CoSn ($B35$) Structure: AB_hP6_191_f_ad-001

This structure originally had the label `AB_hP6_191_f_ad`. Calls to that address will be redirected here.

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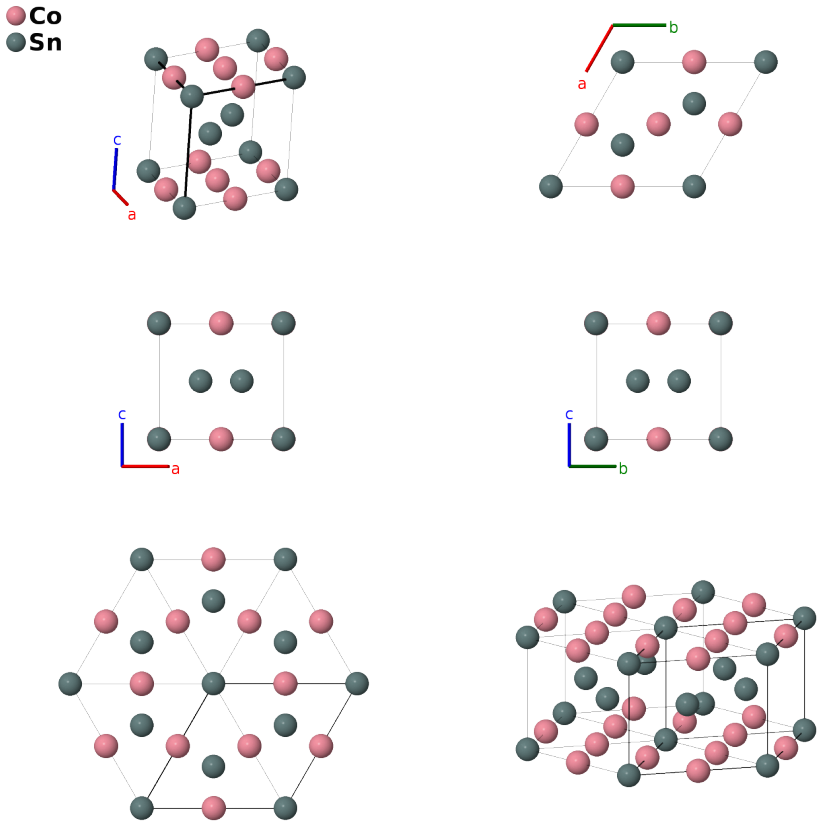
https://aflow.org/p/Z7YH

https://aflow.org/p/AB_hP6_191_f_ad-001

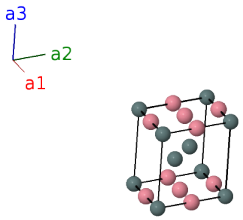


Prototype	CoSn
AFLOW prototype label	AB_hP6_191_f_ad-001
***Strukturbericht* designation**	$B35$
ICSD	55564
Pearson symbol	hP6
Space group number	191
Space group symbol	$P6/mmm$
AFLOW prototype command	`aflow --proto=AB_hP6_191_f_ad-001 --params=`$a, c/a$

Other compounds with this structure
FeGe, PbRh, NTa, PtTl, InNi

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)	Sn I
$\mathbf{B_2}$	=	$\frac{1}{3}\,\mathbf{a}_1 + \frac{2}{3}\,\mathbf{a}_2 + \frac{1}{2}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{\sqrt{3}}{6}a\,\hat{\mathbf{y}} + \frac{1}{2}c\,\hat{\mathbf{z}}$	(2d)	Sn II
$\mathbf{B_3}$	=	$\frac{2}{3}\,\mathbf{a}_1 + \frac{1}{3}\,\mathbf{a}_2 + \frac{1}{2}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{6}a\,\hat{\mathbf{y}} + \frac{1}{2}c\,\hat{\mathbf{z}}$	(2d)	Sn II
$\mathbf{B_4}$	=	$\frac{1}{2}\,\mathbf{a}_1$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} - \frac{\sqrt{3}}{4}a\,\hat{\mathbf{y}}$	(3f)	Co I
$\mathbf{B_5}$	=	$\frac{1}{2}\,\mathbf{a}_2$	=	$\frac{1}{4}a\,\hat{\mathbf{x}} + \frac{\sqrt{3}}{4}a\,\hat{\mathbf{y}}$	(3f)	Co I
$\mathbf{B_6}$	=	$\frac{1}{2}\,\mathbf{a}_1 + \frac{1}{2}\,\mathbf{a}_2$	=	$\frac{1}{2}a\,\hat{\mathbf{x}}$	(3f)	Co I

References

[1] A. Larsson, M. Haeberlein, S. Lidin, and U. Schwarz, *Single crystal structure refinement and high-pressure properties of CoSn*, J. Alloys Compd. **240**, 79–84 (1996), doi:10.1016/0925-8388(95)02189-2.