

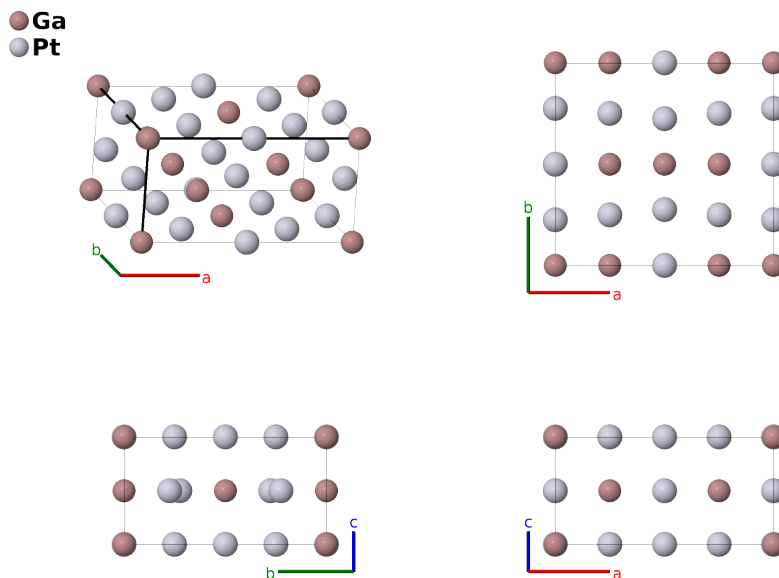
Ga₃Pt₅ Structure: A3B5_oC16_65_ah_bej-001

This structure originally had the label A3B5_oC16_65_ah_bej. Calls to that address will be redirected here.

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<https://aflow.org/p/36DL>

https://aflow.org/p/A3B5_oC16_65_ah_bej-001



Prototype	Ga ₃ Pt ₅
AFLOW prototype label	A3B5_oC16_65_ah_bej-001
ICSD	103927
Pearson symbol	oC16
Space group number	65
Space group symbol	<i>Cmmm</i>
AFLOW prototype command	<code>aflow --proto=A3B5_oC16_65_ah_bej-001 --params=a, b/a, c/a, x₄, y₅</code>

Other compounds with this structure

Al₃Ni₅, Ga₃Ni₅, Mn₃Pd₅

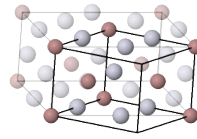
Base-centered Orthorhombic primitive vectors



$$\mathbf{a}_1 = \frac{1}{2}a \hat{\mathbf{x}} - \frac{1}{2}b \hat{\mathbf{y}}$$

$$\mathbf{a}_2 = \frac{1}{2}a \hat{\mathbf{x}} + \frac{1}{2}b \hat{\mathbf{y}}$$

$$\mathbf{a}_3 = c \hat{\mathbf{z}}$$



Basis vectors

	Lattice coordinates		Cartesian coordinates	Wyckoff position	Atom type
\mathbf{B}_1	=	0	=	0	(2a) Ga I
\mathbf{B}_2	=	$\frac{1}{2} \mathbf{a}_1 + \frac{1}{2} \mathbf{a}_2$	=	$\frac{1}{2}a \hat{\mathbf{x}}$	(2b) Pt I
\mathbf{B}_3	=	$\frac{1}{2} \mathbf{a}_2$	=	$\frac{1}{4}a \hat{\mathbf{x}} + \frac{1}{4}b \hat{\mathbf{y}}$	(4e) Pt II
\mathbf{B}_4	=	$\frac{1}{2} \mathbf{a}_1$	=	$\frac{1}{4}a \hat{\mathbf{x}} - \frac{1}{4}b \hat{\mathbf{y}}$	(4e) Pt II
\mathbf{B}_5	=	$x_4 \mathbf{a}_1 + x_4 \mathbf{a}_2 + \frac{1}{2} \mathbf{a}_3$	=	$ax_4 \hat{\mathbf{x}} + \frac{1}{2}c \hat{\mathbf{z}}$	(4h) Ga II
\mathbf{B}_6	=	$-x_4 \mathbf{a}_1 - x_4 \mathbf{a}_2 + \frac{1}{2} \mathbf{a}_3$	=	$-ax_4 \hat{\mathbf{x}} + \frac{1}{2}c \hat{\mathbf{z}}$	(4h) Ga II
\mathbf{B}_7	=	$-y_5 \mathbf{a}_1 + y_5 \mathbf{a}_2 + \frac{1}{2} \mathbf{a}_3$	=	$by_5 \hat{\mathbf{y}} + \frac{1}{2}c \hat{\mathbf{z}}$	(4j) Pt III
\mathbf{B}_8	=	$y_5 \mathbf{a}_1 - y_5 \mathbf{a}_2 + \frac{1}{2} \mathbf{a}_3$	=	$-by_5 \hat{\mathbf{y}} + \frac{1}{2}c \hat{\mathbf{z}}$	(4j) Pt III

References

- [1] K. Schubert, S. Bhan, W. Burkhardt, R. Gohle, H. G. Meissner, M. Pötzschke, and E. Stolz, *Einige strukturelle Ergebnisse an metallischen Phasen (5)*, *Naturwissenschaften* **47**, 303 (1960), doi:10.1007/BF00600960.

Found in

- [1] P. Villars and L. Calvert, *Pearson's Handbook of Crystallographic Data for Intermetallic Phases* (ASM International, Materials Park, OH, 1991), 2nd edn.