

Supplementary Table S1

Composition of mineral and glass phases from the 0.5 - 1.0 GPa basaltic melt-serpentinite reaction experiments (P10, P12, P20, P21, P26)

Exp ^a	Phase ^b	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO _{tot} ^c	MnO	MgO	CaO	NiO	Na ₂ O	K ₂ O	P ₂ O ₅	Cl	Total	H ₂ O	Cr	Ni	Mg# ^d
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	
P10	L bas	52.7	1.45	16.38	0.03	7.2	0.13	4.74	8.73	D.L.	2.54	0.35	0.17	0.6	95.4	4.6	209	D.L.	50.84
	(33)	±3.0	±0.13	±1.68	±0.02	±1.16	±0.04	±2.45	±1.60	D.L.	±0.66	±0.06	±0.02	±0.48	95.4	4.6	±147	D.L.	±9.09
	L int	54.3	1.48	15.31	D.L.	5.83	0.13	4.97	9.95	D.L.	2.82	0.36	0.17	0.04	95.4	4.6	D.L.	D.L.	58.9
	(56)	±1.3	±0.16	±0.93		±0.57	±0.03	±1.99	±0.87	D.L.	±1.34	±0.04	±0.03	±0.01	95.4	4.6		D.L.	±6.5
	Ol	40.9	D.L.	D.L.	0.11	6.97	0.14	48.88	0.34	0.33	D.L.	D.L.	D.L.	-	98.5	-	488	2582	92.6
	(49)	±0.6			±0.25	±0.88	±0.04	±2.35	±0.35	±0.07							±106	±559	±1.2
	Cpx	48.3	D.L.	7.3	D.L.	6.1	0.15	14.9	20.13	0.06	0.44	D.L.	D.L.	-	99.0	-	D.L.	456	81.3
	(1)																		
P12	L bas	49.44	1.22	12.65	0.07	8.92	0.15	12.10	8.71	0.03	2.57	0.34	0.16				511		70.75
	(177)	±3.86	±0.11	±1.01	±0.01	±0.69	±0.03	±0.93	±0.67	±0.03	±0.21	±0.04	±0.03	-	96.29	3.7	±85	D.L.	±0.40
P20	L bas	49.60	1.22	13.01	0.07	8.33	0.15	11.03	8.48	0.04	2.27	0.27	0.15	0.02	94.54	5.5	493	D.L.	69.49
	(86)	±1.44	±0.15	±1.17	±0.02	±0.28	±0.04	±2.46	±1.17	±0.02	±0.20	±0.04	±0.03	±0.01	94.54	5.5	±161	D.L.	±5.0
	L int	57.28	1.06	13.69	0.06	5.78	0.10	3.79	9.06	D.L.	2.55	0.34	N.A.	N.A.	93.76	6.2	435	D.L.	51.13
	(11)	±2.75	±0.29	±2.12	±0.03	±0.77	±0.04	±0.91	±1.04	D.L.	±0.50	±0.04			93.76	6.2	±164	D.L.	±12.21
	Ol	41.44	D.L.	D.L.	0.09	7.01	0.11	49.81	0.13	0.44	D.L.	D.L.	D.L.	-	99.11	-	608	3455	92.70
	(27)	±0.44			±0.02	±0.68	±0.04	±0.71	±0.06	±0.07							±133	±588	±0.74
	Opx	58.32	D.L.	0.87	0.30	2.85	0.15	36.74	0.00	0.17	0.03	D.L.	D.L.	-	99.4	-	2018	1297	95.83
	(1)																		
P21	L bas	49.32	1.22	13.65	0.07	7.81	0.15	11.44	8.57		2.42	0.26	0.16				480		72.0
	(107)	±1.72	±0.06	±0.85	±0.01	±0.62	±0.04	±2.08	±0.79	D.L.	±0.18	±0.03	±0.02	-	94.98	5.0	±95	D.L.	±3.7
	L int	57.55	1.19	14.17	0.11	5.23	0.13	6.23	8.56		2.75	0.36					733		66.7
	(9)	±1.51	±0.09	±0.84	±0.03	±0.39	±0.03	±1.97	±0.50	D.L.	±0.16	±0.07	0.08	N.A.	96.3	3.7	±232	D.L.	±6.6
	Ol	41.48			0.08	5.42	0.11	49.76	0.14	0.33							535	2565	94.23
	(11)	±0.63	D.L.	D.L.	±0.02	±0.38	±0.03	±0.95	±0.02	±0.07	D.L.	D.L.	D.L.	-	99.0	-	±127	±553	±0.47
	Opx	57.5			0.41	2.97	0.12	34.5	0.82	0.14							2831	1135	95.3
	(9)	±1.95	D.L.	D.L.	±0.34	±0.46	±0.02	±3.9	±0.63	±0.02	D.L.	D.L.	D.L.	-	99.5	-	±2348	±164	±0.9
P26	L bas	49.94	1.26	13.35	0.07	7.32	0.16	10.30	9.21		2.66	0.29	0.16				495		70.68
	(85)	±7.78	±0.2	±2.2	±0.02	±1.13	±0.04	±1.72	±1.44	D.L.	±0.42	±0.05	±0.02	-	94.6	5.4	±158	D.L.	±5.48
	L int	54.43	1.36	14.35	0.09	6.64	0.15	5.25	11.17		2.97	0.33					600		58.2
	(9)	±0.78	±0.1	±0.64	±0.01	±0.32	±0.04	±0.87	±0.59	D.L.	±0.16	±0.03	0.13	-	96.8	3.2	±54	D.L.	±3.8
	Ol	41.00			0.06	8.35	0.16	48.00	0.25	0.21							421	1649	91.11
	(20)	±0.29	D.L.	D.L.	±0.01	±0.17	±0.04	±0.53	±0.08	±0.03	D.L.	D.L.	D.L.	-	99.16	-	±90	±255	±0.21
	Opx	57.1	0.10	0.97	0.35	4.83	0.13	33.53	1.5	0.11							2425	872	92.5
	(8)	±0.53	±0.05	±0.34	±0.10	±0.53	±0.03	±1.04	±0.3	±0.04	D.L.	D.L.	D.L.	-	99.7	-	±663	±289	±0.9

^a The experiment number, conditions are given in the Table 2. ^b The produced mineral and melt phases. Bracketed numbers correspond to the number of analyses. L_{bas}, and L_{int} are compositions of the basaltic and interstitial glasses correspondingly; Ol – olivine, Opx - orthopyroxene, Cpx - clinopyroxene. ^c All iron content is recalculated as iron total (FeO_{tot}). ^d Magnesium number [100Mg/(Mg+Fe²⁺)] in atoms per formula unit. In case of glasses, total iron is taken. D.L. corresponds to values below detection limit; N.A. – not analyzed.