

Number	Reaction	A	n	E	Ref.
1f	$\text{H} + \text{O}_2 \rightleftharpoons \text{OH} + \text{O}$	3.52E+16	-0.7	71.4	[1]
2f	$\text{H}_2 + \text{O} \rightleftharpoons \text{OH} + \text{H}$	5.06E+04	2.7	26.3	[1]
3f	$\text{H}_2 + \text{OH} \rightleftharpoons \text{H}_2\text{O} + \text{H}$	1.17E+09	1.3	15.2	[1]
4f	$\text{H}_2\text{O} + \text{O} \rightleftharpoons 2 \text{OH}$	7.60E+00	3.8	53.5	[1]
5f	$2 \text{H} + \text{M}' \rightleftharpoons \text{H}_2 + \text{M}'$	7.20E+17	-1.0	0.0	[1]
6f	$\text{H} + \text{OH} + \text{M}'' \rightleftharpoons \text{H}_2\text{O} + \text{M}''$	2.20E+22	-2.0	0.0	[1]
7f	$2 \text{O} + \text{M}'' \rightleftharpoons \text{O}_2 + \text{M}''$	6.17E+15	-0.5	0.0	[1]
8f	$\text{H} + \text{O}_2 + \text{M}'''' \rightleftharpoons \text{HO}_2 + \text{M}''''$	2.60E+19	-1.2	0.0	[2]
9f	$\text{HO}_2 + \text{H} \rightleftharpoons 2 \text{OH}$	1.70E+14	0.0	3.7	[1]
10f	$\text{HO}_2 + \text{H} \rightleftharpoons \text{H}_2 + \text{O}_2$	4.28E+13	0.0	5.9	[1]
11f	$\text{HO}_2 + \text{H} \rightleftharpoons \text{H}_2\text{O} + \text{O}$	3.10E+13	0.0	7.2	[1]
12f	$\text{HO}_2 + \text{O} \rightleftharpoons \text{OH} + \text{O}_2$	2.00E+13	0.0	0.0	[1]
13f	$\text{HO}_2 + \text{OH} \rightleftharpoons \text{H}_2\text{O} + \text{O}_2$	2.89E+13	0.0	-2.1	[1]
14f	$2 \text{OH} + \text{M}'''''' \rightleftharpoons \text{H}_2\text{O}_2 + \text{M}''''''$	k_0 2.30E+18	-0.9	-7.1	[2]
		k_∞ 7.40E+13	-0.4	0.0	[2]
15f	$2 \text{HO}_2 \rightleftharpoons \text{H}_2\text{O}_2 + \text{O}_2$	3.02E+12	0.0	5.8	[1]
16f	$\text{H}_2\text{O}_2 + \text{H} \rightleftharpoons \text{HO}_2 + \text{H}_2$	4.79E+13	0.0	33.3	[1]
17f	$\text{H}_2\text{O}_2 + \text{H} \rightleftharpoons \text{H}_2\text{O} + \text{OH}$	1.00E+13	0.0	15.0	[1]
18f	$\text{H}_2\text{O}_2 + \text{OH} \rightleftharpoons \text{H}_2\text{O} + \text{HO}_2$	7.08E+12	0.0	6.0	[1]
19f	$\text{H}_2\text{O}_2 + \text{O} \rightleftharpoons \text{HO}_2 + \text{OH}$	9.63E+06	2.0	16.7	[1]
20f	$\text{CO} + \text{OH} \rightleftharpoons \text{CO}_2 + \text{H}$	4.40E+06	1.5	-3.1	[1]
21f	$\text{CO} + \text{HO}_2 \rightleftharpoons \text{CO}_2 + \text{OH}$	6.03E+13	0.0	96.0	[1]
22f	$\text{CHO} + \text{M}'''' \rightleftharpoons \text{CO} + \text{H} + \text{M}''''$	1.86E+17	-1.0	71.1	[3]
23f	$\text{CHO} + \text{H} \rightleftharpoons \text{CO} + \text{H}_2$	1.00E+14	0.0	0.0	[1]
24f	$\text{CHO} + \text{O} \rightleftharpoons \text{CO} + \text{OH}$	3.00E+13	0.0	0.0	[1]
25f	$\text{CHO} + \text{O} \rightleftharpoons \text{CO}_2 + \text{H}$	3.00E+13	0.0	0.0	[1]
26f	$\text{CHO} + \text{OH} \rightleftharpoons \text{CO} + \text{H}_2\text{O}$	5.02E+13	0.0	0.0	[1]

27f	$\text{CHO} + \text{O}_2 \rightleftharpoons \text{CO} + \text{HO}_2$	3.00E+12	0.0	0.0	[1]
28f	$\text{CH}_2\text{O} + \text{M}' \rightleftharpoons \text{CHO} + \text{H} + \text{M}'$	6.26E+16	0.0	326.0	[1]
29f	$\text{CH}_2\text{O} + \text{H} \rightleftharpoons \text{CHO} + \text{H}_2$	1.26E+08	1.6	9.1	[1]
30f	$\text{CH}_2\text{O} + \text{O} \rightleftharpoons \text{CHO} + \text{OH}$	3.50E+13	0.0	14.7	[1]
31f	$\text{CH}_2\text{O} + \text{OH} \rightleftharpoons \text{CHO} + \text{H}_2\text{O}$	3.90E+10	0.9	1.7	[1]
32f	$\text{CH}_4 + \text{H} \rightleftharpoons \text{H}_2 + \text{CH}_3$	1.30E+04	3.0	33.6	[4]
33f	$\text{CH}_4 + \text{OH} \rightleftharpoons \text{H}_2\text{O} + \text{CH}_3$	1.60E+07	1.8	11.6	[4]
34f	$\text{CH}_4 + \text{O} \rightleftharpoons \text{CH}_3 + \text{OH}$	1.90E+09	1.4	36.3	[5]
35f	$\text{CH}_4 + \text{O}_2 \rightleftharpoons \text{CH}_3 + \text{HO}_2$	3.98E+13	0.0	238.0	[3, 6]
36f	$\text{CH}_4 + \text{HO}_2 \rightleftharpoons \text{CH}_3 + \text{H}_2\text{O}_2$	9.03E+12	0.0	103.1	[3, 6]
37f	$\text{CH}_3 + \text{H} \rightleftharpoons \text{3-CH}_2 + \text{H}_2$	1.80E+14	0.0	63.2	[5]
38f	$\text{CH}_3 + \text{H} \rightleftharpoons \text{1-CH}_2 + \text{H}_2$	1.55E+14	0.0	56.4	[5]
39f	$\text{CH}_3 + \text{OH} \rightleftharpoons \text{1-CH}_2 + \text{H}_2\text{O}$	1.00E+13	0.0	10.5	[7]
40f	$\text{CH}_3 + \text{O} \rightleftharpoons \text{CH}_2\text{O} + \text{H}$	8.43E+13	0.0	0.0	[5]
41f	$\text{CH}_3 + \text{3-CH}_2 \rightleftharpoons \text{C}_2\text{H}_4 + \text{H}$	4.22E+13	0.0	0.0	[8]
42f	$\text{CH}_3 + \text{HO}_2 \rightleftharpoons \text{CH}_3\text{O} + \text{OH}$	2.00E+13	0.0	0.0	[5]
43f	$\text{CH}_3 + \text{O}_2 \rightleftharpoons \text{CH}_2\text{O} + \text{OH}$	3.30E+11	0.0	37.4	[8]
44f	$\text{CH}_3 + \text{O}_2 \rightleftharpoons \text{CH}_3\text{O} + \text{O}$	1.33E+14	0.0	131.4	[8]
45f	$2 \text{CH}_3 \rightleftharpoons \text{C}_2\text{H}_4 + \text{H}_2$	1.00E+14	0.0	133.9	[9]
46f	$2 \text{CH}_3 \rightleftharpoons \text{C}_2\text{H}_5 + \text{H}$	3.16E+13	0.0	61.5	[10]
47f	$\text{CH}_3 + \text{H} \rightleftharpoons \text{CH}_4 \quad k_0$	6.26E+23	-1.8	0.0	[11]
	$\quad \quad \quad k_\infty$	2.11E+14	0.0	0.0	[11]
48f	$2 \text{CH}_3 \rightleftharpoons \text{C}_2\text{H}_6 \quad k_0$	1.27E+41	-7.0	11.6	[4]
	$\quad \quad \quad k_\infty$	1.81E+13	0.0	0.0	[4]
49f	$\text{1-CH}_2 + \text{OH} \rightleftharpoons \text{CH}_2\text{O} + \text{H}$	3.00E+13	0.0	0.0	[5]
50f	$\text{1-CH}_2 + \text{O}_2 \rightleftharpoons \text{CO} + \text{OH} + \text{H}$	3.13E+13	0.0	0.0	[5]
51f	$\text{1-CH}_2 + \text{CO}_2 \rightleftharpoons \text{CO} + \text{CH}_2\text{O}$	3.00E+12	0.0	0.0	[12]
52f	$\text{1-CH}_2 + \text{M}'''' \rightleftharpoons \text{3-CH}_2 + \text{M}''''$	6.00E+12	0.0	0.0	[5]

53f	$3\text{-CH}_2 + \text{H} \rightleftharpoons \text{CH} + \text{H}_2$	6.02E+12	0.0	-7.5	[8]
54f	$3\text{-CH}_2 + \text{OH} \rightleftharpoons \text{CH}_2\text{O} + \text{H}$	2.50E+13	0.0	0.0	[5]
55f	$3\text{-CH}_2 + \text{OH} \rightleftharpoons \text{CH} + \text{H}_2\text{O}$	1.13E+07	2.0	12.6	[5]
56f	$3\text{-CH}_2 + \text{O} \rightleftharpoons \text{CO} + 2 \text{H}$	8.00E+13	0.0	0.0	[13]
57f	$3\text{-CH}_2 + \text{O} \rightleftharpoons \text{CO} + \text{H}_2$	4.00E+13	0.0	0.0	[13]
58f	$3\text{-CH}_2 + \text{O}_2 \rightleftharpoons \text{CO}_2 + \text{H}_2$	2.63E+13	0.0	6.2	[12]
59f	$3\text{-CH}_2 + \text{O}_2 \rightleftharpoons \text{CO} + \text{OH} + \text{H}$	6.58E+13	0.0	6.2	[12]
60f	$2 \text{ 3-CH}_2 \rightleftharpoons \text{C}_2\text{H}_2 + 2 \text{H}$	1.00E+14	0.0	0.0	[5]
61f	$\text{CH} + \text{O} \rightleftharpoons \text{CO} + \text{H}$	4.00E+13	0.0	0.0	[14]
62f	$\text{CH} + \text{O}_2 \rightleftharpoons \text{CHO} + \text{O}$	1.77E+11	0.8	-2.0	[15]
63f	$\text{CH} + \text{H}_2\text{O} \rightleftharpoons \text{CH}_2\text{O} + \text{H}$	1.17E+15	-0.8	0.0	[12]
64f	$\text{CH} + \text{CO}_2 \rightleftharpoons \text{CHO} + \text{CO}$	4.80E+01	3.2	-13.5	[15]
65f	$\text{CH}_2\text{OH} + \text{H} \rightleftharpoons \text{CH}_2\text{O} + \text{H}_2$	3.00E+13	0.0	0.0	[16]
66f	$\text{CH}_2\text{OH} + \text{H} \rightleftharpoons \text{CH}_3 + \text{OH}$	1.75E+14	0.0	11.7	[16]
67f	$\text{CH}_2\text{OH} + \text{OH} \rightleftharpoons \text{CH}_2\text{O} + \text{H}_2\text{O}$	2.40E+13	0.0	0.0	[16]
68f	$\text{CH}_2\text{OH} + \text{O}_2 \rightleftharpoons \text{CH}_2\text{O} + \text{HO}_2$	5.00E+12	0.0	0.0	[16]
69f	$\text{CH}_2\text{OH} + \text{M}'''' \rightleftharpoons \text{CH}_2\text{O} + \text{H} + \text{M}''''$	5.00E+13	0.0	105.1	[16]
70f	$\text{CH}_3\text{O} + \text{H} \rightleftharpoons \text{CH}_2\text{O} + \text{H}_2$	2.00E+13	0.0	0.0	[16]
71f	$\text{CH}_3\text{O} + \text{H} \rightleftharpoons 1\text{-CH}_2 + \text{H}_2\text{O}$	1.60E+13	0.0	0.0	[16]
72f	$\text{CH}_3\text{O} + \text{OH} \rightleftharpoons \text{CH}_2\text{O} + \text{H}_2\text{O}$	5.00E+12	0.0	0.0	[16]
73f	$\text{CH}_3\text{O} + \text{O} \rightleftharpoons \text{OH} + \text{CH}_2\text{O}$	1.00E+13	0.0	0.0	[16]
74f	$\text{CH}_3\text{O} + \text{O}_2 \rightleftharpoons \text{CH}_2\text{O} + \text{HO}_2$	4.28E-13	7.6	-14.8	[16]
75f	$\text{CH}_3\text{O} + \text{M} \rightleftharpoons \text{CH}_2\text{O} + \text{H} + \text{M}$	1.00E+13	0.0	56.5	[16]
76f	$\text{CH}_3\text{O} + \text{M}'' \rightleftharpoons \text{CH}_2\text{OH} + \text{M}''$	1.00E+14	0.0	80.0	[16]
77f	$\text{C}_2\text{H}_6 + \text{H} \rightleftharpoons \text{C}_2\text{H}_5 + \text{H}_2$	5.40E+02	3.5	21.8	[5]
78f	$\text{C}_2\text{H}_6 + \text{O} \rightleftharpoons \text{C}_2\text{H}_5 + \text{OH}$	1.40E+00	4.3	11.6	[5]
79f	$\text{C}_2\text{H}_6 + \text{OH} \rightleftharpoons \text{C}_2\text{H}_5 + \text{H}_2\text{O}$	2.20E+07	1.9	4.7	[5]
80f	$\text{C}_2\text{H}_6 + \text{CH}_3 \rightleftharpoons \text{C}_2\text{H}_5 + \text{CH}_4$	5.50E-01	4.0	34.7	[5]

81f	$\text{C}_2\text{H}_6 \rightleftharpoons \text{C}_2\text{H}_5 + \text{H}$	k_0	4.90E+42	-6.4	448.4	[4]
		k_∞	8.85E+20	-1.2	427.7	[4]
82f	$\text{C}_2\text{H}_5 + \text{H} \rightleftharpoons \text{C}_2\text{H}_4 + \text{H}_2$		3.00E+13	0.0	0.0	[5]
83f	$\text{C}_2\text{H}_5 + \text{O} \rightleftharpoons \text{C}_2\text{H}_4 + \text{OH}$		3.06E+13	0.0	0.0	[5]
84f	$\text{C}_2\text{H}_5 + \text{O} \rightleftharpoons \text{CH}_3 + \text{CH}_2\text{O}$		4.24E+13	0.0	0.0	[5]
85f	$\text{C}_2\text{H}_5 + \text{O}_2 \rightleftharpoons \text{C}_2\text{H}_4 + \text{HO}_2$		2.00E+12	0.0	20.9	[5]
86f	$\text{C}_2\text{H}_5 \rightleftharpoons \text{C}_2\text{H}_4 + \text{H}$	k_0	3.99E+33	-5.0	167.4	[17]
		k_∞	1.11E+10	1.0	153.8	[17]
87f	$\text{C}_2\text{H}_4 + \text{H} \rightleftharpoons \text{C}_2\text{H}_3 + \text{H}_2$		4.49E+07	2.1	55.9	[18]
88f	$\text{C}_2\text{H}_4 + \text{OH} \rightleftharpoons \text{C}_2\text{H}_3 + \text{H}_2\text{O}$		5.53E+05	2.3	12.4	[18]
89f	$\text{C}_2\text{H}_4 + \text{O} \rightleftharpoons \text{CH}_3 + \text{CHO}$		2.25E+06	2.1	0.0	[8]
90f	$\text{C}_2\text{H}_4 + \text{O} \rightleftharpoons \text{CH}_2\text{CHO} + \text{H}$		1.21E+06	2.1	0.0	[8]
91f	$2 \text{C}_2\text{H}_4 \rightleftharpoons \text{C}_2\text{H}_3 + \text{C}_2\text{H}_5$		5.01E+14	0.0	270.7	[19]
92f	$\text{C}_2\text{H}_4 + \text{O}_2 \rightleftharpoons \text{C}_2\text{H}_3 + \text{HO}_2$		4.22E+13	0.0	241.1	[20]
93	$\text{C}_2\text{H}_4 + \text{HO}_2 \rightleftharpoons \text{C}_2\text{H}_3 + 2 \text{OH}$		2.23E+12	0.0	71.9	[8]
94f	$\text{C}_2\text{H}_4 + \text{M} \rightleftharpoons \text{C}_2\text{H}_3 + \text{H} + \text{M}$		2.60E+17	0.0	404.0	[11]
95f	$\text{C}_2\text{H}_4 + \text{M} \rightleftharpoons \text{C}_2\text{H}_2 + \text{H}_2 + \text{M}$		3.50E+16	0.0	299.3	[11]
96f	$\text{C}_2\text{H}_3 + \text{H} \rightleftharpoons \text{C}_2\text{H}_2 + \text{H}_2$		1.21E+13	0.0	0.0	[11]
97f	$\text{C}_2\text{H}_3 + \text{M} \rightleftharpoons \text{C}_2\text{H}_2 + \text{H} + \text{M}$	k_0	1.51E+14	0.1	136.8	[21]
		k_∞	6.38E+09	1.0	157.4	[21]
98f	$\text{C}_2\text{H}_3 + \text{O}_2 \rightleftharpoons \text{CH}_2\text{O} + \text{CHO}$		1.70E+29	-5.3	27.2	[22]
99f	$\text{C}_2\text{H}_3 + \text{O}_2 \rightleftharpoons \text{CH}_2\text{CHO} + \text{O}$		7.00E+14	-0.6	22.0	[21, 22]
100f	$\text{C}_2\text{H}_3 + \text{O}_2 \rightleftharpoons \text{C}_2\text{H}_2 + \text{HO}_2$		5.19E+15	-1.3	13.9	[21, 22]
101f	$\text{CH}_2\text{CHO} \rightleftharpoons \text{CH}_2\text{CO} + \text{H}$		1.05E+37	-7.2	185.5	[20]
102f	$\text{C}_2\text{H}_2 + \text{O} \rightleftharpoons \text{HCCO} + \text{H}$		4.00E+14	0.0	44.6	[13]
103f	$\text{C}_2\text{H}_2 + \text{O} \rightleftharpoons 3\text{-CH}_2 + \text{CO}$		1.60E+14	0.0	41.4	[13]
104f	$\text{C}_2\text{H}_2 + \text{O}_2 \rightleftharpoons \text{CH}_2\text{O} + \text{CO}$		4.60E+15	-0.5	188.0	[23]
105f	$\text{C}_2\text{H}_2 + \text{OH} \rightleftharpoons \text{CH}_2\text{CO} + \text{H}$		1.90E+07	1.7	4.2	[3, 24]

106f	$\text{C}_2\text{H}_2 + \text{OH} \rightleftharpoons \text{C}_2\text{H} + \text{H}_2\text{O}$	3.37E+07	2.0	58.6	[3, 24]
107f	$\text{CH}_2\text{CO} + \text{H} \rightleftharpoons \text{CH}_3 + \text{CO}$	1.11E+07	2.0	8.4	[3, 24]
108f	$\text{CH}_2\text{CO} + \text{O} \rightleftharpoons \text{3-CH}_2 + \text{CO}_2$	2.00E+13	0.0	9.6	[3, 24]
109f	$\text{CH}_2\text{CO} + \text{O} \rightleftharpoons \text{HCCO} + \text{OH}$	1.00E+13	0.0	8.4	[3, 24]
110f	$\text{CH}_2\text{CO} + \text{OH} \rightleftharpoons \text{CH}_2\text{OH} + \text{CO}$	1.02E+13	0.0	0.0	[3, 24]
111f	$\text{CH}_2\text{CO} + \text{CH}_3 \rightleftharpoons \text{C}_2\text{H}_5 + \text{CO}$	9.00E+10	0.0	0.0	[3, 24]
112f	$\text{HCCO} + \text{H} \rightleftharpoons \text{1-CH}_2 + \text{CO}$	1.50E+14	0.0	0.0	[13]
113f	$\text{HCCO} + \text{OH} \rightleftharpoons \text{CHO} + \text{CO} + \text{H}$	2.00E+12	0.0	0.0	[25]
114f	$\text{HCCO} + \text{O} \rightleftharpoons \text{2 CO} + \text{H}$	9.64E+13	0.0	0.0	[13]
115f	$\text{HCCO} + \text{O}_2 \rightleftharpoons \text{2 CO} + \text{OH}$	2.88E+07	1.7	4.2	[21]
116f	$\text{HCCO} + \text{O}_2 \rightleftharpoons \text{CO}_2 + \text{CO} + \text{H}$	1.40E+07	1.7	4.2	[21]
117f	$\text{C}_2\text{H} + \text{OH} \rightleftharpoons \text{HCCO} + \text{H}$	2.00E+13	0.0	0.0	[5, 24]
118f	$\text{C}_2\text{H} + \text{O} \rightleftharpoons \text{CO} + \text{CH}$	1.02E+13	0.0	0.0	[5, 24]
119f	$\text{C}_2\text{H} + \text{O}_2 \rightleftharpoons \text{HCCO} + \text{O}$	6.02E+11	0.0	0.0	[5, 24]
120f	$\text{C}_2\text{H} + \text{O}_2 \rightleftharpoons \text{CH} + \text{CO}_2$	4.50E+15	0.0	105.0	[5, 24]
121f	$\text{C}_2\text{H} + \text{O}_2 \rightleftharpoons \text{CHO} + \text{CO}$	2.41E+12	0.0	0.0	[5, 24]
122f	$\text{C}_2\text{H}_2 + \text{1-CH}_2 \rightleftharpoons \text{C}_3\text{H}_3 + \text{H}$	8.00E+13	0.0	0.0	[12]
123f	$\text{C}_2\text{H}_2 + \text{1-CH}_2 \rightleftharpoons \text{C}_3\text{H}_4$	8.00E+13	0.0	0.0	[12]
124f	$\text{C}_2\text{H}_2 + \text{3-CH}_2 \rightleftharpoons \text{C}_3\text{H}_4$	1.20E+13	0.0	27.7	[12]
125f	$\text{C}_2\text{H}_2 + \text{CH}_3 \rightleftharpoons \text{C}_3\text{H}_4 + \text{H}$	6.74E+19	-2.1	132.2	[12]
126f	$\text{C}_3\text{H}_4 + \text{O} \rightleftharpoons \text{CH}_2\text{O} + \text{C}_2\text{H}_2$	1.00E+12	0.0	0.0	[25]
127f	$\text{C}_3\text{H}_4 + \text{O} \rightleftharpoons \text{CHO} + \text{C}_2\text{H}_3$	1.00E+12	0.0	0.0	[25]
128f	$\text{C}_3\text{H}_4 + \text{OH} \rightleftharpoons \text{CH}_2\text{O} + \text{C}_2\text{H}_3$	1.00E+12	0.0	0.0	[25]
129f	$\text{C}_3\text{H}_4 + \text{OH} \rightleftharpoons \text{CHO} + \text{C}_2\text{H}_4$	1.00E+12	0.0	0.0	[25]
130f	$\text{C}_3\text{H}_4 \rightleftharpoons \text{C}_3\text{H}_3 + \text{H}$	5.00E+14	0.0	370.0	[14]
131f	$\text{C}_3\text{H}_5 \rightleftharpoons \text{C}_3\text{H}_4 + \text{H}$	3.98E+13	0.0	293.1	[25]
132f	$\text{C}_3\text{H}_5 + \text{H} \rightleftharpoons \text{C}_3\text{H}_4 + \text{H}_2$	1.00E+13	0.0	0.0	[25]
133f	$\text{C}_3\text{H}_5 + \text{O}_2 \rightleftharpoons \text{C}_3\text{H}_4 + \text{HO}_2$	6.00E+11	0.0	41.9	[25]

134f	$C_2H_4 + 1-CH_2$	\rightleftharpoons	C_3H_6	6.60E+13	0.0	0.0	[25]
135f	$C_2H_4 + 3-CH_2$	\rightleftharpoons	C_3H_6	1.80E+10	0.0	0.0	[25]
136f	C_3H_6	\rightleftharpoons	$C_3H_5 + H$	1.00E+13	0.0	326.0	[25]
137f	C_3H_6	\rightleftharpoons	$C_2H_3 + CH_3$	3.15E+15	0.0	359.0	[25]
138f	$H + C_3H_6$	\rightleftharpoons	$C_3H_5 + H_2$	5.00E+12	0.0	6.3	[25]
139f	$C_3H_6 + O$	\rightleftharpoons	$C_2H_4 + CH_2O$	5.90E+13	0.0	21.0	[25]
140f	$C_3H_6 + O$	\rightleftharpoons	$C_2H_5 + CHO$	3.60E+12	0.0	0.0	[25]
141f	$C_3H_6 + OH$	\rightleftharpoons	$C_2H_5 + CH_2O$	7.90E+12	0.0	0.0	[25]
142f	$C_3H_6 + OH$	\rightleftharpoons	$C_3H_5 + H_2O$	4.00E+12	0.0	0.0	[25]
143f	$CH_3 + C_3H_6$	\rightleftharpoons	$CH_4 + C_3H_5$	8.96E+12	0.0	35.6	[25]
144f	$C_3H_6 + C_2H_5$	\rightleftharpoons	$C_3H_5 + C_2H_6$	1.00E+11	0.0	38.5	[25]
145f	$N-C_3H_7$	\rightleftharpoons	$CH_3 + C_2H_4$	9.60E+13	0.0	129.8	[26]
146f	$N-C_3H_7$	\rightleftharpoons	$H + C_3H_6$	1.25E+14	0.0	154.9	[26]
147f	$N-C_3H_7 + O_2$	\rightleftharpoons	$C_3H_6 + HO_2$	1.00E+12	0.0	20.9	[25]
148	C_4H_6	\rightleftharpoons	$C_2H_2 + C_2H_3 + H$	1.58E+16	0.0	460.2	[25]
149	C_4H_6	\rightleftharpoons	$2 C_2H_3$	1.80E+13	0.0	356.2	[25]
150	$2 C_2H_3$	\rightleftharpoons	C_4H_6	1.26E+13	0.0	0.0	[25]
151	$C_4H_6 + H$	\rightleftharpoons	$C_2H_3 + C_2H_4$	5.00E+11	0.0	0.0	[25]
152	$C_4H_6 + H$	\rightleftharpoons	$H_2 + C_2H_2 + C_2H_3$	6.30E+10	0.7	25.1	[25]
153	$C_4H_6 + OH$	\rightleftharpoons	$CHO + H + C_3H_5$	5.00E+12	0.0	0.0	[25]
154	$C_4H_6 + CH_3$	\rightleftharpoons	$CH_4 + C_2H_2 + C_2H_3$	7.00E+13	0.0	77.0	[25]
155	$C_3H_3 + CH_3$	\rightleftharpoons	C_4H_6	5.00E+12	0.0	0.0	[25]
156	C_5H_8	\rightleftharpoons	$C_3H_6 + C_2H_2$	1.00E+16	0.0	305.1	[25]
157	C_5H_8	\rightleftharpoons	$C_3H_4 + C_2H_4$	3.16E+16	0.0	238.8	[25]
158	C_5H_8	\rightleftharpoons	$C_3H_5 + C_2H_3$	3.16E+16	0.0	238.8	[25]
159	$C_5H_8 + O_2$	\rightleftharpoons	$C_2H_2 + C_3H_5 + HO_2$	3.00E+12	0.0	0.0	[25]
160	$C_5H_8 + O_2$	\rightleftharpoons	$C_2H_3 + C_3H_4 + HO_2$	3.00E+12	0.0	0.0	[25]
161	$C_5H_8 + HO_2$	\rightleftharpoons	$C_2H_2 + C_3H_5 + H_2O_2$	1.00E+14	0.0	0.0	[25]

162	$C_5H_8 + HO_2 \rightleftharpoons C_2H_3 + C_3H_4 + H_2O_2$	1.00E+14	0.0	0.0	[25]
163	$C_{10}H_{16} \rightleftharpoons H + C_3H_3 + C_2H_4 + C_5H_8$	6.00E+16	0.0	410.2	[25]
164	$C_{10}H_{16} \rightleftharpoons H + C_3H_5 + C_2H_2 + C_5H_8$	6.00E+16	0.0	410.6	[25]
165	$C_{10}H_{16} \rightleftharpoons C_2H_2 + 2 C_2H_4 + C_4H_6$	5.00E+16	0.0	357.5	[25]
166	$C_{10}H_{16} + H \rightleftharpoons H_2 + C_3H_3 + C_2H_4 + C_5H_8$	1.32E+06	2.5	28.3	[25]
167	$C_{10}H_{16} + O \rightleftharpoons OH + C_3H_3 + C_2H_4 + C_5H_8$	2.88E+06	2.4	23.0	[25]
168	$C_{10}H_{16} + OH \rightleftharpoons H_2O + C_3H_3 + C_2H_4 + C_5H_8$	1.74E+07	1.8	4.1	[25]
169	$C_{10}H_{16} + O_2 \rightleftharpoons HO_2 + C_3H_3 + C_2H_4 + C_5H_8$	3.98E+13	0.0	213.1	[25]
170	$C_{10}H_{16} + HO_2 \rightleftharpoons H_2O_2 + C_3H_3 + C_2H_4 + C_5H_8$	4.76E+04	2.5	69.1	[25]
171	$C_{10}H_{16} + H \rightleftharpoons H_2 + C_3H_5 + C_2H_2 + C_5H_8$	2.60E+06	2.4	18.7	[25]
172	$C_{10}H_{16} + O \rightleftharpoons OH + C_3H_5 + C_2H_2 + C_5H_8$	2.76E+05	2.6	8.0	[25]
173	$C_{10}H_{16} + OH \rightleftharpoons H_2O + C_3H_5 + C_2H_2 + C_5H_8$	3.80E+06	2.0	-2.5	[25]
174	$C_{10}H_{16} + O_2 \rightleftharpoons HO_2 + C_3H_5 + C_2H_2 + C_5H_8$	7.92E+13	0.0	199.2	[25]
175	$C_{10}H_{16} + HO_2 \rightleftharpoons H_2O_2 + C_3H_5 + C_2H_2 + C_5H_8$	1.93E+04	2.6	58.2	[25]
m1f	$CH_3OH + OH \rightleftharpoons CH_2OH + H_2O$	1.44E+06	2.0	-3.5	[25]
m2f	$CH_3OH + OH \rightleftharpoons CH_3O + H_2O$	6.30E+06	2.0	6.3	[25]
m3f	$CH_3OH + H \rightleftharpoons CH_2OH + H_2$	1.64E+07	2.0	18.9	[25]
m4f	$CH_3OH + H \rightleftharpoons CH_3O + H_2$	3.83E+07	2.0	24.5	[25]
m5f	$CH_3OH + O \rightleftharpoons CH_2OH + OH$	1.00E+13	0.0	19.6	[25]
m6f	$CH_3OH + HO_2 \rightleftharpoons CH_2OH + H_2O_2$	6.20E+12	0.0	81.1	[25]
m7f	$CH_3OH + O_2 \rightleftharpoons CH_2OH + HO_2$	2.00E+13	0.0	188.0	[25]

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