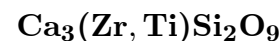


Baghdadite



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Crystal Data: Monoclinic. *Point Group:* $2/m$. Crystals stumpy prismatic, to 250 μm .
Twinning: Contact twins, individuals having [010] in common.

Physical Properties: *Fracture:* Conchoidal. Hardness = ~ 6 VHN = 725–783, 750 average (50 g load). D(meas.) = n.d. D(calc.) = 3.48 Cathodoluminescence, dull gray with greenish tint.

Optical Properties: Transparent. *Color:* Colorless. *Luster:* Vitreous.
Optical Class: Biaxial (+). *Orientation:* $X = c$; $Y = b$; $Z = a$. $\alpha = 1.652$ $\beta = 1.658$
 $\gamma = 1.670$ $2V(\text{meas.}) = \sim 72^\circ$

Cell Data: *Space Group:* $P2_1/a$. $a = 10.42$ $b = 10.16$ $c = 7.36$ $\beta = 91.1^\circ$ $Z = 4$

X-ray Powder Pattern: Dupezeh Mountain, Iraq.
2.84 (100), 2.98 (85), 3.23 (80), 3.04 (75), 2.88 (70), 7.30 (45), 1.702 (40)

Chemistry:	(1)
SiO ₂	29.26
TiO ₂	2.11
ZrO ₂	27.00
Al ₂ O ₃	0.03
Fe ₂ O ₃	0.11
MgO	0.05
CaO	41.44
Na ₂ O	0.02
Total	100.02

(1) Dupezeh Mountain, Iraq; by electron microprobe, average of 26 analyses of four crystals; estimated to contain HfO₂ $\sim 0.16\%$; corresponds to $\text{Ca}_{3.00}(\text{Zr}_{0.89}\text{Ti}_{0.11})_{\Sigma=1.00}(\text{Si}_{1.98}\text{Fe}_{0.01})_{\Sigma=1.99}\text{O}_9$.

Occurrence: In a melilite skarn in contact with banded diorite, in roof pendant xenoliths of calc-silicate marbles and hornfels.

Association: Åkermanite, perovskite, schorlomite, monticellite, wollastonite, foshagite, calcite, phlogopite, spinel, cuspidine, baddeleyite, pyrrhotite, djerfisherite, valleriite (melilite skarn); andesine, kaersutite, titanian augite, ilmenite, titanian magnetite, xonotlite (banded diorite).

Distribution: On Dupezeh Mountain, near Hero Town, Qala-Diza region, northeastern Iraq.

Name: For Baghdad, the capital of Iraq.

Type Material: n.d.

References: (1) Al-Hermezi, H.M., D.M. McKie, and A.J. Hall (1986) Baghdadite, a new calcium zirconium silicate mineral from Iraq. *Mineral. Mag.*, 50, 119–123. (2) (1987) *Amer. Mineral.*, 72, 222 (abs. ref. 1).