

Fantappièite

Crystal Data: Hexagonal. *Point Group:* $\bar{3}$. As crystals with flattened prismatic morphologies and striated faces to 0.7 mm. *Twinning:* Polysynthetic.

Physical Properties: *Cleavage:* Poor on {001}. *Tenacity:* Brittle. *Fracture:* Conchoidal. Hardness = 6 VHN = 719.5 (10 g load). D(meas.) = n.d. D(calc.) = 2.471

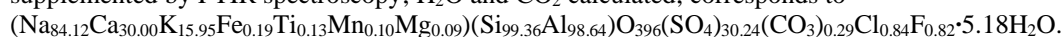
Optical Properties: Transparent. *Color:* Colorless. *Streak:* White. *Luster:* Vitreous. *Optical Class:* Uniaxial (-). $\omega = 1.5046(5)$ $\varepsilon = 1.5027(5)$

Cell Data: *Space Group:* $P\bar{3}$. $a = 12.8742(6)$ $c = 87.215(3)$ $Z = 1$

X-ray Powder Pattern: Torre Stracciapappe, Trevignano community, Rome, Latium, Italy. 3.70 (100), 3.60 (80), 2.641 (65), 6.85 (60), 6.40 (55), 3.78 (55), 3.56 (50)

Chemistry:	(1)	(2)
SiO ₂	32.193	31.421
Al ₂ O ₃	27.117	26.662
FeO	0.073	
K ₂ O	4.050	4.106
CaO	9.073	9.776
Na ₂ O	14.058	13.506
MgO	0.020	
MnO	0.038	
TiO ₂	0.056	
SO ₃	13.056	13.957
Cl	0.161	
F	0.084	
H ₂ O	[0.503]	0.571
CO ₂	[0.069]	
- O = F, Cl	0.072	
Total	100.479	99.999

(1) Torre Stracciapappe, Trevignano community, Rome, Latium, Italy; electron microprobe analysis supplemented by FTIR spectroscopy; H₂O and CO₂ calculated; corresponds to



(2) $(\text{Na}_{82.5}\text{Ca}_{33}\text{K}_{16.5})_{\Sigma=132}(\text{Si}_{99}\text{Al}_{99}\text{O}_{396})(\text{SO}_4)_{33} \cdot 6\text{H}_2\text{O}.$

Mineral Group: Cancrinite-sodalite group.

Occurrence: In miarolitic cavities within volcanic ejecta.

Association: Sanidine, plagioclase, biotite, augitic clinopyroxene, andradite, iron oxides.

Distribution: At Torre Stracciapappe, Trevignano community, Rome, Latium, Italy.

Name: Honors Acasto Liberto *Fantappiè* (1862-1933), a geologist and naturalist who dedicated part of his scientific activity to the mineralogy and petrology of the volcanic rocks of the Sabatini area where the mineral was found.

Type Material: Museum of Mineralogy, University of Rome, Italy (MMUR 33027/1).

References: (1) Cámara, F., F. Bellatreccia, G. Della Ventura, A. Mottana, L. Bindi, M.E. Gunter, and M. Sebastiani (2010) Fantappièite, a new mineral of the cancrinite-sodalite group with a 33-layer stacking sequence: Occurrence and crystal structure. *Amer. Mineral.*, 95, 472-480.