

## Map of id numbers for SFIT, HITRAN, ATM lists

! the linelist directory structure is the key to the gas names and the molecule id number  
! those id's and names must be the same in the reference.prf file  
! eg a files containing hitran lines is read from one subdir in linelist then the molid will be  
! to the 2digit integer ONN of the subdir name and assumed to be for gas ONN\_abcdef

	SFIT Molecule #	SFIT NAME	HITRAN LINES	HITRAN Molecule #	HITRAN NAME	
FORTRAN Array:	DATA	MAP	&	/		
	1,	&!	H2O	X	1	H2O
	2,	&!	CO2	X	2	CO2
	3,	&!	O3	X	3	O3
	4,	&!	N2O	X	4	N2O
	5,	&!	CO	X	5	CO
	6,	&!	CH4	X	6	CH4
	7,	&!	O2	X	7	O2
	8,	&!	NO	X	8	NO
	9,	&!	SO2	X	9	SO2
	10,	&!	NO2	X	10	NO2
	11,	&!	NH3	X	11	NH3
	12,	&!	HNO3	X	12	HNO3
	13,	&!	OH	X	13	OH
	14,	&!	HF	X	14	HF
	15,	&!	HCL	X	15	HCL
	16,	&!	HBR	X	16	HBR
	17,	&!	HI	X	17	HI
	18,	&!	CLO	X	18	CLO
	19,	&!	OCS	X	19	OCS
	20,	&!	H2CO	X	20	H2CO
Same above	21,	&!	HOCL	X	21	HOCL
	41,	&!	N2	X	22	N2
	28,	&!	HCN	X	23	HCN
	30,	&!	CH3CL	X	24	CH3CL
	23,	&!	H2O2	X	25	H2O2
	40,	&!	C2H2	X	26	C2H2
	38,	&!	C2H6	X	27	C2H6
	0,	&!		X	28	PH3
	36,	&!	COF2	X	29	COF2
	50,	&!	SF6		30	SF6
	47,	&!	H2S	X	31	H2S

46,	&!	HCOOH	X	32	HCOOH
22,	&!	HO2	X	33	HO2
0,	&!			34	O
27,	&!	CLONO2		35	CLONO2
0,	&!			36	NO+
0,	&!			37	HOBR
39,	&!	C2H4	X	38	C2H4
64,	&!	CH3OH	X	39	CH3OH
44,	&!	CH3BR	X	40	CH3Br
69,	&!	CH3CN	X	41	CH3CN
31,	&!	CF4		42	CF4
0	&!		X	43	C4H2
0	&!		X	44	HC3N
0	&!		X	45	H2
0	&!		X	46	CS
0	&!		X	47	SO3
0	&!		X	48	C2N2
43	&!	COCL2		49	COCL2
50,	&!	SF6		50	
51,	&!	NF3		51	
52,	&!	N2CIA		52	
53,	&!	OTHER		53	
54,	&!	OTHER		54	
55,	&!	OTHER		55	
56,	&!	OTHER		56	
57,	&!	OTHER		57	
58,	&!	OCLO		58	
59,	&!	F134A		59	
60,	&!	C3H8		60	
61,	&!	F142B		61	
62,	&!	CFC113		62	
63,	&!	F141B		63	
64,	&!	CH3OH		64	
65,	&!	CH3CNPL		65	
66,	&!	C2H6PL		66	
67,	&!	PAN		67	
68,	&!	CH3CHO		68	
69,	&!	CH3CN		69	
70,	&!	OTHER		70	
71,	&!	CH3COOH		71	
72,	&!	C5H8		72	
73,	&!	MVK		73	

74,	&!	MACR	74
75,	&!	C3H6	75
76,	&!	C4H8	76
77,	&!	OTHER	77
78,	&!	OTHER	78
79,	&!	OTHER	79
80,	&!	OTHER	80
81,	&!	OTHER	81
82,	&!	OTHER	82
83,	&!	OTHER	83
84,	&!	OTHER	84
85,	&!	OTHER	85
86,	&!	OTHER	86
87,	&!	OTHER	87
88,	&!	OTHER	88
89,	&!	OTHER	89
90,	&!	OTHER	90
91,	&!	OTHER	91
92,	&!	OTHER	92
93,	&!	OTHER	93
94,	&!	OTHER	94
95,	&!	OTHER	95
96,	&!	OTHER	96
97,	&!	OTHER	97
98,	&!	OTHER	98
99	&!	OTHER	99
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 ! to the 2digit integer ONN of the subdir name and assumed to be for gas ONN\_abc  
 For ATM: see isotopologs.dat for 2020 list of (potential) isotopes, see gggmol.txt for details  
 All available isotopes id's are in order except ATM2020 NH3 niso=4: 1, 2, 3, 5

	SFIT			
	Molecule #	Name	Lines	isotopes
SFIT & HITRAN Same ID#	1	H2O	X	7
	2	CO2	X	12
	3	O3	X	5
	4	N2O	X	8
	5	CO	X	6
	6	CH4	X	4
	7	O2	X	3
	8	NO	X	3
	9	SO2	X	2
	10	NO2	X	1
	11	NH3	X	2
	12	HNO3	X	2
	13	OH	X	3
	14	HF	X	2
	15	HCL	X	4
	16	HBR	X	4
	17	HI	X	2
	18	CLO	X	2
	19	OCS	X	5
	20	H2CO	X	3
	21	HOCL	X	2
	22	HO2	X	1
	23	H2O2	X	1
	24	HONO		1
	25	HO2NO2		1
	26	N2O5	X	1
	27	CLONO2	X	2
	28	HCN	X	3

SFIT & ATM Same ID#	29	CH3F		1
	30	CH3CL	X	2
	31	CF4	X	1
	32	CCL2F2	X	1
	33	CCL3F	X	1
	34	CH3CCL3		1
	35	CCL4	X	1
	36	COF2	X	2
	37	COCLF	X	1
	38	C2H6	X+P	2
	39	C2H4	X	2
	40	C2H2	X	3
	41	N2	X	2
	42	CHF2CL	X	1
	43	COCL2	X+P	3
	44	CH3BR	X	2
	45	CH3I		1
	46	HCOOH	X	1
	47	H2S	X	3
	48	CHCL2F		1
	49	O2CIA	X	2
	50	SF6	X	1
	51	NF3	X	1
	52	N2CIA	X	2
	53	OTHER		0
	54	OTHER		0
	55	PH3	X	1
	56	OTHER		0
	57	OTHER		0
	58	OCLO		1
	59	F134A		1
	60	C3H8	X	1
	61	F142B	X	1
	62	CFC113	X	1
	63	F141B		1
	64	CH3OH	X	1
	65	OTHER		0
	66	OTHER		0
	67	PAN		1
	68	CH3CHO		1
	69	CH3CN	X	1
	70	CHF3		1



71	CH3COOH	1
72	C5H8	1
73	MVK	1
74	MACR	1
75	C3H6	1
76	C4H8	1
77	OTHER	0
78	OTHER	0
79	OTHER	0
80	OTHER	0
81	OTHER	0
82	OTHER	0
83	OTHER	0
84	OTHER	0
85	OTHER	0
86	OTHER	0
87	OTHER	0
88	OTHER	0
89	OTHER	0
90	OTHER	0
91	OTHER	0
92	OTHER	0
93	OTHER	0
94	OTHER	0
95	OTHER	0
96	OTHER	0
97	OTHER	0
98	OTHER	0
99	OTHER	0

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will be changed

code

for isotopes in linelist. Water #1, 49, 71 combined into sfit H2O linelist

HITRAN 2016				NO_LINES EXIST	PSEUDO LINES	
Molecule #	Name	Lines	isotopes			Lines
1	H2O	X	7			X
2	CO2	X	12			X
3	O3	X	5			X
4	N2O	X	5			X
5	CO	X	6			X
6	CH4	X	4			X
7	O2	X	3			X
8	NO	X	3			X
9	SO2	X	2			X
10	NO2	X	1			X
11	NH3	X	2			X
12	HNO3	X	2			X
13	OH	X	3			X
14	HF	X	2			X
15	HCL	X	4			X
16	HBR	X	4			X
17	HI	X	2			X
18	CLO	X	2			X
19	OCS	X	5			X
20	H2CO	X	3			X
21	HOCL	X	2			X
33	HO2	X	1		X	X
25	H2O2	X	1			X
				X		
				X		
35	CLONO2		2		X	
23	HCN	X	3		X	X

24	CH <sub>3</sub> CL	X	2				X
42	CF <sub>4</sub>		1			X	
						X	
						X	
						X	
29	COF <sub>2</sub>	X	2	X			X
						X	
27	C <sub>2</sub> H <sub>6</sub>	X	2			X	X
38	C <sub>2</sub> H <sub>4</sub>	X	2				X
26	C <sub>2</sub> H <sub>2</sub>	X	3				X
22	N <sub>2</sub>	X	2				X
						X	
49	COCL <sub>2</sub>	X	2			X	
40	CH <sub>3</sub> Br	X	2				
				X			
32	HCOOH	X	1			X	X
31	H <sub>2</sub> S	X	3				X
						X	
							X
30	SF <sub>6</sub>		1			X	
						X	
							X
							X
				X			
				X			
						X	
						X	
						X	
39	CH <sub>3</sub> OH	X	1	X			X
						X	
41	CH <sub>3</sub> CN	X	1			X	
						X	
						X	
						X	

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ATM.161 Mat 2020

isotopes	Molecule #	Quanta
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3 (3, 1)	1, 49, 71	3
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12		4
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5		1
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8		3
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6		3
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4		3
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