

AgNO₂ (*F*5₁₂) Structure: ABC2_oI8_44_a_a_c-002

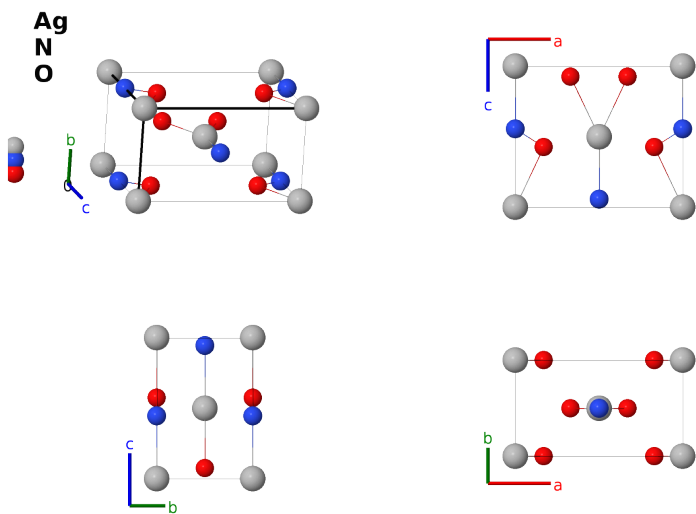
This structure previously used the label(s) **ABC2_oI8_44_a_a_d**. Calls to these addresses will be redirected here.

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<https://aflow.org/prototype-encyclopedia/VTNW>

https://aflow.org/prototype-encyclopedia/ABC2_oI8_44_a_a_c-002



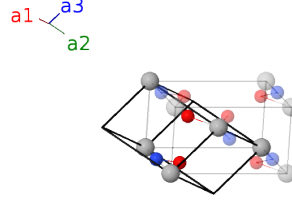
Prototype	AgNO ₂
AFLOW prototype label	ABC2_oI8_44_a_a_c-002
<i>Strukturbericht</i> designation	<i>F</i> 5 ₁₂
Mineral name	silver nitrite
ICSD	24378
CCDC	1600417
Pearson symbol	oI8
Space group number	44
Space group symbol	<i>Imm</i> 2
AFLOW prototype command	<code>aflow --proto=ABC2_oI8_44_a_a_c-002 --params=a, b/a, c/a, z₁, z₂, x₃, z₃</code>

Other compounds with this structure
NaNO₃ (*F*5₅)

- This structure is very similar to sodium nitrite, NaNO_2 , $F55$.
- We list both structures as they have separate entries in the *Strukturbericht* volumes.
- The original publications give Wyckoff positions giving NaNO_2 the AFLOW prototype label ABC2_oI8_44_a_a_c and AgNO_2 the label ABC2_oI8_44_a_a_d. When we apply our AFLOW prototype label rules, however, the label for both structures becomes ABC2_oI8_44_a_a_c. The two structures are generated by the same symmetry operations with different sets of parameters (`--params`) specified in their corresponding CIF files.
- The origin of the z coordinate in *Imm2* #44 is arbitrary, and we set z_1 to zero.

Body-centered Orthorhombic primitive vectors

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



Basis vectors

	Lattice coordinates		Cartesian coordinates	Wyckoff position	Atom type
$\mathbf{B}_1$	$= z_1 \mathbf{a}_1 + z_1 \mathbf{a}_2$	$=$	$cz_1 \hat{\mathbf{z}}$	(2a)	Ag I
$\mathbf{B}_2$	$= z_2 \mathbf{a}_1 + z_2 \mathbf{a}_2$	$=$	$cz_2 \hat{\mathbf{z}}$	(2a)	N I
$\mathbf{B}_3$	$= z_3 \mathbf{a}_1 + (x_3 + z_3) \mathbf{a}_2 + x_3 \mathbf{a}_3$	$=$	$ax_3 \hat{\mathbf{x}} + cz_3 \hat{\mathbf{z}}$	(4c)	O I
$\mathbf{B}_4$	$= z_3 \mathbf{a}_1 - (x_3 - z_3) \mathbf{a}_2 - x_3 \mathbf{a}_3$	$=$	$-ax_3 \hat{\mathbf{x}} + cz_3 \hat{\mathbf{z}}$	(4c)	O I

References

- [1] S. Ohba and Y. Saito, *Structure of silver(I) nitrite, a redetermination*, Acta Crystallogr. Sect. B **37**, 1911–1913 (1981), doi:10.1107/S0567740881007565.

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