

NEW MINERALS RECENTLY APPROVED
BY THE
COMMISSION ON NEW MINERALS AND MINERAL NAMES
INTERNATIONAL MINERALOGICAL ASSOCIATION

The information given here is provided by the Commission on New Minerals and Mineral Names, I. M. A. for comparative purposes and as a service to mineralogists working on new species. It is hoped that future lists will be published in the major mineralogical journals on a quarterly or semi-annual basis.

Each mineral is described in the following format:

IMA No.
(any relationship to other minerals)
Chemical Formula
Crystal system, space group
unit cell parameters
Diaphaneity; lustre; colour.
Optical properties.
Strongest lines in the X-ray powder diffraction pattern.

The names of these approved species are considered confidential information until the authors have published their descriptions or released information themselves.

NO OTHER INFORMATION WILL BE RELEASED BY THE COMMISSION.

J. A. Mandarino, Chairman
Commission on New Minerals and Mineral Names
International Mineralogical Association

THE FOLLOWING MINERALS WERE APPROVED DURING 1990

IMA No. 90-002

(Ce,La)Al₃B₃O₉
Hexagonal, P6₂m

a 4.610, c 9.358 Å

Transparent to translucent; vitreous; light yellow.

Uniaxial (+), ω 1.703, ε 1.711

3.67(100), 3.04(100), 2.458(75), 2.308(50), 2.020(50), 1.953(50), 1.855(50), 1.835(50)

IMA No. 90-004

the Mg-dominant analogue of allanite-(Ce)

Ca(Ce,La)MgAl₂Si₃O₁₂(OH)

Monoclinic, P2₁/m

a 8.916, b 5.700, c 10.140 Å, β 114.72°

Transparent; vitreous; pale yellow brown in thin-section.

Biaxial (+), α 1.575, β 1.741, γ 1.758, 2V(meas.) 64°, 2V(calc.) 62°.

9.1(40), 3.50(50), 2.910(90), 2.842(50), 2.698(100), 2.622(60), 2.177(40), 2.137(40).

IMA No. 90-005

Ca₂Si₆(OH)₁₈5H₂O

Monoclinic, Cc or C2/c

a 11.331, b 7.353, c 22.67 Å, β 96.59°

Transparent; vitreous; colourless to white.

Biaxial (-), α 1.575, β 1.580, γ 1.585, 2V(calc.) 89.8°.

11.25(100), 3.745(36), 3.304(51), 3.068(45), 3.034(60), 3.012(37), 2.811(41), 2.794(60).

IMA No. 90-007

the Cu-dominant analogue of braunite and neltnerite

Cu²⁺Mn²⁺(O₂)₂(SiO₄)₂

Tetragonal, I4₁/acd

a 9.409, c 18.600 Å

Opaque; metallic; black.

In reflected light: grey; very weak anisotropy, weak birefringence, nonpleochroic. R-values: (20.8,21.2%)/470nm, (19.6,20.0%)/546nm, (19.2,19.7%)/589nm, (18.7,19.2%)/650nm.

2.703(100), 2.352(14), 2.135(16), 1.6516(30), 1.4167(10), 1.4023(12).

IMA No. 90-008

Ca(Na,K)(Si₆Al₂O₂₄)(S²⁻)₃·5H₂O

Hexagonal (trigonal), P31c

a 12.855, c 10.700 Å

Transparent; vitreous; yellow.

Uniaxial (-), ω 1.584, ε 1.660

4.824(70), 3.919(80), 3.720(100), 3.313(90), 2.694(35), 2.676(70), 2.471(35).

IMA No. 90-009

(Na,Ca,K)₃(Si₆Al₂O₂₄)(SO₄)₂Cl·0.5H₂O

Hexagonal, P6₂22

a 12.843, c 32.239 Å

Transparent; vitreous; green to greenish-yellow.

Uniaxial (+), ω 1.528, ε 1.543

4.84(40), 3.711(100), 3.314(80), 3.035(20), 2.988(16), 2.687(25), 2.470(16), 2.139(25).

IMA No. 90-010

Fe_{8-2x}(As_{1-x}S_x)O_{4x}(OH)₈·5H₂O x is about 0.2

Orthorhombic, Pbcm

a 6.412, b 19.45, c 8.941 Å

Transparent to translucent; greasy; cadmium orange.

Biaxial (-), α 1.94, β 2.05, γ 2.06, 2V(meas.) 5°, 2V(calc.) 32°.

9.75(10), 4.476(4), 3.208(9), 3.047(5), 2.680(4), 2.153(4), 1.604(4).

IMA No. 90-011

HgAg(Cl,Br,I)S

Orthorhombic, P2₁2₁2

a 6.803, b 12.87, c 4.528 Å

Translucent to opaque; subadamantine to submetallic; black.

Biaxial (probably -), α - 2.2, γ - 2.3.

6.43(40), 3.762(60), 3.637(60), 3.283(30), 2.664(100), 2.265(40), 2.047(20).

IMA No. 90-012

Na₂K₂(Si₆Al₂O₂₄)(SO₄)₂·2H₂O

Hexagonal, P6₃

a 22.121, c 5.221 Å

Transparent; vitreous; colourless.

Uniaxial (-), ω 1.508, ε 1.506.

6.39(S), 4.77(vS), 3.69(m), 3.27(vS), 2.769(m), 2.650(m).

IMA No. 90-013

Na₃[Al₃Si₃O₂₁](CO₃)₃·3H₂O

Hexagonal, P6₃mc

a 12.575, c 5.105 Å

Transparent; vitreous; dark- to light-lilac.

Uniaxial (-), ω 1.509, ε 1.490

6.30(70), 4.61(50), 3.65(90), 3.22(100), 2.722(50), 2.597(20), 2.402(20), 2.097(20).

IMA No. 90-014

Na₆[Al₃Si₃O₂₁](OH)₂·2H₂O

Hexagonal, P6₃

a 12.74, c 5.183 Å

Transparent; vitreous; light blue or colourless.

Uniaxial (+), ω 1.494, ε 1.501

6.43(25), 4.70(60), 3.68(70), 3.26(100), 2.756(50), 2.433(30).

IMA No. 90-015

Na₄(Y,REE)(CO₃)₃·3H₂O

Orthorhombic, space group unknown, lattice is primitive

a 10.136, b 17.348, c 5.970 Å

Transparent; vitreous to dull; colourless.

Biaxial (+), α 1.528, β 1.529, γ 1.531, 2V(meas.) 45°, 2V(calc.) 71°.

6.53(55), 5.05(50), 4.85(65), 2.858(70), 2.597(50), 2.229(50), 2.076(100).

IMA No. 90-016

an orthorhombic polymorph of natisite

Na₂TiSiO₅

Orthorhombic, Pmma

a 9.827, b 9.167, c 4.799 Å

Translucent; adamantine; yellow, orange-yellow, orange-brown.

Biaxial (+), α 1.740, β 1.741, γ 1.765, 2V(meas.) 20°, 2V(calc.) 23°.

2.748(100), 2.257(25), 1.720(30), 1.680(30), 1.475(33), 1.443(35).

IMA No. 90-018

a regular 1:1 interstratification of cookeite and paragonite
 $\text{Li}_{10}\text{Na}_9\text{Al}_3\text{Si}_2\text{AlO}_{10}(\text{OH})_3$
 Monoclinic, C2/m
 a 5.158, b 8.914, c 23.83 Å, β 94.23°
 Transparent; pearly; white.
 Biaxial (-), α 1.58 < 1.59, β 1.58 < 1.59, γ 1.59 < 1.60, 2V(meas.) 30-50°
 11.89(70), 4.456(90), 4.325(90), 2.547(100), 2.476(70), 1.486(90).

IMA No. 90-019

the Mg-dominant analogue of chalcophanite
 $(\text{Mg,Mn,Ca})\text{Mn}_3^+\text{O}_7\cdot 3\text{H}_2\text{O}$
 Triclinic, P1
 a 7.534, b 7.525, c 8.204 Å, α 89.753°, β 117.375°, γ 120.000°
 Opaque; dull; coffee black.
 In reflected light: grey, clear anisotropism, weak birefractance, nonpleochroic. R-values: (23.0%)470nm, (19.9%)546nm, (19.1%)589nm, (18.6%)650nm.
 6.965(100), 5.539(3), 4.086(4), 3.522(3), 3.483(11), 2.230(8).

IMA No. 90-020

$\text{MnSO}_4\cdot 3\text{H}_2\text{O}$
 Orthorhombic, Pnma
 a 9.762, b 5.639, c 9.558 Å
 Transparent; vitreous; colourless.
 Biaxial (+), α 1.590, β 1.596, γ 1.636, 2V(meas.) 41°, 2V(calc.) 43°
 6.83(S), 4.33(VS), 3.43(VS), 2.704(M), 2.666(M), 2.414(M), 1.726(M).

IMA No. 90-021

the Ti-dominant analogue of laevite
 $\text{NaCa}(\text{Mn,Fe})(\text{Ti,Nb,Zr})\text{Si}_2\text{O}_7\text{O}_6$
 Monoclinic, P2₁/a
 a 10.828, b 9.790, c 7.054 Å, β 108.20°
 Translucent to transparent; vitreous; orange-brown, yellow.
 Biaxial (-), α 1.743, β 1.785, γ 1.810, 2V(meas.) 72-84°, 2V(calc.) 74°
 3.942(20), 3.234(30), 2.859(100), 2.807(70), 1.762(20), 1.741(20), 1.727(20), 1.688(20), 1.627(20).

IMA No. 90-023

$3\text{UO}_2\cdot 2\text{SeO}_7\cdot 7\text{H}_2\text{O}$
 Orthorhombic, Pnc2 or Pnmc
 a 8.025, b 17.43, c 6.935 Å
 Translucent to transparent; vitreous; bright yellow.
 Biaxial (-), α 1.618, β 1.738, γ 1.765, 2V(meas.) 43°, 2V(calc.) 48°
 8.01(100), 4.01(70), 3.468(60), 3.186(50), 3.119(70), 2.912(80), 2.471(40).

IMA No. 90-024

the Mn-dominant analogue of fenaksite
 $\text{NaKMnSi}_4\text{O}_{10}$
 Triclinic, P1
 a 6.993, b 8.219, c 10.007 Å, α 105.11°, β 100.76°, γ 114.79°
 Transparent; vitreous; colourless to light pinkish-cream.
 Biaxial (-), α 1.540, β 1.551, γ 1.557, 2V(meas.) 73°, 2V(calc.) 72°
 6.89(70), 3.45(100), 3.26(90), 3.05(80), 2.880(70), 2.715(70), 2.463(70).

IMA No. 90-025

$\text{Na}_7\text{Ca}_2\text{Mg}(\text{Ti,Mn})_4(\text{Si}_2\text{O}_7)_2(\text{PO}_4)_6\text{O}_3\text{F}$
 Triclinic, P1
 a 5.412, b 7.079, c 26.56 Å, α 95.21°, β 93.51°, γ 90.10°
 Translucent to transparent; vitreous to pearly; light brown.
 Biaxial (-), α 1.600, β 1.658, γ 1.676, 2V(meas.) 56°, 2V(calc.) 57°
 2.937(10), 2.702(9), 2.659(8), 2.048(8B), 1.771(5B), 1.730(5).

IMA No. 90-026

$\text{Na}_4\text{CaMgTi}(\text{Si}_3\text{O}_{10})_2(\text{PO}_4)_2\text{O}_2\text{F}_2$
 Triclinic, P1
 a 5.415, b 7.081, c 20.34 Å, α 86.85°, β 94.40°, γ 89.94°
 Translucent to transparent; vitreous to pearly; light brown.
 Biaxial (-), α 1.630, β 1.678, γ 1.697, 2V(meas.) 62°, 2V(calc.) 63°
 2.880(10), 2.702(8B), 2.636(7), 2.050(5), 1.662(4B), 1.600(5).

IMA No. 90-027

$(\text{Ca,Mn})_4\text{Be}_2\text{Si}_4\text{O}_{17}(\text{OH})_4\cdot 3\text{H}_2\text{O}$
 Orthorhombic, space group unknown
 a 8.724, b 23.14, c 4.923 Å
 Translucent; vitreous; white to pale grey or beige.
 Biaxial, average index of refraction is 1.604.
 11.64(93), 5.80(68), 3.87(76), 3.16(74), 2.889(75), 2.837(100), 2.494(58).

IMA No. 90-028

$\text{NaLiSi}_4\text{O}_{12}\cdot 2\text{H}_2\text{O}$
 Monoclinic, A2/n
 a 5.061, b 8.334, c 14.383 Å, β 96.67°
 Transparent to opaque; vitreous to earthy; colourless to white.
 Biaxial (+), α 1.515, β 1.516, γ 1.518, 2V(meas.) 64°, 2V(calc.) 71°
 7.14(100), 4.24(80), 4.14(100), 4.02(80), 2.847(100), 2.698(50), 1.610(40), 1.557(40).

IMA No. 90-030

NaLi_2PO_4
 Orthorhombic, Pmnb
 a 6.884, b 9.976, c 4.927 Å
 Transparent to translucent; vitreous; colourless, white, very pale blue, very pale yellow.
 Biaxial (-), α 1.533, β 1.540, γ 1.541, 2V(meas.) 49°, 2V(calc.) 41°
 4.020(100), 3.507(100), 3.441(100), 2.833(40), 2.712(40), 2.493(90), 2.462(90), 1.721(40).

IMA No. 90-031

$\text{Pb}_3(\text{Fe}^{3+}, \text{Mn}^{3+})_2\text{Mn}_3^+\text{O}_{15}$
 Hexagonal, P6₃/mcm
 a 10.037, c 13.67 Å
 Opaque; metallic; black.
 In reflected light: bright white, strong anisotropism, moderate birefractance, nonpleochroic. R_O & R_F: (31.0,26.1%)470nm, (29.5,25.1%)546nm, (28.5,24.4%)589nm, (27.2,23.4%)650nm.
 3.42(5), 3.18(8), 2.828(7), 2.663(10), 2.366(6), 1.687(8).

IMA No. 90-032

$\text{Mg}_3\text{Ba}(\text{PO}_4)_2\cdot 8\text{H}_2\text{O}$
 Orthorhombic, Pnma, Pmc2, or Pma2
 a 12.829, b 8.335, c 18.312 Å
 Transparent; vitreous with a silky sheen; yellow-brown to light pink.
 Biaxial (+), α 1.552, β 1.552, γ 1.558, 2V(meas.) 23°, 2V(calc.) 0°
 10.51(100), 3.874(32), 3.520(34), 3.081(78), 3.054(41), 2.969(44), 2.839(34).

IMA No. 90-033

$\text{Pb}_2\text{Cu}_2\text{Si}_2\text{O}_7(\text{HCO}_3)_2\text{ClH}$
 Tetragonal, I4/m
 a 14.234, c 6.103 Å
 Transparent; vitreous; bright blue.
 Uniaxial (+), ω 1.786, ϵ 1.800
 10.2(10), 5.644(7), 4.495(10), 3.333(10), 3.013(9), 2.611(5).

IMA No. 90-036

$\text{Cu}_4\text{Al}_2[\text{HSbO}_4\text{SO}_4](\text{OH})_{10}(\text{CO}_3)_2\cdot 2\text{H}_2\text{O}$
 Monoclinic, P2₁
 a 10.765, b 2.903, c 12.527 Å, β 95.61°
 Transparent; silky; green-blue.
 Biaxial (+), α 1.626, β 1.646, γ 1.682, 2V(meas.) 77°, 2V(calc.) 75°
 5.62(50), 5.160(90), 4.276(100), 3.565(40), 2.380(35), 2.326(35).

IMA No. 90-037

$\text{Cu}_2(\text{UO}_2)(\text{MoO}_4)_2(\text{OH})_2$
 Monoclinic, A121, A1m1 or A12/m1
 a 5.529, b 6.112, c 19.83 Å, β 103.9°
 Transparent; vitreous to greasy; dark green to black.
 Biaxial (-), α 1.90, β 1.93, γ 1.96, 2V(meas.) 90°, 2V(calc.) 89°
 4.815(80), 4.425(40), 4.276(40), 4.100(100), 3.734(90), 3.254(40), 2.628(40), 2.482(60).

IMA No. 90-040

$\text{Ca}_2\text{Cu}_2\text{Si}_6\text{O}_{26}$
 Monoclinic, C2/c
 a 10.160, b 10.001, c 19.973 Å, β 91.56°
 Transparent; vitreous; greenish blue.
 Biaxial (+), α 1.722, β 1.723, γ 1.734, 2V(meas.) 73°, 2V(calc.) 34°
 7.13(60), 6.70(70), 3.12(90), 3.00(100), 2.45(60), 2.41(70).

IMA No. 90-041

$\text{Ca}_2(\text{SO}_4)_2\text{SO}_4\cdot 12\text{H}_2\text{O}$
 Hexagonal, R3m
 a 11.350, c 28.321 Å
 Transparent; vitreous; colourless.
 Uniaxial (+), ω 1.4941, ϵ 1.4960
 8.11(80), 5.73(100), 3.63(60), 3.28(40), 2.69(80), 2.11(40).

IMA No. 90-042

$\text{Mn}(\text{Mg,Mn})_2\text{Zn}_2(\text{OH})_{10}\cdot 4\text{H}_2\text{O}$
 Monoclinic, C2/m
 a 15.47, b 6.369, c 5.576 Å, β 101.29°
 Mostly opaque but also translucent; vitreous to dull to earthy; dark brown.
 In reflected light: gray, weak anisotropism, very weak birefractance, nonpleochroic. R(min, max): (8.54,8.65%)470nm, (8.07,8.23%)546nm, (8.00,8.19%)589nm, (7.89,8.18%)650nm.
 7.61(10), 3.96(5), 3.45(3), 2.997(4), 2.745(6), 2.673(3).

IMA No. 90-043

the monoclinic dimorph of mimetite
 $\text{Pb}_5(\text{AsO}_4)_3\text{Cl}$
 Monoclinic, P2₁/b
 a 10.189, b 20.372, c 7.46 Å, β 119.88°
 Translucent; resinous; yellowish-white.
 Biaxial (-), α , β and γ > 1.8, 2V(meas.) 8°, 3.342(50), 3.048(100), 3.008(70), 2.947(70), 2.106(60), 1.961(50), 1.903(50).

- IMA No. 90-044
 NaVO_3
 Orthorhombic, Pnma
 a 14.134, b 3.648, c 5.357 Å
 Transparent; silky; colourless.
 Biaxial (+), α 1.780, β 1.800, γ > 1.85, $2V(\text{meas.})$ 30-40°.
 7.07(11), 5.05(100), 3.530(25), 3.241(18), 3.016(13), 2.957(35), 2.685(12).
- IMA No. 90-045
 $\text{Bi}_2\text{Cu}_2(\text{OH})_2\text{O}_2(\text{PO}_4)_2 \cdot 2\text{H}_2\text{O}$
 Monoclinic, C2/m
 a 12.358, b 6.331, c 9.060 Å, β 122.70°
 Translucent; vitreous; sky blue to dark azure blue.
 Biaxial (-), β 1.89, $2V(\text{meas.})$ 68°.
 7.623(8), 6.093(6), 5.405(6), 5.201(7), 3.039(10), 2.921(9), 2.197(6).
- IMA No. 90-047
 Pt_2Se_4
 Monoclinic, $\text{P2}_1/c$
 a 6.61, b 4.60, c 11.10 Å, β 101.4°
 Opaque; metallic; dark bronze to black.
 In reflected light: white with a brownish hue, very strong anisotropism, very strong birefractance, weak pleochroism. R (max. & min.): (54.8, 35.2%)470nm, (58.6, 38.6%)546nm, (60.8, 40.2%)589nm, (63.2, 42.4%)650nm.
 5.45(60), 3.27(60), 2.93(80), 2.78(60), 2.648(60B), 2.465(60), 1.875(100B), 1.812(70).
- IMA No. 90-048
 PdBiSe
 Cubic, P4_32 or P4_32
 a 6.448 Å
 Opaque; metallic; light yellow.
 In reflected light: pinkish-yellow, no anisotropism, no birefractance, nonpleochroic. R: (47.5%)470nm, (48.3%)546nm, (46.8%)589nm, (45.6%)650nm.
 2.89(10), 2.63(9), 1.943(9), 1.724(5), 1.376(4).
- IMA No. 90-049
 $\text{CaBe}_3(\text{OH})_2(\text{PO}_4)_2 \cdot 4\text{H}_2\text{O}$
 Monoclinic, Cc
 a 11.897, b 9.707, c 9.633 Å, β 95.76°
 Translucent; vitreous; colourless.
 Biaxial (+), α 1.5203, β 1.5205, γ 1.5300, $2V(\text{meas.})$ <10°, $2V(\text{calc.})$ 17°.
 5.92(60), 4.33(50), 3.421(70), 2.959(60), 2.945(45), 2.5130(100).
- IMA No. 90-050
 the Mn-dominant analogue of stülpnomelane
 $(\text{K}, \text{Na})_4(\text{Mn}, \text{Zn}, \text{Mg}, \text{Fe}^{2+})_{46}(\text{Si}, \text{Al})_{72}(\text{O}, \text{OH})_{116}n\text{H}_2\text{O}$ (n about 6)
 Triclinic, P1 or P1
 a 5.521, b 9.560, c 36.57 Å (orthorhombic cell)
 Transparent to translucent; vitreous; dark brown.
 Biaxial (-), α 1.545, β 1.583, γ 1.583, $2V(\text{meas.})$ 10°, $2V(\text{calc.})$ 0°.
 12.3(100), 2.737(30), 2.583(40), 2.362(30), 1.594(30), 1.580(30).
- IMA No. 90-051
 a member of the aenigmatite group
 $(\text{Ca}, \text{Na})_2(\text{Fe}^{2+}, \text{Fe}^{3+}, \text{Ti})_6(\text{Si}, \text{Be}, \text{Al})_6\text{O}_{20}$
 Triclinic, P1 or P1
 a 10.385, b 10.751, c 8.959 Å, α 104.76°, β 97.03°, γ 125.47°
 Opaque to subtranslucent; vitreous; black.
 Biaxial (-), α 1.78, γ 1.82, $2V(\text{meas.})$ large.
 8.029(90), 3.122(46), 2.9243(59), 2.6756(48), 2.5291(100), 2.0993(63), 2.0758(47).
- IMA No. 90-052
 the indium-dominant analogue of scorodite and mansfieldite
 $\text{In}(\text{AsO}_4) \cdot 2\text{H}_2\text{O}$
 Orthorhombic, Peab
 a 10.45, b 10.32, c 9.09 Å
 Transparent; vitreous; pale green to yellowish-green.
 Biaxial (-), mean n about 1.65, $2V(\text{meas.})$ 55-76°.
 5.719(70), 4.537(100), 4.162(40), 3.2461(80), 3.1073(80), 2.6568(50), 2.5426(45).
- IMA No. 90-054
 $[(\text{Na}, \text{K})_2\text{Cl}_2](\text{Ca}_2\text{Cl}_2)(\text{Si}_6\text{Al}_6\text{O}_{24})$
 Hexagonal, P6_3 or $\text{P6}_3/m$
 a 25.771, c 5.371 Å
 Transparent; vitreous; colourless.
 Uniaxial (+), ω 1.529, ϵ 1.532
 4.85(S), 3.71(vS), 3.31(vS), 2.788(S), 2.677(m), 2.474(m), 2.147(m), 1.804(m), 1.380(m).
- IMA No. 90-055
 $(\text{Pd}, \text{Cu}, \text{Fe})_3\text{SnTe}_2\text{S}_2$
 Tetragonal, space group unknown
 a 9.044, c 4.937 Å
 Opaque; metallic; megascopic colour unknown.
 In reflected light: yellowish-rose, strong anisotropism, distinct to strong birefractance, pronounced pleochroism. $R_{\text{min}}, R_{\text{max}}$: (33.7, 41.6%)470nm, (38.5, 48.7%)546nm, (40.4, 51.8%)589nm, (42.0, 54.9%)650nm.
 2.472(10), 2.260(9), 2.022(6), 1.361(4), 1.213(5), 1.205(5), 1.129(5).
- IMA No. 90-056
 the Fe^{3+} -analogue of surite
 $(\text{Pb}, \text{Ca})_{2.5}(\text{CO}_3)_{1.5-1}(\text{OH}, \text{F})_{0.5-1}[(\text{Fe}, \text{Al})_2\text{Si}_6\text{O}_{16}(\text{OH})_2] \cdot n\text{H}_2\text{O}$
 Monoclinic, P2_1 or $\text{P2}_1/m$
 a 5.241, b 9.076, c 16.23 Å, β 90.03°
 Transparent; silky; light yellow green to dark forest green.
 Biaxial (+), α 1.757, β 1.763, γ 1.773, $2V(\text{calc.})$ 76°.
 16.1(40), 4.53(100), 3.727(35), 3.240(90), 2.612(80), 2.272(50).
- IMA No. 90-057
 $(\text{Sr}_{1.5}\text{Ca}_{1.5})\text{Ca}_2(\text{Ca}_{2.2}\text{Na}_{1.8})\text{K}_{1.4}\text{Al}_{17}\text{Si}_{19}\text{O}_{72} \cdot 34\text{H}_2\text{O}$
 Hexagonal, $\text{P6}_3/mmc$
 a 13.244, c 15.988 Å
 Transparent; vitreous; colourless.
 Uniaxial (-), ω 1.522, ϵ 1.507
 6.58(80), 3.80(100), 2.95(70), 2.70(50), 2.50(50), 2.21(70), 1.83(50).

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