

APPENDIX VI: REJECTED, REDEFINED AND RENAMED END-MEMBERS

End-member formula	IMA(1997, 2003)	New scheme
Na Mg ₂ Mg ₅ (Si ₇ Al) O ₂₂ (OH) ₂	Sodicanthophyllite	Rootname 1
Na Fe ²⁺ ₂ Fe ²⁺ ₅ (Si ₇ Al) O ₂₂ (OH) ₂	Sodic-ferro-anthophyllite	Ferro-rootname 1
Na Mg ₂ (Mg ₄ Al) (Si ₆ Al ₂) O ₂₂ (OH) ₂	Sodicgedrite	—
Na Mg ₂ (Mg ₃ Al ₂) (Si ₅ Al ₃) O ₂₂ (OH) ₂	—	Rootname 2
Na Fe ²⁺ ₂ (Fe ²⁺ ₃ Al ₂) (Si ₅ Al ₃) O ₂₂ (OH) ₂	—	Ferro-rootname 2
□ Fe ²⁺ ₂ Fe ²⁺ ₅ Si ₈ O ₂₂ (OH) ₂	Grunerite	Grunerite
□ Mn ²⁺ ₂ Mg ₅ Si ₈ O ₂₂ (OH) ₂	Manganocummingtonite	Rootname 3
□ Mn ²⁺ ₂ Fe ²⁺ ₅ Si ₈ O ₂₂ (OH) ₂	Manganogrunerite	Ferro-rootname 3
□ Mn ²⁺ ₂ (Mn ²⁺ ₂ Mg ₃) Si ₈ O ₂₂ (OH) ₂	Permanganocummingtonite	—
□ Mn ²⁺ ₂ (Mn ²⁺ ₂ Fe ²⁺ ₂) Si ₈ O ₂₂ (OH) ₂	Permanganogrunerite	—
□ Mn ²⁺ ₂ Mn ²⁺ ₅ Si ₈ O ₂₂ (OH) ₂	—	Mangano-rootname 3
□ Ca ₂ [Mg ₄ (Al,Fe ³⁺)] (Si ₇ Al) O ₂₂ (OH) ₂	Magnesiohornblende	—
□ Ca ₂ (Mg ₄ Al) (Si ₇ Al) O ₂₂ (OH) ₂	—	Magnesio-hornblende
□ Ca ₂ [Fe ²⁺ ₄ (Al,Fe ³⁺)] (Si ₇ Al) O ₂₂ (OH) ₂	Ferrohornblende	—
□ Ca ₂ (Mg ₄ Fe ³⁺) (Si ₇ Al) O ₂₂ (OH) ₂	—	Ferri-hornblende
□ Ca ₂ (Fe ²⁺ ₄ Al) (Si ₇ Al) O ₂₂ (OH) ₂	—	Ferro-hornblende
□ Ca ₂ (Fe ²⁺ ₄ Fe ³⁺) (Si ₇ Al) O ₂₂ (OH) ₂	—	Ferro-ferri-hornblende
□ Ca ₂ [Mg ₃ Al Fe ³⁺] (Si ₆ Al ₂) O ₂₂ (OH) ₂	Tschermakite	—
□ Ca ₂ (Mg ₃ Al ₂) (Si ₆ Al ₂) O ₂₂ (OH) ₂	Aluminotschermakite	Tschermakite
□ Ca ₂ [Mg ₃ Fe ³⁺ ₂] (Si ₆ Al ₂) O ₂₂ (OH) ₂	Ferritschermakite	Ferri-tschermakite
□ Ca ₂ [Fe ²⁺ ₃ Al Fe ³⁺] (Si ₆ Al ₂) O ₂₂ (OH) ₂	Ferrotschermakite	—
□ Ca ₂ (Fe ²⁺ ₃ Al ₂) (Si ₆ Al ₂) O ₂₂ (OH) ₂	Alumino-ferrotschermakite	Ferro-tschermakite
□ Ca ₂ (Fe ²⁺ ₃ Fe ³⁺ ₂) (Si ₆ Al ₂) O ₂₂ (OH) ₂	Ferri-ferrotschermakite	Ferro-ferri-tschermakite
Na Ca ₂ (Mg ₄ Al) (Si ₆ Al ₂) O ₂₂ (OH) ₂	Pargasite	Pargasite
Na Ca ₂ (Fe ²⁺ ₄ Al) (Si ₆ Al ₂) O ₂₂ (OH) ₂	Ferropargasite	Ferro-pargasite
Na Ca ₂ (Mg ₄ Fe ³⁺) (Si ₆ Al ₂) O ₂₂ (OH) ₂	Magnesiohastingsite	Magnesio-hastingsite
Na Ca ₂ (Fe ²⁺ ₄ Fe ³⁺) (Si ₆ Al ₂) O ₂₂ (OH) ₂	Hastingsite	Hastingsite
Na Ca ₂ [Mg ₃ (Fe ³⁺ ,Al) ₂] (Si ₅ Al ₃) O ₂₂ (OH) ₂	Magnesiosadanagaite	—
Na Ca ₂ [Fe ²⁺ ₃ (Fe ³⁺ ,Al) ₂] (Si ₅ Al ₃) O ₂₂ (OH) ₂	Sadanagaite	—
Na Ca ₂ (Mg ₃ Al ₂) (Si ₅ Al ₃) O ₂₂ (OH) ₂	—	Sadanagaite
Na Ca ₂ (Fe ²⁺ ₃ Al ₂) (Si ₅ Al ₃) O ₂₂ (OH) ₂	—	Ferro-sadanagaite
Na Ca ₂ (Mg ₃ Fe ³⁺ ₂) (Si ₅ Al ₃) O ₂₂ (OH) ₂	—	Ferri-sadanagaite
Na Ca ₂ (Fe ²⁺ ₃ Fe ³⁺ ₂) (Si ₅ Al ₃) O ₂₂ (OH) ₂	—	Ferro-ferri-sadanagaite
Na Ca ₂ (Mg ₄ Ti) (Si ₅ Al ₃) O ₂₂ (OH) ₂	—	Rootname 4
Na Ca ₂ (Fe ²⁺ ₄ Ti) (Si ₅ Al ₃) O ₂₂ (OH) ₂	—	Ferro-rootname 4

\square (Na Ca) [Mg ₄ (Al,Fe ³⁺)] Si ₈ O ₂₂ (OH) ₂	Winchite	—
\square (Na Ca) [Fe ²⁺ ₄ (Al,Fe ³⁺)] Si ₈ O ₂₂ (OH) ₂	Ferrowinchite	—
\square (Na Ca) (Mg ₄ Al) Si ₈ O ₂₂ (OH) ₂	—	Winchite
\square (Na Ca) (Mg ₄ Fe ³⁺) Si ₈ O ₂₂ (OH) ₂	—	Ferri-winchite
\square (Na Ca) (Fe ²⁺ ₄ Al) Si ₈ O ₂₂ (OH) ₂	—	Ferro-winchite
\square (Na Ca) (Fe ²⁺ ₄ Fe ³⁺) Si ₈ O ₂₂ (OH) ₂	—	Ferro-ferri-winchite
\square (Na Ca) (Mg ₃ Al Fe ³⁺) (Si ₇ Al) O ₂₂ (OH) ₂	Barroisite	—
\square (Na Ca) (Fe ²⁺ ₃ Al Fe ³⁺) (Si ₇ Al) O ₂₂ (OH) ₂	Ferrobarroisite	—
\square (Na Ca) (Mg ₃ Al ₂) (Si ₇ Al) O ₂₂ (OH) ₂	Aluminobarroisite	Barroisite
\square (Na Ca) (Mg ₃ Fe ³⁺ ₂) (Si ₇ Al) O ₂₂ (OH) ₂	Ferribarroisite	Ferri-barroisite
\square (Na Ca) (Fe ²⁺ ₃ Al ₂) (Si ₇ Al) O ₂₂ (OH) ₂	Alumino-ferrobarroisite	Ferro-barroisite
\square (Na Ca) (Fe ²⁺ ₃ Fe ³⁺ ₂) (Si ₇ Al) O ₂₂ (OH) ₂	Ferri-ferrobarroisite	Ferro-ferri-barroisite
Na (Na Ca) [Mg ₄ (Al,Fe ³⁺)] (Si ₇ Al) O ₂₂ (OH) ₂	Magnesiokatophorite	—
Na (Na Ca) [Fe ²⁺ ₄ (Al,Fe ³⁺)] (Si ₇ Al) O ₂₂ (OH) ₂	Katophorite	—
Na (Na Ca) (Mg ₄ Al) (Si ₇ Al) O ₂₂ (OH) ₂	—	Katophorite
Na (Na Ca) (Mg ₄ Fe ³⁺) (Si ₇ Al) O ₂₂ (OH) ₂	—	Ferri-katophorite
Na (Na Ca) (Fe ²⁺ ₄ Al) (Si ₇ Al) O ₂₂ (OH) ₂	—	Ferro-katophorite
Na (Na Ca) (Fe ²⁺ ₄ Fe ³⁺) (Si ₇ Al) O ₂₂ (OH) ₂	—	Ferro-ferri-katophorite
Na (Na Ca) (Mg ₃ Al Fe ³⁺) (Si ₆ Al ₂) O ₂₂ (OH) ₂	Magnesiotaramite	—
Na (Na Ca) (Fe ²⁺ ₃ Al Fe ³⁺) (Si ₆ Al ₂) O ₂₂ (OH) ₂	Taramite	—
Na (Na Ca) (Mg ₃ Al ₂) (Si ₆ Al ₂) O ₂₂ (OH) ₂	Alumino-magnesiotaramite	Taramite
Na (Na Ca) (Mg ₃ Fe ³⁺ ₂) (Si ₆ Al ₂) O ₂₂ (OH) ₂	Ferri-magnesiotaramite	Ferri-taramite
Na (Na Ca) (Fe ²⁺ ₃ Al ₂) (Si ₆ Al ₂) O ₂₂ (OH) ₂	Aluminotaramite	Ferro-taramite
Na (Na Ca) (Fe ²⁺ ₃ Fe ³⁺ ₂) (Si ₆ Al ₂) O ₂₂ (OH) ₂	Ferritaramite	Ferro-ferri-taramite

All other sodium-calcium amphiboles are the same as in IMA1997 except for the hyphenation after the first prefix.

Na Na ₂ (Mg ₂ Al ₂ Li) Si ₈ O ₂₂ (OH) ₂	Magneso-aluminoleakeite	Leakeite
Na Na ₂ (Fe ²⁺ ₂ Al ₂ Li) Si ₈ O ₂₂ (OH) ₂	Ferro-aluminoleakeite	Ferro-leakeite
Na Na ₂ (Mg ₂ Fe ³⁺ ₂ Li) Si ₈ O ₂₂ (OH) ₂	Leakeite	Ferri-leakeite
Na Na ₂ (Fe ²⁺ ₂ Fe ³⁺ ₂ Li) Si ₈ O ₂₂ (OH) ₂	Ferroleakeite	Ferro-ferri-leakeite
Na Na ₂ (Mg ₂ Al ₂ Li) Si ₈ O ₂₂ F ₂	Fluoro-aluminoleakeite	Fluoro-leakeite
Na Na ₂ (Mg ₂ Fe ³⁺ ₂ Li) Si ₈ O ₂₂ F ₂	Fluoroleakeite	Ferri-fluoro-leakeite
Na Na ₂ (Mg ₂ Mn ³⁺ ₂ Li) Si ₈ O ₂₂ (OH) ₂	Sodic-kornite	Mangani-leakeite
K Na ₂ (Mg ₂ Mn ³⁺ ₂ Li) Si ₈ O ₂₂ (OH) ₂	Kornite	Potassic-mangani-leakeite
Na Na ₂ (Mg ₃ Fe ³⁺ ₂) Si ₇ Al O ₂₂ (OH) ₂	Ferric-nybøite	Ferri-nybøite
Na Na ₂ (Fe ²⁺ ₃ Fe ³⁺ ₂) Si ₇ Al O ₂₂ (OH) ₂	Ferric-ferronybøite	Ferro-ferri-nybøite
\square Na ₂ (Mg ₃ Fe ³⁺ ₂) Si ₈ O ₂₂ (OH) ₂	Magnesioriebeckite	Magneso-riebeckite
Na Na ₂ Mn ²⁺ ₄ (Al,Fe ³⁺) Si ₈ O ₂₂ (OH) ₂	Kozulite	—

Na Na ₂ (Mn ²⁺ ₄ Fe ³⁺) Si ₈ O ₂₂ (OH) ₂	—	Mangano-ferri-eckermannite
□ Li ₂ (Fe ²⁺ ₃ Al ₂) Si ₈ O ₂₂ (OH) ₂	Ferroholmquistite	Ferro-holmquistite
□ Li ₂ (Mg ₃ Fe ³⁺ ₂) Si ₈ O ₂₂ (OH) ₂	Ferriholmquistite	Ferri-holmquistite
□ Li ₂ (Fe ²⁺ ₃ Fe ³⁺ ₂) Si ₈ O ₂₂ (OH) ₂	Ferri-ferroholmquistite	Ferro-ferri-holmquistite
□ Li ₂ (Mg ₃ Al ₂) Si ₈ O ₂₂ (OH) ₂	Clinoholmquistite	Clino-holmquistite
□ Li ₂ (Fe ²⁺ ₃ Al ₂) Si ₈ O ₂₂ (OH) ₂	Clino-ferroholmquistite	Clino-ferro holmquistite
□ Li ₂ (Mg ₃ Fe ³⁺ ₂) Si ₈ O ₂₂ (OH) ₂	Clino-ferriholmquistite	Clino-ferri-holmquistite
□ Li ₂ (Fe ²⁺ ₃ Fe ³⁺ ₂) Si ₈ O ₂₂ (OH) ₂	Clino-ferri-ferroholmquistite	Clino-ferro-ferri-holmquistite
Na Li ₂ (Mg ₄ Al) Si ₈ O ₂₂ (OH) ₂	—	Rootname 5
Na Li ₂ (Fe ²⁺ ₄ Al) Si ₈ O ₂₂ (OH) ₂	—	Ferro-rootname 5
Na Li ₂ (Mg ₂ Al ₂ Li) Si ₈ O ₂₂ (OH) ₂	Sodicpedrizite	Pedrizite
Na Li ₂ (Fe ²⁺ ₂ Al ₂ Li) Si ₈ O ₂₂ (OH) ₂	Sodic-ferropedrizite	Ferro-pedrizite
Na Li ₂ (Fe ²⁺ ₃ Al ₂ Li) Si ₈ O ₂₂ F ₂	Fluoro-sodic-ferropedrizite	Ferro-fluoro-pedrizite
Na Li ₂ (Mg ₂ Fe ³⁺ ₂ Li) Si ₈ O ₂₂ (OH) ₂	Sodic-ferripedrizite	Ferri-pedrizite
Na Li ₂ (Fe ²⁺ ₂ Fe ³⁺ ₂ Li) Si ₈ O ₂₂ (OH) ₂	Sodic-ferri-ferropedrizite	Ferro-ferri-pedrizite
□ (Na Li) (Mg ₃ Al ₂) Si ₈ O ₂₂ (OH) ₂	Ottoliniite	—
Na (Na Li) (Mg ₂ Al ₂ Li) Si ₈ O ₂₂ (OH) ₂	Whittakerite	—
□ (Na Li) (Mg ₃ Fe ³⁺ ₂) Si ₈ O ₂₂ (OH) ₂	Ferri-ottoliniite	—
Na (Na Li) (Mg ₂ Fe ³⁺ ₂ Li) Si ₈ O ₂₂ (OH) ₂	Ferri-whittakerite	—
□ (Na Mg) (Mg ₄ Al) Si ₈ O ₂₂ (OH)	—	Rootname 6
□ (Na Mg) (Mg ₃ Al ₂) (Si ₇ Al) O ₂₂ (OH)	—	Rootname 7
Na (Na Mg) Mg ₅ Si ₈ O ₂₂ (OH) ₂	—	Rootname 8
Na (Na Mg) (Mg ₄ Al) (Si ₇ Al) O ₂₂ (OH)	—	Rootname 9
Na (Na Mg) (Mg ₃ Al ₂) (Si ₆ Al ₂) O ₂₂ (OH)	—	Rootname 10
□ (Na Mn ²⁺) (Mg ₄ Al) Si ₈ O ₂₂ (OH)	—	Rootname 11
□ (Na Mn ²⁺) (Mg ₄ Fe ³⁺) Si ₈ O ₂₂ (OH)	Parvowinchite	Ferri-rootname 11
□ (Na Mn ²⁺) (Mg ₃ Al ₂) (Si ₇ Al) O ₂₂ (OH) ₂	—	Rootname 12
Na (Na Mn ²⁺) Mg ₅ Si ₈ O ₂₂ (OH) ₂	—	Rootname 13
Na (Na Mn ²⁺) (Mg ₄ Al) (Si ₇ Al) O ₂₂ (OH) ₂	—	Rootname 14
Na (Na Mn ²⁺) (Mg ₃ Al ₂) (Si ₆ Al ₂) O ₂₂ (OH) ₂	—	Rootname 15
□ (Na Fe ²⁺) (Fe ²⁺ ₄ Al) Si ₈ O ₂₂ (OH) ₂	—	Rootname 16
Na Ca ₂ (Mg ₄ Ti ⁴⁺) (Si ₆ Al ₂) O ₂₂ (OH) O	Kaersutite	—
Na Ca ₂ (Mg ₃ Ti ⁴⁺ Al) (Si ₆ Al ₂) O ₂₂ O ₂	—	Kaersutite
Na Na ₂ (Mg ₃ Fe ³⁺ Ti ⁴⁺) Si ₈ O ₂₂ O ₂	Obertiite	Ferri-obertiite
Na Na ₂ (Mg Mn ³⁺ ₂ Ti ⁴⁺ Li) Si ₈ O ₂₂ O ₂	Dellaventuraite	Mangani-dellaventuraite
Na Na ₂ (Fe ²⁺ ₃ Fe ³⁺ Ti ⁴⁺) Si ₈ O ₂₂ O ₂	Ferro-obertiite	Ferro-ferri-obertiite
Na Na ₂ (Mn ²⁺ ₂ Mn ³⁺ ₃) Si ₈ O ₂₂ O ₂	Ungarettiite	Mangano-mangani-ungarettiite

End-member formula

$\text{Ca}_2 (\text{Mg}_4 \text{Al}) (\text{Si}_7 \text{Al}) \text{O}_{22} (\text{OH})_2$
 $\text{Ca}_2 (\text{Fe}^{2+}_4 \text{Al}) (\text{Si}_7 \text{Al}) \text{O}_{22} (\text{OH})_2$
 $(\text{Na Ca}) (\text{Fe}^{2+}_4 \text{Al}) \text{Si}_8 \text{O}_{22} (\text{OH})_2$
 $\text{Na} (\text{Na Ca}) (\text{Fe}^{2+}_4 \text{Al}) (\text{Si}_7 \text{Al}) \text{O}_{22} (\text{OH})_2$
 $\text{Na} (\text{Na Ca}) (\text{Fe}^{2+}_4 \text{Fe}^{3+}) (\text{Si}_7 \text{Al}) \text{O}_{22} (\text{OH})_2$

Leake (1978)

Alumino-magnesio-hornblende
 Alumino-ferro-hornblende
 Ferro-alumino-winchite
 Alumino-katophorite
 Ferri-katophorite

New scheme

Magnesio-hornblende
 Ferro-hornblende
 Ferro-winchite
 Ferro-katophorite
 Ferro-ferri-katophorite

End-member formula

$\text{Na} (\text{Na Ca}) (\text{Mg}_3 \text{Al}_2) (\text{Si}_6 \text{Al}_2) \text{O}_{22} \text{F}_2$
 $\text{K} (\text{Na Ca}) (\text{Mg}_3 \text{Fe}^{3+}_2) (\text{Si}_6 \text{Al}_2) \text{O}_{22} (\text{OH})_2$
 $\text{Na Na}_2 (\text{Fe}^{2+}_2 \text{Al}_2 \text{Li}) \text{Si}_8 \text{O}_{22} \text{F}_2$
 $\text{Na Li}_2 (\text{Mg}_2 \text{Al}_2 \text{Li}) \text{Si}_8 \text{O}_{22} \text{F}_2$
 $\text{Na Li}_2 (\text{Fe}^{2+}_2 \text{Al}_2 \text{Li}) \text{Si}_8 \text{O}_{22} \text{F}_2$

IMA(2004-2012)

Fluoro-alumino-magnesiotalamite
 Potassic-aluminotalamite
 Fluoro-aluminoleakeite
 Fluoro-sodicpedrizite
 Fluoro-sodic-ferropedrizite

New scheme

Fluoro-taramite
 Potassic-taramite
 Ferro-fluoro-leakeite
 Fluoro-pedrizite
 Ferro-fluoro-pedrizite

End-member formula

$(\text{Na Mn}) (\text{Mg}_4 \text{Fe}^{3+}) \text{Si}_8 \text{O}_{22} (\text{OH})_2$
 $\text{Na} (\text{Ca Mn}) \text{Mg}_5 (\text{Si}_7 \text{Al}) \text{O}_{22} (\text{OH})_2$
 $\text{Na} (\text{Ca} > \text{Mn})_2 \text{Mg}_5 (\text{Si}_7 \text{Al}) \text{O}_{22} (\text{OH})_2$
 $\text{Na} (\text{Mn} > \text{Ca})_2 \text{Mg}_5 (\text{Si}_7 \text{Al}) \text{O}_{22} (\text{OH})_2$
 $(\text{Ca Mn}) \text{Mg}_5 \text{Si}_8 \text{O}_{22} (\text{OH})_2$
 $(\text{Ca} > \text{Mn})_2 \text{Mg}_5 \text{Si}_8 \text{O}_{22} (\text{OH})_2$
 $(\text{Mn} > \text{Ca})_2 \text{Mg}_5 \text{Si}_8 \text{O}_{22} (\text{OH})_2$
 $\text{Na Ca}_2 (\text{Mg}_4 \text{Cr}) (\text{Si}_6 \text{Al}_2) \text{O}_{22} (\text{OH})_2$

IMA(2004-2012)

Parvowinchite
 Parvo-mangano-edenite
 ———
 ———
 Parvo-manganotremolite
 ———
 ———
 Ehimeite

New scheme

Ferri-rootname 12
 ———
 Edenite
^BMn analogue of rootname 1
 ———
 Tremolite
 Rootname3
 Chromio-pargasite

For the sake of clarity, the following rootnames have been discredited by the present scheme: ehimeite, kornite, kozulite, ottoliniite, whittakerite.