

Crystal Data: Orthorhombic. *Point Group:* 2/m 2/m 2/m. As thin to thick prismatic crystals, to 1 mm, with blunt chisel-like terminations, and exhibiting {100}, {010}, {001}, {110} and {011}.

Physical Properties: *Cleavage:* Perfect on {001}. *Fracture:* Irregular. *Tenacity:* Brittle. Hardness = ~ 6 D(meas.) = 3.09(2) D(calc.) = 3.073

Optical Properties: Transparent. *Color:* Colorless. *Streak:* White. *Luster:* Vitreous. *Optical Class:* Biaxial (-). $\alpha = 1.590(1)$ $\beta = 1.598(1)$ $\gamma = 1.598(1)$ $2V(\text{meas.}) = 24(1)^\circ$ $2V(\text{calc.}) = 25.4^\circ$ *Orientation:* X = c, Y = b, Z = a.

Cell Data: *Space Group:* Ibam. $a = 7.5549(3)$ $b = 15.2342(5)$ $c = 19.6418(14)$ Z = 4

X-ray Powder Pattern: Água de Pau volcano, São Miguel Island, Azores District, Portugal. 3.544 (100), 9.84 (90), 2.999 (71), 2.478 (67), 2.065 (57), 4.129 (52), 3.977 (48)

Chemistry:	(1)	(2)
Na ₂ O	0.30	
CaO	1.33	
MnO	4.12	6.97
FeO	0.59	
Y ₂ O ₃	12.43	22.19
La ₂ O ₃	1.07	
Ce ₂ O ₃	2.84	
Pr ₂ O ₃	0.34	
Nd ₂ O ₃	1.35	
Sm ₂ O ₃	0.47	
Gd ₂ O ₃	1.12	
Dy ₂ O ₃	1.70	
Er ₂ O ₃	1.39	
Yb ₂ O ₃	1.03	
SiO ₂	68.76	70.84
Total	98.84	100.00

(1) Água de Pau volcano, São Miguel Island, Azores District, Portugal; average of 6 electron microprobe analyses; corresponding to (Y_{1.17}Ce_{0.18}Dy_{0.10}Na_{0.10}Nd_{0.09}Er_{0.08}La_{0.07}Gd_{0.07}Yb_{0.06}Sm_{0.03}Pr_{0.02})_{Σ=1.97}(Mn_{0.61}Ca_{0.25}Fe_{0.09})_{Σ=0.95}Si_{12.07}O₂₈. (2) Y₂Mn(Si₃O₇)₄.

Occurrence: In vugs in a block of peralkaline syenitic volcanic ejectum.

Association: Astrophyllite, dalyite, elpidite, fluornatropyrochlore, kentbrooksitite, albite, quartz, aegirine.

Distribution: From the Água de Pau volcano, São Miguel Island, Azores District, Portugal.

Name: Honors Luigi Chiappino (b. 1950), a distinguished mineral collector of Milan, Italy, who discovered the first specimen.

Type Material: Natural History Museum of Los Angeles County, Los Angeles, California, USA (64166-64170).

References: (1) Kampf, A.R. and R.M. Housley (2015) Chiappinoite-(Y), Y₂Mn(Si₃O₇)₄, a new layer silicate found in peralkaline syenitic ejecta from the Água de Pau volcano, Azores. Eur. J. of Mineral., 27(1), 91-97. (2) (2015) Amer. Mineral., 100, 2006 (abs. ref. 1).