Rusinovite $Ca_{10}(Si_2O_7)_3Cl_2$

Crystal Data: Orthorhombic. *Point Group*: 2/*m* 2/*m* 2/*m*. As fine-needles in fibrous sheaf-like aggregates and spherulites.

Physical Properties: *Cleavage*: Good on (010). *Fracture*: Conchoidal. *Tenacity*: Brittle. Hardness = 4-5 VHN = 320 (20 g load). D(meas.) = 2.93(1) D(calc.) = 2.931

Optical Properties: Transparent. *Color*: White, colorless in thin section. *Streak*: White. *Luster*: Vitreous to silky.
Optical Class: Biaxial (–). α = 1.645(2) β = 1.664(2) γ = 1.675(3) 2V(meas.) = 75(10)° 2V(calc.) = 75° *Orientation*: *X* = *a* (or *b*), *Y* = c, *Z* = *b* (or *a*).

Cell Data: *Space Group: Cmcm.* *a* = 3.7617(2) *b* = 16.9385(8) *c* = 17.3196(9) *Z* = 2

X-ray Powder Pattern: Upper Chegem caldera, near Mt. Lakargi, Northern Caucasus, Russia. 3.081 (100), 3.030 (79), 2.889 (74), 2.537 (74), 2.946 (43), 8.47 (39), 3.209 (33)

Chemistry:

	(1)
SiO_2	37.16
CaO	57.66
Cl	6.78
H_2O	[0.13]
–O=Cl	1.53
Total	100.20

(1) Upper Chegem caldera, near Mt. Lakargi, Northern Caucasus, Russia; average of 45 electron microprobe analyses, H_2O calculated for charge balance, corresponding to $Ca_{9.99}Si_{6.01}O_{21}(Cl_{1.86}OH_{0.14})$.

Occurrence: In a thermally altered (sanidinite facies) carbonate-silicate xenolith about 10 m in size enclosed in ignimbrite.

Association: Wadalite, wollastonite, trabzonite, rankinite, larnite.

Distribution: Upper Chegem caldera, near Mt. Lakargi, Kabardino-Balkaria, Northern Caucasus, Russia.

Name: Honors Vladimir L. Rusinov (1935-2007), a Russian petrologist who studied the thermodynamics of non-equilibrium mineral systems.

Type Material: A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia (4022/1).

References: (1) Galuskin, E.V., I.O. Galuskina, B. Lazic, T. Armbruster, A.E. Zadov, T. Krzykawski, K. Banasik, V.M. Gazeev, and N.N. Pertsev (2011) Rusinovite, $Ca_{10}(Si_2O_7)_3Cl_2$: a new skarn mineral from the Upper Chegem caldera, Kabardino-Balkaria, Northern Caucasus, Russia. European Journal of Mineralogy, 23, 837-844. (2) (2014) Amer. Mineral., 99, 873 (abs. ref. 1).