Tables and figures

Table 1. Pyroxene and related composition silicates, pyroxenoids [88M3, 91N1].

Silicate	Composition	End member	Classification group [91N1]
I. Mg-Fe silicates			
Enstatite (En)	$Mg_2Si_2O_6$		VIIID02
Ferrosilite (Fs)	$(Fe,Mg)_2(SiO_3)_2$	$Fe_2Si_2O_6$	VIIID02
Clinoenstatite (CEn)	$Mg_2Si_2O_6$		VIIID01a
Clinoferrosilite (CFs)	$(Fe,Mg)_2(SiO_3)_2$	$Fe_2Si_2O_6$	VIIID01a
Perovskite	$MgSiO_3$		
Ilmenite	$MgSiO_3$		
Akimotoite	$(Mg,Fe)SiO_3$		
II. Mg-Mn silicates			
Rhodonite (Rhd)	$(Mn,Fe,Mg,Ca)SiO_3$	$MnSiO_3$	VIIID13
Pyroxmangite (Pxm)	$MnSiO_3$		VIIID13
Pyroxferroite	$(Fe,Mg,Ca)SiO_3$		VIIID13
Kanoite (Kan)	$(Mn,Mg)SiO_3$	$MnMgSi_2O_6$	VIIID01a
Donpeacorite	$(Mn,Mg)MgSi_2O_6$		VIIID02
$AMgSi_2O_6$ (A = Zn, Cr)	$ZnMgSi_2O_6$, $CrMgSi_2O_6$		
III. Ca-, Ba-, Sr-, Zn-silicates			
Wollastonite (Wo)	$CaSiO_3$		VIIID08
$SrSiO_3$	$SrSiO_3$		
$BaSiO_3$	$BaSiO_3$		
$ZnSiO_3$	$ZnSiO_3$		
$AMgSi_2O_6$ (A = Zn, Cr)	$ZnMgSi_2O_6$, $CrMgSi_2O_6$		
Diopside (Di)	$CaMgSi_2O_6$		VIIID01a
Hedenbergite (Hd)	$CaFeSi_2O_6$		VIIID01a
Johannsenite (Jo)	$CaMnSi_2O_6$		VIIID01a
Bustamite	$CaMnSi_2O_6$		VIIID08
Petedunnite	$CaZnSi_2O_6$		VIIID01a
Esseneite	$CaFeAlSiO_6$		VIIID01a
Calcium Tschermak's (CaTs)	$CaAl_2SiO_6$		
$CaMSiO_6$	M = Sc, Co, Ni		
$CaScAlSiO_6$	$CaScAlSiO_6$		
Pigeonite	$(Mg,Fe,Ca)SiO_3$		VIIID01a
Augite	$(Ca,Mg,Fe)_2Si_2O_6$		VIIID01a
Ferrobustamite	$Ca(Fe,Ca,Mn)Si_2O_6$		VIIID08
$BaCuSi_2O_6$	$BaCuSi_2O_6$		

Table 1 (cont.)

Silicate	Composition	End member	Classification group [91N1]
IV. Na-silicates			
Aegirine (Ae) (Acmite)	$NaFeSi_2O_6$		VIIID01a
Kosmochlor (Ko) (Ureyite)	$NaCrSi_2O_6$		VIIID01a
$Na_2ZnSi_2O_6$ (Chkalovite) [a]	$Na_2ZnSi_2O_6$		
$NaMSi_2O_6$	M = Sc, Ti, V, Cr, Mn, In, Ga		
Jadeite (Jd)	$Na(Al, Fe)Si_2O_6$	$NaAlSi_2O_6$	VIIID01a
Jervisite	$(Na,Ca,Fe)(Sc,Mg,Fe)Si_2O_6$	$NaScSi_2O_6$	VIIID01a
Natalyite	$Na(V,Cr)Si_2O_6$		VIIID01a
$Na_2BaSi_2O_6$	$Na_2BaSi_2O_6$		
Na_2SiO_3	Na_2SiO_3		
V.Ca-Na silicates			
Omphacite	$(Ca,Na)(Mg,Fe,Al)Si_2O_6$		VIIID01a
VI. Li-silicates			
Spodumene	$LiAlSi_2O_6$		VIIID01a
$LiMSi_2O_6$	M = Sc, Ti, Cr, Fe, Ni, Ga, Sn		
Virgilite	$LiAlSi_2O_6$		VIIID01b
Li_2SiO_3	Li_2SiO_3		
VII. Other silicates			
$CoSiO_3$			
Alamosite	$PbSiO_3$		VIIID17
$ZnZnSi_2O_6$	$Zn_2Si_2O_6$		
Cs_5CoSiO_6	Cs_5CoSiO_6		
$HAlSi_2O_6$	$HAlSi_2O_6$		
$(KH)_2Si_2O_6$	$(KH)_2Si_2O_6$		
$CdSiO_3$	$CdSiO_3$		
VIII. Group VIIID01b			
Lorenzenite (Ramsayite)	$Na_4Ti_4[Si_2O_6]_2O_6$		VIIID01b
Vinogradovite	$(Na,Ca)_4Ti_4Si_8O_{26}(H_2O,K)_3$		VIIID01b
Paravinogradovite	$(Na,\square)_2[(Ti^{4+},Fe^{3+})_4\{Si_2O_6\}_2\{Si_3AlO_{10}\}(OH)_4]\cdot H_2O$		VIIID01b
Aërinite	$Ca_4(Al,Fe,Mg)_{10}Si_{12}O_{36}(OH)_{12}CO_3\cdot 12H_2O$		VIIID01b
Lintisite	$Na_3LiTi_2[Si_2O_6]_2O_2\cdot 2H_2O$		
Joesmithite	$(Ca,Pb)_3(Mg,Fe)_5Si_6Be_2O_{22}(OH)_2$		VIIID01b
Nchwaningite	$Mn^{2+}{}_2SiO_3(OH)_2\cdot H_2O$		

[a] The name chkalovite was given also for $Na_2BeSi_2O_6$ (group VIIIB02b)

Table 2. Atomic coordinates and thermal parameters.

a) $Fe_2Si_2O_6$, orthoferrosilite, having space group Pbca [82S1].

Atom	*x*	*y*	*z*	B_{eq} [Å^2]
Fe1	0.37574(3)	0.65397(4)	0.87456(9)	0.409
Fe2	0.37775(3)	0.48566(5)	0.3664(1)	0.573
SiA	0.27231(4)	0.3390(1)	0.0494(2)	0.317
SiB	0.47315(4)	0.3342(1)	0.7893(2)	0.328
O1A	0.1849(3)	0.3392(3)	0.0384(4)	0.479
O1B	0.5610(1)	0.3368(3)	0.7859(4)	0.472
O2A	0.3120(1)	0.4962(3)	0.0575(5)	0.593
O2B	0.4330(1)	0.4805(3)	0.6922(5)	0.518
O3A	0.3025(1)	0.2355(3)	–0.1832(5)	0.611
O3B	0.4475(1)	0.2023(3)	0.5871(4)	0.516

b) $Mg_{0.613}Fe_{0.387}SiO_3$, clinopyroxene, having space group $P2_1/c$ [98A3].

Atom	*x*	*y*	*z*	B_{eq} [Å^2]
M1	0.2512(5)	0.6539(4)	0.2201(8)	1.01
M2	0.2570(4)	0.0153(3)	0.2202(6)	1.28
SiA	0.0431(3)	0.3401(7)	0.2899(6)	0.79
SiB	0.5531(3)	0.8359(6)	0.2354(6)	0.73
O1A	0.8691(10)	0.3376(16)	0.1821(18)	0.97
O2A	0.1239(10)	0.4993(12)	0.3283(20)	0.81
O3A	0.1047(7)	0.2729(2)	0.6053(14)	1.11
O1B	0.3750(9)	0.8388(15)	0.1287(16)	0.72
O2B	0.6244(11)	0.9819(13)	0.3869(20)	1.21
O3B	0.6048(7)	0.7006(9)	0.4625(14)	0.99

c) $FeSiO_3$, clinoferrosilite at 1050°C, having C2/c-type structure [84S4].

Atom	*x*	*y*	*z*	B_{eq} [Å^2]
Fe1	0.0	0.9014	0.25	2.03(10)
Fe2	0.0	0.2625(6)	0.25	2.84(12)
Si	0.2962(5)	0.0852(8)	0.2708(7)	1.90(10)
O1	0.1241(13)	0.0903(19)	0.1587(16)	3.28(28)
O2	0.3747(14)	0.2398(13)	0.3616(19)	2.23(25)
O3	0.3589(15)	0.0134(12)	0.0445(20)	2.40(30)

d) $MgSiO_3$, protoenstatite at 1080°C, having space group Pbcn [82M5].

Atom	*x*	*y*	*z*	B_{eq} [Å^2]
M1	0.0	0.1006(5)	0.75	2.16
M2	0.0	0.2625(5)	0.25	2.65
Si	0.2928(2)	0.0897(2)	0.0739(3)	1.33
O1	0.1200(5)	0.0942(6)	0.0770(10)	1.85
O2	0.3773(6)	0.2463(7)	0.0677(11)	2.53
O3	0.3481(5)	0.9836(9)	0.3079(11)	2.95

Table 2 (cont.)

e) $CaSiO_3$ pseudowollastonite (two layers), having monoclinic space group C2/c [99Y3].

Atom	*x*	*y*	*z*
Ca1	0.0870(1)	0.2403(1)	0.4989(1)
Ca2	0.25	0.25	0
Si1	0.1278(1)	0.4530(1)	0.2445(1)
Si2	0	0.8400(1)	0.25
O1	0.1275(1)	0.4045(2)	0.0965(2)
O2	0.2290(1)	0.3991(2)	0.3863(2)
O3	0.1109(1)	0.6929(2)	0.2478(2)
O4	0.0497(1)	0.9436(2)	0.3939(2)
O5	0	0.3592(3)	0.25

f) $MgSiO_3$ perovskite, having orthorhombic structure [89R2].

Atom	*x*	*y*	*z*	B_{eq} [Å^2]
Mg	0.9856(10)	0.0564(6)	¼	0.75(7)
Si	0	½	0	0.25
O1	0.1015(17)	0.4673(13)	¼	0.45(12)
O2	0.9662(10)	0.2983(8)	0.0524(9)	0.47(8)

g) $MgSiO_3$ ilmenite, having space group $R\bar{3}$ [82H1].

Atom	Site	Symmetry	*x*	*y*	*z*	B_{eq} [Å^2]
Mg	2g	3	0	0	0.35970(12)	0.59
Si	2g	3	0	0	0.15768(10)	0.42
O	6l	1	0.3214(5)	0.0361(4)	0.24077(11)	0.48

h) Omphacite $(Ca_{0.516}Na_{0.484})(Mg_{0.392}Fe^{2+}_{0.077}Fe^{3+}_{0.137}Al_{0.398}Ti_{0.005})(Si_{1.918}Al_{0.082})O_6$, having space group P2/n [75M2].

Atom	*x*	*y*	*z*	B_{eq} [Å^2]	Site occupancy
O11	0.3634(4)	0.3382(5)	0.1232(7)	0.73(7)	1.0 for all O
O12	0.3621(4)	0.1767(5)	0.6475(8)	0.74(6)	
O21	0.6138(4)	0.5090(5)	0.3091(8)	0.76(7)	
O22	0.6063(4)	0.9974(5)	0.8054(8)	0.80(7)	
O31	0.6057(4)	0.2663(4)	0.0037(8)	0.65(6)	
O32	0.5981(4)	0.2398(4)	0.4984(8)	0.70(7)	
Si1	0.5393(2)	0.3465(2)	0.2273(3)	0.37(3)	1 for all Si
Si2	0.5376(2)	0.1621(2)	0.7310(3)	0.36(3)	
M11	0.2500	0.3480(2)	0.7500	0.32(5)	Al 0.868(9), Fe 0.132
M1	0.2500	0.1580(3)	0.2500	0.43(5)	Mg 0.815(9), Fe 0.185
M2	0.2500	0.5521(3)	0.2500	0.86(6)	Ca 0.314(13), Na 0.686
M21	0.2500	0.9502(2)	0.7500	0.82(5)	Ca 0.716, Na 0.284

Table 2 (cont.)

i) $LiAlSi_2O_6$-II, having tetragonal structure $P4_32_12$ or its enantiomorph $P4_12_12$ [68L2].

Atom	*x*	*y*	*z*	B_{eq} [Å^2]
Si1	0.3324(3)	0.1221(3)	0.2384(3)	0.26(3)
Si2	0.4182(3)	0.4182	0	0.23(4)
O1	0.4436(10)	0.1190(9)	0.3926(7)	1.50(10)
O2	0.1254(8)	0.1154(8)	0.2999(7)	1.08(9)
O3	0.3628(9)	0.3024(10)	0.1454(8)	2.01(11)
Li	0.0644(38)	0.1880(38)	0.4964(31)	1.79(37)

j) $LiAlSi_2O_6$-III, having hexagonal structure, space group $P6_222$ (or $P6_422$) [68L1].

Atom	*x*	*y*	*z*	B_{eq} [Å^2]
Si, Al	1/2	0	0	0.29(5)
O	0.2055(8)	(0.4110)	1/2	1.65(10)
Li	0	0	0	1.45(88)

Table 3. Crystal structure and lattice parameters.

Silicate	*T* [K]	Space group	Lattice parameters				Refs.
			a [Å]	*b* [Å]	*c* [Å]	β	
$Mg_2Si_2O_6$ (OEn)	RT	Pbca	18.210(10)	8.812(5)	5.178(4)		69M1
	RT	Pbca	18.225(1)	8.815(1)	5.175(1)		66S2
	RT	Pbca	18.216(2)	8.813(1)	5.179(1)		77H2
	RT	Pbca	18.2230(30)	8.8190(6)	5.1812(13)		79G1
	RT	Pbca	18.227(4)	8.819(2)	5.179(1)		82S1
	RT	Pbca	18.225(2)	8.8128(6)	5.180(1)		84O1
	RT	Pbca	18.225(2)	8.818(1)	5.178(1)		86H3
	296	Pbca	18.235(3)	8.818(1)	5.179(1)		86G3
	298	Pbca	18.227(1)	8.818(1)	5.181(0)		95Z1
$MgSiO_3$ (PEn)	RT	Pbcn	9.250(5)	8.740(5)	5.320(5)		59S1
	1353	Pbcn	9.306(6)	8.892(7)	5.349(4)		82M5, 84M3
	1533		9.302(6)	8.914(6)	5.362(4)		84M3
	1633		9.349(6)	8.929(6)	5.361(4)		84M3
$MgSiO_3$ (natural sample)	1373	$P2_1cn$	9.304(4)	8.902(2)	5.351(5)		71S3
$MgSiO_3$ (LCEn)	RT	$P2_1/c$	9.606(1)	8.8131(7)	5.170(2)	108.35(1)°	84O1
	RT	$P2_1/c$	9.620(5)	8.835(5)	5.188(5)	108°20(10)'	60M1
$Mg_2Si_2O_6$ (LCEn)	RT		9.609(2)	8.814(2)	5.175(2)	108.37(2)°	77H2
	RT		9.607(1)	8.815(1)	5.169(1)	108.34(1)°	66S2
$MgSiO_3$ (HPCEn) (p = 7.93 GPa)	RT	C2/c	9.201(3)	8.621(1)	4.908(1)	101.50(3)°	92A1
$MgSiO_3$ (ilmenite)	RT	R3 or $R\bar{3}$	4.7284(4)		13.5591(16)		77I2, 82H1
			4.722(3)		13.560(12)		96R2
$MgSiO_3$ (perovskite) s.c.	RT		4.774(1)	4.928(2)	6.893(2)		87K3
s.c.	RT		4.7786(9)	4.9293(9)	6.9003(8)		89R2
s.c.	RT	Pbnm	4.7787(4)	4.9313(4)	6.9083(8)		87H6
powder	RT	Pbnm	4.7754(4)	4.9292(4)	6.8969(5)		78I1

Table 3 (cont.)

Silicate	*T* [K]	Space group	Lattice parameters				Refs.
			a [Å]	*b* [Å]	*c* [Å]	β	
$MgSiO_3$ (perovskite) (cont.)							
powder	RT		4.780(1)	4.933(1)	6.902(1)		78Y1
powder	RT		4.783(7)	4.953(8)	6.886(7)		86K4
powder	RT		4.790(4)	4.943(4)	6.897(6)		76L2
	RT		4.777(2)	4.927(1)	6.89772(9)		90R3
(p = 1.0 GPa)	RT		4.768(3)	4.922(2)	6.8898(15)		90R3
(p = 2.2 GPa)			4.762(1)	4.918(1)	6.8767(9)		90R3
(p = 3.0 GPa)			4.758(2)	4.911(3)	6.8680(14)		90R3
(p = 3.5 GPa)			4.754(6)	4.911(2)	6.8653(12)		90R3
(p = 5.0 GPa)			4.746(2)	4.899(3)	6.8538(16)		90R3
$MgSiO_3$ (garnet)	RT	$I4_1/a$	11.501(1)		11.480(2)		89A1
$MnMg[Si_2O_6]$	473	$P2_1/c$	9.758(3)	8.897(1)	5.283(1)	108.74(2)°	97A2
	543	C2/c	9.796(5)	8.880(8)	5.315(3)	109.26(4)°	97A2
Enstatite							
$[Mg_{(x-12)/3}Sc_4][Li_{4/3}Si_{(x-4)/3}]O_x$							
x = 124 (En-IV-10)	RT	P2/a	9.429(2)	8.748(2)	27.038(8)	93.25(2)°	77T1,
x = 112 (En-IV- 9)	RT	I2/a	9.432(2)	8.756(1)	48.792(14)	92.25(2)°	84T1
x = 100 (En-IV-8)	RT	P2/a	9.429(2)	8.741(1)	21.808(6)	91.20(2)°	
$[Mg_{\cong(x-7.5)/3}Sc_{\cong 3}][Mg_{2/3}Si_{(x-4)/3}]O_x$							
x = 124 (En-IV'-10)	RT	P2/a	9.424(2)	8.738(2)	27.021(8)	93.24(2)°	84T2
x = 112 (En-IV'-9)	RT	I2/a	9.424(1)	8.740(1)	48.808(6)	92.38(1)°	
x = 100 (En-IV'-8)	RT	P2/a	9.434(1)	8.731(1)	21.791(4)	91.30(1)°	
$Fe_2Si_2O_6$	RT	Pbca	18.427(4)	9.076(2)	5.237(1)		82S1
$FeSiO_3$	297	Pbca	18.418(2)	9.078(1)	5.2366(4)		76S1
	673	Pbca	18.484(1)	9.124(1)	5.2593(3)		76S1
	873	Pbca	18.527(1)	9.145(1)	5.2756(4)		76S1
	1073	Pbca	18.569(1)	9.160(1)	5.2974(4)		76S1
	1173	Pbca	18.596(1)	9.1685(5)	5.3113(3)		76S1
		$P2_1/c$	9.7075(5)	9.0807(4)	5.2347(5)	108.46(1)°	97H3
(p = 1.87 GPa)		C2/c	9.540(1)	8.996(3)	5.008(1)	103.01(1)°	97H3
	1323	C2/c	9.928(1)	9.179(1)	5.338(1)	110.20(1)°	84S4
$(Mg_{0.56}Fe_{0.44})_2Si_2O_6$	RT	Pbca	18.312(4)	8.917(2)	5.217(1)		93H1
$Mg_{0.305}Fe_{0.68}Ca_{0.015}SiO_3$	293	Pbca	18.363(5)	8.990(3)	5.232(4)		73S1
$Mg_{0.613}Fe_{0.387}SiO_3$	RT	$P2_1/c$	9.6519(7)	8.9075(7)	5.2004(3)	108.590(1)°	98A3
$Mg_{0.31}Fe_{0.67}Ca_{0.015}SiO_3$	293	$P2_1/c$	9.691(3)	8.993(3)	5.231(2)	108.61(2)°	74S1
$Mg_{1.425}Cr_{0.611}Si_{1.964}O_6$	RT	$P2_1/c$	9.713(2)	8.910(2)	5.238(2)	109.41(2)°	89A2
$Mg_{0.79}Fe_{0.21}SiO_3$ (akimotoite)		$R\bar{3}$	4.78(5)		13.6(1)		99T2
$Co_2Si_2O_6$	RT	Pbca	18.296(4)	8.923(1)	5.204(1)		82S1
$Mg_{0.776}Co_{0.224}SiO_3$	293	Pbca	18.233(7)	8.836(6)	5.188(3)		78H1
$Mg(Cu_{0.56}Mg_{0.44})Si_2O_6$	RT	Pbca	18.221(4)	8.890(1)	5.2260(7)		97T1
$Mg_{0.7}Co_{0.1}Li_{0.1}Sc_{0.1}SiO_3$ (protopyroxene)	298		9.253(1)	8.7716(9)	5.3350(5)		85M2
	1413		9.320(4)	8.898(5)	5.346(3)		85M2
$MnSiO_3$ (CPx)	RT		9.864(2)	9.179(2)	5.298(1)	71°47(1)'	72A2
$MnSiO_3$ (Rhd)	RT	$P\bar{1}$	7.616(1)	11.853(2)	6.706(1)	α=92.44(2)° β=94.40(2)° γ=105.70(1)°	89R1

Table 3 (cont.)

Silicate	*T* [K]	Space group	Lattice parameters				Refs.
			a [Å]	*b* [Å]	*c* [Å]	*β*	
$MnSiO_3$ (Rhd)	RT	$P\bar{1}$	7.633(5)	11.868(9)	6.716(5)	α= 92°41(6)' β= 94°38(6)' γ= 105°40(4)'	85T2
	RT	$P\bar{1}$	7.614	11.848	6.699	α= 92°39' β= 94°24' γ=105°41'	72I2
	RT		7.614(3)	11.856(6)	6.703(2)	α= 92.40(4)° β= 94.25(4)° γ=105.73(4)°	86H3
	RT		7.616(3)	11.851(5)	6.707(2)	α= 92°33(6)' β= 94°21(6)' γ=105°40(6)'	72A2
$MnSiO_3$ (Pxm)	RT		6.717(2)	7.601(2)	17.429(11)	α=113.79(3)° β= 82.35(5)° γ=94.73(5)°	86H3
	RT		6.721(2)	7.603(3)	17.455(6)	α=113°10(6)' β= 82°16(6)' γ= 94°08(6)'	72A2
$MnSiO_3$ (garnet)	RT	$I4_1/a$	11.774(1)		11.636(2)		86F2
$MgSiO_3$ (garnet)	RT		11.769(3)		11.624(3)		72A2
$Mg_{0.925}Mn_{0.075}SiO_3$	293	Pbca	18.270(6)	8.833(6)	5.195(3)		78H1
$Mg_{1.41}Mn_{0.56}Ca_{0.03}Si_2O_6$ (donpeacorite)	RT	Pbca	18.384(11)	8.878(7)	5.226(3)		84P2
$Mg_{1.43}Mn_{0.54}Ca_{0.03}Si_2O_6$ (donpeacorite)	RT	Pbca	18.3668(3)	8.8725(2)	5.2289(1)		05S1
$Mg_{1.562}Mn_{0.175}Ca_{0.263}Si_2O_6$	RT	Pbca	18.246(3)	8.839(2)	5.196(1)		77H2
$Mn_{0.143}Mg_{0.857}SiO_3$ (OPx)	RT		18.290(3)	8.849(1)	5.206(1)		86H3
$Mn_{0.286}Mg_{0.714}SiO_3$ (OPx)	RT		18.350(2)	8.879(1)	5.221(1)		86H3
$Mn_{0.714}Mg_{0.286}SiO_3$ (Pxm)	RT		6.672(2)	7.528(2)	17.350(3)	α=113.77(2)° β=81.96(2)° γ=94.63(2)°	86H3
$Mn_{0.428}Mg_{0.572}SiO_3$ (Kan)	RT		9.724(3)	8.911(2)	5.247(2)	108.60(3)°	86H3
$Mn_{0.50}Mg_{0.50}SiO_3$ (Kan)	RT		9.732(2)	8.934(1)	5.245(2)	108.52(2)°	86H3
$Co_{1/3}Ni_{1/3}Zn_{1/3}SiO_3$	RT	Pbca	18.209(1)	8.915(1)	5.2182(4)		90T2
Kanoite[1)]	RT	$P2_1/c$	9.739	8.939	5.260	108.56°	77K1
Kanoite, $MnMg[Si_2O_6]$	473	$P2_1/c$	9.758(3)	8.897(1)	5.283(1)	108.74(2)°	97A2
	543	C2/c	9.796(5)	8.880(8)	5.315(3)	109.26(4)°	97A2
Pyroxferroite $(Fe_{0.84}Ca_{0.13}Mg_{0.02}Mn_{0.02})SiO_3$	RT	Tricl.	6.62	7.54	17.35	α=114.4° β=82.7° γ=94.5°	70C2
$CaSiO_3$ (pseudowollastonite 4-layers)	RT	$C\bar{1}$	6.853(3)	11.895(5)	19.674(13)	α=90.12(3)° β=90.55(3)° γ=90.00(3)°	81Y1
$CaSiO_3$ (pseudowollastonite)	RT	triclinic	6.856(12)	11.901(8)	19.672(22)	α=90.06(9)° β=90.36(14)° γ=89.93(14)°	98R3
$CaSiO_3$ (pseudowollastonite 4-layers)	RT	C2/c	6.8394(5)	11.8704(9)	19.6313(7)	90.667(6)°	99Y2

Table 3 (cont.)

Silicate	*T* [K]	Space group	Lattice parameters				Refs.
			a [Å]	*b* [Å]	*c* [Å]	β	
$CaSiO_3$ (pseudowollastonite 2-layers)	RT	C2/c	11.8322(6)	6.8624(8)	10.5297(5)	111.245(8)°	99Y3
$CaSiO_3$ (high pressure)	RT	$P\bar{1}$	6.695(5)	9.257(7)	6.666(6)	α=86°38(3)' β=76°08(3)' γ=70°23(3)'	69T1
Wollastonite 3T	RT		23.2(1)	7.30(3)	7.06(3)	α=90° β=95.5(2)° γ=94.6(2)°	83H1
Wollastonite 4T	RT		31.2(11)	7.30(3)	7.06(3)	α=90° β=95.5(2)° γ=96.8(2)°	83H1
Wollastonite 5T	RT		38.6(1)	7.30(3)	7.06(3)	α=90° β=95.5(2)° γ=98.0(2)°	83H1
$Ca_3[Si_3O_9]$-wollastonite 2M	RT	$P2_1/c$	15.409(3)	7.332(1)	7.063(1)	95.30(2)°	84H2
$CaSiO_3$ (perovskite)	RT	P4/m32/m	3.567(1)				86M2
$CaTi_{0.51}Si_{0.49}O_3$ (perovskite)	RT		5.225(5)	7.389(2)	5.225(3)		98S3
$CaTi_{0.77}Si_{0.23}O_3$ (perovskite)	RT		5.322(5)	7.556(2)	5.366(4)		98S3
ε-$CaSiO_3$	RT		9.485(8)				75L3
δ-$CaSiO_3$	RT	$P\bar{1}$	6.695(5)	9.257(7)	6.666(6)	α=86.63(5)° β=76.13(5)° γ=70.38(5)°	69T1
α-$SrSiO_3$	RT	C2	12.323(5)	7.139(2)	10.873(5)	111.58(4)°	82M1
δ-$SrSiO_3$	RT	$P\bar{1}$	6.874(2)	6.894(2)	9.717(3)	α=85.01(3)° β=110.57(3)° γ=104.01(2)°	82M1
δ'-$SrSiO_3$	RT	$P2_1/c$	7.452(4)	6.066(2)	13.497(7)	117.09(4)°	82M1
$SrSiO_3$: Eu^{3+}, Bi^{3+} (sintering at atm. pressure)	RT	hex	7.123(5)		10.005(5)	120°	93L2
(high *T*, high *p*)			8.532(5)	10.792(5)	36.364(5)	90.326°	93L2
$SrSiO_3$ (perovskite) (at 35 GPa and 1450(50) K)	RT	$P6_3/mmc$	5.0688(3)		12.4175(7)		05Y1
$BaSiO_3$ (high-*T* form)	RT		4.54	5.56	12.27		60L1
$CaMgSi_2O_6$	RT	C2/c	9.748(1)	8.924(1)	5.251(1)	105°40.4'	63N1, 69G1
	RT	C2/c	9.746(4)	8.899(5)	5.251(6)	105.63(6)°	69C1, 79O2
Diopside[2)]	RT		9.7456(7)	8.9198(8)	5.2516(5)	105.86(1)°	81L1
Diopside[2)] (p = 5.3 GPa)	RT		9.612(2)	8.765(1)	5.1793(2)	105.32(1)°	81L1
Diopside[3)]	RT	C2/c	9.719(2)	8.838(2)	5.287(1)	106.05(2)°	02D1
$CaFeSi_2O_6$	RT		9.844	9.028	5.246	104.8°	70V1
	RT		9.845	9.024	5.245	104.8°	73C1
	RT		9.845	9.021	5.246	104.7°	88K1
	RT	C2/c	9.841	9.027	5.247	104.8°	69N1
	RT	C2/c	9.838	9.038	5.244	105.0°	88G2
Hedenbergite[4)]	RT		9.840	9.024	5.250	104.2°	91K2
$Mg_{0.39}Fe_{0.52}Ca_{0.09}SiO_3$	RT	$P2_1/c$	9.706(2)	8.950(1)	5.246(1)	108.59(1)°	70M2
$Mg_{0.33}Fe_{0.57}Ca_{0.10}SiO_3$	RT		9.731(5)	8.953(5)	5.256(5)	108.5(2)°	69M2

Table 3 (cont.)

Silicate	*T* [K]	Space group	Lattice parameters				Refs.
			a [Å]	*b* [Å]	*c* [Å]	β	
$Ca_{0.15}Mg_{1.85}Si_2O_6$ (clinopyroxene)	RT	$P2_1/c$	9.651(2)	8.846(2)	5.202(1)	108.38(2)°	02T1
$Ca_{0.80}Mg_{1.20}Si_{1.99}O_6$	RT	C2/c	9.727(3)	8.912(1)	5.245(1)	106.36(3)°	90B1
$Ca_{0.82}Fe_{0.15}Mn_{0.03}SiO_3$ ($Fs_{0.18}Wo_{0.82}$)	RT	$A\bar{1}$	7.862	7.253	13.967	α=89°44' β=95°28' γ=103°29'	77Y2
$Fs_{0.65}Wo_{0.35}$	RT	C2/c	9.812(1)	9.049(1)	5.233(1)	105.34(1)°	75O1
$Fs_{0.75}Wo_{0.25}$	RT	C2/c	9.781(2)	9.072(2)	5.246(2)	106.55(2)°	75O1
$Fs_{0.80}Wo_{0.20}$	RT	C2/c	9.760(6)	9.057(8)	5.234(3)	106.28(5)°	75O1
$Fs_{0.85}Wo_{0.15}$	RT	C2/c	9.779(1)	9.088(1)	5.285(1)	107.39(1)°	75O1
$En_{0.39}Fs_{0.52}Wo_{0.09}$	RT	C2/c	9.858(4)	9.053(2)	5.329(3)	109.42(1)°	72B1
$CaFe_{0.8}Mg_{0.2}Si_2O_6$	RT	C2/c	9.815(1)	8.977(1)	5.2416(6)	104.910(9)°	86W3
$Ca_{2.90}Mn_{0.10}Fe_{0.02}Si_{2.99}O_9$ (Mn-Wo)	RT	$C\bar{1}$	10.121(2)	11.070(1)	7.312(1)	α=99.51(1)° β=100.51(1)° γ=83.43(1)°	78O3
$Ca_{2.90}Mg_{0.03}Mn_{0.02}Fe_{0.11}Si_{2.97}O_9$ (Fe-Wo)	RT	$C\bar{1}$	10.104(1)	11.054(1)	7.305(1)	α=99.53(1)° β=100.56(1)° γ=83.44(1)°	78O3
$Ca_{0.742}Mg_{0.016}Fe_{0.100}Al_{1.384}Si_{1.534}O_6$	RT	C2/c	9.719(1)	8.814(2)	5.305(1)	106.04(1)°	98O1
$Mg_{0.475}Fe_{0.475}Ca_{0.05}SiO_3$	RT		9.696(1)	8.942(1)	5.227(1)	108.75(1)°	69M2
$CaMnSi_2O_6$	RT		9.978(9)	9.156(9)	5.293(5)	105.5°	67F1
$CaCoSi_2O_6$	RT	C2/c	9.806(1)	8.950(1)	5.243(1)	105.45(1)°	75G3, 87G1
	RT		9.797(1)	8.954(1)	5.243(1)	105.40(2)°	77S2
$CaNiSi_2O_6$	RT		9.737(2)	8.899(2)	5.231(1)	105.92(1)°	77S2
	RT	C2/c	9.734(2)	8.891(2)	5.228(1)	105.87(2)°	75G3, 87G1
	RT		9.728(2)	8.891(2)	5.228(1)	105.83(2)°	88O1
$CaZnSi_2O_6$ (2 GPa, 900°C)	RT	C2/c	9.803(6)	8.975(7)	5.243(7)	105.75(7)°	87E1
$CaAl_2SiO_6$ (CaTs)	RT	C2	9.609(3)	8.652(2)	5.274(2)	106.06(2)°	74O1
$CaAl_2SiO_6$	RT	P3c1 or $P\bar{3}c1$	9.943(2)		8.228(3)		73K1
$CaFeAlSiO_6$	RT	C2/c	9.781(2)	8.782(1)	5.365(1)	105.80(3)°	83A2
	RT	C2/c	9.7797(16)	8.7819(14)	5.3685(5)	105.78(1)°	86G2
Esseneite[5)]	RT	C2/c	9.79(1)	8.822(9)	5.37(1)	105.81(9)°	87C3
$Ca_{1.49}Mg_{0.03}Mn_{1.11}Fe_{0.36}Si_3O_9$ (bustamite)	RT	$I\bar{1}$	9.864(3)	10.790(5)	7.139(5)	α=99.53(4)° β=99.71(3)° γ=83.83(3)°	78O3
$Ca_{0.94}Mg_{0.13}Mn_{1.79}Fe_{0.13}Si_3O_9$ (Mn-bustamite)	RT	$I\bar{1}$	9.807(4)	10.680(4)	7.091(2)	α=99.58(2)° β=99.99(3)° γ=83.79(3)°	78O3
$Ca_{2.33}Mg_{0.06}Mn_{0.36}Fe_{0.22}Si_3O_9$ (Ca-bustamite)	RT	$I\bar{1}$	9.994(3)	10.946(3)	7.231(3)	α=99.30(3)° β=100.56(3)° γ=83.29(2)°	78O3
Ferrobustamite[6)]	RT		9.777	8.940	5.260	104.8°	89K1
$ZnSiO_3$	RT	C2/c	9.787(3)	9.161(2)	5.296(1)	111.42(3)°	75M3
$ZnSiO_3$ (clinopyroxene)	RT	C2/c	9.7891(18)	9.1785(8)	5.3006(6)	111°28'	71S4
	RT	C2/c	9.781(1)	9.179(1)	5.2933(9)	111°27'	89L1

Table 3 (cont.)

Silicate	*T*	Space group	Lattice parameters				Refs.
	[K]		*a* [Å]	*b* [Å]	*c* [Å]	β	
$ZnSiO_3$ (orth.)	RT	Pbca	18.204(5)	9.087(3)	5.278(2)		75M3
$ZnSiO_3$ (ilmenite)	RT		4.746(1)		13.755(2)		74I2
	RT		4.7469(2)		13.7536(8)		89L1
$ZnMgSi_2O_6$	RT	Pbca	18.201(5)	8.916(2)	5.209(2)		75M3
$CaZnSi_2O_6$	RT	C2/c	9.803(7)	8.975(7)	5.243(7)	105.75(7)°	87E1
Petedunnite[7)]	RT	C2/c	9.82(3)	9.00(1)	5.27(2)	105.6(2)°	87E1
$CaScAlSiO_6$	RT	C2/c	9.884(2)	8.988(1)	5.446(1)	105.86(1)°	78O1, 78O4
	RT	C2/c	9.887(3)	8.996(2)	5.446(1)	105.89(3)°	78O2, 83O2
$Ca_{1.00}Sc_{0.84}Ti_{0.27}Al_{1.16}Si_{0.73}O_6$	RT	C2/c	9.925(5)	8.949(2)	5.460(1)	105.77(4)°	79O3
$0.9CaScAlSiO_6$–$0.1CaTiAl_2Si_2O_6$	RT	C2/c	9.900(3)	8.977(2)	5.452(2)	105.86(3)°	83O2
$0.8CaScAlSiO_6$–$0.2CaTiAl_2Si_2O_6$	RT	C2/c	9.894(2)	8.947(1)	5.453(1)	105.81(2)°	83O2
$0.7CaScAlSiO_6$–$0.3CaTiAl_2Si_2O_6$	RT	C2/c	9.889(4)	8.913(2)	5.450(2)	105.73(2)°	83O2
$0.9CaFeGaSiO_6$–$0.1CaGa_2SiO_6$	RT	C2/c	9.903(2)	8.821(2)	5.410(1)	105.441(8)°	97A1
$BaCuSi_2O_6$	RT	$I\bar{4}m2$	7.042(3)		11.133(3)		89F2
Na_2SiO_3	RT	$Cmc2_1$	10.482	6.064	4.826		67M1
	RT	orth.	10.43	6.02	4.81		52G1
	RT	orth.	10.52	6.075	4.825		56S1
	340		10.506(2)	6.065(1)	4.821(1)		96R3
	568		10.543(5)	6.088(3)	4.845(3)		96R3
	712		10.566(5)	6.102(3)	4.862(3)		96R3
	955		10.578(5)	6.109(3)	4.894(3)		96R3
	1158		10.586(7)	6.112(4)	4.928(4)		96R3
	1290		10.599(4)	6.118(2)	4.942(3)		96R3
$NaScSi_2O_6$	298	C2/c	9.8372(10)	9.0550(5)	5.3488(6)	107.175(5)°	94O1
	RT	C2/c	9.8438(4)	9.0439(4)	5.3540(2)	107.215(2)°	73H2
$NaTiSi_2O_6$	RT	C2/c	9.692(2)	8.874(2)	5.301(2)	106.85(1)°	82O2
	100		6.627(1)	8.845(2)	5.2895(4)	α=90.180(1)° β=102.230(1)° γ=47.034(1)°	03N1
	300	C2/c	9.6955(3)	8.8851(2)	5.2968(2)	106.720(2)°	03N1
$NaVSi_2O_6$	RT	C2/c	9.6339(4)	8.7413(2)	5.2960(3)	109.905(2)°	04V1
$NaCrSi_2O_6$	RT	C2/c	9.550(16)	8.712(7)	5.273(8)	107.44(16)°	79O2
	RT		9.579	8.722	5.267	107.4°	73C1
$NaMnSi_2O_6$	302	C2/c	9.513(1)	8.621(1)	5.354(1)	105.14(1)°	87O3
$NaFeSi_2O_6$	RT		9.666(3)	8.804(2)	5.305(1)	107.44(2)°	97B1
	295	C2/c	9.658(1)	8.795(1)	5.294(1)	107.42°	69C1
	14	C2/c	9.68(1)	8.83(1)	5.30(1)	107.3(2)°	89B1
$NaAlSi_2O_6$	RT		9.423	8.564	5.223	107.6°	73C1, 77R1
	RT	C2/c	9.418(1)	8.562(2)	5.219(1)	107.58(1)°	66P2
$NaInSi_2O_6$	RT	C2/c	9.8997(5)	9.1310(3)	5.3656(3)	107.226(2)°	90O1
	RT		9.902	9.131	5.359	107.2°	77R1

Table 3 (cont.)

Silicate	*T*	Space	Lattice parameters				Refs.
	[K]	group	*a* [Å]	*b* [Å]	*c* [Å]	β	
$NaGaSi_2O_6$	RT	C2/c	9.557(5)	8.679(4)	5.260(1)	107.68(2)°	95O2
$NaCr_{0.2}Sc_{0.8}Si_2O_6$	RT	C2/c	9.776(3)	8.988(2)	5.324(2)	107.13(4)°	79O1
$NaCr_{0.5}Sc_{0.5}Si_2O_6$	RT	C2/c	9.690(5)	8.878(4)	5.304(2)	107.17(5)°	79O1
(p = 5 GPa)	RT	C2/c	9.699(2)	8.873(4)	5.310(1)	107.30(2)°	81O1
$NaCr_{0.6}Sc_{0.4}Si_2O_6$	RT	C2/c	9.677(3)	8.848(2)	5.299(2)	107.27(3)°	79O1
(p = 5 GPa)	RT	C2/c	9.674(3)	8.840(4)	5.302(2)	107.34(3)°	81O1
$NaIn_{0.8}Sc_{0.2}Si_2O_6$	RT	C2/c	9.8907(5)	9.1164(2)	5.3623(3)	107.204(2)°	90O1
$NaIn_{0.65}Sc_{0.35}Si_2O_6$	RT	C2/c	9.8811(5)	9.1043(2)	5.3592(3)	107.188(2)°	90O1
$NaIn_{0.60}Sc_{0.40}Si_2O_6$	RT	C2/c	9.8782(5)	9.1008(3)	5.3582(3)	107.191(2)°	90O1
$NaIn_{0.55}Sc_{0.45}Si_2O_6$	RT	C2/c	9.8734(5)	9.0947(2)	5.3570(3)	107.187(2)°	90O1
$NaIn_{0.50}Sc_{0.50}Si_2O_6$	RT	C2/c	9.8701(4)	9.0901(2)	5.3559(2)	107.179(2)°	90O1
$NaIn_{0.40}Sc_{0.60}Si_2O_6$	RT	C2/c	9.8659(5)	9.0848(2)	5.3553(3)	107.178(2)°	90O1
$NaIn_{0.20}Sc_{0.80}Si_2O_6$	RT	C2/c	9.8516(5)	9.0698(2)	5.3521(3)	107.175(2)°	90O1
$NaMg_{0.5}Si_{0.5}Si_2O_6$	RT	P2/n	9.418(1)	8.647(1)	5.274(1)	108.13(2)°	88A1
$Na_2BaSi_2O_6$	RT	$P2_1$	11.440(5)	4.758(2)	5.670(2)	91.42(4)°	73G2
$Na_2ZnSi_2O_6$ (chkalovite)	RT	Fdd2	21.54	7.139	7.413		80S3
$Na_2BeSi_2O_6$	RT	Fdd2	21.129	6.881	21.188		75S2
$Na_2Cr_2Si_2O_6$	RT	C2/c	9.560(16)	8.746(8)	5.270(6)	107.38(10)°	65F1
$(Na_{0.56}Ca_{0.36}Mg_{0.08})Si_{0.27}Mg_{0.73}$-$Si_2O_6$ (CPx) ($NaPx_{16}En_{84}$)	RT	C2/c	9.5792(13)	8.7588(12)	5.2610(6)	107.199(3)°	05Y2
$Na_{0.20}Ca_{0.80}Cr_{0.20}Mg_{0.80}Si_2O_6$	RT	C2/c	9.705(2)	8.895(1)	5.252(1)	106.10(2)°	83O1
$Na_{0.25}Ca_{0.75}Cr_{0.25}Mg_{0.75}Si_2O_6$	RT	C2/c	9.691(3)	8.868(2)	5.249(1)	106.13(2)°	79O2
$Na_{0.45}Ca_{0.55}Cr_{0.45}Mg_{0.55}Si_2O_6$	RT	C2/c	9.645(3)	8.821(3)	5.254(2)	106.47(2)°	87O2
$Na_{0.50}Ca_{0.50}Cr_{0.50}Mg_{0.50}Si_2O_6$	RT	C2/c	9.633(4)	8.808(2)	5.254(2)	106.45(4)°	79O2
$Na_{0.75}Ca_{0.25}Cr_{0.75}Mg_{0.25}Si_2O_6$	RT	C2/c	9.594(3)	8.748(3)	5.256(2)	106.94(2)°	79O2
$Na_{0.99}Ca_{0.01}Fe_{0.99}Mg_{0.01}Si_2O_6$	RT		9.658(2)	8.795(2)	5.294(1)	107.42(2)°	63N1
$Na_{0.70}Ca_{0.30}Fe_{0.84}Mg_{0.16}Si_2O_6$	RT		9.698	8.848	5.284	106.78°	69N1
$(Na_{0.86}Ca_{0.09})(Fe^{2+},Fe^{3+})_{0.93}Ti_{0.03}$-$Mn_{0.03}Si_2O_6$ [8] (aegirine)	RT		9.664	8.813	5.277	107.61°	04S1
$(Na_{0.99}Ca_{0.01})(Fe^{2+},Fe^{3+})_{1.0}Si_2O_6$ [9]			9.658	8.811	5.285	107.62°	04S1
$Na_{0.4}Ca_{0.6}Sc_{0.2}Cr_{0.2}Mg_{0.6}Si_2O_6$	RT		9.725(3)	8.922(2)	5.271(2)	106.29(3)°	83O1
$Na_{0.6}Ca_{0.4}Sc_{0.4}Cr_{0.2}Mg_{0.4}Si_2O_6$	RT		9.751(3)	8.942(2)	5.290(2)	106.50(3)°	83O1
$Na_{0.8}Ca_{0.2}Sc_{0.6}Cr_{0.2}Mg_{0.2}Si_2O_6$	RT		9.758(3)	8.966(3)	5.311(3)	106.85(4)°	83O1
Omphacite [10]	RT	P2/n	9.585(3)	8.776(3)	5.260(3)	106.85(3)°	75M1
Omphacite [11]	RT	P2/n	9.596(5)	8.771(4)	5.265(6)	106.93(8)°	66C1, 68C1
$Ca_{0.52}Mg_{0.39}Al_{0.40}Fe_{0.21}Si_2O_6$	RT	P2/n	9.585(3)	8.776(3)	5.260(3)	106.85(3)°	72M1
Omphacite [12]	RT	C2/c	9.646(6)	8.824(5)	5.270(6)	106.59(8)°	69C1
$Di_{0.80}Jd_{0.20}$ [13]	RT		9.680(1)	8.859(1)	5.250(1)	106.25(2)°	80W1
$Di_{0.60}Jd_{0.40}$	RT		9.610(1)	8.790(1)	5.248(1)	106.60(2)°	80W1
$Di_{0.50}Jd_{0.50}$	RT		9.570(1)	8.749(1)	5.246(1)	106.79(2)°	80W1
$Ae_{1.00}$ (synthetic)	RT		9.666(3)	8.804(2)	5.305(1)	107.44(2)°	97B1
$Ae_{0.99}Di_{0.01}$ (natural)	RT		9.658(2)	8.795(2)	5.294(1)	107.42(2)°	63N1
$Ae_{0.70}Hd_{0.14}Di_{0.16}$ (synthetic)	RT		9.698	8.848	5.284	106.78°	69N1
$Ae_{0.65}Hd_{0.11}Di_{0.19}Oth_{0.05}$ (natural) [13a]	RT		9.681(5)	8.811(4)	5.306(9)	107.38(5)°	97B1

Table 3 (cont.)

Silicate	*T* [K]	Space group	Lattice parameters				Refs.
			a [Å]	*b* [Å]	*c* [Å]	β	
$Hd_{0.84}Di_{0.12}Jo_{0.04}$ (natural) [13b)]	RT		9.826(3)	9.010(3)	5.252(1)	105.00(3)°	97B1
$Di_{0.75}En_{0.10}CaTs_{0.15}$	RT		9.707(1)	8.863(1)	5.267(1)	106.27(1)°	94T2
$Di_{0.65}En_{0.20}CaTs_{0.15}$	RT		9.700(1)	8.861(1)	5.258(1)	106.47(1)°	94T2
$Di_{0.70}CaTs_{0.30}$	RT		9.687(1)	8.832(1)	5.268(1)	106.18(1)°	94T2
Jervisite[14)]	RT	C2/c	9.853(11)	9.042(10)	5.312(7)	106°37(7)'	82M4
Joesmithite[15)]	RT	P2/a	9.88(2)	17.87(2)	5.97(5)	105°40(10)'	68M2, 68M3
Natalyite[16)]	RT	C2/c	9.58(1)	8.72(1)	5.27(1)	107.16°	85R1, 87H1
Vinogradovite[17)]	RT	I2/c	24.242(4)	8.691(7)	5.219(1)	92.4°	90M1, 84R1
	RT	A2/a	5.219(1)	8.691(7)	25.01(4)	104.43(8)°	84R1
Paravinogradovite[18)]	RT	P1	5.246(1)	8.734(3)	12.968(5)	α=70.32(1)° β=79.01(1)° γ=80.90(2)°	03K1
$Na_4Ti_4[Si_2O_6]_2O_6$	RT	Pbcn	8.7128(10)	5.2327(5)	14.487(2)		87S4
$PbSiO_3$	RT	P2/n	11.23	7.08	12.26	113°15'	68B1
Cs_5CoSiO_6	RT	$P2_1/n$	6.7057(7)	10.808(2)	16.461(2)	94.89(1)°	01H1
$KHSiO_3$	RT	Cmca	11.537(7)	9.694(6)	11.245(9)		84D2
$(H,D)AlSi_2O_6$	298	$P4_32_12$ or $P4_12_12$	7.586(5)		8.402(5)		90V1
Li_2SiO_3	302		9.381(6)	5.399(3)	4.667(3)		96R3
	665		9.460(4)	5.445(2)	4.677(2)		96R3
	1062		9.544(4)	5.496(2)	4.704(2)		96R3
	1284		9.595(6)	5.520(3)	4.720(3)		96R3
	1474		9.623(14)	5.553(9)	4.747(7)		96R3
$(Li_2SiO_3)_x$	RT	$Cmc2_1$	9.392(2)	5.397(2)	4.660(1)		77H3
$LiScSi_2O_6$	RT		9.8033(7)	8.9581(7)	5.3515(4)	110.281(4)°	77H1
$LiTiSi_2O_6$	RT		9.688(1)	8.797(2)	5.317(1)	108.99(2)°	88O2
$LiVSi_2O_6$	RT		9.642(13)	8.581(8)	5.314(9)	109.73(11)°	71B2
	RT	C2/c	9.634(4)	8.586(2)	5.304(2)	109.69(3)°	04V1
	RT	A2/a	5.219(1)	8.691(7)	25.01(4)	104.43(8)°	84R1
$LiCrSi_2O_6$	RT		9.546(3)	8.583(1)	5.255(1)	110.04(3)°	71B2
$LiFeSi_2O_6$	RT		9.666	8.669	5.294	110.2°	69C1
	RT	$P2_1/c$	9.6655(2)	8.6611(2)	5.2933(1)	110.18(1)°	98L1
	RT		9.682(1)	8.679(1)	5.299(1)	110.14(1)°	71B2
	1.4	$P2_1/c$	9.6329(6)	8.6857(6)	5.2672(3)	109.90(3)°	98L1
	35	$P2_1/c$	9.6221(2)	8.6730(1)	5.2663(1)	109.98(1)°	98L1
	213	$P2_1/c$	9.642	8.694	5.281	110.03°	84B4
	295	C2/c	9.675	8.668	5.297	110.22°	84B4
$Li_{0.85}Mg_{0.09}Fe^{2+}_{0.06}Fe^{3+}_{0.85}$-$Mg_{0.15}Si_2O_6$ (ferrian magnesian spodumene)	RT	$P2_1/c$	9.638(3)	8.709(2)	5.258(2)	109.83(3)°	03C1
$LiNiSi_2O_6$	RT		9.423(1)	8.847(1)	5.251(1)	110.52(2)°	88O2
$LiAlSi_2O_6$	RT	C2	9.449(3)	8.386(1)	5.215(1)	110.10(2)°	66A1, 69C1
$LiAlSi_2O_6$-II (β-spodumene)	RT	$P4_32_12$ or $P4_12_12$	7.541(1)		9.156(2)		68L2

Table 3 (cont.)

Silicate	*T*	Space group	Lattice parameters				Refs.
	[K]		*a* [Å]	*b* [Å]	*c* [Å]	β	
$LiAlSi_2O_6$-II (β-spodumene)	RT		7.534(5)		9.158(9)		69C2
$LiAlSi_2O_6$-III	RT	$P6_222$ or $P6_422$	5.217(1)		5.464(2)		68L1
$Li_2Al_2Si_{13}O_{10}$	RT	$P6_222$ or $P6_422$	5.238(1)		5.472(1)		70L1
$LiGaSi_2O_6$	RT	C2/c	9.561(1)	8.569(1)	5.268(1)	110.244(3)°	94S1
	273	$P2_1/c$	9.5394(4)	8.5756(2)	5.2508(3)	110.124(2)°	95S1
$LiInSi_2O_6$	RT		9.805	9.051	5.376	110.47°	83G2
$Li_{0.91}Na_{0.09}GaSi_2O_6$	RT	C2/c	9.5519(8)	8.5847(4)	5.2678(5)	109.950(4)°	96O1
$Li_{0.75}Na_{0.25}GaSi_2O_6$	RT	C2/c	9.5468(7)	8.5995(3)	5.2689(4)	109.678(3)°	96O1
$Li_{0.64}Na_{0.36}GaSi_2O_6$	RT	C2/c	9.5467(6)	8.6217(3)	5.2698(3)	109.338(3)°	96O1
$Li_{0.25}Na_{0.75}GaSi_2O_6$	RT	C2/c	9.5492(5)	8.6753(3)	5.2698(3)	108.152(3)°	96O1
$Li_{0.10}Na_{0.90}GaSi_2O_6$	RT	C2/c	9.5512(5)	8.6890(2)	5.2686(3)	107.824(2)°	96O1
Virgilite $Li_{0.61}(Si_{2.37}Al_{0.60}Fe_{0.02}P_{0.01})O_6$	RT	$P6_222$ or $P6_422$	5.132(1)		5.454(1)		78F2
Lintisite $Na_3LiTi_2[Si_2O_6]_2O_2{\cdot}2H_2O$	RT	C2/c	28.583(4)	8.600(1)	5.219(1)	91.03(2)°	90M1
Mineral X[19)]	RT	1	24.066	8.720	5.128	92.6°	86K1
$Mn^{2+}{}_2SiO_3(OH)_2 \cdot H_2O$ (Nchwaningite)	RT	$Pca2_1$	12.672(9)	7.217(3)	5.341(2)		95N1
Lorenzenite (Ramsayite)[20),a)]	RT	Pnca	14.487(2)	8.7128(10)	5.2327(5)		87S4
Aerinite[21)]	RT	Mono-clinic	14.690(15)	16.872(15)	5.170(15)	94°45'	88A4

1) $Mn_{1.040}Mg_{0.885}Fe^{2+}{}_{0.087}Fe^{3+}{}_{0.012}Ca_{0.024}Si_{1.973}O_6$;
2) $Ca_{0.99}Mg_{0.98}Fe_{0.02}Na_{0.02}Al_{0.01}Si_{1.99}O_6$;
3) $(Ca_{0.98}Na_{0.03})(Mg_{0.68}Fe^{2+}{}_{0.07}Fe^{3+}{}_{0.03}Al_{0.16}Ti_{0.04})(Si_{1.77}Al_{0.23})O_6$
4) $Ca_{0.98}Fe_{0.99}Mg_{0.01}Na_{0.02}Al_{0.01}Si_2O_6$;
5) $(Ca_{1.01}Na_{0.01})(Fe^{3+}{}_{0.72}Mg_{0.16}Al_{0.04}Ti_{0.03}Fe^{2+}{}_{0.02})(Si_{1.19}Al_{0.81})O_6$;
6) $Ca_{0.93}Fe_{0.61}Mn_{0.34}Mg_{0.08}Na_{0.01}Zn_{0.02}Al_{0.003}Si_2O_6$;
7) $(Ca_{0.92}Na_{0.06}Mn_{0.02})(Zn_{0.37}Mn_{0.18}Fe^{2+}{}_{0.19}Fe^{3+}{}_{0.12}Mg_{0.14})(Si_{1.94}Al_{0.06})O_6$;
8) Including $V_{0.002}$, $Mg_{0.006}$, $Al_{0.007}$;
9) Including $V_{0.002}$;
10) $(Ca_{0.516}Na_{0.484}Mg_{0.392}Fe^{2+}{}_{0.077}Fe^{3+}{}_{0.137}Al_{0.398}Ti_{0.005})(Si_{1.918}Al_{0.082})O_6$;
11) $(Ca_{0.51}Na_{0.48}Mg_{0.44}Fe^{2+}{}_{0.10}Fe^{3+}{}_{0.10}Al_{0.39}Ti_{0.01})(Si_{1.96}Al_{0.04})O_6$;
12) $(Ca_{0.583}Na_{0.325}Mg_{0.582}Fe^{2+}{}_{0.116}Fe^{3+}{}_{0.123}Al_{0.233}Ti_{0.002})(Si_{1.995}Al_{0.005})O_6$;
13) Ae - aegirine, Di - diopside, Jd - jadeite, Hd - hedenbergite, CaTs - Calcium-Tschermak, Jo - johannsenite, En - enstatite;
13a) $\{Na_{0.65}Ca_{0.34}\}[Fe^{3+}{}_{0.64}Fe^{2+}{}_{0.11}Mg_{0.19}Al_{0.04}Ti_{0.01}](Si_{1.98}Al_{0.01})O_6$.
13b) $Ca_{0.99}[Fe^{2+}{}_{0.84}Mg_{0.12}Mn_{0.04}]Si_2O_6$;
14) $(Na_{0.43}Ca_{0.31}Fe^{2+}{}_{0.14}\square_{0.12})(Sc_{0.66}Fe^{2+}{}_{0.15}Mg_{0.19})Si_2O_6$;
15) $(Pb_{0.6}Ca_{0.6}Ba_{0.1}Mn_{0.8})Ca_{4.0}Fe^{3+}{}_{2.0}(Mg_{6.3}Fe^{3+}{}_{1.4}Fe^{2+}{}_{0.8}Al_{0.3})(Si_{13.8}Be_{0.1})(OH)_{14.9}O_{39.7}$;
16) $(Na_{0.92}Ca_{0.07})(V_{0.54}Cr_{0.36}Mg_{0.07}Al_{0.03})Si_{1.99}O_6$;
17) $(Na_{7.64}Ca_{0.36})(Ti_{7.3}Nb_{0.7})O_8[Si_2O_6]_4[(Si_{2.78}Al_{1.22})O_{10}]_2[(H_2O)_{5.34}K_{1.38}]$;
18) $(Na_{2.293}K_{0.169})(Ti_{3.386}Fe_{0.471}Nb_{0.034}Mg_{0.029})(Si_{6.626}Al_{1.098}Be_{0.276})O_{22}(OH)_4(H_2O)_{1.12}$;
19) $Na_3K_{0.1}Ti_{2.2}Nb_{0.2}Fe_{0.1}Al_{0.8}Si_4O_{15.6}{\cdot}H_2O$;
20) $Na_4Ti_4[Si_2O_6]_2O_6$; [a)] In original paper space group Pbca was considered, related to Pnca by $a \rightarrow b$, $b \rightarrow c$, $c \rightarrow a$;
21) $Ca_4(Al, Fe, Mg)_{10}Si_{12}O_{36}(OH)_{12}CO_3{\cdot}H_2O$.

Table 4. Elastic properties.

a) Bulk moduli, K, and shear moduli, G, as well as their derivatives.

Silicate[1)]	K_o [GPa]	K_o'	G_o [GPa]	p [GPa]	Method	Refs.
$MgSiO_3$ (OEn)	102.8(2)	10.2(1.2)			Diamond anvil	95Z1
$MgSiO_3$ (OEn)	107.6(1.5)		76.8(7)		Brillouin	99J1
$MgSiO_3$ (OEn)	107.8		75.7		Brillouin	78W1
$MgSiO_3$ (OEn)	109(2)	7.0(4)	74.9	10.0	ultrasonic	98F1
$MgSiO_3$ (OEn)	102.3(1.2)	9.2(6)		8.5	X-ray	94A1, 02A1
$MgSiO_3$ (OEn)	105.8(5)	8.5(3)		9.0	X-ray	02A1
$MgSiO_3$ (OPx)	104(2)	$K_o' = 10.9(5)$ $K_o'' = -1.6(2)\ GPa^{-1}$	$G_o = 74.8(1.5)$ $G_o' = 1.4(1)$	10.0	Shear wave	98F1
Orthopyroxene (natural)	105	10.9(3)		8.5	Shear wave	86W2
$MgSiO_3$ –$P2_1/c$ LCEn	111.1(3.3)	6.6(1.1)			X-ray	94A1
$MgSiO_3$ –$P2_1/c$ CEn	108.5(6.4)	4.5(1.3)		12	Diamond anvil	99S1
$MgSiO_3$ –C2/c HPCEn	106.4(17.4)	5.4(2.7)		12	Diamond anvil	99S1
$MgSiO_3$ (HPCEn)	106.9(25.9)	5.3(3.0)		12	Diamond anvil	99S1
$MgSiO_3$ (HPCEn)	104.1(5.7)	6.6[2)]		9.0	X-ray	94A1
$MgSiO_3$ (perovskite) s.c.	246					90Y1
$MgSiO_3$(perovskite) s.c.	247	4				87K3
$MgSiO_3$(perovskite) s.c.	254	4				90R3
$MgSiO_3$(perovskite) p.	258	4[2)]				82Y1
$MgSiO_3$(perovskite)	265	4[2)]				86J1
$MgSiO_3$(perovskite)	264		177			98S3
$MgSiO_3$(perovskite)	260 (predicted)					87M2
$Mg_{0.9}Fe_{0.1}SiO_3$ (perovskite) p.	266	3.9				87K2
$(Fe,Mg)SiO_3$ (perovskite)	272	4				89M2
$MgSiO_3$(ilmenite)	212	4.3	132		Brillouin	85W1
$MgSiO_3$(ilmenite)	212	5.6(1.0)				96R2
$FeSiO_3$ (OFs)	95.1(3.0)	10.6(1.1)		5.4	X-ray	97H2
$FeSiO_3$ (OFs)	98	9.1(4)			Brillouin	84B2
$Mg_{0.8}Fe_{0.2}SiO_3$	103.5		74.8			72F2
$Mg_{0.8}Fe_{0.2}SiO_3$	109.4(8)	$K_o' = 10.8(8)$ $K_o'' = -1.6(2)\ GPa^{-1}$	$G_o = 75.2(4)$ $G_o' = 2.06(7)$ $G_o'' = -0.12(0)\ GPa^{-1}$			93W2
$Mg_{0.59}Fe_{0.41}SiO_3$	98.0(1.8)	10.0(8)		7.5	X-ray	97H2
$Mg_{0.29}Fe_{0.71}SiO_3$	102.2(1.3)	8.0(5)		7.3	X-ray	97H2
Orthopyroxene[3)]	109.2(2.3)	9.05(1.0)		6	X-ray	97H2
Orthopyroxene[4)]	112.4(1.1)	7.4(4)		8.6	X-ray	97H2
$CaSiO_3$ (PWo)	86(1)	3.8(4)		9.94	X-ray	99Y3

Table 4a (cont.)

Silicate	K_o [GPa]	K_o'	G_o [GPa]	p [GPa]	Method	Refs.
$CaSiO_3$ (perovskite)	281(4)	4.0(2)		134		89M1, 89M2
$CaSiO_3$ (perovskite)	232(8)	4.8(3)		13	Multianvil cell	96W1
$CaSiO_3$ (perovskite)	212(7)		112(5)		Predicted	98S3
$CaSi_{0.49}Ti_{0.51}O_3$	188(2)		109(1)		Ultrasound	98S3
$CaSi_{0.23}Ti_{0.77}O_3$	182(3)		107(1)		Ultrasound	98S3
Diopside s.c.	112				Brillouin	61A1
Diopside s.c.[5]	113		67		Brillouin	79L1
Diopside s.c.	122.2	4.0[2]		6.0	X-ray	89M3
Diopside s.c.	104.1(9)	6.2(3)		10	X-ray	97Z1
Diopside	105.1(9)	6.8(1)		40.8	X-ray	00T3
Diopside	105	6.2		5	Simulation	84M1
Chrome-diopside[6]	116.5(9)[7]		72.8(4)[8]		Resonant ultrasound spectroscopy	03I1
$Di_{72}Hd_9Jd_3Ko_3MgTs_{12}$[9]	117.2(7)[7]		72.2(2)[8]		Impulsive stimulated scattering	98C4
$Ca_{0.8}Mg_{1.2}Si_2O_6$	107.3(1.4)	5.7(3)		1.51	X-ray	00T3
Hedenbergite s.c.	120		61		Brillouin	88K1
Hedenbergite s.c.	117(1)	4.3(4)		10	X-ray	97Z1
Hedenbergite p.	119(2)	4.0[2]		10	X-ray	89Z1, 92Z1
$Hd_{0.60}Di_{0.40}$	82.7(1)	4				92Z1
$Mg_{1.54}Li_{0.23}Sc_{0.23}Si_2O_6$ (Pbcn)	130(3)	4		10	X-ray	99Y1
$Mg_{1.54}Li_{0.23}Sc_{0.23}Si_2O_6$ ($P2_1cn$)	111(1)	4		10	X-ray	99Y1

[1] OEn – orthoenstatite, Hd – hedenbergite, OFs – orthoferrosilite, Di – diopside, Jd – jadeite, Ko – Kosmochlor, MgTs – Magnesium Tschermak's, PWo – pseudowollastonite, s.c. – single crystal, p. – powder;
[2] Fixed value;
[3] $(Mg_{0.85}Fe_{0.13}Ca_{0.02})(Si_{0.96}Al_{0.04})O_3$;
[4] $(Mg_{0.83}Fe_{0.12}Ca_{0.006}Al_{0.04})(Si_{0.97}Al_{0.03})O_3$;
[5] $Ca_{0.99}Na_{0.02}Mg_{0.98}Al_{0.01}Fe_{0.02}Si_{1.99}O_6$;
[6] $(Ca_{0.956}Na_{0.026}K_{0.0002})(Mg_{0.928}Fe_{0.032}Cr_{0.024}Al_{0.010}Ti_{0.0019}Mn_{0.0014})Si_2O_6$;
[7] Isotropic bulk modulus;
[8] isotropic shear modulus;
[9] $Ca_{0.7596}Na_{0.1050}Mg_{0.8513}Mn_{0.0026}Fe_{0.0907}Cr_{0.0275}Ti_{0.0129}Al_{0.2833}Si_{1.8756}O_6$.

Table 4 (cont.)

b) Linear compressibilities and pressure derivatives of axial ratios.

Silicate	Linear compressibilities $[GPa^{-1}]\cdot 10^5$				Pressure derivatives $[GPa^{-1}]\cdot 10^5$		Refs.
	β_a	β_b	β_c	β_β	$d/dp(b/a)$	$d/dp(c/a)$	
$MgSiO_3$(perovskite) s.c.	131	120	156				90Y1
$MgSiO_3$(perovskite) s.c.	141	107	157		35	–23	87K3
$MgSiO_3$(perovskite) s.c.	130(5)	104(4)	124(4)				90R3
$MgSiO_3$(perovskite) p.	158	119	110		40	70	82Y1
$MgSiO_3$(perovskite) (predicted)	123	118	153		13	–43	87M2
$(Fe,Mg)SiO_3$ p.	129	105	133				89M2
$CaMgSi_2O_6$	2.22(8)	330(10)	260(10)				92Z1
$CaMgSi_2O_6$	236(4)	317(4)	250(4)				97Z1
$CaFeSi_2O_6$	193(5)	338(6)	242(8)				97Z1
$CaFeSi_2O_6$	258(3)	327.4(7)	259.7(3)				92Z1
$Hd_{0.6}Di_{0.4}$	190(20)	310(20)	220(20)				92Z1
$CaSiO_3$ (two layers) (pseudowollastonite)	$11.8320 - 0.0560p + 0.000885p^2$	$6.8621 - 0.0341p + 0.000615p^2$	$10.5300 - 0.0221p + 0.000488p^2$	$111.25 - 0.0444p + 0.000671p^2$			99Y3

Table 4 (cont.)

c) Elastic constants.

Silicate	Elastic constants c_{ij} [GPa]													Refs.
	c_{11}	c_{22}	c_{33}	c_{44}	c_{55}	c_{66}	c_{12}	c_{13}	c_{23}	c_{15}	c_{25}	c_{35}	c_{46}	
Orthoenstatite	224.7(2.3)	177.9(2.2)	213.6(3.6)	77.6(1.9)	75.9(1.1)	81.6(1.6)	72.4(4.2)	54.1(11.0)	52.7(4.6)					78W1
Orthoenstatite $MgSiO_3$	233(1)	171(1)	216(1)	83(1)	79(1)	77(1)	73(2)	56(2)	50(3)					99J1
Protoenstatite	213	152	246	81	44	67								83V1
Enstatite (calculated)	181	200	153	79	66	81								98C3
Protoenstatite (calculated)	193	151	202	71	43	58								94G3
Ferrosilite	198	136	175	59	58	49	84	72	55					84B2
$Mg_{0.8}Fe_{0.2}SiO_3$	228.6	160.5	210.4	81.74	75.48	77.66	71.0	54.8	46.0					72F2
$Mg_{0.8}Fe_{0.2}SiO_3$	231.0(4)	169.8(2)	215.7(3)	82.8(2)	76.5(3)	78.1(1)	78.9(4)	61.4(6)	49.1(4)					93W2
$Mg_{0.845}Fe_{0.155}SiO_3$	229.9	165.4	205.7	83.1	76.4	78.5	70.1	57.3	49.6					69K1
Diopside[1)]	223(2)	171(2)	235(2)	74(1)	67(1)	66(2)	77(3)	81(2)	57(2)	17(1)	7(2)	43(1)	7.3(9)	79L1
Chrome-diopside[2)]	228.1(1.0)	181.1(6)	245.4(1.3)	78.9(3)	68.2(2)	78.1(2)	78.8(5)	70.2(7)	61.1(7)	7.9(5)	5.9(5)	39.7(4)	6.4(2)	03I1
$CaMgSi_2O_6$ (computed)	210	166	242	80	70	58	64	87	72	26	11	49	9.2	84M1
$Di_{72}Hd_9Jd_3Ko_3MgTs_{12}$	237.8(9)	183.6(9)	229.5(9)	76.5(9)	73.0(4)	81.6(1.0)	83.5(1.3)	80.0(1.1)	59.9(1.6)	9.0(6)	9.5(1.0)	48.1(6)	8.4(8)	98C4
Hedenbergite	222(6)	176(5)	249(5)	55(3)	63(2)	60(4)	69(14)	79(9)	86(10)	12(3)	13(7)	26(3)	–10(3)	88K1

1) $Ca_{0.99}Na_{0.02}Mg_{0.98}Al_{0.01}Fe_{0.02}Si_{1.99}O_6$.
2) $(Ca_{0.956}Na_{0.026}K_{0.0002})(Mg_{0.928}Fe_{0.032}Cr_{0.024}Al_{0.010}Ti_{0.0019}Mn_{0.0014})Si_{2.008}O_6$.

Table 5. Thermal expansivities.

Silicate	Temperature range [K]	Thermal expansivities α [$10^{-6}K^{-1}$]				Refs.
		α_a [1)]	α_b	α_c	α_v	
$MgSiO_3$ (OEn)					36	62S1
$MgSiO_3$(OEn)					24	66S1
$MgSiO_3$ (OEn)		16.4	14.5	16.8	47.7	72F2
$MgSiO_3$ (OEn)		5.5	9.6	8.2	23.5	94Y1
$MgSiO_3$ (OEn)	300…900	8.0(5)	13.0(6)	10.9(6)	32.2(1.1)	97H1
$MgSiO_3$ (OEn)	298…1000				28.6(2.9) + 0.72(10) $\cdot 10^{-2}$ T [K^{-2}]	95Z1
$FeSiO_3$ (OFs)		11.2	10.9	16.8	39.3	76S1
$FeSiO_3$ (OFs)		6.7	13.9	6.1	29.0	94Y1, 94Y2
$FeSiO_3$ (OFs)	300…900	10.4(1.0)	6.8(1.5)	10.1(1.4)	27.5(1.3)	97H1
$Mg_{0.85}Fe_{0.15}SiO_3$ (OPx)					20.8	82D2
$Mg_{0.305}Fe_{0.68}Ca_{0.015}SiO_3$ (OPx)		13.5	14.5	15.4	43.8	73S1
$MgSiO_3$ (CEn)					40.5	62S1
$MgSiO_3$ (CEn)					22	66S1
$MgSiO_3$ (CPx)	300…900	7.6(6)	16.6(5)	5.2(7)	29.9(1.1)	97H1
$FeSiO_3$ (CPx)	300…900	2.7(0.9)	7.5(1.3)	10.2(1.2)	20.3(1.5)	97H1
$Mg_{0.95}Fe_{0.05}SiO_3$ (CPx)		8.2	13.4	11.5	33.3	84P1
$Mg_{0.305}Fe_{0.68}Ca_{0.015}SiO_3$		8.3	10.4	13.8	32.7	74S1
$Fe_{0.85}Ca_{0.15}SiO_3$		8.9	13.3	15.2	37.6	73O1
$MgSiO_3$ –C2/c HPCPx					20.1(4.4) + 2.10(1.1) $\cdot 10^{-2}$ T [K^{-2}]	99S1
$MgSiO_3$ (ilmenite)	298…876	7.07		9.96	24.4	88A3
$MgSiO_3$ (perovskite)[2)]	77…298	8.4(9)	≅0	5.9(5)	14.5(9)	89R2
	298…381				22(8)	
$Mg_{0.9}Fe_{0.1}SiO_3$ (perovskite)	300…1300				48	86K4
Diopside (natural)	293…1098	5.5[3)]	15.9	5.1		33K1
	673…1273	6.9[3)]	17.5	6.4		
Diopside (natural)	473…1073	7.4[4)]			48	42R1
Diopside (natural)	298…1098	7.7	17.3	7.0		73D1
Diopside[5)]		$10^6\alpha_0$ = 0.186	$10^6\alpha_0$ = 13.880	$10^6\alpha_0$ = –2.152	$10^6\alpha_0$ = 9.263	98R3
		$10^9\alpha_1$ = 11.49	$10^9\alpha_1$ = 4.29	$10^9\alpha_1$ = 21.04	$10^9\alpha_1$ = 42.70	
		$10^{12}\alpha_2$ = –0.810	$10^{12}\alpha_2$ = 3.795	$10^{12}\alpha_2$ = –6.094	$10^{12}\alpha_2$ = –7.215	

(cont.)

Table 5 (cont.)

Silicate	Temperature range [K]	Thermal expansivities α [$10^{-6}K^{-1}$]				Refs.
		α_a [1]	α_b	α_c	α_v	
Pseudowollastonite[5]		$10^6\alpha_0 = 1.112$ $10^9\alpha_1 = 13.27$ $10^{12}\alpha_2 = -0.276$	$10^6\alpha_0 = 5.771$ $10^9\alpha_1 = 8.89$ $10^{12}\alpha_2 = -0.189$	$10^6\alpha_0 = 2.722$ $10^9\alpha_1 = 3.09$ $10^{12}\alpha_2 = 5.753$	$10^6\alpha_0 = 2.051$ $10^9\alpha_1 = 41.012$ $10^{12}\alpha_2 = -2.290$	98R3
$Di_{0.15}En_{0.85}$	440…1040	1.08(12)[6]	1.34(15)[6]	0.46(16)[6]	$\alpha_v = 2.7(4)$[6], $\alpha_\beta = 3.0(5)$[6]	03T3
$Di_{0.52}En_{0.46}CaTs_{0.02}$	440…1040	0.92(16)[6]	1.35(9)[6]	0.72(11)[6]	$\alpha_v = 2.8(4)$[6], $\alpha_\beta = 3.5(1.7)$[6]	03T3
$Di_{0.60}En_{0.40}$	440…1040	1.07(1)[6]	1.35(6)[6]	0.86(2)[6]	$\alpha_v = 3.1(2)$[6], $\alpha_\beta = 4.24(8)$[6]	03T3
$Di_{0.70}En_{0.30}$	440…1440	1.06(2)[6]	1.56(7)[6]	0.89(1)[6]	$\alpha_v = 3.27(11)$[6], $\alpha_\beta = 4.83(17)$[6]	03T3

1) For clinopyroxenes (CPx) the α_a represents the thermal expansion coefficients between (100) planes;
2) There are some theoretical models which predicted thermal expansion coefficients of $MgSiO_3$ perovskite (values in 10^{-6} K^{-1}) namely [87H4]: 13 at 298 K and 21 at 1000 K; [87W3]: 18 at 300 K and 29 at 800 K; [87C2]: 11 at 298…400 K and 13 at 1000 K; [89H3]: 23 at 298 K and 33 at 1000 K;
3) Along ***a****;
4) Average value;
5) $\alpha = \alpha_o + \alpha_1 T + \alpha_2 T^2$ [K^{-1}];
6) Thermal coefficients $\alpha_{a_i} = (1/a_{a_{i0}})(\partial a_i/\partial T)$ where a_{i0} is the initial lattice parameter or volume.

Table 6. Atomic charges.

a) Net atomic charges of ions in some pyroxenes.

Atom	$Mg_2Si_2O_6$ [80S1]	$Fe_2Si_2O_6$ [82S1]	$Co_2Si_2O_6$ [82S1]	$LiAlSi_2O_6$ [80S1]	$CaMgSi_2O_6$ [80S1]	$Mg_{0.88}Fe_{0.12}SiO_3$ [96C1]
M1	+1.84(4)	+1.41(12)	+1.29(11)	+2.4(1)	+1.44(1)	+2.78 (Fe)
M2	+1.79(4)	+1.10(13)	+0.61(12)	+0.7(1)	+1.39(2)	+2.07 (Fe)
SiA	+2.20(4)	+2.21(11)	+1.79(9)	2.4(1)	2.56(1)	
SiB	+2.36(4)	+2.16(11)	+2.76(9)			
O1A	–1.51	–1.04	–1.10	–1.3	–1.33	
O1B	–1.37	–1.19	–1.14			
O2A	–1.36	–1.09	–1.12	–1.4	–1.28	
O2B	–1.43	–1.20	–1.16			
O3A	–1.31	–0.92	–0.84	–1.3	–1.35	
O3B	–1.22	–1.18	–1.10			

Table 6 (cont.)

b) Charges of oxygens in $LiAlSi_2O_6$ spodumene calculated from [03P1] by application of various models (see references).

Method	[40P1]	[73B2]	[89H4]	[94B1]
O1	–2.17	–2.00	–1.97	–1.75
O2	–1.67	–1.89	–1.92	–1.74
O3	–2.17	–2.15	–2.11	–1.73

Table 7. The site occupancies of some pyroxenes.

Sample	Site	Site occupancy	K_D	Refs.
$Fe_{1.732}Mg_{0.268}Si_2O_6$ [1)]	M1	0.76Fe + 0.24Mg	0.10	69S2
	M2	0.97Fe + 0.03Mg		
$Fe_{1.516}Mg_{0.484}Si_2O_6$ [1)]	M1	0.56Fe + 0.44Mg	0.053	69S2
	M2	0.96Fe + 0.04Mg		
$Fe_{0.78}Mg_{1.22}Si_2O_6$ [1)]	M1	0.07Fe + 0.93Mg	0.03	69S2
	M2	0.72Fe + 0.28Mg		
$Fe_{0.544}Mg_{1.456}Si_2O_6$ [1)]	M1	0.04Fe + 0.96Mg	0.04	69S2
	M2	0.51Fe + 0.49Mg		
$Fe_{1.064}Mg_{0.936}Si_2O_6$ [2,3)]	M1	0.16Fe + 0.84Mg	0.02	67E2
	M2	0.91Fe + 0.09Mg		
$Fe_{1.064}Mg_{0.936}Si_2O_6$ [2,3,4)]	M1	0.29Fe + 0.71Mg	0.116	67E2
	M2	0.78Fe + 0.22Mg		
$Fe_{1.064}Mg_{0.936}Si_2O_6$ [2,3,5)]	M1	0.31Fe + 0.69Mg	0.142	67E2
	M2	0.76Fe + 0.24Mg		
$Fe_{0.79}Mg_{1.21}Si_2O_6$	M1	0.190Fe + 0.810Mg	0.154	74G1,
	M2	0.604Fe + 0.396Mg		75G2
$Fe_{1.70}Mg_{0.26}Ca_{0.04}Si_2O_6$	M1	$0.25Mg^{2+} + 0.75Fe^{2+}$	0.126	71B3
	M2	$0.96Fe^{2+} + 0.04Ca^{2+}$		
$Fe_{1.70}Mg_{0.26}Ca_{0.04}Si_2O_6$	M1	0.24Mg + 0.76Fe		87R1
	M2	0.94Fe + 0.02Mg + 0.04Ca		
$Mn_{0.150}Mg_{1.850}Si_2O_6$	M1	0.023(4)Mn + 0.977Mg	0.162	78H1
(Pbca)	M2	0.127Mn + 0.873Mg		
$Mn_{0.90}Mg_{1.10}Si_2O_6$	M1	0.118Mn + 0.882Mg	0.037	74G1
	M2	0.782Mn + 0.218Mg		
$Co_{0.448}Mg_{1.552}Si_2O_6$	M1	0.129(3)Co + 0.871Mg	0.316	78H1
(Pbca)	M2	0.319Co + 0.681Mg		
$Co_{0.74}Mg_{1.26}Si_2O_6$	M1	0.265Co + 0.735Mg	0.398	74G1,
	M2	0.475Co + 0.525Mg		75G2
$Ni_{0.38}Mg_{1.62}Si_2O_6$	M1	0.211Ni + 0.789Mg	1.32	74G1,
	M2	0.169Ni + 0.831Mg		75G2
$Zn_{0.45}Mg_{1.55}Si_2O_6$	M1	0.067Zn + 0.933Mg	0.116	74G1,
	M2	0.383Zn + 0.617Mg		75G2
$Zn_{1.0}Mg_{1.0}Si_2O_6$	M1	0.36Zn + 0.64Mg	0.316	75M3
	M2	0.64Zn + 0.36Mg		
$Co_{1/3}Ni_{1/3}Zn_{1/3}SiO_3$	M1	0.273(14)Co + 0.530(18)Ni + 0.197(12)Zn	0.398	90T2
(Pbca)	M2	0.394(14)Co + 0.137(18)Ni + 0.469(12)Zn		

Table 7 (cont.)

Sample	Site	Site occupancy	K_D	Refs.
Orthopyroxene[6)]	M1	0.993(2)Mg + 0.003(2)Fe^{2+} + 0.003Fe^{3+} + 0.001Cr		92S5
	M2	0.862(2)Mg + 0.130(2)Fe^{2+} + 0.005Mn + 0.003Ca		
	T	1.996Si + 0.004Al		
Orthopyroxene[7)]	M1	0.922(3)Mg + 0.055(2)Fe^{2+} + 0.006Fe^{3+} + 0.014Al + 0.001Ti + 0.002Mn		92S5
	M2	0.212(3)Mg+0.740(3)Fe^{2+}+0.026Mn+0.022Ca		
	T	1.978Si + 0.022Al		
Orthopyroxene[8)]	M1	0.818(2)Mg + 0.097(2)Fe^{2+} + 0.012Fe^{3+}+ 0.066Al + 0.004Ti + 0.001Cr + 0.002Mn		92S5
	M2	0.139(3)Mg + 0.831(3)Fe^{2+} + 0.021Mn + 0.009Ca		
	T	1.913Si + 0.087Al		
Orthopyroxene[9)]	M1	0.847(3)Mg + 0.138(3)Fe^{2+} + 0.008Al + 0.004Ti + 0.003Mn		92S5
	M2	0.079(3)Mg + 0.864(3)Fe^{2+} + 0.020Mn + 0.037Ca		
	T	1.984Si + 0.016Al		
Esseneite[10)] (C2/c)	M1	0.58(3)Fe + 0.42(3)Al		87C3
	M2	0.97Ca + 0.03Fe		
	T	0.54(3)Si + 0.46(3)Al		
Ferrian spodumene	M1	0.15Mg + 0.85Fe^{3+}		03C1
$Li_{0..85}Fe_{0.91}Mg_{0.24}Si_2O_6$	M2	0.85Li + 0.09Mg + 0.06Fe^{2+}		
$Ca_{1.00}Sc_{0.84}Ti_{0.27}Al_{1.16}Si_{0.73}O_6$	M1	0.84Sc + 0.16Ti		79O3
(C2/c)	M2	1.00Ca		
	T	0.11Ti + 1.16Al + 0.73Si		
$CaFe_{0.910}Al_{0.590}Si_{0.500}O_6$	M1	0.179(1)Al + 0.821Fe^{3+}		86G2
	M2	1.00Ca		
	T	0.500Si + 0.411Al + 0.089Fe^{3+}		
$CaNiSi_2O_6$[11)]	M1	1.00Ni		90R1
	M2	1.00Ca		
$CaNi_{0.8}Mg_{0.2}Si_2O_6$[11)]	M1	0.26(1)Mg + 0.74(1)Ni		90R1
	M2	1.00(1)Ca		
$CaNi_{0.5}Mg_{0.5}Si_2O_6$[11)]	M1	0.55(1) Mg + 0.45(1) Ni		90R1
	M2	1.00(1)Ca		
$CaNi_{0.25}Mg_{0.75}Si_2O_6$[11)]	M1	0.78(1) Mg + 0.22(1) Ni		90R1
	M2	1.00(1)Ca		
$CaMgSi_2O_6$[11)]	M1	1.00 Mg		90R1
	M2	0.89(2) Ca + 0.11(2) Mg		
$Ca_{0.742}Fe_{0.100}Mg_{0.016}Al_{1.384}$-	M1	0.016Mg + 0.888Al + 0.075Fe^{2+} + 0.021□		98O1
$Si_{1.534}O_6$	M2	0.742Ca + 0.087(2)Fe^{2+} + 0.171□		
(C2/c)	T	0.500Al + 1.500Si		
Ca-rich clinopyroxene[12)]				76M2
Thermal treated at:				
1350°C 3GPa 3.75 h			0.250(24)	
1250°C 2GPa 7.0 h			0.253(24)	
927°C 152.25 h			0.162(22)	
927°C 152.25 h			0.139(22)	
802°C 96 h			0.096(15)	
802°C disordered from 675 °C			0.123(20)	
675°C 302.5 h			0.066(13)	

Table 7 (cont.)

Sample	Site	Site occupancy	K_D	Refs.
Rhodonites:				
$MnSiO_3$	M1	1.0Mn		88P1
	M2	1.0Mn		
	M3	1.0Mn		
	M4	1.0Mn		
	M5	1.0Mn		
$Mn_{0.81}Fe_{0.07}Mg_{0.06}Ca_{0.05}SiO_3$	M1	0.93Mn + 0.07(1)Mg		88P1
	M2	0.93Mn + 0.07(1)Mg		
	M3	0.91Mn + 0.09(1)Mg		
	M4	0.78Mn + 0.22(1)Mg		
	M5	0.83Mn + 0.17Mg		
$Mn_{0.75}Mg_{0.15}Ca_{0.10}SiO_3$	M1	0.89Mn + 0.11(1)Mg		88P1
	M2	0.86Mn + 0.14(1)Mg		
	M3	0.86Mn + 0.14(1)Mg		
	M4	0.53Mn + 0.47(1)Mg		
	M5	0.40Mn + 0.60Mg		
$Mn_{0.685}Mg_{0.315}SiO_3$	M1	0.696Mn + 0.304(6)Mg		88P1
	M2	0.746Mn + 0.254(6)Mg		
	M3	0.634Mn + 0.366(6)Mg		
	M4	0.481Mn + 0.519(6)Mg		
	M5	0.868Mn + 0.132Mg		
$Mn_{0.62}Mg_{0.38}SiO_3$	M1	0.615Mn + 0.385(5)Mg		88P1
	M2	0.687Mn + 0.313(5)Mg		
	M3	0.572Mn + 0.428(5)Mg		
	M4	0.350Mn + 0.650(5)Mg		
	M5	0.876Mn + 0.124Mg		
$Mn_{3.73}Mg_{0.73}Ca_{0.51}Fe_{0.03}Si_5O_{15}$ ($C\bar{1}$)	M1	0.89(1)Mn + 0.11Mg		78P1
	M2	0.86(1)Mn + 0.14Mg		
	M3	0.86(1)Mn + 0.14Mg		
	M4	0.53(1)Mn + 0.47Mg		
	M5	0.40(1)Mn + 0.60Mg		
Pyroxmangites:				
$Mn_{0.97}Mg_{0.02}Ca_{0.01}SiO_3$	M1	0.973Mn + 0.027(2)Mg		88P1
	M2	0.952Mn + 0.048(7)Mg		
	M3	0.962Mn + 0.038(7)Mg		
	M4	0.967Mn + 0.033(7)Mg		
	M5	0.999Mn + 0.001(7)Mg		
	M6	0.921Mn + 0.079(7)Mg		
	M7	1.000Mn + 0.0Mg		
$Mn_{0.82}Fe_{0.07}Mg_{0.09}Ca_{0.02}SiO_3$	M1	0.97Mn + 0.03(1)Mg		88P1
	M2	0.81Mn + 0.19(1)Mg		
	M3	0.83Mn + 0.17(1)Mg		
	M4	0.89Mn + 0.11(1)Mg		
	M5	0.88Mn + 0.12(1)Mg		
	M6	0.81Mn + 0.19(1)Mg		
	M7	0.91Mn + 0.09Mg		

Table 7 (cont.)

Sample	Site	Site occupancy	K_D	Refs.
$Mn_{0.51}Mg_{0.49}SiO_3$	M1	0.516Mn + 0.484(5)Mg		88P1
	M2	0.351Mn + 0.649(6)Mg		
	M3	0.451Mn + 0.549(5)Mg		
	M4	0.452Mn + 0.548(5)Mg		
	M5	0.788Mn + 0.212(5)Mg		
	M6	0.253Mn + 0.747(5)Mg		
	M7	0.777Mn + 0.223Mg		
$Mn_{0.15}Mg_{0.85}SiO_3$	M1	0.04Mn + 0.96(1)Mg		88P1
	M2	0.00Mn + 1.00(1)Mg		
	M3	0.05Mn + 0.95(1)Mg		
	M4	0.03Mn + 0.97(1)Mg		
	M5	0.30Mn + 0.70(1)Mg		
	M6	-0.02Mn + 1.02(1)Mg		
	M7	0.27Mn + 0.73Mg		
$Ca_{0.43}Mn_{0.69}Mg_{0.82}Si_2O_6$	M1	0.06Mn + 0.94Mg		81G2
(Mn-diopside C2/c)	M2	0.87(2)Ca + 0.13Mn		
$Ca_{0.43}Mn_{0.69}Mg_{0.82}Si_2O_6$	M1	0.10(1)Mn + 0.90Mg		81G2
(Kanoite $P2_1/c$)	M2	0.86(1)Mn + 0.14Mg		
$Ca_{0.0245}Mn_{0.5415}Mg_{1.4325}$-	M1	0.9882Mg + 0.0103Mn + 0.0015Ti		05S1
$Ti_{0.0015}Al_{0.0030}Si_{1.9969}O_6$	M2	0.4443Mg + 0.5312Mn + 0.0245Ca		
(Donpeacorite, untreated)				
$Ca_{0.0245}Mn_{0.5415}Mg_{1.4325}$-	M1	0.9371Mg + 0.0614Mn + 0.0015Ti		05S1
$Ti_{0.0015}Al_{0.0030}Si_{1.9969}O_6$	M2	0.4955Mg + 0.4480Mn + 0.0245Ti		
(treated at 904 °C)				
Omphacites P2/n:				
$NaMg_{0.5}Si_{0.5}Si_2O_6$	M1	Mg		88A1
	M11	Si		
	M2	Na		
	M21	Na		
	T1	Si		
	T2	Si		
Omphacite[13)]	M1	0.815(9)Mg + 0.185Fe		75M2
	M11	0.868(9)Al + 0.132Fe		
	M2	0.314(3)Ca + 0.686Na		
	M21	0.716Ca + 0.284Na		
Augite-jadeite[14)]	M1	$0.867Mg + 0.071Al + 0.062Fe^{2+}$		98B1
	M11	$0.251Mg + 0.688Al + 0.061Fe^{2+}$		
	M2	0.500Ca + 0.500Na		
	M21	0.740Ca + 0.260Na		
Augite-jadeite[15)]	M1	$0.903Mg + 0.012Al + 0.085Fe^{2+}$		98B1
	M11	$0.075Mg + 0.880Al + 0.041Fe^{2+} + 0.004Fe^{3+}$		
	M2	0.336Ca + 0.664Na		
	M21	0.767Ca + 0.233Na		
Augite-jadeite[16)]	M1	$0.824Mg + 0.089Al + 0.087Fe^{2+}$		98B1
	M11	$0.010Mg + 0.973Al + 0.011Fe^{2+} + 0.006Fe^{3+}$		
	M2	0.236Ca + 0.764Na		
	M21	0.697Ca + 0.303Na		

Table 7 (cont.)

Sample	Site	Site occupancy	K_D	Refs.
Augite-jadeite[17)]	M1	$0.552Mg + 0.401Al + 0.045Fe^{2+} + 0.002Fe^{3+}$		98B1
	M11	$0.266Mg + 0.669Al + 0.053Fe^{2+} + 0.012Fe^{3+}$		
	M2	0.402Ca + 0.598Na		
	M21	0.514Ca + 0.486Na		
Augite-jadeite[18)]	M1	$0.764Mg + 0.126Al + 0.110Fe^{2+}$		98B1
	M11	$0.972Al + 0.028Fe^{2+}$		
	M2	0.211Ca + 0.789Na		
	M21	0.691Ca + 0.309Na		
Other compositions[19)]				

1) Very slow cooled;
2) Natural samples;
3) Impurities as Al, Si, Ca were observed, in addition to Mg;
4) Thermal treated at 1000° C;
5) Thermal trated at 1100° C.
6) $Ca_{0.003}Mn_{0.005}Fe_{0.134}Mg_{1.857}Cr_{0.001}Al_{0.005}Si_{1.996}O_6$;
7) $Ca_{0.022}Mn_{0.028}Fe_{0.802}Mg_{1.134}Al_{0.036}Ti_{0.001}Si_{1.978}O_6$;
8) $Ca_{0.009}Mn_{0.023}Fe_{0.941}Mg_{0.962}Cr_{0.001}Al_{0.153}Ti_{0.004}Si_{1.913}O_6$;
9) $Ca_{0.037}Mn_{0.023}Fe_{1.00}Mg_{0.929}Cr_{0.001}Al_{0.024}Ti_{0.004}Si_{1.984}O_6$;
10) $(Ca_{1.01}Na_{0.01})(Fe^{3+}{}_{0.72}Mg_{0.16}Al_{0.04}Ti_{0.03}Fe^{2+}{}_{002})(Si_{1.19}Al_{0.81})O_6$;
11) Synthetic clinopyroxenes, at $T = 1350°C$;
12) $Ca_{0.634}Na_{0.093}Mg_{0.885}Ti_{0.023}Cr_{0.004}Mn_{0.005}Fe^{2+}{}_{0.134}Fe^{3+}{}_{0.048}Al_{0.350}Si_{1.822}O_6$;
13) $Ca_{0.516}Na_{0.484}Mg_{0.392}Fe^{2+}{}_{0.077}Fe^{3+}{}_{0.1.37}Al_{0.398}Ti_{0.005}Si_{1.918}Al_{0.082}O_6$;
14) $(Na_{0.380}Ca_{0.620})(Fe^{2+}{}_{0.061}Al_{0.380}Mg_{0.559})Si_2O_6$;
15) $(Na_{0.448}Ca_{0.552})(Fe^{3+}{}_{0.002}Fe^{2+}{}_{0.063}Al_{0.446}Mg_{0.489})Si_2O_6$;
16) $(Na_{0.534}Ca_{0.466})(Fe^{3+}{}_{0.003}Fe^{2+}{}_{0.049}Al_{0.531}Mg_{0.417})Si_2O_6$;
17) $(Na_{0.542}Ca_{0.458})(Fe^{3+}{}_{0.007}Fe^{2+}{}_{0.049}Al_{0.535}Mg_{0.409})Si_2O_6$;
18) $(Na_{0.549}Ca_{0.451})(Fe^{2+}{}_{0.069}Al_{0.549}Mg_{0.382})Si_2O_6$;
19) For Mg-Fe ordering in orthopyroxenes see: [70V2, 89S2, 93H1, 93S6, 97K2, 01V1], in $Mg(Cu,Mg)Si_2O_6$ orthopyroxene [97T1], in $Wo_{0.43}En_{0.46}Es_{0.11}$ clinopyroxene [01B1] and $(Mg,Fe)SiO_3$ clinopyroxene [97K2, 97W2], in ferrobustamite [79Y2] etc.

Table 8. Data obtained from neutron diffraction studies.

Sample	T [K]	Magnetic structure	T_N [K]	Refs.
$Fe_2Si_2O_6$	1.5	Ferromagnetic within octahedral band and antiferromagnetically coupled to neighbouring bands: $p_{Fe}(M1) = 4.3(1)\ \mu_B$; $p_{Fe}(M2) = 3.3(1)\ \mu_B$ (values extrapolated to 0 K); $T < 8$ K: $p_{Fe}(M2)$ deviates slightly from ***b***-axis; $p_{Fe}(M1) \parallel$ ***b***-axis; 8 K < $T < T_N$: $p_{Fe}(M1)$, $p_{Fe}(M2) \parallel$ ***b***-axis	38	88G2
$Fe_2Si_2O_6$	4.2	Ferromagnetic within octahedral band and antiferromagnetically coupled to neighbouring bands: $p_{Fe}(M1)$, $p_{Fe}(M2) \parallel$ ***b***-axis; $p_{Fe}(M1) = 4.2\ \mu_B$; $p_{Fe}(M2) = 3.3\ \mu_B$	45	86W3
$Fe_{0.87}Mg_{0.13}SiO_3$	4.2	Ferromagnetic within octahedral band and antiferromagnetically coupled to neighbouring bands $\langle p_{Fe}(M1)\rangle = \langle p_{Fe}(M2)\rangle = 3.70(25)\ \mu_B$ [1]; $p_{Fe}(M1)$, $p_{Fe}(M2) \parallel$ ***b***-axis;	26	86W3
$CaFeSi_2O_6$	1.5	The spins are ferromagnetically coupled within one chain and antiferromagnetically coupled to those of adjacent chains; $p_{Fe}(M1) = 4.33(4)\ \mu_B$ (values extrapolated to 0 K). The moments are in the (*ac*)-plane, 132° away from the ***c***-axis in (*ac*)-plane	38	88G2
$CaFe_{0.8}Mg_{0.2}Si_2O_6$	3	Collinear antiferromagnetic ordering $p_x = 3.17(10)\ \mu_B$; $p_z = 2.64(7)\ \mu_B$; $p_o = 3.36(10)\ \mu_B$ making 45° with ***a***-axis	35	86W3
$CaCoSi_2O_6$	2	$p_x = 1.91(23)\ \mu_B$; $p_z = -2.23(12)\ \mu_B$; $p_{Co} = 3.30(15)\ \mu_B$; ***p*** and ***a*** make an angle of 41°	9.75	96D3
$NaFeSi_2O_6$		Antiferromagnetic ordering	8	89B1
	1.5	$p = 3.59(5)\ \mu_B$; $\phi = 14.0(4)°$		
	2.0	$p = 3.16(5)\ \mu_B$; $\phi = 14.0(4)°$		
	4.0	$p = 3.40(5)\ \mu_B$; $\phi = 18.4(7)°$. The moments lie within planes parallel to (*ac*)-plane. They make an angle ϕ with ***c***-axis		
$LiFeSi_2O_6$	1.4	***p*** $\parallel$ ***c***-axis with a small component along ***a***, which indicates a spin canting in (*ac*)-plane; $p_x = 0.76(9)\ \mu_B$; $p_z = 4.88(3)\ \mu_B$	19.5	98L1

[1] Only mean value per site $\langle p_{Fe}(M1)\rangle = \frac{1}{2}[0.76\, p_{Fe}(M1) + 0.94\, p_{Fe}(M2)] = 3.22\ \mu_B$ was obtained which corresponds to an average moment $\langle p_{Fe}(M1)\rangle = \langle p_{Fe}(M2)\rangle = 3.70(25)\ \mu_B$ similar as the average moment in ferrosilite.

Table 9. Magnetic properties.

Sample	T [K]	T_N (T_C) [K]	T_M [2)] [K]	Θ [K]	C [K cm^3 mol^{-1}]	p_{eff} [μ_B/atom]	Refs.
$MnSiO_3$ (triclinic)				–45		5.91	64S2
$FeSiO_3$ (OPx) [3)]	4.2	38(1)	40(1)	27.4(5.0)	3.6	5.4	86W3, 86W4
$FeSiO_3$(OPx)		37.0(5)					69S2
$FeSiO_3$(OPx)		40 (T_N) 8 (T_F)		30 (50 K < T < 190 K) 138 (190 K < T < 300 K)			88G2
$FeSiO_3$(OPx)		39(1) (^{57}Fe NGR)[4)] 41(1) (magnetic)					86R1
$FeSiO_3$(CPx) [1)]		38(1)		9.4 ($T \geq 50$ K)		4.09(18)	01E1
$Mg_{0.09}Fe_{0.91}SiO_3$ (CPx) [1)]		32(2)		–38.8 ($T \geq 200$ K)		3.05(13)	01E1
$Mg_{0.13}Fe_{0.87}SiO_3$ (CPx)		26(2)		–145.5 ($T \geq 200$ K)		3.59(16)	01E1
$Mg_{0.13}Fe_{0.87}SiO_3$ (OPx)		27(1)					87R1
$Mg_{0.13}Fe_{0.87}SiO_3$ (OPx) [3)]	4.2	26(1) (magnetic) 27(1) (^{57}Fe NGR)[4)]	29(1)	34(5) ($T \geq 200$ K)	3.4	5.24(13)	86W3, 86W4
$Mg_{0.134}Fe_{0.866}SiO_3$ (OPx)		18(1)					69S2
$Mg_{0.20}Fe_{0.80}SiO_3$ (OPx)		28					93L1
$Mg_{0.22}Fe_{0.78}SiO_3$ (CPx)		21(4)		–57.7 ($T \geq 190$ K)			01E1
$Mg_{0.242}Fe_{0.758}SiO_3$ (OPx)		11(1)					69S2
$Mg_{0.39}Fe_{0.61}SiO_3$				–80.6 ($T \geq 190$ K)			01E1
$Mg_{0.80}Fe_{0.20}SiO_3$ (OEn)				35.8 (77 K ≤ T ≤ 400 K)		5.31…5.57	01V1
$Mg_{0.88}Fe_{0.12}SiO_3$ (OEn)				36.5 (77 K ≤ T ≤ 400 K)		5.26…5.53	01V1
$Mg_{0.90}Fe_{0.10}SiO_3$ (OEn)		< 5(2)					92P1
$Mg_{0.9}Fe_{0.1}SiO_3$ (perovskite)		5					92J1
$CaFeSi_2O_6$		38		35(3) (T > 100 K)		4.98	85C2, 88G2
$CaFe_{0.8}Mg_{0.2}Si_2O_6$ (C2/c)		35					86W3
$Hd_{84}Di_{12}Jo_4$ [5)]		31(1)		21(1) (T < 80 K)	3.05	4.94	97B1
Hedenbergite [6)]		33(1)					03E1
Hedenbergite [7)]		27(1)					03E1
$Ca_{0.96}Mg_{0.19}Fe_{0.82}Mn_{0.02}Si_2O_6$		29(2) (^{57}FeNGR)[4)] 23(1) (magnetic)		21		5.43	88R1
$Ca_{0.96}Mg_{0.31}Fe_{0.66}Mn_{0.02}Al_{0.06}Si_{1.99}O_{6.02}$		29(1)					86S3
$Ca_{0.97}Mg_{0.06}Fe_{0.79}Mn_{0.17}Al_{0.01}Si_2O_{6.01}$		28(1)					86S3
$CaCoSi_2O_6$		9.75		–28	3.82		96D3
$CaCo_{0.75}Ni_{0.25}Si_2O_6$		13.2		–3	2.68		96D3
$CaCo_{0.50}Ni_{0.50}Si_2O_6$		15.6		4	2.14		96D3
$CaCo_{0.25}Ni_{0.75}Si_2O_6$		18.3		12	1.52		96D3
$CaNiSi_2O_6$		21.7		31	0.96		96D3
$NaFeSi_2O_6$		5.0(3)		–39 (T > 60 K)	4.36	5.9	88B1
$NaFeSi_2O_6$ (synthetic)		8		–46	4.4	5.93	89B1
Natural acmite [8)] (aegirine)				–22	3.8		89B1
$LiFeSi_2O_6$		19.5(5)		–33 (T > 40 K)	4.60	6.1	88B1
$LiFeSi_2O_6$		17.5		–25.8 (T > 100 K)		5.81	00R2
$LiTiSi_2O_6$		210 (TSP)[9)]					02I1

Table 9 (cont.)

Sample	T [K]	T_N (T_C) [K]	T_M [2)] [K]	Θ [K]	C [K cm^3 mol^{-1}]	p_{eff} [μ_B/atom]	Refs.
$NaTiSi_2O_6$		230 (T_{SP})[9)]	186	–255	0.375		02I1, 04I1
$LiVSi_2O_6$		22	115				04I1
$LiVSi_2O_6$		21.6	110	–290			04V1
$NaVSi_2O_6$		19	53				04I1
$NaVSi_2O_6$		17.4	48	–78			04V1
$LiCrSi_2O_6$		11	18	–28.7			04I1, 05Y1
$NaCrSi_2O_6$		3	3.6	–0.3			05V1
$NaCrSi_2O_6$		3.4	< 3	–1.8 (T > 10K)	1.73		04I1
$Ac_{81}Di_{19}$		15(1)		–36(2)		6.12	88D1
$Ae_{65}Hd_{11}Di_{19}Oth_5$[10)]		7.5(5)		–19(1) (T < 60 K)	3.34	5.17	97B1

1) Magnetization in a field $\mu_o H$ = 14 T is σ = 1.45(5)·10^4 emu/g for $FeSiO_3$ and 1.49(5)·10^4 emu/g for $Mg_{0.09}Fe_{0.91}SiO_3$ at 40 K;
2) Temperature for maximum susceptibility;
3) Critical field for magnetic transition to a parallel spin alignment $\mu_0 H_c$ = 5.0(5) T for $FeSiO_3$ and 3.5(3) T for $Mg_{0.13}Fe_{0.87}SiO_3$.
4) T_N determined from ^{57}Fe NGR data and magnetic measurements;
5) $Ca_{0.99}[Fe^{2+}_{0.84}Mg_{0.12}Mn_{0.04}]Si_2O_6$;
6) $Ca_{1.0}Fe^{2+}_{0.74}Mg_{0.16}Mn_{0.03}Al_{0.03}Fe^{3+}_{0.02}Si_{2.0}O_6$;
7) $Ca_{1.0}Fe^{2+}_{0.68}Mg_{0.20}Mn_{0.15}Al_{0.05}Fe^{3+}_{0.04}Si_{1.92}O_6$;
8) $\langle Na_{0.8}Ca_{0.01}Mn_{0.01}\rangle\{Fe^{3+}_{0.74}Ti_{0.03}Al_{0.12}Fe^{2+}_{0.07}\}[Si_{1.99}Al_{0.01}]O_6$;
9) T_{SP} – Spin Peierls transition;
10) $\{Na_{0.65}Ca_{0.34}\}[Fe^{3+}_{0.64}Fe^{2+}_{0.11}Mg_{0.19}Al_{0.04}Ti_{0.01}](Si_{1.98}Al_{0.01})O_6$.

Table 10. Data obtained by ^{57}Fe NGR studies.

Sample	Site	NN[1)]	T [K]	δ[2)] [mm/s]	ΔQ [mm/s]	B_{hf} [T]	DH [mm/s]	η[2b)]	θ[2c)]	φ[2d)]	A [%]	$\mu_0 H$ [T]	B_i[2e)] [T]	Refs.
$FeSiO_3$ (OPx)	M1		4.2	1.31	3.13	7.0	0.44	0.40	49					86W4
	M2			1.26	1.98	31.9	0.44	0.35	85					
	M1		77	1.303	3.11		0.141							
	M2			1.259	1.975		0.140							
$FeSiO_3$ (OPx)	M1		4.2	1.31[3)]	±3.14[4)]	6.8	0.42	0.59	47					86R1
	M2			1.26[3)]	2.24	31.4	0.44	0.29	78					
	M1		46	1.31	3.12		0.29							
	M2			1.26	1.97		0.31							
	M1		77	1.30	3.11		0.28							
	M2			1.26	1.97		0.28							
	M1		300	1.18	2.50		0.35							
	M2			1.13	1.90		0.35							
$Fe_{0.87}Mg_{0.13}SiO_3$	M1		47	1.30	3.05		0.142							86W4
(OPx)	M2			1.259	1.98		0.151							
	M1		77	1.289	3.09		0.139							
	M2			1.249	2.00		0.147							
	M1		300	1.178	2.40		0.163							
	M2			1.124	1.90		0.153							
$Fe_{0.40}Mg_{0.60}SiO_3$	M1		77	1.36	2.57		0.45				21			86S1
(OPx)	M2			1.27	2.12		0.34				79			
	M1		300	1.16	2.25		0.34							
	M2			1.14	2.04		0.31							
$Fe_{0.27}Mg_{1.65}Al_{0.03}$-	M1		80	1.276(5)	3.10(1)		0.27(1)				5			93V1
$Si_{2.02}O_6$ (OPx)	M2			1.273(5)	2.15(1)		0.31(1)				95			
	M1		300	1.078(5)	2.51(1)		0.47(1)				5			
	M2			1.143(5)	2.10(1)		0.29(1)				95			
$Fe_{0.10}Mg_{0.9}SiO_3$ (OPx)	M2m		4	1.49(2)	2.1(1)	12.1(7)	1.2	0.1(1)	12(5)	0(10)	100			92P1
	M1		77	1.295(4)	3.08(1)		0.35(1)				20(1)			
	M2			1.270(1)	2.17(1)		0.35(1)				80(1)			
	M1		295	1.179(2)	2.51(1)		0.38(1)				20(1)			
	M2			1.147(2)	2.22(2)		0.38(1)				80(1)			

Table 10 (cont.)

Sample	Site	NN[1)]	T [K]	δ[2)] [mm/s]	ΔQ [mm/s]	B_{hf} [T]	DH [mm/s]	η	θ	φ	A [%]	$\mu_0 H$	B_i [T]	Refs.
$FeSiO_3$ (CPx)	M1	3Fe	4.2	1.30(2)	3.03(4)	8.3(5)		0.5(2)			51(5)			01E1
	M2	3Fe		1.24(2)	2.03(4)	32.2(5)		0.4(2)			49(5)			
$Fe_{0.91}Mg_{0.09}SiO_3$ (CPx)	M1	3Fe	0.3	1.32(2)	3.08(4)	7.6(5)		0.3(2)			34(5)			01E1
	M1	1Mg,2Fe		1.32(2)	3.08(4)	11.9(5)		0.3(2)			8(5)			
	M2	3Fe		1.25(2)	1.96(4)	32.8(5)		0.3(2)			28(5)			
	M2	1Mg,2Fe		1.25(2)	1.96(4)	25.3(5)		0.3(2)			30(5)			
$Fe_{0.87}Mg_{0.13}SiO_3$ (CPx)	M1	3Fe	4.2	1.31(2)	2.89(4)	7.8(5)		0.3(2)			35(5)			01E1
	M1	1Mg,2Fe		1.31(2)	2.89(4)	13.1(5)		0.3(2)			9(5)			
	M2	3Fe		1.28(2)	1.83(4)	31.9(5)		0.2(2)			24(5)			
	M2	1Mg,2Fe		1.28(2)	1.83(4)	24.1(5)		0.2(2)			26(5)			
	M2	2Mg,1Fe		1.28(2)	1.83(4)	18.0(5)		0.2(2)			6(5)			
$Fe_{0.78}Mg_{0.22}SiO_3$ (CPx)	M1	3Fe	0.3	1.31(2)	3.01(4)	8.4(5)		0.5(2)			27(5)			01E1
	M1	1Mg,2Fe		1.31(2)	3.01(4)	12.8(5)		0.5(2)			19(5)			
	M1	2Mg,1Fe		1.31(2)	3.01(4)	14.6(5)		0.5(2)			7(5)			
	M2	3Fe		1.22(2)	2.03(4)	29.9(5)		0.1(2)			16(5)			
	M2	1Mg,2Fe		1.22(2)	2.03(4)	23.7(5)		0.1(2)			11(5)			
	M2	2Mg,1Fe		1.22(2)	2.03(4)	19.1(5)		0.1(2)			20(5)			
$Fe_{0.61}Mg_{0.39}SiO_3$ (CPx)	M1	3Fe	0.3	1.30(2)	2.91(4)	8.5(5)		0.4(2)			18(5)			01E1
	M1	1Mg,2Fe		1.30(2)	2.91(4)	9.3(5)		0.4(2)			18(5)			
	M1	2Mg,1Fe		1.30(2)	2.91(4)	11.7(5)		0.4(2)			4(5)			
	M2	3Fe		1.27(2)	2.04(4)	24.7(5)		0.1(2)			23(5)			
	M2	1Mg,2Fe		1.27(2)	2.04(4)	19.7(5)		0.1(2)			11(5)			
	M2	2Mg,1Fe		1.30(2)	2.04(4)	15.2(5)		0.1(2)			26(5)			
$Fe_{0.09}Mg_{0.91}SiO_3$ (CPx)	M1	–	0.3	1.30(2)	2.94(4)						29(5)			01E1
	M2	–		1.30(2)	2.04(4)						35(5)			
	M2	–		1.21(2)	2.19(4)	13.6(5)		0.0[5)]			36(5)			
$Fe_{0.09}Mg_{0.91}SiO_3$ (CPx)	M1	–	4.2	1.30(2)	2.98(4)						23(5)			01E1
	M2	–		1.28(2)	2.19(4)						47(5)			
	M2	–		1.33(2)	1.90(4)	12.5(5)		0.0[5)]			30(5)			
$Fe_{0.10}Mg_{0.90}SiO_3$ (perovskite)	$Fe^{2+}1$		77	1.290	2.550		0.530				44.7			94F2
	$Fe^{2+}2$			1.285	1.774		0.638				38.1			
	Fe^{3+}			0.417	1.237		0.390				13.5			
	Fe^{n+}			0.526	2.290		0.518				3.5			

Table 10 (cont.)

Sample	Site	NN[1)]	T [K]	δ[2)] [mm/s]	ΔQ [mm/s]	B_{hf} [T]	DH [mm/s]	η	θ	φ	A [%]	$\mu_0 H$	B_i [T]	Refs.
$Fe_{0.10}Mg_{0.90}SiO_3$	$Fe^{2+}1$		298	1.172	2.190		0.430				13.77			94F2
(perovskite)	$Fe^{2+}2$			1.142	1.566		0.542				63.36			
	Fe^{3+}			0.414	0.985		0.402				12.19			
	Fe^{n+}			0.542	1.602		0.593				10.70			
$Fe_{0.05}Mg_{0.95}SiO_3$	$Fe^{2+}1$		181	1.221	2.220		0.510				32.76			94F2
(perovskite)	$Fe^{2+}2$			1.205	1.624		0.458				52.78			
	Fe^{3+}			0.425	1.099		0.399				11.57			
	Fe^{n+}			0.726	1.500		0.485				2.89			
$Fe_{0.05}Mg_{0.95}SiO_3$	$Fe^{2+}1$		298	1.140	2.023		0.542				20.14			94F2
(perovskite)	$Fe^{2+}2$			1.132	1.521		0.455				61.99			
	Fe^{3+}			0.427	0.927		0.396				10.86			
	Fe^{n+}			0.554	1.540		0.564				7.00			
$Fe_{0.05}Mg_{0.95}SiO_3$	Fe^{2+}		80	1.251(15)	2.09(2)						93.4			98M1
(perovskite)	Fe^{3+}			0.405(3)	1.25(5)						3.8			
	Fe^{n+}			0.934(3)	1.53(5)						2.8			
	Fe^{2+}		293	1.137(15)	1.60(2)						84			
	Fe^{3+}			0.306(3)	1.04(5)						6.3			
	Fe^{n+}			0.714(3)	1.31(5)						9.8			
$CaFeSi_2O_6$	Fe^{2+}(M1)		4.2	1.21(2)	2.68(3)	18.8(2)	0.42(4)	0.06	74(5)	0	100			85C2
	Fe^{2+}(M1)		296	1.07(1)	2.26(2)		0.31(2)				100			
Hedenbergite[6)]	Fe^{2+}(M1)		5	1.28(5)	2.8(2)	17.1(6)		0.02(50)	74(22)		100			97B1
(natural)	Fe^{2+}(M1)		77	1.29(1)	2.72(3)		0.29(8)				100			
Hedenbergite[7)]			4.2	1.34	2.64	14…19		0.02	75	0				88R1
(natural)			77	1.30	2.70		0.32							
Hedenbergite[8)]			4.2	1.31	2.77	17.6		0.0	73					86S3
			295	1.19	2.24									
			295	1.19	2.24			0.5				4.5	$H\|\|X = -0.7$, $H\|\|Y = -0.4$, $H\|\|Z = -1.6$	
			295	1.19	2.24			0.7				7.5	$H\|\|X = -2.1$, $H\|\|Y = -1.4$, $H\|\|Z = -3.1$	

Table 10 (cont.)

Sample	Site	NN[1)]	T [K]	δ[2)] [mm/s]	ΔQ [mm/s]	B_{hf} [T]	DH [mm/s]	η	θ	φ	A [%]	$\mu_0 H$	B_i [T]	Refs.
Hedenbergite[9)]			4.2	1.31	2.68	17.4		0.0	74					86S3
			78	1.30	2.72			0.3				7.5	$H\|\|X$= –3.0, $H\|\|Y$= –5.6, $H\|\|Z$= –2.1	
			295	1.18	2.20			1.0				7.5	$H\|\|X$= –1.3, $H\|\|Y$= –1.9, $H\|\|Z$= –1.3	
Hedenbergite[10)]			4.2	1.31(1)	2.57(4)	18.0(2)		0.71(15)	81(3)	39(8)				03E1,
			10	1.31(1)	2.57(4)	17.7(2)		0.78(15)	84(3)	39(8)				03E2
			15	1.32(1)	2.59(4)	17.8(2)		0.74(15)	82(3)	39(8)				
			20	1.32(1)	2.56(4)	17.5(2)		0.78(15)	85(3)	38(8)				
			24	1.32(1)	2.55(4)	16.7(2)		0.78(15)	84(3)	38(8)				
			36	1.311(5)	2.72(1)		0.31(1)							
			80	1.304(5)	2.74(1)		0.27(1)							
			200	1.244(5)	2.50(1)		0.29(1)							
			300	1.179(5)	2.19(1)		0.29(1)							
			521	1.024(5)	1.60(1)		0.26(1)							
			800	0.804(5)	1.11(1)		0.24(1)							
Hedenbergite[10)]			4.2	1.31(1)	2.64(4)	16.8(2)		0.66(15)	75	50		6		03E1,
(at 6T)			80	1.30(2)	2.75(4)		0.34(2)	0.81(15) V_{zz}(–)					$H\|\|X$= –37 $H\|\|Y$= –21 $H\|\|Z$= –42	03E2
			290	1.17(2)	2.25(4)		0.32(2)	0.99(15) V_{zz}(–)					$H\|\|X$= –7 $H\|\|Y$= –4 $H\|\|Z$= –15	
Hedenbergite[11)]			8	1.31(1)	2.62(4)	18.5(2)		0.77(15)	84(3)	38(8)				03E1,
			15	1.32(1)	2.60(4)	18.2(2)		0.77(15)	84(3)	38(8)				03E2
			20	1.32(1)	2.53(4)	17.7(2)		0.78(15)	87(3)	37(8)				
			25	1.31(1)	2.61(4)	16.1(2)		0.81(15)	90(3)	37(8)				
	Fe^{2+}		36	1.304(5)	2.72(1)		0.26(1)				86			
	Fe^{3+}			0.550(5)	0.67(1)		0.29(1)				14			
	Fe^{2+}		80	1.294(5)	2.76(1)		0.24(1)				86			
	Fe^{3+}			0.510(5)	0.66(1)		0.28(1)				14			
	Fe^{2+}		200	1.240(5)	2.52(1)		0.25(1)				88			

Table 10 (cont.)

Sample	Site	NN[1)]	T [K]	δ[2)] [mm/s]	ΔQ [mm/s]	B_{hf} [T]	DH [mm/s]	η	θ	φ	A [%]	$\mu_0 H$	B_i [T]	Refs.
Hedenbergite[11)] (cont.)	Fe^{3+}		200	0.500(5)	0.69(1)		0.33(1)				12			
	Fe^{2+}		301	1.180(5)	2.21(1)		0.26(1)				90			
	Fe^{3+}			0.340(5)	0.68(1)		0.22(1)				10			
	Fe^{2+}		500	1.046(5)	1.69(1)		0.26(1)				97			
	Fe^{3+}			0.230(5)	0.91(1)		0.22(1)				3			
Hedenbergite[11)] (at 6T)			4.2	1.31(1)	2.67(4)	17.3(2)		0.64(15)	76	48		6		03E1, 03E2
			83	1.29(2)	2.76(4)		0.33(2)	0.70(15)					$H\|\|X$= –33	
								V_{zz}(+)					$H\|\|Y$= –41	
													$H\|\|Z$= –21	
			277	1.17(2)	2.29(4)		0.30(2)	0.80(15)					$H\|\|X$= –10	
								V_{zz}(+)					$H\|\|Y$= –11	
													$H\|\|Z$= –5	
$CaFe^{3+}AlSiO_6$ (2GPa, 1375°C)	M1(Fe^{3+})		RT	0.302(6)	0.95(1)		0.50(1)				85(2)			97A1
	T(Fe^{3+})			0.24(1)	1.51(2)		0.27(1)				15(2)			
$CaFe^{3+}AlSiO_6$ (1 atm, 1200°C)	M1(Fe^{2+})		RT	1.15(1)	1.99(1)						2(2)			83A2
	M1(Fe^{3+})			0.35(1)	0.99(2)						87(2)			
	T(Fe^{3+})			0.22(1)	1.58(2)						11(2)			
$CaFe_{0.9}Ga_{1.1}SiO_6$ (1atm, 1200°C)	M1(Fe^{3+})		RT	0.359(6)	0.82(1)		0.54(1)				65(2)			97A1
	T(Fe^{3+})			0.327(6)	1.41(1)		0.44(2)				35(2)			
$CaMg_{0.8}Fe_{0.2}Al_{0.2}$-$Si_{1.8}O_6$	M1(Fe^{2+})		RT	1.21(2)	1.89(4)		0.39(9)				2(2)			97A1
	M1(Fe^{3+})			0.41(2)	0.95(3)		0.65(5)				90(2)			
	T(Fe^{3+})			0.21(2)	1.76(1)		0.27(2)				8(2)			
$CaMg_{0.95}Fe_{0.05}Al_{0.05}$-$Si_{1.95}O_6$	M1(Fe^{2+})		RT	1.10(2)	1.75(4)		0.43(1)				13 (3)			97A1
	M1(Fe^{3+})			0.38(3)	0.90(3)		0.75(3)				77(3)			
	T(Fe^{3+})			0.21(2)	1.80(1)		0.46(2)				10(3)			
Diopside[12)] (0.01 Fe apfu)	M1(Fe^{2+})		4.2	1.30(1)	2.53(2)		0.40(2)				71(2)			03D1
	M2(Fe^{2+})			1.29(1)	2.15(2)		0.40(2)				24(2)			
	Fe^{3+}			0.40(5)	0.55[13)]		1.04(2)				5(2)			
	M1(Fe^{2+})		300	1.16(1)	1.87(2)		0.31(2)				68(2)			
	M2(Fe^{2+})			1.15(1)	2.14(2)		0.31(2)				23(2)			
	Fe^{3+}		300	0.25(5)	0.55[13)]		0.52(2)				10(2)			

Table 10 (cont.)

Sample	Site	NN[1)]	T [K]	δ[2)] [mm/s]	ΔQ [mm/s]	B_{hf} [T]	DH [mm/s]	η	θ	φ	A [%]	$\mu_0 H$	B_i [T]	Refs.
Diopside[12)]	M1(Fe^{2+})		700	0.87(1)	1.08(2)		0.33(2)				63(2)			
(0.01 Fe apfu) (cont.)	M2(Fe^{2+})			0.87(1)	1.76(2)		0.33(2)				21(2)			
	Fe^{3+}			0.25(5)	0.55[13)]		0.67(2)				16(2)			
Diopside[14)]	M1(Fe^{2+})		80	1.29(1)	2.63(2)		0.37(2)				69(2)			03D1
(0.30 Fe apfu)	M2(Fe^{2+})			1.26(1)	2.96(2)		0.37(2)				11(2)			
	Fe^{3+}			0.53(5)	0.55[13)]		0.41(2)				20(2)			
	M1(Fe^{2+})		300	1.17(1)	1.96(2)		0.35(2)				69(2)			
	M2(Fe^{2+})			1.09(1)	2.50(2)		0.35(2)				10(2)			
	Fe^{3+}			0.43(5)	0.55[13)]		0.51(2)				21(2)			
	M1(Fe^{2+})		800	0.77(1)	0.97(2)		0.32(2)				71(2)			
	M2(Fe^{2+})			0.69(1)	1.27(2)		0.32(2)				11(2)			
	Fe^{3+}			0.11(5)	0.55[13)]		0.55				18(2)			
Diopside[14)]	M1(Fe^{2+})		80				0.37	0.86(5)			70(3)	6	$H\|\|X$= –3.4(5)[15)] $H\|\|Y$= –1.2(5) $H\|\|Z$= –3.0(5)	03D1
(at 6T)	M2(Fe^{2+})						0.35	0.97(5)			10(3)		$H\|\|X$= –3.4(5) $H\|\|Y$= –3.5(5) $H\|\|Z$= –3.6(5)	
	Fe^{3+}						0.67	0.96(5)			20(3)		$H\|\|X$= –5.5(5) $H\|\|Y$= –5.5(5) $H\|\|Z$= –5.5(5)	

Table 10 (cont.)

Sample	Site	NN[1)]	T [K]	δ[2)] [mm/s]	ΔQ [mm/s]	B_{hf} [T]	DH [mm/s]	η	θ	φ	A [%]	$\mu_0 H$	B_i [T]	Refs.
Rhodonite[16)]	M4(Fe^{2+})		295	1.076	1.27		0.35(1)				28			75D1
	M5(Fe^{2+})			1.20	1.93		0.37(1)				12.6			
	M1(Fe^{2+})			1.208	2.29		0.24(1)				} 59.4			
	M2(Fe^{2+})			1.21	2.51		0.24(1)							
	M3(Fe^{2+})			1.21	2.70		0.24(1)							
$NaFeSi_2O_6$			5	0.50(1)	0.01(1)	46.1(5)	0.92(1)							88B1
(aegirine)			295	0.39(1)	0.33(1)		0.30(1)							
$NaFeSi_2O_6$			1.5	0.52(3)	0.20(8)	51.9(5)								89B1
(synthetic aegirine)			296	0.41(1)	0.29(2)									
$Na_{1.06}Ca_{0.06}Mg_{0.04}$-	Fe^{3+}		4.2	0.48		46.7					95			98D1
$Fe_{1.01}Al_{0.06}Si_{1.91}O_6$	Fe^{2+}			1.27	3.10	22.0					5			
(aegirine)	M1(Fe^{3+})		30	0.504(5)	0.34(1)						85(1)			
	M1(Fe^{2+})			1.28(2)	3.07(3)						8(1)			
	M1(Fe^{2+})			1.30(2)	2.26(3)						3(1)			
	T(Fe^{3+})			0.32(2)	0.18(3)						4(1)			
	M1(Fe^{3+})		298	0.384(5)	0.34(1)						87(1)			
	M1(Fe^{2+})			1.14(2)	2.77(3)						5(1)			
	M1(Fe^{2+})			1.08(2)	1.87(3)						5(1)			
	T(Fe^{3+})			0.17(2)	0.17(3)						3(1)			
$Ae_{0.81}Di_{0.19}$	M1	$3Fe^{3+}$	2	0.36(2)[2a)]	0.18(2)	46.2(2)	0.40(2)				52			88D1
	M1	$1Fe^{3+}$		0.35(2)[2a)]	0.11(2)	44.5(3)	0.40(2)				36			
	M1	$1Fe^{3+}$		0.37(3)[2a)]	0.02(2)	42.2(3)	0.42(3)				11			
			80	0.38(1)[2a)]	0.35(2)		0.30(2)				100			
			300	0.28(1)[2a)]	0.34(2)		0.27(2)				100			
Aegirine[17)]	M1	Fe^{3+}	77	0.473(4)	0.34(7)		0.30(1)				87			97B1
	M1	Fe^{2+}		1.31(5)	2.1(2)		0.376(4)				8			
	M1	Fe^{2+}		1.25(8)	3.1(2)		0.258(6)				5			
Omphacite[18)]	Fe^{2+}		295	1.19(5)	2.96(5)		0.31(3)				38.5(3.8)			78A1
	Fe^{2+}			1.16(5)	2.31(5)		0.31(3)				22.1(2.2)			
	Fe^{2+}			1.15(5)	1.94(5)		0.31(3)				21.3(2.1)			
	Fe^{3+}			0.43(5)	0.56(5)		0.31(3)				18.1(1.8)			

Table 10 (cont.)

Sample	Site	NN[1)]	T [K]	δ[2)] [mm/s]	ΔQ [mm/s]	B_{hf} [T]	DH [mm/s]	η	θ	φ	A [%]	$\mu_0 H$	B_i [T]	Refs.
Omphacite[19)]	Fe^{2+}		295	1.17(5)	2.84(5)		0.42(3)				27.8(2.8)			78A1
	Fe^{2+}			1.15(5)	2.13(5)		0.42(3)				27.8(2.8)			
	Fe^{2+}			1.19(5)	1.77(5)		0.42(3)				7.7(7)			
	Fe^{3+}			0.41(5)	0.43(5)		0.43(3)				36.7(3.7)			
Omphacite[20)]	Fe^{2+}		295	1.19(5)	2.55(5)		0.47				25.2			78A1
	Fe^{2+}			1.20(5)	1.95(5)		0.35				53.5			
	Fe^{3+}			0.52(5)	0.41(5)		0.49				21.3			
$Hd_{0.80}Ae_{0.20}$	Fe^{3+}		RT	0.43(2)	0.46(2)		0.36(3)				23(2)			82D3
	Fe^{2+}			1.19(2)	2.13(2)		0.35(1)				70(2)			
	Fe^{2+}			1.19(2)	2.69(2)		0.35(1)				7(2)			
$Hd_{0.20}Ae_{0.80}$	Fe^{3+}		RT	0.41(2)	0.35(1)		0.31(1)				79(2)			82D3
	Fe^{2+}			1.14(2)	1.83(3)		0.36(2)				3.4(2.0)			
	Fe^{2+}			1.13(2)	2.18(2)		0.36(2)				5.9(2.0)			
	Fe^{2+}			1.15(2)	2.77(2)		0.36(2)				11.7(2.0)			
$Hd_{0.50}Ae_{0.27}Ko_{0.24}$	Fe^{3+}		RT	0.40(2)	0.43(3)		0.37(2)				34(2)			82D3
	Fe^{2+}			1.17(2)	2.07(2)		0.39(2)				47(2)			
	Fe^{3+}			1.17(2)	2.70(3)		0.39(2)				19(2)			
$Hd_{0.08}Ae_{0.15}Ko_{0.77}$	Fe^{3+}		RT	0.40(2)	0.35(2)		0.32(1)				64(1)			82D3
	Fe^{2+}			1.15(2)	1.77(4)		0.36(2)				12(2)			
	Fe^{2+}			1.15(2)	2.80(3)		0.36(2)				24(2)			
$LiFeSi_2O_6$	Fe^{3+}(M1)		10	0.474(6)	0.57(9)	49.81(4)	0.35(1)		125.4(5)	47.4(8)				98L1
(single crystal)	Fe^{3+}(M1)		15	0.477(6)	0.5(x)[21)]	44.78(4)	0.45(1)		125.9(7)	40(1)				
	Fe^{3+}(M1)		18	0.48(1)	0.5(x)[21)]	36.97(7)	0.67(2)		125(2)	37(2)				
	Fe^{3+}(M1)		25	0.5(1)	0.2(x)[21)]	–	0.3(3)			44(x)[21)]				
	Fe^{3+}(M1)		295	0.36(4)	0.3(x)[21)]	–	0.31(9)			41(20)				
$LiFeSi_2O_6$	Fe^{3+}(M1)		11	0.474(3)	0.55(7)	53.21(2)	0.394(6)		126.3(5)					98L1
(powder)														
$LiFeSi_2O_6$	Fe^{3+}(M1)		5	0.49(1)	0.01(1)	54.0(5)	0.40(1)				100			88B1
(powder)			295	0.39(1)	0.31(1)		0.28(1)				100			

1) Number of next-neighbour atoms;
2) Relative to α-Fe if no other notations were used;
2a) ^{57}Co source in Rh matrix. The δ values relative to α-Fe is 0.18(1) mm/s.
2b) Asymmetry parameter;
2c) Angle between EFG principal axis and direction of hyperfine field;
2d) Zenithal angle between EFG and the direction of hyperfine field;
2e) Components of the anisotropic reduction field for external field $\mu_o H$.
3) δ values constrained determined at 46 K;
4) Two possibilities of sign for V_{zz} at M1 site;
5) Fixed value;
6) $Ca_{0.99}Fe^{2+}_{0.84}Mg_{0.12}Mn_{0.04}Si_2O_6$;
7) $Ca_{0.96}Fe_{0.82}Mg_{0.19}Mn_{0.02}Si_2O_6$;
8) $Ca_{0.97}Mn_{0.17}Fe_{0.79}Mg_{0.06}Al_{0.01}Si_{2.00}O_{6.01}$;
9) $Ca_{0.96}Mn_{0.02}Fe_{0.66}Mg_{0.31}Al_{0.06}Si_{1.99}O_{6.02}$;
10) $Ca_{1.0}Fe^{2+}_{0.74}Mg_{0.16}Mn_{0.03}Al_{0.03}Fe^{3+}_{0.02}Si_{2.00}O_6$;
11) $Ca_{1.0}Fe^{2+}_{0.68}Mg_{0.20}Mn_{0.15}Al_{0.05}Fe^{3+}_{0.04}Si_{1.92}O_6$;
12) Natural sample, Jaipur, India;
13) Fixed value;
14) Natural sample, Zillertal, Tyrol, Austria;
15) Field reduction;
16) $Ca_{0.204}Fe_{0.22}Mn_{0.566}Mg_{0.01}SiO_3$;
17) $(Na_{0.65}Ca_{0.34})(Fe^{3+}_{0.64}Fe^{2+}_{0.11}Mg_{0.19}Al_{0.04}Ti_{0.01})(Si_{1.98}Al_{0.01})O_6$;
18) $(Na_{0.54}Ca_{0.45})(Fe^{3+}_{0.14}Fe^{2+}_{0.33}Mg_{0.05}Al_{0.44}Ti_{0.05})(Si_{1.95}Al_{0.05})O_6$;
19) $(Na_{0.48}Ca_{0.52})(Fe^{3+}_{0.14}Fe^{2+}_{0.08}Mg_{0.39}Al_{0.40}Ti_{0.01})(Si_{1.92}Al_{0.08})O_6$;
20) $(Na_{0.19}Ca_{0.82})(Fe^{3+}_{0.06}Fe^{2+}_{0.08}Mg_{0.72}Al_{0.14})(Si_{1.97}Al_{0.03})O_6$;
21) When error exceeds the parameter value an "x" is marked instead;
22) $(Ca_{0.98}Na_{0.03})(Mg_{0.68}Fe^{2+}_{0.07}Fe^{3+}_{0.03}Al_{0.16}Ti_{0.04})(Si_{1.77}Al_{0.23})O_6$;
23) $(Na_{0.86}Ca_{0.09})(Fe^{2+}, Fe^{3+})_{0.93}Ti_{0.03}Mn_{0.03}Si_{2.00}O_6$ including $V_{0.002}$, $Mg_{0.006}$, $Al_{0.007}$;
24) $(Na_{0.99}Ca_{0.01})(Fe^{2+}, Fe^{3+})_{1.00}Si_{2.00}O_6$ including $V_{0.002}$.

Table 11. Data obtained from NMR spectroscopy: Isotropic chemical shift, δ_i, the principal values of the chemical shielding tensor, δ_{11}, δ_{22}, δ_{33}, the shielding anisotropy $\Delta\delta = \delta_{33} - 1/2(\delta_{11} + \delta_{22})$ and the asymmetry parameter $\eta = (\delta_{22} - \delta_{11})(\delta_{33} - \delta_i)^{-1}$ [83S1].

Silicate	Site	Chemical shift [ppm][1)]					ΔQ [MHz]	η	DH [ppm]	Relative intensity A [%]	Refs.
		δ_i	δ_{11}	δ_{22}	δ_{33}	$\Delta\delta$					
^{29}Si											
$MgSiO_3$ (synthetic)		–81	–40	–70	–132	–77		0.59			83S1
Enstatite		–83	–41	–76	–133	–74		0.70			83S1
$CaSiO_3$ (wollastonite)		–89	–24	–85	–158	–104		0.88			83S1
$CaMgSi_2O_6$ (synthetic)		–84	–31	–73	–148	–96		0.66			83S1
$CaMgSi_2O_6$ (crystal)		–84.7							≤ 1		86K3
$CaAl_2SiO_6$		–79.0 –88.1							6.0		86K3
Diopside	Si(0Al)[0Al]+ Si(1Al)[1Al]	–84.4							45[2)]	100	02F1
$Di_{0.95}CaTs_{0.05}$	Si(1Al)[0Al]+ Si(2Al)[1Al]	–80.7							71[2)]	2	02F1
	Si(0Al)[0Al]+ Si(1Al)[1Al]	–84.5							59[2)]	95	
	Si(0Al)[1Al]	–88.7							79[2)]	3	
$Di_{0.75}CaTs_{0.25}$	Si(2Al)[0Al]	–78.1							71[2)]	2	02F1
	Si(1Al)[0Al]+ Si(2Al)[1Al]	–81.0							95[2)]	21	
	Si(0Al)[0Al]+ Si(1Al)[1Al]	–84.6							106[2)]	67	
	Si(0Al)[1Al]	–88.8							111[2)]	10	
$Di_{0.50}CaTs_{0.50}$	Si(2Al)[0Al]	–78.3							86[2)]	6	02F1
	Si(1Al)[0Al]+ Si(2Al)[1Al]	–81.3							117[2)]	37	
	Si(0Al)[0Al]+ Si(1Al)[1Al]	–85.0							143[2)]	46	
	Si(0Al)[1Al]	–89.0							137[2)]	11	
$Di_{0.25}CaTs_{0.75}$	Si(2Al)[0Al]	–78.3							70[2)]	11	02F1
	Si(1Al)[0Al]+ Si(2Al)[1Al]	–81.6							115[2)]	41	
	Si(0Al)[0Al]+ Si(1Al)[1Al]	–85.2							147[2)]	41	
	Si(0Al)[1Al]	–89.2							120[2)]	7	
$CaTs_{1.00}$	Si(1Al)[0Al]+ Si(2Al)[1Al]	–81.9							94[2)]	70	82F1
	Si(0Al)[0Al]+ Si(1Al)[1Al]	–85.6							154[2)]	25	
	Si(0Al)[1Al]	–89.7							81[2)]	5	
Diopside (glass)		–81.1							17.1		86K3

Table 11 (cont.)

Silicate	Site	Chemical shift [ppm][1]					ΔQ [MHz]	η	DH [ppm]	Relative intensity A [%]	Refs.
		δ_i	δ_{11}	δ_{22}	δ_{33}	$\Delta\delta$					
$Di_{0.90}CaTs_{0.10}$ (glass)		–81.0							13.9		86K3
$Di_{0.80}CaTs_{0.20}$ (glass)		–81.1							14.7		86K3
$Di_{0.60}CaTs_{0.40}$ (glass)		–81.1							12.7		86K3
$Di_{0.40}CaTs_{0.60}$ (glass)		–81.4							11.2		86K3
$Di_{0.20}CaTs_{0.80}$ (glass)		–83							11.1		86K3
$CaAl_2SiO_6$ (glass)		–83.5							11.2		86K3
$CaSiO_3$		–89	–24	–85	–158	–104		0.88			83S1
$CaSiO_3$	in 1 : 1 : 1 ratio	–87.7 –88.9 –89.3									90S2
$SrSiO_3$ (synthetic)		–85	–30	–71	–154	–104		0.59			83S1
$BaSiO_3$ (synthetic)		–80	–29	–71	–140	–90		0.70			83S1
Na_2SiO_3		–76.8									93X1
$Na_2BaSi_2O_6$		– 77.8 – 75.2									93X1
$NaAlSi_2O_6$ (jadeite) natural		–91.8									93X1
$LiAlSi_2O_6$ (natural)		–92	–53	–81	–142	–75		0.56			83S1
$CdSiO_3$		–83.7									00C4
		–79.9									
$Cd_7[Ga_6Si]O_{21}$		–74.1									00C4
		–76.2									
		–79.4									
^{27}Al											
$CaAl_2SiO_6$ (crystal)		60.5									86K3
CaTs (glass)		64									86K3
$Di_{0.20}CaTs_{0.80}$ (glass)		64									86K3
$Di_{0.40}CaTs_{0.60}$ (glass)		61									86K3
$Di_{0.60}CaTs_{0.40}$ (glass)		62									86K3
$Di_{0.80}CaTs_{0.20}$ (glass)		59									86K3
$Di_{0.90}CaTs_{0.10}$ (glass)		56									86K3
^{23}Na											
Na_2SiO_3		23(3)[4]									93X1
$NaAlSi_2O_6$		11(1)					3.30(10)	0.25(5)			93X1
$Na_2BaSi_2O_6$		Na1-25(1)					2.10(10)	0.75(5)	1.0		93X1
		Na2-5.4(1.0)					2.96(10)	0.10(5)	1.5		93X1

Table 11 (cont.)

^{25}Mg					
$CaMgSi_2O_6$ [5)]	8.0(5)		0.75(10)	18.0(5)	00K1

[1)] δ for ^{29}Si relative to TMS; for ^{27}Al relative to 1M $AlCl_3$ solution; for ^{23}Na relative to dilute aqueous NaCl; [2)] in Hz; [3)] Two peaks of equal intensity; [4)] Probably contains multiple Na sites, average value estimated; [5)] Relative to 1M aqueous $Mg(NO_3)_2$.

Table 12. Debye temperatures and enthalpies of ordering.

a) Debye temperature.

Samples	Θ_D [K]				Refs.
	Thermal expansion	Elastic constant	Heat capacity	^{57}Fe NGR data[1)] (lattice temperature)	
$MgSiO_3$ (OPx)	812	729…753			94Y1
$FeSiO_3$ (OPx)	562	539…581			94Y1
$Fe_{0.05}Mg_{1.95}Al_{0.05}Si_{1.96}O_6$				380(20) (M2) 360(20) (M1)	93V1
$Fe_{0.27}Mg_{1.65}Al_{0.03}Si_{2.02}O_6$				330 (M2) 310 (M1)	
$Fe_{0.2}Mg_{0.8}SiO_3$ (OPx)	775	700…724			94Y1
$Fe_{0.4}Mg_{0.6}SiO_3$ (OPx)	721				94Y1
$Fe_{0.5}Mg_{0.5}SiO_3$ (OPx)	686	654			94Y1
$Fe_{0.75}Mg_{0.25}SiO_3$ (OPx)	641				94Y1
$Fe_{0.83}Mg_{0.17}SiO_3$ (OPx)	618				94Y1
$MgSiO_3$ (perovskite)			980(15) 1030(20)		93A1
$Fe_{0.05}Mg_{0.95}SiO_3$ (perovskite)				365(52) (Fe^{2+}) 476(90) (Fe^{3+})	98M1
$Fe_{0.05}Mg_{0.95}SiO_3$ (perovskite)				392(15) (Fe^{2+}) 1441(336) (Fe^{3+})	94F2
Hedenbergite[10*)]				330(20) (T < 600 K) 440(10) (T > 600 K)	03E1
Hedenbergite[11*)]				370(20) (T < 600 K) 490(20) (T > 600 K)	03E1
$CaAl_2SiO_6$			820(50)		84H1
$NaTiSi_2O_6$			450		02I1
$LiVSi_2O_6$			532		04V1
$NaVSi_2O_6$			482		04V1

* Compositions given in Table 10; [1)] See also [91D1]

b) Enthalpies of Mg-Fe ordering in orthopyroxenes.

Reference	82G1	83C1	88A2	89S1	92S3	94Y2	96G1	97K2	00C1
ΔH^o_{exch} [kJ mol^{-1}]	12.986	31.49	10.005	7.892	11.773	7.751	22.778	17.5(7)	18.0(4)

Table 13. Dielectric constants.

Silicate	ε'_a	tanδ	ε'_b	tanδ	ε'_c	tanδ	<ε'>	ν [MHz]	Refs.
$LiAlSi_2O_6$	8.142(4)	0.0007	8.463(20)	0.0002				1	92S1
(α-spodumene)	ε'_{11} = 7.70(5)		ε'_{22} = 8.463(20)		ε'_{33} = 11.12(5)		8.96	1	92S1
	8.05	0.001	7.82	0.0004	9.31	0.003	8.39	1	72W1
	8.30	(undefined orientation)						1	81O2
	7.8	(undefined orientation) (natural)						1	81O2
	7.25	0.0002 (powder)					7.25	300	88C2
	8.45	(powder)					8.45	0.5	53T1
$LiAlSi_2O_6$	6.4	0.004					6.4	1	63L1
(β-spodumene)	6.3…6.5						6.4	1	81K1
	5.7…5.9	0.012					5.8	$9.37\cdot10^3$	72M2
	5.65						5.65		88O3
$LiAlSi_2O_6$ (amorphous)	8.07	0.047					8.07	1	92S1
$CaMgSi_2O_6$	8.741(20)	0.0016	7.31(10)	0.0007	7.664(60)	0.0019		1	92S1
(crystalline)	ε'_{11}= 9.69		ε'_{22}= 7.31		ε'_{33} = 7.29		8.10	1	92S1
	7.90							0.5	53T1
	8.60	(undefined orientation)						1	81O2
	7.9	0.0256 (undefined orientation)						1	81O2
$CaMgSi_2O_6$ (amorphous)	8.893	0.0021					8.893	1	92S1

Table 14. Luminescence properties for the polymorph: $CaSiO_3$ and $SrSiO_3$ doped crystals.

Phase	λ_{max} [a)] [nm]	$\lambda/2$ [b)] [nm]	I [c)] [%]	T_{50} [d)] [K]	Refs.
α-$CaSiO_3$: Pb^{2+} (5 at %)	light-blue	broad	6[e)]		82M2
β-$CaSiO_3$: Pb^{2+} (5 at %)	346	45	32[e)]	430	
δ-$CaSiO_3$: Pb^{2+} (5 at %)	341	37	26[e)]	440	
α-$SrSiO_3$: Pb^{2+} (5 at %)	light-blue	broad	weak		
δ-$SrSiO_3$: Pb^{2+} (5 at %)	337	37	11[e)]	330	
δ'-$SrSiO_3$: Pb^{2+} (5 at %)	331	37	6[e)]	320	
β-$Ca_{1-x}Pb_xSiO_3$					
x = 0.01	336	33	21[e)]		
x = 0.03	337	34	31[e)]		
x = 0.05	346	45	32[e)]		
x = 0.07	348, 355	54	29[e)]		

Table 14. (cont.)

Phase	λ_{max} [a] [nm]	$\lambda/2$ [b] [nm]	I [c] [%]	T_{50} [d] [K]	Refs.
β-$Ca_{1-x}Pb_xSiO_3$ (cont.)					82M2
x = 0.10	349, 356	54	24[e]		
x = 0.20	350, 359	55	16[e]		
α-$CaSiO_3$: Eu^{2+} (1 at %)	507	70…80	≅1	420	83A1
δ-$CaSiO_3$: Eu^{2+} (1 at %) (4.5 GPa, 1000°C)	472	83	22	420	
α-$SrSiO_3$: Eu^{2+} (1 at %)	498	75…80	<1	380	
δ-$SrSiO_3$: Eu^{2+} (1 at %) (3.5 GPa, 1000°C)	503	63	6	300	
δ'-$SrSiO_3$: Eu^{2+} (1 at %) (6 GPa, 1000°C)	466	58	37	360	
$SrSiO_3$: Eu^{3+},Bi^{3+} (sol-gel)	16260[f]	428[f]	82		93L2
$SrSiO_3$: Eu^{3+},Bi^{3+} (sintering at atmospheric pressure)	16260[f]	428[f]	40		
$SrSiO_3$: Eu^{3+},Bi^{3+} (high pressure, high temperature)	15504[f]	2420[f]	10		

[a] λ_{max}: peak position of the emission band at 300 K;
[b] $\lambda/2$: half-width of emission band;
[c] I: relative emission intensity;
[d] T_{50}: quenched temperature at which the intensity of luminescence is half of that at 77 K;
[e] Excitation at 254 nm and 300 K; [f] in cm^{-1}.

Table 15. Refractive indices.

Silicate	n_α	n_β	n_γ	$2V^0$ Exp.	$2V^0$ Calc.		Refs.
Kanoite[1], $P2_1/c$ at 25°C	1.699(1)	1.702(1)	1.724(5)	54.5	39.7		97A2
Kanoite[2], $P2_1/c$	1.715(2)	1.717(2)	1.728(2)	40…42		biaxial, positive	77K1
Pyroxferroite $(Fe_{0.84}Ca_{0.13}Mg_{0.02}$-$Mn_{0.02})SiO_3$	1.748	1.750	1.768	34…40		biaxial, positive	70C2
Donpeacorite[3]	1.677(2)	1.684(2)	1.692(2)	88		biaxial, negative	84P2
Petedunnite[4]	1.68(1)	1.69(1)	1.70(1)	80(5)			87E1
Esseneite[5]	1.795(5)	1.815(5)	1.825(5)	77(5)		biaxial, negative	87C3
$CaAl_2SiO_6$	1.597(2) (ω)		1.603(2) (ε)			uniaxial, positive	73K1
Diopside[6]	1.747(5)	1.750(5)	1.762(5)				73D2
Diopside[7]	1.690(2)	1.700(2)	1.712(2)				02D1
$NaCrSi_2O_6$	1.740(1)	1.756(1)	1.762(1)	60…70		biaxial, negative	65F1
Natalyite[8]	1.741(2)	1.762(3)	1.762(3)	8-12		biaxial, negative	85R1, 87H1
Joesmithite[9]	1.747(5)	1.765(5)	1.78(1)			biaxial, positive	68M2, 68M3
Aërinite[10]	1.510(5)	1.560(5)	1.580(5)		63	biaxial, negative	88A4

Table 15 (cont.)

Silicate	n_α	n_β	n_γ	$2V^0$			Refs.
				Exp.	Calc.		
Vinogradovite[11)]	1.745	1.770	1.775	41		biaxial, negative	56S2
Paravinogradovite[12)]	1.707(2)	1.741(2)	1.755(2)	64(1)	64	biaxial, negative	03K1
Nchwaningite[13)]	1.681(2)	1.688(2)	1.690(2)	54.4(4)		biaxial, negative	95N1

1) $MnMgSi_2O_6$;
2) $Mn_{1.040}Mg_{0.885}Fe^{2+}_{0.087}Fe^{3+}_{0.012}Ca_{0.024}Si_{1.993}O_6$;
3) $Mg_{1.41}Mn_{0.56}Ca_{0.03}Si_2O_6$;
4) $(Ca_{0.92}Na_{0.06}Mn_{0.02})(Zn_{0.37}Mn_{0.18}Fe^{2+}_{0.19}Fe^{3+}_{0.12}Mg_{0.14})(Si_{1.94}Al_{0.06})O_6$;
5) $(Ca_{1.01}Na_{0.01})(Fe^{3+}_{0.72}Mg_{0.16}Al_{0.04}Ti_{0.03}Fe^{2+}_{0.02})(Si_{1.19}Al_{0.81})O_6$;
6) $Ca_{1.0}Mg_{0.3}Ti_{0.48}Al_{0.13}(Al_{0.74}Si_{1.26})O_{6;}$
7) $(Ca_{0.98}Na_{0.03})(Mg_{0.68}Fe^{2+}_{0.07}Fe^{3+}_{0.03}Al_{0.16}Ti_{0.04})(Si_{1.77}Al_{0.23})O_6$;
8) $(Na_{0.92}Ca_{0.07})(V_{0.54}Cr_{0.36}Mg_{0.07}Al_{0.03})Si_{1.99}O_6$;
9) $(Pb_{0.6}Ca_{0.6}Ba_{0.1}Mn_{0.8})Ca_{0.4}Fe^{3+}_{2.0}(Mg_{6.3}Fe^{3+}_{1.4}Fe^{2+}_{0.8}Al_{0.3})(Si_{13.8}Be_{0.1})(OH)_{14.9}O_{39.7}$;
10) $(Ca_{4.04}Na_{0.16}K_{0.02})(Fe^{2+}_{0.91}Mn_{0.03}Mg_{1.47})(Al_{6.36}Fe^{3+}_{1.72})(Si_{11.59}P_{0.19})O_{36.21}(OH)_{12.11}(CO_2)_{0.99}\cdot 12.11H_2O$;
11) Composition: SiO_2-40.70, TiO_2-33.60; Al_2O_3-6.20, MgO-0.36, CaO-1.00, Na_2O-12.00, K_2O-1.8, H_2O-4.80;
12) $(Na_{2.293}K_{0.169}(Ti_{3.386}Fe_{0.471}Nb_{0.034}Mg_{0.029})(Si_{6.626}Al_{1.098}Be_{0.276})O_{22}(OH)_4(H_2O)_{1.12}$;
13) $Mn^{2+}_2SiO_3(OH)_2\cdot H_2O$.