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Warm IRAS sources.
I. A catalogue of AGN candidates from the point source catalog

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Summary. — We have previously shown that a blue (warm) 60 to 25 μm infrared colour provides a powerful parameter for discriminating between AGNs and normal galaxies and that the far-IR spectrum is therefore an efficient tool for finding new AGNs (de Grijp *et al.*, 1985). Here we present a list of such AGN candidates based on *warm* IR sources from the IRAS Point Source Catalogue (PSC). Identification data and finding charts are also given. In addition the list of warm IRAS sources is supplemented by a compendium of data from the IRAS PSC on detected sources identified with previously known AGNs whose infrared spectra do not bring them within our colour selection criterion.

Key words : catalogue — Seyferts — infrared radiation.

1. Introduction.

Active galaxies are known to have generally flatter IR spectra than galaxies without Active Galactic Nuclei (AGNs). Therefore we decided to investigate the properties of sources in the Infra Red Astronomical Satellite (IRAS) catalogue which had relatively flat spectra. Our hope was that by using the *warm* IR spectra as an indicator of nuclear activity, we might find hitherto unknown AGNs. Preliminary results were promising and several hitherto unknown Seyfert galaxies were uncovered (de Grijp *et al.*, 1985). Here we present a catalogue of all sources having such warm spectra selected from the IRAS Point Source Catalogue (PSC) and also results of their identifications.

2. Sample selection.

The IRAS Point Source Catalogue (IRAS Explanatory Supplement, 1985) covers about 96 % of the sky to levels of about 0.5 Jy at 12, 25 and 60 μm and about 1.5 Jy at 100 μm. Figure 2 shows how AGNs detected in this catalogue are separated from normal galaxies on an infrared colour-colour diagram. Seyferts and quasars have spectra which are much flatter (bluer) particularly between 60 and 25 μm, than those of non active spirals or of IR-selected galaxies.

On the basis of these data we compiled a catalogue of sources from the IRAS catalogue with the following selection criteria :

(i) Detections : high or medium quality fluxes at 25 and 60 μm.

(ii) AGN-like colours : $-1.5 < \alpha(25,60) < 0.0$ where $\alpha(25,60)$ is the spectral index defined by the nominal 25 and 60 μm flux densities using the flux density (F_ν) – frequency (ν) convention $F_\nu \propto \nu^\alpha$. These wavelengths were chosen as most efficient for indicating flat-spectrum nuclear IR emission. A cold galactic disk would dominate the 60 to 100 μm spectrum, possibly masking a warm nuclear component. Our criterion using the 25 to 60 μm colours is therefore more efficient than that proposed by Glass (1985), based on the 60 to 100 μm colours. This can be seen by inspecting the colour-colour diagram in figure 2. However, we caution that, although efficient, our method does not provide a *complete* sample of Seyferts, and in this respect is similar to most other survey techniques used to detect Seyferts (Véron, 1985).

(iii) High Galactic Latitude : $|b| > 20°$. This minimizes contamination of our sample by galactic sources.

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(iv) Outside Magellanic Clouds :

$0^h36^m < RA < 1^h23^m$; $-74° < DEC < -72°$ (SMC)

$4^h40^m < RA < 5^h55^m$; $-72° < DEC < -65°$ (LMC)

These regions were rejected to minimize confusion.

Otherwise, no more selection criteria were applied. For instance, no variability check was used, as IR variability of AGNs points to a nonthermal origin of the infrared radiation. This was deemed sufficiently important to offset the added inaccuracy of the colours involved. It turns out that objects 177 (probably a star), 301 (the Seyfert 1 galaxy NGC 4593) and 489 (an anonymous Seyfert 2 galaxy) have a more than 95 % chance of showing variability in the infrared. We caution that for NGC 4593 resolution effects might cause this apparent variability.

3. The warm source catalogue.

The catalogue of IRAS warm sources selected as described in section 2 is listed in table I.

From left to right the columns are :

1. A running number.

2-7. The IRAS position (epoch 1950.0).

8. The 25 to 60 μm spectral index α defined by $F_\nu \propto \nu^\alpha$.

9. The 60 μm flux density (Jansky).

10. The 60 to 100 μm spectral index, defined like column 8.

11. Classification ; the entries have the following meaning :
   BL - BL Lac object
   S1 - Seyfert 1 (including QSOs)
   S2 - Seyfert 2
   S3 - LINER
   H2 - galaxy with nuclear HII-region
   PN - planetary nebula
   RN - reflection nebula
   DN - galactic dark cloud
   ST - star
   LH - local H2 region in the galaxy

12. Redshift (source : Véron and Véron, 1985 ; Palumbo *et al.*, 1983 ; de Grijp *et al.*, 1986).

13-14. Matches with published catalogues using the same catalogue numbering convention as given by the IRAS Catalogue.

15. Relevant comments.

4. Identifications.

Figure 1 shows the optical fields for all the sources in the sample. Sources were identified using the blue Palomar Sky Survey or ESO/SRC plates. Matching of optical and infrared sources was done by taking into account the IRAS positional accuracy (the 95 % confidence ellips typically having semi major and semi minor axes of 40″ and 10″) and the occurence rates of stars and galaxies (see e.g. de Ruiter, 1978 for a discussion on likelihood ratios). In some cases the limited angular resolution has produced problems for certain sources. Examples of this are sources 29 (Tab. I) where the IRAS position is a mean between a galaxy and a foreground star, and sources 257 and 368 where 2 close galaxies were detected as a single source. In these 3 cases the infrared radiation must originate in both identification candidates, as the IRAS position is between them, and the quoted accuracy is better than the actually observed discrepancy.

Preliminary results of the identification statistics are presented in table IV. Optical spectroscopy has been carried out for 386 sources in table I (De Grijp *et al.*, 1986) and the identification type listed in column 11 of table I incorporates the results of this spectroscopy : In classifying Seyfert nuclei we adopted the scheme of Baldwin *et al.*, (1981), where Seyfert galaxies have ionization with [OIII]λ5007/Hβ > 6 and [NII]λ6584/Hα > 0.4. Details of the optical spectroscopy and the analysis of the observed emission-line ratios will be discussed in detail elsewhere.

Since the colour criterion used in this paper excludes normal stars, all stars in our catalogue have a large infrared excess at 60 μm, presumably due to a thermal ($T \sim$ 100-300 K) component. The sample includes β Pictoris and Fomalhaut (αPsA), both « protoplanetary » systems, but Vega (αLyr) is absent because of its low galactic latitude.

Excluding the obvious galactic foreground objects, 381 galaxies and 62 compact objects remain. A number of these latter objects are catalogued QSOs (Véron-Cetty and Véron, 1985), but many are not listed in published catalogues, and could be either stars or QSOs.

In addition to these AGN candidates, we also present data on the IRAS detections of catalogued AGNs (Tab. II ; Véron-Cetty and Véron, 1985) and radio sources (Tab. III ; Kuhr, 1981), whose properties put them outside the colour or galactic latitude restrictions imposed in table I. The automated matching routines used in compiling the IRAS catalogue associated several QSOs close to nearby galaxies with the strong IR flux of this galaxy. These cases were excluded from table II as they have no physical significance.

5. Completeness and reliability.

5.1 FLUXES. — An important selection effect is introduced into the IRAS Point Source Catalogue by the detection method used. To discriminate against moving nearby sources, cosmic ray hits, glitches etc., each region of the sky was observed by IRAS between 8 and 12 times and a source had to be detected several times to be included in the Point Source Catalogue. Fluxes were determined by taking the mean of the detections, without correcting for the cases where noise suppressed the signal to just below the detection threshold. (IRAS circular, 2 October 1985). The resultant effect of noise caused fluxes of sources not detected during every satellite pass to be overestimated. This effect is noticable for very faint and low quality sources (e.g. flux quality < 3). The resultant overestimation of the 25 μm flux would give the spurious impression of a flat spectrum. Indeed the success rate of AGN detections appears to be 35 % for these « problem » sources compared to ~ 75 % for the rest of the sample. A further consequence of this can be seen in figure 3, where the $\log N - \log S$ relation at low flux levels (< 1.6 Jy) deviates from the -1.5 slope. As expected from the discussion above there is an excess of objects just before incompleteness depresses the curve again.

5.2 Colours. — The colour-colour diagram of figure 1 shows that although « normal » galaxies and AGNs separate quite well, there is still some overlap between the two populations. Clearly, an efficient method should exclude as many normal galaxies as possible, but this goes at the cost of completeness. A reasonable compromise appears to be a colour cutoff at $\alpha(25,60) = -1.5$. Comparison with UV and optically selected samples (Miley *et al.*, 1985 ; Neugebauer *et al.*, 1986) shows that this will exclude ~ 30 % of the AGNs. At the other end of the colour range contamination by stars sets in at $\sim \alpha(25,60) = 0.0$. As less than 5 % of the known AGNs have such flat spectra this hardly affects completeness.

Since AGNs with steep IR spectrum are most probably dominated by cold disk emission (i.e. : their nuclei are rather faint compared to the rest of the galaxy), the bias entered into the sample by using this colour criterion primarily affects low luminosity AGNs.

6. AGN's in the IRAS catalogue.

From the identification statistics we can extrapolate from the results of our warm source catalogue to estimate the total number of AGNs contained in the IRAS database.

Of the strong high latitude sources ($S > 3$ Jy at 60 μm) where flux overestimation is not a problem, 4.9 % have IR spectra satisfying our criterion. Assuming the fraction to be independent of flux density, the corresponding number of real warm sources in the total 60 μm high latitude survey is 1071 ; many of these are so faint that no reliable 25 to 60 μm colour can be determined. As we have seen our colour criterion was designed to be efficient for the selection of AGNs, but not exclusive. Of the Seyferts discussed by Miley *et al.* (1985) 27 % have colours which lie outside our criterion. Of the quasars presented by Neugebauer *et al.* (1986) 26 % lie outside our spectral range (Tab. II and III).

Taking into account the fraction of contaminating foreground sources from table IV (0.18), the success rate of the colour criterion for finding AGNs (0.75) and the fraction of Seyferts that fall in the selected colour range (0.73), we estimate the total number of AGNs in the PSC to be $1071 \times (1 - 0.18) \times 0.75/0.73 = 902$. Coadding the IRAS data reduces the flux limit by a factor of ~ 2.5 and should therefore increase the resultant number of AGNs by $\sim (2.5)^{1.5} = 4$. We conclude that the total number of AGNs accessible by the IRAS database is ~ 3500.

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References

Baldwin, J. A., Philips, M. M., Terlevich, R. : 1981, *Publ. Astron. Soc. Pac.* **93,** 5.
De Grijp, M. H. K., Lub, J., Miley, G. K. : 1986, *Astron. Astrophys.* (in preparation).
De Grijp, M. H. K., Miley, G. K., Lub, J., de Jong, T. : 1985, *Nature* **314,** 240.
De Jong, T., Clegg, P. E., Soifer, B. T., Rowan Robinson, M., Habing, H. J., Houck, J. R., Aumann, H. H., Raimond, E. : 1984, *Astrophys. J. Lett.* **278,** L67.
Dennefeld, M., Véron-Cetty, M. P. : 1986, *Light on Dark Matter,* Israel F. P. (Ed) (Reidel Publishing Company) p. 493.
De Ruiter, H. R. : 1978, *Faint Extragalactic Radiosources and their Optical Identifications,* Ph. D. thesis Leiden University.
De Vaucouleurs, G., de Vaucouleurs, A., Corwin, Jr., H. G. : 1976, *Second Reference Catalogue of Bright Galaxies* (Austin : University of Texas Press).
Glass, I. S. : 1986, *Light on Dark Matter,* Israel F. P. (Ed) (Reidel Publishing Company).
IRAS Catalogs and Atlases Explanatory Supplement : 1985, Beichman, C., Neugebauer, G., Habing, H. J., Clegg, P. E., Chester, T. J. (Eds) (Washington DC : US Government Printing Office).
Joint IRAS Science Working Group : 1985, *IRAS Point Source Catalog* (Washington DC : US Government Printing Office).
Jones, T. W., Leung, G. M., Gould, R. J., Stein, W. A. : 1977, *Astrophys. J.* **212,** 52.

KUHR, H., WITZEL, A., PAULINY-TOTH, I. I. K., NAUBER, U. : 1981, *Astron. Astrophys. Suppl. Ser.* **45,** 376.

KUKARKIN, B. V., KHOLOPOV, P. N., ARTIRUKHINA, N. M., FEDORICH, V. P., FROLOV, M. S., GORANSKIJ, V. P., GORYNYA, N. A., KARITSKAYA, E. A., KIREEVA, N. N., KUKARKINA, N. P., KUROCHKIN, N. E., MEDVEDEVNA, G. I., PEROVA, N. B., PONOMAREVA, J. A., SAMUS, N. N., SHUGAROV, S. Yu. : 1981, *New Catalog of Suspected Variable Stars* (Moscow State University).

LAUBERTS, A. : 1982, *The ESO/Uppsala Survey of the ESO (B) Atlas* (Munich : European Southern Observatory).

LEE, O. J., BALDWIN, R. J., HAMLIN, D. W. : 1943, *Annals of the Dearborn Observatory* **V,** part 1A.

LEE, O. J., BARTLETT, T. J. : 1944, *Annals of the Dearborn Observatory* **V,** part 1B.

LEE, O. J., GORE, G. D., BARTLETT, T. J. : 1947, *Annals of the Dearborn Observatory* **V,** part 1C.

MILEY, G. K., DE GRIJP, M. H. K., 1986, *Light on Dark Matter,* Israel F. P. (Ed) (Reidel Publishing Company) p. 471.

MILEY, G. K., NEUGEBAUER, G., SOIFER, B. T., 1985, *Astrophys. J. Lett.* **293,** L11.

NEUGEBAUER, G. : 1978, *Physica Scripta* **17,** 149.

NEUGEBAUER, G. *et al.* : 1984, *Astrophys. J. Lett.* **278,** L1.

NEUGEBAUER, G., MILEY, G. K., SOIFER, B. T. : 1986, *Astrophys. J.* **308,** 815.

NEUGEBAUER, G., SOIFER, B. T., ROWAN ROBINSON, M. : 1986, *Structure and Evolution of Active Galactic Nuclei,* Giuricin G. (Ed) (Reidel Publishing Company) p. 11.

NILSON, P. : 1973, *Uppsala General Catalogue of Galaxies* (Act. Universitaties Upsaliensis, Nova Regiae Societatis Upsaliensis, Series V : A, Vol. 1).

PALUMBO, G. G. C., TANZELLA-NITTI, G., VETTOLANI, G. : 1983, *Catalogue of Radial Velocities of Galaxies* (Gordon and Breach Science Publishers).

PRICE, S. D., MURDOCK, T. L. : 1983, *The Revised Air Force Geophysics Laboratory Infrared Sky Survey,* AFGL-TR-83-0161 (Hanscom Air Force Base, Massachusetts : Air Force Geophysics Laboratory).

RIEKE, G. H. : 1978, *Astrophys. J.* **226,** 550.

RIEKE, G. H., LEBOFSKY, M. J. : 1979, *Ann. Rev. Astron. Astrophys.* **17,** 477.

SMITH, M. G. : 1983, *Proc. XVIth ESLAB Symposium,* Toledo (ESA Publications) p. 365.

SMITH, M. G. : 1985, *Active Galactic Nuclei,* Dyson J. E. (Ed) (Manchester University Press).

Smithsonian Astrophysical Star Catalog (4 vols) 1966 (Washington DC : Smithsonian Institution).

SOIFER, B. T. *et al.* : 1984, *Astrophys. J. Lett.* **278,** L71.

VÉRON-CETTY, M. P., VÉRON, P. : 1985, *ESO Sci. Rep. nr* **4 :** A Catalogue of Quasars and Active Nuclei (Munich : European Southern Observatory).

VORONTSOV-VELYAMINOV, B. A., ARHIPOVA, V. P. : 1963, *Morphological Catalog of Galaxies,* part 2-5 (Moscow State University).

VORONTSOV-VELYAMINOV, B. A., KRASNOGORSKAJA, A. A. : 1962, *Morphological Catalog of Galaxies,* part 1 (Moscow State University).

WACKERLING, L. R. : 1970, *Mem. R. Astron. Soc.* **73,** 153.

TABLE I. — *IRAS candidate Active Galactic Nuclei, sources were selected on position (high galactic latitude, not in Magellanic Clouds) and colour (25 to 60 micron spectral index between −1.5 and 0.0). All sources satisfying these criteria are included, even when optical identification indicates them to be non-extragalactic objects.*

NUMBER	RA HH MM SS.s	DEC +DD MM SS	ALFA 25/60	60 (Jy)	ALFA 60/100	SPEC TYPE	Z	--ASSOCIATIONS-- CAT	SOURCE NAME	--------COMMENTS--------
1	00 01 41.4	-30 56 44	-0.18:	0.84:	-0.97:					
2	00 02 49.9	-08 26 56	-1.08:	1.36	-0.59	H2				
3	00 06 43.9	21 33 09	-0.53:	0.72	>-0.76	H2				
4	00 16 3.6	-07 19 28	-1.17:	1.76:	0.33:	H2				
5	00 19 17.0	-62 32 23	-1.26	0.93	-0.52					
6	00 19 52.2	-79 26 46	-1.09	3.18	0.37	S2				
7	00 26 1.4	-10 16 50	-0.39:	0.97	>-0.59	H2				faint object
8	00 26 3.0	-73 15 18	-1.07	5.52	0.46					close to SMC, crowded
9	00 32 10.6	-00 18 55	-1.11:	0.99	-0.65:	S2				
10	00 32 16.3	-61 42 36	-1.48:	1.20	-1.00	H2				
11	00 33 18.5	-81 56 32	-0.95:	0.60	>-3.58	S2				
12	00 33 43.2	-73 37 49	-0.95	1.14	-0.53					close to SMC, crowded
13	00 34 25.7	-33 49 47	-1.12	6.71	0.77	H2	0.020	29	*ESO350-IG38	
14	00 38 16.3	23 33 47	-1.17:	0.76:	-0.83:	H2				
15	00 43 22.8	41 55 06	-1.35	1.45	>-3.11:	M31	-			part of M31 spiral arm
16	00 46 6.0	31 41 02	-0.69	1.43	-0.40	S2	0.014	29	MARK 348	MARK 348 is western of pair
17	00 46 37.8	-12 45 27	-1.18:	1.34:	-0.82:	H2		10	M-02-03-022	
18	00 50 56.7	12 25 10	-0.60	2.13	-0.26	S1	0.061	29	*I ZW 1	
19	00 52 6.0	-70 54 21	-0.31	1.11	> 0.20	S2				
20	00 59 50.0	-19 56 18	-0.83	0.71	-0.61	S2		14	541-IG 12	
21	01 02 31.0	-64 23 17	-1.42	2.79	-0.01	H2	0.020	14	79- G 16	
22	01 05 18.8	33 11 15	-1.05:	0.71	>-0.85	H2	0.016	9	U00697	
23	01 07 13.5	-03 48 25	-0.49	1.03	> 0.37	S2				
24	01 09 9.7	-38 20 59	-0.04	1.83	-0.13	S2	0.011	29	*TOL 0109-38	
25	01 11 52.9	84 55 54	-0.68	1.30	-0.58	S2				
26	01 13 22.4	32 49 52	-1.19:	2.28:	-0.35:	S2	0.016	29	MARK 1	
27	01 24 50.3	18 55 15	-0.92:	1.24	-0.68	S1	0.017	29	*MARK 359	
28	01 34 37.5	-09 24 12	-0.94:	0.85	>-0.92	S2		10	M-02-05-022	
29	01 35 19.6	35 05 18	-0.62:	0.59:	>-1.38			13	54855	doubtful identification
30	01 35 37.6	-13 07 28	-0.81	0.96	-0.39	S2				
31	01 37 51.3	-22 30 16	-0.69:	0.59:	>-0.73	S1		14	543- G 11	
32	01 40 34.5	-53 59 32	-1.03	0.85	>-0.38	ST	-	13	232501	
33	01 41 23.6	02 05 59	-0.51	1.25	-0.07:	S2	0.017	29	MARK 573	
34	01 42 18.0	-42 04 55	-1.34:	1.48	-0.33	H2				
35	01 45 57.4	41 18 26	-0.91:	0.63:	>-0.91					
36	01 46 10.6	-61 35 47	-1.37:	0.84	-1.21	H2		14	114-IG 9	
37	01 47 33.7	-07 40 36	-0.31:	1.09	> 0.16	S2				
38	01 47 35.2	35 54 33	-0.74	0.60	>-0.99	S2				
39	01 57 16.6	00 09 00	-1.40	2.30	0.08	S1	0.163	29	*MARK1014	
40	02 02 55.1	-60 32 26	-1.01:	0.56	>-1.12	H2				
41	02 04 20.5	-55 25 53	-1.36:	0.90	-1.94	S2		14	153- G 20	
42	02 07 15.9	-10 25 10	-1.21:	5.73:	>-1.99	H2	0.013	6	N0839	
43	02 09 1.0	-49 56 04	-0.91	0.58	-1.69	S2	0.046	29	*F 377	
44	02 10 12.7	-50 31 03	-1.48	0.89	-1.30	H2		14	197- G 29	
45	02 14 20.2	33 36 58	-0.59	0.85	-0.28:	ST	-	13	55427	
46	02 25 6.2	-10 23 23	-1.50:	1.48	-0.12	H2		27	MARK1039	
47	02 25 16.6	31 05 18	-0.03	2.73	-1.00	S1	0.016	29	*MARK1040	
48	02 26 9.8	-39 02 51	-0.96	0.80	>-1.96	H2				
49	02 27 8.2	28 26 29	-0.77:	0.62	-2.12					
50	02 27 14.9	-74 11 53	-0.67	0.51	>-1.32					cluster?; no obvious id.
51	02 29 4.4	02 35 13	-0.48:	0.70	-0.91		0.028	12	ZG 229+02	
52	02 29 47.5	-36 53 29	-1.37	1.41	-0.94	S2		14	355- G 25	
53	02 30 27.0	00 12 04	-1.30	2.72	0.09	S2		9	U02024	
54	02 32 10.5	-09 00 19	-1.03	1.43	-0.57	S1	0.043	29	NGC 985	
55	02 36 36.3	-31 01 14	-0.90:	0.75	-1.32	S1		14	416- G 5	
56	02 38 36.9	-08 28 08	-0.65	0.93	-0.76:	S3	0.005	29	NGC 1052	
57	02 40 7.2	-00 13 30	-0.87	185.60	-0.49	S2	0.003	29	NGC 1068	
58	02 40 57.0	-60 06 34	-1.11	0.90	-0.51	H2		14	115-IG 25	
59	02 41 44.1	-14 04 10	-1.16	1.34	-0.47	ST	-	13	148575	
60	02 42 44.7	-18 47 06	-1.30:	2.05:	-1.66:	ST	-	13	148584	
61	02 46 6.7	26 18 22	-0.77:	1.17	-1.34					
62	02 49 55.0	-33 32 38	-1.37:	1.02	-1.93			14	356- G 15	
63	02 53 0.2	02 11 41	-1.38	2.73	0.91	H2				
64	02 53 42.7	-16 41 18	-0.89	0.72	-1.29	S2				
65	02 55 21.6	-16 42 42	-1.11:	0.99	0.10:					
66	02 58 3.0	-17 20 58	-0.69:	0.66	-1.96			6	N1163	
67	02 58 4.0	-11 36 55	-0.13	0.56	-1.08:	S2	0.030	10	M-02-08-039	
68	03 01 16.5	-01 17 53	-0.42	0.78	>-0.48:	S2		9	U02514	
69	03 02 25.4	-47 16 11	-1.46:	0.99	-1.11	H2		14	247-G? 16	
70	03 02 40.5	-72 54 01	-1.14:	0.79	-1.04	H2				
71	03 03 6.9	-83 35 02	-1.28	1.04	-0.53					
72	03 05 58.7	-23 09 02	-0.74	1.54	-0.37	S2	0.035	29	*NGC 1229	
73	03 06 43.1	-32 53 48	-1.32	1.10	-0.81	H2				
74	03 10 7.4	30 52 58	-0.02	0.55	>-2.23	ST	-	2	DO 9794	
75	03 10 36.5	-02 54 29	-1.02	1.09	> 0.16	S2				
76	03 10 59.3	-51 31 52	-0.88:	0.55	-1.17:	S2		14	199-IG 23	
77	03 11 4.9	24 33 17	-1.16:	1.18	>-0.37:					
78	03 12 30.0	01 19 25	-1.02	0.84	-1.60	S2				
79	03 16 10.5	87 10 23	-0.84:	0.53	>-2.44					
80	03 20 12.6	-51 50 07	-0.16	0.59	>-0.71	S2		14	200-IG 9	
81	03 21 58.5	30 56 07	-0.05	0.86	>-4.62					much galactic dust in area
82	03 22 4.7	30 35 49	-0.39:	3.95:	-1.74:	RN	-			
83	03 22 17.7	-03 13 05	-0.88	2.33	-0.33	S2		27	MARK 607	
84	03 23 1.2	-58 00 46	-0.99:	0.77	>-0.80	S2				
85	03 23 52.4	-60 54 47	-0.99	1.51	-0.62	S2		14	116- G 18	
86	03 25 29.9	30 50 31	-1.02	4.29	-1.01:	RN	-			
87	03 25 47.8	30 34 43	-0.43	0.73	-4.06	LH	-			
88	03 26 30.5	-12 19 39	-1.36:	1.50	-2.12			10	M-02-09-044	
89	03 27 40.3	30 22 36	-0.47	1.32	>-3.57	LH	-			
90	03 27 49.8	-43 29 14	-1.39	1.26	-0.77					
91	03 28 9.4	30 39 29	-0.15	0.63	>-5.99	H2				
92	03 30 40.9	-62 20 39	-1.16:	0.78	-0.93	H2				
93	03 31 7.5	-26 01 49	-1.32:	1.73:	-2.94:	PN	-	11	PK 220-53.1	
94	03 33 34.6	-56 25 08	-0.95	1.38	-0.05	S2				
95	03 34 25.7	-21 03 59	-1.49	7.12	0.43			10	M-04-09-033	
96	03 35 35.0	01 04 29	-0.40	0.66	>-0.81	S2				
97	03 35 55.4	29 31 60	-0.34	1.96	-0.23					
98	03 36 17.0	-16 41 60	-0.74	1.04	>-2.32	S2				
99	03 38 0.4	-71 13 23	-1.41	1.23	-0.95	S2		14	54-IG 15	
100	03 42 6.1	01 46 59	-0.26	0.66	-2.80	ST	-	2	DO 638	
101	03 43 21.6	23 47 37	-0.85	4.58	>-1.41	ST	-	7	23 TAU	
102	03 46 12.4	25 21 03	-0.36:	0.64:	-3.04:					no obvious candidate
103	03 49 0.6	-03 21 07	-1.04:	0.90	-2.40					
104	03 50 40.3	19 20 49	-0.39:	0.72:	>-2.26					two likely candidates
105	03 51 59.9	-17 28 29	-1.10	1.47	-0.80	H2				
106	03 55 38.3	-63 00 12	-0.55	0.95	-0.40:					
107	03 55 46.6	01 18 13	-0.54	0.93	>-1.47:	ST	-	13	111532	
108	03 57 30.7	-61 32 29	-1.30	1.55	-0.90					
109	04 08 12.1	16 31 10	-1.42	1.58	-2.61	ST	-	7	26398	
110	04 10 18.3	-28 38 01	-1.27	1.76	-0.01					
111	04 10 60.0	-55 10 27	-1.49:	1.82	-1.09			14	157-IG 8	

TABLE I (continued).

NUMBER	RA HH MM SS.s	DEC +DD MM SS	ALFA 25/60	60 (Jy)	ALFA 60/100	SPEC TYPE	Z	--ASSOCIATIONS-- CAT	SOURCE NAME	--------COMMENTS--------
112	04 11 55.4	-12 51 54	-0.65	16.10	0.98	PN	-	11	PK 206-40.1	
113	04 12 18.6	-51 16 59	-1.48:	1.12	-0.96:					
114	04 12 26.8	-08 03 07	-0.22	0.66	>-0.83:	S1	0.039	29	1E0412-0803	
115	04 18 34.2	20 22 51	-0.70	3.32	1.07:					
116	04 19 2.4	19 24 60	-0.91	98.26	0.03	RN	-	1	T TAU	
117	04 19 23.8	15 18 30	-1.49	7.40	> 1.32					
118	04 20 43.8	-01 27 33	-0.61:	0.58	>-3.42	S1	0.915	29	PKS 0420-01	
119	04 21 1.6	04 00 58	-0.68:	0.59	-1.64:					
120	04 21 47.7	13 03 22	-0.55	1.40	>-0.52:	ST	-			
121	04 22 44.7	-14 43 47	-1.23	1.17	-1.43	H2	0.018			
122	04 22 59.1	-25 28 09	-1.41	1.10	-0.39:	S2	0.044			
123	04 24 23.2	-63 46 03	-0.67	0.58	>-0.77:					
124	04 25 22.6	-07 15 17	-0.92	0.75	-0.49:	H2	0.099			
125	04 25 56.2	01 16 10	-1.01	2.58	-0.51	ST	-	13	111845	
126	04 25 56.9	-04 40 25	-1.16	3.94	0.34					
127	04 27 9.4	18 07 18	-0.95	3.48	-0.34	ST		1	UX TAU	
128	04 27 22.1	-63 46 24	-0.83	0.75	>-0.22	H2		14	84- G 19	
129	04 28 10.8	-09 44 09	-0.55	0.60	-0.91:	H2	0.047			
130	04 28 43.8	18 01 51	-1.43	372.90	-0.39	DN	-	3	RAFGL 5123	
131	04 29 37.3	17 25 21	-0.67	2.98	-1.02	ST	-	1	GG TAU	
132	04 30 31.6	05 14 58	-0.69	1.30	-1.33	S1	0.033	29	3C 120	
133	04 32 2.4	-47 27 30	-0.92	0.77	>-0.51					
134	04 32 32.0	-14 19 18	-0.74	7.03	>-0.74	LH	-			
135	04 32 45.4	-14 19 46	-0.17:	0.63:	>-4.35	ST	-	10	M-02-12-042	error in MCG catalogue
136	04 32 51.3	-54 16 14	-1.31:	0.81	-0.64:					
137	04 33 12.3	02 09 24	-1.47	3.61	-0.10	H2	0.012			
138	04 33 36.1	14 14 02	-1.45:	1.49	-0.75			9	U03102	
139	04 33 59.5	-10 28 37	-1.40	2.73	-0.71	S1	0.035	29	MARK 618	
140	04 35 31.3	-69 09 58	-0.89:	0.57	>-1.11					
141	04 38 30.5	-08 28 08	-0.63	2.92	0.69	S2	0.015			
142	04 38 49.5	-21 39 09	-1.39:	0.91	-1.14					
143	04 39 12.9	-59 46 36	-0.61	0.48	>-1.49	S2	0.058	14	118-IG 33	
144	04 39 17.2	-27 13 58	-0.93	0.71	-1.56					
145	04 40 55.8	-49 42 27	-1.43	1.18	-1.00	H2				
146	04 42 33.2	-57 57 16	-1.38:	0.72	>-0.66					
147	04 43 4.7	12 56 23	-0.28:	0.57:	-4.09:					
148	04 44 52.2	-05 13 33	-1.10	0.84	>-0.91:	S1	0.044			
149	04 45 6.6	-05 39 31	-0.31	0.63	>-2.88:	ST	-			2 stars
150	04 45 17.9	-58 42 21	-0.93:	0.63	-1.80					
151	04 47 51.0	-63 32 33	-1.15:	0.76	-1.67			14	85-IG 5	
152	04 49 5.7	-36 01 29	-0.80:	0.46:	>-1.60					
153	04 49 21.3	-64 41 15	-0.30:	0.42:	>-1.31	S1				
154	04 50 14.1	-03 17 54	-0.84	0.90	-0.61:	S2	0.016			
155	04 50 32.8	-29 58 27	-1.06	0.67	>-0.78:	S1	0.286			
156	04 50 47.2	03 58 47	-0.12	0.65	>-0.83:	S2	0.030	12	ZG 450+03	
157	04 57 35.1	-75 37 02	-0.50	0.70	-1.48	S2	0.018	14	33- G 2	
158	04 58 35.8	07 29 57	-1.17	1.57	-1.47			12	ZG 458+07	
159	04 59 6.6	-08 56 32	-0.70	2.52	-3.76	DN	-	23	DG 049	faint star shining through
160	04 59 41.5	-22 57 41	-1.27	0.80	-1.27	H2	0.041			
161	05 01 21.6	-39 49 56	-0.87	0.70	>-0.70	PN	-			
162	05 01 38.7	-10 42 11	-0.70	0.71	-1.89	ST	-	13	150111	
163	05 01 48.0	-06 46 03	-1.47:	0.98	-3.97:					H2 region?
164	05 03 6.2	-76 28 47	-0.83:	0.61	-0.84					
165	05 07 29.2	-00 37 37	-0.19	0.50	>-1.35	ST	-	13	131834	
166	05 09 3.8	-02 26 25	-0.44	1.77	> 0.81	ST	-			
167	05 09 10.3	00 58 37	-0.59:	0.59	-1.38:	ST	-	13	112509	
168	05 09 19.7	-34 27 10	-1.02:	0.64	-0.96:			14	362- G 8	
169	05 10 13.2	-07 12 59	-0.69	0.63	>-0.91:	ST	-			
170	05 10 55.6	-12 59 57	-0.38:	0.42:	>-4.98:	ST	-	13	150239	
171	05 13 36.9	-00 12 13	-0.36	0.65	-1.36	S1	0.033	29	*AKN 120	
172	05 14 15.5	79 10 45	-0.28:	0.39:	>-1.85	ST	-	13	5496	
173	05 17 2.6	-71 56 45	-0.76	1.16	-1.41					close to LMC, crowded
174	05 17 42.8	-32 42 28	-1.05	1.48	-0.52	S1	0.013	10	M-05-13-017	
175	05 21 16.8	76 14 31	-0.93:	0.65	>-1.82					
176	05 21 48.6	-12 12 42	-0.64:	0.57:	>-1.11	S1	0.049			
177	05 22 13.4	-08 44 39	-0.43	3.01	-0.26					
178	05 23 7.0	-07 01 55	-0.13	0.79	>-0.53	ST	-			
179	05 23 53.1	-46 02 52	-1.15	2.79	-0.04	S2		14	253- G 3	
180	05 24 33.7	-19 15 08	-1.06:	0.56	-0.99	H2		10	M-03-14-016	
181	05 30 14.5	-05 37 52	-1.20	55.33	-0.78:	ST	-	16	02114	
182	05 31 6.3	-06 31 45	-0.56	5.49	-2.36:					
183	05 31 6.7	-06 20 33	-1.23:	2.20:	>-3.66:	LH	-	1	SS ORI	
184	05 31 24.0	-12 27 26	-1.29:	0.76	-1.01:	H2				
185	05 33 30.9	-73 59 26	-1.26:	0.82	-0.91:					
186	05 34 53.4	-32 04 06	-1.44:	0.80	-0.04:					
187	05 36 16.1	-60 50 43	-1.40	1.04	-0.31:					
188	05 37 20.3	-44 06 43	-0.81	0.52	>-1.28:		0.894	29	PKS0537-441	
189	05 46 5.4	-51 04 55	-0.88	19.61	1.16	ST	-	13	234134	beta Pic, protoplanetary
190	05 55 6.2	-65 28 39	-0.14:	0.42:	>-1.71					close to LMC, crowded
191	05 57 4.9	-81 23 48	-0.86	1.16	0.10:		0.013			
192	05 58 44.7	-42 06 32	-0.99:	1.14	-1.69			14	307- G 12	
193	05 58 46.3	-75 40 31	-1.01	0.72	>-0.95	PN	-	11	PK 286-29.1	
194	05 59 34.6	-57 56 19	-1.16	0.80	-0.86:	S2				
195	06 02 53.2	67 34 03	-1.21:	1.14	>-1.21:					
196	06 09 47.5	71 03 08	-0.35	3.88	0.29	S2	0.014	29	MARK 3	
197	06 11 30.3	-32 40 59	-1.10	0.83	-0.70	S2	0.050			
198	06 11 34.9	-72 52 31	-0.75:	0.46	>-1.61					
199	06 12 32.8	-33 00 18	-1.22:	0.87	-0.70					
200	06 14 55.7	-49 50 23	-1.28	0.64	>-0.95	H2				
201	06 25 38.0	63 42 39	-1.42	1.75	-0.59	S2		30	7ZW 073	
202	06 27 23.0	68 58 11	-0.98	0.85	>-0.59	S2				
203	06 28 0.3	63 42 38	-1.50	1.45	-1.47	S1		9	U03478	
204	06 29 12.7	-66 27 59	-1.29:	0.76	-0.82:	S2				
205	06 29 55.1	-66 24 31	-0.71	0.58	-1.11:	H2				
206	06 31 43.6	-64 03 45	-0.87	0.57	-1.38:	S2		14	87- G 26	
207	06 35 44.4	-69 51 29	-1.17:	0.68	>-0.76:					
208	06 41 46.1	63 39 40	-0.69	0.60	>-1.09:	H2				
209	06 45 45.0	74 29 08	-0.56	1.11	0.33:	S1	0.019	29	MARK 6	
210	06 47 43.9	-67 12 08	-1.22:	0.65	-1.70			14	87- G 43	
211	06 50 38.0	50 25 05	-1.49:	1.84	-0.66		0.020	27	MARK 373	
212	06 52 7.4	-66 20 34	-0.44:	0.40:	>-1.78					
213	06 56 18.6	-65 29 28	-1.31	0.78	-1.08	S1	0.030	29	*F 265	
214	07 03 42.3	59 07 27	-1.16:	1.29	-1.41					
215	07 10 35.5	45 47 07	-0.46	0.86	>-0.75	S1	0.056	29	*MARK 376	
216	07 12 53.6	87 57 42	-1.27	0.83	>-3.10	H2				
217	07 14 29.7	41 04 27	-1.25:	1.24	-1.02		0.023	9	U03781	
218	07 31 28.4	62 07 45	-1.24	1.43	0.38	H2				
219	07 31 52.0	32 55 49	-1.29:	1.59	-1.54			9	U03917	bright galaxy, but far off
220	07 32 42.4	58 52 56	-0.57	0.87	-1.02	S1	0.039	29	*MARK 9	
221	07 32 47.9	-87 04 39	-1.04	0.65	>-3.68	H2	0.016			
222	07 32 59.4	69 44 35	-1.43	1.63	0.56:					
223	07 34 11.2	49 43 28	-1.42:	1.33	-1.03					doubtful identification
224	07 37 56.5	65 17 43	-0.83	1.12	-0.11	S2	0.038	29	MARK 78	

TABLE I *(continued)*.

NUMBER	RA HH MM SS.s	DEC +DD MM SS	ALFA 25/60	60 (Jy)	ALFA 60/100	SPEC TYPE	Z	CAT	SOURCE NAME	COMMENTS
225	07 38 48.1	49 55 40	-0.74	1.49	-0.67	S1	0.022	29	MARK 79	
226	07 41 1.5	29 22 06	-0.61:	0.65	-2.15		0.016	6	A0741+29	
227	07 43 10.6	61 03 24	-1.17	0.84	-1.81	S1	0.030	29	*MARK 10	
228	07 48 19.8	28 03 60	-0.65:	0.64	-1.43:					
229	07 48 26.3	-73 18 23	-1.18:	0.65	-3.26:					
230	07 50 19.6	24 41 04	-0.55:	0.82	>-0.79:					
231	07 51 26.3	53 27 45	-1.24:	1.39	-1.85			9	U04085	
232	07 55 56.3	50 58 37	-0.75	0.74	>-0.59					
233	07 57 17.7	26 45 07	-0.90	0.97	>-0.80			9	U04155	
234	07 59 49.5	26 01 27	-0.36:	0.54	>-1.20					
235	07 59 52.9	65 08 21	-1.17	1.74	-0.05					
236	08 04 20.1	39 08 59	-1.14	1.36	-0.13	S2	0.023	29	MARK 622	
237	08 07 14.1	18 47 10	-1.50	2.74	-0.16	H2	0.016			
238	08 07 48.8	58 06 06	-1.31:	1.30	-1.21			10	M+10-12-090	
239	08 11 44.4	46 13 42	-1.30:	1.19	-1.06			10	M+08-15-056	
240	08 13 16.7	26 07 42	-0.92:	1.18	0.01		0.042	27	MARK 623	
241	08 18 59.8	53 14 27	-0.83	7.48	0.83	ST	-	2	DO 32236	
242	08 21 25.4	17 29 40	-0.05:	0.69	-0.79		0.037	27	MARK 387	
243	08 21 55.9	36 25 07	-0.23:	0.73	-1.78					
244	08 25 33.5	-77 37 22	-1.37	1.55	-2.08	S2	0.018	14	18- G 9	borderline Seyfert
245	08 27 43.9	-02 42 47	-1.38	1.51	-0.28	S2	0.041	12	ZG 827-02	
246	08 32 9.0	66 24 22	-1.33	1.58	0.22:		0.018	27	MARK 93	
247	08 44 3.4	18 03 47	-0.88	89.31	1.16	PN	-	11	PK 208+33.1	
248	08 51 49.8	17 52 51	-0.64:	0.88	-0.57:	S1	0.064	29	*MARK1220	
249	08 56 2.6	55 54 14	-0.83:	0.52	-2.26		0.008	9	U04705	
250	09 10 29.8	41 09 04	-0.36	0.52	>-1.27					plate limit cluster
251	09 11 43.7	67 57 58	-1.45:	1.05	-0.99	H2	0.032	27	MARK 103	
252	09 16 17.5	26 27 60	-0.62:	1.14:	> 0.26	ST	-			
253	09 18 17.8	-07 50 41	-0.28:	0.62:	-1.25:	S2		10	M-01-24-012	
254	09 30 31.9	-84 08 26	-0.38	0.50	-2.76:	S2				
255	09 30 35.5	68 13 49	-0.45:	0.60:	>-1.28:	S2				
256	09 43 35.8	-13 07 10	-0.23	0.52	>-1.29:	S2	0.131			
257	09 43 46.4	03 17 10	-1.00:	0.82:	-4.96:	H2	0.0198	6	I0564	southern one of a pair
						H2	0.0205			northern one of a pair
258	09 45 7.4	59 29 33	-1.05:	0.89	-0.76	H2		10	M+10-14-039	
259	09 45 23.4	50 43 37	-0.95:	0.67	>-0.78	S1	0.056	29	*MARK 124	
260	09 49 46.1	-01 22 38	-0.16	1.39	0.39:	S1	0.019	29	*MARK1239	
261	09 52 28.9	13 40 01	-0.80	0.79	>-1.05:	H2	0.020	27	MARK 711	
262	10 20 8.4	33 08 31	-0.46:	0.60	>-1.00:					
263	10 21 34.6	67 32 58	-0.66	0.76	>-1.23:	S2		12	ZG 1021+67	
264	10 22 21.6	-18 23 21	-0.46:	53.00	1.19	PN	-	11	PK 261+32.1	
265	10 22 43.2	-82 51 56	-0.66:	0.48:	-2.39:					
266	10 28 17.9	29 03 15	-1.06	2.18	-0.79			6	N3265	
267	10 30 54.8	60 17 04	-0.79	0.95	>-0.29	S2	0.051	29	MARK 34	
268	10 33 11.8	63 38 03	-1.21:	0.81	>-0.44	H2				
269	10 37 31.9	59 49 40	-1.18:	0.78	>-0.48					
270	10 40 30.2	70 40 09	-1.36	0.95	-2.04	S2		10	M+12-10-067	
271	10 45 53.6	50 18 02	-0.94:	0.73	-0.97:	H2	0.023	27	MARK 152	
272	10 45 59.1	-24 53 49	-1.36	2.35	-0.93	S2	0.012	29	*NGC 3393	
273	10 46 55.1	-31 41 42	-1.28:	0.95	-1.06					
274	10 47 55.6	-28 08 03	-1.13	0.97	>-1.03					
275	10 51 11.2	-27 23 14	-1.07	0.90	>-0.21	S2	0.161			
276	10 56 45.4	-33 23 17	-1.25	2.10	> 0.88	H2				
277	10 59 29.9	-34 26 07	-0.52	3.88	-0.44	ST	-	7	-347151	
278	11 03 22.5	72 50 18	-0.72	1.73	-0.35	S1	0.009	29	*NGC 3516	
279	11 05 48.4	-11 31 46	-0.60	0.71	>-1.29	S2	0.055			
280	11 19 58.7	04 31 06	-0.50	0.83	-1.80:	H2	0.039	10	M+01-29-038	
281	11 21 33.3	-28 06 38	-0.62	0.59	>-1.03:	S2	0.014			
282	11 24 55.7	-28 59 02	-0.67:	0.65	>-1.12:	S2	0.025	10	M-05-27-013	
283	11 29 52.4	53 13 45	-1.12:	0.75	>-1.10:	S2	0.027	29	MARK 176	
284	11 31 8.5	21 39 13	-0.98:	0.78	-2.03		0.022	10	M+04-27-064	
285	11 33 1.9	57 13 49	-1.42:	1.65	-0.39:	S2	0.052	10	M+10-17-021	
286	11 36 33.6	-37 27 46	-0.35	3.33	-0.77	S1	0.009	29	NGC 3783	
287	11 51 37.6	-39 35 19	-0.44	0.99	-2.63	ST	-	14	320- G 31	
288	11 52 37.8	22 58 31	-1.36:	1.23	-0.77			9	U06887	
289	11 59 43.7	04 37 07	-0.86:	0.81:	-1.49:	H2		9	U07015	bright galaxy, but far off
290	12 10 35.5	06 05 49	-0.28:	0.59:	-1.38:	H2				
291	12 15 30.7	06 25 26	-1.17:	2.43:	-0.54:	H2		6	I0773	
292	12 15 55.9	30 05 24	-1.22	4.01	-0.03	S1	0.012	29	MARK 766	
293	12 23 14.4	12 56 23	-1.26	10.73	-0.93	S2	0.008	29	NGC 4388	
294	12 23 27.7	-38 50 39	-1.33:	1.13	-1.61		0.012	14	322- G 9	
295	12 26 32.6	02 19 46	-0.97	2.18	-0.49	S1	0.158	29	3C 273.0	
296	12 27 16.1	-35 32 60	-0.30	0.78	>-0.49					
297	12 31 44.9	82 50 24	-0.19	8.44	1.32	PN	-	11	PK 123+34.1	
298	12 31 59.6	77 59 17	-1.47:	0.89	-1.66	H2		12	ZG 1231+77	
299	12 32 54.9	-39 38 05	-1.32	4.52	-0.35	S2	0.012	29	NGC 4507	
300	12 33 19.3	-39 35 40	-0.86:	7.23:	1.33:	ST	-			
301	12 37 4.2	-05 04 08	-1.24	2.76	-1.45	S1	0.007	29	*NGC 4593	
302	12 38 10.2	-36 28 52	-1.27	7.08	-0.82	S2	0.011	29	TOL1238-364	
303	12 44 26.5	26 50 30	-0.43	0.52	>-1.29	H2	0.003	27	MARK1335	
304	12 44 43.3	-02 27 16	-0.75:	1.43	-0.46		0.005	6	N4684	
305	12 45 40.0	-42 26 10	-1.12	2.76	1.18:	ST	-			
306	12 46 25.0	42 11 37	-1.43	1.69	-0.54	H2	0.027	6	N4704	
307	12 46 53.6	-11 07 44	-0.71	1.41	-0.10	S2	0.048			
308	12 47 24.3	43 45 18	-0.99	1.05	0.00:					
309	12 49 34.6	-13 08 36	-0.95:	1.16	-1.27	S1	0.014	10	M-02-33-034	
310	12 50 30.2	-41 21 31	-1.16	0.98	-1.04	S2	0.016	14	323- G 32	
311	12 54 21.3	-30 06 22	-0.86:	0.98	-0.78	S2	0.055			
312	12 58 38.5	-30 39 53	-1.05:	0.94	-1.71			10	M-05-31-013	
313	13 04 24.0	-23 24 36	-0.69	2.30	-0.67	S2	0.009	10	M-04-31-030	
314	13 05 59.6	-24 07 02	-0.76	1.39	-0.38	S2	0.014			
315	13 14 27.9	45 08 22	-0.42	0.72	>-1.31	S2				
316	13 17 39.5	-23 16 50	-0.88:	0.91	>-0.77					
317	13 19 42.8	-16 27 56	-0.79	5.60	0.00	S2	0.017	10	M-03-34-063	
318	13 21 48.4	05 52 40	-0.83:	1.23	> 0.40					
319	13 22 27.8	-38 09 24	-1.31:	1.53	-0.61:					
320	13 24 28.8	26 51 12	-0.92:	0.65	>-0.84:	H2	0.023	27	MARK 454	MARK 454 far off
321	13 29 37.1	-39 22 08	-1.01:	0.84	-0.35			14	324- G 34	
322	13 30 34.7	-33 45 33	-0.45	0.67	>-0.79	H2		14	383- G 18	
323	13 32 38.4	-34 28 54	-0.61:	0.54	>-1.34	H2				
324	13 32 59.0	-34 02 11	-0.35	1.11	> 0.20	S1	0.008	29	*MCG-6.30.15	
325	13 37 4.5	-31 23 14	-1.06	30.91	0.12	H2	0.001	29	NGC 5253	
326	13 43 16.6	-12 10 38	-0.47	0.87	>-1.55	ST	-	13	158152	
327	13 44 54.0	35 11 19	-0.83	1.02	0.00:	H2				
328	13 45 6.5	12 32 21	-1.24	1.99	-0.06	S2	0.121	28	1345+12	
329	13 51 5.0	33 44 08	-0.50	1.44	-1.15	S2	0.008	29	*NGC 5347	
330	13 51 16.5	-37 31 43	-0.08	0.50	>-1.36	S1	0.052	29	*TOL1351-375	
331	13 51 45.6	64 00 32	-0.53	0.86	-0.31:	S1	0.088	29	PG 1351+64	
332	13 51 56.2	69 33 16	-1.43	1.08	-1.38	S1	0.031	29	MARK 279	western comp. of pair
						H2	0.031	29	*MCG12.13.24	eastern comp. of pair
333	13 53 39.7	18 36 58	-0.33	2.16	0.37	S2	0.051	29	MARK 463	
334	13 57 48.5	56 16 57	-0.87:	0.83	-1.01	H2		12	ZG 1357+56	
335	14 02 10.3	-31 40 12	-0.62:	0.60	>-1.00		0.093			
336	14 02 37.2	43 41 42	-0.88	0.61	-1.38:	S1				

TABLE I (continued).

NUMBER	RA HH MM SS.s	DEC +DD MM SS	ALFA 25/60	60 (Jy)	ALFA 60/100	SPEC TYPE	Z	CAT	SOURCE NAME	COMMENTS
337	14 04 6.1	01 17 05	-0.85:	0.96	>-0.08:					
338	14 04 44.1	28 41 38	-0.74	0.74	>-0.60:	S1	0.077	29	OQ 208	
339	14 07 5.0	26 38 22	-1.05:	0.83	-0.60:	H2				
340	14 08 16.6	13 47 33	-1.43	3.64	0.48	S2	0.017	12	ZG 1408+13	
341	14 10 38.9	-02 50 28	-0.98	8.67	-0.16	S2	0.007	29	NGC 5506	
342	14 11 10.5	07 53 30	-1.40:	1.30	-0.99		0.025	9	U09102	
343	14 14 28.3	46 19 09	-0.25:	0.48:	>-1.46	ST	-	13	44965	
344	14 15 41.0	25 22 16	-0.35	1.04	-0.92	S1	0.017	29	NGC 5548	
345	14 17 21.3	-04 10 14	-0.91:	0.68	>-3.74					
346	14 26 33.0	27 28 27	-1.26:	0.80	>-0.45	H2	0.015	27	MARK 682	
347	14 26 46.0	57 23 44	-0.72:	0.55	-1.22:	S2		12	ZG 1426+57	
348	14 28 51.4	-03 04 16	-0.79:	0.74	-1.59	H2	0.044	10	M+00-37-014	
349	14 31 42.8	-32 37 19	-0.93	0.92	>-0.16	S2	0.026			
350	14 34 57.6	59 00 39	-0.69	2.24	0.05	S1	0.033	29	MARK 817	
351	14 35 14.9	38 40 11	-1.41	1.27	-1.32	H2		9	U09419	
352	14 39 2.7	53 43 03	-1.04	1.35	-0.54	S2	0.038	29	MARK 477	
353	14 42 4.2	59 05 55	-1.29:	0.78	-1.33	H2		10	M+10-21-028	
354	14 43 25.9	27 14 38	-0.95	0.78	-0.82	S2				
355	14 45 57.6	-02 48 32	-1.15	1.09	-0.65	S2				
356	14 47 28.6	42 33 20	-0.66	0.54	>-1.21	S2				
357	14 54 8.1	49 06 39	-0.78:	0.58	>-1.07	S2				
358	14 55 44.7	-28 30 19	-0.53:	0.68	>-1.76	S1	0.048	14	448- G 10	
359	15 01 35.2	10 37 58	-0.14	0.51	>-1.32	S1	0.036	29	*MARK 841	
360	15 06 23.1	66 07 35	-1.18:	1.72	-1.52	H2		10	M+11-18-027	
361	15 06 34.8	28 21 40	-1.21	0.84	>-0.64	H2				
362	15 06 42.7	09 13 50	-0.85	0.70	-1.19:	S2	0.045	12	ZG 1506+09	south eastern comp. of pair
363	15 09 6.6	-21 07 48	-0.91	1.58	-0.13	S1	0.044			
364	15 12 32.0	-32 28 37	-0.16:	0.53:	>-5.09					
365	15 14 59.2	60 10 59	-1.38:	0.86	-0.64	H2				
366	15 17 39.0	52 16 51	-0.94	0.83	-1.04	H2				
367	15 18 26.9	08 34 31	-1.04:	0.88	-1.10	S2		12	ZG 1518+08	
368	15 18 44.7	65 45 59	-1.18:	0.59:	-1.74:			10	M+11-19-006	IRAS pos. between 2 gals.
369	15 19 39.6	39 22 45	-0.80:	0.50	-1.52:	S1		9	U09826	
370	15 21 46.3	08 43 21	-0.73:	0.77	>-0.51:	H2		12	ZG 1521+08	
371	15 21 47.2	-11 02 06	-0.61:	0.80	-1.02:					
372	15 24 4.6	00 46 03	-0.74	0.90	-0.69:	S2	0.051	12	ZG 1524+00	
373	15 29 32.5	24 14 32	-1.34:	1.07	0.03:	S2	0.096		3CR321	
374	15 29 45.1	47 11 33	-1.47:	0.98	-0.79			10	M+08-28-036	
375	15 30 26.2	30 17 55	-0.55:	0.44:	>-1.63	S2				
376	15 31 22.4	58 02 57	-1.46:	1.00	-0.79	H2	0.040	27	MARK 289	
377	15 36 16.2	73 36 53	-0.87	1.31	-0.75	S2		9	U09944	
378	15 37 18.7	25 06 28	-1.48	2.26	-0.39	H2	0.023	29	*MARK 860	
379	15 41 53.4	28 40 52	-1.35	1.24	-0.26	S2	0.030	12	ZG 1541+28	
380	15 43 52.6	27 15 49	-1.18:	0.73	-0.32:					
381	15 44 26.3	06 02 45	-1.31	1.06	-0.75:	H2		9	U10029	
382	15 47 20.1	-03 46 13	-1.21	5.43	0.94	ST	-	7	141569	
383	15 48 3.5	-03 44 18	-0.50	1.16	>-2.49	S2				
384	15 50 25.3	-20 01 10	-0.09:	0.66	>-1.29	ST	-	13	183895	
385	15 55 23.3	-14 09 33	-1.30	2.84	> 1.44			7	48 LIB	rather far off
386	15 55 28.0	-20 28 56	-0.43:	0.74	-1.75:	H2		14	583- G 9	
387	15 55 38.9	-22 48 45	-0.81	6.45	0.62	ST	-	13	183986	
388	15 56 39.1	26 57 33	-1.49	3.04	0.07	H2	0.014	27	MARK 492	
389	15 57 15.6	-22 34 10	-1.14	3.97	>-1.80					
390	15 57 16.5	35 10 17	-0.90	0.64	-1.38	S1	0.031	29	*MARK 493	
391	15 59 8.3	83 13 24	-0.64	0.76	-0.84	H2		13	2638	
392	15 59 56.6	02 06 06	-0.54	0.60	>-1.00	S2	0.104	29	3C 327.0	
393	16 00 3.3	26 28 06	-0.82:	0.55	-1.68	S1	0.072	27	MARK 867	
394	16 02 28.6	-18 13 37	-0.86:	1.57	> 0.07	ST	-			
395	16 02 43.0	40 49 06	-1.08	1.90	0.45	PN	-	11	PK 64+48.1	
396	16 03 4.1	63 12 32	-1.47:	0.97	-0.94	H2				
397	16 06 8.5	-16 42 43	-0.36:	0.88:	>-4.02	ST	-			
398	16 06 15.5	12 27 45	-0.77	0.81	-0.47:	S1	0.034	29	*MARK 871	
399	16 08 37.7	-18 30 42	-0.36	18.95	0.36	ST	-			
400	16 11 12.8	-19 30 55	-0.42	2.17	>-2.22	ST	-			
401	16 12 50.9	-19 13 52	-1.39	6.32	>-3.90	ST	-			
402	16 12 57.6	-07 53 08	-1.17:	1.08	-1.39	H2				
403	16 15 17.1	14 10 22	-1.39	1.01	-0.96	H2				
404	16 16 11.4	-14 45 10	-0.06	1.89	-2.21:	ST	-	3	RAFGL 1840S	
405	16 16 38.8	-19 43 26	-0.12	1.01	>-4.72:	H2				
406	16 18 30.8	-00 09 05	-0.31	1.01	> 0.02:	PN	-	11	PK 13+32.1	
407	16 19 8.9	-19 36 24	-0.72	11.19	>-0.77:	DN	-			
408	16 26 47.9	51 53 04	-0.35:	0.41:	>-1.75:	S1	0.056	27	MARK1498	
409	16 28 50.8	39 29 25	-1.19	0.69	>-0.73:	S2				
410	16 32 29.0	42 32 23	-0.41:	0.38:	>-1.91:	ST	-	13	46161	
411	16 33 17.8	-10 25 09	-1.20:	1.37	>-4.05:					doubtful id.
412	16 34 6.8	-10 22 39	-1.37:	16.49:	>-0.48:			22	S27	galactic foreground object?
413	16 34 22.8	-10 23 10	-1.34:	19.58:	0.20:			22	S27	galactic foreground object?
414	16 34 34.4	07 28 27	-0.37:	0.50:	-1.24:					
415	16 34 42.2	44 10 37	-1.13	0.84	-1.27	H2		10	M+07-34-117	
416	16 34 42.6	14 35 05	-1.01	1.04	-0.56			1	V600 HER	rather far off
417	16 36 1.7	85 36 12	-0.39:	0.46	>-1.54	S1	0.063	29	*VII ZW 653	
418	16 38 12.1	-06 13 10	-1.16:	1.02	>-0.80					
419	16 38 16.1	-09 21 37	-0.32:	0.68	-3.35					
420	16 41 19.4	39 54 04	-0.95	0.68	-0.82:	S1	0.594	29	3C 345.0	
421	16 41 30.6	15 40 12	-1.15:	0.87	-0.94:	H2				
422	16 42 23.3	23 53 27	-0.33	34.63	1.69	PN	-	11	PK 43+37.1	
423	16 43 23.3	-11 18 40	-0.38	1.11	>-4.33	DN	-			
424	16 43 57.7	-09 45 52	-1.46:	1.49	>-3.57	DN	-			
425	16 44 14.1	-09 30 03	-0.96	7.73	0.09	DN	-			
426	16 45 18.6	39 08 58	-1.50:	1.23	-0.79	H2				
427	16 45 24.9	-09 55 42	-0.48:	0.78:	>-4.61	DN	-			
428	16 47 38.9	-09 04 49	-0.90:	0.92	-4.59:					doubtful id.
429	16 49 13.0	22 00 27	-0.88	0.98	0.07	S2				
430	16 57 10.6	29 03 57	-1.39:	1.03	-1.64	H2		9	U10639	
431	16 58 23.9	-04 08 58	-0.21	5.03	-0.38	ST	-	2	DO 4202	
432	17 00 13.5	51 53 36	-0.79:	0.52:	>-1.27	S1	0.292	29	*PG 1700+518	
433	17 02 3.3	45 44 52	-1.09	1.10	-0.64					
434	17 04 29.4	67 20 33	-1.47	1.29	> 0.27	H2				
435	17 05 2.1	14 49 05	-0.48	0.65	>-0.94	ST	-	2	DO 15795	
436	17 07 48.1	63 41 33	-1.21:	0.81	-1.83			30	7ZW 681	
437	17 10 14.8	-03 12 30	-0.84	2.72	> 1.01	PN	-	11	PK 18+20.1	
438	17 12 29.1	39 33 17	-1.11:	0.75	-1.41	S2		12	ZG 1712+39	
439	17 15 48.2	13 23 35	-0.02:	0.36:	-2.72:	ST	-			
440	17 16 44.2	15 17 32	-0.09:	0.42:	>-1.83:	ST	-	2	DO 15907	
441	17 16 57.4	30 14 37	-1.44:	0.97	-0.32:	H2				
442	17 21 39.3	36 33 03	-0.97:	0.47	>-1.63:	S1				
443	17 22 1.8	23 00 14	-0.77	0.57	>-1.11:	ST	-	13	85062	
444	17 27 34.8	57 35 02	-1.41	0.96	-0.99	H2	0.029	12	ZG 1727+57	
445	17 29 41.7	59 40 33	-1.17:	0.70	-1.83	S2		9	U10889	
446	17 32 38.3	38 59 55	-0.58:	0.45:	>-1.78			28	1732+38	
447	17 33 25.9	20 49 38	-0.60	0.70	-1.56			10	M+03-45-003	
448	17 34 16.5	17 42 26	-0.46	1.49	> 0.78					
449	17 34 53.6	49 20 17	-1.11	0.79	-0.48	S2				

TABLE I (*continued*).

NUMBER	RA HH MM SS.s	DEC +DD MM SS	ALFA 25/60	60 (Jy)	ALFA 60/100	SPEC TYPE	Z	--ASSOCIATIONS-- CAT	SOURCE NAME	--------COMMENTS--------
450	17 37 6.9	56 15 02	-1.01	1.01	-0.70	S2				
451	17 40 12.6	51 50 28	-0.42	0.56	-1.41	ST	-	13	30522	
452	17 40 29.3	21 28 10	-1.17	0.95	>-0.63	PN	-	11	PK 45+24.1	
453	17 43 9.3	57 55 57	-1.09:	0.74	>-0.60	H2				
454	17 46 25.3	67 39 23	-0.01:	0.31:	>-2.30					
455	17 49 3.7	26 59 46	-0.64	0.46	>-1.53					
456	17 50 4.8	50 46 20	-0.42	0.48	>-1.44	S1				
457	17 52 7.6	18 57 25	-1.22:	0.76	-0.98:					
458	17 52 24.6	28 00 26	-0.31	2.18	1.71:	PN	-	11	PK 53+24.1	
459	17 58 26.7	66 38 27	-0.18	133.40	1.48	PN	-	11	PK 96+29.1	
460	17 59 36.5	42 21 37	-1.03:	0.66	-0.76:	S2		12	ZG 1759+42	
461	18 00 11.6	66 38 42	-1.00	2.59	-0.21			10	M+11-22-018	
462	18 01 59.1	41 24 11	-1.32:	0.66	-1.35					
463	18 03 51.4	46 52 30	-1.40:	0.88	-2.05		0.024	6	N6560	
464	18 07 16.8	69 49 02	-0.53:	0.40:	>-5.08	BL	0.051	29	3C 371.0	
465	18 13 51.1	36 50 32	-0.53:	0.41:	>-1.75	ST	-	1	HU LYR	
466	18 18 12.2	52 37 46	-1.03	0.57	-1.89	ST	-	13	30889	
467	18 21 39.0	64 18 50	-1.19	1.26	-1.15	S1	0.297	11	PK 94+27.1	QSO close to plan. neb.
468	18 25 49.8	71 43 31	-0.94:	0.93	-0.43:	H2				
469	18 25 56.7	41 17 51	-1.25	1.10	>-2.53:	H2				
470	18 29 57.9	41 13 53	-0.29:	0.40	>-4.38:	S1				
471	18 32 33.5	-59 26 40	-0.94	3.17	-0.50	S2	0.019			
472	18 34 44.4	-67 28 15	-1.14:	1.45	-2.02			14	103- G 40	
473	18 40 7.9	-62 25 02	-0.94	1.98	-0.47	S1	0.014	29	*F 51	
474	18 40 33.4	77 19 27	-1.33:	0.84	>-0.35	H2				
475	18 46 16.2	72 07 41	-1.24	0.95	-0.62:	S2		12	ZG 1846+72	
476	18 50 49.6	-78 15 48	-1.48	1.09	-1.08	S1				
477	18 55 11.5	71 37 42	-1.44:	0.84	-0.23:	H2				
478	19 00 38.9	-67 12 31	-1.49	1.15	-0.39	H2		14	104- G 34	
479	19 08 36.1	-53 57 31	-1.28:	1.60	-1.94	H2	0.025	14	184-IG 32	object far from IRAS pos.
480	19 08 51.4	-60 56 43	-1.05:	0.87	-2.98		0.015	6	I4827	
481	19 10 24.2	84 36 51	-0.82	0.58	>-2.83	S1				
482	19 11 56.3	-49 52 59	-1.02:	0.98	>-1.92	S2				
483	19 13 57.0	-39 42 10	-0.75	5.55	1.14	ST	-	1	RU CRA	
484	19 16 56.9	-58 45 52	-0.54	0.61	>-3.92	S1	0.037	29	*ESO 141-G55	
485	19 18 37.4	-57 48 21	-1.24:	0.80	-1.54					
486	19 18 44.0	-55 52 20	-0.74:	0.55	-2.24		0.012	6	N6780	
487	19 18 52.9	-54 31 08	-0.03	0.55	>-1.18	ST	-			
488	19 24 29.9	-41 40 40	-1.32	1.61	0.36:		0.010	14	338-IG 4	
489	19 25 27.7	-72 45 39	-1.46	5.18	-0.30	S2				
490	19 26 7.6	-42 31 13	-1.41:	1.13	-1.49	H2				
491	19 26 34.9	-43 38 54	-0.37	0.74	-0.85	H2				
492	19 44 33.8	-46 26 46	-1.14	1.22	-0.72	H2				
493	19 53 3.3	-64 39 15	-0.49:	0.52	-1.10:					
494	19 57 35.5	76 18 51	-0.28	0.79	-1.34:	ST	-	2	DO 38001	
495	19 58 3.2	-18 18 46	-0.30	0.90	-0.60	S2				
496	20 02 46.7	-20 26 11	-0.06:	0.48	>-1.41	H2				no obvious candidate
497	20 04 28.1	-61 14 48	-1.09	1.05	-1.68	S1		14	143- G 9	
498	20 08 11.6	-29 08 51	-0.87:	1.05	-1.17	H2		10	M-05-47-025	
499	20 13 31.7	-08 57 31	-0.98	1.24	-1.25	ST	-			
500	20 16 5.2	-41 40 57	-0.06	1.41	>-0.31	ST	-	7	-4113967	
501	20 16 13.0	-52 46 47	-1.02	0.90	-0.98	S2	0.016	29	*F 341	
502	20 20 53.5	-56 35 07	-1.09:	0.65	>-1.16	S2				
503	20 24 19.2	-02 26 36	-0.22	1.11	-0.72			30	2ZW 083	
504	20 25 23.9	-81 52 40	-0.62	1.16	>-0.09					
505	20 31 30.6	-60 45 08	-0.76	0.59	>-1.37	ST	-	13	254823	
506	20 32 13.4	-50 22 14	-0.96	0.71	-0.99:	H2		14	234- G 50	
507	20 37 22.0	-66 56 25	-0.82	0.67	>-1.00:	ST	-	13	254854	
508	20 38 0.4	-38 22 14	-1.46:	1.32	-0.58	LH		14	341-IG 4	
509	20 41 25.7	-10 54 19	-0.72	1.40	0.05	S1	0.035	29	MARK 509	
510	20 45 0.0	00 13 35	-1.07	1.13	> 0.01	H2	0.012	9	U11630	
511	20 45 26.2	-52 56 14	-1.05:	0.90	-1.27	H2				
512	20 48 11.6	-57 15 27	-0.48	5.89	0.64	S2	0.011	29	PKS 2048-57	
513	20 55 41.0	-52 11 51	-1.33	1.19	-0.57	S2		14	235-IG 26	
514	20 58 14.4	77 24 05	-1.45	11.56	-0.82	DN	-	23	LDN 1228	
515	21 00 28.3	78 11 13	-1.34	35.97	-1.45:	LH	-			
516	21 01 27.3	-11 33 48	-0.54	90.64	1.29	PN	-	11	PK 37-34.1	
517	21 16 43.4	-20 38 54	-1.48:	1.91	-0.36			14	599- G 6	
518	21 17 16.5	-49 16 42	-0.98:	0.79	-1.07:	H2				
519	21 21 43.9	-85 01 42	-0.31	0.92	-1.53	ST	-	13	258899	
520	21 21 54.0	-17 57 43	-0.85	1.12	-0.14	S1				
521	21 29 59.5	09 54 52	-0.17:	0.52	>-1.28	S1	0.061	29	*II ZW 136	
522	21 34 27.0	12 33 48	-1.34	3.64	0.35	PN	-	11	PK 66-28.1	
523	21 35 43.2	-28 54 30	-0.36:	0.69	>-1.17					
524	21 36 20.3	-27 00 03	-1.38	1.20	-0.64					
525	21 43 6.2	-04 32 18	-0.56	0.94	>-0.37	S2				
526	21 45 1.5	-47 32 08	-0.01:	0.35:	>-2.07	ST	-	13	230846	
527	21 54 9.7	-34 49 15	-1.28	1.73	-1.93	H2		14	404- G 12	
528	22 01 47.2	03 19 15	-0.46	1.12	-0.12:					
529	22 05 19.1	-51 58 38	-0.54:	0.58	>-1.07:					
530	22 06 8.5	-47 24 45	-1.39	2.54	-2.31	S1	0.006	29	NGC 7213	
531	22 11 45.0	-39 03 13	-0.58	0.76	>-0.61	S1		14	344- G 16	
532	22 17 46.4	-49 01 27	-1.10:	0.73	-1.24	H2		14	238- G 2	
533	22 19 14.7	-32 11 33	-0.75:	0.78	>-1.26					
534	22 20 55.6	-07 26 50	-0.39	0.60	-1.25	ST	-	13	146062	
535	22 26 23.5	-65 55 02	-1.21:	1.79	-1.27	H2	0.011	14	109- G 6	
536	22 30 36.5	-64 57 32	-1.16:	0.57	-1.88	H2		14	109- G 8	
537	22 34 4.4	-12 48 31	-0.17:	0.44:	>-1.67	S1	0.025	29	*MARK 915	MARK 915 far off
538	22 37 47.0	07 47 35	-0.81:	0.85	-0.94	S1	0.025	29	*2237+07	
539	22 39 31.2	20 00 04	-1.30	2.47	-0.06	H2	0.024	29	*MARK 308	
540	22 40 18.1	29 27 44	-0.64	1.00	-0.22:	S1	0.025	29	AKN 564	
541	22 40 39.3	-18 37 53	-0.95:	0.87	-1.27	H2				
542	22 41 57.4	-60 49 48	-0.47:	0.48:	>-1.44	S1				
543	22 45 8.9	-66 59 16	-1.17	1.47	-0.89	H2		14	109-IG 23	
544	22 46 55.5	-19 32 24	-1.14	2.41	-0.74			10	M-03-58-007	
545	22 54 54.5	-29 53 23	-0.69	8.84	-0.39	ST	-	3	RAFGL 2995	Fomalhaut, protoplanetary
546	22 59 49.2	-36 41 20	-1.03:	0.65:	>-0.84	ST	-	13	214261	
547	23 01 36.3	22 21 20	-1.48	1.49	>-1.18	S1	0.040	29	MARK 315	
548	23 02 26.5	12 03 09	-1.46	11.93	-1.39		0.008	12	ZG 2302-00	
549	23 02 45.0	-00 04 48	-0.87	1.05	-0.78	S2		9	U12348	
550	23 06 0.8	05 05 08	-1.02	1.14	> 0.14	S2				
551	23 09 51.9	-73 23 58	-0.98:	0.77	>-0.50	H2				
552	23 11 56.0	-57 52 09	-1.28:	0.77	-0.89	H2				
553	23 12 9.3	23 49 53	-1.41:	1.13:	-0.77:	ST	-	13	91113	
554	23 14 23.6	-44 18 41	-1.42	1.21	-0.14	H2				
555	23 25 24.6	08 30 14	-1.19:	5.47	-0.79	S2	0.029	29	NGC 7674	
556	23 39 26.3	-04 29 39	-1.49:	1.81	-1.37	H2		10	M-01-60-023	
557	23 44 36.6	15 19 06	-1.39	4.14	0.39	H2		10	M+02-60-017	
558	23 46 7.7	01 57 40	-1.17:	1.77	-0.78	H2		12	ZG 2346+01	
559	23 53 10.9	29 55 54	-0.67	0.70	>-0.40	S2		12	ZG 2353+29	
560	23 54 42.3	19 14 55	-1.30:	1.03:	> 0.35					
561	23 57 17.0	39 47 02	-0.40:	0.45	>-2.05	H2				
562	23 58 20.7	18 13 40	-1.14:	0.89	>-0.15					
563	23 58 39.6	-01 16 26	-0.14:	0.72	-0.92					

TABLE II. — *Active galaxies compiled by Véron-Cetty & Véron (1985), that were not included in table I.*

NUMBER	RA HH MM SS.s	DEC +DD MM SS	ALFA 25/60	60 (Jy)	ALFA 60/100	SPEC TYPE	Z	CAT	SOURCE NAME	--------COMMENTS--------
564	00 03 45.5	19 55 32	0.07	0.45	>-1.26	S1	0.025	29	MARK 335	
565	00 08 33.3	-12 23 10	-2.23:	16.80:	-0.06:		0.019	29	MARK 938	
566	00 35 03.2	00 00 21	<-0.95	0.94	-1.53:	S2	0.035	29	MARK 955	
567	00 39 08.6	40 04 45	-2.34	2.14	-0.86	S2	0.073	29	MARK 957	
568	00 39 14.1	-79 30 51	-1.60	1.45	-1.30	S1	0.031	29	ESO012-G21	
569	00 39 59.6	02 58 42	<-0.38	0.49	>-1.54	H2	0.037	29	MARK1143	
570	00 45 05.2	-25 33 45	-2.13	758.60	-0.63	S3	0.001	29	NGC 253	
571	00 48 52.2	29 07 38	<-0.46	0.94	-1.28:	S1	0.036	29	0048+29	
572	01 11 12.1	13 00 17	>-0.72	< 0.78		S1	0.050	29	MARK 975	25 micron flux: 0.41 Jy
573	01 13 27.6	04 01 45	<-1.95:	1.76	-1.47	S?	0.021	29	MARK 565	
574	01 13 48.2	-50 27 04	< 1.13:	0.66	-1.66	S2	0.017	29	F 294	
575	01 16 42.8	04 18 59	-2.14:	3.03	-0.74	H2	0.033	29	MARK 567	
576	01 16 45.9	12 11 07		< 0.72	<-1.54		0.043	29	MARK 984	100 micron flux: 1.58 Jy
577	01 19 27.0	-01 18 02	<-1.33:	1.44	-0.66	S1	0.054	29	II ZW 1	
578	01 19 56.9	22 54 36	<-1.51:	0.96	> 0.23	S1	0.053	29	PG 0119+229	
579	01 21 36.7	33 32 15	<-2.09:	1.83	-1.57	S2	0.016	29	NGC 513	
580	01 21 37.7	-35 19 33	> 0.43:	< 0.36		S1	0.018	29	NGC 526A	25 micron flux: 0.52 Jy
581	01 21 56.2	31 54 22	<-1.99:	1.42:	-1.27:		0.036	29	MARK 991	
582	01 22 46.7	31 52 55		< 0.40	<-2.20:	S2	0.017	29	MARK 993	100 micron flux: 1.23 Jy
583	01 30 38.6	35 24 42	-1.66	1.97	-0.95	S2	0.015	29	MARK1157	
584	01 32 06.9	34 46 55	<-1.14	0.97	-0.30:	H2	0.015	29	MARK1158	
585	01 32 57.1	-41 41 28	-2.10	5.66	-0.84	H2	0.001	29	NGC 625	
586	01 34 48.8	32 54 07	<-1.31	0.78	>-0.52	S1	0.367	29	3C 48.0	
587	01 37 35.7	31 59 35		< 0.75	<-1.28	S2	0.065	29	V ZW 85	100 micron flux: 1.44 Jy
588	01 40 21.6	13 23 41	-2.53	64.99	-0.89		0.003	29	NGC 660	
589	01 52 45.0	06 22 05	< 0.70	0.54	-1.85	S1	0.017	29	UGC 1395	
590	02 12 04.2	-00 59 46	<-0.37	0.53	-1.93	S1	0.027	29	MARK 590	
591	02 23 04.4	18 16 25	<-1.31	1.24	>-3.27		0.005	29	NGC 918	
592	02 41 01.6	62 15 27	> 0.18	< 0.76		S1	0.044	29	4U 0241+61	25 micron flux: 0.98 Jy
593	02 44 11.3	-30 29 02	-2.35	45.49	-1.17	S2	0.004	29	NGC 1097	
594	02 46 45.8	34 46 51	<-1.08	0.66	-1.54	S2	0.018	29	MARK1058	
595	02 52 38.8	-00 23 07	-2.29	5.23	-1.49	S2	0.029	29	NGC 1144	
596	02 56 50.1	36 37 21	-1.70	10.28	-0.42	S2	0.012	29	MARK1066	
597	03 11 43.3	41 51 02	-1.98	8.11	-0.67	S2	0.023	29	MARK1073	
598	03 16 29.4	41 19 52	-0.77	7.10	-0.17	BL	0.017	29	NGC 1275	
599	03 22 58.2	-06 18 59	-1.91	2.55	-1.22	S1	0.032	29	MARK 609	
600	03 28 10.6	-03 18 29	<-1.51	1.13	-0.88	S2	0.020	29	MARK 612	
601	03 31 42.2	-36 18 23	-2.22	77.75	-1.15	S1	0.006	29	NGC 1365	
602	03 34 51.8	-36 09 46	-1.59	5.82	-0.97	S2	0.002	29	NGC 1386	
603	03 38 39.0	-01 27 27	<-1.41	0.86	-1.66	S2	0.025	29	III ZW 55	
604	04 18 54.0	-55 03 20	-2.96	12.50	-2.34	S1	0.004	29	NGC 1566	
605	04 26 33.9	-48 01 07	-2.15:	1.84	-1.26	S2	0.016	29	CARAFE NEB	
606	04 31 35.8	-08 40 57	-1.69	33.19	0.10	H2	0.015	29	NGC 1614	
607	04 44 56.6	-59 20 06	-2.44	34.47	-1.34		0.004	29	NGC 1672	
608	04 46 09.8	-06 24 28	-2.45	5.77	-1.77	S2	0.015	29	NGC 1667	
609	04 47 02.0	03 14 30	-2.21:	3.48	-0.62	H2	0.028	29	II ZW 23	
610	04 50 04.1	-03 01 56	<-1.16:	1.06	-0.91	S2	0.014	29	NGC 1685	
611	04 56 30.3	04 54 02	-1.92	1.67	-1.21	S1	0.018	29	0456+04	
612	05 05 58.4	-37 34 35	-2.06	96.69	-0.65	S?	0.003	29	NGC 1808	
613	05 07 07.9	07 25 15	<-1.72	1.12	-1.56	S2	0.019	29	UGC 3255	
614	05 49 46.5	-07 28 01	-1.82	4.39	-0.64	S2	0.007	29	NGC 2110	
615	05 51 09.4	46 25 50	-0.37	2.76	-0.88	S1	0.020	29	MCG 8.11.11	
616	05 56 19.7	-38 20 12	> 0.59	< 0.42		S1	0.034	29	3A 0557-383	25 micron flux: 0.70 Jy
617	06 45 37.4	60 54 11	-1.73	6.24	-0.90	S2	0.006	29	MARK 620	
618	07 22 33.3	-09 33 35	-2.53	8.76	-1.35	H2	0.007	29	NGC 2377	
619	08 01 26.9	05 15 23	0.17	1.82	0.45	S2	0.013	29	MARK1210	
620	08 04 02.7	27 16 20	<-1.94	1.83	-1.11	S?	0.041	29	MARK1212	
621	08 40 02.7	50 23 09	<-1.84	1.99	-2.41	S1	0.011	29	NGC 2639	
622	08 51 32.8	39 43 43	<-1.73	1.28	-1.92	?	0.031	29	MARK 391	
623	08 56 11.9	06 29 12	-2.18	3.95	-1.05	H2	0.013	29	MARK 703	
624	09 10 54.0	40 19 12	-1.98	8.32	-0.92	H2	0.008	29	NGC 2782	
625	09 12 15.8	-60 34 56	-2.02	11.91	-0.48	H2	0.010	29	F 280	
626	09 15 38.7	16 31 03	> 0.27	< 0.47		S1	0.029	29	MARK 704	25 micron flux: 0.60 Jy
627	09 23 19.9	12 56 57	<-0.91	0.67	>-1.64	S1	0.028	29	MARK 705	
628	09 43 03.7	-18 08 37	<-2.26	1.81	-1.79	H2	0.013	29	NGC 2989	
629	09 43 17.5	-14 05 42	-1.82:	6.76:	-1.42:	S1	0.007	29	NGC 2992	
630	09 51 29.1	69 18 05	-2.53	6.88	-2.54	S1	0.000	29	NGC 3031	
631	10 00 21.9	59 40 46	<-0.85	1.30	-0.45	H2	0.010	29	MARK 25	
632	10 15 36.7	64 13 21	<-1.26	0.75	-1.65	S1	0.039	29	MARK 141	
633	10 20 46.6	20 07 07	-1.72	7.84	-1.51	S1	0.003	29	NGC 3227	
634	10 29 34.9	-34 35 39	-1.08	6.66	-0.21	S2	0.011	29	NGC 3281	
635	10 35 39.6	53 45 49	-2.23	32.96	-0.42	H2	0.003	29	NGC 3310	
636	10 42 15.0	56 13 28	-1.95	5.13	-0.42	H2	0.003	29	NGC 3353	
637	10 57 07.0	-51 10 23	<-0.66	0.44	>-5.76	S2	0.019	29	ESO215-G?14	
638	10 58 44.4	45 55 04	<-0.97	0.61	-1.89	S2	0.029	29	A 1058+45	
639	11 00 28.5	28 14 27	-1.85	18.91	-1.03	H2	0.005	29	NGC 3504	
640	11 08 21.5	-28 13 41	-1.99	3.24	-0.46	S1	0.024	29	ESO 438-G9	
641	11 19 09.7	12 00 50	<-0.06	0.51	>-1.45	S1	0.049	29	MARK 734	
642	11 21 00.0	-08 23 01	<-2.32	1.91	-1.66	S2	0.011	29	NGC 3660	
643	11 24 07.3	35 31 28	<-1.91	1.36	-0.94	S1	0.032	29	MARK 423	
644	11 25 42.1	58 50 18	-1.81	105.40	-0.08	H2	0.010	29	MARK 171	
645	11 33 03.3	54 48 09	<-2.38:	1.99	-0.99	H2	0.001	29	NGC 3738	
646	11 33 52.2	21 52 22	-1.57:	1.41	-0.98	H2	0.030	29	MARK 739	
647	11 44 41.5	52 43 42	<-1.18	0.89	>-0.45	S2	0.049	29	MARK1457	
648	11 53 51.9	55 24 10	-2.39	6.83	-1.60	S2	0.003	29	NGC 3982	
649	11 58 09.8	-20 33 25	<-1.66	1.67	-0.69	S1	0.062	29	I SZ 96	
650	12 00 35.9	44 48 36	-2.00	8.16	-1.79	S1	0.002	29	NGC 4051	
651	12 03 50.8	52 59 21	-2.20	47.00	-0.70	?	0.003	29	NGC 4102	
652	12 06 43.2	47 20 05	<-0.97	0.63	>-2.46	S2	0.024	29	MARK 198	
653	12 08 04.8	16 18 38	-2.35	4.13	-1.57	H2	0.006	29	MARK 759	
654	12 11 41.3	54 48 10	-1.87	22.50	-0.22	H2	0.008	29	MARK 201	
655	12 17 35.1	29 33 29	<-0.93	0.60:	-1.84:		0.002	29	NGC 4278	
656	12 19 31.5	75 35 42		< 0.40	<-2.30:	S1	0.070	29	MARK 205	100 micron flux: 1.31 Jy
657	12 22 53.0	16 44 51	-2.40	8.53	-0.66	H2	0.005	29	NGC 4383	
658	12 23 08.8	00 50 59	-1.64	4.58	-0.50	H2	0.007	29	MARK 52	
659	12 25 13.8	13 17 05	<-3.10	4.01	-1.88	S3	0.000	29	NGC 4438	
660	12 37 21.0	-11 21 0	-2.26:	3.12	-2.59		0.002	29	NGC 4594	
661	12 45 43.7	11 15 25	<-1.11	1.20	-1.62	H2	0.004	29	NGC 4694	
662	12 46 30.7	-11 08 17	<-1.99	2.68	-1.30	H2	0.004	29	NGC 4700	
663	12 54 04.7	57 08 39	-1.55	33.26	0.20	S1	0.041	29	MARK 231	
664	12 59 01.0	29 34 58	-1.83	6.51	-0.08	S2	0.024	29	NGC 4922B	
665	13 01 37.1	-05 16 56	<-0.93	1.31	-2.16	S2	0.003	29	NGC 4941	
666	13 02 31.9	-49 12 0	-3.77	388.00	-1.11	S	0.002	29	NGC 4945	
667	13 06 42.2	-05 00 26	<-1.22	2.89	0.19	H2	0.010	29	NGC 4990	
668	13 11 09.8	36 51 24	-2.87	13.08	-2.35	S1	0.003	29	NGC 5033	
669	13 20 24.5	08 25 29	<-0.67	0.90	-1.24:	S1	0.050	29	MARK1347	
670	13 22 56.7	-29 34 26	-2.12	15.94	-1.24	S2	0.013	29	NGC 5135	
671	13 27 45.3	47 27 25	-2.95	31.68	-2.63	S2	0.001	29	NGC 5194	
672	13 29 55.1	11 21 46	-1.87	3.79	-0.68	H2	0.032	29	MARK 789	
673	13 35 27.2	39 24 37	<-1.36	0.93	-1.76	S2	0.020	29	1335+39	
674	13 36 14.1	48 31 53	-2.22	7.20	-0.97	S2	0.028	29	MARK 266	

TABLE II (*continued*).

NUMBER	RA HH MM SS.s	DEC +DD MM SS	ALFA 25/60	60 (Jy)	ALFA 60/100	SPEC TYPE	Z	CAT	SOURCE NAME	--------COMMENTS--------
675	13 38 53.7	30 37 49	<-1.84	1.42	-0.36	S2	0.041	29	MARK 268	
676	13 40 00.7	35 53 37	<-0.98	1.20:	-0.76:	S1	0.003	29	NGC 5273	
677	13 41 41.5	25 54 56		< 0.49	<-1.34:	S1	0.008	29	TON 730	100 micron flux: 0.98 Jy
678	13 42 51.6	56 08 14	-2.63	23.40	0.15	S?	0.038	29	MARK 273	
679	13 46 25.5	-30 03 28	0.14	2.01	0.50	S1	0.014	29	IC 4329A	
680	14 06 20.5	49 06 0	<-0.77	0.49	-1.55:	S1	0.051	29	I ZW 81	
681	14 15 41.9	26 38 44	<-1.42	1.52	-1.33:	S2	0.036	29	MARK 673	
682	14 20 46.3	33 04 38	<-0.76	0.64	-2.23	S1	0.034	29	MARK 471	
683	14 21 41.0	-16 32 10	-2.05	8.53	-1.09	H2	0.008	29	NGC 5597	
684	14 26 18.5	27 37 58		< 0.40	<-2.79	S3	0.014	29	NGC 5635	100 micron flux: 1.68 Jy
685	14 30 35.8	36 31 21	<-0.92	0.56	-2.52	S3	0.014	29	NGC 5675	
686	14 31 22.4	05 40 35	<-1.61	1.48	-1.60	S2	0.025	29	NGC 5674	
687	14 32 58.9	48 53 15	<-0.85	0.52	-1.76	S1	0.041	29	MARK 474	
688	14 35 19.6	36 47 02	<-0.71	0.59	-2.33	S2	0.014	29	MARK 686	
689	14 39 39.4	-17 02 42	-2.58	8.24	-1.14	S2	0.009	29	NGC 5728	
690	14 40 04.0	35 39 08	<-1.00	0.59	-1.06:	S1	0.079	29	MARK 478	
691	14 44 57.8	-18 52 17	-2.08	6.07	-1.45	H2	0.008	29	NGC 5757	
692	14 45 27.7	-43 43 14	-1.11	4.75	-0.24	S2	0.037	29	ESO273-IG04	
693	15 06 18.2	51 38 43		< 0.40	<-1.94	S1	0.042	29	MARK 845	100 micron flux: 1.09 Jy
694	15 24 20.6	41 50 57	-1.99	9.30	-0.70	S2	0.008	29	NGC 5929	
695	15 28 51.3	07 37 37	<-1.30	0.78	-1.53:	S1	0.033	29	NGC 5940	
696	15 30 38.1	-08 32 02	-1.60:	1.94	-1.15	S2	0.023	29	E1530-085	
697	16 13 36.7	65 50 31	<-1.05	0.63	-1.01:	S1	0.129	29	MARK 876	
698	16 27 47.2	24 33 06	<-1.45	1.10	-0.03	S1	0.038	29	MARK 883	
699	16 34 47.3	70 37 37	>-0.48	< 0.40			1.334	29	PG 1634+706	25 micron flux: 0.26 Jy
700	16 48 25.3	-59 08 01	-2.18	35.96	-1.64:	S2	0.004	29	NGC 6221	
701	16 50 27.7	02 28 58	-2.16	23.21	-0.21	S2	0.024	29	NGC 6240	
702	17 01 21.8	31 31 38	-2.18	2.19	-0.31	S1	0.034	29	MARK 700	
703	17 02 20.7	-01 28 29	<-0.70	0.56	-2.01	S1	0.031	29	UGC 10683B	
704	17 12 18.3	-62 45 57	-2.11	13.80	-2.05	S2	0.003	29	NGC 6300	
705	17 47 08.4	68 36 40	<-0.66	0.44	>-3.49		0.063	29	KAZ 163	
706	17 48 56.0	68 43 11	<-1.00	0.60	-1.29	S2	0.053	29	MARK 507	
707	17 53 46.0	18 20 39	<-1.24	0.73	-2.44	S3	0.010	29	NGC 6500	
708	18 33 22.1	-65 28 17	0.06	2.25	0.85:	S1	0.013	29	ESO103-G35	
709	18 44 14.5	-53 12 10	<-1.14	0.71	>-1.39	S2	0.018	29	F 334	
710	18 45 37.5	79 43 07	>-0.36	< 0.40		S1	0.057	29	3C 390.3	25 micron flux: 0.29 Jy
711	19 07 01.3	50 51 05	-1.78	6.41	-1.14	H2	0.008	29	NGC 6764	
712	19 18 28.1	-74 04 13	<-2.22	1.74	-0.23	S2	0.070	29	F 513	
713	19 32 45.9	-65 55 29	<-1.19	0.71	>-1.16	H2	0.003	29	IC 4870	
714	19 39 55.1	-10 26 34	-2.57	5.59	-2.25	S1	0.005	29	NGC 6814	
715	20 14 50.7	-44 57 43	-1.79	3.66	-1.67	S2	0.008	29	NGC 6890	
716	20 43 44.8	-02 59 44	<-1.07	0.63	-1.73	S1	0.027	29	MARK 896	
717	20 55 09.2	-42 50 38	-2.14	12.47	0.40	H2	0.042	29	ESO286-IG19	
718	21 45 19.6	-35 11 04	-2.32	16.41	-0.86	S2	0.016	29	IC 5135	
719	21 53 52.7	07 07 44	<-1.70	1.35	-0.94	S1	0.028	29	MARK 516	
720	21 59 06.9	-32 06 42	-2.30	5.85	-1.47	S2	0.008	29	NGC 7172	
721	22 04 33.1	09 59 20	-1.59	2.95	-1.02	S2	0.026	29	NGC 7212	
722	22 23 10.0	-05 12 30	<-0.70	0.66	>-0.81		1.404	29	3C 446	
723	22 23 43.1	-70 38 31	<-1.28	0.76	-1.41	S2	0.028	29	F 357	
724	22 33 00.7	-26 18 31	-1.86	3.33	-2.87	S1	0.006	29	NGC 7314	
725	22 33 46.4	33 42 44	<-0.90	0.64:	-2.96:	S2	0.022	29	NGC 7319	
726	22 38 47.5	31 54 25	-1.97	3.86	-0.72	S2	0.025	29	MARK 917	
727	22 50 10.1	24 27 56	-1.79	3.45	>-0.92:	H2	0.043	29	MARK 309	
728	22 59 37.6	26 47 04	<-1.43	0.87	-2.02	H2	0.025	29	MARK1127	
729	23 00 44.5	08 36 18	-1.80	26.67	-0.50	S1	0.017	29	NGC 7469	
730	23 06 59.3	-43 41 54	-1.95	8.42	-1.11	S2	0.050	29	NGC 7496	
731	23 12 50.5	-59 19 38	-2.14	10.87	0.16	S2	0.044	29	ESO148-IG02	
732	23 13 24.8	-42 51 27	-2.05	72.52	-0.62	H2	0.005	29	NGC 7552	
733	23 14 02.1	03 48 58	<-0.17	0.59	>-1.51		0.220	29	3C 459.0	
734	23 15 38.0	-42 38 41	-2.30	47.63	-0.79	S2	0.005	29	NGC 7582	
735	23 16 09.6	-42 30 48	-2.45	7.27	-1.71	S2	0.005	29	NGC 7590	
736	23 16 23.5	-00 01 37	<-0.62	0.82	-1.78	S1	0.029	29	NGC 7603	
737	23 24 58.0	12 06 31	<-0.75	0.54	>-1.42	S2	0.013	29	NGC 7672	
738	23 27 59.2	-02 44 09	<-0.98:	0.73	-1.09	S1		29	UM 163	
739	23 29 28.4	28 40 10	<-1.64:	1.18	>-0.22	S2	0.018	29	MARK 930	
740	23 33 39.8	01 52 35	-1.56	11.07	0.03	H2	0.009	29	MARK 538	

TABLE III. — *Extragalactic radio sources (Kuhr, 1981) not present in table I and II.*

NUMBER	RA HH MM SS.s	DEC +DD MM SS	ALFA 25/60	60 (Jy)	ALFA 60/100	SPEC TYPE	Z	CAT	SOURCE NAME	--------COMMENTS--------
741	04 04 44.8	03 32 43		< 0.40	<-4.78	GAL	0.089	28	0404+03	100 micron flux: 4.61 Jy
742	04 09 58.7	-75 14 05	<-0.63	0.43	>-2.29	EF		28	0409-75	empty field
743	08 06 30.0	-10 18 52	-0.60	0.59	>-1.03	GAL		28	0806-10	3C195
744	08 51 58.9	20 17 57	<-0.19	0.85	-0.82:	BL		28	0851+20	
745	09 51 42.4	69 54 59	-1.66	1168.00	0.04	GAL	0.001	28	0951+69	3C231
746	12 22 29.8	13 10 00	<-0.01	0.50	>-1.96	GAL	0.003	28	1222+13	3C272.1
747	12 28 15.6	12 40 20	<-0.32	0.46	>-1.81	GAL	0.004	28	1228+12	3C274
748	15 49 26.0	-79 05 16	-0.91	1.11	>-0.65			28	1549-79	
749	18 03 38.0	78 27 57	<-0.75:	0.48	>-1.46:	BL		28	1803+78	

TABLE IV. — *Objects types identified.*

	number	percentage
stars	77	13.7%
plan. neb.	15	2.7
gal. dark clouds	6	1.1
HII regions	5	0.7
galaxies	443	78.7
doubtful types	17	3.0
	563	100.0

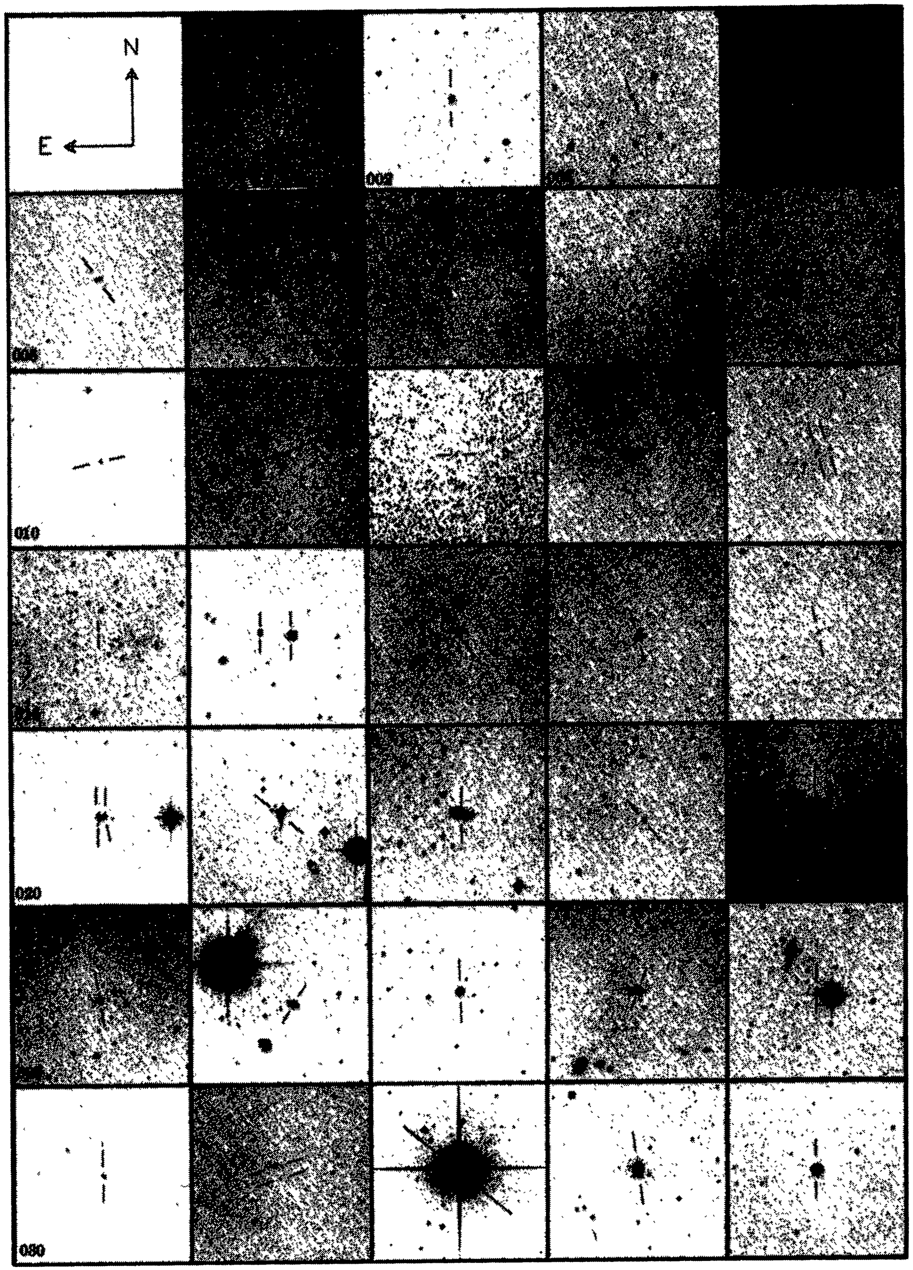

FIGURE 1.1.

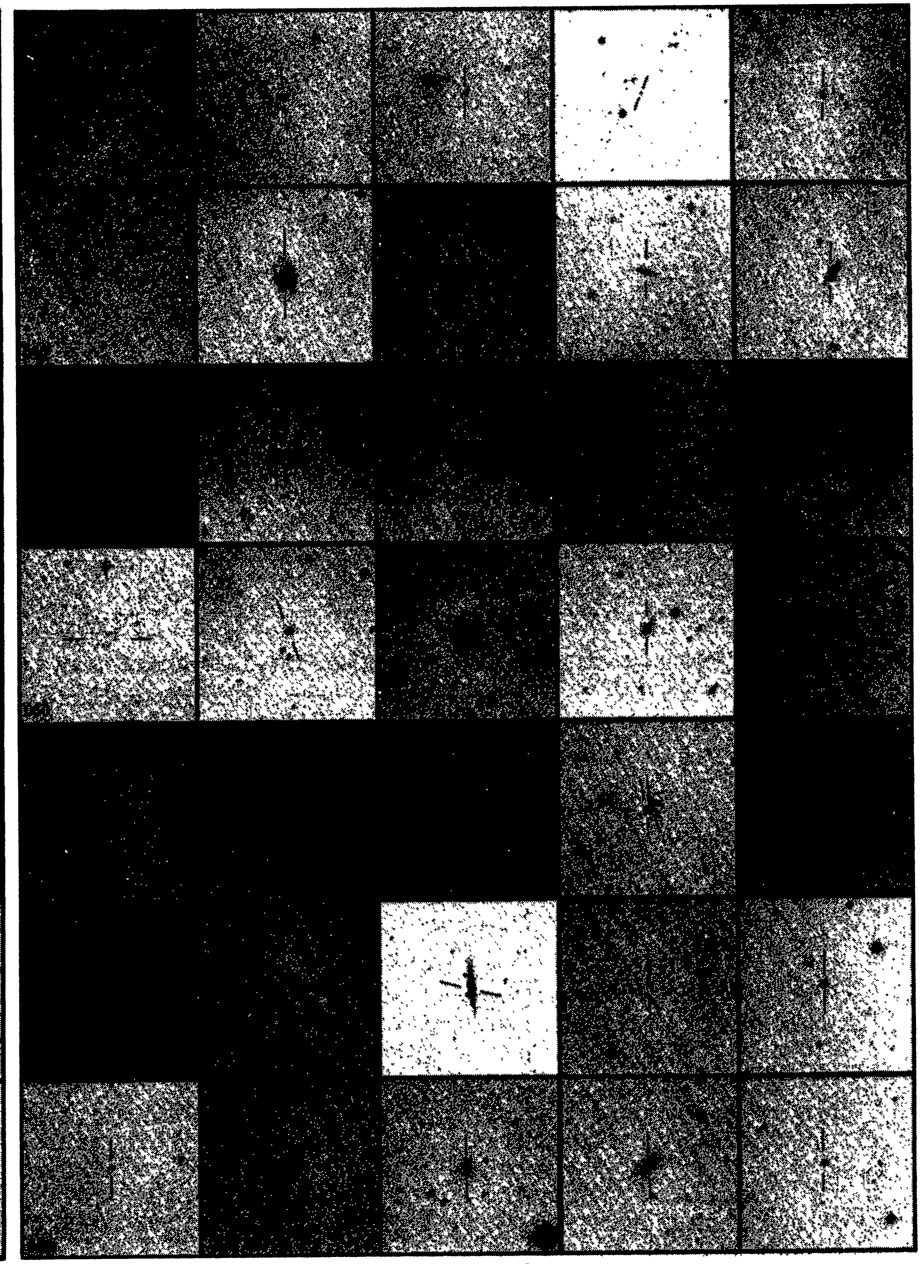

FIGURE 1.2.

FIGURE 1. — Finding charts for candidate infrared selected AGNs (from Tab. I). Orientation : north up, east to the left ; scale is 2.84′ per cm. The IRAS position is accurately in the centre of each field, the identification is marked. In a number of cases there are several candidates ; this is partly due to identification confusion (the IRAS beam is 2′ × 4′), but also a number of interacting pairs occur in the sample.

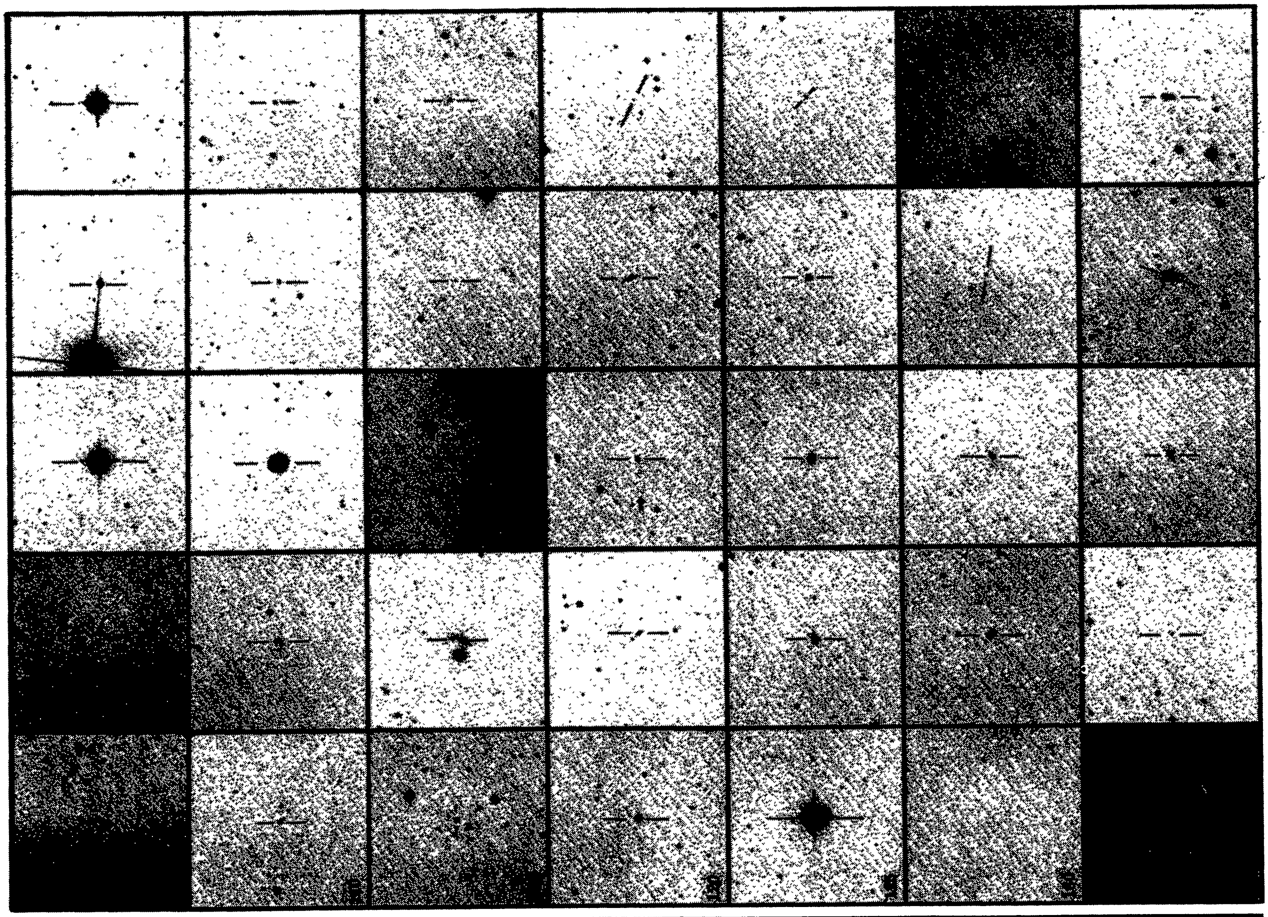

FIGURE 1.4.

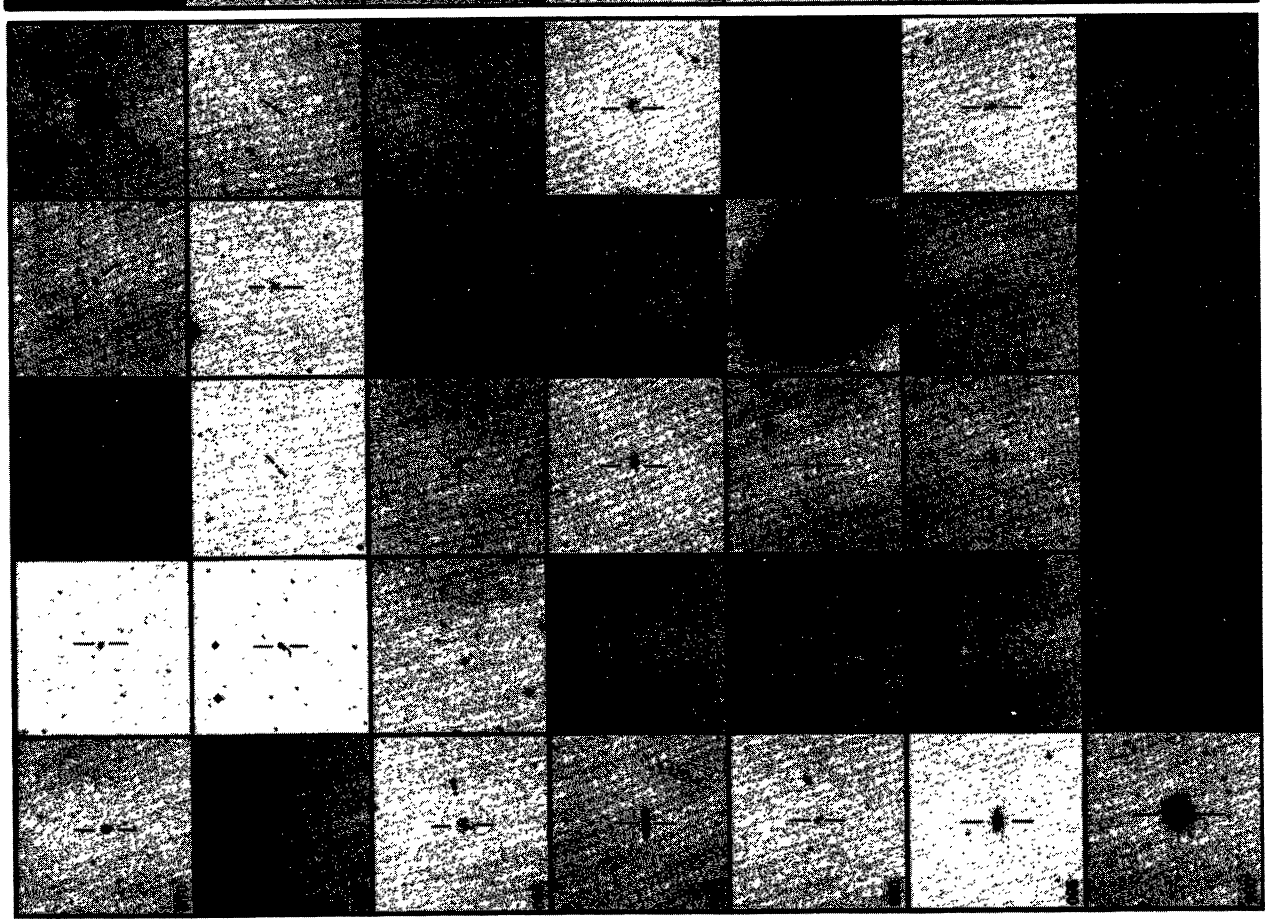

FIGURE 1.3.

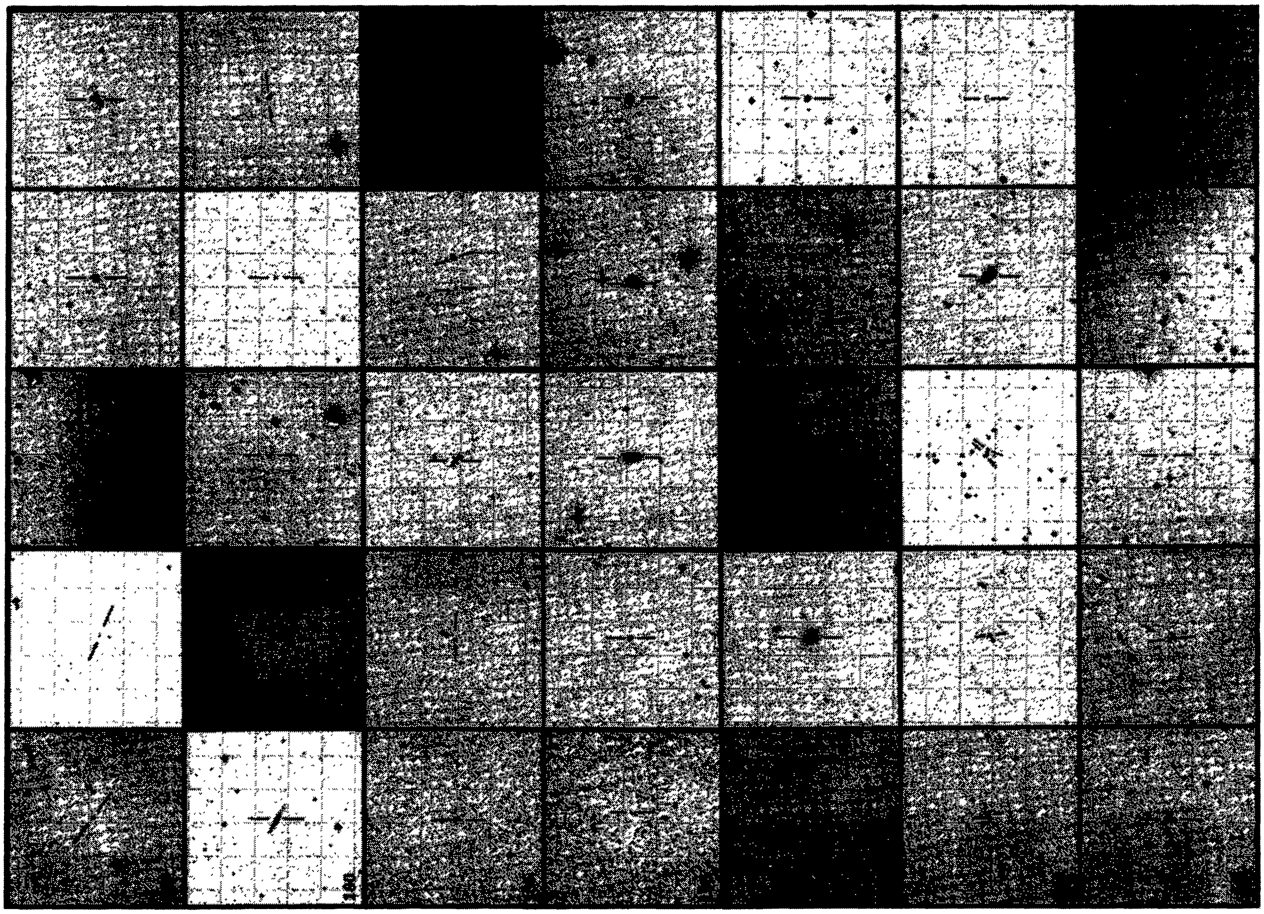

FIGURE 1.6.

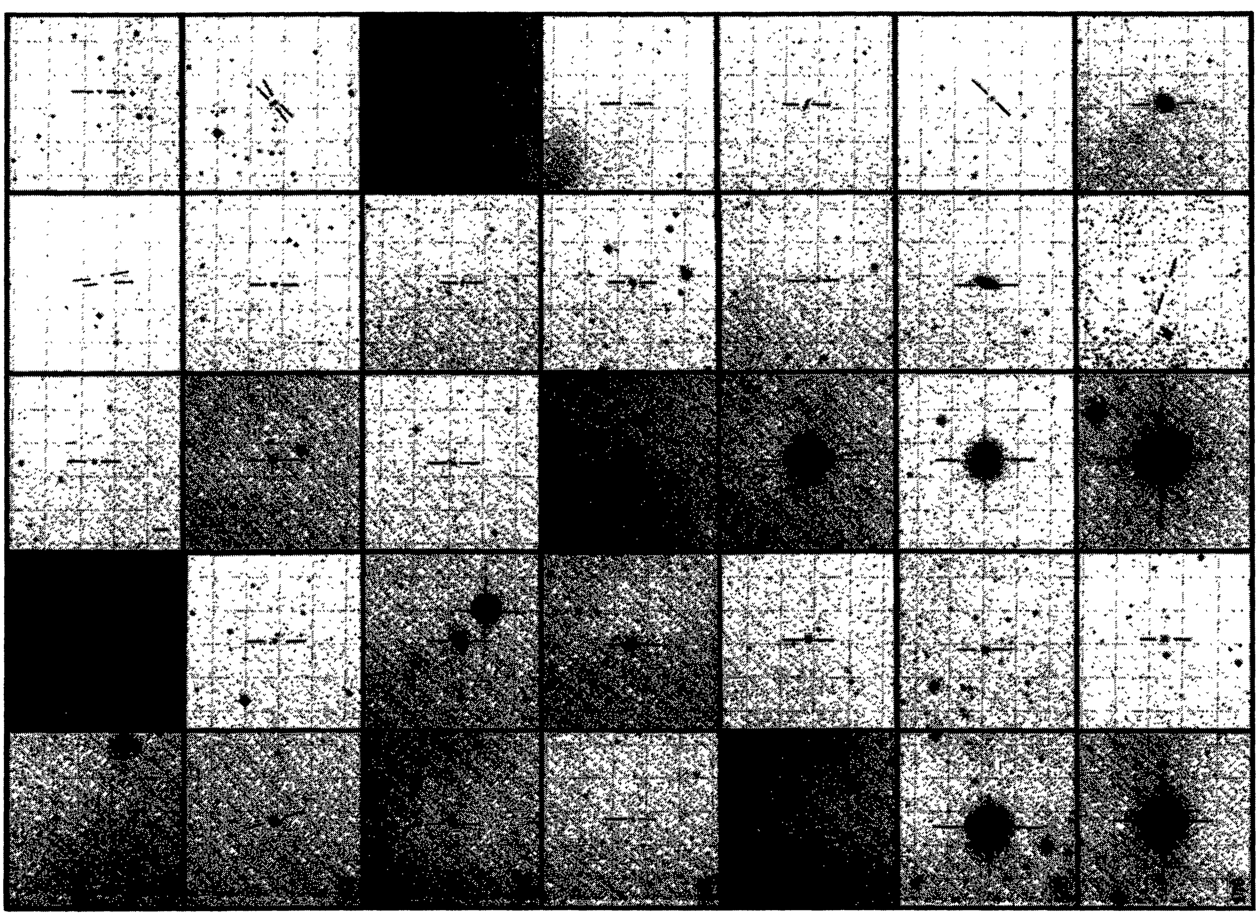

FIGURE 1.5.

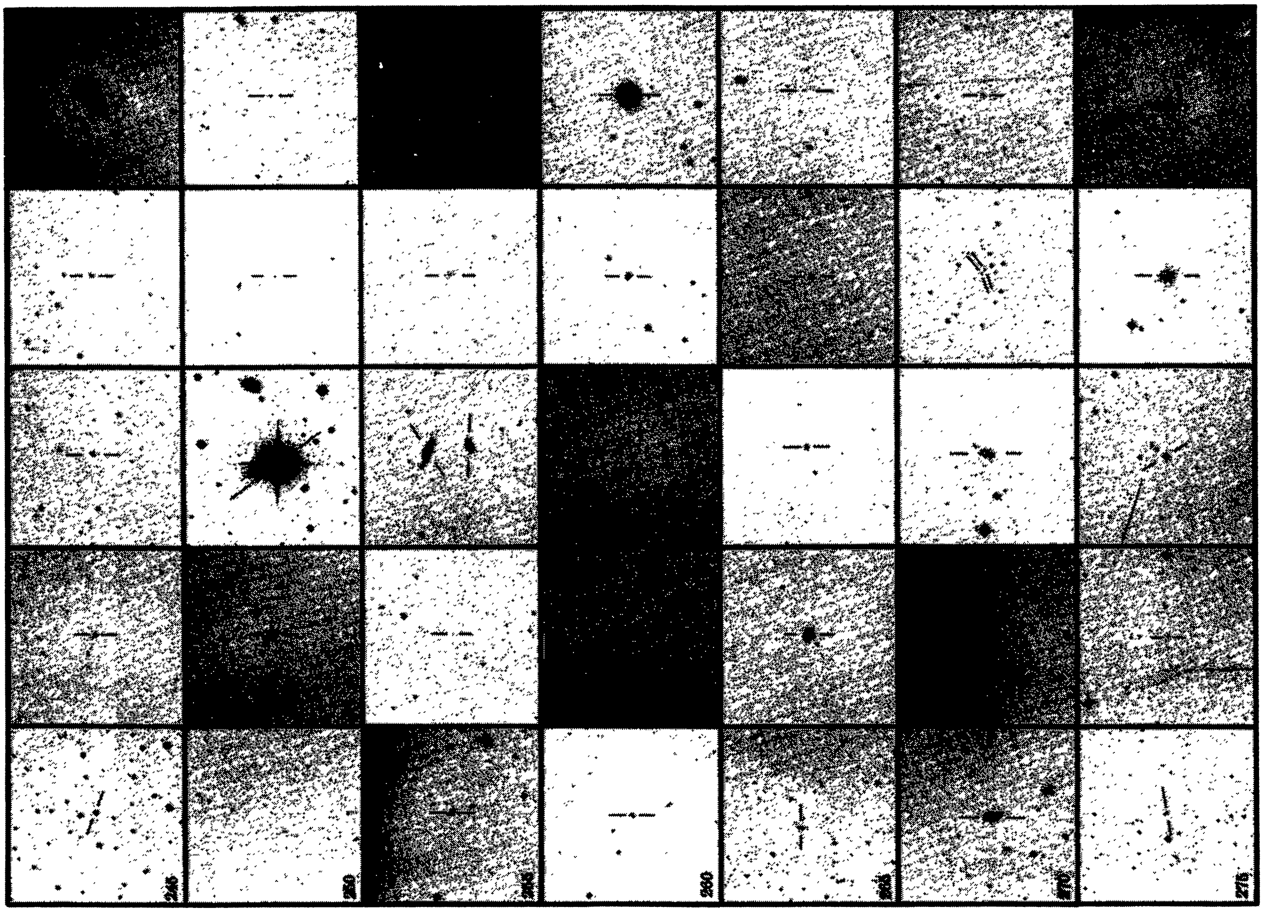

FIGURE 1.8.

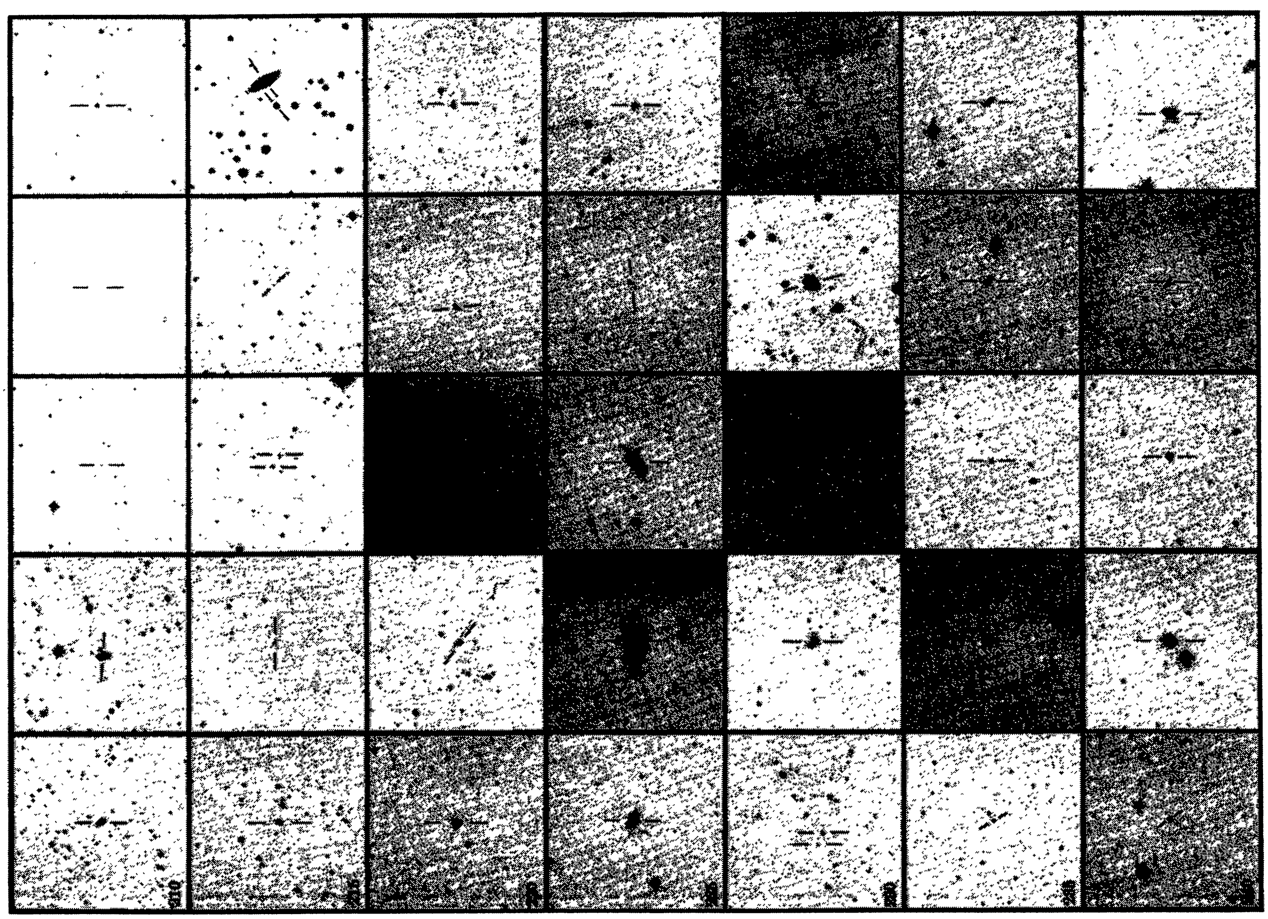

FIGURE 1.7.

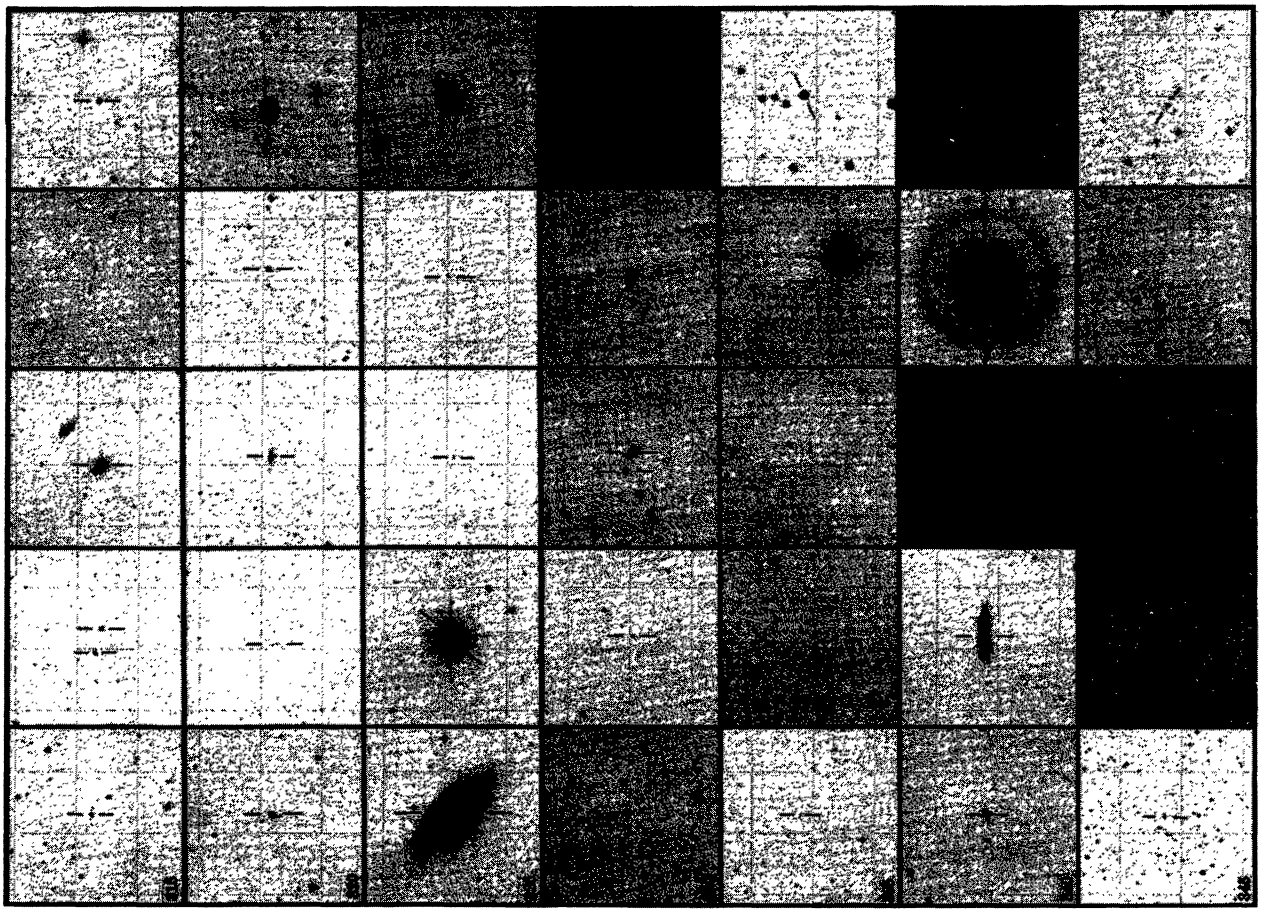

FIGURE 1.10.

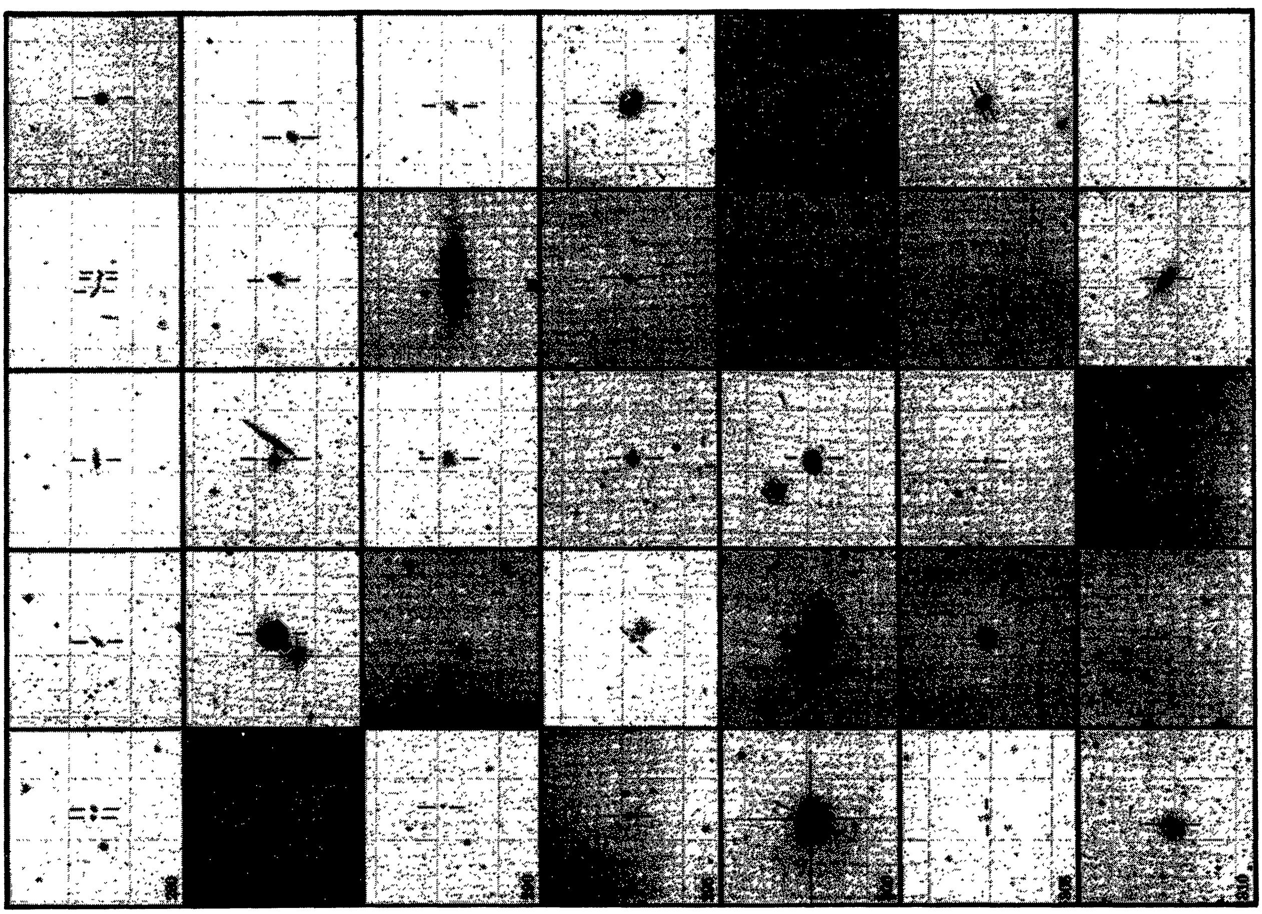

FIGURE 1.9.

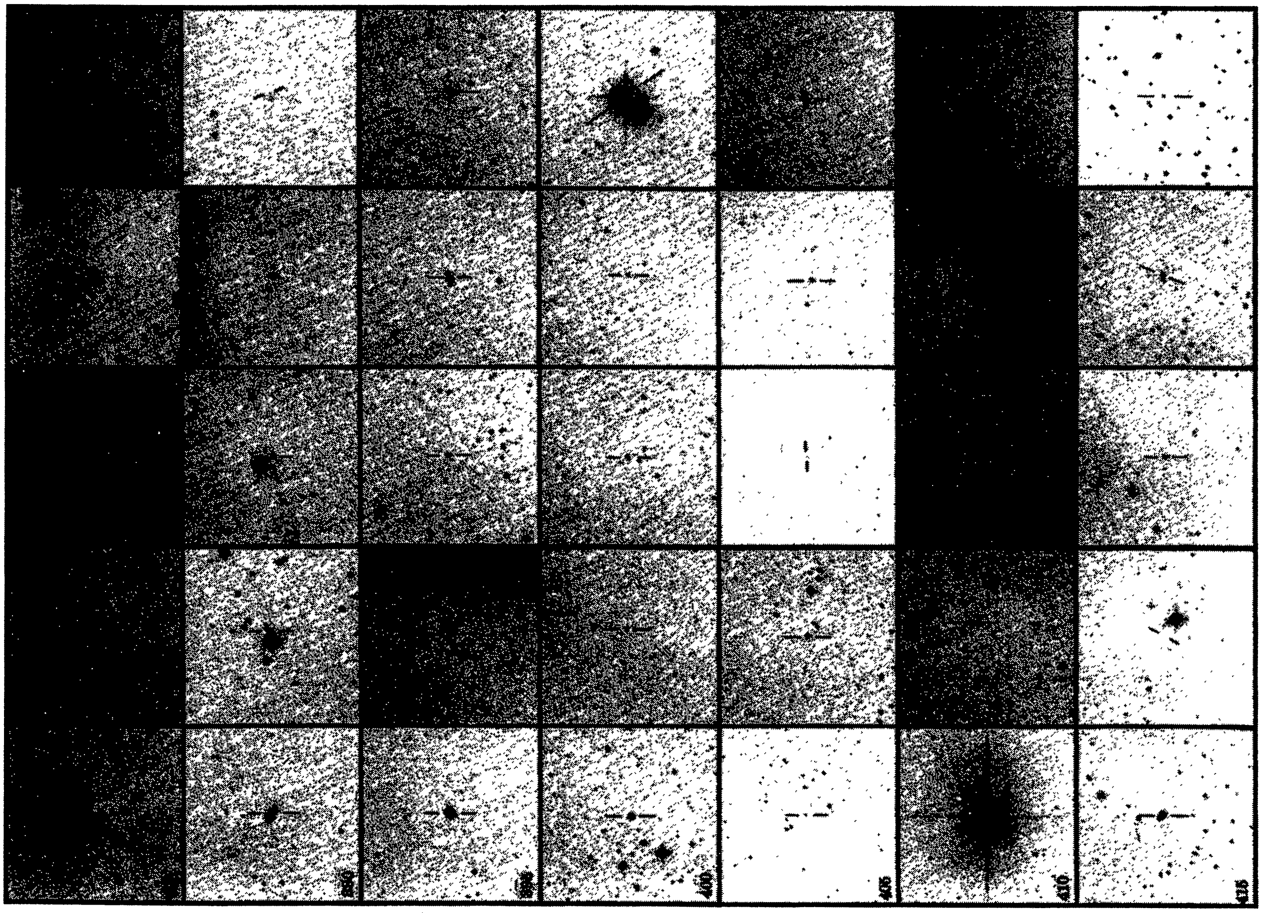

FIGURE 1.12.

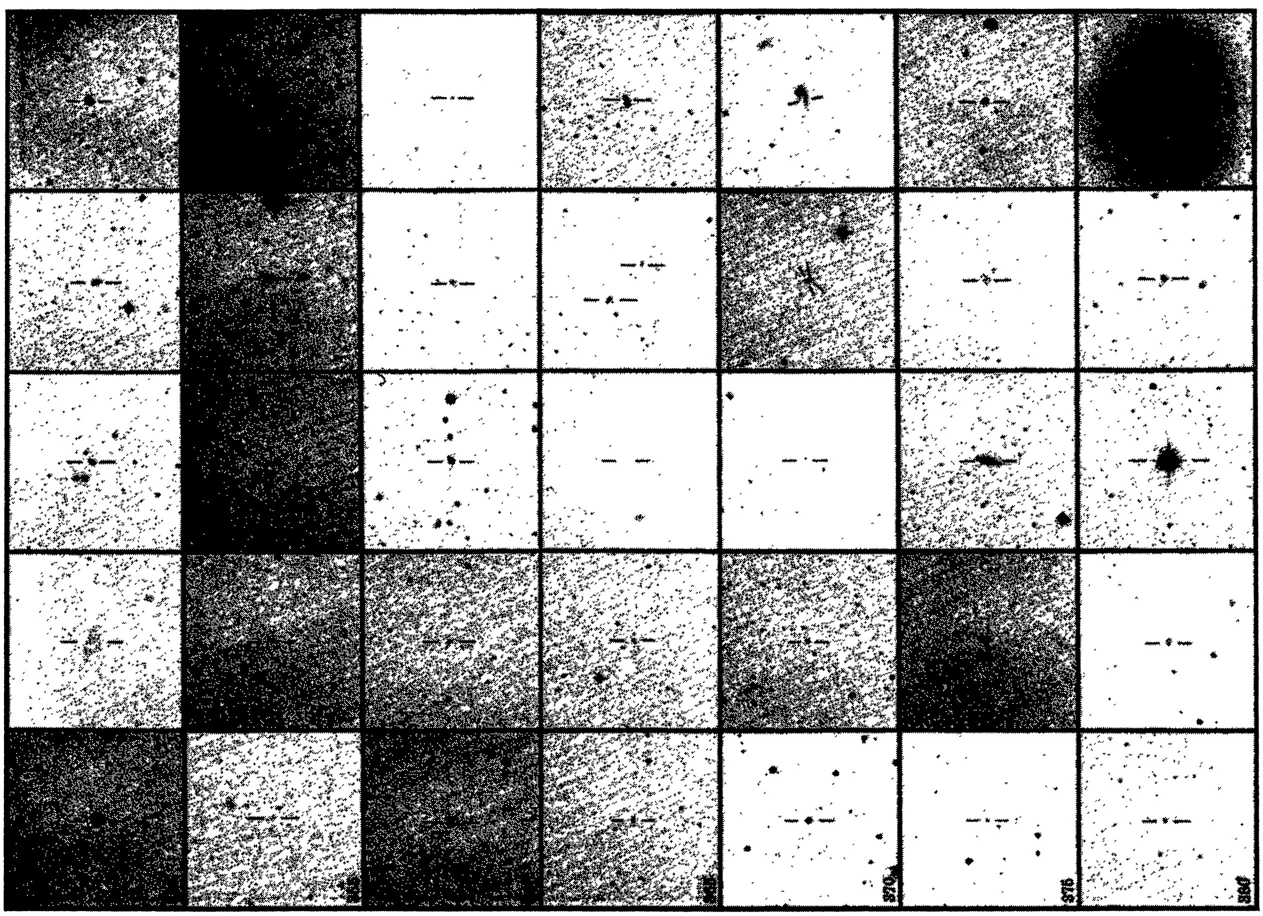

FIGURE 1.11.

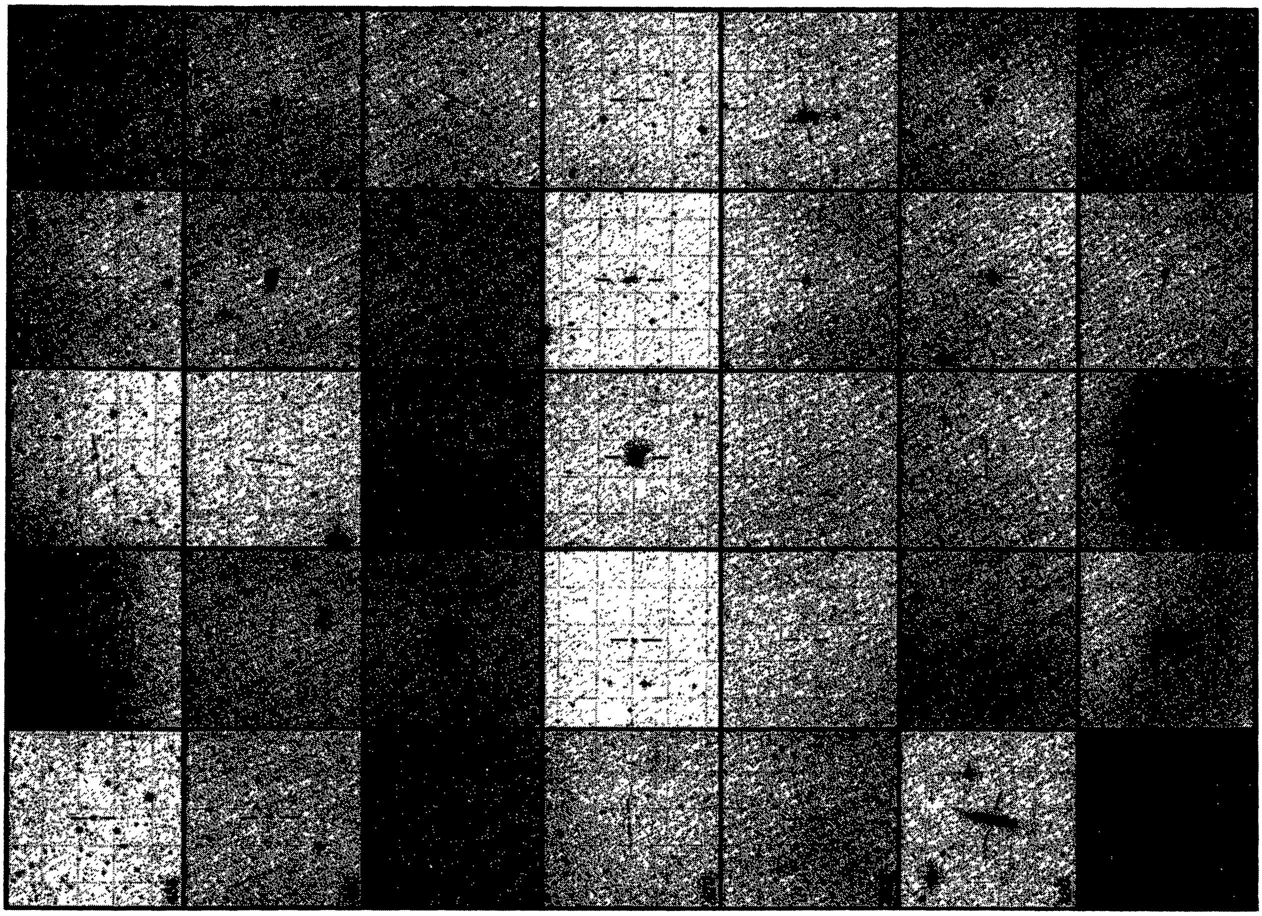

FIGURE 1.14.

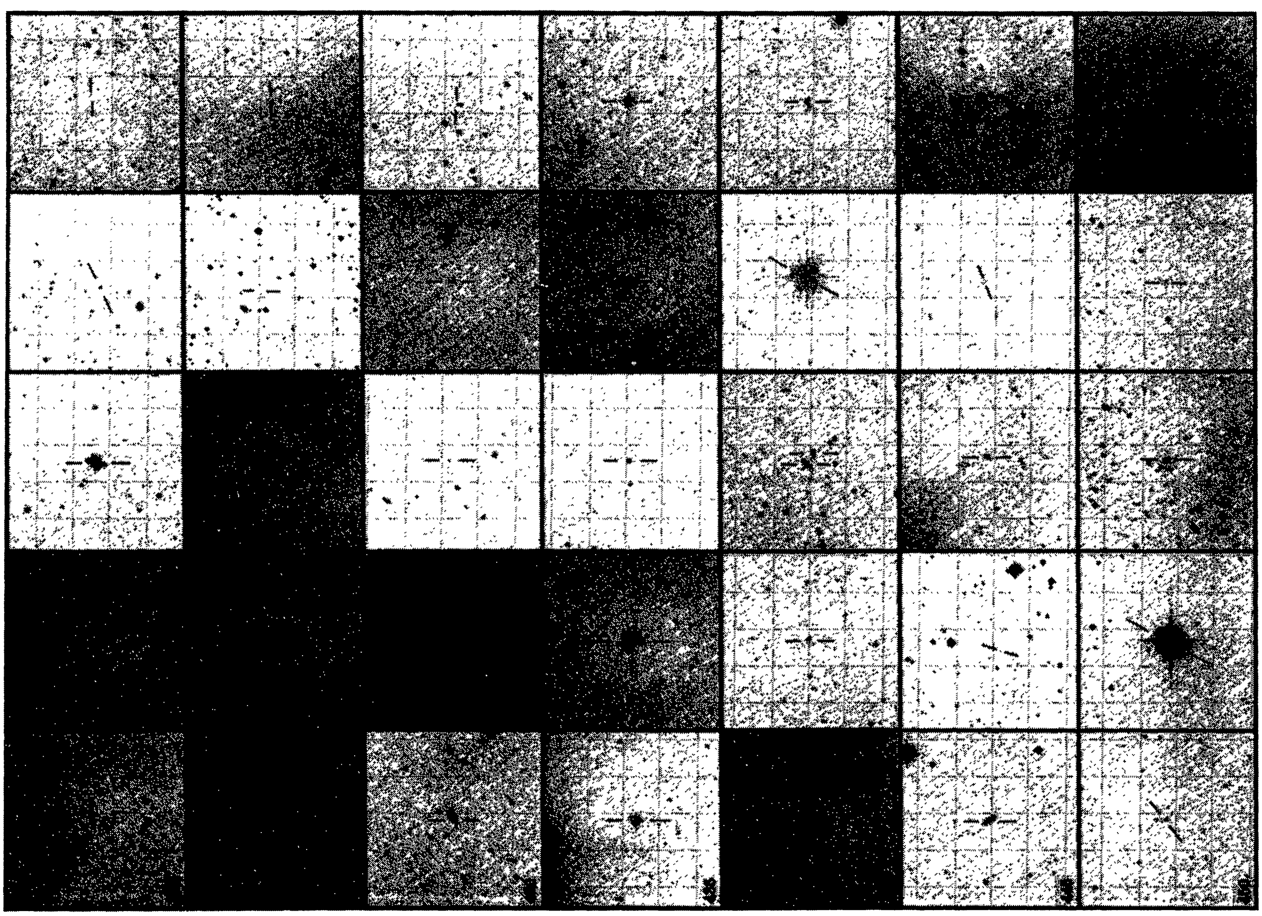

FIGURE 1.13.

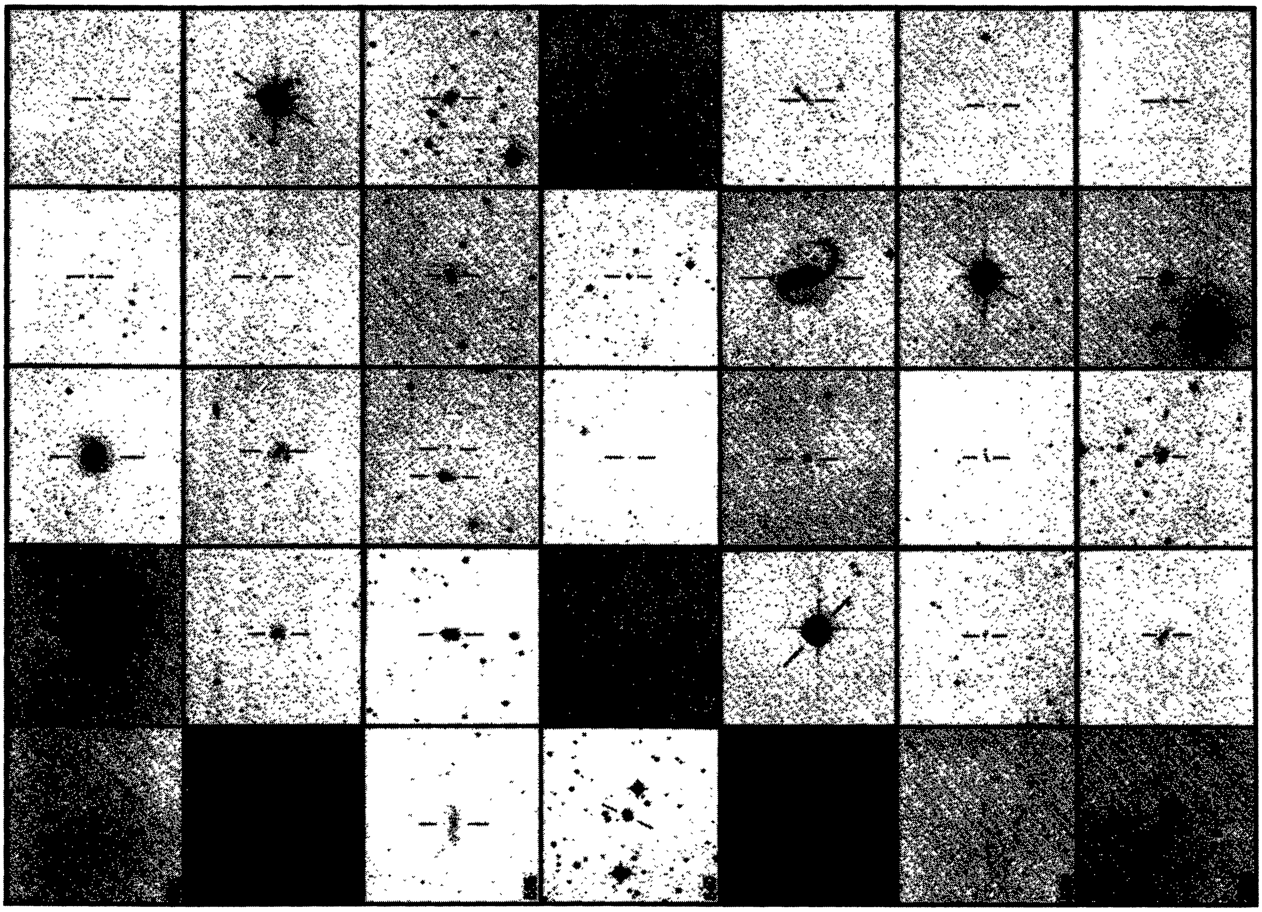

FIGURE 1.16.

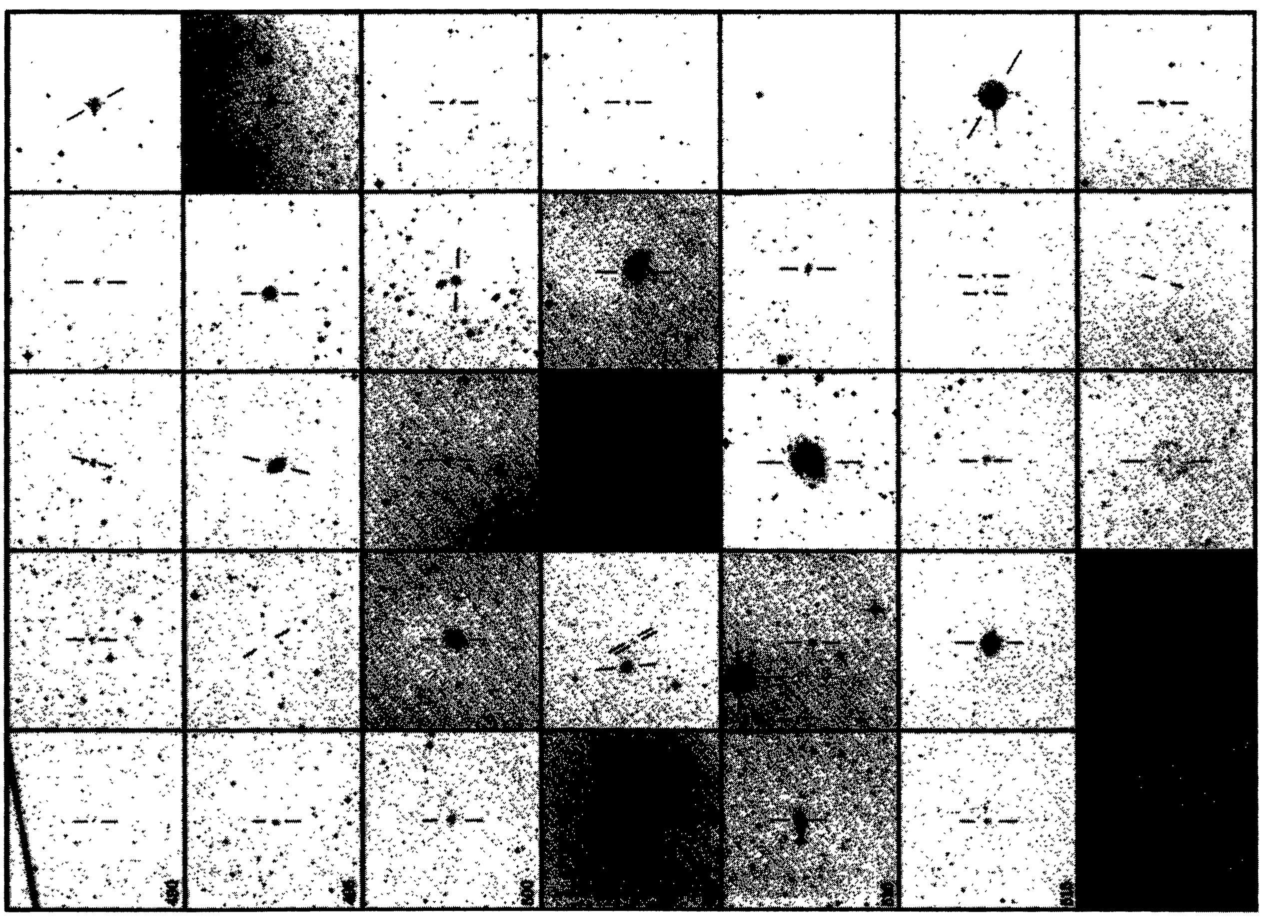

FIGURE 1.15.

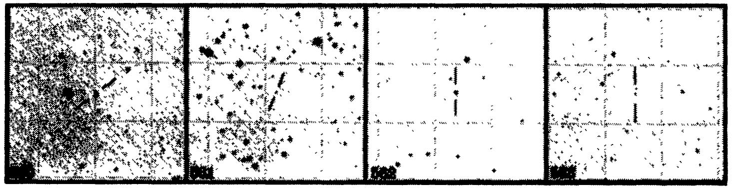

FIGURE 1.17.

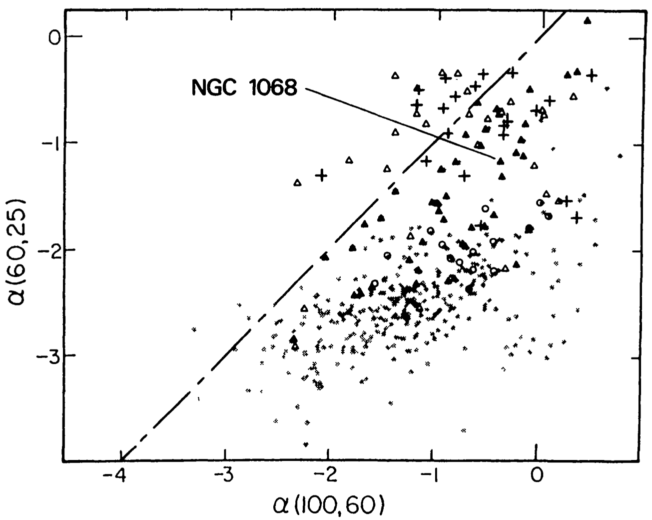

FIGURE 2. — A mid- to far- (25-60-100 μm) infrared colour-colour plot for galaxies with strong nuclear emission lines. The spectral indices are defined as $F_\nu \sim \nu^\alpha$. A total of 222 objects entered into this plot. Seyfert 1 galaxies are denoted by open triangles, Seyfert 2 galaxies are denoted by filled triangles, galaxies with nuclear HII-regions by circles and QSOs by crosses. The grey points denote the colours of non-active spirals and of an IR-defined sample of galaxies. The position of the archetypical Seyfert 2 galaxy NGC1068 is indicated (adapted from Miley and de Grijp, 1986 ; Miley *et al.*, 1985 and Neugebauer *et al.*, 1985).

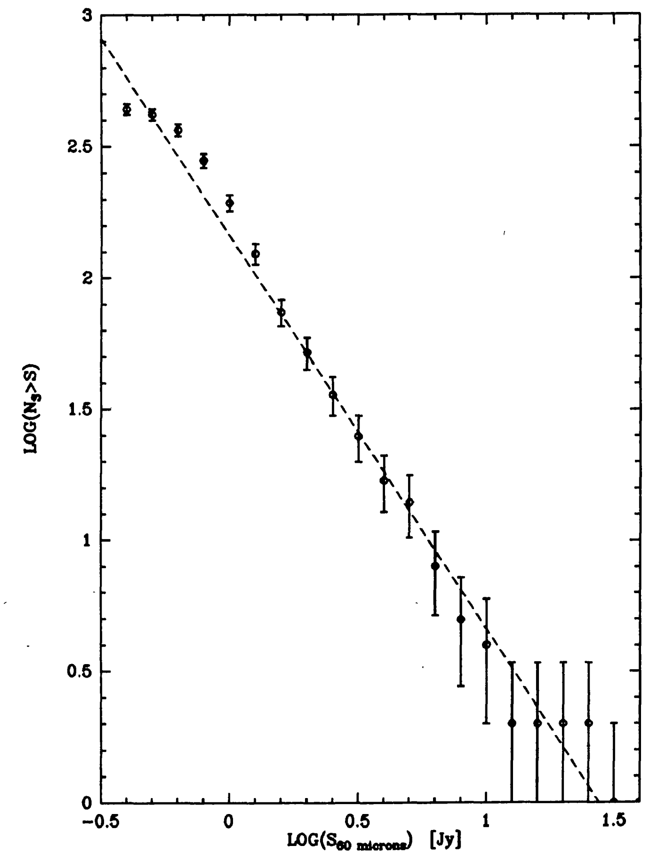

FIGURE 3. — Log N – log S relation for the extragalactic objects in table I (integral form). The dashed line denotes a slope of – 1.5, which fits well above a flux of 1.6 Jy. Below this value 2 effects are noticeable : on the one hand a drop off for increasing incompleteness at low flux levels, on the other hand an excess of sources due to overestimation of fluxes.