$K(La_{0.5}Pb_{0.5})_2F_6$	*hP*15	(187) *P*-6*m*2 – mleda

$KLaPbF_6$ [1]
Structural features: Infinite columns of base-linked $(La,Pb)F_6F_3$ tricapped trigonal prisms; disorder between two different arrangements with the prisms columns rotated by 60°.

Dib A. et al. (1987) [1]
F_6KLaPb
$a = 0.6544$, $c = 0.3804$ nm, $c/a = 0.581$, $V = 0.1411$ nm^3, $Z = 1$

site	Wyck.	sym.	*x*	*y*	*z*	occ.	atomic environment
F1	6*m*	*m*..	0.28033	0.02467	$^1/_2$	0.5	single atom F
F2	6*l*	*m*..	0.08733	0.41667	0	0.5	non-colinear F_2
K3	1*e*	-6*m*2	$^2/_3$	$^1/_3$	0		coplanar hexagon F_6
M4	1*d*	-6*m*2	$^1/_3$	$^2/_3$	$^1/_2$		sixcapped hexagonal prism F_{18}
M5	1*a*	-6*m*2	0	0	0		sixcapped hexagonal prism F_{18}

M4 = 0.5La + 0.5Pb; M5 = 0.5La + 0.5Pb
Transformation from published data: origin shift $^2/_3$ $^1/_3$ $^1/_2$
Experimental: twinned crystal, diffractometer, X-rays, R = 0.032

Remarks: Homogeneity range $Pb_{2x}K_{1.5-x}La_{1.5-x}F_6$, $0.3 < x < 0.6$. Average structure; the authors state that true symmetry may be space group (143) *P*3 or (174) *P*-6.

References: [1] Dib A., Roux M.T., Aleonard S. (1987), J. Solid State Chem. 66, 47-55.