

Table V-2. The concentrations of elements (in ppm, indicated otherwise) in the Earth's primitive mantle, and the enrichment factors (E_{Al}^i) relative to the carbonaceous chondrite CI.

Z	Upper mantle	E_{Al}^i	Ref.	Z	Upper mantle	E_{Al}^i	Ref.
Ag-47	0.008	0.016	2	Mo-42	0.05	0.019	10
Al-13 %	2.2	1	1 to 4	N-7	*10	0.001	5, 6
As-33	*0.1	0.021	1	Na-11 %	0.26	0.2	1 to 4
Au-79 ppb	1	0.003	1, 2, 8	Nb-41	0.6	1	4
B-5	*0.3	0.12	14	Nd-60	1.23	1.1	7
Ba-56	6	1	7	Ni-28	2000	0.071	1 to 4
Be-4	0.06	1	7	Os-76 ppb	3.7	0.003	1, 2, 8
Bi-83	0.002	0.007	2	P-15	80	0.026	2, 3
Br-35	*0.005	0.0006	11	Pb-82	0.156	0.025	15
C-6	*150	0.0017	2	Pd-46 ppb	4.3	0.003	2, 5, 8
Ca-20 %	2.6	1.2	1 to 4	Pr-59	0.25	1.1	7
Cd-48	0.06	0.04	2, 6	Pt-78 ppb	7.6	0.003	8
Ce-58	1.7	1.1	7	Rb-37	0.54	0.089	9
Cl-17	*0.5	0.0003	11	Re-75 ppb	0.28	0.003	2, 8
Co-27	100	0.078	1, 2, 4	Rh-45 ppb	1	0.003	8
Cr-24	3200	0.48	1 to 4	Ru-44 ppb	5.5	0.003	8
Cs-55	0.013	0.03	12	S-16	180	0.0012	2
Cu-29	*28	0.09	1	Sb-51	*0.003	0.0083	2
Dy-66	0.66	1.1	7	Sc-21	17	1.1	1 to 6
Er-68	0.43	1.1	7	Se-34	0.05	0.001	1, 2, 5
Eu-63	0.15	1.1	1, 2	Si-14 %	21	0.78	1 to 6
F-9	*16	0.11	1	Sm-62	0.4	1.1	7
Fe-26 %	6.4	0.19	1, 2, 3	Sn-50	0.15	0.034	13
Ga-31	3.4	0.13	1	Sr-38	20	1	3, 4, 7
Gd-64	0.53	1.1	7	Ta-73	0.04	1	7
Ge-32	1	0.012	1, 2	Tb-65	0.1	1.1	1, 3
Hf-72	0.26	1	2, 3, 7	Te-52	0.011	0.002	2
Hg-80	*0.01	0.016	5, 6	Th-90	0.074	1	3, 6, 7
Ho-67	0.15	1.1	7	Ti-22	1100	1	1 to 4
I-53	*0.004	0.004	11	Tl-81	0.006	0.017	12
In-49	0.014	0.069	2	Tm-69	0.066	1.1	7
Ir-77 ppb	3.7	0.003	1, 2	U-92	0.02	1	6, 7
K-19 %	0.025	0.18	2	V-23	82	0.57	1, 4
La-57	0.64	1.1	7	W-74	0.016	0.068	1, 12
Li-3	1.6	0.42	1, 6	Y-39	4.1	1.1	3, 7
Lu-71	0.066	1.1	1, 3	Yb-70	0.45	1.1	1, 2, 3
Mg-12 %	22.2	0.9	1, 2	Zn-30	50	0.063	1 to 4
Mn-25	1000	0.2	1, 2, 3	Zr-40	10	1	4, 7

Ref.: 1) Jagoutz et al. (1979) and Waenke et al. (1984): spinel lherzolites; 2) Basaltic Volcanism Study Project (1981): spinel lherzolites; 3) Basaltic Volcanism Study Project (1981): Archean komatiites; 4) Nesbitt and Sun (1976): Archean komatiites; 5) Turekian and Wedepohl (1961); 6) Wedepohl and Muramatsu (1979); 7) the concentration in CI multiplied by 2.69 for REE (2.69 = weight ratio of Lu in spinel lherzolites over CI) or by 2.53 for others (2.53 = weight ratio of Al in lherzolites over CI); 8) $0.003 \pm CI$ (0.003 = weight ratio of Ir in lherzolite over CI); 9) Rb/Sr = 0.027 ± 0.003 obtained from the $^{87}Rb/^{86}Sr$ ratio of 0.078 ± 0.009 for the primitive mantle at present (Faure, 1986); 10) Newson and Palme (1984); 11) Waenke et al. (1984); 12) Sun (1982); 13) Hofmann and White (1983); 14) Assuming E_{Al}^i for B is 0.12 as in the CV chondrite; 15) U/Pb = 0.128 obtained from the $^{238}U/^{204}Pb$ ratio of 8.0 for the primitive mantle at present (Faure, 1986). Asterisks: mostly volatile elements and data are less reliable.