

Table 2: Molecular gas masses and CO(1-0) parameters for the COLD GASS galaxies

GASS ID	σ [mK]	S/N	$S_{CO,obs}$ [Jy km s ⁻¹]	$S_{CO,cor}$ [Jy km s ⁻¹]	f_{off}	M_{H2} [log M_{\odot}]	M_{H2}/M_*	Flag
11956	1.07	2.35	1.16	1.25	...	8.46	0.024	1
12025	1.06	...	...	...	...	8.78	0.009	2
12002	1.18	...	...	...	...	8.79	0.021	2
11989	1.07	...	...	...	...	8.79	0.013	2
27167	1.17	...	...	...	...	8.74	0.023	2
3189	1.24	6.69	3.19	3.88	...	8.93	0.076	1
3261	1.96	8.57	4.27	4.62	...	8.98	0.080	1
3318	1.03	...	...	...	...	8.81	0.019	2
3439	1.03	...	...	...	...	8.79	0.028	2
3465	1.17	4.28	2.89	3.28	...	8.62	0.027	1
3645	1.08	...	...	...	...	8.62	0.020	2
3509	1.15	7.24	5.02	5.80	...	9.30	0.031	1
3519	1.53	7.72	5.51	6.52	...	9.24	0.032	1
3505	1.30	...	...	...	...	8.93	0.052	2
3504	1.53	9.19	2.83	3.44	...	8.87	0.051	1
3821	1.14	...	...	...	...	9.01	0.014	2
3819	2.21	23.66	20.82	23.42	...	9.85	0.150	1
4094	1.29	...	...	...	...	8.63	0.012	2
4216	2.56	21.66	26.04	32.31	0.12	9.96	0.167	1
4137	1.37	...	...	...	...	8.98	0.012	2
4233	1.15	...	...	...	...	8.76	0.008	2
4223	1.28	...	...	...	...	8.66	0.013	2
4239	2.04	...	...	...	...	8.85	0.011	2
3962	1.64	33.32	26.04	43.35	0.39	10.07	0.145	1
4017	1.90	5.85	3.31	4.37	...	8.64	0.026	1
3880	1.29	...	...	...	...	8.60	0.012	2
3977	1.13	3.19	1.65	1.96	...	8.49	0.017	1
4030	2.35	10.07	7.74	13.65	0.41	9.68	0.022	1
4038	1.42	8.25	6.78	9.79	...	9.40	0.048	1
4037	2.33	...	...	...	...	8.74	0.009	2
4039	1.13	...	...	...	...	8.52	0.016	2
4045	2.09	71.61	32.94	32.94	0.19	9.54	0.119	1
4041	1.44	11.04	6.78	9.37	...	8.99	0.038	1
4040	1.10	...	...	...	...	8.52	0.016	2
4048	1.09	12.88	6.48	7.28	...	9.26	0.051	1
4054	1.54	...	...	...	...	9.13	0.009	2
3981	1.25	7.65	5.78	6.71	...	9.23	0.048	1
4057	1.12	...	...	...	...	8.86	0.022	2
13775	1.17	3.76	2.70	4.36	...	8.66	0.012	1
51276	1.41	19.30	12.54	17.03	...	9.35	0.095	1
51416	2.15	...	...	...	...	9.33	0.011	2
56375	1.87	11.11	5.33	16.04	0.59	9.70	0.073	1
56319	1.17	4.16	2.35	2.58	...	8.66	0.033	1
51563	1.90	10.01	8.70	10.87	...	9.15	0.047	1
56312	1.04	12.08	5.71	6.85	...	9.08	0.095	1
56304	1.44	6.77	4.58	6.97	...	9.08	0.015	1
19918	1.29	7.25	5.03	6.62	...	9.32	0.031	1
32308	1.16	7.17	2.02	2.35	...	8.48	0.029	1
52297	1.12	2.96	1.60	1.91	...	8.49	0.010	1
19949	2.10	16.54	15.60	19.75	...	9.39	0.051	1
16695	1.01	...	...	...	...	8.74	0.047	2
25752	2.46	10.30	7.32	7.50	0.21	9.18	0.042	1
56612	1.14	...	...	...	...	8.59	0.021	2
25763	2.47	15.44	9.06	10.89	0.27	9.16	0.110	1
16655	1.06	11.76	6.96	9.61	...	9.20	0.037	1
14712	2.36	24.98	19.50	23.33	...	9.70	0.143	1
57017	1.32	6.95	4.61	5.64	...	8.94	0.026	1
16841	1.83	9.90	5.85	6.83	...	9.01	0.089	1
20133	1.78	9.11	7.14	7.14	...	9.40	0.035	1
8347	1.11	...	...	...	...	8.96	0.019	2
14784	1.41	6.70	5.83	8.22	...	9.09	0.010	1
8349	1.21	14.75	8.52	10.41	...	9.10	0.055	1
26056	1.58	8.09	5.80	7.67	...	9.00	0.077	1
18702	1.27	9.02	6.48	7.44	...	9.00	0.062	1
18673	2.01	13.17	12.18	13.04	...	9.46	0.119	1

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18686	1.38	11.82	8.10	9.88	...	9.39	0.069	1
20292	1.44	6.88	6.48	7.50	...	9.00	0.021	1
20286	1.91	9.83	11.70	13.82	...	9.39	0.072	1
14831	2.19	7.80	9.90	13.43	...	9.59	0.024	1
14943	1.90	...	...	...	...	9.30	0.009	2
26221	2.78	25.33	41.46	77.19	0.43	10.06	0.120	1
26368	1.85	10.25	9.54	13.59	...	9.34	0.119	1
18900	1.20	...	...	...	...	9.01	0.012	2
26311	1.26	5.07	3.58	5.56	...	9.21	0.012	1
22999	2.06	14.32	12.18	14.71	...	9.65	0.102	1
26602	1.47	...	...	...	...	8.85	0.013	2
15181	1.56	9.56	8.34	12.88	...	9.62	0.027	1
15166	1.45	4.25	2.33	2.77	...	8.68	0.045	1
29555	1.02	4.00	1.76	2.07	...	8.49	0.013	1
23315	1.09	...	...	...	...	8.64	0.015	2
8914	2.08	13.55	12.36	19.80	0.37	9.32	0.080	1
29596	1.02	3.00	1.24	1.56	...	8.39	0.005	1
15257	0.97	...	...	...	...	8.49	0.025	2
23408	1.39	...	...	...	...	9.11	0.012	2
23450	1.06	...	...	...	...	8.97	0.015	2
23453	1.84	4.34	3.85	3.85	...	8.84	0.052	1
17659	2.59	...	...	...	...	9.20	0.011	2
17640	1.55	...	...	...	...	9.05	0.010	2
5442	2.32	10.68	12.42	30.66	0.52	9.85	0.056	1
17684	1.73	...	...	...	...	9.02	0.009	2
29624	1.70	13.93	11.70	14.38	...	9.39	0.119	1
29699	1.71	1.63	1.35	1.95	...	8.53	0.003	1
12371	1.57	8.76	6.06	7.55	...	9.32	0.033	1
12318	1.03	...	...	...	...	9.02	0.006	2
12455	1.88	...	...	...	...	9.35	0.008	2
12293	1.16	7.28	5.44	7.48	...	9.43	0.013	1
12460	1.04	5.35	2.68	3.54	...	9.10	0.013	1
12458	1.60	...	...	...	...	9.04	0.010	2
29842	2.09	13.48	16.86	42.65	0.53	9.87	0.118	1
23685	2.02	11.12	12.66	14.79	...	9.68	0.094	1
17865	1.92	9.79	7.14	9.84	0.34	9.03	0.056	1
29892	1.28	7.70	6.36	8.86	...	9.25	0.017	1
18202	1.10	...	...	...	...	8.51	0.018	2
24149	1.08	...	...	...	...	8.96	0.043	2
30175	1.49	...	...	...	...	8.50	0.006	2
24168	1.24	4.37	3.16	4.21	...	8.63	0.016	1
24183	2.12	17.16	17.34	17.42	0.20	9.67	0.080	1
24741	1.32	9.78	7.62	9.62	...	9.53	0.041	1
18335	1.20	...	...	...	...	9.07	0.016	2
18421	1.65	8.16	5.10	5.93	...	9.21	0.041	1
24094	1.47	6.36	5.66	7.19	...	9.29	0.016	1
30338	1.18	...	...	...	...	9.11	0.015	2
18469	1.61	7.51	4.83	5.42	...	8.96	0.065	1
12970	1.08	...	...	...	...	8.96	0.012	2
24426	1.47	11.17	6.54	8.59	...	9.08	0.090	1
12966	1.88	...	...	...	...	9.15	0.009	2
30479	1.25	...	...	...	...	8.66	0.024	2
28143	1.27	...	...	...	...	8.69	0.024	2
30471	2.10	...	...	...	...	8.86	0.011	2
24366	1.04	...	...	...	...	8.86	0.010	2
12983	1.03	...	...	...	...	9.06	0.011	2
28168	1.40	5.99	3.12	3.18	...	9.03	0.070	1
6506	2.00	15.89	16.92	21.66	0.29	9.87	0.128	1
13037	0.94	...	...	...	...	8.98	0.009	2
28461	1.87	...	...	...	...	9.26	0.008	2
6565	1.05	...	...	...	...	9.00	0.013	2
6583	1.62	...	...	...	...	9.24	0.011	2
26822	1.99	16.79	18.66	27.47	0.34	9.76	0.054	1
40500	1.11	...	...	...	...	8.99	0.013	2
30508	1.22	...	...	...	...	9.09	0.012	2
13227	1.58	7.13	5.24	6.94	...	9.37	0.014	1
40439	2.04	19.33	16.14	38.85	0.51	9.85	0.079	1
25154	1.89	9.08	0.009	2

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40570	2.60	9.17	0.011	2
25214	2.53	9.13	0.009	2
25448	1.58	5.43	2.97	3.74	...	9.04	0.023	1
25347	1.92	9.13	0.011	2
13512	1.55	3.90	2.35	2.79	...	8.69	0.009	1
7031	1.19	...	...	...	...	8.78	0.015	2
35981	0.91	6.60	2.59	4.19	...	9.02	0.053	1
40317	1.65	...	...	...	...	9.10	0.011	2
40257	1.85	...	...	...	...	9.15	0.010	2
40247	2.22	...	...	...	...	9.26	0.008	2
9301	1.96	8.81	8.94	10.14	...	9.50	0.015	1
7286	1.41	5.03	3.43	4.74	...	8.71	0.010	1
38462	2.22	15.24	17.04	26.99	0.37	9.43	0.049	1
38472	1.19	...	...	...	...	8.55	0.023	2
38591	1.04	...	...	...	...	8.52	0.017	2
41323	1.30	...	...	...	...	9.07	0.011	2
30811	1.68	...	...	...	...	9.30	0.010	2
9483	2.25	10.44	9.00	10.58	...	9.30	0.038	1
9514	1.21	3.62	2.31	2.80	...	8.48	0.009	1
9551	2.19	40.60	53.16	86.09	0.19	9.97	0.115	1
9814	2.34	13.22	12.72	16.98	0.27	9.34	0.029	1
9601	2.13	...	...	...	...	8.93	0.012	2
9917	1.53	...	...	...	...	8.71	0.011	2
9948	1.56	...	...	...	...	8.84	0.014	2
38717	2.05	5.74	5.72	7.00	...	9.23	0.065	1
10019	2.21	11.98	13.26	24.13	0.42	9.53	0.072	1
38964	1.61	...	...	...	...	9.12	0.007	2
39119	2.35	11.14	9.30	11.42	...	9.12	0.086	1
10218	2.53	11.67	11.76	14.40	...	9.66	0.078	1
39270	1.34	9.28	4.51	6.00	...	9.03	0.076	1
42025	1.27	5.38	3.81	5.18	...	9.02	0.014	1
41969	2.01	20.50	12.30	27.90	0.49	9.71	0.192	1
42140	1.23	...	...	...	...	9.08	0.013	2
10367	1.81	...	...	...	...	9.06	0.010	2
42013	2.60	23.04	29.40	36.34	0.10	9.86	0.124	1
42141	1.21	...	...	...	...	8.92	0.009	2
10358	1.85	...	...	...	...	9.06	0.009	2
10404	1.72	...	...	...	...	9.04	0.010	2
10447	1.11	...	...	...	...	8.98	0.020	2
39548	1.94	9.28	7.74	8.44	0.23	9.18	0.058	1
39605	1.26	...	...	...	...	8.74	0.041	2
39595	1.99	11.61	13.50	13.50	0.18	9.58	0.051	1
39567	1.67	7.94	7.38	8.94	...	9.11	0.035	1
26958	2.19	20.61	30.72	33.42	0.23	9.94	0.048	1
47221	1.38	8.94	5.51	6.55	...	9.00	0.029	1
42402	1.16	4.09	2.93	4.40	...	9.13	0.013	1
31156	2.34	...	...	...	...	8.76	0.012	2
29487	2.29	2.26	2.08	2.59	...	8.84	0.005	1
10817	1.31	...	...	...	...	8.70	0.012	2
10827	1.15	...	...	...	...	8.61	0.032	2
10831	1.14	5.47	3.35	3.99	...	8.65	0.015	1
10813	1.28	...	...	...	...	8.58	0.011	2
10836	1.28	...	...	...	...	8.68	0.010	2
10850	1.15	7.23	3.79	4.26	...	8.90	0.042	1
10841	0.99	11.46	5.77	6.72	...	8.87	0.032	1
10885	2.15	12.15	10.38	11.66	...	9.12	0.121	1
10889	1.16	...	...	...	...	8.54	0.012	2
10844	1.16	...	...	...	...	8.34	0.015	2
10872	1.10	...	...	...	...	8.57	0.012	2
10884	1.23	...	...	...	...	8.59	0.013	2
10942	1.13	...	...	...	...	8.45	0.025	2
10943	1.35	6.79	3.76	4.39	...	8.70	0.030	1
10944	1.02	...	...	...	...	8.45	0.025	2
10950	1.25	...	...	...	...	8.49	0.019	2
10949	1.18	...	...	...	...	8.56	0.017	2
10948	1.10	5.84	2.89	3.34	...	8.53	0.032	1
10952	1.41	7.30	5.39	7.07	...	8.86	0.025	1
11016	1.15	8.83	0.039	2

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11015	1.15	8.96	0.016	2
11086	1.17	8.73	0.020	2
11087	1.42	8.96	0.012	2
11071	1.38	6.45	3.60	4.71	...	8.67	0.013	1
11126	0.99	...	...	...	...	8.98	0.017	2
11112	2.64	24.66	36.00	60.74	0.20	9.84	0.107	1
11120	2.02	8.44	8.46	10.37	...	9.06	0.045	1
11311	1.77	13.03	13.26	22.77	0.40	9.60	0.048	1
11298	1.17	7.41	4.82	5.83	...	9.13	0.106	1
11295	1.38	12.51	11.34	18.72	...	9.64	0.035	1
1977	1.93	13.89	13.62	24.31	0.21	9.51	0.054	1
11270	1.18	6.47	2.02	2.16	...	8.70	0.042	1
11349	1.64	15.05	10.08	12.43	...	9.09	0.091	1
11437	1.26	7.58	4.81	6.37	...	8.82	0.018	1
11408	2.17	18.47	8.04	10.40	...	9.03	0.094	1
11513	1.16	2.68	1.50	1.64	...	8.61	0.010	1
11514	1.13	4.33	2.77	2.93	...	8.90	0.043	1
11386	1.17	...	...	...	...	8.99	0.027	2
11808	1.11	7.87	4.76	5.71	...	9.28	0.032	1
11845	1.72	20.57	17.28	17.28	0.14	9.53	0.085	1
11824	1.08	4.53	2.29	2.82	...	8.78	0.034	1