

Crystal Data: Monoclinic. *Point Group:* 2/m. As aggregates (to 1.5 cm) of acicular crystals to 1.0 mm, and as separate elongated columnar, flattened-prismatic crystals to 1 cm with rectangular or rhombic sections.

Physical Properties: *Cleavage:* Very good on {100}. *Tenacity:* Brittle. *Fracture:* Uneven, conchoidal. VHN = 547-659, 569 average (100 g load). Hardness = ~5 D(meas.) = 3.44(2) D(calc.) = 3.475

Optical Properties: Transparent. *Color:* Colorless, white. *Streak:* White. *Luster:* Vitreous. *Optical Class:* Biaxial (+). $\alpha = 1.662(2)$ $\beta = 1.666(2)$ $\gamma = 1.685(5)$ 2V(meas.) = 50(3)° 2V(calc.) = 49.7° *Dispersion:* Medium, $v > r$. Nonpleochroic.

Cell Data: *Space Group:* P2₁/c. $a = 7.3934(5)$ $b = 5.6347(4)$ $c = 18.713(1)$ $\beta = 101.415(2)^\circ$ $Z = 2$

X-Ray Diffraction Pattern: Darai-Pioz alkaline massif, Tien Shan mountains, Tajikistan. 3.057 (100), 2.688 (28), 9.18 (24), 2.929 (17), 3.559 (15), 2.293 (15), 2.783 (14)

Chemistry:	(1)		(1)
WO ₃	0.41	Pr ₂ O ₃	0.61
Ta ₂ O ₅	0.15	Ce ₂ O ₃	3.18
Nb ₂ O ₅	2.74	La ₂ O ₃	0.56
UO ₂	0.22	Y ₂ O ₃	6.82
TiO ₂	8.32	SrO	0.35
SiO ₂	29.51	MnO	0.28
Dy ₂ O ₃	1.35	CaO	25.53
Gd ₂ O ₃	1.58	Na ₂ O	7.98
Sm ₂ O ₃	0.99	F	6.02
Nd ₂ O ₃	3.34	<u>-O = F</u>	<u>2.53</u>
		Total	97.41

(1) Darai-Pioz alkaline massif, Tien Shan mountains, Tajikistan; average electron microprobe analysis supplemented by IR spectroscopy; corresponds to Na_{2.11}(Ca_{3.74}Sr_{0.03}Mn_{0.03}) $\Sigma=3.80$ (Y_{0.50}Nd_{0.16}Ce_{0.16}Gd_{0.07}Dy_{0.06}Sm_{0.05}Pr_{0.03}La_{0.03}U⁴⁺_{0.01}) $\Sigma=1.07$ (Ti_{0.85}Nb_{0.17}W⁶⁺_{0.01}Ta_{0.01}) $\Sigma=1.04$ (Si_{4.03}O₁₄)O_{1.40}F_{2.60}.

Mineral Group: Seidozerite supergroup, rinkite group.

Occurrence: In a pegmatite fragment from an alkaline massif collected from the moraine of the Darai-Pioz glacier.

Association: Quartz, aegirine, microcline, neptunite, pectolite, calcite, eudialyte-group minerals, fluorite, titanite, turkestanite, kupletskite, galena, albite, pyrochlore-group minerals.

Distribution: From the Darai-Pioz alkaline massif, Tien Shan mountains, Tajikistan.

Name: Identifies the Y-analog of *rinkite*-(Ce).

Type Material: A.E. Fersman Mineralogical Museum, RAS, Moscow, Russia (5043/1).

References: (1) Pautov, L.A., A.A. Agakhanov, V.Y. Karpenko, Y.A. Uvarova, E. Sokolova, and F.C. Hawthorne (2019) Rinkite-(Y), Na₂Ca₄YTi(Si₂O₇)₂OF₃, a seidozerite-supergroup TS-block mineral from the Darai-Pioz alkaline massif, Tien-Shan mountains, Tajikistan: Description and crystal structure. Mineral. Mag., 83, 373-380.