$Pb(Pb_{0.3}Sb_{0.7})_2Sb_2S_7$	*hP*72	(176) $P6_3/m$ – h^{12}

$Pb_6Sb_{14}S_{27}$ [1], zinckenite
Structural features: SbS_6 octahedra, (Sb,Pb)S_5 square pyramids and :SbS_3 ψ-tetrahedra (SbS_8 square antiprisms) share edges and vertices to form a 3D-framework; additional Pb in square antiprismatic voids.

Lebas G., Le Bihan M.T. (1976) [1]
$Pb_{1.60}S_7Sb_{3.40}$
a = 2.212, c = 0.432 nm, c/a = 0.195, V = 1.8306 nm^3, Z = 6

site	Wyck.	sym.	x	y	z	occ.	atomic environment
S1	6*h*	*m*..	0.0	0.115	$^1/_4$		non-colinear Sb_2
Sb2	6*h*	*m*..	0.104	0.348	$^1/_4$		octahedron S_6
M3	6*h*	*m*..	0.108	0.518	$^1/_4$		square pyramid S_5
Sb4	6*h*	*m*..	0.161	0.2	$^1/_4$		square antiprism S_8
S5	6*h*	*m*..	0.232	0.598	$^1/_4$		single atom Sb
S6	6*h*	*m*..	0.255	0.435	$^1/_4$		tetrahedron Sb_2Pb_2
S7	6*h*	*m*..	0.277	0.172	$^1/_4$		non-coplanar triangle Sb_3
S8	6*h*	*m*..	0.315	0.033	$^1/_4$		non-coplanar triangle Sb_3
M9	6*h*	*m*..	0.344	0.4	$^1/_4$		square pyramid S_5
S10	6*h*	*m*..	0.44	0.321	$^1/_4$		non-coplanar square Sb_4
S11	6*h*	*m*..	0.497	0.081	$^1/_4$		non-coplanar square Sb_4
Pb12	6*h*	*m*..	0.536	0.244	$^1/_4$		square antiprism S_8

M3 = 0.6Sb + 0.4Pb; M9 = 0.8Sb + 0.2Pb
Transformation from published data ($P6_3/m$ *): *y*,*x*,-*z*; origin shift 0 0 $^3/_4$
Experimental: single crystal, diffractometer, X-rays, R = 0.090

Remarks: Natural specimen from Oruro, Bolivia. Pb:Sb ratio 0.460 from chemical analysis. In [1] the origin of the cell is shifted by 0 0 $^1/_4$ from the description in the International Tables for Crystallography. Average structure; additional reflections could be indexed with an 8-fold supercell (new axes 2a,2b,2c).

References: [1] Lebas G., Le Bihan M.T. (1976), Bull. Soc. Fr. Mineral. Cristallogr. 99, 351-360.