Demartinite K_2SiF_6

Crystal Data: Hexagonal. *Point Group*: 6*mm*. As euhedral hexagonal pyramidal crystals to 0.3 mm.

Physical Properties: *Cleavage*: n.d. *Tenacity*: n.d. *Fracture*: n.d. Hardness = n.d.
D(meas.) = 2.85 D(calc.) = 2.87

Optical Properties: Transparent. *Color*: Colorless. *Streak*: n.d. *Luster*: n.d.
Optical Class: Uniaxial (-). ω = 1.350(5) ε = 1.340(5) Nonpleochroic.

Cell Data: *Space Group*: $P6_3mc$. a = 5.6461(8) c = 9.2322(18) Z = 2

X-Ray Diffraction Pattern: La Fossa Crater, Vulcano, Aeolian Islands, Italy.
2.301 (100), 4.62 (75), 2.155 (54), 4.32 (43), 4.90 (25), 2.358 (22), 1.909 (14)

Chemistry:

	(1)
K	35.1
Si	12.4
F	51.0
Na	0.2
Total	98.7

(1) La Fossa Crater, Vulcano, Aeolian Islands, Italy; average electron microprobe analysis; corresponds to $(K_{2.00}Na_{0.02})_{\Sigma=2.02}Si_{0.99}F_{5.99}$.

Polymorphism & Series: Polymorph of potassium fluorosilicate.

Occurrence: Near volcanic fumaroles.

Association: Hieratite, avogadrite, knasibfite.

Distribution: From La Fossa Crater, Vulcano, Aeolian Islands, Italy.

Name: Honors Francesco *Demartin* (b. 1953), Professor of General and Inorganic Chemistry, State University of Milan, Italy, for contributions to the chemistry of metallic clusters and to the crystal structures of Alpine rare-earth minerals and uranium minerals.

Type Material: State University of Milan, Italy.

References: (1) Gramaccioli, C.M. and I. Campostrini (2007) Demartinite, a new polymorph of K_2SiF_6 from La Fossa Crater, Vulcano, Aeolian Islands, Italy. Can. Mineral., 45, 1275-1280.