Table OM1. Comparison of unit cell parameters for manganese oxalate trihydrate crystals (sp. gr. *Pcca*) of different origin.

Unit cell parameters	Biogenic falottaite (this study)	Chemical synthesis (Fu et al 2005)	Mineral falottaite (abiogenic origin) (Graeser and Gabriel 2013)
a, Å	9.756(1)	9.766(1)	9.783(6)*
b, Å	6.626(1)	6.616(1)	6.626(2)
C, Å	10.520(1)	10.519(1)	10.527(5)*
V, Å^3	680.0(1)	679.6 (1)	682.4

*Parameters *a* and *c* were swapped for the sake of comparison

Table OM2. Bond length comparison between the synthetic falottaite crystals obtained at different experimental conditions

Bond, Å	Biogenic falottaite (this study)	Chemical synthesis (Fu et al. 2005)
DistortedMn-octahedron		
Mn–O1 ×2	2.181 (1)	2.186 (1)
Mn– $H_2O(2)$ ×2	2.146 (1)	2.156 (1)
Mn–O3 ×2	2.201 (1)	2.208 (1)
<Mn–O>	2.176	2.183
Oxalate-ion		
O1–C1	1.251(2)	1.2470(12)
O3–C1	1.259(2)	1.2511(12)
C1–C1	1.545(3)	1.553(2)

Table OM3. Hydrogen bonds in the structures of falottaite and lindbergite.

D–H···A	D–H, Å	H···A, Å	D···A, Å	D–H–A, °
Biomimetic falottaite				
O2–H2A···O3	0.87(2)	1.99(2)	2.829(2)	163(2)
O2–H2B···O4	0.89(2)	1.82(2)	2.694(2)	171(2)
O4–H4···O1	0.88(2)	1.91(1)	2.758(2)	162(3)
Synthetic lindbergite (Soleimannejad, 2007)				
O3–H3A···O1	0.95	1.85	2.770(1)	162
O3–H3B···O2	0.95	1.86	2.752 (1)	155