Zuktamrurite FeP_2

Crystal Data: Orthorhombic. *Point Group*: 2/*m* 2/*m* 2/*m*. As gains to 50 μm.

Physical Properties: *Cleavage*: None. *Fracture*: n.d. *Tenacity*: Brittle. Hardness = n.d. D(meas.) = n.d. D(calc.) = 5.003

Optical Properties: [Opaque.] *Color*: White with a bluish tint in reflected light. *Streak*: n.d. *Luster*: Metallic.
Optical Class: Distinctly anisotropic with bluish tints.
R_1-R_2: (400) 52.5-49.8, (420) 51.8-48.9, (440) 51.2-48.2, (460) 50.6-47.5, (470) 50.4-47.2, (480) 50.2-46.9, (500) 49.8-46.7, (520) 49.5-46.4, (540) 49.2-46.3, (546) 49.16-46.23, (560) 49.0-46.2, (580) 49.0-46.2, (589) 48.97-46.16, (600) 49.0-46.2, (620) 49.1-46.2, (640) 49.3-46.3, (650) 49.40-46.40, (660) 49.5-46.5, (680) 49.8-46.7, (700) 50.0-47.0

Cell Data: Space Group: *Pnnm*. a = 4.9276(6) b = 5.6460(7) c = 2.1874(4) Z = 2

X-ray Powder Pattern: Halamish Wadi, Southern Negev Desert, Israel.
2.451 (100), 2.242 (55), 3.714 (54), 1.760 (37), 2.820 (31), 1.564 (26), 2.259 (25)

Chemistry:

	(1)	(2)
Ni	7.97	
Fe	40.23	47.41
P	51.70	52.59
Total	99.90	100.00

(1) Halamish Wadi, Southern Negev Desert, Israel; average of 5 electron microprobe analyses; corresponds to $(Fe_{0.86}Ni_{0.16})_{\Sigma=1.02}P_{1.98}$. (2) FeP_2.

Occurrence: In a phosphide assemblage related to the Fe-Ni-P system in pyrometamorphic rocks (Hatrurim Formation).

Association: Negevite, halamishite, rarely hosts lamellae of molybdenite.

Distribution: At the Halamish Wadi, Hatrurim Basin, southern Negev Desert, Israel and in a quarry in the Daba-Siwaqa complex, Transjordan Plateau, Al-Rasas Sub-District, 80 km south southeast of Amman, Jordan.

Name: For *Zuk-Tamrur* cliff (Dead Sea) nearby the locality (Halamish Wadi) where the studied specimens were collected.

Type Material: Mineralogical Museum, St. Petersburg State University, St. Petersburg, Russia (19067).

References: (1) Britvin, S.N., M. Murashko, Y. Vapnik, Y.S. Polekhovsky, S.V. Krivovichev, O.S. Vereshchagin, N.S. Vlasenko, V.V. Shilovskikh, and A.N. Zaitsev (2019) Zuktamrurite, FeP_2, a new mineral, the phosphide analogue of löllingite, $FeAs_2$. Physics and Chemistry of Minerals, 46, 361-369. (2) (2020) Amer. Mineral., 105(10), 1601-1603 (abs. ref. 1).