

Crystal Data: Hexagonal. *Point Group:* $\bar{3}$. As rhombohedral or tabular pseudo-hexagonal crystals to 5 mm.

Physical Properties: *Cleavage:* None. *Fracture:* Irregular. *Tenacity:* Brittle. *Hardness* = ~ 6 VHN = 750-782 (500 g load). *D(meas.)* = n.d. *D(calc.)* = 4.483 (Monte Arsiccio mine) *D(calc.)* = 4.670 (Buca della Vena mine) *Metamict.*

Optical Properties: Opaque (presumably). *Color:* Black. *Streak:* Black. *Luster:* Submetallic. *Optical Class:* n.d. *Birefractance:* Weak. *Anisotropism:* Distinct. *Pleochroism:* None. *R₁-R₂:* (471.1) 17.0-17.7, (548.3) 16.7-17.6, (586.6) 16.4-17.3, (652.3) 16.1-17.0

Cell Data: *Space Group:* $R\bar{3}$. *a* = 10.3719(7) *c* = 20.875(1) *Z* = 3 (After heating at 85° C)

X-ray Powder Pattern: Calculated pattern due to metamict state of natural material. 5.18 (100), 6.81 (76), 4.51 (44), 3.404 (41), 2.994 (35), 4.125 (29), 2.889 (29)

Chemistry:	(1)	(2)		(1)	(2)
Na ₂ O	0.05	0.03	SrO	3.01	1.68
CaO	0.08	0.04	Y ₂ O ₃	1.26	0.41
MnO	0.28	0.02	Nb ₂ O ₅	0.05	0.21
ZnO	n.d.	1.29	SnO ₂	0.11	0.01
Al ₂ O ₃	0.09	0.08	La ₂ O ₃	1.56	0.08
TiO ₂	54.14	50.14	Ce ₂ O ₃	0.90	0.18
V ₂ O ₅	0.64	1.76	PbO	1.28	2.88
Cr ₂ O ₃	6.73	0.06	<u>UO₂</u>	<u>5.99</u>	<u>12.05</u>
Fe ₂ O ₃	23.28	27.74	Total	99.45	98.66

(1) Buca della Vena mine, Apuan Alps, Tuscany, Italy; electron microprobe analysis; corresponding to (Sr_{0.533}La_{0.176}Pb_{0.105}Na_{0.030}Ca_{0.026}) Σ =0.870(U_{0.407}Ce_{0.101}Y_{0.205}Mn_{0.072}) Σ =0.785Fe³⁺_{2.000}(Ti_{12.423}Fe³⁺_{3.345}Cr_{1.624}V⁵⁺_{0.129}Al_{0.032}Sn_{0.013}Nb_{0.007}) Σ =17.573O₃₈. (2) Monte Arsiccio mine, Apuan Alps, Tuscany, Italy; electron microprobe analysis; corresponding to (Sr_{0.312}Pb_{0.248}Na_{0.019}Ca_{0.014}La_{0.009}) Σ =0.602(U_{0.858}Y_{0.070}Ce_{0.021}Mn_{0.005}) Σ =0.954(Fe³⁺_{1.695}Zn_{0.305}) Σ =2.000(Ti_{12.070}Fe³⁺_{4.987}V⁵⁺_{0.372}Al_{0.030}Nb_{0.030}Cr_{0.015}Sn_{0.001}) Σ =17.505O₃₈.

Mineral Group: Crichtonite group.

Occurrence: In hydrothermal veins cutting schist and dolostone.

Association: Derbylite sphalerite, quartz (Monte Arsiccio mine); allanite-(Ce), anatase, destinezite, gypsum, monazite-(Ce), pyrite, rutile, "tourmaline" (Buca della Vena mine).

Distribution: At the Buca della Vena and Monte Arsiccio mines, Apuan Alps, Tuscany, Italy.

Name: An acronym from the surnames of the discoverers of the first specimens, Riccardo MAzzanti (b. 1953), Luigi PIerotti (b. 1953), Ugo QUilici (b. 1946), and Moreno ROmani (b. 1949).

Type Material: National History Museum, University of Pisa, Italy (18837, 19650).

References: (1) Biagioni, C., P. Orlandi, M. Pasero, F. Nestola and L. Bindi (2014) Mapiquiroite, (Sr,Pb)(U,Y)Fe₂(Ti,Fe³⁺)₁₈O₃₈, a new member of the crichtonite group from the Apuan Alps, Tuscany, Italy. *Eur. J. Mineral.*, 26, 427-437. (2) (2016) *Amer. Mineral.*, 101, 750 (abs. ref. 1).