$La_6Rh_{32}P_{17}$	*hP*168	(176) $P6_3/m - h^{27}fb$

$La_6Rh_{32}P_{17}$ [1]; $Ce_6Rh_{32}P_{17}$ [1]
Structural features: Infinite columns of base-linked $P(La_2Rh_4)Rh_3$ tricapped trigonal prisms share atoms to form a 3D-framework with double and partial propeller-like columns; additional P in channels of hexagonal cross-section parallel to [001] (partial disorder).

Pivan J.Y. et al. (1988) [1]
$La_6P_{17}Rh_{32}$
$a = 2.7054$, $c = 0.3944$ nm, $c/a = 0.146$, $V = 2.4999$ nm^3, $Z = 3$

site	Wyck.	sym.	*x*	*y*	*z*	occ.	atomic environment
Rh1	6*h*	*m*..	0.0016	0.4659	$^1/_4$		13-vertex polyhedron $P_4Rh_6La_3$
Rh2	6*h*	*m*..	0.027	0.2243	$^1/_4$		cuboctahedron $P_4Rh_5La_3$
Rh3	6*h*	*m*..	0.056	0.0946	$^1/_4$		square pyramid P_5
P4	6*h*	*m*..	0.0611	0.3827	$^1/_4$		square pyramid Rh_5
Rh5	6*h*	*m*..	0.1092	0.4885	$^1/_4$		11-vertex polyhedron $P_4Rh_5La_2$
Rh6	6*h*	*m*..	0.1157	0.335	$^1/_4$		11-vertex polyhedron $P_4Rh_5La_2$
P7	6*h*	*m*..	0.1346	0.0125	$^1/_4$		tricapped trigonal prism Rh_7La_2
La8	6*h*	*m*..	0.15741	0.23345	$^1/_4$		23-vertex polyhedron $P_9Rh_{12}La_2$
Rh9	6*h*	*m*..	0.1668	0.1143	$^1/_4$		cuboctahedron $P_4Rh_5La_3$
P10	6*h*	*m*..	0.2081	0.5427	$^1/_4$		monocapped trigonal prism Rh_7
P11	6*h*	*m*..	0.216	0.3981	$^1/_4$		tricapped trigonal prism Rh_7La_2
Rh12	6*h*	*m*..	0.239	0.6373	$^1/_4$		
Rh13	6*h*	*m*..	0.2651	0.4993	$^1/_4$		11-vertex polyhedron $P_4Rh_5La_2$
P14	6*h*	*m*..	0.2675	0.1773	$^1/_4$		tricapped trigonal prism Rh_7La_2
Rh15	6*h*	*m*..	0.2692	0.3564	$^1/_4$		cuboctahedron $P_3Rh_7La_2$
P16	6*h*	*m*..	0.2995	0.0417	$^1/_4$		bicapped square prism Rh_7La_2P
Rh17	6*h*	*m*..	0.3026	0.2728	$^1/_4$		11-vertex polyhedron P_5Rh_6
Rh18	6*h*	*m*..	0.3337	0.1458	$^1/_4$		cuboctahedron $P_4Rh_5La_3$
Rh19	6*h*	*m*..	0.3806	0.0339	$^1/_4$		cuboctahedron $P_2Rh_8La_2$
La20	6*h*	*m*..	0.3855	0.48094	$^1/_4$		22-vertex polyhedron $Rh_{14}P_6La_2$
Rh21	6*h*	*m*..	0.4145	0.3775	$^1/_4$		cuboctahedron $P_3Rh_7La_2$
Rh22	6*h*	*m*..	0.4394	0.1572	$^1/_4$		13-vertex polyhedron $P_4Rh_6La_3$
La23	6*h*	*m*..	0.44072	0.2787	$^1/_4$		23-vertex polyhedron $P_9Rh_{12}La_2$
P24	6*h*	*m*..	0.5379	0.205	$^1/_4$		monocapped trigonal prism Rh_7
P25	6*h*	*m*..	0.5566	0.0661	$^1/_4$		monocapped trigonal prism Rh_7
Rh26	6*h*	*m*..	0.5789	0.3048	$^1/_4$		square pyramid P_5
Rh27	6*h*	*m*..	0.5961	0.165	$^1/_4$		cuboctahedron $P_4Rh_5La_3$
P28	4*f*	3..	$^1/_3$	$^2/_3$	0.13	0.5	
P29	2*b*	-3..	0	0	0	0.5	square prism (cube) P_2Rh_6

Transformation from published data: origin shift 0 0 $^1/_2$
Experimental: single crystal, diffractometer, X-rays, R = 0.050

Remarks: Short interatomic distances for partly occupied site(s). In table II of [1] the *y*-coordinate of former Rh(6) is misprinted as 0.6592 instead of 0.6952 (checked on interatomic distances).

References: [1] Pivan J.Y., Guérin R., Peña O., Padiou J., Sergent M. (1988), Mater. Res. Bull. 23, 513-520.