CsCl ($B2$) Structure: AB_cP2_221_a_b-002

This structure previously used the label(s) `AB_cP2_221_b_a`. Calls to these addresses will be redirected here.

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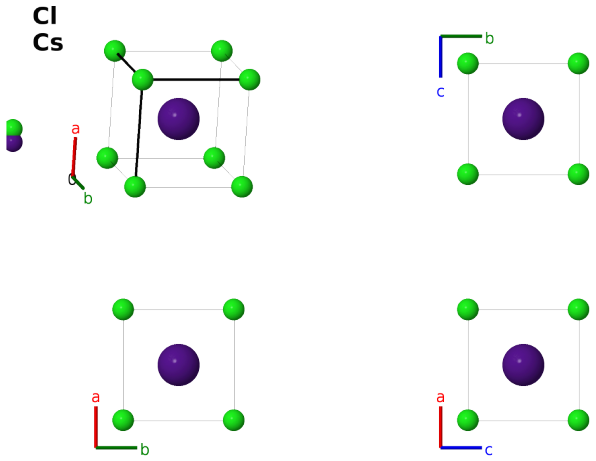
https://aflow.org/prototype-encyclopedia/QM6B

https://aflow.org/prototype-encyclopedia/AB_cP2_221_a_b-002



Prototype	ClCs
AFLOW prototype label	AB_cP2_221_a_b-002
***Strukturbericht* designation**	$B2$
ICSD	622367
CCDC	1749795
Pearson symbol	cP2
Space group number	221
Space group symbol	$Pm\bar{3}m$
AFLOW prototype command	`aflow --proto=AB_cP2_221_a_b-002 --params=`a

Other compounds with this structure

AgCd, AgCe, AgDy, AgGd, AgHo, AgLa, AgLi, AgLu, AgMg, AgNd, AgSc, AgSm, AgTb, AgTm, AgZn, AlCe, AlCo, AlDy, AlFe, AlIr, AlLu, AlMg, AlNd, AlNi, AlOs, AlPd (H.T.), AlRe, AlRh, AlRu, AuCd, AuCs, AuDy, AuGd, AuHRb, AuHo, AuLa, AuLi, AuLu, AuMg, AuMn (H.T.), AuNd, AuPr, AuSc, AuSm, AuTb, AuTi (H.T.), AuTm, AuY, AuZn, BaCd, BaHg, BeNi, BePd, BiTl, CaCd, CaHg, CaIn, CaTl, CdCe, CdGd, CdLa, CdPr, CdSc, CdSm, CdSr, CdY, CeHg, CeMg, CeZn, CoFe, CoGa, CoHf, CoSc, CoTi, CoZr, CuDy, CuEr, CuGd, CuSc, CuSm, CuTb, CuTm, CuY, DyIn, DyMg, DyTl, DyZn, ErMg, ErZn, FeRh, FeTi, FeV, GaIr, GaNi, GaRu, GdHg, GdIn, GdMg, GdRh, GdTl, GdZn, HfRu, HfTc, HgLa, HgLi, HgMg, HgMn, HgPr,

HgSc, HgSr, HgY, HoIr, HoMg, HoRh, HoZn, InNi, InPd, IrMn, IrSc, IrTm, LuMg, LuPd, LuRh, MgNd, MgPd, MgPr, MgRh, MgSm, MgTb, MgTm, MgV, NdTl, NdZn, NiSc, NiTi, NiZn (H.T.), OsTl, OsV, OsZr, PdSc, PdSm, PdZn, PtSc, PuRu, ReTi, RhSc, RhSi, RhSm, RhTb, RhTi, RhTm, RhZr, ScZn, SmZn, SrTl, TaTc, TbZn, TcTi, TcV, TeTh, TiZn, TlY, TmZn, YZn

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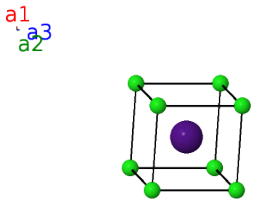
- The atoms are on the sites of a body-centered cubic lattice.
- We extrapolated the lattice constants of (Ganesan, 1986) to 0K. The ICSD entry uses their lattice constant at 298K.

Simple Cubic primitive vectors

$$\mathbf{a_1} = a\,\hat{\mathbf{x}}$$
$$\mathbf{a_2} = a\,\hat{\mathbf{y}}$$
$$\mathbf{a_3} = a\,\hat{\mathbf{z}}$$



Basis vectors

		Lattice coordinates		Cartesian coordinates	Wyckoff position	Atom type
$\mathbf{B_1}$	=	0	=	0	(1a)	Cl I
$\mathbf{B_2}$	=	$\frac{1}{2}\,\mathbf{a}_1 + \frac{1}{2}\,\mathbf{a}_2 + \frac{1}{2}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{1}{2}a\,\hat{\mathbf{y}} + \frac{1}{2}a\,\hat{\mathbf{z}}$	(1b)	Cs I

References

[1] V. Ganesan and K. S. Girirajan, *Lattice parameter and thermal expansion of CsCl and CsBr by x-ray powder diffraction. I. Thermal expansion of CsCl from room temperature to 90° K*, Paramana – Journal of Physics **27**, 469–474 (1986), doi:10.1007/BF02846872.

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