

Crystal Data: Monoclinic. *Point Group:* 2. As terminated, thick prismatic to acicular crystals to 8 mm elongated along [010], typically in spray- or bush-like radial clusters or open-work aggregates to 1.5 cm, which form interrupted crusts to 3×5 cm. *Twining:* By contact on {100} in transmitted light; microtwinning with (100) as an operator (100/010/001) revealed by crystal structure analysis.

Physical Properties: *Cleavage:* Perfect on (001). *Tenacity:* Brittle. *Fracture:* Stepped. Hardness = 3.5 D(meas.) = 2.51(2) D(calc.) = 2.533 Nonfluorescent.

Optical Properties: Transparent. *Color:* Colorless, pale yellowish, pale beige, or pinkish. *Streak:* White. *Luster:* Vitreous.

Optical Class: Biaxial (+). $\alpha = 1.565(2)$ $\beta = 1.566(2)$ $\gamma = 1.578(2)$ $2V(\text{meas.}) = 25(10)^\circ$ $2V(\text{calc.}) = 32^\circ$ *Orientation:* $X = c$, $Y = b$, $Z = a$. Parallel extinction; negative elongation.

Cell Data: *Space Group:* Displays OD character, with two MDO (maximum degree of order) structures: one (MDO1), with non-standard space group $F2/d11$ and the second (MDO2), corresponding to the structure-type of the new mineral, with non-standard space group $C112_1/m$. $a = 11.2220(4)$ $b = 7.3777(2)$ $c = 22.9425(8)$ $\gamma = 89.990(3)^\circ$ $Z = 4$

X-Ray Diffraction Pattern: Bazhenovskoe deposit, Asbest, Sverdlovsk Oblast, Russia. 11.52 (100), 3.088 (51), 2.982 (50), 5.46 (24), 1.848 (22), 2.838 (20), 3.562 (17)

Chemistry:	(1)
Na ₂ O	0.40
K ₂ O	0.28
CaO	36.60
MnO	0.04
BaO	0.07
Al ₂ O ₃	6.46
SiO ₂	42.32
H ₂ O	14.10
Total	100.27

(1) Bazhenovskoe deposit, Asbest, Sverdlovsk Oblast, Central Urals, Russia; average electron microprobe and IR analyses, H₂O by selective sorption from gaseous products of heating; corresponds to Na_{0.09}K_{0.04}Ca_{4.72}Al_{0.92}Si_{5.09}O_{15.69}(OH)_{1.31}•5H₂O.

Polymorphism & Series: Polytype 2M.

Mineral Group: Tobermorite supergroup, tobermorite group.

Occurrence: In a chrysotile asbestos deposit in grossular rhodinite.

Association: Prehnite, pectolite, thomsonite-Ca, calcite.

Distribution: From the Southern pit, Bazhenovskoe deposit, Asbest, Sverdlovsk Oblast, Central Urals, Russia.

Name: The prefix from the Greek *παρά* for “near” alludes to the relationship to *tobermorite*.

Type Material: A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (5643/1; 97513).

References: (1) Pekov, I.V., N.V. Zubkova, N.V. Chukanov, S. Merlino, V.O. Yapaskurt, D.I. Belakovskiy, A.B. Loskutov, E.A. Novgorodova, S.A. Vozchikova, S.N. Britvin, and D.Y. Pushcharovsky (2022) Paratobermorite, $\text{Ca}_4(\text{Al}_{0.5}\text{Si}_{0.5})_2\text{Si}_4\text{O}_{16}(\text{OH}) \cdot 2\text{H}_2\text{O} \cdot (\text{Ca} \cdot 3\text{H}_2\text{O})$, a new tobermorite supergroup mineral with a novel topological type of the microporous crystal structure. *Amer. Mineral.*, 107, 2272-2281.