Agakhanovite-(Y) $(YCa)\square_2KBe_3Si_{12}O_{30}$

Crystal Data: Hexagonal. *Point Group*: 6/*m* 2/*m* 2/*m*. Crystals are hexagonal prisms elongated along [001], and displaying {100} and {001}, to 60 μm.

Physical Properties: *Cleavage*: None. *Fracture*: Conchoidal. *Tenacity*: Brittle. Hardness = 6 D(meas.) = n.d. D(calc.) = 2.672

Optical Properties: Transparent. *Color*: Colorless. *Streak*: White. *Luster*: Vitreous. *Optical Class*: Uniaxial (-). ω = 1.567(2) ε = 1.564(2)

Cell Data: *Space Group*: *P*6/*mcc*. *a* = 10.3476(2) *c* = 13.7610(3) Z = 2

X-ray Powder Pattern: Heftetjem pegmatite,Tørdal, Norway.
2.865 (100), 3.287 (96), 4.134 (84), 6.877 (56), 2.986 (43), 4.479 (38), 2.728 (36)

Chemistry:

	(1)
SiO_2	69.56
Al_2O_3	0.35
Y_2O_3	9.69
Yb_2O_3	0.15
FeO	0.02
CaO	5.75
Na_2O	0.07
K_2O	4.52
BeO	[7.06]
H_2O	[1.74]
Total	98.91

(1) Heftetjem pegmatite,Tørdal, Norway; average of 7 electron microprobe analyses supplemented by Raman spectroscopy, BeO, H_2O and vacancies calculated from structure; corresponds to $(Y_{0.89}Yb_{0.01}Ca_{1.06})_{\Sigma=1.96}[\square_{1.06}(H_2O)_{0.92}Na_{0.02}]_{\Sigma=2.00}K_{1.00}(Be_{2.93}Al_{0.07})_{\Sigma=3.00}Si_{12.02}O_{30}$.

Mineral Group: Milarite group.

Occurrence: In miarolitic cavities in granitic pegmatite and crystallized from late-stage hydrothermal solutions enriched in yttrium.

Association: Microcline, albite, quartz, milarite, kristiansenite.

Distribution: From the Heftetjem pegmatite, between Høydalen and Skarsfjell, Tørdal, Norway.

Name: Honors Atali A. Agakhanov (b. 1971), mineralogist at the A.E. Fersman Mineralogical Museum, Moscow, Russia, who has worked on a wide variety of pegmatite minerals, including minerals of the milarite group.

Type Material: Mineralogy collection, Royal Ontario Museum, Toronto, Ontario, Canada (M43863).

References: (1) Hawthorne, F.C., Y.A. Abdu, N.A. Ball, P. Černý, and R. Kristiansen (2014) Agakhanovite-(Y), ideally $(YCa)\square_2KBe_3Si_{12}O_{30}$, a new milarite-group mineral from the Heftetjern pegmatite, Tørdal, Southern Norway: Description and crystal structure. Amer. Mineral., 99, 2084-2088.