Rruffite \( \text{Ca}_2\text{Cu(AsO}_4)_2\cdot2\text{H}_2\text{O} \)

Crystal Data: Monoclinic. \textit{Point Group}: 2/m. In granular or blocky aggregates and druses of crystals to 0.3 mm. \textit{Twinning}: Common on (100).


Optical Properties: Transparent. \textit{Color}: Pale or light blue. \textit{Streak}: White. \textit{Luster}: Vitreous. \textit{Optical Class}: Biaxial (-). \( \alpha = 1.725(1) \beta = 1.734(1) \gamma = 1.740(1) \) \textit{2V(meas.)} = 80(2)° \textit{Orientation}: \( Y = b, X \wedge c = 49° \). \textit{Dispersion}: Weak, \( r < v \).

Cell Data: \textit{Space Group}: \textit{P2}_1/c. \( a = 5.8618(2) \ b = 12.7854(5) \ c = 5.7025(2) \beta = 109.425(2)° \textit{Z} = 2 \)

X-Ray Diffraction Pattern: Maria Catalina mine, Pampa Larga district, Tierra Amarilla, Chile. 2.827 (100), 3.377 (92), 2.983 (89), 4.177 (59), 3.190 (56), 2.114 (49), 5.087 (42).

Chemistry:

\[
\begin{array}{ll}
\text{As}_2\text{O}_5 & 50.37 \\
\text{CaO} & 24.75 \\
\text{CuO} & 17.80 \\
\text{SO}_3 & 0.04 \\
\text{H}_2\text{O} & [6.81] \\
\text{Total} & 98.05 \\
\end{array}
\]

(1) Maria Catalina mine, Pampa Larga district, Tierra Amarilla, Chile; average electron microprobe analysis supplemented by Raman spectroscopy, water calculated by difference; corresponds to \( \text{Ca}_{2.01}\text{Cu}_{1.01}(\text{AsO}_4)_{2.02}\cdot1.9\text{H}_2\text{O} \).

Mineral Group: Roselite group.

Occurrence: Secondary mineral in the oxidation zone of a Cu-As ore deposit.

Association: Quartz, baryte, mansfieldite, alumopharmacosiderite, conichalcite, metazeunerite, barahonite-(Al).

Distribution: From the Maria Catalina mine, Pampa Larga district, Tierra Amarilla, Chile.

Name: For the \textit{RRUFF} project, an Internet-based internally consistent and integrated database of Raman spectra, X-ray diffraction, and chemical data for minerals.

Type Material: Mineral Museum, University of Arizona (18813) and the \textit{RRUFF} project (R070431), Tucson, Arizona, USA.

References: (1) Yang, H., R.A. Jenkins, R.T. Downs, S.H. Evans, and K.T. Tait (2011) Rruffite, \( \text{Ca}_2\text{Cu(AsO}_4)_2\cdot2\text{H}_2\text{O} \), a new member of the roselite group, from Tierra Amarilla, Chile. Can. Mineral., 49, 877-884.