



IMA Commission on New Minerals, Nomenclature and Classification (CNMNC) NEWSLETTER 46

NEW MINERALS AND NOMENCLATURE MODIFICATIONS APPROVED IN 2018

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The information given here is provided by the IMA Commission on New Minerals, Nomenclature and Classification for comparative purposes and as a service to mineralogists working on new species.

Each mineral is described in the following format:

Mineral name, if the authors agree on its release prior to the full description appearing in press

Chemical formula

Type locality

Full authorship of proposal

E-mail address of corresponding author

Relationship to other minerals

Crystal system, Space group; Structure determined, yes or no

Unit-cell parameters

Strongest lines in the X-ray powder diffraction pattern

Type specimen repository and specimen number

Citation details for the mineral prior to publication of full description

Citation details concern the fact that this information will be published in the *European Journal of Mineralogy* on a routine basis, as well as being added month by month to the Commission's website.

It is still a requirement for the authors to publish a full description of the new mineral.

NO OTHER INFORMATION WILL BE RELEASED BY THE COMMISSION

NEW MINERAL PROPOSALS APPROVED IN OCTOBER 2018

IMA No. 2018-075

Nipalarsite

Ni₈Pd₃As₄

Monchetundra layered intrusion (borehole 1819,
depth 101.4 m), Kola Peninsula, Russia
(67°52'22", 32°47'60")

Tatiana Grokhovskaya, Oxana Karimova, Anna
Vymazalová*, František Laufek, Dmitry Chareev
and Victor Rassulov

*E-mail: anna.vymazalova@geology.cz

New structure type

Cubic: $Fm\bar{3}m$; structure determined

$a = 11.4428(9)$ Å

2.859(10), 2.623(6), 2.557(6), 2.334(11), 2.201(35),
2.021(100), 1.906(8), 1.429(7)

Type material is deposited in the collections of the
Fersman Mineralogical Museum, Russian Academy

of Sciences, Leninskiy Prospekt 18-2, Moscow 119071, Russia, registration number 5236/1
How to cite: Grokhovskaya, T., Karimova, O., Vymazalová, A., Laufek, F., Chareev, D. and Rassulov, V. (2018) Nipalarsite, IMA 2018-075. CNMNC Newsletter No. 46, December 2018, page 1181; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. 2018-077

Krasnoshteinite
 $\text{Al}_8[\text{B}_2\text{O}_4(\text{OH})_2](\text{OH})_{16}\text{Cl}_4 \cdot 7\text{H}_2\text{O}$
 Romanovskiy area (borehole #2001, depth 248 m), Verkhnekamskoe deposit, 30 km S of the city of Berezniki, Perm Krai, NW Urals, Russia
 Igor V. Pekov*, Natalia V. Zubkova, Ilya I. Chaikovskiy, Elena P. Chirkova, Dmitry I. Belakovskiy, Vasilij O. Yapaskurt, Yana V. Bychkova, Inna S. Lykova, Sergey N. Britvin and Dmitry Y. Pushcharovsky
 *E-mail: igorpekov@mail.ru
 New structure type
 Monoclinic: $P2_1$; structure determined
 $a = 8.7398(2)$, $b = 14.4129(3)$, $c = 11.3060(3)$ Å,
 $\beta = 106.665(2)^\circ$
 $10.81(41)$, $8.65(26)$, $8.38(67)$, $7.22(100)$, $5.452(22)$,
 $3.720(19)$, $3.610(21)$, $3.019(22)$
 Type material is deposited in the collections of the Fersman Mineralogical Museum, Russian Academy of Sciences, Leninskiy Prospekt 18-2, Moscow 119071, Russia, registration number 5239/1
 How to cite: Pekov, I.V., Zubkova, N.V., Chaikovskiy, I.I., Chirkova, E.P., Belakovskiy, D.I., Yapaskurt, V.O., Bychkova, Y.V., Lykova, I.S., Britvin, S.N. and Pushcharovsky, D.Y. (2018) Krasnoshteinite, IMA 2018-077. CNMNC Newsletter No. 46, December 2018, page 1182; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. 2018-078

Aravaite
 $\text{Ba}_2\text{Ca}_{18}(\text{SiO}_4)_6(\text{PO}_4)_3(\text{CO}_3)\text{F}_3\text{O}$
 Hatrurim Complex, Negev Desert, near Arad city, Israel ($31^\circ 13' 58''\text{N}$, $35^\circ 16' 2''\text{E}$)
 Evgeny V. Galuskin*, Biljana Krüger, Irina O. Galuskina, Hannes Krüger and Yevgeny Vapnik
 *E-mail: evgeny.galuskin@us.edu.pl
 Arctite supergroup
 Trigonal: $R\bar{3}m$; structure determined
 $a = 7.1255(1)$, $c = 66.2902(1)$ Å
 $3.566(60)$, $3.075(89)$, $2.776(86)$, $2.764(57)$,
 $2.157(39)$, $1.967(50)$, $1.783(100)$, $1.498(49)$
 Type material is deposited in the collections of the Fersman Mineralogical Museum, Russian Academy of Sciences, Leninskiy Prospekt 18-2, Moscow 119071, Russia, registration number 4960/1
 How to cite: Galuskin, E.V., Krüger, B., Galuskina, I.O., Krüger, H. and Vapnik, Y. (2018) Aravaite,

IMA 2018-078. CNMNC Newsletter No. 46, December 2018, page 1182; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. 2018-079

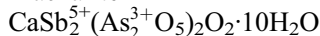
Gasparite-(La)
 LaAsO_4
 Ushkatyn-3 Mn–Fe deposit, close to the town of Zhairam, Karagandy Province, Kazakhstan ($48^\circ 16' 06''\text{N}$, $70^\circ 10' 43''\text{E}$)
 Oleg S. Vereshchagin*, Elena N. Perova, Sergey N. Britvin, Aleksey I. Brusnitsyn, Yury S. Polekhovskiy, Vladimir V. Shilovskikh and Vladimir N. Bocharov
 *E-mail: o.vereshchagin@spbu.ru
 Monazite group
 Monoclinic: $P2_1/n$
 $a = 6.7646(4)$, $b = 7.2184(9)$, $c = 7.0040(4)$ Å,
 $\beta = 104.51(1)^\circ$
 $4.21(22)$, $3.60(20)$, $3.39(46)$, $3.17(100)$, $2.98(62)$,
 $2.02(24)$, $1.94(25)$, $1.79(22)$
 Type material is deposited in the collections of the Mineralogical Museum, Department of Mineralogy, St. Petersburg State University, St. Petersburg, Russia, catalogue number 19692
 How to cite: Vereshchagin, O.S., Perova, E.N., Britvin, S.N., Brusnitsyn, A.I., Polekhovskiy, Y.S., Shilovskikh, V.V. and Bocharov, V.N. (2018) Gasparite-(La), IMA 2018-079. CNMNC Newsletter No. 46, December 2018, page 1182; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. 2018-080

Okieite
 $\text{Mg}_3[\text{V}_{10}\text{O}_{28}] \cdot 28\text{H}_2\text{O}$
 Burro mine, Slick Rock district, San Miguel Co., Colorado, USA (38.04507°N , 108.88972°W);
 Hummer mine, Paradox Valley, Montrose Co., Colorado, USA (38.22556°N , 108.75028°W)
 Anthony R. Kampf*, Barbara P. Nash, Paul M. Adams, Joe Marty and John M. Hughes
 *E-mail: akampf@nhm.org
 Decavanadate family of minerals
 Triclinic: $P\bar{1}$; structure determined
 $a = 10.5566(2)$, $b = 10.7566(2)$, $c = 21.355(1)$ Å,
 $\alpha = 90.015(6)$, $\beta = 97.795(7)$, $\gamma = 104.337(7)^\circ$
 $11.04(17)$, $9.71(100)$, $8.32(19)$, $6.42(12)$, $3.150(9)$,
 $3.024(7)$, $2.621(10)$, $2.087(7)$
 Cotype material is deposited in the mineralogical collections of the Natural History Museum of Los Angeles County, Los Angeles, California, USA, catalogue numbers 66784 and 66785 (Burro mine) and 66786 (Hummer mine)
 How to cite: Kampf, A.R., Nash, B.P., Adams, P.M., Marty, J. and Hughes, J.M. (2018) Okieite, IMA 2018-080. CNMNC Newsletter No. 46, December 2018, page 1182; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. 2018-081

Prachařite



Plaka Mine No. 80, Plaka, Lavrion District, Attiki Prefecture, Greece

Uwe Kolitsch*, Jiří Sejkora, Dan Topa, Anthony R. Kampf, Jakub Plášil, Branko Rieck and Karl Heinz Fabritz

*E-mail: uwe.kolitsch@nhm-wien.ac.at

New structure type

Trigonal: $P\bar{3}c1$; structure determined

$$a = 13.951(2), c = 19.899(2) \text{ \AA}$$

9.96(100), 6.05(33), 5.16(30), 3.314(59), 2.994(95), 2.570(31), 1.717(30), 1.593(26)

Cotype material is deposited in the mineralogical collections of the Natural History Museum, Vienna, Austria, catalogue no. O 357, the National Museum, Prague, Czech Republic, catalogue no. PIP 15/2018, and the Natural History Museum of Los Angeles County, USA, catalogue no. 67242

How to cite: Kolitsch, U., Sejkora, J., Topa, D., Kampf, A.R., Plášil, J., Rieck, B. and Fabritz, K.H. (2018) Prachařite, IMA 2018-081. CNMNC Newsletter No. 46, December 2018, page 1183; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. 2018-082

Ramaccioniite



Mina San Pedro, Cuesta de Los Llantenes mining district, NW Jagüé, Vinchina Department, La Rioja Province, Argentina (28°20'40"S, 68°30'45"W)

Christian L. Lengauer*, Martin Ende, Dan Topa, Raúl Lira and Werner H. Paar

*E-mail: christian.lengauer@univie.ac.at

The Se analogue of brochantite

Monoclinic: $P2_1/a$; structure determined

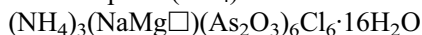
$$a = 13.3703(3), b = 9.9547(2), c = 6.0412(3) \text{ \AA}$$

 $\beta = 103.150(3)^\circ$
6.511(100), 5.448(21), 3.978(23), 3.952(46), 3.255(85), 3.215(15), 2.724(46), 2.533(37)

Type material is deposited in the mineralogical collections of the Naturhistorisches Museum Wien, Burggring 7, 1010 Wien, Austria, catalogue number O 573

How to cite: Lengauer, C.L., Ende, M., Topa, D., Lira, R. and Paar, W.H. (2018) Ramaccioniite, IMA 2018-082. CNMNC Newsletter No. 46, December 2018, page 1183; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. 2018-083

Cuatrocapaite-(NH₄)

Torrecillas mine, Salar Grande, Iquique Province, Tarapacá Region, Chile (20°58'13"S, 70°8'17"W)

Anthony R. Kampf*, Nikita V. Chukanov, Gerhard Möhn, Maurizio Dini, Arturo A. Molina Donoso and Henrik Friis

*E-mail: akampf@nhm.orgThe NH₄ analogue of cuatrocapaite-(K) (IMA No. 2018-084; this newsletter)Trigonal: $P\bar{3}m$; structure determined

$$a = 5.2532(2), c = 46.688(2) \text{ \AA}$$

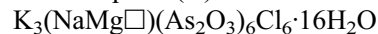
15.68(100), 5.20(56), 4.518(35), 3.256(42), 3.111(32), 2.625(71), 2.490(41), 2.349(47)

Cotype material is deposited in the mineralogical collections of the Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, CA 90007, USA, catalogue numbers 66984, 66985 and 66986, and the Fersman Mineralogical Museum, Russian Academy of Sciences, Leninskiy Prospekt 18-2, Moscow 119071, Russia, registration number 5255/1

How to cite: Kampf, A.R., Chukanov, N.V., Möhn, G., Dini, M., Molina Donoso, A.A. and Friis, H. (2018) Cuatrocapaite-(NH₄), IMA 2018-083. CNMNC Newsletter No. 46, December 2018, page 1183; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. 2018-084

Cuatrocapaite-(K)



Torrecillas mine, Salar Grande, Iquique Province, Tarapacá Region, Chile (20°58'13"S, 70°8'17"W)

Anthony R. Kampf*, Nikita V. Chukanov, Gerhard Möhn, Maurizio Dini, Arturo A. Molina Donoso and Henrik Friis

*E-mail: akampf@nhm.orgThe K analogue of cuatrocapaite-(NH₄) (IMA No. 2018-083; this newsletter)Trigonal: $P\bar{3}m$; structure determined

$$a = 5.264(1), c = 46.228(8) \text{ \AA}$$

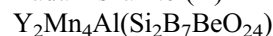
15.50(100), 5.13(32), 3.228(33), 3.098(33), 2.621(69), 2.489(25), 2.339(36), 1.835(21)

Type material is deposited in the mineralogical collections of the Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, CA 90007, USA, catalogue number 66987

How to cite: Kampf, A.R., Chukanov, N.V., Möhn, G., Dini, M., Molina Donoso, A.A. and Friis, H. (2018) Cuatrocapaite-(K), IMA 2018-084. CNMNC Newsletter No. 46, December 2018, page 1183; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. 2018-085

Badakhshanite-(Y)



Dorozhnyi pegmatite, 45 km E of Murghab, Eastern Pamir, Gorno-Badakhshanskij Autonomous Region, Tajikistan

Leonid A. Pautov*, Mirak A. Mirakov, Fernando Cámara Artigas, Elena Sokolova, Frank C. Hawthorne, Manuchehr A. Schodibekov and Vladimir Y. Karpenko

*E-mail: pla58@mail.ru

Related to perettiite-(Y)

Orthorhombic: $Pnma$; structure determined

$$a = 12.852(1), b = 4.5848(5), c = 12.8539(8) \text{ \AA}$$

9.07(45), 4.59(42), 4.07(39), 3.042(100), 2.637(68), 2.533(60), 2.119(32), 1.828(36)

Type material is deposited in the collections of the Fersman Mineralogical Museum, Russian Academy of Sciences, Leninskiy Prospekt 18-2, Moscow 119071, Russia, registration number 5235/1

How to cite: Pautov, L.A., Mirakov, M.A., Cámara Artigas, F., Sokolova, E., Hawthorne, F.C., Schodibekov, M.A. and Karpenko, V.Y. (2018) Badakhshinite-(Y), IMA 2018-085. CNMNC Newsletter No. 46, December 2018, page 1183; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. 2018-087

Ferriakasaite-(Ce)

$\text{CaCeFe}^{3+}\text{AlMn}^{2+}(\text{Si}_2\text{O}_7)(\text{SiO}_4)\text{O}(\text{OH})$

Monte Maniglia mine, Bellino, Varaita Valley, Cuneo Province, Piedmont, Italy (44°33'42.5"N, 6°54'59.2"E)

Cristian Biagioni*, Corrado Balestra, Marco Pasero, Marco E. Ciriotti, Paola Bonazzi and Federica Zaccarini

*E-mail: cristian.biagioni@unipi.it

Epidote supergroup

Monoclinic: $P2_1/m$; structure determined

$a = 8.9071(5)$, $b = 5.7081(4)$, $c = 10.1250(6)$ Å,
 $\beta = 114.151(3)^\circ$

4.65(mw), 3.519(m), 2.911(vs), 2.841(mw), 2.711(ms), 2.616(ms), 2.404(mw), 2.181(mw)

Type material is deposited in the mineralogical collections of the Museo di Storia Naturale, Università di Pisa, Via Roma 79, Calci (Pisa), Italy, catalogue number 19903

How to cite: Biagioni, C., Balestra, C., Pasero, M., Ciriotti, M.E., Bonazzi, P. and Zaccarini, F. (2018) Ferriakasaite-(Ce), IMA 2018-087. CNMNC Newsletter No. 46, December 2018, page 1184; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. 2018-088

Ekebergite

$\text{ThFeNb}_2\text{O}_8$

“In den Dellen” (= Bimsgrube Zieglowski) pumice quarry, Mendig, Laacher See Komplex, Eifel, Rheinland-Pfalz, Germany (50°23'40"N, 7°17'12"E)

Johan Kjellman*, Cesar Pay Gómez, Peter Lazor, Jaroslaw Majka, Chris Stanley and Jens Najorka

*E-mail: johan.kjellman@em.uu.se

New structure type

Monoclinic: $P2/c$; structure determined

$a = 9.815(2)$, $b = 5.629(2)$, $c = 5.224(4)$ Å,
 $\beta = 93.520(9)^\circ$

3.619(38), 3.084(100), 2.953(98), 2.817(40), 2.604(43), 1.913(38), 1.845(34), 1.476(35)

Cotype material is deposited in the mineralogical collections of the Swedish Museum of Natural History, P.O. Box 50007, 104 05 Stockholm, Sweden, catalogue number NRM 20170122, and

the Natural History Museum, Cromwell Road, London SW7 5BD, United Kingdom, registration number BM 2017,17

How to cite: Kjellman, J., Pay Gómez, C., Lazor, P., Majka, J., Stanley, C. and Najorka, J. (2018) Ekebergite, IMA 2018-088. CNMNC Newsletter No. 46, December 2018, page 1184; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. 2018-089

Espadaite

$\text{Na}_4\text{Ca}_3\text{Mg}_2[\text{AsO}_3(\text{OH})]_2[\text{AsO}_2(\text{OH})_2]_{10}\cdot 7\text{H}_2\text{O}$

Torreillas mine, Salar Grande, Iquique Province, Tarapacá Region, Chile (20°58'13"S, 70°8'17"W)

Anthony R. Kampf*, Barbara Nash, Maurizio Dini and Arturo A. Molina Donoso

*E-mail: akampf@nhm.org

New structure type

Orthorhombic: $Ccca$; structure determined

$a = 12.365(1)$, $b = 22.181(2)$, $c = 18.329(1)$ Å

11.10(44), 9.26(100), 4.582(49), 4.118(73), 3.499(80), 3.068(79), 2.766(39), 2.710(39)

Type material is deposited in the mineralogical collections of the Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, CA 90007, USA, catalogue number 67285
How to cite: Kampf, A.R., Nash, B., Dini, M. and Molina Donoso, A.A. (2018) Espadaite, IMA 2018-089. CNMNC Newsletter No. 46, December 2018, page 1184; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. 2018-090

Jeankempite

$\text{Ca}_5(\text{AsO}_4)_2(\text{AsO}_3\text{OH})_2(\text{H}_2\text{O})_7$

Mohawk No. 2 mine, Mohawk, Keweenaw Co., Michigan, USA

Travis A. Olds*, Anthony R. Kampf, Fabrice Dal Bo, Peter C. Burns and Xiaofeng Gao

*E-mail: travis.olds@wsu.edu

Structurally related to guérinite

Triclinic: $P\bar{1}$; structure determined

$a = 6.710(6)$, $b = 14.90(1)$, $c = 15.94(1)$ Å,
 $\alpha = 73.58(1)$, $\beta = 81.98(1)$, $\gamma = 82.75(1)^\circ$

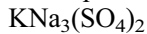
9.25(100), 5.39(80), 3.791(41), 3.180(60), 2.954(86), 2.854(46), 1.799(34), 1.628(32)

Type material is deposited in the collections of the A.E. Seaman Mineral Museum, Michigan Tech, 1404 Sharon Ave, Houghton, MI 49931, USA, catalogue number DM 31705, and the Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, CA 90007, USA, catalogue number 66799

How to cite: Olds, T.A., Kampf, A.R., Dal Bo, F., Burns, P.C. and Gao, X. (2018) Jeankempite, IMA 2018-090. CNMNC Newsletter No. 46, December 2018, page 1184; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. 2018-091

Natroaphthitalite



Arsenatnaya fumarole, Second scoria cone of the Northern Breakthrough of the Great Tolbachik Fissure Eruption, Tolbachik volcano, Kamchatka peninsula, Far-Eastern Region, Russia (55°41'N, 160°14'E, 1200 m asl)

Nadezhda V. Shchipalkina, Igor V. Pekov, Nikita V. Chukanov, Natalia V. Zubkova, Dmitry I. Belakovskiy, Natalia N. Koshlyakova, Sergey N. Britvin, Evgeny G. Sidorov and Svetlana A. Vozchikova

*E-mail: estel58@yandex.ru

Isostructural with apththitalite and möhnlite

Trigonal: $P\bar{3}m1$; structure determined

$a = 5.6014(3)$, $c = 7.1507(5)$ Å

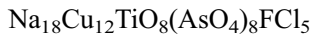
4.010(42), 3.574(15), 2.877(77), 2.797(100), 2.007(40), 1.631(12), 1.617(11), 1.400(10)

Type material is deposited in the collections of the Fersman Mineralogical Museum, Russian Academy of Sciences, Leninskiy Prospekt 18-2, Moscow 119071, Russia, registration number 5254/1

How to cite: Shchipalkina, N.V., Pekov, I.V., Chukanov, N.V., Zubkova, N.V., Belakovskiy, D.I., Koshlyakova, N.N., Britvin, S.N., Sidorov, E.G. and Vozchikova, S.A. (2018) Natroaphthitalite, IMA 2018-091. CNMNC Newsletter No. 46, December 2018, page 1185; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. 2017-057a

Lehmannite



Arsenatnaya fumarole, Second scoria cone of the Northern Breakthrough of the Great Tolbachik Fissure Eruption, Tolbachik volcano, Kamchatka Peninsula, Far-Eastern Region, Russia (55°41'N, 160°14'E, 1200 m asl)

Igor V. Pekov*, Sergey N. Britvin, Natalia N. Koshlyakova, Yury S. Polekhovskiy, Jörg Göttlicher, Marina F. Vigasina, Anna G. Turchkova and Evgeny G. Sidorov

*E-mail: igorpekov@mail.ru

Closely related to of arsmirandite

Monoclinic: $C2/m$; structure determined

$a = 10.824(1)$, $b = 21.108(2)$, $c = 11.856(1)$ Å,
 $\beta = 117.195(8)^\circ$

10.52(65), 8.74(100), 5.419(36), 5.273(74), 3.722(37), 2.636(43), 2.573(98), 1.889(33)

Type material is deposited in the collections of the Fersman Mineralogical Museum of the Russian Academy of Sciences, Leninskiy Prospekt 18-2, Moscow 119071, Russia, registration number 5065/1

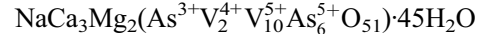
How to cite: Pekov, I.V., Britvin, S.N., Koshlyakova, N.N., Polekhovskiy, Y.S., Göttlicher, J., Vigasina, M.F., Turchkova, A.G. and Sidorov, E.G. (2018) Lehmannite, IMA 2017-057a. CNMNC Newsletter

No. 46, December 2018, page 1185; *European Journal of Mineralogy*, **30**, 1181–1189.

NEW MINERAL PROPOSALS APPROVED IN NOVEMBER 2018

IMA No. 2018-092

Lumsdenite



Packrat mine, Lumsden Canyon, near Gateway, Mesa Co., Colorado, USA (38°38'51.28"N, 109°02'49.77"W)

Anthony R. Kampf*, John M. Hughes, Barbara P. Nash, Joe Marty and Timothy P. Rose

*E-mail: akampf@nhm.org

Vanarsite mineral family

Triclinic: $P\bar{1}$; structure determined

$a = 10.3490(5)$, $b = 17.6263(9)$, $c = 23.256(2)$ Å,

$\alpha = 82.208(6)$, $\beta = 88.351(6)$, $\gamma = 81.702(6)^\circ$

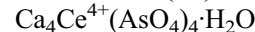
17.30(44), 14.86(80), 13.04(25), 10.22(32), 9.35(100), 8.34(32), 2.809(23), 2.686(17)

Type material is deposited in the mineralogical collections of the Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, CA 90007, USA, catalogue number 66787

How to cite: Kampf, A.R., Hughes, J.M., Nash, B.P., Marty, J. and Rose, T.P. (2018) Lumsdenite, IMA 2018-092. CNMNC Newsletter No. 46, December 2018, page 1185; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. 2018-094

Armellinoite-(Ce)



In the dumps of the Montaldo di Mondovì mine, Frazze Rocconi, Borgata Oberti, Montaldo di Mondovì (CN), Corsaglia Valley, Piedmont, Italy (44°19'28"N, 7°51'8"E)

Fernando Cámara*, Marco E. Ciriotti, Uwe Kolitsch, Ferdinando Bosi, Erica Bittarello, Piero Brizio, Pietro Vignola and Günter Blass

*E-mail: fernando.camara@unimi.it

Isostructural with pottsite

Tetragonal: $I4_1/a$; structure determined

$a = 10.749(2)$, $c = 12.030(2)$ Å

7.983(36), 4.443(23), 2.957(100), 2.398(14), 1.875(22), 1.728(19), 1.612(13), 1.475(26)

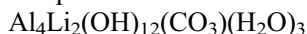
Type material is deposited in the mineralogical collections of the Museo delle Collezioni di Mineralogia, Gemmologia, Petrologia e Giacimentologia, Dipartimento di Scienze della Terra "A. Desio", Università di Milano, catalogue number MCMGPG-H2018-003

How to cite: Cámara, F., Ciriotti, M.E., Kolitsch, U., Bosi, F., Bittarello, E., Brizio, P., Vignola, P. and Blass, G. (2018) Armellinoite-(Ce), IMA 2018-094. CNMNC Newsletter No. 46, December 2018,

page 1185; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. **2018-095**

Akopovaite



Ore body #2 on the right side of the Asan-Usan glacier, Karasu-Karavshinskoye Sn-deposit, northern slope of the Turkestan Ridge, Kyrgyzstan (39.5893°N, 70.2489°E)

Vladimir Y. Karpenko*, Leonid A. Pautov, Elena S. Zhitova, Atali A. Agakhanov, Maria G. Krzhizhanovskaya, Oleg I. Siidra and Victor A. Rassulov

*E-mail: mineralab@mail.ru

Hydrotalcite supergroup

Monoclinic: $C2/m$; structure determined

$a = 5.0953(6)$, $b = 8.877(1)$, $c = 7.806(1)$ Å,
 $\beta = 102.572(6)^\circ$

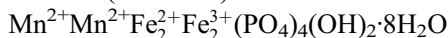
7.66(100), 4.397(27), 3.821(45), 2.532(10),
2.488(27), 2.227(16), 1.903(18), 1.471(10)

Type material is deposited in the collections of the Fersman Mineralogical Museum of the Russian Academy of Sciences, Leninskiy Prospekt 18-2, Moscow 119071, Russia, catalogue # 5200/1

How to cite: Karpenko, V.Y., Pautov, L.A., Zhitova, E.S., Agakhanov, A.A., Krzhizhanovskaya, M.G., Siidra, O.I. and Rassulov, V.A. (2018) Akopovaite, IMA 2018-095. CNMNC Newsletter No. 46, December 2018, page 1186; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. **2018-096**

Jahnsite-(MnMnFe)



Malpensata granitic pegmatite dike, Piona pegmatite swarm, Colico (LC), Lombardy, Italy (46°07'20"N, 9°19'33"E)

Pietro Vignola*, Frédéric Hatert, Nicola Rotiroti, Fabrizio Nestola, Andrea Risplendente and Francesco Vanini

*E-mail: pietro.vignola@idpa.cnr.it

Jahnsite group

Monoclinic: $P2/a$; structure determined

$a = 14.6983(6)$, $b = 7.1477(2)$, $c = 10.0209(4)$ Å,
 $\beta = 107.128(4)^\circ$

9.221(89), 4.932(78), 4.651(78), 3.971(70),
3.504(63), 3.295(46), 2.840(82), 2.590(100)

Type material is deposited in the mineralogical collections of the Laboratoire de Minéralogie, University of Liege, Bâtiment B18, Sart Tilman, 4000 Liège, Belgium, catalogue no. 21168

How to cite: Vignola, P., Hatert, F., Rotiroti, N., Nestola, F., Risplendente, A. and Vanini, F. (2018) Jahnsite-(MnMnFe), IMA 2018-096. CNMNC Newsletter No. 46, December 2018, page 1186; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. **2018-098**

Gladkovskyite



Vorontsovskoe gold deposit, ca. 13 km S of the city of Krasnotur'insk, Sverdlovskaya Oblast', Northern Urals, Russia

Anatoly V. Kasatkin*, Jakub Plášil, Emil Makovicky, Radek Škoda, Atali A. Agakhanov, Sergey Y. Stepanov and Fabrizio Nestola

*E-mail: anatoly.kasatkin@gmail.com

New structure type

Trigonal: $R31c$; structure determined

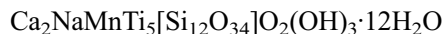
$a = 9.6392(2)$, $c = 6.456(1)$ Å

5.11(80), 4.83(70), 3.49(50), 3.23(20), 2.86(100),
2.68(30), 2.55(60), 1.83(20)

Type material is deposited in the collections of the Fersman Mineralogical Museum of the Russian Academy of Sciences, Leninskiy Prospekt 18-2, Moscow 119071, Russia, registration number 5248/1
How to cite: Kasatkin, A.V., Plášil, J., Makovicky, E., Škoda, R., Agakhanov, A.A., Stepanov, S.Y. and Nestola, F. (2018) Gladkovskyite, IMA 2018-098. CNMNC Newsletter No. 46, December 2018, page 1186; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. **2018-099**

Escheite



Ariskop quarry, Aris phonolite, Windhoek district, Namibia (22°46'6"S, 17°7'51"E)

Fernando Cámara*, Fabrizio Nestola, Marco E. Ciriotti, Uwe Kolitsch, Marco Merlini, Günter Blass and Ralph Wartha

*E-mail: fernando.camara@unimi.it

Zorite group

Orthorhombic: $Bbm2$; structure determined

$a = 14.2465(2)$, $b = 22.9871(4)$, $c = 13.7304(2)$ Å
6.873(30), 6.823(16), 5.227(20), 3.411(13),
3.056(22), 3.034(17), 2.950(16), 2.559(20)

Type material is deposited in the mineralogical collections of the Museo delle Collezioni di Mineralogia, Gemmologia, Petrologia e Giacimentologia, Dipartimento di Scienze della Terra "A. Desio", Università di Milano, catalogue number MCMGPG-H2018-002

How to cite: Cámara, F., Nestola, F., Ciriotti, M.E., Kolitsch, U., Merlini, M., Blass, G. and Wartha, R. (2018) Escheite, IMA 2018-099. CNMNC Newsletter No. 46, December 2018, page 1186; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. **2018-100**

Uroxite



Burro mine, Slick Rock district, San Miguel Co., Colorado, USA (38°2'42"N, 108°53'23"W); Markey

mine, Red Canyon, White Canyon mining district, San Juan Co., Utah, USA (37°32'57"N, 110°18'08"W)
Anthony R. Kampf*, Jakub Plášil, Barbara P. Nash,
Ivan Němec and Joe Marty

*E-mail: akampf@nhm.org

Oxalate mineral group

Monoclinic: $P2_1/c$; structure determined

$a = 5.5698(2)$, $b = 15.2877(6)$, $c = 13.3724(9)$ Å,
 $\beta = 94.015(7)^\circ$

10.05(38), 5.00(100), 4.75(23), 4.43(51), 3.567(33),
3.341(29), 3.271(20), 2.623(28)

Cotype material is deposited in the mineralogical
collections of the Natural History Museum of Los
Angeles County, 900 Exposition Boulevard, Los
Angeles, CA 90007, USA, catalogue numbers
73514 and 73515 (Burro mine), 73516 and 73517
(Markey mine)

How to cite: Kampf, A.R., Plášil, J., Nash, B.P.,
Němec, I. and Marty, J. (2018) Uroxite, IMA
2018-100. CNMNC Newsletter No. 46, December
2018, page 1186; *European Journal of Mineralogy*,
30, 1181–1189.

IMA No. 2018-101

Lussierite

$\text{Na}_{10}[(\text{UO}_2)(\text{SO}_4)_4](\text{SO}_4)_2(\text{H}_2\text{O})_3$

Blue Lizard mine, Red Canyon, White Canyon min-
ing district, San Juan Co., Utah, USA (37°33'26"N,
110°17'44"W)

Anthony R. Kampf*, Travis Olds, Jakub Plášil,
Barbara P. Nash and Joe Marty

*E-mail: akampf@nhm.org

New structure type

Monoclinic: Cc ; structure determined

$a = 9.3134(4)$, $b = 28.750(1)$, $c = 9.6346(7)$ Å,
 $\beta = 93.442(7)^\circ$

8.00(63), 6.69(95), 5.75(68), 4.814(100), 3.461(83),
2.955(81), 2.882(74), 2.799(58)

Type material is deposited in the mineralogical
collections of the Natural History Museum of Los
Angeles County, 900 Exposition Boulevard, Los
Angeles, CA 90007, USA, catalogue numbers
73518 (holotype), 73519 and 73520 (cotype)

How to cite: Kampf, A.R., Olds, T., Plášil, J., Nash,
B.P. and Marty, J. (2018) Lussierite, IMA 2018-101.
CNMNC Newsletter No. 46, December 2018, page
1187; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. 2018-102

Asimowite

Fe_2SiO_4

Suizhou L6 chondrite, fall in Dayanpo, 12.5 km SE
of Suizhou, Hubei province, China (holotype);
Quebrada Chimborazo (QC) 001 CB3.0 chondrite,
found in Antofagasta, Chile (cotype)

Luca Bindi*, Frank E. Brenker, Fabrizio Nestola,
Tamara E. Koch, David J. Prior, Kat Lilly, Alexander
N. Krot, Martin Bizzarro and Xiande Xie

*E-mail: luca.bindi@unifi.it

The Fe analogue of wadsleyite

Orthorhombic: *Imma*; structure determined

$a = 5.7485(4)$, $b = 11.5761(9)$, $c = 8.3630(7)$ Å
2.708(50), 2.650(70), 2.506(40), 2.471(100),
2.220(40), 2.088(50), 2.036(90), 1.460(90)

Type material is deposited in the mineralogical
collections of the Museo di Storia Naturale, Univer-
sità di Firenze, Via La Pira 4, 50121, Firenze, Italy,
catalogue number 3238/I (holotype), and the Goethe
University Frankfurt, Germany (cotype)

How to cite: Bindi, L., Brenker, F.E., Nestola, F.,
Koch, T.E., Prior, D.J., Lilly, K., Krot A.N.,
Bizzarro, M. and Xie, X. (2018) Asimowite, IMA
2018-102. CNMNC Newsletter No. 46, December
2018, page 1187; *European Journal of Mineralogy*,
30, 1181–1189.

IMA No. 2018-105

Amamoorite

$\text{CaMn}_2^{2+}\text{Mn}^{3+}(\text{Si}_2\text{O}_7)\text{O}(\text{OH})$

Amamoor mine, near Gympie, Southern
Queensland, Australia

Roger Townend, Ian E. Grey*, W. Gus Mumme,
Anthony R. Kampf, Malcolm Roberts, Robert W.
Gable and Rodney Dale

*E-mail: ian.grey@csiro.au

The Mn^{2+} – Mn^{3+} -dominant analogue of ilvaite

Monoclinic: $P2_1/a$; structure determined

$a = 13.0981(2)$, $b = 8.8897(2)$, $c = 5.9029(1)$ Å,
 $\beta = 91.697(2)^\circ$

7.349(76), 2.893(100), 2.827(48), 2.754(50),
2.725(50), 2.699(66), 2.157(33), 2.100(35)

Type material is deposited in the mineralogical
collections of the Western Australian Museum,
catalogue number WAM M8.2018, and the Natural
History Museum of Los Angeles County, 900 Ex-
position Boulevard, Los Angeles, CA 90007, USA,
catalogue number 66937

How to cite: Townend, R., Grey, I.E., Mumme, W.G.,
Kampf, A.R., Roberts, M., Gable, R.W. and Dale, R.
(2018) Amamoorite, IMA 2018-105. CNMNC
Newsletter No. 46, December 2018, page 1187;
European Journal of Mineralogy, **30**, 1181–1189.

IMA No. 2018-106

Ferriperbœite-(La)

$(\text{CaLa}_3)(\text{Fe}^{3+}\text{Al}_2\text{Fe}^{2+})[\text{Si}_2\text{O}_7][\text{SiO}_4]_3\text{O}(\text{OH})_2$

Mochalin Log REE deposit, 14 km N of the city of
Kyshtym, Chelyabinsk Oblast', South Urals, Russia
(55°48'42"N, 60°33'46"E)

Anatoly V. Kasatkin*, Igor V. Pekov, Natalia V.
Zubkova, Nikita V. Chukanov, Radek Škoda, Yuri
S. Polekhovskiy, Dmitriy I. Belakovskiy, Atali A.
Agakhanov, Aleksey M. Kuznetsov and Dmitry Y.
Pushcharovskiy

*E-mail: anatoly.kasatkin@gmail.com

Gatelite supergroup

Monoclinic: $P2_1/m$; structure determined
 $a = 8.9458(2)$, $b = 5.7297(1)$, $c = 17.6192(3)$ Å,
 $\beta = 115.950(2)^\circ$
 15.81(72), 4.700(43), 3.521(53), 3.003(100),
 2.868(39), 2.775(28), 2.687(33), 2.636(60)
 Type material is deposited in the collections of the
 Fersman Mineralogical Museum, Russian Academy
 of Sciences, Leninskiy Prospekt 18-2, Moscow
 119071, Russia, registration number 5253/1
 How to cite: Kasatkin, A.V., Pekov, I.V., Zubkova,
 N.V., Chukanov, N.V., Škoda, R., Polekhovskiy,
 Y.S., Belakovskiy, D.I., Agakhanov, A.A.,
 Kuznetsov, A.M. and Pushcharovskiy, D.Y. (2018)
 Ferriperbœite-(La), IMA 2018-106. CNMNC
 Newsletter No. 46, December 2018, page 1187;
European Journal of Mineralogy, **30**, 1181–1189.

IMA No. 2018-107

Radekškodaite-(La)
 $(\text{CaLa}_5)(\text{Al}_4\text{Fe}^{2+})[\text{Si}_2\text{O}_7][\text{SiO}_4]_5\text{O}(\text{OH})_3$
 Mochalin Log REE deposit, 14 km N of the city of
 Kyshtym, Chelyabinsk Oblast', South Urals, Russia
 (55°48'42"N, 60°33'46"E)
 Anatoly V. Kasatkin*, Igor V. Pekov, Natalia V.
 Zubkova, Nikita V. Chukanov, Yury S. Polekhovskiy,
 Dmitriy I. Belakovskiy, Dmitriy A. Ksenofontov,
 Atali A. Agakhanov, Aleksey M. Kuznetsov and
 Dmitriy Y. Pushcharovskiy
 *E-mail: anatoly.kasatkin@gmail.com

New structure type
 Monoclinic: $P2_1/m$; structure determined
 $a = 8.9604(3)$, $b = 5.7268(2)$, $c = 25.113(1)$ Å,
 $\beta = 116.627(5)^\circ$
 22.1(52), 8.01(32), 4.661(65), 3.522(78), 3.038(55),
 3.010(45), 2.866(44), 2.640(100)
 Type material is deposited in the collections of the
 Fersman Mineralogical Museum, Russian Academy
 of Sciences, Leninskiy Prospekt 18-2, Moscow
 119071, Russia, registration number 5267/1
 How to cite: Kasatkin, A.V., Pekov, I.V., Zubkova,
 N.V., Chukanov, N.V., Polekhovskiy, Y.S.,
 Belakovskiy, D.I., Ksenofontov, D.A., Agakhanov,
 A.A., Kuznetsov, A.M. and Pushcharovskiy, D.Y.
 (2018) Radekškodaite-(La), IMA 2018-107.
 CNMNC Newsletter No. 46, December 2018,
 page 1188; *European Journal of Mineralogy*, **30**,
 1181–1189.

IMA No. 2017-009b

Laverovite
 $\text{K}_2\text{NaMn}_7\text{Zr}_2(\text{Si}_4\text{O}_{12})_2\text{O}_2(\text{OH})_4\text{F}$
 Desourdy quarry, which later became part of the
 Demix quarry, which in turn was subsumed by the
 Poudrette quarry, Mont Saint-Hilaire, La Vallée-du-
 Richelieu RCM, Montérégie, Québec, Canada
 Elena Sokolova*, Maxwell C. Day, Frank C.
 Hawthorne, Anatoly V. Kasatkin, Robert A. Downs,
 László Horváth and Elsa Pfenninger-Horváth
 *E-mail: elena_sokolova@umanitoba.ca

Astrophyllite supergroup

Triclinic: $P\bar{1}$; structure determined
 $a = 5.4329(1)$, $b = 11.9232(3)$, $c = 11.7491(3)$ Å,
 $\alpha = 112.905(2)$, $\beta = 94.696(1)$, $\gamma = 103.178(1)^\circ$
 10.625(100), 3.542(92), 2.788(97), 2.680(68),
 2.589(100), 2.504(44), 1.776(39), 1.589(50)
 Type material is deposited in the mineralogical
 collections of Royal Ontario Museum, Toronto,
 Ontario, Canada, accession number M57542
 How to cite: Sokolova, E., Day, M.C., Hawthorne,
 F.C., Kasatkin, A.V., Downs, R.A., Horváth, L.
 and Pfenninger-Horváth, E. (2018) Laverovite,
 IMA 2017-009b. CNMNC Newsletter No. 46,
 December 2018, page 1188; *European Journal of*
Mineralogy, **30**, 1181–1189.

IMA No. 2017-032a

Tschaunerite
 $(\text{Fe}^{2+})(\text{Fe}^{2+}\text{Ti}^{4+})\text{O}_4$
 Shergotty Martian meteorite, fall at Shergotty, Gaya
 district, Bihar, India
 Chi Ma* and Vitali Prakapenka
 *E-mail: chi@gps.caltech.edu
 A polymorph of ulvöspinel
 Orthorhombic: $Cmcm$
 $a = 2.71(2)$, $b = 9.216(8)$, $c = 9.103(4)$ Å
 2.534(100), 2.498(25), 2.304(27), 2.256(31),
 1.983(63), 1.855(33), 1.49(37), 1.194(19)
 Type material is deposited in the E. Stolper Martian
 Meteorite Collection of the Division of Geological
 and Planetary Sciences, California Institute of
 Technology, Pasadena, California 91125, USA, thin
 section Shergotty-1
 How to cite: Ma, C. and Prakapenka, V. (2018)
 Tschaunerite, IMA 2017-032a. CNMNC Newsletter
 No. 46, December 2018, page 1188; *European*
Journal of Mineralogy, **30**, 1181–1189.

IMA No. 2017-041a

Feiite
 $\text{Fe}_2^{2+}(\text{Fe}^{2+}\text{Ti}^{4+})\text{O}_5$
 Shergotty Martian meteorite, fall at Shergotty, Gaya
 district, Bihar, India
 Chi Ma* and Oliver Tschauner
 *E-mail: chi@gps.caltech.edu
 Isostructural with synthetic Fe_4O_5
 Orthorhombic: $Cmcm$
 $a = 2.90(3)$, $b = 10.25(20)$, $c = 12.50(8)$ Å
 2.668(100), 2.562(29), 2.548(34), 2.177(37),
 2.084(65), 1.953(21), 1.669(26), 1.499(28)
 Type material is deposited in the E. Stolper Martian
 Meteorite Collection of the Division of Geological
 and Planetary Sciences, California Institute of
 Technology, Pasadena, California 91125, USA, thin
 section Shergotty-1
 How to cite: Ma, C. and Tschauner, O. (2018) Feiite,
 IMA 2017-041a. CNMNC Newsletter No. 46,
 December 2018, page 1188; *European Journal of*
Mineralogy, **30**, 1181–1189.

IMA No. 2017-042a

Liuite

FeTiO₃

Shergotty Martian meteorite, fall at Shergotty, Gaya district, Bihar, India

Chi Ma* and Oliver Tschauer

*E-mail: chi@gps.caltech.edu

A polymorph of ilmenite

Orthorhombic: *Pnma* $a = 5.32(1)$, $b = 6.840(5)$, $c = 5.037(3)$ Å
3.225(20), 2.660(23), 2.518(25), 2.498(100),
1.829(27), 1.710(19), 1.625(22), 1.450(37)

Type material is deposited in the E. Stolper Martian Meteorite Collection of the Division of Geological and Planetary Sciences, California Institute of Technology, Pasadena, California 91125, USA, thin section Shergotty-1

How to cite: Ma, C. and Tschauer, O. (2018) Liuite, IMA 2017-042a. CNMNC Newsletter No. 46, December 2018, page 1189; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. 2017-087a

Ferri-mottanaite-(Ce)

Ca₄Ce₂Fe³⁺(Be_{1.5}□_{0.5})[Si₄B₄O₂₂]O₂

Vico volcanic complex, Tre Croci, close to Vetralla (Viterbo), Latium, Italy

Roberta Oberti*, Antonio Langone, Massimo Boiocchi, Frank C. Hawthorne and Ezio Bernabè

*E-mail: oberti@crystal.unipv.it

Hellandite group

Monoclinic: *P2/a*; structure determined $a = 19.0548(9)$, $b = 4.7468(2)$, $c = 10.2560(5)$ Å,
 $\beta = 110.906(2)^\circ$
4.745(33), 3.453(36), 3.246(43), 3.086(44),
2.919(44), 2.857(50), 2.648(100), 1.904(48)

Type material is deposited in the collections of the Museo di Mineralogia, Dipartimento di Scienze della Terra e dell'Ambiente, Università di Pavia, catalogue number 2018-02

How to cite: Oberti, R., Langone, A., Boiocchi, M., Hawthorne, F.C. and Bernabè, E. (2018) Ferri-mottanaite-(Ce), IMA 2017-087a. CNMNC Newsletter No. 46, December 2018, page 1189; *European Journal of Mineralogy*, **30**, 1181–1189.

IMA No. 2018-032a

Natrowalentaite

[Fe_{0.5}³⁺Na_{0.5}(H₂O)₆][NaAs₂³⁺(Fe_{2.33}³⁺W_{0.67}⁶⁺)(PO₄)₂O₇]

Griffins Find gold deposit, ca. 15 km NW of Lake Grace, Australia

Ian E. Grey*, W. Gus Mumme, Anthony R. Kampf and Colin M. MacRae

*E-mail: ian.grey@csiro.au

Chemically and structurally related to walentaite

Orthorhombic: *Imma*; structure determined $a = 25.770(3)$, $b = 7.3250(8)$, $c = 10.522(1)$ Å
12.95(100), 9.72(9), 6.72(14), 4.41(10), 3.020(27),
2.940(15), 2.759(11), 1.784(10)

Type material is deposited in the mineralogical collections of the Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, CA 90007, USA, catalogue number 66703

How to cite: Grey, I.E., Mumme, W.G., Kampf, A.R. and MacRae, C.M. (2018) Natrowalentaite, IMA 2018-032a. CNMNC Newsletter No. 46, December 2018, page 1189; *European Journal of Mineralogy*, **30**, 1181–1189.

REVISED CHEMICAL FORMULAE

A paper on the mineral vigrishinite has been recently published [*Mineralogical Magazine*, **82** (2018), 787–807] in which the ideal chemical formula of the mineral is given as NaZnTi₄(Si₂O₇)₂O₃(OH)(H₂O)₄, with sodium as an essential constituent. These data were examined carefully by the CNMNC officers and were considered reliable. Accordingly it was agreed to modify the formula of vigrishinite in the official IMA List of Minerals.

A paper on the mineral cafarsite has been recently published [*European Journal of Mineralogy*, **30** (2018), 859–868] in which the ideal chemical formula of the mineral is revised as (Ca,Na,□)₁₉Ti₈Fe₄³⁺Fe₄²⁺(AsO₃)₂₈F, with no water molecules or hydroxyls, and with fluorine as an essential constituent. These data were examined carefully by the CNMNC officers and were considered reliable. Accordingly it was agreed to modify the formula of cafarsite in the official IMA List of Minerals.