_{14}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{14}+y_{14})\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}a\,(x_{14}-y_{14})\,\hat{\mathbf{y}}+cz_{14}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag VI}\\
\mathbf{B_{41}} & = & -y_{14}\,\mathbf{a}_1+(x_{14}-y_{14})\,\mathbf{a}_2+z_{14}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{14}-2y_{14})\,\hat{\mathbf{x}}+\frac{\sqrt{3}}{2}ax_{14}\,\hat{\mathbf{y}}+cz_{14}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag VI}\\
\mathbf{B_{42}} & = & -(x_{14}-y_{14})\,\mathbf{a}_1-x_{14}\,\mathbf{a}_2+z_{14}\,\mathbf{a}_3 & = & -\frac{1}{2}a\,(2x_{14}-y_{14})\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}ay_{14}\,\hat{\mathbf{y}}+cz_{14}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag VI}\\
\mathbf{B_{43}} & = & x_{14}\,\mathbf{a}_1+y_{14}\,\mathbf{a}_2-z_{14}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{14}+y_{14})\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}a\,(x_{14}-y_{14})\,\hat{\mathbf{y}}-cz_{14}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag VI}\\
\mathbf{B_{44}} & = & -y_{14}\,\mathbf{a}_1+(x_{14}-y_{14})\,\mathbf{a}_2-z_{14}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{14}-2y_{14})\,\hat{\mathbf{x}}+\frac{\sqrt{3}}{2}ax_{14}\,\hat{\mathbf{y}}-cz_{14}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag VI}\\
\mathbf{B_{45}} & = & -(x_{14}-y_{14})\,\mathbf{a}_1-x_{14}\,\mathbf{a}_2-z_{14}\,\mathbf{a}_3 & = & -\frac{1}{2}a\,(2x_{14}-y_{14})\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}ay_{14}\,\hat{\mathbf{y}}-cz_{14}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag VI}\\
\mathbf{B_{46}} & = & x_{15}\,\mathbf{a}_1+y_{15}\,\mathbf{a}_2+z_{15}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{15}+y_{15})\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}a\,(x_{15}-y_{15})\,\hat{\mathbf{y}}+cz_{15}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag VII}\\
\mathbf{B_{47}} & = & -y_{15}\,\mathbf{a}_1+(x_{15}-y_{15})\,\mathbf{a}_2+z_{15}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{15}-2y_{15})\,\hat{\mathbf{x}}+\frac{\sqrt{3}}{2}ax_{15}\,\hat{\mathbf{y}}+cz_{15}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag VII}\\
\mathbf{B_{48}} & = & -(x_{15}-y_{15})\,\mathbf{a}_1-x_{15}\,\mathbf{a}_2+z_{15}\,\mathbf{a}_3 & = & -\frac{1}{2}a\,(2x_{15}-y_{15})\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}ay_{15}\,\hat{\mathbf{y}}+cz_{15}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag VII}\\
\mathbf{B_{49}} & = & x_{15}\,\mathbf{a}_1+y_{15}\,\mathbf{a}_2-z_{15}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{15}+y_{15})\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}a\,(x_{15}-y_{15})\,\hat{\mathbf{y}}-cz_{15}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag VII}\\
\mathbf{B_{50}} & = & -y_{15}\,\mathbf{a}_1+(x_{15}-y_{15})\,\mathbf{a}_2-z_{15}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{15}-2y_{15})\,\hat{\mathbf{x}}+\frac{\sqrt{3}}{2}ax_{15}\,\hat{\mathbf{y}}-cz_{15}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag VII}\\
\mathbf{B_{51}} & = & -(x_{15}-y_{15})\,\mathbf{a}_1-x_{15}\,\mathbf{a}_2-z_{15}\,\mathbf{a}_3 & = & -\frac{1}{2}a\,(2x_{15}-y_{15})\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}ay_{15}\,\hat{\mathbf{y}}-cz_{15}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag VII}\\
\mathbf{B_{52}} & = & x_{16}\,\mathbf{a}_1+y_{16}\,\mathbf{a}_2+z_{16}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{16}+y_{16})\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}a\,(x_{16}-y_{16})\,\hat{\mathbf{y}}+cz_{16}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag VIII}\\
\mathbf{B_{53}} & = & -y_{16}\,\mathbf{a}_1+(x_{16}-y_{16})\,\mathbf{a}_2+z_{16}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{16}-2y_{16})\,\hat{\mathbf{x}}+\frac{\sqrt{3}}{2}ax_{16}\,\hat{\mathbf{y}}+cz_{16}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag VIII}\\
\mathbf{B_{54}} & = & -(x_{16}-y_{16})\,\mathbf{a}_1-x_{16}\,\mathbf{a}_2+z_{16}\,\mathbf{a}_3 & = & -\frac{1}{2}a\,(2x_{16}-y_{16})\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}ay_{16}\,\hat{\mathbf{y}}+cz_{16}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag VIII}\\
\mathbf{B_{55}} & = & x_{16}\,\mathbf{a}_1+y_{16}\,\mathbf{a}_2-z_{16}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{16}+y_{16})\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}a\,(x_{16}-y_{16})\,\hat{\mathbf{y}}-cz_{16}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag VIII}\\
\mathbf{B_{56}} & = & -y_{16}\,\mathbf{a}_1+(x_{16}-y_{16})\,\mathbf{a}_2-z_{16}\,\mathbf{a}_3 & = & \frac{1}{2}a\,(x_{16}-2y_{16})\,\hat{\mathbf{x}}+\frac{\sqrt{3}}{2}ax_{16}\,\hat{\mathbf{y}}-cz_{16}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag VIII}\\
\mathbf{B_{57}} & = & -(x_{16}-y_{16})\,\mathbf{a}_1-x_{16}\,\mathbf{a}_2-z_{16}\,\mathbf{a}_3 & = & -\frac{1}{2}a\,(2x_{16}-y_{16})\,\hat{\mathbf{x}}-\frac{\sqrt{3}}{2}ay_{16}\,\hat{\mathbf{y}}-cz_{16}\,\hat{\mathbf{z}} & \text{(6l)} & \text{Ag VIII}
\end{array}
$$

## References

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## Found in

[1] R. T. Downs and M. Hall-Wallace, *The American Mineralogist Crystal Structure Database*, Am. Mineral. **88**, 247–250 (2003).

## First cited in

H. Eckert, S. Divilov, M. J. Mehl, D. Hicks, A. C. Zettel, M. Esters, X. Campilongo, and S. Curtarolo, *The AFLOW Library of Crystallographic Prototypes: Part 4*, Comput. Mater. Sci. **240**, 112988 (2024), doi: 10.1016/j.commatsci.2024.112988.