

Crystal Data: Monoclinic. *Point Group:* $2/m$. As acicular to lath-shaped crystals to 0.5 mm; in divergent sprays and crusts.

Physical Properties: *Cleavage:* $\{100\}$ perfect, $\{010\}$ good. *Fracture:* Even. *Tenacity:* Brittle. Hardness = n.d. $D(\text{meas.}) = 3.50$ $D(\text{calc.}) = 3.44$

Optical Properties: Translucent. *Color:* Gray-green to grass-green; some aggregates are yellow-green. *Streak:* White to light gray-green. *Luster:* Vitreous.

Optical Class: Biaxial (+). $\alpha = 1.757(2)$ $\beta = 1.778(2)$ $\gamma = 2.04(1)$ $2V(\text{calc.}) = 35.1^\circ$

Pleochroism: $X \approx Y =$ light gray to light greenish gray, $Z =$ yellowish gray. *Orientation:* $X = b$, $Y \wedge a = 1^\circ$ in acute β , $Z \wedge c = 12^\circ$ in obtuse β . Positive elongation.

Cell Data: *Space Group:* $P2_1/c$. $a = 7.0515(6)$ $b = 12.0908(9)$ $c = 12.2190(14)$ $\beta = 101.268(9)^\circ$
 $Z = 4$

X-ray Powder Pattern: Svornost mine, northwestern Bohemia, Czech Republic.
6.046 (100), 3.324 (59), 6.915 (26), 2.2642 (19), 3.457 (16), 2.624 (15), 2.593 (12)

Chemistry:	(1)	(2)
As ₂ O ₅	36.59	36.65
MoO ₃	53.09	53.34
H ₂ O	11.34	10.01
Total	100.03	100.00

(1) Svornost mine, northwestern Bohemia, Czech Republic; average of 3 electron microprobe analyses, H₂O by TGA and IR spectroscopy; corresponds to $(\text{Mo}^{6+}\text{O}_2)_{1.93}(\text{As}^{3+}_2\text{O}_5)_{0.97} \cdot 3.30\text{H}_2\text{O}$.

(2) $(\text{Mo}^{6+}\text{O}_2)_2\text{As}^{3+}_2\text{O}_5 \cdot 3\text{H}_2\text{O}$.

Occurrence: A rare secondary mineral in a highly oxidized uraninite-arsenide-sulfarsenide deposit (Czech Republic).

Association: Arsenolite, scorodite, parascorodite, kaňkite, annabergite, köttigite, pyrite, marcasite, nickelskutterudite, löllingite.

Distribution: From the Geschieber vein on the 12th level, Svornost mine, Jáchymov (St. Joachimsthal), ~20 km north of Karlovy Vary, northwestern Bohemia, Czech Republic.

Name: Honors Josef *Vadjak* (b. 1930), of Pequa Rare Minerals, Massapequa, New York, USA, who drew attention to the species, and in recognition of his contributions to mineralogical research on the Jáchymov ore district.

Type Material: Mineralogical collection, National Museum, Prague, Czech Republic (P1p 19/98).

References: (1) Ondruš, P., R. Skála, I. Císařová, F. Veselovský, J. Frýda, and J. Čejka (2002) Description and crystal structure of vajdakite, $[(\text{Mo}^{6+}\text{O}_2)_2(\text{H}_2\text{O})_2\text{As}^{3+}_2\text{O}_5] \cdot \text{H}_2\text{O}$ - A new mineral from Jáchymov, Czech Republic. *Amer. Mineral.*, 87, 983-990.