

Crystal Data: Hexagonal. *Point Group:* $\bar{3} 2/m$. As irregular grains to 0.5 mm.

Physical Properties: *Cleavage:* Imperfect on {001}; pronounced parting on {001}. *Fracture:* n.d. *Tenacity:* Brittle. *Hardness* = ~ 5 VHN = 420 (50 g load). D(meas.) = n.d. D(calc.) = 3.119

Optical Properties: Transparent. *Color:* Colorless. *Streak:* White. *Luster:* Vitreous. *Optical Class:* Uniaxial (-). $\omega = 1.644(2)$ $\epsilon = 1.640(2)$

Cell Data: *Space Group:* $R\bar{3} m$. $a = 7.1905(4)$ $c = 41.251(3)$ $Z = 3$

X-ray Powder Pattern: Calculated pattern.

1.798 (100), 3.105 (97), 2.753 (97), 2.750 (89), 2.829 (71), 3.595 (52), 2.140 (50)

Chemistry:	(1)		(1)
SO ₃	13.85	Fe ₂ O ₃	0.13
V ₂ O ₅	< 0.07	CaO	57.95
P ₂ O ₅	1.80	MgO	0.10
TiO ₂	0.10	ZnO	< 0.06
SiO ₂	18.44	K ₂ O	2.52
Al ₂ O ₃	0.34	Na ₂ O	0.14
BaO	3.60	F	1.05
SrO	0.21	$\frac{-O = F_2}{\text{Total}}$	$\frac{0.44}{99.79}$

(1) Jabel (Mount) Harmun, Negev Desert, West Bank, Palestinian Autonomy, Israel; average of 24 electron microprobe analyses, supplemented by Raman spectroscopy; corresponding to (K_{0.62}Ba_{0.27}Na_{0.05}Mg_{0.03}Sr_{0.02}) $\Sigma=0.99$ Ca_{11.98}(Si_{3.56}P_{0.29}Al_{0.08}Fe³⁺_{0.02}Ti⁴⁺_{0.01}) $\Sigma=3.96$ S_{2.01}O_{26.36}F_{0.64}.

Mineral Group: Nabimusaite group.

Occurrence: High-temperature syn-pyrometamorphic alteration of primary ye'elimite-larnite rocks during combustion events as a result of the reaction of potassium-enriched, sulfate-bearing melt with larnite and ellestadite.

Association: Larnite, ye'elimite, brownmillerite, P-fluorellestadite, fluormayenite-fluorkyuygenite, gehlenite, ternesite, jasmundite, periclase, oldhamite, covellite, dzierżanowskite, shulamitite, magnesioferrite, spinel.

Distribution: From the Hatrurim Complex ("Mottled zone") on Jabel (Mount) Harmun, near the village Nabi Musa, Judea Desert, West Bank, Palestinian Autonomy, and in the Judean Mountains (Ma'ale-Adummin and Nahal Darga localities) and in the Negev Desert (Har Parsa Mountain), Israel.

Name: For the village, *Nabi Musa*, near the locality that produced the first specimens.

Type Material: Museum of Natural History, Bern, Switzerland (NMBE 41598).

References: (1) Galuskin, E.V., F. Gfeller, T. Armbruster, I.O. Galuskina, Y. Vapnik, M. Murashko, R. Włodyka, and P. Dzierżanowski (2015) New minerals with a modular structure derived from hatrurite from the pyrometamorphic Hatrurim Complex. Part I. Nabimusaite, KCa₁₂(SiO₄)₄(SO₄)₂O₂F, from larnite rocks of Jabel Harmun, Palestinian Autonomy, Israel. *Mineral. Mag.*, 79(5), 1061-1072. (2) (2016) *Amer. Mineral.*, 101, 1715-1716 (abs. ref. 1).