

Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. As irregular aggregates of curved flaky crystals, to 10 μm .

Physical Properties: *Tenacity:* Brittle. Hardness = < 2 D(meas.) = n.d. D(calc.) = 3.839

Optical Properties: Transparent to translucent. *Color:* Yellow. *Streak:* Yellow. *Luster:* Waxy to silky.

Optical Class: Biaxial (-). $\alpha = 1.620(3)$ $\beta = 1.627(3)$ $\gamma = 1.629(3)$ $2V(\text{meas.}) = 40(5)^\circ$
 $2V(\text{calc.}) = 56.1^\circ$ *Dispersion:* $r < v$, strong. *Orientation:* $Y = c$. *Pleochroism:* $Z > Y, X = \text{yellow}$.

Cell Data: *Space Group:* *Cmmb* (probable by analogy to weeksite). $a = 14.1676(9)$
 $b = 14.1935(9)$ $c = 35.754(2)$ $Z = 16$

X-ray Powder Pattern: Urucum mine, Galiléia Co., Minas Gerais, Brazil.

7.059 (100), 3.528 (86), 2.904 (78), 3.188 (73), 5.563 (59), 3.287 (57), 3.826 (48)

Chemistry:	(1)	(2)
ThO ₂	7.72	12.47
BaO	2.81	
K ₂ O	0.32	
CaO	0.23	
UO ₃	54.94	54.04
SiO ₂	28.44	28.38
P ₂ O ₅	0.58	
H ₂ O	[4.96]	5.11
Total	100.00	100.00

(1) Urucum mine, Galiléia Co., Minas Gerais, Brazil; average electron microprobe analysis supplemented by IR spectroscopy, H₂O calculated by difference; corresponds to $(\text{Th}_{0.30}\text{Ba}_{0.19}\text{K}_{0.07}\text{Ca}_{0.04})_{\Sigma=0.60}(\text{UO}_2)_{2.00}(\text{Si}_{4.92}\text{P}_{0.08})_{\Sigma=5.00}\text{O}_{12.91}\cdot 2.86\text{H}_2\text{O}$. (2) $\text{Th}_{0.5}(\text{UO}_2)_2\text{Si}_5\text{O}_{13}\cdot 3\text{H}_2\text{O}$.

Occurrence: A secondary hydrothermal mineral in a uraninite-bearing granitic pegmatite.

Association: Weeksite, phosphuranylite, metauranocircite, uranocircite, on muscovite and microcline.

Distribution: Urucum mine, Galiléia Co., Minas Gerais, Brazil.

Name: Honors José Moacyr Vianna *Coutinho* (b. 1924), Professor of Mineralogy and Petrography, Instituto de Geociências, Universidade de São Paulo, Brazil, for significant contributions to Brazilian mineralogy and geology.

Type Material: Geosciences Museum, Geosciences Institute, University of São Paulo (DR523), and the Museu Jobas de Ciências Naturais “José Bonifácio de Andrada e Silva,” São Vicente, SP, Brazil.

References: (1) Atencio, D., F.M.S. Carvalho, and P.A. Matioli (2004) Coutinhoite, a new thorium uranyl silicate hydrate, from Urucum mine, Galiléia, Minas Gerais, Brazil. *Amer. Mineral.*, 89, 721-724.