Ga_3Pt_5 Structure: A3B5_oC16_65_ah_bej-001

This structure previously used the label(s) `A3B5_oC16_65_ah_bej`. Calls to these addresses will be redirected here.

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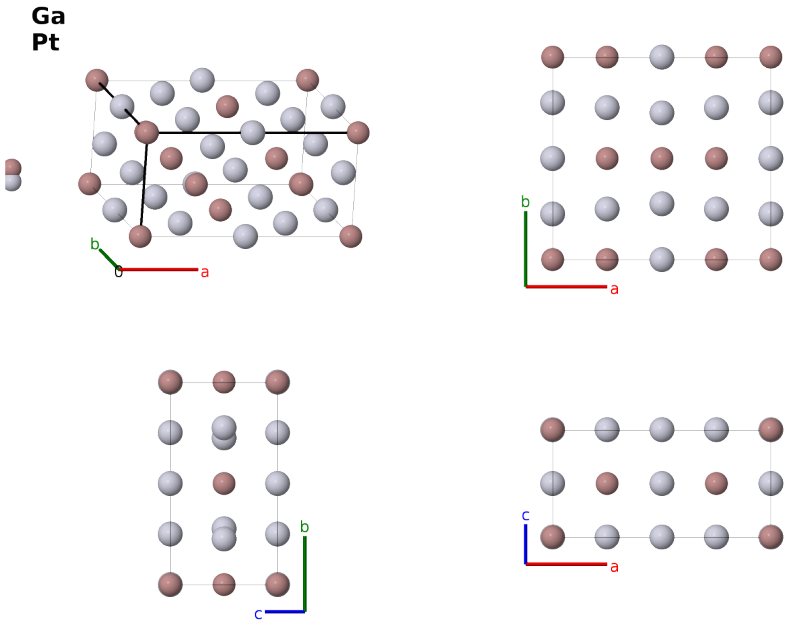
https://aflow.org/prototype-encyclopedia/36DL

https://aflow.org/prototype-encyclopedia/A3B5_oC16_65_ah_bej-001



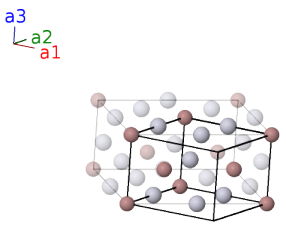
Prototype	Ga_3Pt_5
AFLOW prototype label	A3B5_oC16_65_ah_bej-001
ICSD	103927
CCDC	1661858
Pearson symbol	oC16
Space group number	65
Space group symbol	$Cmmm$
AFLOW prototype command	`aflow --proto=A3B5_oC16_65_ah_bej-001 --params=`$a, b/a, c/a, x_4, y_5$

Other compounds with this structure

Al_3Ni_5, Ga_3Ni_5, Mn_3Pd_5

Base-centered Orthorhombic primitive vectors

$$\mathbf{a_1} = \tfrac{1}{2}a\,\hat{\mathbf{x}} - \tfrac{1}{2}b\,\hat{\mathbf{y}}$$
$$\mathbf{a_2} = \tfrac{1}{2}a\,\hat{\mathbf{x}} + \tfrac{1}{2}b\,\hat{\mathbf{y}}$$
$$\mathbf{a_3} = c\,\hat{\mathbf{z}}$$



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.

First cited in

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