

Davinciite

Crystal Data: Hexagonal. *Point Group:* 3*m*. As equant grains to 2 mm.

Physical Properties: *Cleavage:* None. *Fracture:* Conchoidal. *Tenacity:* Brittle.
Hardness = 5 D(meas.) = 2.82(2) D(calc.) = 2.848

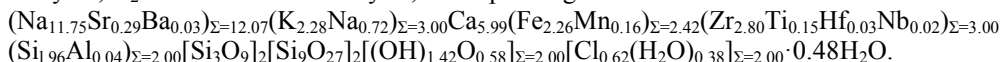
Optical Properties: Transparent. *Color:* Dark lilac. *Streak:* White. *Luster:* Vitreous.
Optical Class: Uniaxial (+). $\omega = 1.603(2)$ $\varepsilon = 1.605(2)$

Cell Data: *Space Group:* R3*m*. $a = 14.2956(2)$ $c = 30.0228(5)$ $Z = 3$

X-ray Powder Pattern: Mount Rasvumchorr, Khibiny massif, Kola Peninsula, Russia.
2.981 (100), 2.860 (96), 4.309 (66), 3.207 (63), 6.415 (54), 3.162 (43), 2.595 (37)

Chemistry:	(1)		(1)
Na ₂ O	12.69	SiO ₂	51.20
K ₂ O	3.53	TiO ₂	0.39
CaO	11.02	ZrO ₂	11.33
SrO	0.98	HfO ₂	0.21
BaO	0.15	Nb ₂ O ₅	0.09
FeO	5.33	Cl	1.89
MnO	0.37	H ₂ O	0.93
Al ₂ O ₃	0.07	<u>-O = Cl₂</u>	<u>0.43</u>
		Total	99.75

(1) Mount Rasvumchorr, Khibiny massif, Kola Peninsula, Russia; average of 5 electron microprobe analyses, H₂O from structure analysis; corresponding to



Mineral Group: Eudialyte group.

Occurrence: As relict inclusions in rastsvetaevite in a hyperalkaline nepheline-sodalite pegmatite.

Association: Rastsvetaevite.

Distribution: Mount Rasvumchorr, Khibiny massif, Kola Peninsula, Russia.

Name: Honors Leonardo da Vinci (1452-1519), Italian scientist, painter, sculptor, and architect.

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

References: (1) Khomyakov, A.P., G.N. Nechelyustov, R.K. Rastsvetaeva, and K.A. Rozenberg (2012) Davinciite, Na₁₂K₃Ca₆Fe²⁺₃Zr₃(Si₂₆O₇₃OH)Cl₂, a new K, Na-ordered mineral of the eudialyte group from the Khibiny alkaline massif, Kola Peninsula, Russia. Zap. Ross. Mineral. Obshch., 141(2), 10-21 (in Russian, English abstract). (2) Rastsvetaeva, R.K., K.A. Rozenberg, and A.P. Khomyakov (2009) Crystal structure of high-silica K,Na-ordered acentric eudialyte analogue. Doklady Akademii Nauk, 424(1), 53-56 (in Russian). English translation: Doklady Chemistry (2009), 424, 11-14. (3) (2013) Amer. Mineral., 98, 812 (abs. refs. 1 & 2).