Cadmoselite CdSe

Crystal Data: Hexagonal. *Point Group:* 6*mm*. Crystals, to 0.1 mm, show the base and horizontally striated hexagonal pyramid. Fine xenomorphic disseminations cementing sandstone.

Physical Properties: *Cleavage:* Perfect, apparently prismatic. *Tenacity:* Brittle. Hardness = 4 VHN = 203–222 D(meas.) = 5.47 D(calc.) = 5.807

Optical Properties: Opaque. *Color:* Black; pale gray in reflected light, slightly brown in oil, with brownish internal reflections. *Streak:* Black. *Luster:* Resinous to adamantine. *Anisotropism:* Weak.
R_1–R_2: n.d.

Cell Data: *Space Group:* $P6_3mc$. $a = 4.271$ $c = 6.969$ $Z = 2$

X-ray Powder Pattern: Ust'Uyuk deposit, Russia.
2.13 (10), 1.816 (8), 3.67 (7), 1.96 (7), 1.196 (7), 1.026 (7), 1.433 (6)

Chemistry:

	(1)	(2)
Cd	49.37	58.74
Zn	2.83	
Fe	1.95	
Se	37.50	41.26
S	[8.35]	
Total	[100.00]	100.00

(1) Ust'Uyuk deposit, Russia; Fe attributed to ferroselite, S by difference; total recalculated to 100% after deduction of insoluble 4.8%. (2) CdSe.

Occurrence: In sedimentary strata, under reducing secondary conditions of medium to high alkalinity (Ust'Uyuk deposit, Russia).

Association: Ferroselite, clausthalite, cadmian sphalerite, selenium, greenockite, pyrite, laumontite, calcite (Ust'Uyuk deposit, Russia).

Distribution: From the Ust'Uyuk V–Se–U deposit, Tuva, Russia. At Tuminico, Sierra de Cacho, La Rioja Province, Argentina.

Name: For the presence of cadmium and selenium.

Type Material: A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 72553.

References: (1) Bur'yanova, E.Z., G.A. Kovalev, and A.I. Komkov (1957) The new mineral cadmoselite. Zap. Vses. Mineral. Obshch., 86, 626–628 (in Russian). (2) (1958) Amer. Mineral., 43, 623 (abs. ref. 1). (3) Freeman, D.K., S.L. Mair, and Z. Barnea (1977) The structure and Bijvoet ratios of cadmium selwnide. Acta Cryst., 33, 355–359. (4) Vlasov, K.A., Ed. (1966) Mineralogy of rare elements, v. II, 657–659. (5) Sindeeva, N.D. (1964) Mineralogy and types of deposits of selenium and tellurium, 60–61.