



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

### Newsletter 66

Ritsuro Miyawaki (Chairman, CNMNC)<sup>1</sup>, Frédéric Hatert (Vice-Chairman, CNMNC)<sup>2</sup>, Marco Pasero (Vice-Chairman, CNMNC)<sup>3\*</sup> and Stuart J. Mills (Secretary, CNMNC)<sup>4</sup>

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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 (ideal formula)

Mineral symbol

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 powder X-ray 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 *Mineralogical Magazine* on a routine basis, as well as being added month by month to the Commission's web site.**

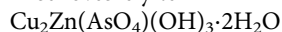
**It is still a requirement for the authors to publish a full description of the new mineral.**

NO OTHER INFORMATION WILL BE RELEASED BY THE COMMISSION

#### NEW MINERAL PROPOSALS APPROVED IN FEBRUARY 2022

##### IMA No. 2021-076a

Arsenoveszelyite



Avsz

Sanguozhuang Village, Tangdan Town, Dongchuan District, Kunming City, Yunnan Province, China (26°07'36" N, 103°00'19" E)

Hongtao Shen, Jinhua Hao, Ningyue Sun, Guowu Li\*, Yuan Xue and Liqun Luo

\*E-mail: [liguowu@cugb.edu.cn](mailto:liguowu@cugb.edu.cn)

The As analogue of veszelyite

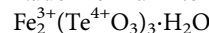
Monoclinic:  $P2_1/c$ ; structure determined

$a = 7.5852(4)$ ,  $b = 10.3877(5)$ ,  $c = 9.8714(5)$  Å,  $\beta = 102.984(5)^\circ$   
7.129(95), 4.391(40), 3.698(100), 3.521(45), 3.000(50), 2.811(35),  
2.511(40), 2.388(20)

Type material is deposited in the mineralogical collections of the Geological Museum of China, No. 15, Yangrou Hutong, Xisi, Beijing 100083, People's Republic of China, catalogue number M16126 (holotype), and the Crystal Structure Laboratory, China University of Geosciences, Beijing 100083, People's Republic of China, catalogue number DC-3 (cotype).  
How to cite: Shen, H., Hao, J., Sun, N., Li, G., Xue, Y. and Luo, L. (2022) Arsenoveszelyite, IMA 2021-076a. CNMNC Newsletter 66; *Mineralogical Magazine*, 86, <https://doi.org/10.1180/mgm.2022.33>

##### IMA No. 2021-099

Rudolfhermannite



Rhr

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Cite this article: Miyawaki R., Hatert F., Pasero M. and Mills S.J. (2022) Newsletter 66. *Mineralogical Magazine* 86, 359–362. <https://doi.org/10.1180/mgm.2022.33>

Ozernovskoe gold deposit, Orebody No. 5, 115 km N of the town of Klyuchi, Kamchatka peninsula, Far-Eastern Region, Russia (57°35'31" N, 160°38'13" E)

Igor V. Pekov\*, Sergey N. Britvin, Petr A. Pletnev, Vasilii O. Yapaskurt, Dmitry I. Belakovskiy, Nikita V. Chukanov, Marina F. Vigasina and Aleksandr P. Ponomarev

\*E-mail: [igorpekov@mail.ru](mailto:igorpekov@mail.ru)

Closely related to the minerals of the zemannite group

Hexagonal:  $P6_3/m$ ; structure determined

$a = 9.2490(5)$ ,  $c = 7.5688(6)$  Å

8.01(100), 4.005(53), 3.775(15), 3.027(13), 2.925(17), 2.809(27), 2.747(45), 1.707(17)

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 5761/1

How to cite: Pekov, I.V., Britvin, S.N., Pletnev, P.A., Yapaskurt, V.O., Belakovskiy, D.I., Chukanov, N.V., Vigasina, M.F. and Ponomarev, A.P. (2022) Rudolfhermannite, IMA 2021-099. CNMNC Newsletter 66; *Mineralogical Magazine*, **86**, <https://doi.org/10.1180/mgm.2022.33>

#### IMA No. 2021-100

Magnesio-ferri-hornblende

$\square\text{Ca}_2(\text{Mg}_4\text{Fe}^{3+})[(\text{Si}_7\text{Al})\text{O}_{22}](\text{OH})_2$

Mfhl

Boluokenu island arc belt, West Tianshan, Xinjiang, China (44°05'25" N, 82°43'26" E)

Yongmei Zhang, Xuexiang Gu\*, Ting Li, Guang Fan, Yingshuai Zhang and Jialin Wang

\*E-mail: [xuexiang\\_gu@cugb.edu.cn](mailto:xuexiang_gu@cugb.edu.cn)

Amphibole supergroup

Monoclinic:  $C2/m$ ; structure determined

$a = 9.8620(3)$ ,  $b = 18.1060(5)$ ,  $c = 5.3081(1)$  Å,  $\beta = 104.848(1)^\circ$   
8.397(52), 3.383(41), 2.717(100), 2.597(84), 2.545(61), 1.854(49), 1.585(39), 1.519(62)

Type material is deposited in the mineralogical collections of the Geological Museum of China, No. 16, Yangrou Hutong, Xisi, Beijing 100031, People's Republic of China, catalogue number M16131

How to cite: Zhang, Y., Gu, X., Li, T., Fan, G., Zhang, Y. and Wang, J. (2022) Magnesio-ferri-hornblende, IMA 2021-100. CNMNC Newsletter 66; *Mineralogical Magazine*, **86**, <https://doi.org/10.1180/mgm.2022.33>

#### IMA No. 2021-103

Nafeasite

$\text{Na}_3\text{Fe}_3^{3+}(\text{AsO}_3\text{OH})_6 \cdot 3\text{H}_2\text{O}$

Nfa

Torrecillas mine, Salar Grande, Iquique Province, Tarapacá Region, Chile (20°58'13" S, 70°08'17" W)

Anthony R. Kampf\*, Jochen Schlüter, Thomas Malcherek, Bianca Paulenz, Dieter Pohl, Chi Ma, Maurizio Dini and Arturo A. Molina Donoso

\*E-mail: [akampf@nhm.org](mailto:akampf@nhm.org)

New structure type

Monoclinic:  $C2$ ; structure determined

$a = 18.688(2)$ ,  $b = 8.6769(7)$ ,  $c = 14.810(1)$  Å,  $\beta = 105.238(5)^\circ$   
9.04(20), 7.23(89), 4.33(30), 3.127(100), 3.085(33), 2.809(15), 2.518(15), 1.417(16)

Type material is deposited in the collections of the Mineralogisches Museum Hamburg, Leibniz-Institut zur

Analyse des Biodiversitätswandels, Grindelallee 48, 20146 Hamburg, Germany, catalogue number MD760 (holotype), and the Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, CA 90007, USA, catalogue numbers 76193 (piece of the holotype) and 76194 (cotype)

How to cite: Kampf, A.R., Schlüter, J., Malcherek, T., Paulenz, B., Pohl, D., Ma, C., Dini, M. and Molina Donoso, A.A. (2022) Nafeasite, IMA 2021-103. CNMNC Newsletter 66; *Mineralogical Magazine*, **86**, <https://doi.org/10.1180/mgm.2022.33>

#### IMA No. 2021-104

Amgaite

$\text{Ti}_2^{3+}\text{Te}^{6+}\text{O}_6$

Amgt

In the upstream of Khokhoy creek, right tributary of Amga River, 120 km W of Aldan town, Aldanskiy region, Sakha Republic (Yakutia), Eastern Siberia, Russia (59°06'36" N, 123°14'42" E)

Anatoly V. Kasatkin\*, Galina S. Anisimova, Fabrizio Nestola, Jakub Plášil, Jiří Sejkora, Radek Škoda, Evgeniy P. Sokolov, Larisa A. Kondratieva and Veronika N. Kardashevskaja

\*E-mail: [anatoly.kasatkin@gmail.com](mailto:anatoly.kasatkin@gmail.com)

Known synthetic analogue

Trigonal:  $P321$ ; structure determined

$a = 9.0600(9)$ ,  $c = 4.9913(11)$  Å

3.352(100), 3.063(15), 2.619(49), 2.541(7), 2.065(18), 1.804(28), 1.697(8), 1.625(9)

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 5773/1

How to cite: Kasatkin, A.V., Anisimova, G.S., Nestola, F., Plášil, J., Sejkora, J., Škoda, R., Sokolov, E.P., Kondratieva, L.A. and Kardashevskaja, V.N. (2022) Amgaite, IMA 2021-104. CNMNC Newsletter 66; *Mineralogical Magazine*, **86**, <https://doi.org/10.1180/mgm.2022.33>

#### IMA No. 2021-105

Shinarumpite

$[\text{Co}(\text{H}_2\text{O})_6][(\text{UO}_2)(\text{SO}_4)_2(\text{H}_2\text{O})] \cdot 4\text{H}_2\text{O}$

Sru

Scenic mine, Fry Mesa, White Canyon district, San Juan Co., Utah, USA (37°38'43" N, 110°07'10" W)

Anthony R. Kampf\*, Jakub Plášil, Travis A. Olds, Chi Ma and Joe Marty

\*E-mail: [akampf@nhm.org](mailto:akampf@nhm.org)

Compositionally and structurally very similar to leydetite

Monoclinic:  $P2_1/c$ ; structure determined

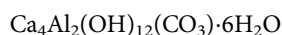
$a = 21.055(1)$ ,  $b = 6.8708(3)$ ,  $c = 12.9106(5)$  Å,  $\beta = 96.678(7)^\circ$

10.37(100), 6.39(26), 5.73(43), 5.20(70), 4.983(23), 4.698(31), 3.380(24), 3.326(30)

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 76199 (holotype), 76200, 76201 and 76102 (cotypes)  
How to cite: Kampf, A.R., Plášil, J., Olds, T.A., Ma, C. and Marty, J. (2022) Shinarumpite, IMA 2021-105. CNMNC Newsletter 66; *Mineralogical Magazine*, **86**, <https://doi.org/10.1180/mgm.2022.33>

#### IMA No. 2021-106

Carbocalumite



Cbcl

Ca. 2 km SE of the Hatrurim Junction (road #31), Hatrurim Basin, Negev Desert, Israel

Sergey N. Britvin\*, Mikhail N. Murashko, Yevgeny Vapnik, Maria G. Krzhizhanovskaya, Natalia S. Vlasenko and Oleg S. Vereshchagin

\*E-mail: [sbritvin@gmail.com](mailto:sbritvin@gmail.com)

Hydrotalcite supergroup

Trigonal:  $R\bar{3}c$ ; structure determined
 $a = 5.7646(1), c = 49.409(1) \text{ \AA}$ 

8.27(100), 4.120(23), 3.888(29), 2.886(33), 2.723(11), 2.554(18), 2.449(30), 2.362(17)

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 5736/1

How to cite: Britvin, S.N., Murashko, M.N., Vapnik, Y., Krzhizhanovskaya, M.G., Vlasenko, N.S. and Vereshchagin, O.S. (2022) Carbocalumite, IMA 2021-106. CNMNC Newsletter 66; *Mineralogical Magazine*, **86**, <https://doi.org/10.1180/mgm.2022.33>

## NEW MINERAL PROPOSALS APPROVED IN MARCH 2022

### IMA No. 2020-101

Paradimorphite



Pdim

Solfatara di Pozzuoli, Phlegraean Fields, Napoli, Campania, Italy (40°49'41"N, 14°08'30"E)

Italo Campostrini, Carlo Castellano, Francesco Demartin\*, Ivano Rocchetti, Pietro Vignola and Massimo Russo

\*E-mail: [francesco.demartin@unimi.it](mailto:francesco.demartin@unimi.it)

A dimorph of dimorphite

Orthorhombic:  $Pnma$ ; structure determined
 $a = 9.1577(7), b = 8.0332(6), c = 10.2005(8) \text{ \AA}$ 

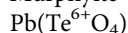
6.299(48), 5.186(100), 4.174(31), 3.889(21), 3.152(34), 2.980(41), 1.846(27), 1.808(23)

Type material is deposited in the reference collections of the Dipartimento di Chimica, University of Milano, Via Golgi 19, 20133 Milano, Italy, sample numbers 2020-03/6121 (holotype) and 2020-04/4226 (cotype)

How to cite: Campostrini, I., Castellano, C., Demartin, F., Rocchetti, I., Vignola, P. and Russo, M. (2022) Paradimorphite, IMA 2020-101. CNMNC Newsletter 66; *Mineralogical Magazine*, **86**, <https://doi.org/10.1180/mgm.2022.33>

### IMA No. 2021-107

Murphyite



Mpy

Grand Central mine, Tombstone district, Cochise Co., Arizona, USA (31°42'09" N, 110°03'43" W)

Hexiong Yang\*, Xiangping Gu, Ronald B. Gibbs and Michael M. Scott

\*E-mail: [hyang@arizona.edu](mailto:hyang@arizona.edu)

The  $\text{Te}^{6+}$  analogue of raspiteOrthorhombic:  $P2_1/a$ ; structure determined
 $a = 13.6089(3), b = 5.0175(1), c = 5.5767(2) \text{ \AA}, \beta = 107.928(1)^\circ$ 

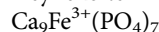
3.655(100), 3.604(43), 3.513(69), 3.235(34), 2.768(51), 2.718(57), 2.515(48), 1.857(55)

Type material is deposited in the collections of the University of Arizona Alfie Norville Gem and Mineral Museum, 15 N Church Ave, Tucson, AZ 85701, USA, catalogue no. 22715 (holotype), and the RRUFF Project, deposition no. R210011 (cotype)

How to cite: Yang, H., Gu, X., Gibbs, R.B. and Scott, M.M. (2022) Murphyite, IMA 2021-107. CNMNC Newsletter 66; *Mineralogical Magazine*, **86**, <https://doi.org/10.1180/mgm.2022.33>

### IMA No. 2021-108

Deynekoite



Dnk

Daba-Siwaqa complex, Transjordan Plateau, Jordan (31°22'01" N, 36°11'10" E)

Evgeny Galuskin\*, Marcin Stachowicz, Irina O. Galuskina, Krzysztof Woźniak, Yevgeny Vapnik, Mikhail N. Murashko and Grzegorz Zieliński

\*E-mail: [evgeny.galuskin@us.edu.pl](mailto:evgeny.galuskin@us.edu.pl)

Cerite supergroup

Trigonal:  $R3c$ ; structure determined
 $a = 10.3516(3), c = 37.160(2) \text{ \AA}$ 

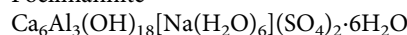
6.451(51), 3.433(25), 3.183(64), 2.861(100), 2.737(24), 2.588(81), 1.919(24), 1.716(28)

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 5791/1

How to cite: Galuskin, E., Stachowicz, M., Galuskina, I.O., Woźniak, K., Vapnik, Y., Murashko, N.N. and Zieliński, G. (2022) Deynekoite, IMA 2021-108. CNMNC Newsletter 66; *Mineralogical Magazine*, **86**, <https://doi.org/10.1180/mgm.2022.33>

### IMA No. 2021-109

Poellmannite



Poe

Ca. 2 km SE of the Hatrurim Junction (road #31), Hatrurim Basin, Negev Desert, Israel

Sergey N. Britvin\*, Mikhail N. Murashko, Maria G. Krzhizhanovskaya, Yevgeny Vapnik, Oleg S. Vereshchagin and Natalia S. Vlasenko

\*E-mail: [sbritvin@gmail.com](mailto:sbritvin@gmail.com)

Hydrotalcite supergroup

Trigonal:  $R\bar{3}$ ; structure determined
 $a = 9.9643(2), c = 30.2212(7) \text{ \AA}$ 

10.12(100), 5.04(81), 4.47(23), 3.544(31), 2.877(33), 2.497(34), 2.418(22), 2.247(21)

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 5798/1

How to cite: Britvin, S.N., Murashko, M.N., Krzhizhanovskaya, M.G., Vapnik, Y., Vereshchagin, O.S. and Vlasenko, N.S. (2022) Poellmannite, IMA 2021-109. CNMNC Newsletter 66; *Mineralogical Magazine*, **86**, <https://doi.org/10.1180/mgm.2022.33>

### IMA No. 2021-110

Griffinite



Gfn

As inclusions within corundum xenocrysts from the Mount Carmel area, Israel

Chi Ma\*, Luca Bindi, Fernando Cámara and Vered Toledo

\*E-mail: [chima@caltech.edu](mailto:chima@caltech.edu)

The Al analogue of pseudobrookite

Orthorhombic: *Cmcm*

$a = 3.58(2)$ ,  $b = 9.44(1)$ ,  $c = 9.65(1)$  Å

4.720(77), 3.347(100), 3.162(39), 2.658(90), 1.903(57), 1.790(55), 1.688(44), 1.485(32)

Type material is deposited in the mineralogical collections of the Dipartimento di Scienze della Terra "A. Desio", Università di Milano, Via Mangiagalli 34, 20133 Milano, Italy, registration number MCMGPG-H2021-002

How to cite: Ma, C., Bindi, L., Cámara, F. and Toledo, V. (2022) Griffinite, IMA 2021-110. CNMNC Newsletter 66; *Mineralogical Magazine*, **86**, <https://doi.org/10.1180/mgm.2022.33>

#### IMA No. 2021-111

Magnéliite

 $\text{Ti}_2^{3+}\text{Ti}_2^{4+}\text{O}_7$ 

Mnli

As inclusions within corundum xenocrysts from the Mount Carmel area, Israel

Chi Ma\*, William L. Griffin, Luca Bindi, Fernando Cámara and Vered Toledo

\*E-mail: [chima@caltech.edu](mailto:chima@caltech.edu)

Known synthetic analogue

Triclinic: *P* $\bar{1}$

$a = 5.60(1)$ ,  $b = 7.13(1)$ ,  $c = 12.47(1)$  Å,  $\alpha = 95.1(1)$ ,  $\beta = 95.2(1)$ ,  $\gamma = 108.7(1)^\circ$

4.277(73), 3.020(74), 2.818(100), 2.800(49), 2.523(57), 1.721(49), 1.718(50), 1.666(51)

Type material is deposited in the mineralogical collections of the Dipartimento di Scienze della Terra "A. Desio", Università di Milano, Via Mangiagalli 34, 20133 Milano, Italy, registration number MCMGPG-H2021-001

How to cite: Ma, C., Griffin, W.L., Bindi, L., Cámara, F. and Toledo, V. (2022) Magnéliite, IMA 2021-111. CNMNC Newsletter 66; *Mineralogical Magazine*, **86**, <https://doi.org/10.1180/mgm.2022.33>

#### IMA No. 2021-112

Magganasite

 $\text{CuFe}_3^{3+}\text{O}(\text{AsO}_4)_3$ 

Mgg

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 a.s.l.)

Igor V. Pekov\*, Natalia V. Zubkova, Atali A. Agakhanov, Natalia N. Koshlyakova, Nikita V. Chukanov, Vasilii O. Yapaskurt, Sergey N. Britvin, Anna G. Turchkova, Maria A. Nazarova and Dmitry Y. Pushcharovsky

\*E-mail: [igorpekov@mail.ru](mailto:igorpekov@mail.ru)

New structure type

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

$a = 5.1813(7)$ ,  $b = 9.6427(11)$ ,  $c = 9.6834(11)$  Å,  $\alpha = 82.07(1)$ ,  $\beta = 78.68(1)$ ,  $\gamma = 79.96(1)^\circ$

3.761(100), 3.540(46), 3.280(88), 3.204(62), 3.170(41), 2.989(51), 2.889(65), 2.510(64)

Type material is deposited in the collections of the Fersman Mineralogical Museum, Russian Academy of Sciences, Leninsky Prospekt 18-2, Moscow 119071, Russia, registration number 5799/1

How to cite: Pekov, I.V., Zubkova, N.V., Agakhanov, A.A., Koshlyakova, N.N., Chukanov, N.V., Yapaskurt, V.O., Britvin, S.N., Turchkova, A.G., Nazarova, M.A. and Pushcharovsky, D.Y. (2022) Magganasite, IMA 2021-112. CNMNC Newsletter 66; *Mineralogical Magazine*, **86**, <https://doi.org/10.1180/mgm.2022.33>

#### IMA No. 2021-113

Elliottite

 $\text{NaMgAl}_3(\text{PO}_4)_2\text{F}_6 \cdot 9\text{H}_2\text{O}$ 

Eli

Tom's quarry, Kapunda, South Australia, Australia (34°21' S, 138°55' E)

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

\*E-mail: [ian.grey@csiro.au](mailto:ian.grey@csiro.au)

A dimorph of penriceite

Monoclinic: *C2/m*; structure determined

$a = 12.242(1)$ ,  $b = 7.0118(7)$ ,  $c = 11.2946(9)$  Å,  $\beta = 101.19(1)^\circ$   
11.08(100), 6.059(9), 5.782(12), 5.532(10), 5.106(31), 3.346(6), 2.882(8), 2.852(17)

Type material is deposited in the mineralogical collections of the South Australia Museum, North Terrace, Adelaide, SA 5000, Australia, catalogue number G35026 (holotype), and the Museums Victoria, GPO Box 666, Melbourne, Vic 3001, Australia, catalogue number M45575 (cotypte)

How to cite: Grey, I.E., Mumme, W.G., MacRae, C.M., Kampf, A.R. and Mills, S.J. (2022) Elliottite, IMA 2021-113. CNMNC Newsletter 66; *Mineralogical Magazine*, **86**, <https://doi.org/10.1180/mgm.2022.33>

### NOMENCLATURE/CLASSIFICATION PROPOSALS APPROVED IN MARCH 2022

#### IMA 22-A: Redefinition of montanite

Proposal 22-A is accepted, and the status of montanite is changed from 'Q' to 'Rd'. The formula of montanite is modified from  $\text{Bi}_2\text{TeO}_6 \cdot 2\text{H}_2\text{O}$  to  $\text{Bi}_2\text{TeO}_6 \cdot n\text{H}_2\text{O}$  ( $0 \leq n \leq 2/3$ ), and two neotypes, preserved at the Natural History Museum in London, UK, are created. Type localities are Highland, Montana, USA (sample BM 85116) and David Beck's Mine, North Carolina, USA (sample BM 1985, Nev336).

#### IMA 22-B: Redefinition of moxuanxueite

Proposal 22-B is accepted, and the ideal end-member formula of moxuanxueite (IMA no. 2019-100) is modified from  $\text{Na}_2\text{Ca}_5\text{Zr}(\text{Si}_2\text{O}_7)_2\text{F}_4$  to  $\text{NaCa}_6\text{Zr}(\text{Si}_2\text{O}_7)_2\text{OF}_3$ .

#### IMA 22-C: Arrojadite group nomenclature: sigismundite reinstated

Proposal 22-C is accepted, and arrojadite-(BaFe) is renamed sigismundite, according to the rule for the preservation of historical names.