Tungsten Carbide (WC, B_h) Structure: AB_hP2_187_a_d-001

This structure originally had the label `AB_hP2_187_d_a`. Calls to that address will be redirected here.

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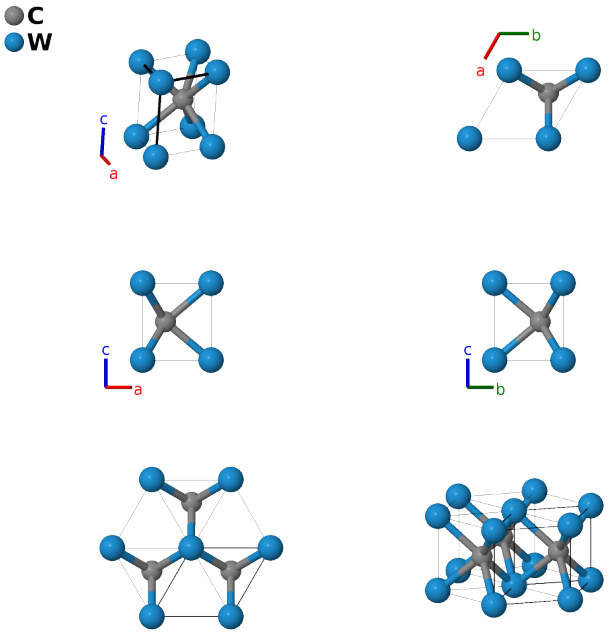
https://aflow.org/p/X4K0

https://aflow.org/p/AB_hP2_187_a_d-001



Prototype	CW
AFLOW prototype label	AB_hP2_187_a_d-001
***Strukturbericht* designation**	B_h
ICSD	15406
Pearson symbol	hP2
Space group number	187
Space group symbol	$P\bar{6}m2$
AFLOW prototype command	`aflow --proto=AB_hP2_187_a_d-001 --params=`$a, c/a$

Other compounds with this structure

AlSn, BIr, MoC, MoP, NbS, OsC, RuC, TaS, TeZr, TiS, WN

Hexagonal primitive vectors

$$\mathbf{a_1} = \frac{1}{2}a\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{2}a\,\hat{\mathbf{y}}$$
$$\mathbf{a_2} = \frac{1}{2}a\,\hat{\mathbf{x}} + \frac{\sqrt{3}}{2}a\,\hat{\mathbf{y}}$$
$$\mathbf{a_3} = c\,\hat{\mathbf{z}}$$

Basis vectors

		Lattice coordinates		Cartesian coordinates	Wyckoff position	Atom type
$\mathbf{B_1}$	=	0	=	0	(1a)	C I
$\mathbf{B_2}$	=	$\frac{1}{3}\,\mathbf{a}_1 + \frac{2}{3}\,\mathbf{a}_2 + \frac{1}{2}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{\sqrt{3}}{6}a\,\hat{\mathbf{y}} + \frac{1}{2}c\,\hat{\mathbf{z}}$	(1d)	W I

References

[1] J. Leciejewicz, *A note on the structure of tungsten carbide*, Acta Cryst. **14**, 200 (1961), doi:10.1107/S0365110X6100067X.

Found in

[1] W. B. Pearson, *The Crystal Chemistry and Physics of Metals and Alloys* (Wiley Interscience, New York, London, Sydney, Tornoto, 1972).