

$\text{Ho}_2\text{Rh}_{12}\text{As}_7$	$hP24$	(176) $P6_3/m - h^3ed$
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$\text{Ho}_2\text{Rh}_{12}\text{As}_7$ [1]

Structural features: Infinite columns of base-linked $\text{As}(\text{Ho}_2\text{Rh}_4)\text{Rh}_3$ tricapped trigonal prisms share atoms to form a 3D-framework with propeller-like columns; additional As (partial disorder) in channels of hexagonal cross-section parallel to [001]. Variant of $\text{Zr}_2\text{Rh}_{12}\text{P}_7$.

Pivan J.Y. et al. (1985) [1]

$\text{As}_7\text{Ho}_2\text{Rh}_{12}$

$a = 0.9892$, $c = 0.3859$ nm, $c/a = 0.390$, $V = 0.3270$ nm³, $Z = 1$

site	Wyck.	sym.	x	y	z	occ.	atomic environment
Rh1	$6h$	$m..$	0.065	0.446	$\frac{1}{4}$		11-vertex polyhedron $\text{As}_4\text{Rh}_5\text{Ho}_2$
Rh2	$6h$	$m..$	0.263	0.1492	$\frac{1}{4}$		
As3	$6h$	$m..$	0.289	0.408	$\frac{1}{4}$		tricapped trigonal prism Rh_7Ho_2
As4	$4e$	$3..$	0	0	0.104	0.25	
Ho5	$2d$	$-6..$	$\frac{2}{3}$	$\frac{1}{3}$	$\frac{1}{4}$		23-vertex polyhedron $\text{As}_9\text{Rh}_{12}\text{Ho}_2$

Experimental: single crystal, diffractometer, X-rays, $R = 0.039$

Remarks: Short interatomic distances for partly occupied site(s).

References: [1] Pivan J.Y., Guérin R., Sergent M. (1985), J. Less-Common Met. 107, 249-258.