

α -Po (A_h , simple cubic) Structure: A_cP1_221_a-001

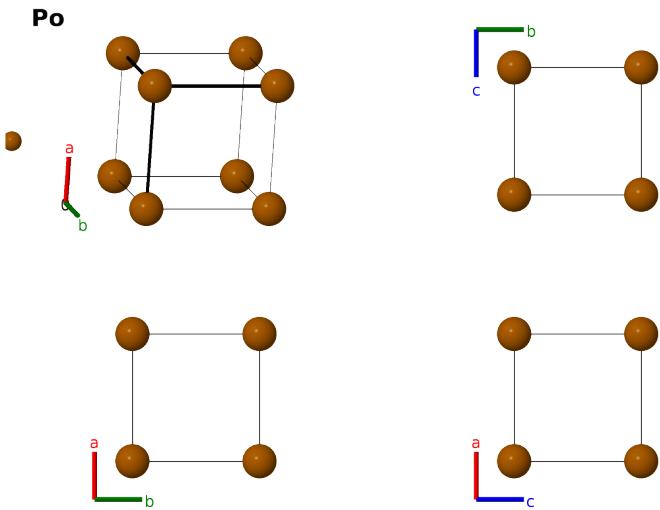
This structure previously used the label(s) **A.cP1.221.a**. Calls to these addresses will be redirected here.

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<https://aflow.org/prototype-encyclopedia/NG7Y>

https://aflow.org/prototype-encyclopedia/A_cP1_221_a-001



Prototype	Po
AFLOW prototype label	A_cP1_221_a-001
<i>Strukturbericht</i> designation	A_h
ICSD	655031
CCDC	1765802
Pearson symbol	cP1
Space group number	221
Space group symbol	$Pm\bar{3}m$
AFLOW prototype command	<code>aflow --proto=A_cP1_221_a-001 --params=a</code>

Other compounds with this structure

Nd_{0.5}Te_{0.5}

- Solid polonium exists in two phases: cubic α -Po (A_h) (this structure) is the ground state and rhombohedral β -Po (A_l) (Donohue, 1974). There is a large amount of hysteresis observed in the transition, which occurs at 54°C for $\alpha \rightarrow \beta$ and 18° for $\beta \rightarrow \alpha$.

- This is a simple cubic lattice. Polonium is the only element known with this ground state. Originally Po was assigned *Strukturbericht* designation *A19*, which is now considered to be incorrect. (Donohue, 1982, 390)

Simple Cubic primitive vectors



Basis vectors

	Lattice coordinates		Cartesian coordinates	Wyckoff position	Atom type
$\mathbf{B_1}$	$=$	0	$=$	0	(1a) Po I

References

[1] W. H. Beamer and C. R. Maxwel, *The Crystal Structure of Polonium*, J. Chem. Phys. **14**, 569 (1946), doi:10.1063/1.1724201.

[2] C. Gottfried, ed., *Strukturbericht Band IV 1936* (Akademische Verlagsgesellschaft M. B. H., Leipzig, 1938).

Found in

[1] J. Donohue, *The Structures of the Elements* (Robert E. Krieger Publishing Company, New York, 1974).

First cited in

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