

Supplementary material

Imprints of ancient recycled oceanic lithosphere in heterogeneous Indian Ocean mantle: Evidence from Petrogenesis of Carlsberg Ridge basalts from Northwest Indian Ocean

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Table S1: Details of studied samples from Carlsberg Ridge

Sr. No.	Expedition No.	Dredge No.	Rock type	Lattitude	Longitude	Depth
1	SK-114	D4	Basalt	03°48.829'N	63°06.511'E	3446m
2	SK-114	D9	Basalt	03°54.704'N	63°03.375'E	3012m
3	SK-154	D2	Basalt	03°48.910'N	63°21.031'E	4400m
4	SK-154	D3	Basalt	03°47.283'N	63°28.977'E	3600m
5	SK-154	D11	Basalt	03°06.964'N	65°44.150'E	2862m

Table S2 EPM data of analysed olivine grains from the studied Carlsberg Ridge Basalts

	SK 154/D11/1B									
SiO₂	40.60	40.69	40.76	40.45	39.61	41.31	40.37	40.49	39.91	40.71
TiO₂	0.01	-	0.04	-	0.01	0.02	-	0.04	0.06	0.02
Al₂O₃	0.05	0.03	0.04	0.05	0.04	0.47	0.05	0.05	0.01	0.06
FeO	12.96	12.96	12.99	14.57	14.49	14.81	13.97	14.33	14.45	12.95
MnO	0.24	0.16	0.24	0.19	0.21	0.23	0.23	0.29	0.19	0.18
MgO	44.88	45.02	45.17	43.01	45.59	41.23	44.00	43.74	43.33	45.68
CaO	0.30	0.29	0.31	0.28	0.32	0.30	0.29	0.27	0.29	0.32
<i>Formulae on the basis of 4 oxygens</i>										
Si	1.020	1.020	1.019	1.028	0.993	1.049	1.020	1.021	1.018	1.014
Ti	-	-	0.0008	-	-	-	-	0.0008	0.0012	-
Al	0.0015	0.0009	0.0012	0.0015	0.0012	0.0141	0.0015	0.0015	0.0003	0.0018
Fe²⁺	0.272	0.272	0.271	0.310	0.304	0.314	0.295	0.302	0.308	0.270
Mn	0.005	0.003	0.005	0.004	0.004	0.005	0.005	0.006	0.004	0.004
Mg	1.681	1.683	1.683	1.629	1.704	1.561	1.658	1.645	1.648	1.696
Ca	0.008	0.008	0.008	0.008	0.009	0.008	0.008	0.007	0.008	0.009
Fo	85.84	85.95	85.89	83.86	84.68	83.01	84.67	84.21	84.07	86.11
Fa	13.90	13.88	13.85	15.93	15.10	16.72	15.08	15.47	15.72	13.69

Table S2 Contd...

	SK 154/D11/2								SK 154/D11/5				
SiO₂	39.90	39.61	40.37	39.75	39.74	39.65	41.03	40.44	40.16	40.16	40.59	39.86	39.92
TiO₂	0.04	0.02	0.01	0.03	-	0.04	0.01	0.02	0.01	0.01	0.01	0.02	0.02
Al₂O₃	0.02	0.02	0.01	-	0.01	0.02	-	0.02	0.01	0.04	0.03	0.02	-
FeO	16.21	16.41	17.60	19.68	16.43	16.62	15.28	15.35	18.75	16.99	16.48	16.09	16.97
MnO	0.28	0.27	0.28	0.29	0.27	0.27	0.23	0.19	0.33	0.26	0.24	0.26	0.30
MgO	42.37	41.62	41.13	39.84	42.20	41.37	43.06	43.10	40.89	41.62	43.04	41.49	41.33
CaO	0.29	0.28	0.26	0.26	0.29	0.25	0.28	0.34	0.22	0.29	0.32	0.29	0.27
<i>Formulae on the basis of 4 oxygens</i>													
Si	1.018	1.020	1.028	1.022	1.017	1.022	1.031	1.023	1.021	1.024	1.019	1.027	1.024
Ti	0.0008	-	-	0.0006	-	0.0008	0.0002	0.0004	0.0002	0.0002	0.0002	0.0004	-
Al	0.0006	0.0006	0.0003	-	0.0003	0.0006	-	0.0006	0.0003	0.0012	0.0009	0.0006	-
Fe²⁺	0.346	0.353	0.375	0.423	0.351	0.358	0.321	0.325	0.399	0.362	0.346	0.347	0.364
Mn	0.006	0.006	0.006	0.006	0.006	0.006	0.005	0.004	0.007	0.006	0.005	0.006	0.007
Mg	1.611	1.598	1.562	1.526	1.609	1.590	1.613	1.625	1.550	1.582	1.610	1.593	1.581
Ca	0.008	0.008	0.007	0.007	0.008	0.007	0.008	0.009	0.006	0.008	0.009	0.008	0.007
Fo	82.08	81.64	80.39	78.05	81.83	81.36	83.19	83.18	79.25	81.13	82.11	81.89	81.01
Fa	17.61	18.06	19.30	21.63	17.87	18.33	16.56	16.62	20.38	18.58	17.63	17.81	18.66

Table S2 Contd...

	SK 154/DR11/6									SK 114/D4/3	
SiO₂	40.82	39.60	40.20	39.90	39.79	41.30	39.84	38.83	40.49	41.12	41.09
TiO₂	-	0.04	0.05	0.04	0.01	0.03	0.01	0.01	0.01	0.06	0.01
Al₂O₃	0.09	0.09	0.05	0.03	0.02	-	0.23	0.15	0.04	0.03	0.15
FeO	16.37	20.20	19.88	20.56	18.79	15.44	15.25	21.16	15.24	11.30	11.11
MnO	0.22	0.20	0.30	0.27	0.23	0.24	0.25	0.33	0.29	0.25	0.21
MgO	41.98	39.37	39.96	39.12	39.84	43.40	42.27	38.54	43.39	45.10	45.54
CaO	0.31	0.29	0.27	0.26	0.29	0.29	0.33	0.26	0.30	0.26	0.25
<i>Formulae on the basis of 4 oxygens</i>											
Si	1.032	1.021	1.024	1.025	1.027	1.030	1.021	1.013	1.020	1.033	1.028
Ti	-	0.0008	0.0010	0.0008	0.0002	0.0006	0.0002	0.0002	0.0002	0.0011	0.0002
Al	0.0027	0.0027	0.0015	0.0009	0.0006	-	0.0069	0.0046	0.0012	0.0009	0.0044
Fe²⁺	0.346	0.435	0.423	0.442	0.406	0.322	0.327	0.461	0.321	0.237	0.233
Mn	0.005	0.004	0.006	0.006	0.005	0.005	0.005	0.007	0.006	0.005	0.004
Mg	1.582	1.513	1.518	1.499	1.533	1.613	1.615	1.499	1.630	1.688	1.699
Ca	0.008	0.008	0.007	0.007	0.008	0.008	0.009	0.007	0.008	0.007	0.007
Fo	81.85	77.48	77.92	77.00	78.88	83.15	82.94	76.17	83.28	87.44	87.76
Fa	17.90	22.30	21.74	22.70	20.87	16.59	16.78	23.46	16.41	12.29	12.01

Table S2 Contd...

	SK 114/STN4/BB										SK 114/STN4/HPPB		
SiO₂	41.29	40.91	41.48	41.50	41.73	41.25	41.17	41.74	41.20	40.88	41.16	40.55	41.37
TiO₂	0.01	0.02	0.04	0.02	0.04	0.04	0.03	0.03	-	0.03	0.01	0.03	0.02
Al₂O₃	0.06	0.15	0.08	0.01	0.02	0.05	-	0.12	0.05	0.09	0.10	0.03	0.08
FeO	14.23	15.78	14.69	14.77	14.33	14.90	14.46	14.48	13.80	14.64	14.91	14.11	14.03
MnO	0.23	0.23	0.25	0.19	0.24	0.19	0.23	0.20	0.20	0.22	0.15	0.20	0.23
MgO	43.94	42.24	44.02	43.69	44.08	43.76	43.28	43.88	43.78	43.33	43.08	43.51	43.28
CaO	0.30	0.38	0.35	0.26	0.29	0.41	0.31	0.34	0.29	0.30	0.30	0.27	0.28
<i>Formulae on the basis of 4 oxygens</i>													
Si	1.030	1.033	1.029	1.033	1.034	1.028	1.034	1.034	1.033	1.028	1.033	1.026	1.038
Ti	0.0002	0.0004	0.0007	0.0004	0.0007	0.0007	0.0006	0.0006	-	0.0006	0.0002	0.0006	0.0004
Al	0.0018	0.0045	0.0023	0.0003	0.0006	0.0015	-	0.0035	0.0015	0.0027	0.0030	0.0009	0.0024
Fe²⁺	0.297	0.333	0.305	0.307	0.297	0.310	0.304	0.300	0.289	0.308	0.313	0.299	0.294
Mn	0.005	0.005	0.005	0.004	0.005	0.004	0.005	0.004	0.004	0.005	0.003	0.004	0.005
Mg	1.635	1.589	1.628	1.621	1.628	1.626	1.621	1.621	1.637	1.625	1.612	1.642	1.620
Ca	0.008	0.010	0.009	0.007	0.008	0.011	0.008	0.009	0.008	0.008	0.008	0.007	0.008
Fo	84.42	82.47	84.01	83.89	84.36	83.79	84.00	84.20	84.79	83.86	83.60	84.42	84.40
Fa	15.33	17.28	15.72	15.91	15.38	16.00	15.74	15.58	14.99	15.89	16.23	15.36	15.35

Table S3 EPM data of analysed pyroxene grains from the studied Carlsberg Ridge Basalts

	SK 154/D11/1		SK 154/D11/4			SK 154/D11/5						
	PH	GM	PH	PH	PH	PH	PH	PH	PH	GM	GM	GM
SiO₂	50.95	50.70	49.35	51.74	50.43	48.43	50.97	49.88	51.44	48.87	45.10	36.64
TiO₂	2.53	2.60	2.59	3.00	3.37	1.91	1.62	1.32	1.42	1.62	1.14	0.98
Al₂O₃	11.19	8.30	7.41	13.20	8.74	4.61	9.84	4.79	16.62	9.44	4.97	4.75
FeO	11.39	13.51	13.45	13.23	14.26	13.76	11.87	7.52	8.63	14.83	22.83	24.85
MnO	0.24	0.34	0.25	0.25	0.30	0.30	0.21	0.22	0.13	0.28	0.44	0.36
MgO	7.16	10.52	9.26	3.21	5.47	11.56	10.99	15.11	4.71	10.48	20.28	29.17
CaO	13.34	10.61	16.27	10.34	14.43	17.49	11.24	18.76	12.03	10.54	2.41	1.13
Na₂O	2.57	2.07	1.09	2.13	0.70	0.56	0.85	0.30	4.03	2.30	0.36	1.14
Total	99.37	98.65	99.67	97.10	97.70	98.62	97.59	97.90	99.01	98.36	97.53	99.02
<i>Formulae on the basis of 6 oxygens</i>												
T site												
Si	1.928	1.930	1.883	2.053	2.009	1.861	1.961	1.879	1.920	1.858	1.721	1.321
Al	0.072	0.070	0.117	-	-	0.139	0.039	0.121	0.080	0.142	0.224	0.202
M1 site												
Ti	0.072	0.074	0.074	0.090	0.101	0.055	0.047	0.037	0.040	0.046	0.033	0.027
Al	0.427	0.302	0.216	0.617	0.410	0.069	0.407	0.091	0.652	0.281	-	-
Fe³⁺	-	-	-	-	-	0.001	-	-	-	-	0.295	1.183
Fe²⁺	0.236	0.261	0.319	0.168	0.285	0.349	0.206	0.190	0.156	0.298	0.199	-
Mn												
Mg	0.265	0.362	0.391	0.073	0.195	0.525	0.340	0.681	0.152	0.375	0.529	0.370
M2 site												
Fe²⁺	0.124	0.169	0.111	0.271	0.190	0.091	0.176	0.047	0.113	0.174	0.235	-
Mn	0.008	0.011	0.008	0.008	0.010	0.010	0.007	0.007	0.004	0.009	0.014	0.011
Mg	0.139	0.235	0.136	0.117	0.130	0.137	0.290	0.167	0.110	0.219	0.625	1.197
Ca	0.541	0.433	0.665	0.440	0.616	0.720	0.463	0.757	0.481	0.429	0.099	0.044
Na	0.189	0.153	0.081	0.164	0.054	0.042	0.063	0.022	0.292	0.170	0.027	0.080
Wo	41.44	29.64	41.03	41.14	43.50	39.47	31.40	41.09	47.51	28.72	4.97	1.85
En	30.95	40.90	32.49	17.77	22.94	36.30	42.72	46.05	25.88	39.74	58.24	66.41
Fs	27.62	29.46	26.48	41.09	33.55	24.24	25.88	12.86	26.60	31.54	36.78	31.74

PH: Phenocryst; GM: Ground Mass

Table S3 Contd...

	SK 114/D4/3			SK 154/D11/6					
	PH	GM	GM	PH	PH	PH	PH	PH	GM
SiO₂	50.20	40.58	43.89	50.88	53.24	51.85	51.45	52.79	51.71
TiO₂	2.27	0.26	0.06	2.53	2.97	3.01	3.00	3.01	3.56
Al₂O₃	13.37	4.64	11.38	11.34	11.15	10.31	10.06	12.89	10.78
FeO	10.21	18.72	9.75	13.11	13.84	14.00	14.36	14.83	16.71
MnO	0.24	0.23	0.14	0.25	0.31	0.29	0.29	0.31	0.28
MgO	6.13	28.69	27.10	7.05	3.86	5.09	4.95	2.65	3.27
CaO	12.03	2.92	4.85	11.24	10.74	12.38	12.10	9.59	9.02
Na₂O	3.25	0.53	1.43	1.75	2.21	0.64	1.95	2.86	2.96
Total	97.70	96.57	98.60	98.15	98.32	97.57	98.16	98.93	98.29
<i>Formulae on the basis of 6 oxygens</i>									
T site									
Si	1.917	1.489	1.540	1.971	2.088	2.068	2.019	2.056	2.036
Al	0.083	0.201	0.460	0.029	-	-	-	-	-
M1 site									
Ti	0.065	0.007	0.002	0.074	0.088	0.090	0.089	0.088	0.105
Al	0.519		0.011	0.488	0.515	0.485	0.465	0.592	0.500
Fe³⁺	-	0.845	0.543	-	-	-	-	-	-
Fe²⁺	0.201	-	-	0.224	0.207	0.217	0.265	0.200	0.265
Mn									
Mg	0.215	0.554	0.543	0.214	0.103	0.141	0.163	0.064	0.093
M2 site									
Fe²⁺	0.125	-	-	0.201	0.247	0.250	0.206	0.283	0.285
Mn	0.008	0.007	0.004	0.008	0.010	0.010	0.010	0.010	0.009
Mg	0.134	1.015	0.875	0.193	0.123	0.162	0.127	0.090	0.099
Ca	0.492	0.115	0.182	0.466	0.451	0.529	0.509	0.400	0.381
Na	0.241	0.038	0.097	0.131	0.168	0.049	0.148	0.216	0.226
Wo	42.17	5.08	9.67	35.93	39.91	40.74	40.07	38.59	33.89
En	29.90	69.48	75.16	31.36	19.96	23.30	22.81	14.84	17.10
Fs	27.93	25.43	15.17	32.71	40.14	35.96	37.12	46.58	49.01

PH: Phenocryst; GM: Ground Mass

Table S3 Contd...

	SK 114/STN4/BB											
	PH	PH	PH	PH	GM	GM	GM	GM	GM	GM	GM	GM
SiO₂	51.30	52.49	52.90	59.94	41.44	48.50	41.04	45.29	49.07	41.59	47.48	47.94
TiO₂	2.94	2.65	2.88	2.38	0.77	0.61	0.06	0.09	0.10	0.42	1.72	0.06
Al₂O₃	8.40	9.29	9.20	15.54	2.54	10.36	2.53	12.55	19.44	5.48	10.03	16.79
FeO	15.62	13.79	13.80	9.76	18.46	12.78	19.03	14.73	7.17	21.21	17.58	7.84
MnO	0.25	0.29	0.20	0.20	0.30	0.26	0.30	0.25	0.11	0.33	0.23	0.10
MgO	4.39	4.22	4.10	1.03	28.13	19.37	35.70	18.32	12.67	25.82	9.30	14.11
CaO	14.44	14.07	13.09	8.26	5.15	6.79	1.25	4.91	7.83	3.46	9.85	7.97
Na₂O	2.19	2.35	3.60	2.27	0.69	1.60	0.38	1.67	3.05	0.80	1.69	2.61
Total	99.53	99.15	99.77	99.38	97.48	100.27	100.29	97.81	99.44	99.11	97.88	97.42
<i>Formulae on the basis of 6 oxygens</i>												
T site												
Si	1.993	2.036	2.020	2.324	1.514	1.743	1.421	1.670	1.763	1.511	1.841	1.758
Al	0.007	-	-	-	0.109	0.257	0.103	0.330	0.237	0.235	0.159	0.242
M1 site												
Ti	0.086	0.077	0.083	0.069	0.021	0.016	0.002	0.002	0.003	0.011	0.050	0.002
Al	0.378	0.425	0.414	0.710	-	0.181	-	0.215	0.586	-	0.299	0.484
Fe³⁺	-	-	-	-	0.869	0.155	1.077	0.229	-	0.778	-	-
Fe²⁺	0.357	0.299	0.316	-0.087	-	0.117	-	0.101	0.099	-	0.335	0.122
Mn												
Mg	0.179	0.163	0.167	-0.016	0.607	0.530	0.556	0.452	0.312	0.515	0.316	0.392
M2 site												
Fe²⁺	0.150	0.148	0.125	0.404	-	0.112	-	0.124	0.116	-	0.235	0.118
Mn	0.008	0.010	0.006	0.007	0.009	0.008	0.009	0.008	0.003	0.010	0.008	0.003
Mg	0.075	0.081	0.066	0.076	0.925	0.507	1.287	0.555	0.366	0.883	0.221	0.380
Ca	0.601	0.585	0.536	0.343	0.202	0.261	0.046	0.194	0.301	0.135	0.409	0.313
Na	0.165	0.177	0.267	0.171	0.049	0.111	0.026	0.119	0.212	0.056	0.127	0.186
Wo	44.10	45.82	44.27	47.71	8.77	15.53	1.90	11.72	25.21	6.19	26.98	23.63
En	18.66	19.12	19.29	8.28	66.68	61.65	75.52	60.84	56.77	64.22	35.44	58.22
Fs	37.24	35.05	36.43	44.01	24.55	22.82	22.58	27.44	18.02	29.59	37.58	18.15

PH: Phenocryst; GM: Ground Mass

Table S3 Contd...

	SK 114/STN4/HPPB					
	PH	PH	PH	GM	GM	GM
SiO₂	53.15	52.57	52.61	46.26	52.00	52.34
TiO₂	1.31	1.61	3.69	0.28	0.86	1.40
Al₂O₃	14.03	13.61	8.67	11.48	15.73	11.33
FeO	9.50	9.71	12.03	12.46	9.64	10.49
MnO	0.18	0.15	0.18	0.24	0.15	0.23
MgO	8.28	7.91	5.01	24.46	9.84	12.06
CaO	11.11	11.28	15.29	2.25	9.27	10.62
Na₂O	2.56	2.61	1.57	2.07	2.94	2.09
Total	100.12	99.45	99.05	99.50	100.43	100.56
<i>Formulae on the basis of 6 oxygens</i>						
T site						
Si	1.969	1.965	2.049	1.630	1.896	1.919
Al	0.031	0.035	-	0.370	0.104	0.081
M1 site						
Ti	0.036	0.045	0.108	0.007	0.024	0.039
Al	0.581	0.565	0.398	0.107	0.573	0.408
Fe³⁺	-	-	-	0.390	-	-
Fe²⁺	0.150	0.159	0.255	-	0.143	0.181
Mn						
Mg	0.232	0.231	0.190	0.505	0.261	0.372
M2 site						
Fe²⁺	0.145	0.144	0.136	-	0.151	0.140
Mn	0.006	0.005	0.006	0.007	0.005	0.007
Mg	0.225	0.210	0.101	0.780	0.274	0.287
Ca	0.441	0.452	0.638	0.085	0.362	0.417
Na	0.184	0.189	0.119	0.141	0.208	0.149
Wo	36.98	37.77	48.31	4.89	30.41	29.84
En	38.34	36.85	22.02	73.97	44.91	47.15
Fs	24.68	25.38	29.67	21.14	24.68	23.01

Ph: Phenocryst; GM: Ground Mass

Table S4 EPM data of analysed plagioclase grains from the studied Carlsberg Ridge Basalts

	SK 154/D11/1				SK 154/D11/4			SK 154/D11/5			
SiO₂	52.00	49.04	53.56	52.96	52.52	54.09	48.23	49.39	52.79	55.05	53.87
TiO₂	0.08	0.07	0.04	0.07	0.08	0.09	0.03	0.03	0.09	0.11	0.12
Al₂O₃	29.61	31.28	28.92	29.25	29.95	28.62	33.22	32.09	28.32	27.15	28.53
FeO	0.53	0.44	0.66	0.68	0.52	0.84	0.36	0.35	0.96	1.19	0.74
CaO	13.77	15.76	12.37	13.42	13.35	12.63	16.96	15.66	12.72	11.55	12.59
Na₂O	3.16	2.19	3.82	3.82	3.89	4.08	1.66	2.44	3.81	4.62	4.06
K₂O	0.04	0.02	0.05	0.03	0.06	0.02	0.01	-	0.05	0.06	-
Total											
<i>Formulae on the basis of 32 oxygens</i>											
Si	9.522	9.078	9.747	9.607	9.514	9.773	8.803	9.032	9.712	10.001	9.773
Ti	0.011	0.010	0.005	0.010	0.011	0.012	0.004	0.004	0.012	0.015	0.016
Al	6.390	6.824	6.202	6.253	6.394	6.094	7.146	6.916	6.140	5.813	6.099
Fe²⁺	0.081	0.068	0.100	0.103	0.079	0.127	0.055	0.054	0.148	0.181	0.112
Ca	2.701	3.125	2.412	2.608	2.591	2.445	3.316	3.068	2.507	2.248	2.447
Na	1.122	0.786	1.348	1.343	1.366	1.429	0.587	0.865	1.359	1.627	1.428
K	0.009	0.005	0.012	0.007	0.014	0.005	0.002	-	0.012	0.014	-
An	70.49	79.81	63.95	65.89	65.25	63.03	84.90	78.01	64.65	57.80	63.15
Ab	29.27	20.07	35.74	33.94	34.40	36.85	15.04	21.99	35.04	41.84	36.85
Or	0.24	0.12	0.31	0.18	0.35	0.12	0.06	-	0.30	0.36	-

Table S4 Contd...

	SK 154/D11/6				SK 114/D4/3			
SiO₂	49.27	51.23	51.42	52.97	49.86	48.74	46.72	53.59
TiO₂	0.03	0.04	0.08	0.09	0.01	0.04	0.03	0.13
Al₂O₃	31.18	29.90	29.85	29.13	30.38	31.58	33.25	27.54
FeO	0.37	0.42	0.43	0.52	0.30	0.29	0.42	0.95
CaO	15.41	13.69	13.70	12.81	14.49	15.55	16.84	11.58
Na₂O	2.45	3.30	3.50	3.79	2.72	2.16	1.58	4.61
K₂O	0.02	0.05	0.06	0.07	-	0.02	0.03	0.08
Total								
<i>Formulae on the basis of 32 oxygens</i>								
Si	9.118	9.442	9.446	9.661	9.284	9.048	8.682	9.868
Ti	0.004	0.006	0.011	0.012	0.001	0.006	0.004	0.018
Al	6.800	6.494	6.462	6.261	6.667	6.909	7.282	5.976
Fe²⁺	0.057	0.065	0.066	0.079	0.047	0.045	0.065	0.146
Ca	3.055	2.703	2.696	2.503	2.891	3.093	3.352	2.284
Na	0.879	1.179	1.246	1.340	0.982	0.777	0.569	1.646
K	0.005	0.012	0.014	0.016	-	0.005	0.007	0.019
An	77.56	69.42	68.14	64.85	74.64	79.81	85.33	57.85
Ab	22.32	30.28	31.50	34.72	25.36	20.06	14.49	41.68
Or	0.12	0.30	0.36	0.42	-	0.12	0.18	0.48

Table S4 Contd...

	SK 114/STN4/BB							
SiO₂	52.48	52.95	53.00	53.87	51.97	51.54	52.91	52.56
TiO₂	0.04	0.10	0.05	0.04	0.07	0.05	0.06	0.06
Al₂O₃	29.79	30.28	30.12	30.13	30.77	31.01	30.02	30.56
FeO	0.66	0.35	0.34	0.35	0.36	0.48	0.68	0.49
CaO	13.96	14.09	13.86	14.14	14.41	14.72	13.77	14.12
Na₂O	3.12	3.35	3.24	3.19	2.85	2.67	3.11	3.01
K₂O	0.05	0.07	0.02	0.03	0.02	0.05	0.11	0.02
Total								
<i>Formulae on the basis of 32 oxygens</i>								
Si	9.529	9.505	9.549	9.597	9.398	9.330	9.545	9.465
Ti	0.005	0.014	0.007	0.005	0.010	0.007	0.008	0.008
Al	6.374	6.406	6.396	6.326	6.558	6.616	6.382	6.486
Fe²⁺	0.100	0.053	0.051	0.052	0.054	0.073	0.103	0.074
Ca	2.715	2.710	2.675	2.699	2.792	2.855	2.661	2.724
Na	1.098	1.166	1.132	1.102	0.999	0.937	1.088	1.051
K	0.012	0.016	0.005	0.007	0.005	0.012	0.025	0.005
An	70.99	69.63	70.19	70.88	73.55	75.06	70.51	72.07
Ab	28.71	29.96	29.69	28.94	26.33	24.64	28.82	27.80
Or	0.30	0.41	0.12	0.18	0.12	0.30	0.67	0.12

Table S4 Contd...

	SK 114/STN4/HPPB				
SiO₂	54.45	49.66	49.81	50.62	50.47
TiO₂	0.08	0.04	0.02	0.07	0.03
Al₂O₃	28.21	32.24	32.32	31.45	32.08
FeO	0.61	0.25	0.30	0.31	0.27
CaO	12.28	16.24	15.75	15.35	15.56
Na₂O	3.95	1.94	1.99	2.29	2.11
K₂O	0.06	-	0.04	0.02	0.05
Total					
<i>Formulae on the basis of 32 oxygens</i>					
Si	9.876	9.036	9.063	9.210	9.142
Ti	0.011	0.005	0.003	0.010	0.004
Al	6.030	6.914	6.931	6.744	6.848
Fe²⁺	0.093	0.038	0.046	0.047	0.041
Ca	2.386	3.166	3.070	2.992	3.019
Na	1.389	0.684	0.702	0.808	0.741
K	0.014	-	0.009	0.005	0.012
An	62.98	82.23	81.19	78.65	80.05
Ab	36.66	17.77	18.56	21.23	19.64
Or	0.37	-	0.25	0.12	0.31