Earth Systems, Resources, and Sustainability, 2026, V(I), 1–17

Earth Systems, Resources, and Sustainability

Journal Homepage: https://www.sciltp.com/journals/esrs

SUPPLEMENTARY FILE
Geochemical Signature of PGE Mineralization in the Torappadi Ultramafic–Mafic Complex, Southern India

S. Velladurai [1,2,*], V. Kumaravel [2,*], J. Prabhakar [3], S. S. Chinnasamy [4], P. Devarajan [1] and Yogendra Bhogta [5]

[1] Geological Survey of India, State Unit: Tamil Nadu and Puducherry, Chennai 600032, India
[2] Department of Geology, Central University of Tamil Nadu, Thiruvarur 610005, India
[3] Geological Survey of India, North-Eastern Region, Shillong 793006, India
[4] Department of Earth Sciences, Indian Institute of Technology Bombay, Powai, Mumbai 400076, India
[5] Geological Survey of India, State Unit: Jharkhand, Ranchi 834004, India
* Correspondence: svdurai86@gmail.com (S.V.); vkumaravel@gmail.com (V.K.)

Table S1. Analytical Results of Oxide of Petrochemical samples (PCS).

SNO	Sample	SiO_2	Al_2O_3	CaO	MgO	Na_2O	K_2O	TiO_2	P_2O_5	MnO	Fe_2O_3	Mg#	Lithology	Mineralogy
1	PCS-1	51.54	4.00	3.99	30.78	0.44	0.10	0.10	0.02	0.15	7.47	90.44	Pyroxenite	(enstatite>chrome diopside)
3	PCS-6	49.52	12.84	12.39	17.15	0.96	0.12	0.11	0.03	0.11	5.65	87.46	Pyroxenite	(enstatite>chrome diopside)
4	PCS-8	52.96	2.98	11.47	22.37	0.41	0.13	0.15	0.02	0.21	8.49	85.82	Pyroxenite	(enstatite>chrome diopside)
5	PCS-10	52.31	4.19	9.75	25.21	0.43	0.12	0.09	0.02	0.14	6.42	90.02	Pyroxenite	(chrome diopside>enstatite)
6	PCS-11	51.52	3.92	5.03	28.68	0.30	<0.10	0.10	0.03	0.16	7.92	89.27	Pyroxenite	(enstatite>chrome diopside)
7	PCS-12	49.66	9.80	9.48	20.41	1.00	0.16	0.20	0.03	0.14	6.87	87.22	Pyroxenite	(enstatite>chrome diopside)
8	PCS-17	51.69	4.62	5.14	27.20	0.69	0.15	0.22	0.02	0.18	9.42	86.90	Pyroxenite	(enstatite>chrome diopside)
9	PCS-18	50.08	10.46	10.23	20.10	1.05	<0.10	0.17	0.04	0.14	6.97	86.88	Pyroxenite	(enstatite>chrome diopside)
10	PCS-19	52.69	4.30	11.02	22.22	0.66	<0.10	0.22	0.02	0.18	8.77	85.33	Pyroxenite	(enstatite≈chromediopside)
11	PCS-21	50.04	12.38	10.86	19.14	0.78	0.11	0.10	0.02	0.12	6.00	87.99	Pyroxenite	(enstatite≈chromediopside)
13	PCS-23	53.10	3.83	7.90	27.48	0.40	0.11	0.07	0.02	0.14	6.01	91.31	Pyroxenite	(chrome diopside>enstatite)
14	PCS-26	52.06	3.84	13.33	19.71	0.64	0.10	0.32	0.05	0.18	8.49	84.21	Pyroxenite	(enstatite>chrome diopside)
15	PCS-29	51.22	4.73	7.75	23.93	0.70	0.13	0.33	0.04	0.19	9.72	84.97	Pyroxenite	(enstatite>chrome diopside)
16	PCS-32	52.44	3.40	3.55	32.19	0.39	0.12	0.10	0.02	0.15	7.34	90.97	Diopsidite	(chrome diopside>enstatite)
18	PCS-35	51.71	3.48	12.39	22.92	0.50	0.10	0.14	0.02	0.19	6.86	88.47	Pyroxenite	(enstatite>chrome diopside)
2	PCS-3	48.81	19.00	13.63	10.91	1.11	<0.10	0.08	0.02	0.12	5.19	82.85	Anorthositic gabbro	(enstatite>chrome diopside)
17	PCS-33	49.72	16.76	11.99	12.02	1.65	<0.10	0.15	0.02	0.11	6.28	81.47	Gabbro	(enstatite>chrome diopside)
19	PCS-37	50.24	4.83	5.95	25.58	0.54	0.12	0.24	0.03	0.18	9.44	86.15	Gabbro	(enstatite>chrome diopside)
20	PCS-38	48.61	17.19	13.99	12.70	1.21	<0.10	0.13	0.04	0.11	4.50	86.64	Gabbro	(enstatite>chrome diopside)
21	PCS-39	50.40	9.42	9.50	21.08	0.58	0.12	0.11	0.02	0.14	7.08	87.24	Gabbro	(chrome diopside>enstatite)

Table S2. Analytical Results of Rare Earth Elements ofTorappadi Ultramafic-Mafic Rocks, Tiruvanamalai, Tamil Nadu.

SAMPLE NO.	LaN	CeN	PrN	NdN	SmN	EuN	GdN	TbN	DyN	HoN	ErN	TmN	YbN	LuN	LaN/YbN	TREE	Lithology
PCS_ 1	1.52	1.16	0.45	0.24	0.25	0.65	0.11	1.06	0.23	0.43	0.18	0.33	0.64	0.88	2.38	2.21	Pyroxenite
PCS_6	1.52	1.16	0.45	0.24	0.25	1.56	0.36	0.64	0.58	0.71	0.49	0.33	0.55	0.59	2.78	2.51	Pyroxenite
PCS_8	1.52	1.16	9.02	18.98	0.25	1.04	1.45	6.38	2.59	1.14	1.20	1.33	1.23	1.18	1.23	16.89	Pyroxenite
PCS_ 10	1.52	1.16	0.45	0.24	0.25	1.43	0.58	0.64	0.82	1.00	1.20	1.67	1.45	1.76	1.04	3.10	Pyroxenite
PCS_ 11	1.52	1.16	0.45	0.24	0.25	0.91	0.11	0.21	0.41	0.57	0.58	1.00	1.14	1.47	1.33	2.50	Pyroxenite
PCS_ 12	1.52	1.16	8.84	11.68	2.17	3.64	2.50	4.47	2.89	2.29	2.09	2.67	2.32	2.94	0.65	13.78	Pyroxenite
PCS_ 17	5.30	9.42	35.80	44.11	8.97	3.77	8.01	14.68	7.61	5.29	4.98	5.67	5.55	5.59	0.96	52.39	Pyroxenite
PCS_ 18	1.52	1.16	25.27	37.63	0.79	2.34	2.50	10.64	3.73	1.29	1.02	1.33	1.27	1.47	1.19	31.54	Pyroxenite
PCS_ 19	17.94	13.83	295.54	452.27	6.90	5.97	23.26	118.51	34.78	4.29	3.82	4.00	3.50	5.00	5.13	363.91	Pyroxenite
PCS_21	1.52	1.16	0.45	1.24	0.89	2.60	1.12	1.28	1.28	1.14	0.98	1.33	0.86	1.18	1.75	4.09	Pyroxenite
PCS_23	10.21	6.16	7.23	5.17	3.10	2.47	2.46	2.34	2.45	2.43	2.76	3.67	4.05	4.12	2.52	17.15	Pyroxenite
PCS_26	7.45	8.65	186.61	288.00	7.98	4.81	16.30	71.49	23.47	5.86	5.11	6.00	4.95	5.29	1.50	233.19	Pyroxenite
PCS_29	22.27	18.00	25.71	24.56	9.21	7.14	6.23	7.45	4.61	3.86	3.60	3.33	3.32	3.24	6.71	49.36	Pyroxenite
PCS_32	30.85	21.62	27.05	22.44	8.72	6.36	5.25	5.74	3.70	2.86	2.27	2.67	2.68	2.65	11.50	52.77	Pyroxenite
PCS_35	1.52	1.16	0.45	1.06	0.25	1.56	0.91	1.28	1.28	1.29	1.16	1.67	1.27	1.18	1.19	3.86	Pyroxenite
PCS_3	1.52	1.16	0.45	1.27	0.25	1.82	0.87	1.28	1.14	1.14	1.02	1.33	1.27	1.18	1.19	3.90	Anorthositic gabbro
PCS_33	1.52	1.16	0.45	1.62	0.25	2.21	0.69	1.28	1.05	1.00	0.76	1.00	0.64	0.88	2.38	3.84	Gabbro
PCS_37	1.52	1.16	0.45	0.63	0.54	2.08	1.12	1.49	1.49	1.71	1.82	2.00	1.95	2.35	0.78	4.21	Gabbro
PCS_38	1.52	1.16	0.45	0.24	0.25	1.56	0.11	0.43	0.47	0.57	0.40	0.33	0.36	0.29	4.17	2.31	Gabbro
PCS_39	1.52	1.16	0.45	0.24	0.25	1.17	0.11	0.21	0.44	0.71	0.40	0.33	0.32	0.59	4.76	2.27	Gabbro
PM	2.15	2.12	2.50	2.17	2.17	2.21	2.17	2.34	2.16	2.29	2.13	2.33	2.18	2.06	0.99	7.51	Primitive Mantle

Table S3. Analytical Results of Trace Elements and Platinum Group of Elements of Torappadi Ultramafic-Mafic Complex, Tiruvanamalai District, Tamil Nadu.

S.no	Sample No.	Cu (ppm)	Co (ppm)	Ni (ppm)	Cr (ppm)	Pt (ppb)	Pd (ppb)	Ir (ppb)	Ru (ppb)	Rh (ppb)	TPGE	Pd+Pt (ppb)	Cu/Pd	Ni/Cu	Pd/Ir	Mineralogy	Lithology
1	TW-1	25.0	81.0	894.0	4700.0	12.7	9.5	1.5	9.3	3.9	36.9	22.2	2638.6	35.8	6.3	enstatite>chrome diopside	Pyroxenite
2	TW-2	10.0	70.0	755.0	4100.0	6.5	5.3	1.5	7.2	2.5	23.0	11.9	1870.6	75.5	3.6	enstatite>chrome diopside	Pyroxenite
3	TW-3	13.0	74.0	559.0	4700.0	15.4	7.2	1.5	10.1	3.3	37.6	22.6	1798.3	43.0	4.8	enstatite>chrome diopside	Pyroxenite
4	TW-4	13.0	78.0	801.0	5600.0	12.0	6.7	1.5	8.7	4.1	33.0	18.7	1931.5	61.6	4.5	enstatite>chrome diopside	Pyroxenite
5	TW-5	8.0	74.0	746.0	4700.0	7.6	6.2	1.5	8.8	4.9	28.9	13.7	1297.0	93.3	4.1	enstatite>chrome diopside	Pyroxenite
6	TW-6	8.0	64.0	702.0	4400.0	9.1	5.9	1.5	8.0	1.5	25.9	14.9	1360.8	87.8	3.9	enstatite>chrome diopside	Pyroxenite
7	TW-7	9.0	73.0	754.0	5300.0	10.8	8.3	1.5	8.7	3.7	33.2	19.2	1080.9	83.8	5.6	enstatite>chrome diopside	Pyroxenite
8	TW-8	11.0	65.0	685.0	3700.0	6.4	6.5	1.5	6.9	1.5	22.8	12.9	1690.6	62.3	4.3	enstatite>chrome diopside	Pyroxenite
9	TW-9	10.0	70.0	728.0	4400.0	8.7	7.9	1.5	11.1	3.1	32.3	16.6	1259.6	72.8	5.3	enstatite>chrome diopside	Pyroxenite
10	TW-10	12.0	75.0	608.0	4800.0	30.0	6.9	1.5	8.4	1.5	48.3	36.9	1749.9	50.7	4.6	enstatite>chrome diopside	Pyroxenite
11	TW-11	11.0	63.0	515.0	4100.0	2.5	5.1	1.5	8.4	1.5	19.0	7.6	2153.4	46.8	3.4	enstatite>chrome diopside	Pyroxenite
12	TW-12	16.0	75.0	622.0	4400.0	2.5	6.4	1.5	7.2	1.5	19.0	8.9	2517.4	38.9	4.2	enstatite>chrome diopside	Pyroxenite
13	TW-13	6.0	79.0	662.0	4500.0	2.5	4.9	1.5	7.9	1.5	18.3	7.4	1229.9	110.3	3.3	enstatite>chrome diopside	Pyroxenite
14	TW-14	10.0	60.0	268.0	400.0	12.5	136.3	1.5	15.0	1.5	166.9	148.8	73.3	26.8	90.9	enstatite>chrome diopside	Pyroxenite
15	TW-15	295.0	90.0	196.0	400.0	2.5	7.9	1.5	5.7	1.5	19.1	10.4	37340.2	0.7	5.3	enstatite	Gabbro
16	TW-16	122.0	80.0	155.0	300.0	2.5	6.3	1.5	7.0	1.5	18.8	8.8	19485.7	1.3	4.2	enstatite	Gabbro
17	TW-17	33.0	86.0	590.0	3300.0	23.6	24.8	1.5	8.5	3.5	61.8	48.3	1332.8	17.9	16.5	enstatite	Gabbro
18	TW-18	36.0	88.0	547.0	4400.0	20.8	30.6	1.5	10.0	5.0	67.9	51.4	1174.8	15.2	20.4	enstatite	Gabbro
19	TW-19	30.0	84.0	570.0	3500.0	19.2	46.0	1.5	10.9	4.2	81.9	65.2	652.8	19.0	30.6	enstatite>chrome diopside	Pyroxenite
20	TW-20	40.0	83.0	492.0	3600.0	40.5	68.3	1.5	8.6	7.9	126.8	108.8	585.8	12.3	45.5	enstatite>chrome diopside	Pyroxenite
21	TW-21	46.0	76.0	464.0	4300.0	57.8	39.5	1.5	9.6	9.6	118.0	97.3	1163.7	10.1	26.4	enstatite>chrome diopside	Pyroxenite
22	TW-22	36.0	72.0	460.0	2500.0	80.0	82.5	1.5	7.1	4.0	175.2	162.6	436.3	12.8	55.0	enstatite>chrome diopside	Pyroxenite
23	TW-23	37.0	71.0	437.0	2600.0	64.2	70.6	1.5	10.2	4.4	150.9	134.8	524.4	11.8	47.0	enstatite>chrome diopside	Pyroxenite
24	TW-24	35.0	66.0	400.0	2700.0	137.2	59.4	1.5	7.5	1.5	207.1	196.6	589.5	11.4	39.6	enstatite>chrome diopside	Pyroxenite
25	TW-25	65.0	63.0	429.0	3000.0	67.8	33.8	1.5	9.8	1.5	114.4	101.6	1920.6	6.6	22.6	enstatite>chrome diopside	Pyroxenite
26	TW-26	77.0	83.0	543.0	2800.0	95.2	32.3	1.5	9.0	3.6	141.5	127.5	2385.8	7.1	21.5	enstatite>chrome diopside	Pyroxenite
27	TW-27	45.0	74.0	525.0	3200.0	35.2	23.7	1.5	7.1	2.9	70.3	58.9	1902.2	11.7	15.8	enstatite>chrome diopside	Pyroxenite
28	TW-28	41.0	60.0	319.0	2100.0	81.0	22.2	1.5	8.7	1.5	114.9	103.2	1848.4	7.8	14.8	enstatite	Gabbro
29	TW-29	17.0	55.0	350.0	2000.0	28.6	10.4	1.5	6.4	1.5	48.4	39.0	1640.6	20.6	6.9	enstatite	Gabbro
30	TW-31	262.0	99.0	700.0	3400.0	58.1	75.1	1.5	11.0	4.0	149.7	133.2	3490.7	2.7	50.0	enstatite>chrome diopside	Pyroxenite
31	TW-32	72.0	68.0	414.0	2000.0	9.8	2.5	1.5	6.2	1.5	21.5	12.3	28800.0	5.8	1.7	enstatite>chrome diopside	Pyroxenite
32	TW-33	36.0	73.0	536.0	2800.0	46.5	93.3	1.5	16.6	3.6	161.6	139.8	386.1	14.9	62.2	enstatite>chrome diopside	Pyroxenite
33	TW-34	52.0	65.0	370.0	2100.0	19.3	24.6	1.5	13.0	1.5	59.9	43.9	2112.0	7.1	16.4	enstatite	Gabbro
34	TW-35	112.0	56.0	300.0	1000.0	6.1	8.1	1.5	14.1	1.5	31.3	14.2	13900.8	2.7	5.4	enstatite	Gabbro
35	TW-36	169.0	61.0	320.0	1400.0	21.3	12.5	1.5	12.9	1.5	49.7	33.8	13539.8	1.9	8.3	enstatite	Gabbro
36	TW-37	13.0	86.0	311.0	3900.0	56.8	19.6	2.6	20.2	7.7	106.9	76.3	664.8	23.9	7.5	enstatite>chrome diopside	Pyroxenite
37	TW-38	10.0	79.0	628.0	4500.0	37.2	41.7	1.5	14.2	3.9	98.5	79.0	239.8	62.8	27.8	enstatite>chrome diopside	Pyroxenite

38	TW-39	72.0	78.0	526.0	2500.0	43.6	55.6	1.5	17.8	3.9	122.4	99.2	1294.9	7.3	37.1	enstatite	Ortho-pyroxenite
39	TW-40	12.0	92.0	653.0	3600.0	181.4	162.7	5.0	20.8	10.5	380.5	344.1	73.8	54.4	32.3	enstatite>chrome diopside	Pyroxenite
40	TW-41	20.0	75.0	491.0	4100.0	140.9	107.0	4.2	8.6	11.6	272.3	247.9	187.0	24.6	25.5	chrome diopside>enstatite	Diopsidite
41	TC1	52.0	51.0	240.0	900.0	26.4	7.4	1.5	18.2	1.5	55.0	33.8	7074.7	4.6	4.9	enstatite	Gabbro
42	TC2	70.0	50.0	307.0	1300.0	20.6	9.7	1.5	19.8	3.8	55.3	30.2	7240.8	4.4	6.4	enstatite	Gabbro
43	TC3	107.0	86.0	704.0	4500.0	19.5	4.2	1.5	19.2	1.5	45.9	23.7	25670.4	6.6	2.8	enstatite	Gabbro
44	TC4	53.0	61.0	400.0	1800.0	13.5	11.3	1.5	23.1	1.5	50.9	24.8	4696.1	7.5	7.5	enstatite	Ortho-pyroxenite
45	TC5	62.0	85.0	645.0	5000.0	31.2	19.9	1.5	24.8	3.2	80.5	51.1	3111.2	10.4	13.3	enstatite	Ortho-pyroxenite
46	TC6	77.0	81.0	663.0	3900.0	8.6	6.8	1.5	19.6	3.2	39.8	15.4	11333.9	8.6	4.5	enstatite	Ortho-pyroxenite
47	TC7	64.0	77.0	623.0	4800.0	18.6	23.4	1.5	19.2	3.6	66.3	42.0	2729.4	9.7	15.6	enstatite	Ortho-pyroxenite
48	TC8	15.0	73.0	501.0	2800.0	18.5	37.1	1.5	20.2	2.5	79.8	55.5	404.6	33.4	24.7	enstatite	Ortho-pyroxenite
49	TC9	10.0	66.0	397.0	2400.0	14.3	56.7	1.5	19.4	1.5	93.4	71.0	176.3	39.7	37.8	enstatite>chrome diopside	Pyroxenite
50	TC10	20.0	72.0	443.0	2500.0	17.9	17.1	1.5	18.9	1.5	56.9	35.0	1171.1	22.2	11.4	enstatite>chrome diopside	Pyroxenite
51	TC11	7.0	68.0	439.0	2500.0	39.4	28.8	1.5	16.7	1.5	87.9	68.2	243.3	62.7	19.2	enstatite>chrome diopside	Pyroxenite
52	TC12	40.0	64.0	420.0	1800.0	23.0	18.9	1.5	21.5	1.5	66.4	41.9	2113.9	10.5	12.6	enstatite>chrome diopside	Pyroxenite
53	TC13	38.0	63.0	420.0	1900.0	23.5	15.6	1.5	18.0	1.5	60.1	39.2	2431.6	11.1	10.4	enstatite	Gabbro
54	TC14	21.0	88.0	673.0	5200.0	16.6	16.8	1.5	20.1	2.8	57.8	33.4	1247.2	32.0	11.2	enstatite	Gabbro
55	TC15	21.0	89.0	703.0	4500.0	24.8	16.6	2.8	25.6	5.5	75.2	41.3	1266.3	33.5	6.0	enstatite	Gabbro
56	TC16	12.0	85.0	723.0	4800.0	18.1	16.2	1.5	27.4	3.8	66.9	34.2	741.7	60.3	10.8	enstatite	Gabbro
57	TC17	11.0	88.0	708.0	5100.0	41.0	22.0	1.5	23.1	4.9	92.5	63.0	499.5	64.4	14.7	enstatite	Gabbro
58	TC18	23.0	74.0	512.0	2700.0	45.6	22.5	1.5	22.2	4.2	96.0	68.2	1021.3	22.3	15.0	enstatite	Gabbro
59	TC19	27.0	77.0	498.0	3000.0	29.0	19.1	1.5	22.3	3.5	75.5	48.1	1415.7	18.4	12.7	enstatite>chrome diopside	Pyroxenite
60	TC20	5.0	68.0	408.0	2100.0	23.3	20.9	1.5	20.3	2.7	68.7	44.2	239.2	81.6	13.9	enstatite>chrome diopside	Pyroxenite
61	TC22	16.0	81.0	395.0	3000.0	37.5	18.8	1.5	21.4	2.7	82.0	56.4	848.9	24.7	12.6	enstatite	Ortho-pyroxenite
62	TC23	46.0	91.0	388.0	2600.0	8.6	5.8	1.5	2.7	1.5	20.0	14.4	7950.9	8.4	3.9	enstatite	Gabbro
63	TC24	23.0	83.0	615.0	3800.0	33.1	19.1	1.5	7.2	4.7	65.5	52.2	1207.2	26.7	12.7	enstatite	Gabbro
64	TC25	26.0	88.0	584.0	4600.0	40.2	59.3	1.5	5.8	4.5	111.3	99.6	438.2	22.5	39.6	enstatite	Gabbro
65	TC26	26.0	73.0	440.0	3100.0	54.2	41.3	1.5	7.1	5.6	109.7	95.6	629.4	16.9	27.5	chrome diopside>enstatite	Gabbro
66	TC27	24.0	81.0	556.0	4000.0	47.2	59.6	1.5	7.5	4.9	120.8	106.8	402.5	23.2	39.8	chrome diopside>enstatite	Pyroxenite
67	TC28	19.0	78.0	619.0	4400.0	48.9	96.1	1.5	6.9	3.3	156.6	145.0	197.7	32.6	64.1	Diopside	Diopsidite
68	TC29	27.0	83.0	788.0	3900.0	41.5	40.3	1.5	4.6	4.0	91.8	81.7	670.7	29.2	26.8	chrome diopside>enstatite	Pyroxenite
69	TC30	71.0	66.0	411.0	1300.0	10.4	7.9	1.5	1.5	1.5	22.8	18.3	8947.3	5.8	5.3	chrome diopside>enstatite	Pyroxenite

70	TC31	19.0	90.0	788.0	4800.0	23.8	29.0	1.5	5.2	4.7	64.2	52.9	654.6	41.5	19.4	chrome diopside>enstatite	Gabbro
71	TC32	16.0	83.0	724.0	5000.0	42.9	15.1	1.5	7.8	4.3	71.6	58.0	1060.7	45.3	10.1	chrome diopside>enstatite	Gabbro
72	TC33	29.0	82.0	823.0	5100.0	35.7	15.8	1.5	8.8	3.6	65.4	51.5	1839.3	28.4	10.5	enstatite≥chromediopside	Pyroxenite
73	TC34	33.0	84.0	712.0	4900.0	48.4	37.7	1.5	8.6	5.3	101.5	86.1	875.1	21.6	25.1	enstatite≥chromediopside	Pyroxenite
74	TC35	53.0	88.0	770.0	4700.0	32.7	19.2	1.5	8.4	5.7	67.6	52.0	2753.9	14.5	12.8	enstatite>chrome diopside	Pyroxenite
75	TC36	25.0	85.0	611.0	5100.0	33.9	71.7	1.5	5.8	4.5	117.4	105.6	348.5	24.4	47.8	enstatite	Gabbro
76	TC37	29.0	96.0	767.0	5200.0	20.9	24.5	1.5	5.6	3.8	56.2	45.4	1185.8	26.4	16.3	enstatite	Gabbro
77	TC38	46.0	73.0	523.0	4200.0	26.3	9.1	1.5	5.6	4.1	46.6	35.4	5058.0	11.4	6.1	enstatite	Gabbro
78	TC39	13.0	74.0	585.0	4800.0	52.6	15.0	1.5	9.8	4.3	83.3	67.6	865.3	45.0	10.0	chrome diopside>enstatite	Gabbro
79	TC40	33.0	76.0	599.0	4400.0	17.9	20.5	1.5	5.6	2.7	48.1	38.4	1606.4	18.2	13.7	enstatite	Ortho-pyroxenite
80	TC41	42.0	84.0	615.0	4000.0	21.5	15.4	1.5	5.1	4.4	47.9	36.9	2725.8	14.6	10.3	enstatite>chrome diopside	Pyroxenite
81	TC42	32.0	85.0	695.0	5200.0	40.5	45.5	1.5	7.3	5.0	99.8	86.0	703.3	21.7	30.3	chrome-diopside>enstatite	Pyroxenite
82	TC43	53.0	83.0	507.0	4300.0	23.2	25.5	1.5	5.4	4.2	59.9	48.7	2075.0	9.6	17.0	enstatite>chrome diopside	Pyroxenite
83	TC44	19.0	80.0	561.0	4100.0	28.0	41.6	1.5	4.5	3.3	78.9	69.6	456.9	29.5	27.7	chrome diopside>enstatite	Diopsidite
84	TC45	21.0	74.0	508.0	4800.0	30.1	21.1	1.5	4.7	5.1	62.5	51.2	995.5	24.2	14.1	chrome diopside>enstatite	Diopsidite
85	TC46	8.0	61.0	444.0	4400.0	54.6	20.0	1.5	7.6	9.3	93.0	74.7	399.1	55.5	13.4	chrome diopside>enstatite	Diopsidite
86	TC47	8.0	66.0	483.0	6000.0	27.4	11.3	1.5	5.8	8.7	54.7	38.7	706.7	60.4	7.5	chrome diopside>enstatite	Diopsidite
87	TC48	12.0	71.0	476.0	5700.0	35.6	13.4	1.5	5.6	8.4	64.5	49.0	896.2	39.7	8.9	chrome	Diopsidite
88	TC49	8.0	81.0	613.0	5300.0	4.7	22.0	1.5	6.5	3.8	38.5	26.7	364.1	76.6	14.6	chrome diopside ≥ enstatite	Pyroxenite
89	TC50	285.0	106.0	643.0	2700.0	10.4	33.3	1.5	5.1	4.5	54.8	43.7	8557.3	2.3	22.2	enstatite	Ortho-pyroxenite
90	TC51	8.0	72.0	832.0	4700.0	8.1	11.0	1.5	5.6	3.8	30.0	19.1	726.1	104.0	7.3	enstatite	Gabbro
91	TC52	8.0	81.0	860.0	8500.0	18.5	21.4	3.7	11.8	8.3	63.8	39.9	373.1	107.5	5.8	enstatite	Gabbro
92	TE1	16.0	93.0	793.0	4300.0	30.6	22.3	1.5	7.2	4.5	66.1	52.9	716.6	49.6	14.9	enstatite>chrome diopside	Gabbro
93	TE2	16.0	75.0	543.0	2400.0	24.0	19.9	1.5	3.2	2.8	51.4	43.9	803.9	33.9	13.3	enstatite	Ortho-pyroxenite
94	TE3	41.0	77.0	549.0	2500.0	59.0	24.6	1.5	5.8	4.3	95.2	83.6	1667.4	13.4	16.4	enstatite>chrome diopside	Pyroxenite
95	TE4	35.0	83.0	804.0	4800.0	30.6	20.2	1.5	2.7	2.6	57.6	50.8	1733.5	23.0	13.5	enstatite>chrome diopside	Pyroxenite
96	TE5	65.0	65.0	250.0	500.0	2.5	7.1	1.5	1.5	1.5	14.1	9.6	9202.9	3.8	4.7	enstatite	Gabbro
97	TE6	26.0	58.0	285.0	1200.0	16.6	13.3	1.5	1.5	1.5	34.5	30.0	1947.8	11.0	8.9	enstatite	Gabbro
98	TE7	34.0	84.0	568.0	2700.0	34.9	22.7	1.5	3.9	3.7	66.6	57.5	1500.7	16.7	15.1	enstatite	Gabbro
99	TE8	59.0	52.0	328.0	1200.0	5.4	8.3	1.5	1.5	1.5	18.2	13.7	7119.6	5.6	5.5	enstatite	Gabbro
100	TE9	120.0	54.0	337.0	1200.0	6.3	11.6	1.5	1.5	1.5	22.4	17.9	10373.4	2.8	7.7	enstatite	Gabbro
101	TE10	13.0	74.0	600.0	5400.0	7.4	9.9	1.5	8.3	4.0	31.1	17.3	1309.1	46.2	6.6	chrome diopside>enstatite	Pyroxenite

102	TE11	46.0	82.0	572.0	3300.0	6.1	8.5	1.5	1.5	1.5	19.1	14.6	5410.9	12.4	5.7	enstatite>chrome diopside	Pyroxenite
103	TE12	32.0	77.0	537.0	3000.0	10.7	9.7	1.5	3.3	3.5	28.7	20.4	3293.5	16.8	6.5	enstatite>chrome diopside	Pyroxenite
104	TE13	40.0	85.0	587.0	3400.0	8.8	10.8	1.5	2.6	1.5	25.2	19.6	3701.4	14.7	7.2	enstatite>chrome diopside	Pyroxenite
105	TE14	28.0	94.0	718.0	3600.0	12.8	16.3	1.5	4.7	4.6	39.8	29.1	1720.3	25.6	10.9	enstatite>chrome diopside	Pyroxenite
106	TE15	42.0	52.0	387.0	1800.0	46.5	10.8	1.5	5.0	1.5	65.2	57.2	3901.0	9.2	7.2	enstatite>chrome diopside	Pyroxenite
107	TE16	33.0	81.0	741.0	3400.0	32.3	89.0	1.5	3.9	3.7	130.5	121.4	370.7	22.5	59.3	enstatite>chrome diopside	Pyroxenite
108	TE17	26.0	76.0	794.0	4400.0	8.0	8.1	1.5	4.5	2.6	24.7	16.1	3212.1	30.5	5.4	enstatite>chrome diopside	Pyroxenite
109	TE18	25.0	82.0	921.0	3900.0	40.8	37.7	2.5	10.9	8.9	100.8	78.5	663.1	36.8	14.8	enstatite>chrome diopside	Pyroxenite
110	TE19	29.0	82.0	851.0	3900.0	65.8	74.5	1.5	6.2	5.6	153.6	140.2	389.5	29.3	49.6	enstatite>chrome diopside	Pyroxenite
111	TE20	29.0	80.0	906.0	4300.0	32.1	31.9	3.9	7.5	6.7	82.1	64.0	909.6	31.2	8.2	enstatite>chrome diopside	Pyroxenite
112	TE21	28.0	45.0	314.0	1300.0	14.1	11.1	1.5	1.5	2.6	30.7	25.1	2530.6	11.2	7.4	enstatite	Gabbro
113	TE22	20.0	49.0	321.0	1600.0	35.6	14.6	1.5	3.5	3.5	58.7	50.2	1368.3	16.1	9.7	enstatite	Gabbro
114	TE23	53.0	46.0	369.0	1500.0	26.3	17.1	1.5	2.8	2.7	50.4	43.4	3093.8	7.0	11.4	enstatite	Gabbro
115	TE24	9.0	57.0	411.0	2100.0	43.3	38.3	1.5	5.0	4.2	92.2	81.6	235.0	45.7	25.5	enstatite	Gabbro
116	TE25	14.0	69.0	563.0	3800.0	78.3	36.4	4.1	8.4	5.8	133.0	114.7	385.0	40.2	8.9	enstatite	orthopyroxenite
117	TE26	25.0	79.0	708.0	3400.0	41.7	201.9	1.5	4.1	3.8	253.1	243.7	123.8	28.3	134.6	enstatite>chrome diopside	Pyroxenite
118	TE27	17.0	74.0	611.0	4300.0	82.5	104.8	1.5	6.2	5.8	200.9	187.3	162.2	35.9	69.9	enstatite ≥ chrome diopside	Pyroxenite
119	TE28	29.0	71.0	694.0	3800.0	32.3	24.4	4.6	8.7	6.5	76.4	56.7	1190.8	23.9	5.2	enstatite ≥ chrome diopside	Pyroxenite
120	TE29	17.0	74.0	666.0	3800.0	45.4	28.6	2.9	10.9	6.8	94.5	74.0	595.2	39.2	9.9	enstatite ≥ chrome diopside	Pyroxenite
121	TE30	14.0	65.0	665.0	4400.0	62.5	39.7	3.0	9.6	6.4	121.3	102.2	352.9	47.5	13.1	enstatite ≥ chrome diopside	Pyroxenite
122	TE31	17.0	87.0	707.0	3600.0	45.6	162.0	1.5	4.8	4.3	218.3	207.7	104.9	41.6	108.0	enstatite ≥ chrome diopside	Pyroxenite
123	TE32	6.0	61.0	428.0	3000.0	23.9	25.9	1.5	5.3	4.3	60.8	49.7	232.0	71.3	17.2	enstatite>chrome diopside	Pyroxenite
124	TE33	16.0	71.0	664.0	4000.0	52.4	27.1	4.4	11.8	7.6	103.3	79.6	589.9	41.5	6.2	enstatite>chrome diopside	Pyroxenite
125	TE34	39.0	72.0	630.0	5600.0	140.3	136.8	3.8	9.6	10.2	300.6	277.1	285.1	16.2	36.2	enstatite>chrome diopside	Pyroxenite
126	TE35	56.0	61.0	343.0	1100.0	34.3	30.6	1.5	3.1	3.5	73.0	64.8	1832.8	6.1	20.4	enstatite	Gabbro
127	ME1	15.0	52.0	240.0	500.0	13.2	13.1	1.5	1.5	2.6	31.8	26.3	1146.7	16.0	8.7	enstatite	Ortho-pyroxenite
128	ME3	17.0	89.0	680.0	4000.0	11.5	17.7	3.1	6.4	4.5	43.2	29.2	963.0	40.0	5.6	enstatite>chrome diopside	Pyroxenite
129	ME4	86.0	83.0	1044.0	6400.0	45.5	45.2	3.4	9.8	7.0	110.9	90.6	1904.6	12.1	13.1	enstatite>chrome diopside	Pyroxenite
130	ME5	94.0	87.0	670.0	3900.0	181.7	88.9	1.5	6.6	5.8	284.6	270.6	1056.8	7.1	59.3	enstatite>chrome diopside	Pyroxenite
131	ME6	246.0	83.0	670.0	1500.0	6.3	10.8	1.5	2.6	2.7	23.9	17.1	22763.4	2.7	7.2	enstatite	Ortho-pyroxenite
132	ME7	8.0	77.0	700.0	4600.0	25.5	16.3	4.5	11.5	8.2	65.9	41.7	492.3	87.5	3.6	enstatite	Gabbro
133	MS1	1.6	96.0	810.0	2500.0	14.3	16.1	1.5	3.1	3.3	38.3	30.4	97.1	519.2	10.7	enstatite	Gabbro
134	MS2	9.0	74.0	670.0	4600.0	19.0	21.4	1.5	3.9	3.7	49.4	40.3	421.4	74.4	14.2	enstatite>chrome diopside	Pyroxenite
135	MS3	250.0	105.0	720.0	4900.0	121.2	53.4	3.8	9.0	6.3	193.6	174.5	4685.6	2.9	14.0	enstatite>chrome diopside	Pyroxenite
136	MS4	602.0	120.0	720.0	2100.0	17.9	31.2	1.5	3.3	3.8	57.7	49.2	19280.2	1.2	20.8	enstatite>chrome diopside	Pyroxenite
137	SCT1	17.0	69.0	620.0	4800.0	19.8	16.2	1.5	4.0	5.4	46.9	36.0	1050.9	36.5	10.8	chrome diopside>enstatite	Pyroxenite
138	SCT2	111.0	95.0	1090.0	2500.0	56.8	8.2	1.5	8.4	3.1	78.1	65.0	13490.6	9.8	5.5	chrome diopside>enstatite	Pyroxenite
139	SCT3	5.0	65.0	660.0	3500.0	5.2	11.2	1.5	3.5	1.5	22.9	16.4	447.5	132.0	7.4	chrome diopside>enstatite	Pyroxenite
140	SCT4	9.0	76.0	640.0	4000.0	22.0	14.8	1.5	3.4	4.2	45.9	36.8	609.5	71.1	9.8	chrome diopside>enstatite	Pyroxenite

141	SCT5	11.0	97.0	780.0	4900.0	27.6	37.3	3.1	8.6	6.4	83.0	64.9	294.8	70.9	12.0	chrome diopside>enstatite	Pyroxenite
142	SCT6	15.0	59.0	290.0	1500.0	28.3	23.6	1.5	4.4	3.6	61.4	51.8	636.3	19.3	15.7	enstatite	Gabbro
143	SCT7	8.0	63.0	340.0	1200.0	32.1	55.3	1.5	2.6	3.8	95.3	87.5	144.6	42.5	36.9	enstatite>chrome diopside	Pyroxenite
144	BRS- 147	5.0	69.0	567.0	2900.0	2.5	9.2	1.5	1.5	1.5	16.2	11.7	542.9	113.4	6.1	chrome diopside>enstatite	Pyroxenite
145	BRS- 148	5.0	76.0	770.0	2300.0	5.4	11.2	1.5	4.1	1.5	23.7	16.6	447.0	154.0	7.5	chrome diopside>enstatite	Pyroxenite

Table S4. (A) Chemical composition of orthopyroxene in pyroxenite and diopsidite from Torappadi Ultramafic-Mafic Complex. (B) Chemical composition of clinopyroxene in pyroxenite and diopsidite from Torappadi Ultramafic-Mafic Complex.

(A)

Sample No	L-231	SCT-1	SCT-1	L-98	L-98	L-98	L-99	L-99	L-99	L-99	L-99	ORM-1	ORM-1
SiO2	55.54	55.24	55.16	56.98	56.85	55.36	55.23	54.67	54.51	56.72	56.57	54.89	55.37
TiO2	0	0.11	0.09	0.08	0.02	0.01	0	0.03	0	0.02	0.05	0	0
Al2O3	1.04	2.23	2.21	2.26	2.27	2.38	1.62	1.89	1.8	4.25	1.65	1.4	1.3
Cr2O3	0.28	0.5	0.6	0.57	0.45	0.45	0.24	0.29	0.28	0.35	0.31	0.18	0.25
FeO	8.76	8.63	8.72	9.96	10.18	10.17	6.52	6.79	6.75	7.12	6.2	13.43	13.11
MnO	0.19	0.12	0.2	0.24	0.17	0.17	0.19	0.17	0.14	0.18	0.14	0.15	0.2
MgO	33.71	32.48	32.69	30.99	31.28	31.57	32.74	31.74	31.48	30.28	32.43	29.4	29.15
CaO	0.35	0.28	0.36	0.68	0.41	0.46	0.29	0.26	0.22	0.12	0.23	0.39	0.46
Na2O	0	0.03	0	0.01	0.04	0	0	0	0	0	0	0.01	0.01
K2O	0.01	0.02	0.01	0.03	0	0	0	0	0	0	0	0	0.01
Total	99.88	99.63	100.04	101.79	101.65	100.57	96.81	95.84	95.17	99.05	97.58	99.84	99.87
Number of metal atoms on 6 oxygen basis													
Si	1.94	1.94	1.93	1.96	1.96	1.93	1.97	1.97	1.98	1.97	1.99	1.96	1.97
Ti	0	0	0	0	0	0	0	0	0	0	0	0	0
Al	0.04	0.09	0.09	0.09	0.09	0.1	0.07	0.08	0.08	0.17	0.07	0.06	0.05
Cr	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0	0.01
Fe	0.26	0.25	0.25	0.29	0.29	0.3	0.19	0.2	0.2	0.21	0.18	0.4	0.39
Mn	0.01	0	0.01	0.01	0	0	0.01	0.01	0	0.01	0	0	0.01
Mg	1.76	1.7	1.7	1.59	1.61	1.64	1.74	1.7	1.7	1.57	1.7	1.56	1.55
Ca	0.01	0.01	0.01	0.02	0.01	0.02	0.01	0.01	0.01	0	0.01	0.01	0.02
Na	0	0	0	0	0	0	0	0	0	0	0	0	0
K	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4.03	4.01	4.02	3.98	3.99	4.01	3.99	3.98	3.98	3.94	3.97	4.01	4

cation													
AlIV	0.06	0.06	0.07	0.04	0.04	0.07	0.03	0.03	0.02	0.03	0.01	0.04	0.03
AlVI	-0.01	0.03	0.02	0.05	0.05	0.03	0.04	0.05	0.05	0.14	0.06	0.02	0.03
Al6/Al4	-0.22	0.42	0.27	1.44	1.32	0.51	1.18	1.71	2.34	4.76	7.88	0.46	0.99
Al6/AlT	-0.29	0.3	0.21	0.59	0.57	0.34	0.54	0.63	0.7	0.83	0.89	0.31	0.5
XAl	0.02	0.05	0.05	0.05	0.05	0.05	0.03	0.04	0.04	0.09	0.03	0.03	0.03
Fe3+	0	0	0	0.02	0.01	0	0.01	0.02	0.02	0.06	0.03	0	0
Fe2+	0.26	0.25	0.25	0.27	0.28	0.3	0.19	0.19	0.19	0.14	0.15	0.4	0.39
Fe3+/Fe2+	0	0	0	0.07	0.04	0	0.03	0.08	0.1	0.43	0.21	0	0.01
Fe3+/FeT	0	0	0	0.06	0.04	0	0.03	0.08	0.09	0.3	0.18	0	0.01
XMg	0.87	0.87	0.87	0.85	0.85	0.85	0.9	0.89	0.89	0.88	0.9	0.8	0.8
Fs	0.13	0.13	0.13	0.15	0.15	0.15	0.1	0.11	0.11	0.12	0.1	0.2	0.2
En	0.87	0.86	0.86	0.84	0.84	0.84	0.89	0.89	0.89	0.88	0.9	0.79	0.79
Wo	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0	0	0	0.01	0.01
Jh	0	0	0	0	0	0	0	0	0	0	0	0	0
XMn	0	0	0	0	0	0	0	0	0	0	0	0	0
Pyroxenite (SCT-1, L-98, L-99, L-99, ORM-1, L-194B, L-188); Diopsidite (L-231, L-228)													
Sample No	**L-228**	**L-228**	**L-228**	**L-194B**	**L-194B**	**L-194B**	**L-188**	**L-188**	**L-188**				
SiO2	54.77	55.49	55.56	57.79	56.44	56.53	57.15	56.83	57.59				
TiO2	0	0	0	0.01	0	0	0	0.06	0				
Al2O3	1.02	1.02	0.89	1.8	1.9	2	1.88	1.68	1.86				
Cr2O3	0.26	0.2	0.21	0.53	0.6	0.53	0.23	0.29	0.38				
FeO	7.9	7.93	7.75	7.51	7.59	7.55	8.49	8.27	8.13				
MnO	0.3	0.24	0.25	0.21	0.19	0.18	0.31	0.29	0.17				
MgO	33.53	32.86	33.2	33.62	34.02	33.12	33.13	33.31	33.35				
CaO	0.36	0.49	0.39	0.37	0.31	0.23	0.28	0.13	0.24				
Na2O	0.03	0	0.01	0.01	0.02	0	0	0.03	0				
K2O	0	0	0	0	0	0.02	0	0	0				
Total	98.16	98.23	98.26	101.85	101.06	100.15	101.46	100.88	101.72				
Si	1.95	1.97	1.97	1.97	1.94	1.96	1.96	1.96	1.97				
Ti	0	0	0	0	0	0	0	0	0				
Al	0.04	0.04	0.04	0.07	0.08	0.08	0.08	0.07	0.07				
Cr	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01				
Fe	0.23	0.23	0.23	0.21	0.22	0.22	0.24	0.24	0.23				
Mn	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0				
Mg	1.78	1.74	1.75	1.7	1.74	1.71	1.69	1.71	1.7				

Ca	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0	0.01
Na	0	0	0	0	0	0	0	0	0
K	0	0	0	0	0	0	0	0	0
Total cation	4.03	4.01	4.01	3.99	4.01	4	4	4	3.99
AlIV	0.05	0.03	0.03	0.03	0.06	0.04	0.04	0.04	0.03
AlVI	-0.01	0.01	0	0.04	0.02	0.04	0.04	0.03	0.04
Al6/Al4	-0.22	0.25	0.1	1.13	0.29	0.9	0.91	0.68	1.16
Al6/AlT	-0.28	0.2	0.09	0.53	0.23	0.47	0.48	0.4	0.54
XAl	0.02	0.02	0.02	0.04	0.04	0.04	0.04	0.03	0.04
Fe3+	0	0	0	0.01	0	0.01	0	0	0.01
Fe2+	0.23	0.23	0.23	0.2	0.22	0.21	0.24	0.24	0.22
Fe3+/Fe2+	0	0	0	0.04	0	0.03	0.01	0	0.03
Fe3+/FeT	0	0	0	0.04	0	0.03	0.01	0	0.03
XMg	0.88	0.88	0.88	0.89	0.89	0.89	0.87	0.88	0.88
Fs	0.12	0.12	0.11	0.11	0.11	0.11	0.13	0.12	0.12
En	0.88	0.87	0.88	0.88	0.88	0.88	0.87	0.87	0.88
Wo	0.01	0.01	0.01	0.01	0.01	0	0.01	0	0
Jh	0	0	0	0	0	0	0	0	0
XMn	0	0	0	0	0	0	0	0	0

(B)

Sample No	**L-231**	**L-231**	**SCT-1**	**SCT-1**	**SCT-1**	**SCT-1**	**SCT-1**	**SCT-1**	**L-98**	**ORM-1**	**ORM-1**	**L-228**
SiO2	52.986	53.293	52.505	52.343	52.611	52.544	51.435	51.177	54.312	54.022	53.515	53.324
TiO2	0	0	0.035	0.087	0.115	0.038	0.077	0.1	0.041	0.07	0.124	0
Al2O3	1.342	1.263	2.358	2.376	2.468	2.228	2.256	2.277	2.588	2.265	2.148	1.095
Cr2O3	0.56	0.447	0.767	0.776	0.844	0.784	0.847	0.649	0.673	0.46	0.422	0.276
FeO	2.399	2.636	2.883	2.933	2.783	2.683	2.287	2.464	3.39	4.308	4.065	2.505
MnO	0.07	0.134	0.043	0.124	0.047	0.121	0	0	0.047	0.091	0.183	0.102
MgO	17.396	16.891	16.852	16.841	16.797	16.78	16.122	16.255	16.368	15.41	15.432	17.202
CaO	23.795	23.977	23.239	23.679	23.913	23.955	22.404	22.615	24.052	24.087	24.253	24.978
Na2O	0.316	0.31	0.293	0.284	0.299	0.311	0.286	0.308	0.322	0.461	0.421	0.087
K2O	0.006	0	0.01	0	0	0.017	0	0.022	0	0.013	0.009	0
Total	98.87	98.951	98.985	99.443	99.877	99.461	95.714	95.867	101.793	101.187	100.572	99.569
Number of metal atoms on 6 oxygen basis												
Si	1.953	1.964	1.934	1.924	1.924	1.93	1.951	1.942	1.947	1.957	1.952	1.956
Ti	0	0	0.001	0.002	0.003	0.001	0.002	0.003	0.001	0.002	0.003	0

Al	0.058	0.055	0.102	0.103	0.106	0.096	0.101	0.102	0.109	0.097	0.092	0.047
Cr	0.016	0.013	0.022	0.023	0.024	0.023	0.025	0.019	0.019	0.013	0.012	0.008
Fe	0.074	0.081	0.089	0.09	0.085	0.082	0.073	0.078	0.102	0.131	0.124	0.077
Mn	0.002	0.004	0.001	0.004	0.001	0.004	0	0	0.001	0.003	0.006	0.003
Mg	0.955	0.928	0.925	0.923	0.915	0.919	0.911	0.919	0.874	0.832	0.839	0.94
Ca	0.94	0.947	0.917	0.933	0.937	0.943	0.91	0.919	0.924	0.935	0.948	0.982
Na	0.023	0.022	0.021	0.02	0.021	0.022	0.021	0.023	0.022	0.032	0.03	0.006
K	0	0	0	0	0	0.001	0	0.001	0	0.001	0	0
Total cation	4.021	4.013	4.013	4.021	4.018	4.021	3.994	4.007	3.999	4.002	4.007	4.02
AlIV	0.047	0.036	0.066	0.076	0.076	0.07	0.049	0.058	0.053	0.043	0.048	0.044
AlVI	0.011	0.019	0.036	0.027	0.03	0.026	0.052	0.044	0.056	0.054	0.045	0.003
Al6/Al4	0.233	0.512	0.55	0.352	0.399	0.378	1.047	0.751	1.045	1.26	0.936	0.074
Al6/AlT	0.189	0.339	0.355	0.261	0.285	0.274	0.512	0.429	0.511	0.558	0.483	0.069
XAl	0.029	0.027	0.051	0.051	0.053	0.048	0.05	0.051	0.055	0.048	0.046	0.024
Fe3+	0	0	0	0	0	0	0.006	0	0.001	0	0	0
Fe2+	0.074	0.081	0.089	0.09	0.085	0.082	0.067	0.078	0.101	0.131	0.124	0.077
Fe3+/Fe2+	0	0	0	0	0	0	0.083	0	0.006	0	0	0
Fe3+/FeT	0	0	0	0	0	0	0.076	0	0.006	0	0	0
XMg	0.928	0.919	0.912	0.911	0.915	0.918	0.926	0.922	0.896	0.864	0.871	0.924
Fs	0.037	0.041	0.045	0.046	0.043	0.042	0.038	0.04	0.053	0.068	0.064	0.038
En	0.48	0.469	0.474	0.469	0.467	0.467	0.476	0.474	0.455	0.431	0.432	0.469
Wo	0.472	0.479	0.47	0.474	0.478	0.48	0.475	0.474	0.481	0.484	0.488	0.49
Jh	0.001	0.002	0.001	0.002	0.001	0.002	0	0	0.001	0.001	0.003	0.002
XMn	0.001	0.002	0.001	0.002	0.001	0.002	0	0	0.001	0.001	0.003	0.002
	Pyroxenite (SCT-1, L-98, ORM-1, L-194B); Diopsidite (L-231, L-228, L-215. L-1062)											
Sample No	**L-228**	**L-228**	**L-215**	**L-215**	**L-215**	**L-215**	**L-215**	**L-1062**	**L-1062**	**L-194B**	**L-194B**	**L-194B**
SiO2	52.017	53.074	54.539	54.667	54.174	53.638	54.448	53.687	53.651	54.574	54.653	54.67
TiO2	0.044	0.078	0.088	0	0.093	0.009	0.031	0.055	0.038	0.041	0	0
Al2O3	1.007	0.994	0.868	0.978	0.96	1.041	1.083	1.763	1.491	2.071	2.132	2.089
Cr2O3	0.351	0.368	0.421	0.357	0.467	0.218	0.356	0.274	0.328	0.892	0.977	0.982
FeO	2.735	2.332	3.432	3.552	3.129	3.691	3.547	3.483	3.211	3.005	2.373	2.748
MnO	0.215	0.004	0.117	0.11	0.088	0.276	0.048	0.224	0.177	0.148	0.084	0.066
MgO	16.652	17.241	16.888	16.923	16.659	16.686	16.48	16.511	16.486	17.536	16.391	17.22
CaO	24.839	24.982	24.121	24.225	24.455	24.607	24.258	25.044	25.584	22.269	24.11	23.248
Na2O	0.126	0.157	0.198	0.22	0.253	0.224	0.286	0.042	0.04	0.523	0.544	0.552

K2O	0	0	0	0.027	0	0	0	0	0	0	0.024	0
Total	97.986	99.23	100.672	101.059	100.278	100.39	100.537	101.083	101.006	101.059	101.288	101.575
Number of metal atoms on 6 oxygen basis												
Si	1.947	1.953	1.978	1.976	1.973	1.96	1.979	1.947	1.948	1.96	1.962	1.956
Ti	0.001	0.002	0.002	0	0.003	0	0.001	0.001	0.001	0.001	0	0
Al	0.044	0.043	0.037	0.042	0.041	0.045	0.046	0.075	0.064	0.088	0.09	0.088
Cr	0.01	0.011	0.012	0.01	0.013	0.006	0.01	0.008	0.009	0.025	0.028	0.028
Fe	0.086	0.072	0.104	0.107	0.095	0.113	0.108	0.106	0.098	0.09	0.071	0.082
Mn	0.007	0	0.004	0.003	0.003	0.009	0.001	0.007	0.005	0.005	0.003	0.002
Mg	0.929	0.946	0.913	0.912	0.904	0.909	0.892	0.892	0.892	0.939	0.877	0.918
Ca	0.996	0.985	0.937	0.938	0.955	0.964	0.945	0.973	0.995	0.857	0.928	0.891
Na	0.009	0.011	0.014	0.015	0.018	0.016	0.02	0.003	0.003	0.036	0.038	0.038
K	0	0	0	0.001	0	0	0	0	0	0	0.001	0
Total cation	4.029	4.023	4.002	4.006	4.006	4.022	4.002	4.012	4.016	4.001	3.998	4.005
AlIV	0.053	0.047	0.022	0.024	0.027	0.04	0.021	0.053	0.052	0.04	0.038	0.044
AlVI	-0.009	-0.004	0.015	0.018	0.015	0.005	0.025	0.022	0.012	0.048	0.053	0.045
Al6/Al4	-0.166	-0.077	0.702	0.766	0.554	0.134	1.16	0.41	0.229	1.187	1.404	1.023
Al6/AlT	-0.199	-0.083	0.413	0.434	0.356	0.118	0.537	0.291	0.187	0.543	0.584	0.506
XAl	0.022	0.022	0.019	0.021	0.021	0.022	0.023	0.038	0.032	0.044	0.045	0.044
Fe3+	0	0	0	0	0	0	0	0	0	0	0.003	0
Fe2+	0.086	0.072	0.104	0.107	0.095	0.113	0.108	0.106	0.098	0.09	0.068	0.082
Fe3+/Fe2+	0	0	0	0	0	0	0	0	0	0	0.045	0
Fe3+/FeT	0	0	0	0	0	0	0	0	0	0	0.043	0
XMg	0.916	0.929	0.898	0.895	0.905	0.89	0.892	0.894	0.901	0.912	0.925	0.918
Fs	0.042	0.036	0.053	0.054	0.048	0.056	0.055	0.054	0.049	0.047	0.037	0.043
En	0.46	0.47	0.464	0.462	0.459	0.454	0.454	0.452	0.449	0.488	0.458	0.476
Wo	0.493	0.489	0.476	0.476	0.484	0.482	0.481	0.493	0.501	0.446	0.485	0.462
Jh	0.003	0	0.002	0.002	0.001	0.004	0.001	0.003	0.003	0.002	0.001	0.001
XMn	0.003	0	0.002	0.002	0.001	0.004	0.001	0.003	0.003	0.002	0.001	0.001
Pyroxenite (SCT-1, L-98, ORM-1, L-194B); Diopsidite (L-231, L-228, L-215. L-1062)												

Table S5. Chemical composition of amphibole in pyroxenite and diopsidite from Torappadi Ultramafic-Mafic Complex.

Sample No	**L-231**	**L-231**	**L-99**	**L-99**	**L-99**	**L-228**	**L-228**	**L-228**	**L-228**	**L-215**	**L-215**	**L-1062**	**L-1062**	**L-194B**	**L-194B**	**PXL**	**PXL**	**PXL**	**L-188**	**L-188**	**L-188**
SiO2	50.61	50.45	50.96	51.26	50.34	48.49	47.97	47.08	47.84	51.29	51.45	51.78	50.62	47.24	47.00	47.47	47.46	49.65	50.96	51.71	50.87

TiO2	0.01	0.14	0.18	0.08	0.15	0.16	0.16	0.09	0.15	0.29	0.35	0.14	0.13	0.36	0.37	0.06	0.11	0.06	0.17	0.20	0.22
Al2O3	6.62	6.55	6.32	6.73	6.43	8.35	8.11	8.42	8.36	6.01	6.12	6.94	8.18	10.58	10.35	14.45	14.29	12.50	8.73	8.12	8.10
Cr2O3	1.43	1.43	1.15	1.30	1.19	1.42	1.40	1.42	1.42	1.47	1.55	0.40	0.60	2.73	2.86	0.14	0.15	0.62	1.48	0.62	0.61
FeO	3.71	3.37	3.64	3.76	3.78	4.21	4.15	4.02	3.84	4.76	4.74	5.54	5.11	3.47	3.23	5.52	5.92	5.58	4.41	4.55	4.45
MnO	0.01	0.07	0.09	0.00	0.00	0.01	0.02	0.15	0.05	0.08	0.05	0.06	0.09	0.05	0.15	0.03	0.13	0.21	0.00	0.09	0.10
MgO	20.46	20.12	19.91	19.97	20.43	18.91	19.50	19.01	19.15	19.37	19.34	19.36	18.78	18.25	17.99	16.49	16.69	17.12	19.37	19.80	19.79
CaO	12.16	12.32	11.81	11.96	12.03	12.79	12.66	12.58	12.89	12.54	12.37	12.91	13.34	12.46	12.88	13.45	13.17	13.42	12.27	12.69	12.90
Na2O	1.04	1.11	0.55	0.48	0.62	1.22	1.33	1.26	1.29	0.99	0.89	0.66	0.92	1.58	1.57	1.36	1.36	1.32	0.96	0.91	0.97
K2O	0.20	0.22	0.05	0.06	0.05	0.57	0.48	0.52	0.48	0.35	0.34	0.06	0.09	0.63	0.63	0.21	0.25	0.21	0.23	0.20	0.25
Total	**96.25**	**95.78**	**94.65**	**95.57**	**95.02**	**96.11**	**95.78**	**94.55**	**95.47**	**97.15**	**97.19**	**97.84**	**97.85**	**97.35**	**97.00**	**99.18**	**99.52**	**100.68**	**98.56**	**98.89**	**98.24**
Number of metal atoms on 23 oxygen basis																					
OH	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Si	7.17	7.18	7.29	7.27	7.20	6.94	6.90	6.87	6.90	7.24	7.25	7.24	7.09	6.69	6.69	6.58	6.57	6.78	7.06	7.13	7.08
Ti	0.00	0.02	0.02	0.01	0.02	0.02	0.02	0.01	0.02	0.03	0.04	0.02	0.01	0.04	0.04	0.01	0.01	0.01	0.02	0.02	0.02
Al	1.11	1.10	1.07	1.12	1.08	1.41	1.37	1.45	1.42	1.00	1.02	1.14	1.35	1.77	1.74	2.36	2.33	2.01	1.42	1.32	1.33
Cr	0.16	0.16	0.13	0.15	0.14	0.16	0.16	0.16	0.16	0.16	0.17	0.04	0.07	0.31	0.32	0.02	0.02	0.07	0.16	0.07	0.07
Fe	0.44	0.40	0.44	0.45	0.45	0.50	0.50	0.49	0.46	0.56	0.56	0.65	0.60	0.41	0.38	0.64	0.69	0.64	0.51	0.52	0.52
Mn	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.00	0.02	0.03	0.00	0.01	0.01
Mg	4.32	4.27	4.25	4.22	4.36	4.04	4.18	4.13	4.12	4.08	4.06	4.04	3.92	3.85	3.82	3.41	3.45	3.49	4.00	4.07	4.10
Ca	1.84	1.88	1.81	1.82	1.84	1.96	1.95	1.97	1.99	1.90	1.87	1.93	2.00	1.89	1.96	2.00	1.96	1.96	1.82	1.88	1.92
Na	0.29	0.31	0.15	0.13	0.17	0.34	0.37	0.36	0.36	0.27	0.24	0.18	0.25	0.44	0.43	0.37	0.36	0.35	0.26	0.24	0.26
K	0.04	0.04	0.01	0.01	0.01	0.10	0.09	0.10	0.09	0.06	0.06	0.01	0.02	0.11	0.11	0.04	0.05	0.04	0.04	0.04	0.04
Total	15.36	15.35	15.17	15.16	15.27	15.48	15.55	15.55	15.52	15.31	15.27	15.25	15.32	15.51	15.52	15.42	15.45	15.36	15.28	15.30	15.36
F	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OH*	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
AlIV	0.83	0.82	0.71	0.74	0.80	1.06	1.10	1.14	1.10	0.76	0.75	0.76	0.91	1.31	1.31	1.42	1.43	1.22	0.94	0.87	0.92
	0.27	0.28	0.36	0.39	0.28	0.35	0.28	0.31	0.32	0.24	0.27	0.38	0.44	0.46	0.43	0.95	0.91	0.80	0.48	0.45	0.41
Fe3+	0.32	0.32	0.26	0.29	0.27	0.32	0.32	0.33	0.32	0.33	0.35	0.09	0.13	0.61	0.64	0.03	0.03	0.13	0.32	0.14	0.13
Fe2+	0.12	0.08	0.18	0.15	0.18	0.18	0.18	0.16	0.14	0.24	0.21	0.56	0.47	-0.20	-0.26	0.61	0.65	0.50	0.19	0.39	0.38
XMg	0.91	0.91	0.91	0.91	0.91	0.89	0.89	0.89	0.90	0.88	0.88	0.86	0.87	0.90	0.91	0.84	0.83	0.85	0.89	0.89	0.89
F/F+OH	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na+K	0.32	0.35	0.16	0.14	0.18	0.44	0.46	0.45	0.45	0.34	0.30	0.19	0.26	0.55	0.55	0.40	0.41	0.39	0.30	0.28	0.31
AlVI+Fe3++Ti	0.59	0.61	0.64	0.69	0.57	0.69	0.61	0.65	0.66	0.60	0.65	0.48	0.59	1.11	1.11	0.98	0.95	0.94	0.82	0.61	0.56
100Fe2+/(Fe2++Mg+Mn)	2.68	1.82	3.97	3.53	4.03	4.34	4.15	3.74	3.30	5.44	4.97	12.18	10.60	-5.50	-7.24	15.16	15.88	12.53	4.46	8.70	8.53
100Fe3+/(Fe3+	53.95	52.57	40.69	42.30	47.36	46.43	52.15	50.45	49.18	54.69	53.42	18.12	22.46	55.29	58.06	3.14	3.34	14.33	39.43	22.36	23.79

+AlVI+ Ti)
Websterite (L-99, L-194B, PXL, L-194B, L-188); Diopsidite (L-231, L-228, L-215, L-1062);

Table S6. Chemical composition of Plagioclase in pyroxenite and gabbro from Torappadi Ultramafic-Mafic Complex.

Sample No	L-1291*	L-1291*	L-1291*	L-1291*	ORM-1	ORM-1
SiO2	52.652	52.615	52.485	52.429	49.993	50.479
TiO2	0	0	0.001	0.09	0	0.049
Al2O3	30.547	30.141	30.325	30.217	32.757	32.316
Cr2O3	0	0.018	0	0.063	0.027	0
FeO	0.145	0.076	0.022	0.169	0.128	0.073
MnO	0.038	0.021	0	0	0	0
MgO	0.005	0	0.012	0.001	0	0.017
CaO	12.239	12.194	11.978	12.361	15.625	14.887
Na2O	4.649	4.712	4.802	4.714	3.093	3.192
K2O	0.086	0.087	0.096	0.098	0.032	0.024
Total	100.361	99.864	99.721	100.142	101.655	101.037
Number of metal atoms on 8 oxygen basis						
Si	2.378	2.387	2.383	2.376	2.249	2.277
Ti	0	0	0	0.003	0	0.002
Al	1.626	1.612	1.623	1.614	1.737	1.719
Cr	0	0.001	0	0.002	0.001	0
Fe	0.005	0.003	0.001	0.006	0.005	0.003
Mn	0.001	0.001	0	0	0	0
Mg	0	0	0.001	0	0	0.001
Ca	0.592	0.593	0.583	0.6	0.753	0.72
Na	0.407	0.415	0.423	0.414	0.27	0.279
K	0.005	0.005	0.006	0.006	0.002	0.001
Total cation	5.015	5.016	5.019	5.022	5.017	5.002
An	0.59	0.586	0.576	0.588	0.735	0.719
Ab	0.405	0.409	0.418	0.406	0.263	0.279
Or	0.005	0.005	0.006	0.006	0.002	0.001
Websterite: ORM-1; Gabbro: L-1291						

Table S7. Chemical composition of spinel in pyroxenite from Torappadi Ultramafic-Mafic Complex.

Sample No.	L98	L99	L99	L 228	L 228	L 228	L 215	L 215	L 215	L194B	L194B	L194B
SiO2	0.89	0.06	0.11	0.04	0.08	0.42	0.08	0.08	0.04	0.01	0.03	0.04
TiO2	-	0.1	0.14	0.06	0.1	0.05	0.37	0.3	0.26	-	0.05	-
Al2O3	26.55	19.69	20.13	14.18	17.19	18.04	12.93	11.9	12.92	16.52	16.4	17.26
Cr2O3	39.42	33.42	31.52	38.6	39.06	35.83	38.38	44.8	44.69	50.62	51.07	50.6
FeOT	25.36	29.73	29.59	39.15	33.08	35.42	41.59	36.49	35.71	24.31	24.11	23.93
MnO	0.2	0.24	0.27	0.38	0.55	0.46	0.38	0.37	0.36	0.28	0.4	0.3
MgO	7.32	8.14	9.26	5.69	6.47	6.65	2.87	3.74	3.67	8.05	8	8.27
CaO	0.3	0.09	0.03	0.11	-	0.05	0.57	0.01	0.43	0.09	0.08	0.09
Na2O	-	-	0.01	0.02	0.03	0.05	0.03	-	0.04	0.01	0.01	0
K2O	-	-	0.02	-	-	-	0.03	-	0.01	0.03	0.01	-
NiO	0.01	0.26	0.27	0.22	0.18	0.22	0.08	0.18	0.08	0.16	0.02	-
Total	87	91.72	91.34	98.44	96.74	97.18	87	97.86	98.2	100.06	100.18	100.49
Fe2O3	-	11.01	12.74	16.09	10.78	13	14.84	9.95	9.41	2.78	2.32	2.17
FeO	25.36	19.82	18.13	24.67	23.38	23.72	28.23	27.53	27.24	21.81	22.03	21.98
Total	100.05	92.82	92.62	100.05	97.82	98.48	98.78	98.85	99.14	100.34	100.41	100.7
Cations:	4(O)	4(O)	4(O)	4(O)	4(O)	4(O)	4(O)	4(O)	4(O)	4(O)	4(O)	4(O)
Si	0.0277	0.002	0.0036	0.0013	0.0028	0.0139	0.0028	0.0026	0.0015	0.0004	0.0008	0.0012
Ti	0	0.0025	0.0036	0.0014	0.0026	0.0013	0.0096	0.0078	0.0066	0	0.0013	0
Al	0.9774	0.7977	0.8095	0.5623	0.6809	0.7065	0.5313	0.4876	0.5249	0.6325	0.6281	0.6558
Cr	0.9733	0.9083	0.8504	1.0266	1.0378	0.9413	1.0576	1.2313	1.2177	1.3004	1.312	1.2893
Fe+3	0	0.2848	0.3271	0.4072	0.2725	0.3251	0.3893	0.2603	0.244	0.068	0.0566	0.0527
Fe+2	0.6623	0.57	0.5173	0.694	0.657	0.659	0.8229	0.8005	0.7853	0.5926	0.5985	0.5924
Mn	0.0052	0.0071	0.0077	0.0109	0.0157	0.0129	0.0111	0.0108	0.0104	0.0077	0.0109	0.0082
Mg	0.3405	0.417	0.4709	0.2851	0.3239	0.3293	0.149	0.1938	0.1886	0.3898	0.3874	0.3973
Ca	0.0101	0.0034	0.0011	0.0038	0	0.0017	0.0212	0.0004	0.0159	0.003	0.0026	0.003
Na	0	0	0.0007	0.0015	0.002	0.0033	0.0019	0	0.0023	0.0004	0.0007	0.0001
K	0	0	0.0007	0	0	0	0.0011	0	0.0005	0.0012	0.0004	0
Ni	0.0003	0.0071	0.0075	0.0058	0.0048	0.0058	0.0022	0.0049	0.0021	0.0042	0.0006	0
Total	2.997	3	3	3	3	3	3	3	3	3	3	3
Mol.per cent end-members:												
Spinel	41.1664	37.3714	37.5371	25.6399	30.6368	30.9539	14.468	18.6115	18.5602	31.2422	31.0178	32.4139
Mg.Ulv.Spi	0	0.3561	0.5033	0.1938	0	0	0	0	0	0	0.1955	0
Mn.Ulv.Spi	0	0	0	0	0.3657	0.1867	0.8084	0.7783	0.7692	0	0	0
Ulvospinel	0	0	0	0	0	0	0.5889	0.3439	0.2064	0	0	0
Mn.Chromite	0.6332	0.6658	0.7129	0.9925	0.9931	0.9627	0	0	0	0.7558	1.0738	0.8097
Mg.Chromite	0	1.2275	5.4655	0.1017	0	0	0	0	0	7.2698	6.9881	6.8606
Chromite	58.2004	40.6624	33.2539	45.7139	48.0886	43.2798	51.3457	59.1219	59.9155	56.2054	56.7349	56.0584
Magnetite	0	19.7168	22.5273	27.3582	19.9158	24.6168	32.7891	21.1444	20.5486	4.5268	3.9898	3.8575
	100	100	100	100	100	100	100	100	100	100	100	100
Cr#	49.8955	53.2431	51.2311	64.6093	60.3814	57.1249	66.5623	71.6317	69.8766	67.2765	67.6273	66.2855
Mg#	33.9549	42.2511	47.6533	29.1175	33.0207	33.3186	15.3305	19.492	19.3656	39.6811	39.2939	40.1412
Pyroxenite (L-99, L-194B); Diopsidite (L-215, L-228)												

Table S8. Chemical composition of Sulphide Phases in pyroxenite from Torappadi Ultramafic-Mafic Complex.

Sample Name	S	Pb	Ag	Fe	Ni	Cu	Zn	As	Te	Au	Co	Mineral Phase
ORM-1	33.666	0.053	0	25.517	42.305	0	0	0.008	0	0	0.333	Pentlandite
ORM-1	30.586	0.086	0	23.937	41.619	0	0.032	0	0	0	0.099	Pentlandite
ORM-1	33.999	0.172	0	25.282	41.852	0.097	0	0	0	0.068	0.083	Pentlandite
ORM-1	32.717	0.063	0.006	25.456	42.771	0.014	0	0	0	0	0.034	Pentlandite
ORM-1	31.978	0.031	0	26.568	41.78	0	0	0	0	0	0.028	Pentlandite
ORM-1	34.007	0.087	0.01	29.861	0.046	34.266	0	0	0.003	0	0.022	Chalcopyrite
ORM-1	33.683	0.052	0.04	26.353	41.252	0.031	0.009	0	0.031	0	0.193	Pentlandite
ORM-1	39.555	0.039	0	55.143	3.108	0	0	0	0.013	0	0.052	Ni bearing pyrite
ORM-1	32.223	0.068	0	25.915	40.313	0.018	0	0	0	0	0.251	Pentlandite
ORM-1	31.99	0.06	0.014	25.646	42.255	0.11	0.047	0	0	0	0.148	Pentlandite
ORM-1	33.406	0.022	0	24.616	40.747	0.037	0	0	0	0	0.106	Pentlandite
ORM-1	31.704	0.11	0.047	27.375	37.224	0.526	0.056	0.043	0	0	0.417	Pentlandite
ORM-1	32.493	0.029	0	25.236	41.976	0	0	0	0.066	0	0.184	Pentlandite
ORM-1	32.75	0.087	0.007	25.743	41.651	0.084	0	0	0	0	0.034	Pentlandite
ORM-1	33.412	0.102	0	27.897	11.066	25.121	0.037	0	0	0	0.083	Chalcopyrite
L-194B	33.354	0.038	0	29.542	2.068	32.229	0.037	0	0	0	0.062	Chalcopyrite
L-194B	40.411	0.111	0	25.436	30.406	0	0.094	0	0	0	1.444	pentlandite
L-194B	36.954	0.069	0.012	46.531	10.677	0	0.093	0	0	0	0.047	Ni bearing Chalcopyrite
L-194B	37.639	0.034	0	46.714	11.613	0.013	0.023	0	0	0	0.071	Ni bearing Chalcopyrite
L-194B	33.502	0.098	0	30.014	34.176	0	0	0.016	0	0	0.586	pentlandite