

$\text{Zn}_3\text{Pt}_9\text{B}_4$	$hP17$	(189) $P-62m - \text{kgf}^2c$
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**$\text{Zn}_3\text{Pt}_9\text{B}_4$**  [1];  $\text{Ga}_{2.7}\text{Ir}_9\text{B}_5$  [1]

Structural features: Triple infinite chains of edge-linked  $\text{BPt}_6$  trigonal prisms share vertices with infinite columns of base-linked  $\text{BPt}_6$  trigonal prisms to form a 3D-framework (non-parallel prism axes); Zn in channels of pentagonal cross-section, no B-B contact.

Petry K. et al. (1994) [1]

$\text{B}_{3.86}\text{Pt}_9\text{Zn}_3$

$a = 0.911111$ ,  $c = 0.286$  nm,  $c/a = 0.314$ ,  $V = 0.2056$  nm<sup>3</sup>,  $Z = 1$

site	Wyck.	sym.	$x$	$y$	$z$	occ.	atomic environment
Pt1	$6k$	$m..$	0.2669	0.46031	$\frac{1}{2}$		non-coplanar triangle $\text{B}_3$
B2	$3g$	$m2m$	0.809	0	$\frac{1}{2}$		trigonal prism $\text{Pt}_6$
Pt3	$3f$	$m2m$	0.17762	0	0		non-coplanar square $\text{B}_4$
Zn4	$3f$	$m2m$	0.457	0	0		13-vertex polyhedron $\text{Pt}_9\text{B}_2\text{Zn}_2$
B5	$2c$	$-6..$	$\frac{1}{3}$	$\frac{2}{3}$	0	0.43	trigonal prism $\text{Pt}_6$

Experimental: single crystal, diffractometer, X-rays,  $wR = 0.017$

Remarks: The structure was studied jointly on powder neutron and single-crystal X-ray diffraction data.

References: [1] Petry K., Klünter W., Jung W. (1994), Z. Kristallogr. 209, 151-156.