$Cd_5[PO_4]_3Br$	*hP*60	(176) $P6_3/m$ – ih^4fe^4ba

$Cd_5(PO_4)_3Br$ [1], apatite family
Structural features: Infinite columns of base-linked CdO_6 trigonal prisms share vertices with PO_4 tetrahedra to form a 3D-framework; Br in infinite columns of face-linked Cd_6 octahedra (partial vacancies ignored) parallel to [001] (high degree of disorder).

Sudarsanan K. et al. (1977) [1]
$Br_{0.82}Cd_{4.82}O_{12}P_3$
a = 0.9733, c = 0.6468 nm, c/a = 0.665, V = 0.5306 nm^3, Z = 2

site	Wyck.	sym.	x	y	z	occ.	atomic environment
O1	12*i*	1	0.348	0.0784	0.0597		single atom P
O2	6*h*	*m*..	0.1495	0.5042	$^1/_4$		single atom P
Cd3	6*h*	*m*..	0.2764	0.2562	$^1/_4$	0.965	non-coplanar triangle O_3
P4	6*h*	*m*..	0.4056	0.0277	$^1/_4$		tetrahedron O_4
O5	6*h*	*m*..	0.5903	0.1334	$^1/_4$		single atom P
Cd6	4*f*	3..	$^1/_3$	$^2/_3$	0.0054	0.963	trigonal prism O_6
Br7	4*e*	3..	0	0	0.05	0.021	
Br8	4*e*	3..	0	0	0.1	0.043	
Br9	4*e*	3..	0	0	0.15	0.106	
Br10	4*e*	3..	0	0	0.2	0.176	
Br11	2*b*	-3..	0	0	0	0.007	
Br12	2*a*	-6..	0	0	$^1/_4$	0.122	

Transformation from published data: *y*,*x*,-*z*
Experimental: single crystal, diffractometer, X-rays, R = 0.040

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

References: [1] Sudarsanan K., Young R.A., Wilson A.J.C. (1977), Acta Crystallogr. B 33, 3136-3142.