Juangodoyite $Na_2Cu(CO_3)_2$

Crystal Data: Monoclinic. *Point Group*: 2/*m*. As pseudomorphs after chalconatronite to 5 μm.

Physical Properties: *Cleavage*: n.d. *Fracture*: n.d. *Tenacity*: n.d. Hardness = n.d.
D(meas.) = n.d. D(calc.) = 2.984
Strong effervescence in HCl. Hydrates to chalconatronite within hours.

Optical Properties: Translucent. *Color*: Bright ultramarine. *Streak*: Blue. *Luster*: Earthy.
Optical Class: n.d. *n*(calc.) = 1.571

Cell Data: *Space Group*: $P2_1/a$. a = 6.171(4) b = 8.171(5) c = 5.645(4) β = 116.23(2)°
Z = 2

X-ray Powder Pattern: Santa Rosa mine, near Iquique, Atamaca desert, Chile.
2.666 (100), 4.258 (75), 5.056 (66), 2.619 (65), 4.575 (57), 4.298 (37), 2.450 (33)

Chemistry:

	(1)
Na_2O	28.27
CuO	33.77
CO_2	38.45
Total	100.49

(1) Santa Rosa mine, near Iquique, Atamaca desert, Chile; average of 16 electron microprobe analyses; corresponds to $Na_{2.08}Cu_{0.98}(C_{1.99}O_6)$.

Occurrence: A secondary mineral in the oxidation zone of a polymetallic sulfide deposit.

Association: Chalcotronite, sanrománite, malachite, calcite, anhydrite, trona, nahcolite.

Distribution: From the Santa Rosa mine, near Iquique, Atamaca desert, Chile.

Name: Honors *Juan Godoy* (1800-1842), the Chilean prospector who discovered the outcrops in 1832 that became the Chañarcillo silver mine.

Type Material: Mineralogical Museum, University of Hamburg, Germany (MD 210, MD 210).

References: (1) Schlüter, J. and D. Pohl (2005) Juangodoyite, $Na_2Cu(CO_3)_2$, a new mineral from the Santa Rosa mine, Atacama desert, Chile. N. Jb. Miner. Abh., 182(1), 11-14. (2) (2006) Amer. Mineral., 91, 1204 (abs. ref. 1).