Nestolaite $CaSeO_3 \cdot H_2O$

Crystal Data: Monoclinic. *Point Group*: 2/*m.* Flattened to acicular crystals, to 30 μm, occur in rounded aggregates to 2 mm.

Physical Properties: *Cleavage*: Perfect on {100}. *Fracture*: Uneven. *Tenacity*: Brittle. Hardness = 2.5 D(meas.) = 3.18(2) D(calc.) = 3.163

Optical Properties: Transparent. *Color*: Light violet, colorless in transmitted light. *Streak*: White. *Luster*: Vitreous.
Optical Class: Biaxial (+). α = 1.642(3) β = 1.656(3) γ = 1.722(6) 2V(meas.) = 55(5)° 2V(calc.) = 51°

Cell Data: *Space Group*: $P2_1/c$. a = 7.6502(9) b = 6.7473(10) c = 7.9358(13) β = 108.542(12)° Z = 4

X-ray Powder Pattern: Little Eva mine, Yellow Cat district, Grand County, Utah, USA. 7.277 (100), 3.163 (74), 2.9783 (74), 3.630 (58), 4.949 (37), 2.7231 (31), 3.767 (29)

Chemistry:	(1)	(2)
CaO	28.97	30.25
SeO_2	61.14	60.00
H_2O	[9.75]	9.75
Total	99.86	100.00

(1) Little Eva mine, Grand County, Utah, USA; average of 5 electron microprobe analyses, H_2O from stoichiometry and confirmed by Raman spectroscopy; corresponding to $Ca_{0.96}Se_{1.02}O_3 \cdot H_2O$. (2) $CaSeO_3 \cdot H_2O$.

Occurrence: A secondary mineral in the oxidized zone of a uranium deposit of the Colorado Plateau type.

Association: Cobaltomenite, gypsum, metarossite, orschallite, rossite.

Distribution: From the Little Eva mine, Yellow Cat district, Grand County, Utah, USA.

Name: Honors Fabrizio Nestola (b. 1972), Italian mineralogist and crystallographer, Department of Geosciences, University of Padua, Italy.

Type Material: A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (4417/1).

References: (1) Kasatkin, A.V., J. Plášil, J. Marty, A.A. Agakhanov, D.I. Belakovskiy, and I.S. Lykova (2014) Nestolaite, $CaSeO_3 \cdot H_2O$, a new mineral from the Little Eva mine, Grand County, Utah, USA. Mineral. Mag., 78(3), 497-505. (2) (2015) Amer. Mineral., 100, 2356 (abs. ref. 1).