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Table 1. The carbon star sample

IRAS name	NAME	SPT	IRC	RAFGL	CS	3 μm	8.6 μm	14 μm
00172+4425	VX And	C4,5J	+40006	50	11	c	c	c
00248+3518	AQ And	C5,4	+40010	68	16	a	–	b
01080+5327	HV Cas	C4,3E	+50030	167	56	b	–	a
01105+6241			+60041	177	59	c	a	–
01133+2530	Z Psc	C7,2	+30025	188	63	a	–	b
01531+5900	X Cas	C5,4E	+60069	270S	87	c	c	c
03229+4721			+50096	489	142	b	–	–
03374+6229	U Cam	C5,4	+60124	505	154	b	a	–
03377+5120	V466 Per	C5,5	+50100	507	155	a	–	–
03415+4437	AC Per	C6,3	+40067		157	a	–	c
04459+6804	ST Cam	C5,4	+70055	633	240	a	–	–
04483+2826	TT Tau	C7,4	+30098	639	254	a	–	a
04573-1452	R Lep	C7,4E	-10080	667	276	c	–	–
05028+0106	W Ori	C5,4	+00066	683	284	b	b	b
05056+3856	TX Aur	C5,4	+40115		288	a	–	–
05185+3227	UV Aur	C8,1JE	+30100	735	318	c	a	–
05238+3406	S Aur		+30114	748	336	c	a	–
05426+2040	Y Tau	C6,3	+20121	5168	393	a	–	–
05576+3940	AZ Aur	C7,1E	+40151	853	433	c	–	–
06149+0832	GK Ori	C5,4	+10113	910	480	b	c	c
06192+0722	BN Mon	C4,3E	+10118	920	498	b	–	b
06331+3829	UU Aur	C6,4	+40158	966	537	a	–	–
06529+0626	CL Mon	C6,3E	+10144	1038	615	c	–	–
06556+0614	RV Mon	C4,4	+10146	1044	632	a	–	–
07045-0728	RY Mon	C5,5	-10149	1070	670	b	b	b
07057-1150	W CMa	C6,3	-10152	1075	676	a	–	–
07270-1921			-20131	1131	776	b	–	–
07487-0229			+00162	1199	918	c	–	–
08174+0255	RY Hya	C6,4E	+00172	1243	1123	b	b	b
08525+1725	X Cnc	C5,4	+20206	1298	1338	a	a	a
08538+2002	T Cnc	C5,5	+20207	1301	1344	b	c	b
10416+6740	VY UMa	C6,3	+70100	1433	1736	a	–	a
12226+0102	SS Vir	C5,3E	+00217	1549	1999	c	b	b
12427+4542	Y CVn	C5,5J	+50219	1576	2030	a	–	–
12447+0425	RU Vir	C8,1E	+00224	1579	2032	c	a	–
12544+6615	RY Dra	C4,5J	+70116	1588	2047	a	a	–
16239-1218	V Oph	C7,3E	-10339	1859	2334	a	b	a
16374-3217	SU Sco	C5,5	-30268	1878	2353	b	b	b
17556+5813	T Dra	C6,2E	+60255	2040	2512	b	–	–
18306+3657	T Lyr	C6,5J	+40321	2187	2608	c	c	c
18410+3654	HK Lyr	C7,4	+40325	2240	2651	a	–	–
18562+1417	UV Aql	C5,3	+10389	2292	2684	a	–	a
19008+0726			+10401	2310	2694	a	a	–
19017-0545	V Aql	C5,4	-10486	2314	2695	a	a	a
19147+2149	CG Vul		+20393	2358	2717	a	–	a
19184+3746	U Lyr	C4,5E	+40354	5367S	2724	a	a	–
19272+4556	AW Cyg	C4,5	+50295	2396	2739	a	a	a
19416+3422			+30385	2443	2783	b	a	–
19555+4407	AX Cyg	C4,5	+40368	2480	2833	a	a	–
20028+2030	X Sge		+20452	2504	2853	a	–	c
20082+2911			+30416	5473S	2871	b	a	b
20472+3302		C6,4	+30456	5547S	2935	a	–	a
21035+5136			+50357	2704	2976	a	b	–
21320+3850	V1426 Cyg		+40485	2781	3041	a	–	–
21399+3516	V460 Cyg	C6,3	+40489	2793	3060	a	–	a

[1] *Notes*: NAME and SPT are the name and the spectral type from Yamashita (1972, 1975). IRC and RAFGL are respectively the identifications of the sources in the two-micron Infrared Sky Survey (Neugebauer & Leighton 1969) and in the Revised Air Force Geophysical Laboratory (Price & Murdock 1983) catalogs. CS is the number in the General Catalogue of Cool Carbon Stars (Stephenson 1989). The last three columns indicate the presence and intensity (a - weak, b - intermediate, c - strong) of the very common bands at 3, 8.6 and 14 μm

Table 2. Best-fit model parameters of our IRAS source sample and computed mass-loss rates (in solar masses per year)

IRAS name	τ	T_*(K)	R_I/R_*	R_E/R_I	AC(%)	αSiC(%)	βSiC(%)	$\dot{M}$
00172+4425	0.1	2500	5.0	10^4	85	15	–	$1.2\ 10^{-7}$
00248+3518	0.1	2800	3.0	10^3	75	25	–	$1.3\ 10^{-7}$
01080+5327	0.4	1600	3.0	10^2	75	15	10	$7.8\ 10^{-7}$
01105+6241	1.5	1600	3.0	10^2	75	15	10	$2.9\ 10^{-6}$
01133+2530	0.1	2900	3.2	10^3	75	25	–	$1.5\ 10^{-7}$
01531+5900	0.1	2550	4.0	10^4	75	20	5	$1.2\ 10^{-7}$
03229+4721	0.8	1500	5.0	10^3	75	15	10	$3.5\ 10^{-6}$
03374+6229	0.3	2400	3.0	10^4	75	20	5	$2.2\ 10^{-7}$
03377+5120	0.2	2450	4.0	10^4	90	10	–	$1.6\ 10^{-7}$
03415+4437	0.1	2400	4.0	10^4	75	25	–	$9.9\ 10^{-8}$
04459+6804	0.1	2700	3.4	10^3	80	20	–	$1.2\ 10^{-7}$
04483+2826	0.1	2750	3.0	10^3	90	10	–	$8.8\ 10^{-8}$
04573-1452	0.8	1800	3.0	10^3	75	15	10	$9.2\ 10^{-7}$
05028+0106	0.1	2500	4.0	10^4	75	25	–	$1.1\ 10^{-7}$
05056+3856	0.2	2700	5.0	10^4	90	10	–	$2.8\ 10^{-7}$
05185+3227	0.7	2400	5.0	10^3	90	10	–	$6.4\ 10^{-7}$
05238+3406	0.8	1750	2.6	10^3	75	25	–	$9.0\ 10^{-7}$
05426+2040	0.3	2700	3.5	10^4	80	20	–	$3.6\ 10^{-7}$
05576+3940	0.6	1850	3.0	10^3	75	15	10	$6.1\ 10^{-7}$
06149+0832	0.1	2400	4.0	10^4	75	25	–	$9.9\ 10^{-8}$
06192+0722	0.3	2350	3.2	10^4	75	20	5	$2.2\ 10^{-7}$
06331+3829	0.2	2700	3.5	10^4	85	15	–	$2.1\ 10^{-7}$
06529+0626	0.5	2000	4.2	10^3	75	15	10	$5.0\ 10^{-7}$
06556+0614	0.1	3000	4.0	10^3	75	25	–	$2.2\ 10^{-7}$
07045-0728	0.2	2600	3.2	10^3	75	15	10	$2.1\ 10^{-7}$
07057-1150	0.1	3200	5.0	10^3	75	25	–	$3.4\ 10^{-7}$
07270-1921	1.0	1700	3.0	10^3	80	20	–	$1.3\ 10^{-6}$
07487-0229	1.2	1600	2.0	10^2	90	10	–	$1.1\ 10^{-6}$
08174+0255	0.5	2500	2.6	10^3	75	15	10	$3.7\ 10^{-7}$
08525+1725	0.1	2600	2.7	10^3	75	15	10	$8.9\ 10^{-8}$
08538+2002	0.2	2500	3.0	10^4	75	15	10	$1.7\ 10^{-7}$
10416+6740	0.2	2950	4.8	10^3	75	25	–	$4.9\ 10^{-7}$
12226+0102	0.3	2600	3.0	10^4	75	15	10	$3.0\ 10^{-7}$
12427+4542	0.2	2550	4.3	10^4	85	15	–	$2.2\ 10^{-7}$
12447+0425	0.9	1900	5.0	10^2	75	15	10	$1.3\ 10^{-6}$
12544+6615	0.1	2800	3.0	10^3	90	10	–	$9.4\ 10^{-8}$
16239-1218	0.1	2800	3.0	10^3	75	25	–	$1.3\ 10^{-7}$
16374-3217	0.1	2500	5.0	10^4	85	15	–	$1.2\ 10^{-7}$
17556+5813	0.8	1700	5.0	10^2	75	15	10	$2.0\ 10^{-6}$
18306+3657	0.1	2400	4.0	10^4	85	15	–	$8.1\ 10^{-8}$
18410+3654	0.1	2500	3.4	10^3	75	15	10	$9.8\ 10^{-8}$
18562+1417	0.1	2600	2.7	10^3	75	15	10	$8.9\ 10^{-8}$
19008+0726	1.8	1300	3.5	10^2	90	10	–	$7.7\ 10^{-6}$
19017-0545	0.1	2500	3.5	10^3	80	20	–	$9.1\ 10^{-8}$
19147+2149	0.2	2400	3.0	10^3	80	20	–	$1.3\ 10^{-7}$
19184+3746	0.3	2500	3.4	10^4	75	15	10	$2.9\ 10^{-7}$
19272+4556	0.1	2600	3.0	10^3	75	15	10	$9.9\ 10^{-8}$
19416+3422	1.2	1600	2.0	10^2	90	10	–	$1.1\ 10^{-6}$
19555+4407	0.1	2500	3.5	10^4	80	20	–	$9.1\ 10^{-8}$
20028+2030	0.1	2750	3.0	10^3	75	25	–	$1.2\ 10^{-7}$
20082+2911	1.2	1500	2.5	10^2	75	10	15	$2.6\ 10^{-6}$
20472+3302	0.2	2500	4.6	10^4	75	25	–	$2.6\ 10^{-7}$
21035+5136	1.5	1300	3.5	10^3	75	25	–	$8.7\ 10^{-6}$
21320+3850	0.6	1550	3.0	10^4	75	25	–	$1.3\ 10^{-6}$
21399+3516	0.1	3000	4.0	10^3	75	15	10	$2.2\ 10^{-7}$