Chromceladonite $KMgCr(Si_4O_{10})(OH)_2$

Crystal Data: Monoclinic. *Point Group*: 2. As rock-forming aggregates of laminae, to 1 cm, and as spherulites and veinlets.

Physical Properties: *Cleavage*: Perfect on {001}. *Fracture*: Platy. *Tenacity*: Flexible. Hardness = 1-2 D(meas.) = 2.90 D(calc.) = 2.95

Optical Properties: Transparent. *Color*: Emerald to dark green. *Streak*: Pale green. *Luster*: Vitreous to silky.
Optical Class: Biaxial (-). $\alpha = 1.605(1)$ $\beta = 1.648(1)$ $\gamma = 1.654(1)$ 2V(meas.) = 12(10)°
Orientation: $X \wedge c = <5°$ *Pleochroism*: X = pale green to colorless, $Y = Z$ = green.

Cell Data: *Space Group*: $C2$ (1*M* polytype). $a = 5.267(1)$ $b = 9.101(2)$ $c = 10.162(3)$ $\beta = 100.67(2)°$ Z = 2

X-ray Powder Pattern: Padma uranium-vanadium deposit, southern Karelia, Russia.
2.588 (100), 4.54 (93), 2.409 (87), 3.638 (64), 1.518 (58), 1.518 (56), 3.097 (51)

Chemistry:

	(1)
K_2O	10.42
Na_2O	0.14
Li_2O	0.13
MgO	7.82
MnO	0.19
ZnO	0.22
FeO	0.73
Fe_2O_3	0.58
V_2O_3	1.79
Cr_2O_3	17.01
Al_2O_3	3.25
TiO_2	0.16
SiO_2	53.20
H_2O^+	3.38
- O = F	0.24
Total	99.35

(1) Padma uranium-vanadium deposit, southern Karelia, Russia; average electron microprobe analysis; corresponds to $(K_{0.94}Na_{0.02})_{\Sigma=0.96}(Cr_{0.95}V_{0.10}Al_{0.05}Fe^{3+}_{0.03}Ti_{0.01})_{\Sigma=1.14}(Mg_{0.83}Fe^{2+}_{0.04}Li_{0.04}Zn_{0.01}Mn_{0.01})_{\Sigma=0.93}[(Si_{3.78}Al_{0.22})_{\Sigma=4.00}O_{10}][(OH)_{1.60}F_{0.13}O_{0.13}]_{\Sigma=1.86}$.

Mineral Group: Mica group.

Occurrence: A metasomatic-hydrothermal mineral.

Association: Dolomite, quartz, roscoelite, chromphyllite, calcite, hematite, uraninite, zincochromite, vanadium oxides.

Distribution: From the Padma uranium-vanadium deposit, southern Karelia, Russia.

Name: The prefix, *chrom*, indicates the chromium analog of *celadonite*.

Type Material: A.E. Fersman Mineralogical Museum, Moscow, Russia.

References: (1) Pekov, I.V., N.V. Chukanov, E.V. Rumianstseva, Yu.K. Kabalov, Yu. Schneider, N.V. Ledeneva (2000) Chromceladonite $KCrMg[Si_4O_{10}](OH)_2$ - a new mineral of the mica group. Zapiski Vseross. Mineral. Obshch., 129(1), 38-44 (in Russian, English abs.). (2) (2001) Amer. Mineral., 86, 376 (abs. ref. 1).