| $La_7I_3[OH]_{18}$ | *hP*56 | (176) $P6_3/m$ – $h^9c$ |
|---|---|---|

**$La_7(OH)_{18}I_3$** [1]
Structural features: Infinite columns of base-linked $La(OH)_6(OH)_3$ tricapped and $La(I_2[OH]_4)(OH)_2$ bicapped trigonal prisms share atoms to form a relatively open 3D-framework.

Lance Gomez E.T. et al. (1978) [1]
$H_{18}I_3La_7O_{18}$
$a$ = 1.8315, $c$ = 0.3928 nm, $c/a$ = 0.214, $V$ = 1.1411 $nm^3$, $Z$ = 2

| site | Wyck. | sym. | $x$ | $y$ | $z$ | occ. | atomic environment |
|---|---|---|---|---|---|---|---|
| La1 | 6*h* | *m*.. | 0.07911 | 0.23149 | $^1/_4$ | | tricapped trigonal prism $(OH)_9$ |
| (OH)2 | 6*h* | *m*.. | 0.1267 | 0.1238 | $^1/_4$ | | non-coplanar triangle $La_3$ |
| (OH)3 | 6*h* | *m*.. | 0.1731 | 0.5555 | $^1/_4$ | | non-coplanar triangle $La_3$ |
| (OH)4 | 6*h* | *m*.. | 0.1813 | 0.4007 | $^1/_4$ | | non-coplanar triangle $La_3$ |
| (OH)5 | 6*h* | *m*.. | 0.2588 | 0.0779 | $^1/_4$ | | non-coplanar triangle $La_3$ |
| (OH)6 | 6*h* | *m*.. | 0.3063 | 0.2534 | $^1/_4$ | | non-coplanar triangle $La_3$ |
| I7 | 6*h* | *m*.. | 0.4349 | 0.04449 | $^1/_4$ | | 7-capped pentagonal prism $(OH)_{10}La_3I_4$ |
| La8 | 6*h* | *m*.. | 0.4588 | 0.31895 | $^1/_4$ | | octahedron $(OH)_6$ |
| (OH)9 | 6*h* | *m*.. | 0.5598 | 0.2677 | $^1/_4$ | | non-coplanar triangle $La_3$ |
| La10 | 2*c* | -6.. | $^1/_3$ | $^2/_3$ | $^1/_4$ | | tricapped trigonal prism $(OH)_9$ |

Transformation from published data: *y*,*x*,-*z*
Experimental: single crystal, diffractometer, X-rays, R = 0.029

Remarks: Hydrogen atoms are not taken into consideration for Pearson symbol, Wyckoff sequence and atomic environments.

References: [1] Lance Gomez E.T., Haschke J.M., Butler W., Peacor D.R. (1978), Acta Crystallogr. B 34, 758-762.