TABLE 3. Names and idealized chemical compositions of selected minerals produced by biological mineralization processes (expanded from Dove and Weiner 2003, Table 1)

Name	Formula
Elements	
α-sulfur	S
γ-sulfur (Rosickyite)	S
Carbonates	
Amorphous calcium carbonates (at least 5 forms)	$CaCO_3{\cdot}H_2O$ or $CaCO_3$
*Aragonite	$CaCO_3$
*Calcite	$CaCO_3$
Hydrocerussite	$Pb_3(CO_3)_2(OH)_2$
Lansfordite	$MgCO_3{\cdot}5H_2O$
Magnesite	$MgCO_3$
Mg-calcite	$(Mg_xCa_{1-x})CO_3$
*Monohydrocalcite	$CaCO_3{\cdot}H_2O$
Nesquehonite	$Mg(CO_3){\cdot}3H_2O$
Protodolomite	$CaMg(CO_3)_2$
Rhodochrosite	$MnCO_3$
Siderite	$FeCO_3$
*Vaterite	$CaCO_3$
Phosphates	
Amorphous calcium phosphate	variable (at least 6 forms)
Amorphous calcium pyrophosphate	$Ca_2P_2O_7{\cdot}2H_2O$
Bakhchisaraitsevite	$Na_2Mg_5(PO_4)_4{\cdot}7H_2O$
*Brushite	$Ca[PO_3(OH)]{\bullet}2H_2O$
*Carbonate-hydroxylapatite	$Ca_5(PO_4,CO_3)_3(OH)$
Chlorapatite	$Ca_5(PO_4)_3Cl$
*Fluorapatite	$Ca_5(PO_4)_3F$
*Hannayite	$Mg_3(NH_4)_2H_4(PO_4)_4{\cdot}8H_2O$
*Hydroxylapatite	$Ca_5(PO_4)_3(OH)$
*Monetite	$Ca[PO_3(OH)]$
*Newberryite	$Mg[PO_3(OH)]{\cdot}3H_2O$
Octacalcium phosphate	$Ca_8H_2(PO_4)_6$
*Struvite	$Mg(NH_4)(PO_4){\cdot}6H_2O$
Hazenite	$KNaMg_2(PO_4)_2{\cdot}14H_2O$
Vivianite	$Fe_3^{2+}(PO_4)_2{\cdot}8H_2O$
*Whitlockite	$Ca_{18}H_2(Mg,Fe)_2(PO_4)_{14}$
Sulfates	
Aphthitalite	$K_3Na(SO_4)_2$
Ardealite	$Ca_2[PO_3(OH)](SO_4){\cdot}4H_2O$
Barite	$BaSO_4$
Celestine	$SrSO_4$
*Epsomite	$MgSO_4{\cdot}7H_2O$
*Gypsum	$CaSO_4{\cdot}2H_2O$
*Hexahydrite	$MgSO_4{\cdot}6H_2O$
Jarosite	$KFe_3^{3+}(SO_4)_2(OH)_6$
Melanterite	$Fe^{2+}SO_4{\cdot}7H_2O$
Schwertmannite	$Fe^{3+}_{16}O_{16}(OH)_{9.6}(SO_4)_{3.2}{\cdot}10H_2O$
Nitrates	
Gwihabaite	$(NH_4)NO_3$
Sulfides	
Acanthite	Ag_2S
Amorphous pyrrhotite	$Fe_{1-x}S$ (x = 0 – 0.17)
Galena	PbS
Greigite	Fe_3S_4
Hydrotroilite	$FeS{\cdot}nH_2O$
Mackinawite	$(Fe,Ni)_9S_8$
Marcasite	FeS_2
Pyrite	FeS_2
Pyrrhotite	Fe_7S_8
Orpiment	As_2S_3
Sphalerite	ZnS
Wurtzite	ZnS

* Minerals found in humans (after Yoder 2002).

TABLE 3.—*CONTINUED*

Name	Formula
Oxides	
Amorphous iron titanate	$Fe^{2+}TiO_3$
Amorphous iron oxide	Fe_2O_3
Amorphous manganese oxide	Mn_3O_4
*Anatase	TiO_2
Ilmenite	$FeTiO_3$
*Maghemite	$Fe_{2.67}O_4$
*Magnetite	Fe_3O_4
*Periclase	MgO
Ice	H_2O
Hydroxides and hydrous oxides	
Birnessite	$NaMn_4O_8{\cdot}3H_2O$
*Brucite	$Mg(OH)_2$
Ferrihydrite	$Fe_{4-5}(OH,O)_{12}$
Goethite	α-FeO(OH)
Lepidocrocite	γ-FeO(OH)
Todorokite	$NaMn_6O_{12}{\cdot}3–4H_2O$
Chlorides	
Atacamite	$Cu_2Cl(OH)_3$
*Halite	NaCl
*Sylvite	KCl
Fluorides	
Fluorite	CaF_2
Hieratite	K_2SiF_6
Silicates	
Amorphous silica	$SiO_2{\cdot}nH_2O$
*Quartz	SiO_2
Organic crystals*	
Abelsonite	$Ni^{2+}C_{31}H_{32}N_4$
Ca malate	$C_4H_4CaO_5$
Ca tartrate	$C_4H_4CaO_6$
Carpathite	$C_{24}H_{12}$
Earlandite	$Ca_3(C_6H_5O_7)_2{\cdot}4H_2O$
Glushinskite	$MgC_2O_4{\cdot}2H_2O$
Guanine	$C_5H_3(NH_2)N_4O$
Hartite	$C_{20}H_{34}$
Hoganite	$Cu(CH_3COO)_2{\cdot}H_2O$
Idrialite	$C_{22}H_{14}$
Kratochvílite	$C_{13}H_{10}$
Lindbergite	$MnC_2O_4{\cdot}2H_2O$
Mooloo ite	$CuC_2O_4{\cdot}nH_2O$
Paceite	$CaCu(CH_3COO)_2{\cdot}6H_2O$
Paraffin hydrocarbon	
Sodium urate	$C_5H_3N_4NaO_3$
*Urea	$CO(NH_2)_2$
Uricite	$C_5H_4N_4O_3$
*Weddelite	$CaC_2O_4{\cdot}2H_2O$
*Whewellite	$CaC_2O_4{\cdot}H_2O$

* Minerals found in humans (after Yoder 2002).