

Table II-1. Chemical compositions of the primitive carbonaceous chondrites (C1) and the solar atmosphere.

Z		C1 ppm	C1 atoms/10 <sup>6</sup> Si	Sun atoms/10 <sup>6</sup> Si	Z	C1 ppm	C1 atoms/10 <sup>6</sup> Si	Sun atoms/10 <sup>6</sup> Si	
1	H	20,200	5.29E+06	2.82E+10	44	Ru	0.712	1.86	1.9
2	He	0.01	0.66	2.75E+09	45	Rh	0.134	0.344	0.37
3	Li	1.5	57.1	0.41	46	Pd	0.56	1.39	1.4
4	Be	0.025	0.73	0.4	47	Ag	0.199	0.486	(0.25)
5	B	0.87	21	(11)	48	Cd	0.686	1.61	2
6	C	34,500	758,000	1.00E+07	49	In	0.08	0.184	1.3
7	N	3,180	60,000	3.20E+06	50	Sn	1.72	3.82	2.8
8	O	464,000	7.66E+06	2.40E+07	51	Sb	0.142	0.31	0.28
9	F	60.7	843	1,000	52	Te	2.32	4.81	
10	Ne	1.80E-04	2.40E-03	3.50E+06	53	I	0.433	0.9	
11	Na	5,000	57,000	60,000	54	Xe	5.00E-05	1.00E-04	4.35
12	Mg	98,990	1.08E+06	1.10E+06	55	Cs	0.187	0.372	
13	Al	8,680	84,900	83,000	56	Ba	2.34	4.49	3.8
14	Si	106,400	1.00E+06	1.00E+06	57	La	0.235	0.446	0.47
15	P	1,220	10,400	7,900	58	Ce	0.603	1.14	1
16	S	62,500	515,000	460,000	59	Pr	0.089	0.167	0.14
17	Cl	704	5240	8,900	60	Nd	0.452	0.828	0.89
18	Ar	1.34E-03	8.80E-03	102,000	62	Sm	0.147	0.258	0.28
19	K	558	3,770	3,700	63	Eu	0.056	0.097	0.091
20	Ca	9,280	61,100	65,000	64	Gd	0.197	0.33	0.37
21	Sc	5.82	34.2	35	65	Tb	0.0363	0.06	(0.022)
22	Ti	436	2,400	2,800	66	Dy	0.243	0.394	0.35
23	V	56.5	293	280	67	Ho	0.0556	0.089	(0.051)
24	Cr	2,660	13,500	13,000	68	Er	0.159	0.251	0.24
25	Mn	1,990	9,550	6,900	69	Tm	0.0242	0.0378	(0.028)
26	Fe	190,400	900,000	1.30E+06	70	Yb	0.163	0.248	0.34
27	Co	502	2,250	2,300	71	Lu	0.0243	0.0367	(0.16)
28	Ni	11,000	49,300	50,000	72	Hf	0.104	0.154	0.21
29	Cu	126	522	460	73	Ta	0.014	0.0207	
30	Zn	312	1,260	1,100	74	W	0.093	0.133	(0.36)
31	Ga	10	37.8	21	75	Re	0.0365	0.0517	
32	Ge	32.7	119	72	76	Os	0.486	0.675	0.79
33	As	1.86	6.56		77	Ir	0.481	0.661	0.63
34	Se	18.6	62.1		78	Pt	0.99	1.34	1.8
35	Br	3.57	11.8		79	Au	0.14	0.187	0.29
36	Kr	3.30E-05	1.00E-04	45.3	80	Hg	0.258	0.34	
37	Rb	2.3	7.09	11	81	Tl	0.142	0.184	(0.22)
38	Sr	7.8	23.5	22	82	Pb	2.47	3.15	1.9
39	Y	1.56	4.64	4.9	83	Bi	0.114	0.144	
40	Zr	3.94	11.4	11	90	Th	0.0294	0.0335	0.037
41	Nb	0.246	0.7	0.74	92	U	0.0081	0.009	(0.01)
42	Mo	0.928	2.55	2.3					

Data are mainly from Anders and Grevesse (1989), except H, C, N, O, and noble gases data for C1 are adopted from Orgueil carbonaceous chondrite (Anders and Ebihara, 1982). For the solar nebula composition (in unit of atoms/10<sup>6</sup> Si), Cl data can be used except that values for H,C, N, O and noble gases should be substituted by the solar atmosphere data. E±06 is equivalent to 10<sup>±6</sup>.