Lautarite $Ca(IO_3)_2$

Crystal Data: Monoclinic. *Point Group:* $2/m$. Crystals are small, short prismatic, elongated and striated along [001], showing {110}, {120}, {010}, {001}, small {011}, {101}, {$\bar{1}$01}; in radial aggregates.

Physical Properties: *Cleavage:* On {011}, good; {100}, {110}, interrupted. Hardness = 3.5–4 D(meas.) = 4.59 D(calc.) = 4.48 Slightly soluble in H_2O.

Optical Properties: Transparent. *Color:* Colorless, may be zoned in yellow with impurities. *Optical Class:* Biaxial (+). *Orientation:* $Y = b$; $Z \wedge c = 25°$. *Dispersion:* $r > v$, moderate. $\alpha = 1.792(3)$ $\beta = 1.840(3)$ $\gamma = 1.888(3)$ 2V(meas.) = ∼90°

Cell Data: *Space Group:* $P2_1/n$ (synthetic). $a = 7.1432(13)$ $b = 11.2969(31)$ $c = 7.2804(9)$ $\beta = 106.35(1)°$ Z = 4

X-ray Powder Pattern: Synthetic.
3.156 (100), 3.428 (85), 3.493 (65), 4.360 (50), 3.336 (40), 2.840 (35), 3.318 (30)

Chemistry:

	(1)	(2)
I_2O_5	85.04	85.62
CaO	14.95	14.38
Total	99.99	100.00

(1) Pampa del Pique III, Chile; I_2O_5 average of two analyses. (2) $Ca(IO_3)_2$.

Occurrence: Coating fractures or embedded in gypsum in the nitrate deposits.

Association: Gypsum, brüggenite, dietzeite, nitratine, anhydrite, hydroboracite, halite.

Distribution: From the Pampa del Pique III, about one km north of Oficina Lautaro, Taltal district, Antofagasta, Chile.

Name: For its occurrence at Oficina Lautaro, Chile.

Type Material: n.d.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 312–313. (2) Ghose, S., C. Wan, and O. Wittke (1978) The crystal structure of synthetic lautarite, $Ca(IO_3)_2$. Acta Cryst., 34, 84–88. (3) (1977) NBS Mono. 25, 14, 12.