

Body-Centered Cubic (W, A2, bcc) Structure: A_cI2_229_a-001

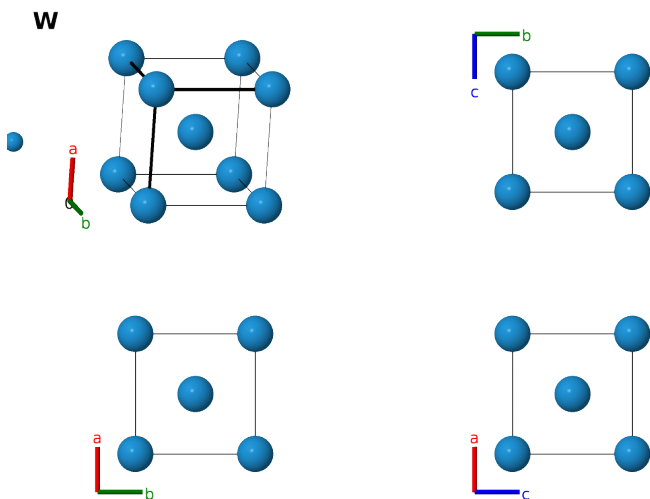
This structure previously used the label(s) **A_cI2_229_a**. Calls to these addresses will be redirected here.

Cite this page as:

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<https://aflow.org/prototype-encyclopedia/7W8F>

https://aflow.org/prototype-encyclopedia/A_cI2_229_a-001



Prototype	W
AFLOW prototype label	A_cI2_229_a-001
<i>Strukturbericht</i> designation	A2
ICSD	52538
CCDC	1617278
Pearson symbol	cI2
Space group number	229
Space group symbol	$Im\bar{3}m$
AFLOW prototype command	<code>aflow --proto=A_cI2_229_a-001 --params=a</code>

Other compounds with this structure

Li (RT), Na, K, V, Cr, Fe, Rb, Nb, Mo, Cs, Ba, Eu, Ta

- Although more accurate measurements of the lattice constant of tungsten are available, (Davey, 1925) is chosen because of the unique experimental technique. The ICSD entry is from the later work of (Hartmann, 1931).

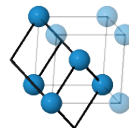
Body-centered Cubic primitive vectors

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

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

$$\mathbf{a}_3 = \frac{1}{2}a\hat{\mathbf{x}} + \frac{1}{2}a\hat{\mathbf{y}} - \frac{1}{2}a\hat{\mathbf{z}}$$

a2
a1



Basis vectors

	Lattice coordinates		Cartesian coordinates	Wyckoff position	Atom type
$\mathbf{B}_1$	=	0	=	0	(2a) W I

References

- [1] W. P. Davey, *Precision Measurements of the Lattice Constants of Twelve Common Metals*, Phys. Rev. **25**, 753–761 (1925), doi:10.1103/PhysRev.25.753.
- [2] W. P. Davey, *The Lattice Parameter and Density of Pure Tungsten*, Phys. Rev. **26**, 736–738 (1925), doi:10.1103/PhysRev.26.736.
- [3] H. Hartmann, F. Ebert, and O. Bretschneider, *Elektrolysen in Phosphatschmelzen I*, Z. Anorganische und Allgemeine Chemie **198**, 116–140 (1931), doi:10.1002/zaac.19311980111.

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