

Crystal Data: Cubic. *Point Group:* 23. As irregular grains, to 25 μm .

Physical Properties: *Cleavage:* None. *Fracture:* Uneven. *Tenacity:* Brittle.
Hardness = 4.5 VHN = 465 (100 g load). D(meas.) = n.d. D(calc.) = 8.09

Optical Properties: Opaque. *Color:* Silvery gray; white in reflected light. *Streak:* Gray.
Luster: Metallic.

Optical Class: Isotropic. *Birefractance:* Weak to distinct. *Anisotropism:* Strong.
R: (470) 48.6, (546) 47.5, (589) 47.7, (650) 49.0

Cell Data: *Space Group:* $P2_13$. $a = 6.3181(5)$ $Z = 4$ (for synthetic PdSbSe)

X-ray Powder Pattern: (calculated from the structure of synthetic PdSbSe)
2.825 (100), 1.9047 (98), 2.579 (81), 3.159 (53), 2.234 (32), 1.7521 (27), 1.6883 (25)

Chemistry:	(1)
Pd	34.17
Cu	0.78
Ag	0.35
Sb	38.03
Se	26.38
Total	99.71

(1) Předbořice, Czech Republic; average of 5 electron microprobe analyses, corresponding to $\text{Pd}_{0.98}\text{Cu}_{0.04}\text{Ag}_{0.01}\text{Sb}_{0.95}\text{Se}_{1.02}$.

Mineral Group: Ullmanite subgroup of the gersdorffite group.

Occurrence: A low-temperature mineral in fractures in selenium-rich uraninite in calcite veins.

Association: Embedded in eucairite and tiemannite, associated with bornite, selenian digenite, chrisstanleyite, fischesserite, gold, silver-rich hakite, tyrellite, clausenthalite, chaméanite, uraninite.

Distribution: In a polished section attributed to Předbořice, Czech Republic, purchased from a mineral dealer.

Name: Honors Milota Makovicky (b. 1941), Geological Institute, University of Copenhagen, for her outstanding investigations of sulfide and sulfarsenide systems with platinum-group elements.

Type Material: Department of Geography, Geology and Mineralogy, Division of Mineralogy and Material Sciences (Mineralogical Museum), Salzburg, Austria (14935).

References: (1) Paar, W.H., D. Topa, E. Makovicky, and F.J. Culetto (2005) Milotaite, PdSbSe, a new palladium mineral species from Předbořice, Czech Republic. *Can. Min.*, 43, 689-694.
(2) (2005) *Amer. Mineral.*, 90, 1947 (abs. ref. 1).