

**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.

Each mineral is described in the following format:

IMA No. (any relationship to other minerals)

Chemical Formula

Crystal system, space group
unit cell parameters

Colour; lustre; diaphaneity.

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 Emeritus and J. D. Grice, Chairman
Commission on New Minerals and Mineral Names
International Mineralogical Association

1995 PROPOSALS

- IMA No. 95-001 A member of the crandallite group.
 $\text{SrFe}_3^{3+}(\text{PO}_4)_2(\text{OH}, \text{H}_2\text{O})_6$
Hexagonal (trigonal): $R\bar{3}m$
a 7.28 c 16.85 Å
Yellow, brown; vitreous to resinous; transparent to translucent.
Uniaxial (-), ω 1.872, ϵ 1.862
5.88 (10), 3.65 (6), 3.06 (9), 2.96 (5), 2.81 (5), 2.53 (5), 2.25 (6), 1.969 (5), 1.820 (5).
%)470 nm, (37.7 %)546 nm, (38.1 %)589 nm, (38.6 %)650 nm.
5.72 (4), 2.98 (6), 2.48 (5), 1.90 (7), 1.75 (10), 1.29 (5), 1.014 (5).
- IMA No. 95-002 The Mn^{2+} and (O,F) analogue of paulkerrite.
 $(\text{H}_2\text{O}, \text{K})_2\text{Ti}(\text{Mn}^{2+}, \text{Fe}^{2+})_2(\text{Fe}^{3+}, \text{Ti}^{4+})_2(\text{PO}_4)_4(\text{O}, \text{F})_2 \cdot 14\text{H}_2\text{O}$
Orthorhombic: Pbc a
a 10.561 b 20.858 c 12.516 Å
Greenish-yellow, sometimes light brown; vitreous; transparent.
Biaxial (+), α 1.612, β 1.621, γ 1.649, $2V(\text{calc.})$ 59.9°.
10.40 (90), 7.50 (80), 6.28 (100), 5.22 (40), 3.97 (40), 3.77 (50), 3.13 (100), 2.88 (40).
- IMA No. 95-003
 $\text{Cu}(\text{Pt}, \text{Ir})_2\text{S}_4$
Cubic: $\text{Fd}\bar{3}m$
a 9.940 Å
Steel grey; metallic; opaque.
In reflected light: white with greenish tint, isotropic, no bireflectance or pleochroism. R: (37.3
- IMA No. 95-005 The strontium end-member of the cryptomelane group.
 $(\text{Sr}, \text{Ba}, \text{K})\text{Mn}_8\text{O}_{16}$
Monoclinic: $\text{P}2_1/n$
a 10.00 b 5.758 c 9.88 Å β 90.64°
Black; submetallic; opaque.
In reflected light: grey, strong anisotropism, grey-blue to white bireflectance, pleochroism strong. $R_{\text{max.}}$ & $R_{\text{min.}}$: (34.2, 26.0 %)470 nm, (31.7, 24.4 %)546 nm, (30.6, 23.4 %)589 nm, (27.9, 22.3 %)650 nm.
3.15 (100), 3.13 (80), 2.409 (80), 2.229 (40), 2.170 (60), 2.170 (60), 1.556 (50).
- IMA No. 95-006 The silver analogue of roquesite in the chalcopyrite group.
 AgInS_2
Tetragonal: $\text{I}\bar{4}2d$
a 5.880 c 11.21 Å
Havana brown; metallic; opaque.
In reflected light: brownish grey; abundant red internal reflections; strong anisotropism in oil from red brick with orange tint to bluish-grey and purplish; pleochroism weak, brown to clear brown-grey in oil. $R_{\text{max.}}$ & $R_{\text{min.}}$: (29.3, 27.8 %)460 nm, (27.5, 25.9 %)540 nm, (27.65, 25.6 %)580 nm, (27.4, 27.5 %)660 nm.

3.351 (100), 2.941 (80), 2.082 (75), 2.030 (75), 1.767 (80), 1.188 (40).

IMA No. 95-007 Probably belongs to the marcasite group.

CoSbAs

Orthorhombic: space group unknown

a 3.304 b 6.092 c 10.26 Å

White; metallic; opaque.

In reflected light: silver-white, weak to distinct anisotropism, weak birefractance, nonpleochroic.

R_2 & R_1 : (58.2, 55.5 %)470 nm, (56.8, 55.6 %)546 nm, (55.8, 55.5 %)589 nm, (55.0, 55.5 %)650 nm.

2.63 (10), 2.53 (8), 1.942 (10), 1.730 (4), 1.640 (4), 1.3963 (4), 1.1182 (8).

IMA No. 95-009 The natural analogue of synthetic PtSe₂. PtSe₂

Hexagonal (trigonal): $\bar{P}3m1$

a 3.730 c 5.024 Å

Silvery lead grey; metallic; opaque.

In reflected light: white; anisotropism moderate to strong with tints from pinkish-yellow to dark-grey-lilac; strong birefractance; pleochroism: R_{max} light-yellow, R_{min} light-lilac. R_{max} & R_{min} : (48.4, 35.1 %)470 nm, (48.3, 35.0 %)546 nm, (49.1, 35.3 %)589 nm, (50.8, 36.5 %)650 nm.

5.04 (3), 2.72 (10), 1.983 (5), 1.859 (5), 1.747 (3), 1.360 (4).

IMA No. 95-011

Cu(Mg,Cu,Fe,Zn)₂Te⁶⁺O₆·6H₂O

Hexagonal (trigonal): P3

a 5.305 c 9.693 Å

Pale yellow to pale orange-yellow; vitreous; transparent to somewhat translucent.

Uniaxial (-), ω 1.803, ϵ 1.581 (calc.).

9.70 (100), 4.834 (80), 4.604 (60), 2.655 (60), 2.556 (70), 2.326 (70), 1.789 (40).

IMA No. 95-012

Cu[AsO₃OH]·2H₂O

Triclinic: $\bar{P}1$

a 6.020 b 7.632 c 11.168 Å α 74.43° β 89.32° γ 86.55°

Turquoise blue; vitreous; transparent.

Biaxial (-), α 1.615, β 1.660, γ 1.700, 2V(meas.) 82°, 2V(calc.) 84°.

7.35 (100), 5.239 (50), 4.440 (60), 3.936 (60), 3.302 (40), 3.008 (50), 2.840 (35).

IMA No. 95-013 The zinc analogue of arsenbrackebuschite.

Pb₂(Zn,Fe)(As,S)O₄·2H₂O

Monoclinic: P₂1 or P₂1/m

a 8.973 b 5.955 c 7.766 Å β 112.20°

Pale olive green with streaks of white; adamantine; transparent.

In reflected light: pale brownish grey; abundant colourless to very pale yellow internal reflections; anisotropism not detectable by eye; birefractance

measurable but not noticeable by the eye; nonpleochroic. R_{min} & R_{max} : (11.2, 11.5 %)470 nm, (10.8, 10.9 %)546 nm, (10.7, 10.8 %)589 nm, (10.7, 10.8 %)650 nm.

4.85 (50), 3.659 (30), 3.246 (100), 2.988 (60), 2.769 (60), 2.293 (30), 2.107 (50), 1.889 (30).

IMA No. 95-014

Ca₂FeCl[B₉O₁₃(OH)₆]·4H₂O

Monoclinic: P2₁

a 11.64 b 9.38 c 8.735 Å β 98.40°

Pale yellow; vitreous; transparent.

Biaxial (+-), α 1.550, β 1.554, γ 1.592, 2V(meas.) 36.6°, 2V(calc.) 32.6°.

8.65 (3), 7.29 (10), 5.32 (2), 4.50 (2), 2.958 (3), 2.744 (2), 2.113 (3).

IMA No. 95-015

Ca₅(SiO₄)₂SO₄

Orthorhombic: P nma

a 6.863 b 15.387 c 10.181 Å

Bright blue; vitreous; transparent.

Biaxial (-), α 1.630, β 1.637, γ 1.640, 2V(meas.) 63.3°, 2V(calc.) 66.2°.

3.198 (27), 3.042 (32), 2.853 (40), 2.830 (100), 2.617 (32), 2.565 (57), 1.9612 (26), 1.8924 (27).

IMA No. 95-016

Mn₂V(V,As)O₇·2H₂O

Monoclinic: P2₁/n

a 7.809 b 14.554 c 6.705 Å β 93.25°

Orange-red; vitreous; transparent.

Biaxial mean n 1.82, 2V small.

5.32 (80), 3.436 (50), 3.260 (50), 3.039 (100), 2.723 (60), 2.573 (50b), 2.441 (50), 1.592 (60).

IMA No. 95-017 The natural analogue of synthetic FeNb₃S₆.

FeNb₃S₆

Hexagonal: P6₃22

a 5.771 c 12.190 Å

Dark grey to black; metallic; opaque.

In reflected light: grey; distinct to strong anisotropism from blue-grey to dark-brown; distinct birefractance; pleochroism, light grey to grey. R_{max} & R_{min} : (36.3, 29.5 %)470 nm, (36.6, 29.4 %)546 nm, (36.1, 28.9 %)589 nm, (34.7, 28.1 %)650 nm.

6.11 (8), 3.04 (6), 2.88 (5), 2.606 (8), 2.096 (10), 1.665 (8), 1.524 (6).

IMA No. 95-018 A member of the mica group (compare 95-019).

K(Fe²⁺,Mg)(Fe³⁺,Al)Si₄O₁₀(OH)₂

Monoclinic: C2/m

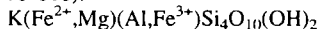
a 5.270 b 9.106 c 10.125 Å β 100.27°

Blue green; earthy; translucent in thin section.

Complete optical data could not be measured, mean n 1.640.

3.65 (52), 3.358 (86), 3.321 (100), 3.090 (60), 2.584 (50).

IMA No. 95-019 A member of the mica group (compare 95-018).



Monoclinic: C2/m

a 5.270 b 9.106 c 10.125 Å β 100.27°

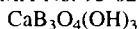
Blue green; earthy; translucent in thin section.

Complete optical data could not be measured, mean n 1.625.

3.65 (52), 3.358 (86), 3.321 (100), 3.090 (60), 2.584 (50).

NOTE: The minerals represented by 95-018 and 95-019 occur intimately mixed, have the same unit cell parameters, and give the same X-ray powder diffraction data. They differ in chemical composition.

IMA No. 95-020



Monoclinic: Pc

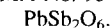
a 7.234 b 8.130 c 8.378 Å β 98.22°

Colourless to white; vitreous; transparent to translucent.

Biaxial (-), α 1.580, β 1.605, γ 1.623, 2V(meas.) 63°, 2V(calc.) 80°.

4.30 (64), 3.379 (100), 3.169 (25), 3.122 (31), 2.151 (20), 1.919 (20), 1.846 (45).

IMA No. 95-021 The natural analogue of synthetic



Hexagonal (trigonal): P31m

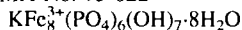
a 5.295 c 5.372 Å

Colourless to pale yellow; resinous; transparent.

Uniaxial (-), ω 2.092, ϵ 1.920

3.49 (VS), 2.648 (M), 2.110 (W), 1.887 (W), 1.651 (W), 1.531 (W).

IMA No. 95-022



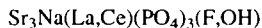
Monoclinic: C2, Cm or C2/m

a 29.52 b 5.249 c 18.56 Å β 109.27°

Yellowish brown, pale yellow, cream to white; vitreous to silky; translucent.

Biaxial (+), α 1.780, β 1.785, γ 1.800, 2V(calc.) 60°. 9.41 (60), 4.84 (90), 4.32 (70), 4.25 (50), 3.470 (60), 3.216 (100), 3.116 (80).

IMA No. 95-023



Hexagonal (trigonal): P3

a 9.647(1) c 7.170(1) Å

Bright yellow to greenish-yellow; vitreous; transparent.

Uniaxial (-), ω 1.653, ϵ 1.635.

3.59 (87), 3.30 (65), 3.17 (32), 2.897 (100), 2.884 (100), 2.790 (54), 1.910 (36), 1.796 (36).

IMA No. 95-024 The cubic polymorph of lueshite and natroniobite.



Cubic: Pm $\bar{3}$ or P23

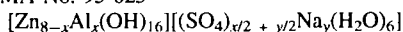
a 3.911 Å

Brownish-black; adamantine; opaque.

In reflected light: bluish; reddish-brown internal reflections; isotropic; nonpleochroic. R: (15.75 %)480 nm, (15.00 %)540 nm, (14.70 %)580 nm, (14.35 %)660 nm.

3.915 (35), 2.765 (100), 1.953 (53), 1.747 (8), 1.594 (30), 1.380 (22), 1.234 (7).

IMA No. 95-025



Hexagonal (trigonal): P3

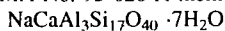
a 3.082 c 11.116 Å

Pale blue; vitreous to waxy, translucent.

Uniaxial (sign unknown), ω 1.532, ϵ unknown.

11.12 (100), 5.549 (24), 3.704 (15), 2.595 (6), 2.408 (6), 2.167 (4), 1.926 (4).

IMA No. 95-026 A member of the zeolite group.



Orthorhombic: Cmc

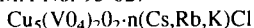
a 9.747 b 23.880 c 20.068 Å

Colourless; vitreous; transparent.

Biaxial (+), α 1.476, β 1.478, γ 1.483, 2V(meas.) 65°, 2V(calc.) 65°.

11.94 (40), 9.04 (33), 8.23 (29), 7.69 (29), 3.79 (100), 3.61 (40).

IMA No. 95-027



Hexagonal (trigonal): P3

a 6.375 c 8.399 Å

Black; resinous-metallic; opaque.

Reflectance measurements could not be made because the material is too fine grained.

3.43 (7), 2.810 (4), 2.315 (10), 2.131 (3), 1.598 (4).

IMA No. 95-028 An hexagonal polymorph of alabandite.



Hexagonal: P6 $_3$ mc

a 3.9817 c 6.4447 Å

Dark brown to black; resinous; opaque.

In reflected light: steel-grey; brown-red internal reflections; anisotropism, 2.62 to 2.77; bireflectance, 0.15; nonpleochroic. R $_{\text{max}}$ & R $_{\text{min}}$: (24.5, 22.1 %)470 nm, (22.6, 20.5 %)546 nm, (22.1, 20.0 %)589 nm, (21.6, 19.6 %)650 nm.

3.445 (89), 3.217 (72), 3.036 (66), 1.988 (82), 1.820 (100), 1.691 (63).

IMA No. 95-029 The Mn-analogue of berthierite.



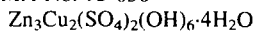
Orthorhombic: Pnam

a 11.47 b 14.36 c 3.81 Å

Black; submetallic; opaque.

In reflected light: light grey; distinct anisotropism; faint bireflectance; nonpleochroic. $R_{\max.}$ & $R_{\min.}$: (35.0, 24.0 %)470 nm, (36.1, 23.9 %)546 nm, (36.9, 24.9 %)589 nm, (35.6, 25.7 %)650 nm. 4.46 (40), 3.69 (90), 3.23 (70), 3.05 (40), 2.90 (80), 2.65 (100), 2.18 (40), 1.906 (40), 1.813 (50).

IMA No. 95-030



Triclinic: P1

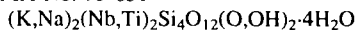
a 5.415 b 6.338 c 10.475 Å α 94.38° β 90.08° γ 90.24°

Greenish blue; vitreous; transparent.

Biaxial (+), α 1.629, β 1.630, γ 1.637, 2V(meas.) 60°, 2V(calc.) 42°.

10.459 (61), 5.230 (74), 3.486 (40), 3.157 (6), 2.728 (6), 2.493 (7), 2.355 (7), 1.743 (9).

IMA No. 95-031



Monoclinic: Cm

a 14.692 b 14.164 c 7.859 Å β 117.87°

White; vitreous; translucent.

Biaxial (+), α 1.649, β 1.655, γ 1.759, 2V(meas.) 20°, 2V(calc.) 28°.

7.10 (9), 4.98 (6), 3.262 (10), 3.151 (8b), 2.956 (6), 2.549 (4), 1.723 (4), 1.591 (4b), 1.451 (4b).

IMA No. 95-032

(Fe,Os,Ru,Ir)

Hexagonal: $P6_3/mmc$

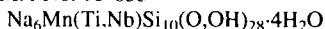
a 2.591 c 4.168 Å

Megasopic colour unknown; metallic; opaque.

In reflected light: white; weak anisotropism. R: (57.4 %)470 nm, (53.4 %)546 nm, (53.3 %)589 nm, (54.4 %)650 nm.

2.246 (5), 2.087 (6), 1.976 (10), 1.297 (6b), 1.180 (6b), 1.100 (5b).

IMA No. 95-033



Monoclinic: I2/m

a 13.033 b 18.717 c 12.264 Å β 99.62°

Yellow, pinkish-yellow or pink; vitreous to greasy; translucent to transparent.

Biaxial (-), α 1.536, β 1.545, γ 1.553, 2V(meas.) 87°, 2V(calc.) 86°.

10.56 (100), 6.38 (50), 5.55 (45), 4.78 (40), 4.253 (40), 3.196 (80), 2.608 (50).

IMA No. 95-034



Hexagonal (trigonal): R32

a 10.696 c 15.728 Å

Colourless; vitreous; transparent or cloudy.

Uniaxial (-), ω 1.612, ϵ 1.607.

5.99 (60), 3.21 (100), 3.093 (40), 2.990 (85), 2.61 (40), 1.998 (55), 1.481 (44b).

IMA No. 95-035

(Nb,Ta)C

Cubic: Fm3m

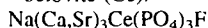
a 4.45 Å

Bronze-yellow; metallic; opaque.

In reflected light: yellowish- to rose-cream; no anisotropism, bireflectance or pleochroism. R: (33.9 %)480 nm, (38.5 %)540 nm, (45.1 %)580 nm, (52.8 %)660 nm.

2.56 (10), 2.22 (9), 1.574 (8), 1.343 (8), 1.289 (7), 1.115 (3).

IMA No. 95-036 The calcium-dominant analogue of belovite-(Ce).



Hexagonal (trigonal): P3

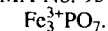
a 9.51 c 7.01 Å

Bright yellow; vitreous; transparent.

Uniaxial (-), ω 1.682, ϵ 1.660.

3.51 (30), 3.12 (40), 2.84 (100b), 2.753 (40), 1.967 (30), 1.870 (30).

IMA No. 95-037 The natural analogue of synthetic



Hexagonal (trigonal): R3m

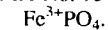
a 7.994 c 6.855 Å

Brown to red brown; greasy; non-translucent.

Optical data could not be obtained because of the small size of the domains.

4.86 (10), 3.09 (100), 2.446 (16), 2.078 (20), 1.997 (13), 1.845 (11), 1.623 (23), 1.545 (12), 1.440 (16).

IMA No. 95-038 The natural analogue of synthetic



Hexagonal (trigonal): P3₁21

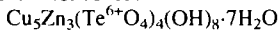
a 5.048 c 11.215 Å

Brown to red-brown; greasy; non-translucent.

Optical data could not be obtained because of the small size of the domains.

4.360 (19), 3.445 (100), 2.518 (7), 2.362 (14), 2.298 (7), 2.180 (10), 1.8846 (12), 1.5814 (8), 1.4214 (10).

IMA No. 95-039



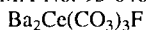
Triclinic: P1 or P1

a 8.794 b 9.996 c 5.660 Å α 104.10° β 90.07° γ 96.34°

Pale blue to deeper blue-green; vitreous to pearly; transparent to translucent. In reflected light: very pale light brown; light emerald green internal reflections; anisotropism unknown; slight bireflectance. R values could not be measured with certainty.

9.638 (100), 8.736 (50), 4.841 (100), 2.747 (60), 2.600 (45).

IMA No. 95-040

Monoclinic: $\text{P}2_1/\text{m}$ or $\text{P}2_1$ a 13.396 b 5.067 c 6.701 Å β 106.58°

Yellow; vitreous; transparent.

Biaxial (–), α 1.584, β 1.724, γ 1.728, 2V(meas.) 16°, 2V(calc.) 18°.

4.000 (10), 3.269 (100), 2.535 (20), 2.140 (40), 2.003 (40), 1.635 (10), 1.373 (10).

IMA No. 95-041

Cubic: $\text{Fm}\bar{3}\text{m}$, $\text{F}\bar{4}32$ or $\text{F}\bar{4}3\text{m}$

a 6.364 Å

Bright white; metallic; opaque.

In reflected light: bright white with yellowish tint; no anisotropism, bireflectance or pleochroism. R:

(49.3 %)470 nm, (60.6 %)550 nm, (68.5 %)590 nm, (80.1 %)650 nm.

2.25 (100), 1.92 (60), 1.59 (60), 1.299 (80), 1.125 (60), 1.076 (60), 1.006 (60).

IMA No. 95-042

Cubic: $\text{Pm}\bar{3}\text{m}$

a 3.988 Å

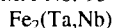
Bright white; metallic; opaque.

In reflected light: bright white with yellowish tint; no anisotropism, bireflectance or pleochroism. R:

(56.1 %)470 nm, (62.5 %)550 nm, (65.7 %)590 nm, (71.3 %)650 nm.

2.30 (100), 1.99 (60), 1.411 (40), 1.203 (80), 1.151 (40), 0.997 (20).

IMA No. 95-043

Hexagonal: $\text{P}6_3/\text{mmc}$, $\text{P}6_3/\text{mc}$ or $\text{P}\bar{6}2\text{c}$

a 4.87 c 7.76 Å

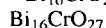
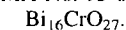
Greyish-yellow; metallic; opaque.

In reflected light: greyish white; no anisotropism, bireflectance or pleochroism. R: (55.4 %)460 nm,

(60.8 %)540 nm, (65.7 %)590 nm, (71.3 %)660 nm.

2.84 (7), 2.46 (6), 2.22 (9), 2.00 (3), 1.92 (4), 1.41 (3), 1.34 (8).

IMA No. 95-044 The natural analogue of synthetic

Tetragonal: $14, \bar{1}4$ or $I4/\text{m}$

a 8.649 c 17.24 Å

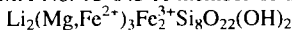
Orange-brown; adamantine; translucent.

Uniaxial (+), ω 2.50, ϵ 2.55.In reflected light: greyish white to light orange; orange internal reflections; weak anisotropism; weak bireflectance; very weak pleochroism. R_E & R_O :

(21.46, 19.40 %)470 nm, (27.46, 25.22 %)546 nm, (29.80, 26.22 %)589 nm, (29.98, 25.96 %)650 nm.

3.19 (100), 2.730 (40), 1.980 (40), 1.715 (30), 1.655 (55), 1.124 (25), 1.054 (25).

IMA No. 95-045 A member of the amphibole group.

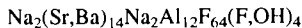
Monoclinic: $\text{C}2/\text{m}$ a 9.474 b 17.858 c 5.268 Å β 101.88°

Black; vitreous; translucent.

Biaxial (+), α 1.699, β 1.703, γ 1.708, 2V(meas.) 72°, 2V(calc.) 84°.

8.222 (61), 4.458 (19), 3.044 (100), 2.741 (53), 2.712 (14), 2.341 (14), 1.433 (46), 1.392 (14).

IMA No. 95-046

Monoclinic: $\text{C}2/\text{m}$ a 16.046 b 10.971 c 7.281 Å β 101.734°

Colourless to white; vitreous; translucent.

Biaxial (–), α 1.436, β 1.442, γ 1.442, 2V(meas.) 0–5°, 2V(calc.) 0°.

7.844 (8), 3.643 (9), 3.453 (10), 3.193 (10), 3.112 (9), 2.989 (9), 2.220 (8), 2.173 (9), 2.001 (8).

IMA No. 95-047

Cubic: $\text{P}2_13$

a 6.164 Å

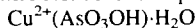
Steel black; metallic; opaque.

In reflected light: bright white with yellowish tint, isotropic. R: (46.2 %)470 nm, (47.2 %)550 nm,

(47.6 %)590 nm, (47.4 %)650 nm.

2.75 (70), 2.51 (60), 1.860 (100), 1.090 (50), 1.090 (50).

IMA No. 95-048 A polymorph of geminite.

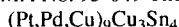
Triclinic: $\text{P}1$ or $\text{P}\bar{1}$ a 6.435 b 11.257 c 18.662 Å α 79.40° β 86.48° γ 83.59°

Very light green to colourless; vitreous; transparent.

Biaxial (+), α 1.602, β 1.642, γ 1.725, 2V(meas.) 70°, 2V(calc.) 73°.

18.3 (25), 11.00 (100), 3.171 (30), 2.952 (50), 2.920 (60), 2.816 (50), 2.492 (25).

IMA No. 95-049 The Pt-dominant analogue of taimyrite.

Orthorhombic: Pmmm , $\text{Pmm}2$ or $\text{P}222$

a 7.89 b 4.07 c 7.73 Å

Pinkish lilac; metallic; opaque.

In reflected light: pinkish lilac, distinct to moderate anisotropism, weak to distinct bireflectance,

pleochroic from brownish pink to pinkish lilac.

 R_{max} & R_{min} : (44.1, 42.8 %)470 nm, (50.0, 49.5 %)546 nm, (54.6, 51.8 %)589 nm, (56.8, 55.6 %)650 nm.

2.283 (10), 2.163 (4), 2.030 (2), 1.369 (3), 1.218 (2), 1.143 (2).

IMA No. 95-050 The vanadium analogue of atleclite.

Monoclinic: $\text{P}2_1/\text{c}$ a 6.973 b 7.539 c 10.881 Å β 107.00°

Light brown; adamantine; transparent to translucent.
 Biaxial (+), α 2.26, β 2.27, γ 2.30, $2V(\text{meas.})$ 65° ,
 $2V(\text{calc.})$ 61° .
 6.667 (23), 6.102 (22), 4.279 (38), 3.267 (100+), 3.150
 (62), 2.734 (36), 2.549 (21), 1.889 (21).

IMA No. 95-051 A member of the zeolite group.

$\text{Ca}_4(\text{Ca}, \text{Sr}, \text{K}, \text{Ba})_3\text{Cu}_3\text{Al}_{12}\text{Si}_{12}\text{O}_{48}(\text{OH})_8 \cdot \sim \text{H}_2\text{O}$
 Cubic: $Fm\bar{3}m$
 a 31.62 Å
 Light blue; vitreous; transparent.
 Isotropic: n 1.505.
 18.34 (100), 15.82 (50), 9.69 (5), 4.43 (5), 3.87 (5),
 3.47 (5).

IMA No. 95-052 A member of the mica group; the

Cr-dominant analogue of muscovite.
 $\text{KCr}_2[\text{AlSi}_3\text{O}_{10}](\text{OH}, \text{F})_2$

Monoclinic: $C2/c$
 a 5.32 b 9.07 c 20.20 Å β 95.6°

Emerald green; vitreous; transparent.

Biaxial (-), α 1.619, β 1.669, γ 1.673, $2V(\text{meas.})$ 31° ,
 $2V(\text{calc.})$ 31° .
 9.94 (6), 4.52 (8), 2.60 (10), 2.40 (6), 2.15 (6), 1.519
 (10).

IMA No. 95-053 The lanthanum-dominant analogue of
 ancyllite-(Ce).

$\text{SrLa}(\text{CO}_3)_2(\text{OH}) \cdot \text{H}_2\text{O}$

Orthorhombic: $Pm\bar{c}n$
 a 5.072 b 8.589 c 7.276 Å

Light yellow to yellowish brown; vitreous; transparent.
 Biaxial (+), α 1.640, β 1.668 (calc.), γ 1.731,
 $2V(\text{meas.})$ 70° .
 4.36 (92), 3.738 (88), 3.705 (90), 2.955 (100), 2.664
 (89), 2.358 (87), 2.092 (80).