$Co_{5.5}[PHO_3]_4[OH]_3$	*hP*52	(186) $P6_3mc$ – $d^2c^4b^2$

$Co_{11}(HPO_3)_8(OH)_6$ [1]
Structural features: Columns of edge- and face-linked $Co(O_4[OH]_2)$ octahedra are interconnected via common vertices and $P(HO_3)$ tetrahedra (partial orientational disorder) to form a 3D-framework with large channels parallel to [001]. Variant of $Zn_{11}(HPO_3)_8(OH)_6$.

Marcos M.D. et al. (1993) [1]
$Co_{5.50}H_7O_{15}P_4$
a = 1.28244, c = 0.49734 nm, c/a = 0.388, V = 0.7084 nm^3, Z = 2

site	Wyck.	sym.	x	y	z	occ.	atomic environment
Co1	12*d*	1	0.0772	0.4311	0.2513	0.917	octahedron O_6
O2	12*d*	1	0.343	0.0762	0.3993		single atom P
O3	6*c*	.*m*.	0.2037	0.7963	0.4823		single atom P
O4	6*c*	.*m*.	0.39847	0.60153	0.0879		
O5	6*c*	.*m*.	0.5325	0.4675	0.0523		non-coplanar square Co_4
P6	6*c*	.*m*.	0.83845	0.16155	0.2246		non-coplanar triangle O_3
P7	2*b*	3*m*.	$^1/_3$	$^2/_3$	0.0	0.2	
P8	2*b*	3*m*.	$^1/_3$	$^2/_3$	0.1757	0.8	
H9	6*c*	.*m*.	0.558	0.442	0.2216		
H10	6*c*	.*m*.	0.8955	0.1045	0.1313		
H11	2*b*	3*m*.	$^1/_3$	$^2/_3$	0.4472	0.8	
H12	2*b*	3*m*.	$^1/_3$	$^2/_3$	0.7286	0.2	

Transformation from published data: origin shift 0 0 0.9987
Experimental: powder, diffractometer, X-rays, R_B = 0.079

Remarks: Short interatomic distances for partly occupied site(s). Hydrogen atoms are not taken into consideration for Pearson symbol, Wyckoff sequence and atomic environments.

References: [1] Marcos M.D., Amoros P., Beltran Porter A., Martinez Manez R., Attfield J.P. (1993), Chem. Mater. 5, 121-128.