Yagiite $(Na,K)_{1.5}Mg_2(Al,Mg)_3(Si,Al)_{12}O_{30}$

Crystal Data: Hexagonal. *Point Group:* $6/m\ 2/m\ 2/m$. Interstitially in a 0.8 mm silicate inclusion surrounded by nickel-iron.

Physical Properties: Hardness = n.d. D(meas.) = n.d. D(calc.) = 2.70

Optical Properties: Semitransparent. *Color:* Colorless; colorless to very light blue in thin section.
Optical Class: Uniaxial (+). *Pleochroism:* Faint; O = very light blue; E = colorless.
$\omega = 1.536(2)$ $\epsilon = 1.544(2)$

Cell Data: *Space Group:* $P6/mcc$. $a = 10.09(1)$ $c = 14.29(3)$ $Z = 2$

X-ray Powder Pattern: Colomera meteorite.
3.228 (100), 5.059 (65), 3.726 (50), 2.765 (50), 2.909 (40), 7.12 (30), 2.003 (30)

Chemistry:

	(1)
SiO_2	61.7
TiO_2	0.8
Al_2O_3	19.1
Cr_2O_3	0.1
FeO	2.4
MnO	0.2
MgO	10.5
CaO	0.1
Na_2O	3.7
K_2O	1.4
Total	100.0

(1) Colomera meteorite; by electron microprobe, corresponds to $(Na_{1.20}K_{0.30})_{\Sigma=1.50}Mg_{2.00}(Al_{1.96}Mg_{0.60}Fe_{0.34}Ti_{0.10})_{\Sigma=3.00}(Si_{10.22}Al_{1.78})_{\Sigma=12.00}O_{30}$.

Mineral Group: Milarite group.

Occurrence: In silicate inclusions of an iron meteorite, crystallized in a magnesium-rich environment.

Association: Diopside, whitlockite, tridymite, plagioclase, nickel-iron.

Distribution: In the Colomera iron meteorite.

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Type Material: n.d.

References: (1) Bunch, T.E. and L.H. Fuchs (1969) Yagiite, a new sodium-magnesium analogue of osumilite. Amer. Mineral., 54, 14–18.