Table 1. Source list

Source	Position		$V_{\rm LSR}$	Adopted distance	Reference	
	α(B1950.0)	δ(B1950.0)	(km s^{-1})	(kpc)	Distance	Molecular
W3(IRS4)	$02^{\rm h}21^{\rm m}43\overset{\rm s}{.}5$	$+61°52'49''$	-43.0	2.4	1,2	
W3(OH)	$02^{\rm h}23^{\rm m}17\overset{\rm s}{.}0$	$+61°38'53''$	-48.0	2.4	1,2	
NGC 1333	$03^{\rm h}25^{\rm m}58\overset{\rm s}{.}2$	$+31°05'46''$	$+7.0$	0.35(0.22–0.5)	3	3, 9, 16, 17
Orion A	$05^{\rm h}32^{\rm m}47\overset{\rm s}{.}0$	$-05°24'24''$	$+8.0$	0.5	1	10, 18, 21
OMC-2	$05^{\rm h}32^{\rm m}58\overset{\rm s}{.}3$	$-05°11'52''$	$+10.0$	0.5	1,4	
OMC-3	$05^{\rm h}32^{\rm m}48\overset{\rm s}{.}3$	$-05°02'10''$	$+10.0$	0.5	4	
NGC 2023	$05^{\rm h}39^{\rm m}07\overset{\rm s}{.}0$	$-02°17'20''$	$+10.0$	0.4	5	
NGC 2024	$05^{\rm h}39^{\rm m}12\overset{\rm s}{.}8$	$-01°57'04''$	$+10.0$	0.4	5	9, 12, 13
NGC 2068	$05^{\rm h}43^{\rm m}34\overset{\rm s}{.}9$	$-00°11'50''$	$+10.0$	0.4	5	15
NGC 2071	$05^{\rm h}44^{\rm m}30\overset{\rm s}{.}6$	$+00°20'42''$	$+10.0$	0.4	1, 5	9, 14, 20, 21
Mon R2	$06^{\rm h}05^{\rm m}22\overset{\rm s}{.}0$	$-06°22'25''$	$+10.0$	1.0	2	
NGC 2264IR	$06^{\rm h}38^{\rm m}25\overset{\rm s}{.}0$	$+09°32'29''$	$+8.0$	0.9	1	9
G 34.3 +0.2	$18^{\rm h}50^{\rm m}46\overset{\rm s}{.}2$	$+01°11'13''$	$+58.0$	3.7	1,2	
W 49N	$19^{\rm h}07^{\rm m}49\overset{\rm s}{.}9$	$+09°01'17''$	$+5.0$	11.4	6	6, 20
W 51N[a]	$19^{\rm h}21^{\rm m}22\overset{\rm s}{.}4$	$+14°25'13''$	$+60.0$	7.0	2	
DR 21(OH)[b]	$20^{\rm h}37^{\rm m}14\overset{\rm s}{.}2$	$+42°12'10''$	-3.0	3.0	1,2	
IRAS 21391+5802	$21^{\rm h}39^{\rm m}10\overset{\rm s}{.}3$	$+58°02'29''$	$+0.0$	0.8	7	19
S 140	$22^{\rm h}17^{\rm m}42\overset{\rm s}{.}0$	$+63°03'45''$	-7.0	0.9	8	8, 11, 12, 13, 21
NGC 7538(IRS1)	$23^{\rm h}11^{\rm m}36\overset{\rm s}{.}5$	$+61°11'49''$	-57.0	2.8	2	20

Distance references: (1) Mangum & Wootten (1993), (2) Plume, Jaffe & Evans II (1992), (3) Blake et al. (1995), (4) Castets & Langer (1995), (5) Lada (1992), (6) Serabyn, Güsten & Schulz (1993), (7) Wilking et al. (1993), (8) Zhou et al. (1994)

SO references: (9) Chernin et al. (1994), (10) Friberg (1984), (11) Wilner & Welch (1994)

Multi CS transition references: (12) Mundy et al. (1986), (6) Serabyn et al. (1993), (13) Snell et al. (1984), (14) Zhou et al. (1991), (8) Zhou et al. (1994), (16) Langer et al. (1996)

Molecular outflow references: (3) Blake et al. (1995), (9) Chernin et al. (1994), (15) Edwards & Snell (1984), (10) Friberg (1984), (17) Liseau et al. (1988), (18) Olofsson et al. (1982), (19) Patel et al. (1995), (20) Scoville et al. (1986), (21) Snell et al. (1984), (11) Wilner & Welch (1994)

[a] The W 51M core is located approximately at an offset (40″,−40″) relative to W 51N.

[b] The DR 21 core is located approximately 160″south of DR 21(OH).

Table 2. Integrated intensities in for certain positions and lines

Source	Offset ($''$,$''$)	SO(3_2–2_1)	^{34}SO(3_2–2_1)	CS(2–1)	C^{34}S(2–1)
DR21 (OH)	(0,−160)	8.7(0.5)	0.4(0.1)	32.8(0.4)	4.1(0.1)
DR21 (OH)	(0,−40)	21.1(0.5)		49.5(0.4)	7.8(0.1)
DR21 (OH)	(−40,0)	15.2(0.5)		36.6(0.5)	4.4(0.2)
DR21 (OH)	(0,0)	27.8(0.3)	1.4(0.1)	59.6(0.3)	9.0(0.1)
DR21 (OH)	(40,0)	6.5(0.5)		24.0(0.5)	2.2(0.2)
DR21 (OH)	(0,40)	15.4(0.5)		31.4(0.7)	4.2(0.2)
G 34.3+0.2	(0,−40)	12.7(0.8)		38.9(0.5)	6.9(0.6)
G 34.3+0.2	(−40,0)	17.9(1.0)		45.9(0.5)	8.8(0.6)
G 34.3+0.2	(0,0)	24.9(0.3)	1.4(0.1)	62.0(0.3)	12.9(0.2)
G 34.3+0.2	(40,0)	11.4(0.8)		22.4(0.5)	4.2(0.3)
G 34.3+0.2	(0,40)	10.7(0.8)		28.2(0.5)	6.0(0.4)
IRAS 21391+5802	(0,0)	10.1(0.3)	0.5(0.1)	24.5(0.5)	1.6(0.1)
Mon R2	(0,0)	5.6(0.2)		22.4(0.2)	2.9(0.1)
Mon R2	(0,40)	4.7(0.3)	0.1(0.1)	26.5(0.3)	2.7(0.2)
NGC 1333	(120,−200)	4.8(0.3)	0.8(0.1)	6.3(0.2)	0.7(0.1)
NGC 1333	(40,−160)	5.6(0.3)	0.3(0.1)	9.2(0.2)	1.0(0.1)
NGC 1333	(80,−160)	9.3(0.3)	0.9(0.1)	11.7(0.2)	1.0(0.1)
NGC 1333	(120,−160)	8.4(0.1)	1.5(0.1)	6.5(0.1)	1.0(0.1)
NGC 1333	(160,−160)	5.4(0.2)	0.6(0.1)	5.1(0.2)	0.7(0.1)
NGC 1333	(80,−120)	7.8(0.2)	0.7(0.1)	9.3(0.2)	1.6(0.1)
NGC 1333	(120,−120)	6.9(0.2)	0.5(0.1)	7.7(0.2)	1.0(0.1)
NGC 1333	(160,−120)	3.3(0.2)	0.5(0.1)	5.3(0.2)	0.3(0.1)
NGC 1333	(80,−80)	10.2(0.3)	0.7(0.1)	9.2(0.2)	0.7(0.2)
NGC 1333	(120,−80)	5.1(0.3)	0.5(0.2)	6.2(0.2)	0.4(0.1)
NGC 1333	(40,−40)	9.8(0.2)	0.4(0.1)	13.6(0.2)	0.8(0.3)
NGC 1333	(80,−40)	10.1(0.2)	0.9(0.1)	10.9(0.2)	1.3(0.1)
NGC 1333	(120,−40)	7.7(0.3)	0.7(0.1)	7.5(0.2)	0.6(0.1)
NGC 1333	(0,0)	2.4(0.1)	0.1(0.1)	10.6(0.2)	0.9(0.1)
NGC 1333	(80,0)	8.7(0.2)	0.6(0.1)	11.1(0.2)	1.2(0.1)
NGC 1333	(120,0)	5.3(0.3)	0.5(0.1)	7.4(0.1)	0.5(0.1)
NGC 1333	(80,40)	6.2(0.3)	0.6(0.1)	7.3(0.2)	0.3(0.1)
NGC 1333	(120,40)	4.1(0.3)	0.1(0.1)	6.3(0.2)	0.6(0.1)
NGC 1333	(120,80)	2.6(0.3)	0.2(0.1)	6.0(0.2)	0.0(0.1)
NGC 2023	(0,0)	0.8(0.1)		3.7(0.3)	0.1(0.1)
NGC 2024	(0,−40)	10.8(0.3)	0.6(0.1)	40.8(0.9)	4.9(0.2)
NGC 2024	(−40,0)	4.2(0.4)		18.5(0.9)	1.9(0.2)
NGC 2024	(0,0)	9.7(0.2)		31.0(0.5)	4.3(0.1)
NGC 2024	(40,0)	6.3(0.4)		13.6(0.9)	2.3(0.2)
NGC 2024	(0,40)	8.4(0.3)	0.6(0.1)	33.9(0.5)	4.4(0.2)
NGC 2068	(120,−80)	4.1(0.3)	0.3(0.1)	3.3(0.6)	0.1(0.1)
NGC 2068	(0,0)	1.5(0.1)		5.9(0.4)	0.5(0.1)
NGC 2071	(0,0)	2.2(0.2)		11.1(0.3)	1.9(0.1)
NGC 2264IR	(0,−40)	10.2(0.3)		28.0(0.4)	3.4(0.1)
NGC 2264IR	(−40,0)	8.1(0.3)		27.1(0.4)	2.6(0.1)
NGC 2264IR	(0,0)	20.1(0.2)	1.1(0.1)	35.9(0.2)	3.7(0.1)
NGC 2264IR	(40,0)	14.4(0.3)		24.3(0.4)	2.9(0.2)
NGC 2264IR	(0,40)	12.4(0.3)		18.4(0.4)	2.7(0.2)

a(b) denotes value(1σ error)

Table 2. continued

Source	Offset ($''$,$''$)	SO(3_2–2_1)	^{34}SO(3_2–2_1)	CS(2–1)	C^{34}S(2–1)
NGC 7538	(0,−40)	28.8(0.4)	1.4(0.1)	62.1(0.5)	7.5(0.2)
NGC 7538	(−40,0)	9.9(0.6)		30.7(0.6)	2.2(0.2)
NGC 7538	(0,0)	14.9(0.2)	0.8(0.1)	53.4(0.4)	6.3(0.2)
NGC 7538	(40,0)	20.5(0.5)		31.4(0.5)	5.6(0.3)
NGC 7538	(0,40)	6.3(0.6)		12.4(0.5)	1.2(0.1)
OMC–2	(0,0)	2.1(0.1)		14.8(0.3)	1.0(0.1)
OMC–3	(0,0)	6.9(0.3)	0.0(0.1)	11.9(0.5)	1.1(0.1)
Orion A	(0,−80)	13.9(0.3)	0.3(0.3)	63.4(0.8)	12.8(0.4)
Orion A	(0,−40)	7.5(0.5)		48.7(0.4)	4.8(0.3)
Orion A	(−40,0)	4.3(0.3)		45.5(0.4)	7.1(0.3)
Orion A	(0,0)	5.9(0.3)		52.4(0.4)	9.2(0.2)
Orion A	(40,0)	5.3(0.3)		17.3(0.5)	2.2(0.3)
Orion A	(0,40)	6.2(0.5)		38.6(0.5)	5.2(0.3)
S 140	(0,−40)	6.1(0.2)		22.2(0.3)	2.0(0.2)
S 140	(−40,0)	12.5(0.2)		27.0(0.3)	3.1(0.2)
S 140	(0,0)	14.0(0.1)	1.8(0.2)	34.8(0.2)	3.9(0.2)
S 140	(40,0)	6.7(0.2)		21.9(0.3)	3.0(0.2)
S 140	(0,40)	13.8(0.3)		31.2(0.4)	3.6(0.2)
W3(IRS4)	(−40,−40)	7.8(0.4)		24.9(0.4)	2.3(0.1)
W3(IRS4)	(0,−40)	17.0(0.3)	0.9(0.1)	50.4(0.4)	6.9(0.2)
W3(IRS4)	(40,−40)	14.2(0.4)		31.2(0.4)	2.7(0.2)
W3(IRS4)	(−40,0)	7.6(0.4)		17.4(0.4)	2.2(0.2)
W3(IRS4)	(0,0)	13.8(0.1)		47.5(0.2)	7.2(0.1)
W3(IRS4)	(40,0)	10.9(0.4)		29.8(0.4)	2.3(0.2)
W3(IRS4)	(−40,40)	3.5(0.3)		9.8(0.3)	0.5(0.2)
W3(IRS4)	(0,40)	3.7(0.4)		16.3(0.4)	2.0(0.2)
W3(IRS4)	(40,40)	3.2(0.4)		16.2(0.4)	0.8(0.2)
W3(OH)	(0,−40)	9.1(0.3)		29.2(0.5)	1.9(0.2)
W3(OH)	(−40,0)	10.2(0.3)		22.0(0.6)	3.1(0.2)
W3(OH)	(−20,0)	16.2(0.4)	1.1(0.1)	42.7(0.6)	
W3(OH)	(0,0)	22.1(0.2)	0.9(0.1)	45.2(0.3)	6.1(0.1)
W3(OH)	(40,0)	6.2(0.3)		20.6(0.5)	1.9(0.1)
W3(OH)	(0,40)	6.4(0.3)		28.2(0.5)	2.2(0.2)
W 49N	(0,−40)	11.3(0.5)		27.4(0.4)	3.0(0.2)
W 49N	(−40,0)	17.6(0.4)		46.7(0.4)	7.7(0.2)
W 49N	(0,0)	66.9(0.3)	6.2(0.1)	87.7(0.3)	11.5(0.1)
W 49N	(40,0)	19.8(0.4)		45.7(0.4)	5.9(0.2)
W 49N	(0,40)	12.3(0.4)		36.3(0.3)	5.4(0.2)
W 51N	(−40,−40)	31.8(0.5)		88.8(0.3)	13.6(0.3)
W 51N	(0,−40)	25.6(0.5)		94.7(0.3)	15.5(0.3)
W 51N	(40,−40)	47.4(0.4)	2.7(0.1)	129.2(0.3)	26.6(0.3)
W 51N	(−40,0)	32.4(0.5)		85.8(0.3)	12.4(0.3)
W 51N	(0,0)	32.8(0.4)	1.6(0.1)	90.2(0.2)	14.9(0.2)
W 51N	(40,0)	23.8(0.5)		71.6(0.3)	12.5(0.3)
W 51N	(−40,40)	12.7(0.3)		44.8(0.3)	3.7(0.2)
W 51N	(0,40)	11.6(0.3)		49.7(0.3)	5.2(0.3)
W 51N	(40,40)	10.7(0.4)		40.0(0.3)	5.3(0.3)

a(b) denotes value(1σ error)