$Ba_5(Ta_{0.5}Ru_{0.5})_2O_9Cl_2$	*hP*36	(182) $P6_322$ – ihf^{3}ed

$Ba_5RuTaO_9Cl_2$ [1]
Structural features: Double perovskite-type slabs (three close-packed BaO_3 layers, (Ta,Ru) in octahedral (O_6) voids) alternate with two hexagon-mesh BaCl layers along [001]. Units of two face-linked $(Ta,Ru)O_6$ octahedra.

Wilkens J., Müller Buschbaum H. (1991) [1]
$Ba_5Cl_2O_9Ru_{0.94}Ta_{1.06}$
a = 0.58985, c = 2.4739 nm, c/a = 4.194, V = 0.7454 nm^3, Z = 2

site	Wyck.	sym.	x	y	z	occ.	atomic environment
O1	12*i*	1	0.329	0.141	0.1555		single atom Ta
O2	6*h*	..2	0.149	0.298	$^1/_4$		non-colinear Ta_2
Cl3	4*f*	3..	$^1/_3$	$^2/_3$	0.0486		colinear Ba_2
Ba4	4*f*	3..	$^1/_3$	$^2/_3$	0.1699		10-vertex polyhedron O_9Cl
Ba5	4*f*	3..	$^1/_3$	$^2/_3$	0.5757		monocapped trigonal prism O_3Cl_4
M6	4*e*	3..	0	0	0.1905		octahedron O_6
Ba7	2*d*	3.2	$^1/_3$	$^2/_3$	$^3/_4$		anticuboctahedron O_{12}

M6 = 0.53Ta + 0.47Ru
Experimental: single crystal, diffractometer, X-rays, R = 0.051

Remarks: When relevant, we changed the last digit of the atom coordinates to respect the symmetry conditions for special positions.

References: [1] Wilkens J., Müller Buschbaum H. (1991), J. Less-Common Met. 171, 255-262.