D'ansite-(Fe) $Na_{21}Fe^{2+}(SO_4)_{10}Cl_3$

Crystal Data: Isometric. *Point Group*: $\bar{4}$ 3*m*. As equant crystals dominated by {211}, {110} and {310} to 0.2 mm.

Physical Properties: *Cleavage*: None. *Tenacity*: Brittle. *Fracture*: n.d. Hardness = n.d. D(meas.) = 2.62(1) D(calc.) = 2.644

Optical Properties: Transparent. *Color*: Colorless to white. *Streak*: White. *Luster*: Vitreous. *Optical Class*: Isotropic. n = 1.51(1)

Cell Data: *Space Group*: $I\bar{4}$ 3*d*. a = 15.882(3) Z = 4

X-ray Powder Pattern: La Fossa crater, Vulcano, Aeolian Islands, Italy.
2.807 (100), 2.570 (37), 1.714 (29), 3.384 (27), 3.113 (26), 2.161 (15), 2.018 (15)

Chemistry:

	(1)
Na_2O	39.12
FeO	4.18
MgO	0.12
SO_3	49.91
Cl	6.81
–O=Cl	1.54
Total	98.60

(1) La Fossa crater, Vulcano, Italy; average of 8 electron microprobe analyses; corresponding to $Na_{20.42}(Fe^{2+}_{0.94}Mg_{0.05})_{\Sigma=0.99}S_{10.08}O_{39.89}Cl_{3.11}$.

Polymorphism & Series: Forms a series with delrioite; dimorphous with rossite.

Occurrence: As encrustations on pyroclastic breccia in volcanic fumaroles; also reported as a secondary mineral (Solvenia).

Association: Sassolite, adranosite (Italy); metasideronatrite-*2M* (Slovenia).

Distribution: From La Fossa crater, Vulcano, Aeolian Islands, Italy; also from Mežica, Republic of Slovenia.

Name: As the iron (Fe)-dominant analog of d'ansite.

Type Material: Department of Chemistry, University of Milan, Italy (# 2011-02).

References: (1) Demartin, F., I. Campostrini, C. Castellano, C.M. Gramaccioli, and M. Russo (2012) D'ansite-(Mn), $Na_{21}Mn^{2+}(SO_4)_{10}Cl_3$ and d'ansite-(Fe), $Na_{21}Fe^{2+}(SO_4)_{10}Cl_3$, two new minerals from volcanic fumaroles. Mineral. Mag., 76(7), 2773-2783. (2) (2014) Amer. Mineral., 99, 2438-2439 (abs. ref. 1).