Table IV-1. Classification of chondrites and achondrites.

Classes and subclasses	C wt. %	S wt. %	Fe/Si wt. ratio	Principal minerals
Carbonaceous chondrites (CC)				
Type 1 (C1 or CI)	3.5	6.3	1.79	phy+org; mag; /fo+ol(10-20)
Type 2 (C2 or CM)	2.5	3.4	1.59	phy+org; fo > ol(15-50); /en+opx
Type 3 (C3 or CO	0.45	2	1.55	fo; ol(10-60); phy; m+t; CAI
and CV)	0.26	2.1	1.8	fo; ol(10-60); phy; m+t; CAI
Renazzo (CR)	1.5	1.3	1.58	fo > en; phy+org; m+t; mag
Kakangari (CK)	1	5.3	1.35	en > fo; phy+org; m+t
Ordinary chondrites (OC)				
Low-low iron (LL)	0.12	2.3	1.07	ol(26-33) > opx(22-25) > pl > m+t
Low iron (L)	0.09	2.2	1.17	ol(21-25) > opx(19-22) > pl > m+t
High iron (H)	0.11	2	1.56	ol(16-20) > opx(15-18) > pl > m+t
Netschaevo (HH)*	(0.21)	(1.4)	(2.25)	opx (15) > ol(14) > pl > m+t
Enstatite chondrites (EC)				
Low iron (EL)	0.36	3.3	1.11	en; m+t; /fo; Si polymorphs; rare non-oxides
High iron (EH)	0.39	5.9	1.73	en; m+t; /fo; Si polymorphs; rare non-oxides
Primitive achondrites (PA)				
Winonaite	0.46	1.5	0.85	en > fo; m+t
Acapulcoite		1.3	1.65	ol(11) ≈ opx(11) > pl; m+t
Lodranite*			2.14	ol(13) ≈ opx(13); m+t
Brachinaite	0.07	1.5	1.16	ol(20) >> aug ≈ pl; m+t
Carbonaceous achondrites				
Ureilites	2.6	0.5	0.76	ol(8-23) > pig(8-20); C polymorphs; m+t
AMP achondrite group				
Eucrite	0.06	0.2	0.66	pig(40-70) ≈ Ca-pl; Si polymorphs
Diogenite	0.04	0.38	0.56	opx(23-27); /Ca-pl; tridymite; ol(25-32)
Howardite	0.11	0.27	0.62	mixture of Eucrite and Diogenite
Mesosiderite*	0.08	1.1	4.2	ol(7-47); opx(17-40); Ca-pl; 17-80 wt% m+t
Pallasite*	0.08	0.19	5.2	ol(9-21) > m+t
SNC achondrite group				
Shergottite			0.64	pig(30-58); aug; maskelynite; /ol
Nakhlite		0.06	0.74	aug > ol(67-77) > pl+K-fp
Chassignite		0.14	1.18	ol(30) >> dio > pl+K-fp
Enstatite achondrites (EA)				
Aubrite	0.07	0.4	0.04	en; rare non-oxides
Bencubbin*			(0.32)	en > fo; m+t; pl
Other achondrites				
Angrite		0.45	0.36	dio >> Ca-ol(47) > spinel
Eagle Station*			(0.4)	ol(20); m+t

Mineral abbreviations: aug = augite; CAI = Ca-Al rich inclusions; dio = diopside; en = enstatite; fo = forsterite ($Mg_2SiO_4 \geq 90\%$); fp = feldspar; mag = magnetite; m + t = metal + troilite; ol = olivine ($Mg_2SiO_4 < 90\%$); opx = orthopyroxene; org = complex organic matter; phy =

phyllosilicates; pig = pigeonite; pl = plagioclase; rare non-oxides = mainly sulfides and nitrides (see Appendix Table 3); numbers in parenthesis after olivine, orthopyroxene and pigeonite are the mole % of Fe_2SiO_4 or $FeSiO_3$; minerals after the forward slash have only trace amount. Asterisks indicate silicate fraction in stony irons. C, S, and Fe/Si values in parentheses are for the silicate fraction only. Data sources: Bild and Wasson (1976,1977), Boyton et at.(1976), Buseck(1977), Dodd(1981), Floran et al.(1978), Fukuoka et al.(1977), Graham et al.(1977), Janssens et al.(1987), Johnson et al.(1977), Ma et al.(1977), Mason and Wilk(1962,1966), Mason and Jarosewich(1967), Mason(1979), Palm et al.(1981), Prinz et al.(11985), Seare and Dodd(1988), Smith et al.(1984), Watters and Prinz (1979).