Table 2 (deposited). Bulk-rock major (%) and trace (ppm) element analyses of Mt. Sassetto samples.

Rock type	Ignimbrite			Type I xenolith	Type II xenoliths					Lavas	
Sample	MS1	MS2	MS4	MS12	MS3	MS5	MS7*	MS8*	MS11	MS13	MS14
					chemical composition (oxide wt%)						
SiO_2	61.60	63.74	63.17	62.79	56.47	51.87	54.50	54.63	52.18	64.92	63.89
TiO_2	0.62	0.52	0.56	0.55	0.66	0.68	0.64	0.64	1.13	0.53	0.64
Al_2O_3	17.34	16.43	17.72	16.84	18.01	16.94	19.43	19.96	22.11	16.43	17.02
Fe_2O_3	4.22	3.25	3.36	3.79	5.67	6.65	5.72	5.48	5.82	3.27	3.62
MnO	0.06	0.04	0.05	0.05	0.07	0.11	0.09	0.08	0.06	0.04	0.04
MgO	2.04	1.59	1.34	1.76	2.58	6.15	3.08	2.89	4.45	1.34	1.33
CaO	4.12	3.27	3.73	3.79	5.23	12.21	6.11	6.02	7.28	3.19	3.08
Na_2O	2.57	2.70	2.69	2.67	2.62	1.83	2.63	2.55	2.99	2.62	2.29
K_2O	4.09	4.61	4.58	4.07	5.24	1.82	4.87	4.83	2.56	5.33	5.06
P_2O_5	0.17	0.15	0.20	0.18	0.10	0.33	0.42	0.42	0.19	0.16	0.20
H_2O	3.17	3.70	2.60	3.51	3.35	1.40	2.50	2.51	1.24	2.18	2.84
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
X_{Mg}	0.33	0.33	0.29	0.32	0.31	0.48	0.35	0.35	0.43	0.29	0.27
					(ppm)						
Ni	12	12	12	11	14	59	10	9	47	13	14
Co	18	62	10	15	23	39	13	12	27	12	12
Cr	38	30	26	31	17	85	15	10	120	32	30
V	56	37	40	46	56	124	71	70	178	43	52
Ce	129	118	137	127	92	147	312	416	91	132	143
Nd	43	41	45	42	29	47	n.d.	n.d.	31	41	52
Ba	497	546	543	458	1437	977	1234	1290	634	708	658
La	63	61	66	61	57	71	155	201	50	65	80
Nb	14	14	13	15	19	12	13	18	18	14	11
Zr	337	335	376	382	382	236	417	403	332	309	372
Y	24	24	23	25	17	25	42	54	13	27	26
Sr	306	297	303	288	684	600	744	784	463	290	297
Rb	288	326	305	298	293	127	n.d.	n.d.	188	347	294
Pb	46	43	46	53	69	34	80	79	24	47	58
As	25	34	29	26	56	10	b.d.l.	b.d.l.	0	31	12
Zn	69	57	52	64	59	94	100	103	98	59	62
Cu	11	13	12	13	196	20	52	70	10	17	14
S	21	31	42	23	221	1817	b.d.l.	b.d.l.	141	53	17

*Analyses made on 300 mg pellets.

Table 3 (deposited). Averaged major element analyses (oxide wt%), standard deviations and chemical formulae of mica crystals from thin sections of ignimbrites, xenoliths, tuffs and lavas from Mt. Sassetto. Analyses and chemical formulae of crystals coming from the same thin section, but showing remarkable differences in their compositions, are not averaged or averaged on different, compositionally homogeneous, subgroups.

Rock type	Ignimbrite						Type I xenoliths									Type II xenoliths			
Sample	MS1	(σ)	MS2	(σ)	MS4	(σ)	MS9(1)	MS9(2)	MS9(3)	MS9(4)	(σ)	MS12(1)	(σ)	MS12(2)	(σ)	MS3	(σ)	MS5	(σ)
N. of crystals	8		5		9		1	1	1	3		5		4		4		9	
chemical composition (oxide wt%)																			
SiO_2	37.04	0.14	37.06	0.38	36.89	0.40	36.37	36.11	37.07	36.19	0.27	36.78	0.34	36.78	0.30	36.10	0.41	34.31	0.41
TiO_2	5.27	0.21	4.95	0.13	5.30	0.12	2.39	2.45	2.17	3.01	0.34	5.31	0.10	5.63	0.30	4.53	0.25	3.49	0.06
Al_2O_3	13.44	0.49	12.84	0.12	13.10	0.42	15.88	15.51	16.30	15.00	0.34	12.96	0.09	13.45	0.53	14.64	0.71	15.48	0.08
Cr_2O_3	0.07	0.03	0.06	0.02	0.08	0.02	0.00	0.03	0.05	0.02	0.01	0.07	0.02	0.05	0.02	0.01	0.02	0.02	0.02
FeO	17.30	0.29	17.26	0.07	16.83	0.21	16.23	17.46	15.03	18.12	1.10	17.09	0.41	17.71	0.77	17.44	0.34	17.21	0.21
MnO	0.09	0.02	0.08	0.03	0.07	0.05	0.19	0.19	0.18	0.17	0.01	0.09	0.01	0.10	0.03	0.20	0.03	0.13	0.02
MgO	12.79	0.53	12.64	0.18	12.79	0.13	14.13	13.59	14.84	11.54	1.41	13.08	0.16	12.24	0.44	12.41	0.26	12.48	0.19
CaO	0.05	0.04	0.05	0.01	0.07	0.04	0.07	0.05	0.27	0.02	0.05	0.02	0.01	0.08	0.04	0.05	0.03	0.07	0.01
BaO	0.02	0.43	0.00	0.00	0.00	0.00	0.22	0.20	0.33	0.43	0.07	0.02	0.03	0.08	0.12	0.18	0.30	0.36	0.02
Na_2O	0.44	0.02	0.42	0.03	0.47	0.03	0.46	0.37	0.38	0.28	0.14	0.45	0.03	0.43	0.02	0.43	0.03	0.43	0.02
K_2O	9.15	0.29	8.83	0.13	9.12	0.23	9.71	9.50	9.37	9.29	0.08	9.32	0.13	8.90	0.29	9.32	0.22	9.14	0.04
F	1.28	0.20	1.73	0.26	1.43	0.61	1.07	0.92	0.63	1.92	0.50	1.43	0.16	1.47	0.12	1.20	0.13	1.18	0.18
Cl	0.00	0.00	0.02	0.02	0.00	0.01	0.05	0.04	0.00	0.03	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01
Sum	96.93		95.94		96.16		96.78	96.43	96.63	96.03		96.62		96.94		96.51		94.32	
chemical formulae based on 22 negative charges																			
Si	2.795		2.835		2.807		2.740	2.740	2.757	2.797		2.794		2.786		2.746		2.680	
$^{[iv]}Al$	1.205		1.165		1.193		1.260	1.260	1.243	1.203		1.206		1.214		1.254		1.320	
$^{[vi]}Al$	0.000		0.000		0.000		0.150	0.128	0.187	0.163		0.000		0.000		0.058		0.105	
Ti	0.299		0.285		0.303		0.135	0.140	0.121	0.175		0.303		0.321		0.259		0.205	
Cr	0.004		0.004		0.005		0.000	0.002	0.003	0.001		0.004		0.003		0.001		0.001	
Fe_{tot}	1.092		1.104		1.071		1.023	1.109	0.935	1.171		1.085		1.122		1.109		1.124	
Mn	0.006		0.005		0.004		0.012	0.012	0.011	0.011		0.006		0.006		0.013		0.009	
Mg	1.439		1.442		1.451		1.586	1.537	1.645	1.329		1.480		1.382		1.407		1.452	
Ca	0.004		0.004		0.005		0.005	0.004	0.021	0.002		0.002		0.007		0.004		0.006	
Ba	0.001		0.000		0.000		0.006	0.006	0.010	0.013		0.001		0.002		0.005		0.011	
Na	0.064		0.062		0.069		0.067	0.054	0.055	0.042		0.066		0.063		0.063		0.065	
K	0.880		0.862		0.886		0.933	0.920	0.889	0.916		0.903		0.860		0.904		0.911	
F	0.305		0.418		0.344		0.256	0.222	0.147	0.469		0.343		0.352		0.289		0.292	
Cl	0.000		0.003		0.000		0.007	0.005	0.000	0.004		0.000		0.001		0.001		0.001	
X_{Mg}	0.569		0.566		0.575		0.608	0.581	0.638	0.532		0.577		0.552		0.559		0.564	

Rock type	Type II xenoliths								Tuff		Lava			
Sample	MS7	(σ)	MS8	(σ)	MS11	(σ)	MS15	(σ)	MS10	(σ)	MS13	(σ)	MS14	(σ)
N. of crystals	3		8		6		3		3		6		6	
chemical composition (oxide wt%)														
SiO_2	34.43	0.14	35.16	0.53	36.98	0.14	37.38	0.14	37.13	0.31	37.27	0.59	37.36	0.34
TiO_2	4.22	0.32	3.31	0.36	5.61	0.21	5.44	0.33	5.19	0.08	5.25	0.18	5.58	0.05
Al_2O_3	14.85	0.46	15.27	0.16	13.12	0.49	13.44	0.46	13.27	0.45	13.02	0.08	13.15	0.16
Cr_2O_3	0.01	0.01	0.01	0.01	0.09	0.03	0.13	0.05	0.06	0.02	0.06	0.03	0.06	0.03
FeO	21.92	0.55	21.95	0.64	17.17	0.29	17.01	0.07	17.28	0.23	16.71	0.17	16.76	0.13
MnO	0.28	0.01	0.26	0.05	0.07	0.02	0.10	0.01	0.07	0.01	0.07	0.02	0.05	0.03
MgO	9.12	0.32	9.63	0.42	12.64	0.53	12.64	0.32	12.56	0.08	12.96	0.08	12.60	0.14
CaO	0.17	0.07	0.14	0.10	0.07	0.04	0.12	0.01	0.01	0.01	0.03	0.01	0.09	0.02
BaO	0.47	0.09	0.41	0.09	0.28	0.43	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02
Na_2O	0.42	0.05	0.41	0.06	0.43	0.02	0.42	0.05	0.39	0.01	0.44	0.03	0.43	0.04
K_2O	8.68	0.06	9.09	0.29	8.97	0.29	8.99	0.04	9.23	0.18	9.54	0.19	9.37	0.06
F	1.46	0.42	1.19	0.42	1.40	0.20	1.10	0.07	1.21	0.27	1.57	0.29	1.47	0.17
Cl	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sum	96.04		96.82		96.83		96.76		96.40		96.92		96.95	
chemical formulae based on 22 negative charges														
Si	2.706		2.729		2.800		2.811		2.815		2.819		2.819	
$^{[iv]}Al$	1.294		1.271		1.200		1.189		1.185		1.181		1.181	
$^{[vi]}Al$	0.082		0.125		0.000		0.002		0.001		0.000		0.000	
Ti	0.249		0.193		0.319		0.308		0.296		0.299		0.317	
Cr	0.001		0.001		0.006		0.008		0.004		0.004		0.004	
Fe_{tot}	1.441		1.425		1.087		1.070		1.095		1.057		1.058	
Mn	0.018		0.017		0.005		0.007		0.005		0.004		0.003	
Mg	1.068		1.114		1.427		1.417		1.419		1.462		1.417	
Ca	0.015		0.012		0.006		0.009		0.001		0.002		0.007	
Ba	0.014		0.012		0.008		0.000		0.000		0.000		0.000	
Na	0.064		0.062		0.064		0.061		0.057		0.064		0.063	
K	0.871		0.900		0.866		0.862		0.892		0.920		0.902	
F	0.363		0.292		0.335		0.262		0.290		0.375		0.351	
Cl	0.000		0.000		0.000		0.000		0.000		0.000		0.000	
X_{Mg}	0.426		0.439		0.568		0.570		0.564		0.580		0.573	

Table 8 (deposited). Atomic coordinates, isotropic and anisotropic displacement factors ($Å^2$ x 10^3) of Mt. Sassetto micas.
Estimated standard deviations in parenthesis.

Ignimbrite

	x/a	y/b	z/c	U_{eq}	U_{11}	U_{22}	U_{33}	U_{23}	U_{13}	U_{12}
Sample MS1, $2M_1$ polytype (Space group: $C2/c$)										
O11	0.7371(3)	0.3192(2)	0.1660(1)	22(1)	20(1)	28(1)	19(1)	1(1)	-1(1)	-7(1)
O21	0.2369(3)	0.3483(2)	0.1671(1)	22(1)	20(1)	27(1)	19(1)	-2(1)	-1(1)	6(1)
O22	0.4436(3)	0.0837(2)	0.1670(1)	23(1)	32(1)	17(1)	19(1)	1(1)	4(1)	1(1)
O31	0.4302(3)	0.2495(2)	0.0546(1)	14(1)	15(1)	13(1)	15(1)	0(1)	1(1)	1(1)
O32	0.9382(3)	0.4188(2)	0.0547(1)	14(1)	13(1)	14(1)	15(1)	1(1)	2(1)	2(1)
O41	0.9343(3)	0.0825(2)	0.0504(1)	14(1)	13(1)	10(1)	18(1)	1(1)	1(1)	3(1)
T1	0.4619(1)	0.2501(1)	0.1381(1)	10(1)	10(1)	8(1)	12(1)	0(1)	1(1)	1(1)
T2	0.9637(1)	0.4174(1)	0.1380(1)	10(1)	9(1)	8(1)	12(1)	0(1)	2(1)	1(1)
M1	0.75	0.25	0	12(1)	10(1)	9(1)	18(1)	-2(1)	3(1)	1(1)
M2	0.2404(1)	0.0801(1)	0.0000(1)	14(1)	15(1)	11(1)	17(1)	0(1)	2(1)	4(1)
A	0	0.0842(1)	0.25	35(1)	32(1)	32(1)	41(1)	0	3(1)	0

	x/a	y/b	z/c	U_{eq}	U_{11}	U_{22}	U_{33}	U_{23}	U_{13}	U_{12}
Sample MS2, $1M$ polytype (Space group: $C2/m$)										
O1	0.3187(2)	0.2361(2)	0.1662(1)	19(1)	17(1)	26(1)	14(1)	-2(1)	4(1)	-7(1)
O2	0.0265(4)	0	0.1680(2)	19(1)	28(1)	12(1)	14(1)	0	1(1)	0
O3	0.1309(2)	0.1692(1)	0.3905(1)	10(1)	11(1)	11(1)	9(1)	0(1)	2(1)	0(1)
O4	0.1307(3)	0.5	0.3992(1)	11(1)	9(1)	14(1)	11(1)	0	2(1)	0
T	0.0742(1)	0.1672(1)	0.2241(1)	9(1)	9(1)	9(1)	10(1)	0(1)	2(1)	0(1)
M1	0	0	0.5	11(1)	10(1)	9(1)	15(1)	0	4(1)	0
M2	0	0.3390(1)	0.5	12(1)	8(1)	15(1)	13(1)	0	1(1)	0
A	0	0.5	0	33(1)	31(1)	31(1)	36(1)	0	5(1)	0

	x/a	y/b	z/c	U_{eq}	U_{11}	U_{22}	U_{33}	U_{23}	U_{13}	U_{12}
Sample MS4, $2M_1$ polytype (Space group: $C2/c$)										
O11	0.7370(3)	0.3190(2)	0.1661(1)	21(1)	19(1)	27(1)	16(1)	2(1)	1(1)	-6(1)
O21	0.2366(3)	0.3479(2)	0.1671(1)	21(1)	20(1)	26(1)	17(1)	-1(1)	1(1)	6(1)
O22	0.4447(3)	0.0833(2)	0.1672(1)	21(1)	30(1)	16(1)	18(1)	0(1)	5(1)	-1(1)
O31	0.4301(3)	0.2499(3)	0.0546(1)	13(1)	15(1)	13(1)	12(1)	3(1)	2(1)	1(1)
O32	0.9384(3)	0.4192(2)	0.0549(1)	13(1)	13(1)	14(1)	12(1)	3(1)	2(1)	2(1)
O41	0.9342(3)	0.0828(2)	0.0501(1)	13(1)	14(1)	12(1)	13(1)	3(1)	2(1)	4(1)
T1	0.4620(1)	0.2503(1)	0.1380(1)	10(1)	10(1)	9(1)	12(1)	0(1)	1(1)	0(1)
T2	0.9639(1)	0.4175(1)	0.1380(1)	10(1)	9(1)	9(1)	12(1)	0(1)	1(1)	1(1)
M1	0.75	0.25	0	14(1)	12(1)	11(1)	18(1)	1(1)	2(1)	2(1)
M2	0.2400(1)	0.0800(1)	0.0000(1)	15(1)	17(1)	12(1)	16(1)	2(1)	2(1)	6(1)
A	0	0.0842(1)	0.25	36(1)	33(1)	33(1)	40(1)	0	4(1)	0

Type I xenoliths

	x/a	y/b	z/c	U_{eq}	U_{11}	U_{22}	U_{33}	U_{23}	U_{13}	U_{12}
Sample MS9, $1M$ polytype (Space group: $C2/m$)										
O1	0.3266(2)	0.2289(2)	0.1675(1)	20(1)	19(1)	24(1)	18(1)	-4(1)	4(1)	-6(1)
O2	0.0134(4)	0	0.1694(2)	20(1)	30(1)	12(1)	16(1)	0	0(1)	0
O3	0.1302(3)	0.1689(1)	0.3912(1)	13(1)	15(1)	11(1)	12(1)	0(1)	2(1)	0(1)
O4	0.1334(4)	0.5	0.3993(2)	14(1)	14(1)	14(1)	14(1)	0	3(1)	0
T	0.0743(1)	0.1672(1)	0.2248(1)	10(1)	10(1)	8(1)	12(1)	0(1)	2(1)	0(1)
M1	0	0	0.5	13(1)	14(1)	9(1)	18(1)	0	4(1)	0
M2	0	0.3391(1)	0.5	14(1)	12(1)	14(1)	16(1)	0	1(1)	0
A	0	0.5	0	33(1)	32(1)	28(1)	37(1)	0	6(1)	0

	x/a	y/b	z/c	U_{eq}	U_{11}	U_{22}	U_{33}	U_{23}	U_{13}	U_{12}
Sample MS12, 1*M* polytype (Space group: *C* 2/*m*)										
O1	0.3191(3)	0.2358(2)	0.1652(1)	21(1)	19(1)	28(1)	17(1)	-1(1)	3(1)	-6(1)
O2	0.0264(4)	0	0.1680(2)	22(1)	29(1)	16(1)	18(2)	0	-1(1)	0
O3	0.1315(3)	0.1692(1)	0.3908(2)	13(1)	11(1)	14(1)	13(1)	0(1)	2(1)	1(1)
O4	0.1319(4)	0.5	0.3997(2)	13(1)	11(1)	15(1)	13(1)	0	2(1)	0
T	0.0742(1)	0.1672(1)	0.2239(1)	10(1)	8(1)	10(1)	12(1)	0(1)	2(1)	0(1)
M1	0	0	0.5	11(1)	9(1)	9(1)	16(1)	0	4(1)	0
M2	0	0.3397(1)	0.5	13(1)	9(1)	16(1)	15(1)	0	2(1)	0
A	0	0.5	0	35(1)	30(1)	33(1)	40(1)	0	5(1)	0

Type II xenoliths

	x/a	y/b	z/c	U_{eq}	U_{11}	U_{22}	U_{33}	U_{23}	U_{13}	U_{12}
Sample MS3(1), 1*M* polytype (Space group: *C* 2/*m*)										
O1	0.3226(2)	0.2322(1)	0.1670(1)	20(1)	18(1)	25(1)	18(1)	-3(1)	4(1)	-7(1)
O2	0.0197(3)	0	0.1684(2)	20(1)	30(1)	13(1)	16(1)	0	1(1)	0
O3	0.1308(2)	0.1685(1)	0.3906(1)	12(1)	13(1)	12(1)	12(1)	-1(1)	3(1)	0(1)
O4	0.1316(3)	0.5	0.3987(2)	13(1)	11(1)	14(1)	14(1)	0	2(1)	0
T	0.0746(1)	0.1671(1)	0.2245(1)	10(1)	9(1)	9(1)	12(1)	0(1)	2(1)	0(1)
M1	0	0	0.5	14(1)	12(1)	11(1)	19(1)	0	5(1)	0
M2	0	0.3378(1)	0.5	15(1)	11(1)	17(1)	17(1)	0	2(1)	0
A	0	0.5	0	35(1)	34(1)	33(1)	39(1)	0	6(1)	0

	x/a	y/b	z/c	U_{eq}	U_{11}	U_{22}	U_{33}	U_{23}	U_{13}	U_{12}
Sample MS3(2), 1*M* polytype (Space group: *C* 2/*m*)										
O1	0.32378(2)	0.2313(1)	0.1668(1)	21(1)	20(1)	27(1)	17(1)	-3(1)	5(1)	-7(1)
O2	0.0183(2)	0	0.1685(1)	21(1)	30(1)	15(1)	16(1)	0	0(1)	0
O3	0.1310(2)	0.1685(1)	0.3910(1)	13(1)	13(1)	13(1)	12(1)	0(1)	2(1)	0(1)
O4	0.1314(2)	0.5	0.3994(1)	14(1)	12(1)	14(1)	16(1)	0	2(1)	0
T	0.0746(1)	0.1671(1)	0.2244(1)	11(1)	10(1)	10(1)	12(1)	0(1)	2(1)	0(1)
M1	0	0	0.5	13(1)	12(1)	11(1)	17(1)	0	4(1)	0
M2	0	0.3377(1)	0.5	14(1)	10(1)	17(1)	15(1)	0	2(1)	0
A	0	0.5	0	34(1)	33(1)	33(1)	37(1)	0	6(1)	0

	x/a	y/b	z/c	U_{eq}	U_{11}	U_{22}	U_{33}	U_{23}	U_{13}	U_{12}
Sample MS5, 1*M* polytype (Space group: *C* 2/*m*)										
O1	0.3277(4)	0.2274(2)	0.1673(2)	20(1)	17(1)	23(1)	21(1)	-3(1)	5(1)	-4(1)
O2	0.0108(6)	0	0.1692(3)	21(1)	24(2)	16(2)	24(2)	0	2(1)	0
O3	0.1306(3)	0.1684(2)	0.3910(2)	14(1)	12(1)	12(1)	17(1)	0(1)	3(1)	0(1)
O4	0.1330(5)	0.5	0.3994(3)	14(1)	12(1)	12(2)	17(2)	0	2(1)	0
T	0.0745(1)	0.1671(1)	0.2245(1)	11(1)	9(1)	9(1)	14(1)	0(1)	3(1)	0(1)
M1	0	0	0.5	13(1)	10(1)	8(1)	20(1)	0	5(1)	0
M2	0	0.3381(1)	0.5	14(1)	9(1)	15(1)	18(1)	0	2(1)	0
A	0	0.5	0	31(1)	29(1)	29(1)	37(1)	0	7(1)	0

	x/a	y/b	z/c	U_{eq}	U_{11}	U_{22}	U_{33}	U_{23}	U_{13}	U_{12}
Sample MS7, 1*M* polytype (Space group: *C* 2/*m*)										
O1	0.3226(4)	0.2310(2)	0.1645(2)	20(1)	17(1)	24(1)	17(1)	-2(1)	4(1)	-5(1)
O2	0.0161(6)	0	0.1670(3)	20(1)	27(2)	13(1)	19(2)	0	2(1)	0
O3	0.1293(4)	0.1704(2)	0.3912(2)	13(1)	11(1)	13(1)	16(1)	0(1)	2(1)	1(1)
O4	0.1385(5)	0.5	0.4032(3)	14(1)	13(1)	15(1)	16(1)	0	3(1)	0
T	0.0723(2)	0.1675(1)	0.2218(1)	10(1)	8(1)	8(1)	13(1)	0(1)	2(1)	0(1)
M1	0	0	0.5	14(1)	11(1)	11(1)	19(1)	0	4(1)	0
M2	0	0.3451(1)	0.5	11(1)	7(1)	11(1)	14(1)	0	1(1)	0
A	0	0.5	0	26(1)	24(1)	24(1)	29(1)	0	5(1)	0

	x/a	y/b	z/c	U_{eq}	U_{11}	U_{22}	U_{33}	U_{23}	U_{13}	U_{12}
Sample MS8(1), 1*M* polytype (Space group: *C* 2/*m*)										
O1	0.3228(3)	0.2308(2)	0.1646(1)	22(1)	22(1)	24(1)	21(1)	-1(1)	5(1)	-5(1)
O2	0.0150(4)	0	0.1675(2)	22(1)	30(1)	16(1)	21(1)	0	3(1)	0
O3	0.1289(3)	0.1699(1)	0.3913(2)	14(1)	13(1)	14(1)	14(1)	0(1)	2(1)	0(1)
O4	0.1389(4)	0.5	0.4029(2)	14(1)	14(1)	14(1)	15(1)	0	4(1)	0
T	0.0722(1)	0.1674(1)	0.2221(1)	10(1)	10(1)	9(1)	12(1)	0(1)	3(1)	0(1)
M1	0	0	0.5	11(1)	10(1)	10(1)	15(1)	0	4(1)	0
M2	0	0.3454(1)	0.5	12(1)	9(1)	13(1)	14(1)	0	2(1)	0
A	0	0.5	0	29(1)	28(1)	27(1)	31(1)	0	6(1)	0

	x/a	y/b	z/c	U_{eq}	U_{11}	U_{22}	U_{33}	U_{23}	U_{13}	U_{12}
Sample MS8(2), 1*M* polytype (Space group: *C* 2/*m*)										
O1	0.3228(3)	0.2309(2)	0.1643(1)	22(1)	20(1)	25(1)	22(1)	-2(1)	5(1)	-6(1)
O2	0.0153(4)	0	0.1673(2)	23(1)	27(1)	19(1)	22(1)	0	2(1)	0
O3	0.1293(3)	0.1702(1)	0.3910(1)	15(1)	13(1)	15(1)	18(1)	0(1)	2(1)	0(1)
O4	0.1381(4)	0.5	0.4026(2)	16(1)	13(1)	17(1)	17(1)	0	3(1)	0
T	0.0723(1)	0.1674(1)	0.2219(1)	11(1)	9(1)	10(1)	15(1)	0(1)	2(1)	0(1)
M1	0	0	0.5	10(1)	8(1)	8(1)	15(1)	0	3(1)	0
M2	0	0.3447(1)	0.5	13(1)	8(1)	15(1)	17(1)	0	2(1)	0
A	0	0.5	0	29(1)	26(1)	27(1)	32(1)	0	6(1)	0

	x/a	y/b	z/c	U_{eq}	U_{11}	U_{22}	U_{33}	U_{23}	U_{13}	U_{12}
Sample MS11, 1*M* polytype (Space group: *C* 2/*m*)										
O1	0.3194(2)	0.2351(1)	0.1658(1)	19(1)	17(1)	26(1)	15(1)	-3(1)	4(1)	-7(1)
O2	0.0254(3)	0	0.1677(1)	20(1)	28(1)	14(1)	14(1)	0	1(1)	0
O3	0.1310(2)	0.1691(1)	0.3905(1)	12(1)	12(1)	13(1)	11(1)	-1(1)	2(1)	0(1)
O4	0.1305(3)	0.5	0.3992(1)	12(1)	10(1)	14(1)	12(1)	0	2(1)	0
T	0.0743(1)	0.1672(1)	0.2239(1)	10(1)	9(1)	9(1)	10(1)	0(1)	2(1)	0(1)
M1	0	0	0.5	12(1)	10(1)	10(1)	16(1)	0	4(1)	0
M2	0	0.3393(1)	0.5	13(1)	9(1)	17(1)	13(1)	0	2(1)	0
A	0	0.5	0	33(1)	31(1)	31(1)	36(1)	0	6(1)	0

Tuff

	x/a	y/b	z/c	U_{eq}	U_{11}	U_{22}	U_{33}	U_{23}	U_{13}	U_{12}
Sample MS10, 1*M* polytype (Space group: *C* 2/*m*)										
O1	0.3194(2)	0.2350(1)	0.1657(1)	20(1)	18(1)	26(1)	15(1)	-3(1)	4(1)	-7(1)
O2	0.0250(3)	0	0.1676(1)	20(1)	31(1)	14(1)	15(1)	0	1(1)	0
O3	0.1310(2)	0.1692(1)	0.3905(1)	12(1)	12(1)	12(1)	11(1)	-1(1)	2(1)	0(1)
O4	0.1310(2)	0.5	0.3990(1)	14(1)	12(1)	16(1)	14(1)	0	3(1)	0
T	0.0743(1)	0.1672(1)	0.2238(1)	8(1)	8(1)	8(1)	10(1)	0(1)	2(1)	0(1)
M1	0	0	0.5	10(1)	9(1)	8(1)	14(1)	0	4(1)	0
M2	0	0.3394(1)	0.5	7(1)	3(1)	11(1)	8(1)	0	0(1)	0
A	0	0.5	0	31(1)	29(1)	29(1)	35(1)	0	6(1)	0

Lava

	x/a	y/b	z/c	U_{eq}	U_{11}	U_{22}	U_{33}	U_{23}	U_{13}	U_{12}
Sample MS13, 1*M* polytype (Space group: *C* 2/*m*)										
O1	0.3184(4)	0.2357(3)	0.1662(2)	21(1)	20(1)	24(1)	19(1)	-2(1)	4(1)	-6(1)
O2	0.0277(6)	0	0.1680(3)	21(1)	30(2)	12(2)	21(2)	0	1(2)	0
O3	0.1308(4)	0.1692(2)	0.3907(2)	11(1)	10(1)	9(1)	14(1)	-2(1)	1(1)	2(1)
O4	0.1303(5)	0.5	0.3983(3)	12(1)	10(2)	11(2)	15(2)	0	1(1)	0
T	0.0745(2)	0.1672(1)	0.2242(1)	7(1)	7(1)	6(1)	9(1)	-1(1)	0(1)	0(1)
M1	0	0	0.5	13(1)	12(1)	9(1)	19(1)	0	4(1)	0
M2	0	0.3389(1)	0.5	14(1)	10(1)	15(1)	17(1)	0	2(1)	0
A	0	0.5	0	33(1)	32(1)	29(1)	39(1)	0	6(1)	0

	x/a	y/b	z/c	U_{eq}	U_{11}	U_{22}	U_{33}	U_{23}	U_{13}	U_{12}
Sample MS14(1), $2M_1$ polytype (Space group: $C2/c$)										
O11	0.7373(4)	0.3195(2)	0.1658(1)	20(1)	16(1)	27(2)	17(1)	-1(1)	1(1)	-7(1)
O21	0.2371(4)	0.3479(3)	0.1669(1)	19(1)	17(1)	22(1)	19(2)	-3(1)	1(1)	6(1)
O22	0.4441(4)	0.0833(2)	0.1667(1)	19(1)	30(1)	13(1)	15(1)	0(1)	5(1)	0(1)
O31	0.4307(3)	0.2499(4)	0.0547(1)	13(1)	12(1)	13(1)	14(1)	-1(2)	2(1)	0(2)
O32	0.9380(3)	0.4191(4)	0.0550(1)	12(1)	12(1)	11(1)	13(1)	1(2)	3(1)	1(2)
O41	0.9353(3)	0.0829(4)	0.0506(1)	12(1)	13(1)	9(1)	15(1)	2(2)	2(1)	3(2)
T1	0.4619(1)	0.2503(1)	0.1379(1)	11(1)	9(1)	10(1)	14(1)	1(1)	1(1)	1(1)
T2	0.9638(1)	0.4175(1)	0.1380(1)	11(1)	9(1)	9(1)	15(1)	1(1)	1(1)	1(1)
M1	0.75	0.25	0	11(1)	8(1)	9(1)	17(1)	1(1)	3(1)	1(1)
M2	0.2409(1)	0.0803(1)	0.0000(1)	13(1)	13(1)	9(1)	15(1)	3(1)	1(1)	4(1)
A	0	0.0843(2)	0.25	34(1)	30(1)	31(1)	41(1)	0	4(1)	0

	x/a	y/b	z/c	U_{eq}	U_{11}	U_{22}	U_{33}	U_{23}	U_{13}	U_{12}
Sample MS14(2), $2M_1$ polytype (Space group: $C2/c$)										
O11	0.7366(2)	0.3194(1)	0.1660(1)	19(1)	17(1)	25(1)	15(1)	2(1)	1(1)	-6(1)
O21	0.2364(2)	0.3479(1)	0.1671(1)	19(1)	17(1)	24(1)	16(1)	-2(1)	-1(1)	7(1)
O22	0.4442(2)	0.0837(1)	0.1671(1)	19(1)	29(1)	13(1)	15(1)	1(1)	4(1)	1(1)
O31	0.4306(2)	0.2498(1)	0.0548(1)	12(1)	12(1)	12(1)	11(1)	1(1)	1(1)	2(1)
O32	0.9385(2)	0.4189(1)	0.0549(1)	11(1)	11(1)	12(1)	11(1)	1(1)	2(1)	2(1)
O41	0.9346(2)	0.0823(1)	0.0503(1)	12(1)	13(1)	11(1)	13(1)	1(1)	1(1)	4(1)
T1	0.4620(1)	0.2502(1)	0.1380(1)	9(1)	9(1)	9(1)	11(1)	0(1)	1(1)	1(1)
T2	0.9636(1)	0.4174(1)	0.1380(1)	10(1)	9(1)	9(1)	11(1)	0(1)	1(1)	1(1)
M1	0.75	0.25	0	12(1)	9(1)	10(1)	16(1)	-1(1)	2(1)	1(1)
M2	0.2412(1)	0.0803(1)	0.0000(1)	13(1)	14(1)	11(1)	14(1)	1(1)	1(1)	5(1)
A	0	0.0843(1)	0.25	33(1)	31(1)	32(1)	37(1)	0	3(1)	0

Table 9. (Deposited) Refined and calculated site occupancies of Mt. Sassetto mica crystals used in single-crystal X-ray diffraction study.

Rock type	Ignimbrite			Type I xenoliths		Type II xenoliths							Tuffs	Lavas		
Sample	MS1	MS2	MS4	MS9	MS12	MS3(1)	MS3(2)	MS5	MS7	MS8(1)	MS8(2)	MS11	MS10	MS13	MS14(1)	MS14(2)
									M1 octahedral site							
□	0.034	0.037	0.041	0.020	0.028	0	0.006	0.015	0.243	0.230	0.208	0.000	0.000	0.027	0.031	0.040
Fe^{2+}	0.472	0.507	0.497	0.469	0.446	0.483	0.472	0.427	0.640	0.529	0.508	0.463	0.444	0.501	0.481	0.496
Mg	0.494	0.456	0.462	0.511	0.526	0.517	0.522	0.558	0.117	0.241	0.283	0.556	0.574	0.472	0.488	0.464
Total	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.018	1.018	1.000	1.000	1.000
m.e.c (Xref)	18.2(1)	18.65(2)	18.47(8)	18.32(9)	17.9(1)	18.78(8)	18.54(7)	17.8(1)	18.05(9)	16.65(9)	16.62(9)	18.7(1)	18.43(2)	18.7(1)	18.36(7)	18.47(5)
m.e.c. (calc)	18.2	18.65	18.47	18.32	17.9	18.78	18.54	17.8	18.05	16.65	16.62	18.7	18.43	18.7	18.36	
									M2 octahedral site							
Fe^{2+}	0.306	0.313	0.303	0.362	0.319	0.328	0.320	0.356	0.010	0.069	0.079	0.318	0.351	0.292	0.308	0.291
Fe^{3+}									0.370	0.348	0.354					
Mg	0.497	0.508	0.510	0.421	0.488	0.466	0.467	0.456	0.457	0.436	0.413	0.486	0.454	0.520	0.493	0.486
Al	0.037	0.029	0.027	0.122	0.034	0.061	0.073	0.079	0.035	0.055	0.057	0.030	0.035	0.026	0.032	0.057
Ti	0.154	0.143	0.156	0.089	0.154	0.139	0.133	0.104	0.118	0.086	0.089	0.161	0.154	0.159	0.165	0.162
Mn	0.002	0.004	0.001	0.006	0.003	0.006	0.007	0.005	0.010	0.005	0.008	0.003	0.003	0.002	0.001	0.001
Cr	0.002	0.002	0.003	0.000	0.002	0.000	0.000	0.000	0.001	0.000	0.000	0.002	0.002	0.002	0.001	0.002
Total	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
m.e.c. (Xref)	18.1(1)	17.85(3)	18.05(8)	18.36(7)	17.9(1)	18.26(9)	17.98(7)	18.0(1)	18.95(7)	18.82(7)	19.09(9)	18.1(1)	18.20(4)	18.0(1)	17.95(6)	17.98(4)
m.e.c. (calc)	17.9	17.93	17.88	18.16	18.1	18.12	17.97	18.2	18.67	18.82	19.11	18.15	18.56	17.7	18.01	17.79