$Ce_5Pd_2In_{19}$ Structure: A5B19C2_tP26_123_a2g_ce2h3i_g-001

Cite this page as:

- H. Eckert, S. Divilov, M. J. Mehl, D. Hicks, A. C. Zettel, M. Esters, X. Campilongo, and S. Curtarolo, *The AFLOW Library of Crystallographic Prototypes: Part 4*, Comput. Mater. Sci. **240**, 112988 (2024), doi: 10.1016/j.commatsci.2024.112988.
- D. Hicks, M. J. Mehl, M. Esters, C. Oses, O. Levy, G. L. W. Hart, C. Toher, and S. Curtarolo, *The AFLOW Library of Crystallographic Prototypes: Part 3*, Comput. Mater. Sci. **199**, 110450 (2021), doi: 10.1016/j.commatsci.2021.110450.

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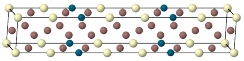
https://aflow.org/prototype-encyclopedia/RR9W

https://aflow.org/prototype-encyclopedia/A5B19C2_tP26_123_a2g_ce2h3i_g-001

Prototype	$Ce_5In_{19}Pd_2$
AFLOW prototype label	A5B19C2_tP26_123_a2g_ce2h3i_g-001
ICSD	247863
CCDC	1714465
Pearson symbol	tP26
Space group number	123
Space group symbol	$P4/mmm$
AFLOW prototype command	`aflow --proto=A5B19C2_tP26_123_a2g_ce2h3i_g-001 --params=`$a, c/a, z_4, z_5, z_6, z_7, z_8, z_9, z_{10}, z_{11}$

Simple Tetragonal primitive vectors

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



Basis vectors

		Lattice coordinates		Cartesian coordinates	Wyckoff position	Atom type
$\mathbf{B_1}$	=	0	=	0	(1a)	Ce I
$\mathbf{B_2}$	=	$\frac{1}{2}\,\mathbf{a}_1 + \frac{1}{2}\,\mathbf{a}_2$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{1}{2}a\,\hat{\mathbf{y}}$	(1c)	In I
$\mathbf{B_3}$	=	$\frac{1}{2}\,\mathbf{a}_2 + \frac{1}{2}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{y}} + \frac{1}{2}c\,\hat{\mathbf{z}}$	(2e)	In II
$\mathbf{B_4}$	=	$\frac{1}{2}\,\mathbf{a}_1 + \frac{1}{2}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{1}{2}c\,\hat{\mathbf{z}}$	(2e)	In II
$\mathbf{B_5}$	=	$z_4\,\mathbf{a}_3$	=	$cz_4\,\hat{\mathbf{z}}$	(2g)	Ce II
$\mathbf{B_6}$	=	$-z_4\,\mathbf{a}_3$	=	$-cz_4\,\hat{\mathbf{z}}$	(2g)	Ce II

$\mathbf{B_7}$	=	$z_5\,\mathbf{a}_3$	=	$cz_5\,\hat{\mathbf{z}}$	(2g)	Ce III
$\mathbf{B_8}$	=	$-z_5\,\mathbf{a}_3$	=	$-cz_5\,\hat{\mathbf{z}}$	(2g)	Ce III
$\mathbf{B_9}$	=	$z_6\,\mathbf{a}_3$	=	$cz_6\,\hat{\mathbf{z}}$	(2g)	Pd I
$\mathbf{B_{10}}$	=	$-z_6\,\mathbf{a}_3$	=	$-cz_6\,\hat{\mathbf{z}}$	(2g)	Pd I
$\mathbf{B_{11}}$	=	$\frac{1}{2}\,\mathbf{a}_1 + \frac{1}{2}\,\mathbf{a}_2 + z_7\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{1}{2}a\,\hat{\mathbf{y}} + cz_7\,\hat{\mathbf{z}}$	(2h)	In III
$\mathbf{B_{12}}$	=	$\frac{1}{2}\,\mathbf{a}_1 + \frac{1}{2}\,\mathbf{a}_2 - z_7\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{1}{2}a\,\hat{\mathbf{y}} - cz_7\,\hat{\mathbf{z}}$	(2h)	In III
$\mathbf{B_{13}}$	=	$\frac{1}{2}\,\mathbf{a}_1 + \frac{1}{2}\,\mathbf{a}_2 + z_8\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{1}{2}a\,\hat{\mathbf{y}} + cz_8\,\hat{\mathbf{z}}$	(2h)	In IV
$\mathbf{B_{14}}$	=	$\frac{1}{2}\,\mathbf{a}_1 + \frac{1}{2}\,\mathbf{a}_2 - z_8\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + \frac{1}{2}a\,\hat{\mathbf{y}} - cz_8\,\hat{\mathbf{z}}$	(2h)	In IV
$\mathbf{B_{15}}$	=	$\frac{1}{2}\,\mathbf{a}_2 + z_9\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{y}} + cz_9\,\hat{\mathbf{z}}$	(4i)	In V
$\mathbf{B_{16}}$	=	$\frac{1}{2}\,\mathbf{a}_1 + z_9\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + cz_9\,\hat{\mathbf{z}}$	(4i)	In V
$\mathbf{B_{17}}$	=	$\frac{1}{2}\,\mathbf{a}_2 - z_9\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{y}} - cz_9\,\hat{\mathbf{z}}$	(4i)	In V
$\mathbf{B_{18}}$	=	$\frac{1}{2}\,\mathbf{a}_1 - z_9\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} - cz_9\,\hat{\mathbf{z}}$	(4i)	In V
$\mathbf{B_{19}}$	=	$\frac{1}{2}\,\mathbf{a}_2 + z_{10}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{y}} + cz_{10}\,\hat{\mathbf{z}}$	(4i)	In VI
$\mathbf{B_{20}}$	=	$\frac{1}{2}\,\mathbf{a}_1 + z_{10}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + cz_{10}\,\hat{\mathbf{z}}$	(4i)	In VI
$\mathbf{B_{21}}$	=	$\frac{1}{2}\,\mathbf{a}_2 - z_{10}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{y}} - cz_{10}\,\hat{\mathbf{z}}$	(4i)	In VI
$\mathbf{B_{22}}$	=	$\frac{1}{2}\,\mathbf{a}_1 - z_{10}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} - cz_{10}\,\hat{\mathbf{z}}$	(4i)	In VI
$\mathbf{B_{23}}$	=	$\frac{1}{2}\,\mathbf{a}_2 + z_{11}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{y}} + cz_{11}\,\hat{\mathbf{z}}$	(4i)	In VII
$\mathbf{B_{24}}$	=	$\frac{1}{2}\,\mathbf{a}_1 + z_{11}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} + cz_{11}\,\hat{\mathbf{z}}$	(4i)	In VII
$\mathbf{B_{25}}$	=	$\frac{1}{2}\,\mathbf{a}_2 - z_{11}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{y}} - cz_{11}\,\hat{\mathbf{z}}$	(4i)	In VII
$\mathbf{B_{26}}$	=	$\frac{1}{2}\,\mathbf{a}_1 - z_{11}\,\mathbf{a}_3$	=	$\frac{1}{2}a\,\hat{\mathbf{x}} - cz_{11}\,\hat{\mathbf{z}}$	(4i)	In VII

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First cited in

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