

Section B Basic Constants II.

No.	Formula	Name	CAS #	DelHf0, kJ/mol	DelGf0, kJ/mol	DelHb, kJ/mol	DelHm, kJ/mol	V liq, cm ³ /mol	T liq, K	Dipole, Debye
1	Ar	argon	7440-37-1	0.00	0.00	<u>6.43</u>		29.10	90.00	0.0
2	Br ₂	bromine	7726-95-6	30.91	3.13	<u>58.80</u>		51.51	298.15	0.0
3	BrD	deuterium bromide	13536-59-9	-37.12	-53.79					
4	BrF ₃	bromine trifluoride	7787-71-5	<u>-255.64</u>	<u>-229.51</u>	<u>47.57</u>		48.84	298.15	1.1
5	BrF ₅	bromine pentafluoride	7789-30-2	<u>-428.86</u>	<u>-351.65</u>	<u>30.60</u>		71.02	298.15	1.5
6	BrH	hydrogen bromide	10035-10-6	-36.26	-53.30			35.85	193.15	0.8
7	CBrClF ₂	bromochlorodifluoromethane	353-59-3	-435.20	-411.80			91.67	298.15	
8	CBrF ₃	bromotrifluoromethane	75-63-8	-649.80	-622.90			74.42	213.15	0.7
9	CBr ₂ F ₂	dibromodifluoromethane	75-61-6	-386.60	-375.70			93.04	298.15	0.7
10	CClF ₃	chlorotrifluoromethane	75-72-9	-704.20	-663.60	15.73		68.87	193.15	0.5
11	CCl ₂ F ₂	dichlorodifluoromethane (R-12)	75-71-8	-490.80	-451.70	20.08		82.91	243.15	0.5
12	CCl ₃ F	trichlorofluoromethane (R-11)	75-69-4	-283.70	-244.40	25.06	6.89	93.82	298.15	0.5
13	CCl ₄	tetrachloromethane	56-23-5	-95.81	-53.53	29.82	<u>3.28</u>	97.07	298.15	0.0
14	CF ₄	tetrafluoromethane	75-73-0	-933.50	-888.80			56.41	153.15	0.0
15	CHBrF ₂	bromodifluoromethane	1511-62-2	-429.50	-412.90			64.81	253.15	1.5
16	CHClF ₂	chlorodifluoromethane (R-22)	75-45-6	-482.80	-451.70	20.22	4.12	59.08	213.15	1.4
17	CHCl ₂ F	dichlorofluoromethane	75-43-4	-284.90	-254.40	25.13		75.96	298.15	1.3
18	CHCl ₃	trichloromethane	67-66-3	-102.93	-70.09	29.24	<u>8.80</u>	80.68	298.15	1.1
19	CHF ₃	trifluoromethane (R-23)	75-46-7	-693.30	-658.80			51.66	213.15	1.6
20	CH ₂ Cl ₂	dichloromethane	75-09-2	-95.40	-68.84	28.06	4.60	64.53	298.15	1.8
21	CH ₂ F ₂	difluoromethane	75-10-5	-452.30	-424.70			42.91	223.15	2.0
22	CH ₂ O ₂	methanoic acid (formic acid)	64-18-6	<u>-378.60</u>	<u>-35.06</u>	<u>22.69</u>	12.72			1.5
23	CH ₃ Cl	chloromethane	74-87-3	-81.96	-58.42	<u>21.58</u>	6.43	50.59	253.15	1.9
24	CH ₃ F	fluoromethane	593-53-3	-237.70	-213.70			40.60	213.15	1.8
25	CH ₃ NO ₂	nitromethane	75-52-5	-74.70	-6.90	<u>33.99</u>		53.96	298.15	3.1
26	CH ₄	methane	74-82-8	-74.52	-50.45	<u>8.17</u>	0.94	35.54	90.68	0.0
27	CH ₄ O	methanol	67-56-1	-200.94	-162.24	<u>35.21</u>	<u>3.18</u>	40.73	298.15	1.7
28	CH ₄ S	methanethiol (methyl mercaptan)	74-93-1	-22.59	-9.52		<u>5.91</u>	55.52	293.15	1.3
29	CH ₃ N	methanamine (methyl amine)	74-89-5	-22.53	32.73	<u>25.60</u>	<u>6.13</u>	47.34	298.15	1.3

30	CO	carbon monoxide	630-08-0	-110.53	-137.16	6.04	0.84	<u>34.88</u>	81.00	<u>0.1</u>
31	CO ₂	carbon dioxide	124-38-9	-393.51	-394.38		9.02			<u>0.0</u>
32	C ₂ Br ₂ ClF ₃	1,2-dibromo-2-chloro-1,1,2-trifluoroethane	354-51-8			<u>31.17</u>		123.67	298.15	
33	C ₂ ClF ₅	1-chloro-1,1,2,2,2-pentafluoroethane	76-15-3	-1123.00	-1042.00	<u>19.22</u>	1.88	98.79	233.15	<u>0.3</u>
34	C ₂ Cl ₂ F ₄	1,1-dichloro-1,2,2,2-tetrafluoroethane	374-07-2	-926.80	-845.40	23.08		116.41	298.15	
35	C ₂ Cl ₂ F ₄	1,2-dichloro-1,1,2,2-tetrafluoroethane	76-14-2	-900.40	-818.10	22.94	1.51	117.37	298.15	<u>0.5</u>
36	C ₂ Cl ₃ F ₃	1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	-705.80	-627.30	<u>28.08</u>	2.47	119.78	293.15	
37	C ₂ F ₄	tetrafluoroethene	116-14-3	<u>-659.00</u>	<u>-624.10</u>			<u>65.84</u>	197.00	<u>0.0</u>
38	C ₂ F ₆	hexafluoroethane	76-16-4	<u>-1343.00</u>	<u>-1257.00</u>	<u>16.15</u>				<u>0.0</u>
39	C ₂ HBrClF ₃	1-bromo-1-chloro-2,2,2-trifluoroethane	151-67-7			<u>28.08</u>		106.35	298.15	
40	C ₂ HBrClF ₃	1-bromo-2-chloro-1,1,2-trifluoroethane	354-06-3			<u>28.31</u>		106.29	298.15	
41	C ₂ HClF ₄	1-chloro-1,1,2,2-tetrafluoroethane	354-25-6	-903.30	-830.90	<u>22.30</u>		105.06	273.15	
42	C ₂ HClF ₄	1-chloro-1,2,2,2-tetrafluoroethane (R-124)	2837-89-0	-924.70	-851.80	22.53		<u>99.88</u>	295.00	
43	C ₂ HCl ₂ F ₃	1,1-dichloro-2,2,2-trifluoroethane (R-123)	306-83-2	-743.90	-668.90	25.72		<u>103.90</u>	295.00	
44	C ₂ HCl ₂ F ₃	1,2-dichloro-1,2,2-trifluoroethane (R-123a)	354-23-4					<u>103.72</u>	295	
45	C ₂ HF ₃	pentafluoroethane	354-33-6	-1105.00	-1030.00			<u>98.61</u>	293.48	<u>1.5</u>
46	C ₂ HF ₃ O	pentafluorodimethyl ether (E-125)	3822-68-2					<u>105.66</u>	295.00	
47	C ₂ H ₂	ethyne (acetylene)	74-86-2	190.92	201.30		21.28	<u>43.47</u>	203.15	<u>0.0</u>
48	C ₂ H ₂ F ₂	1,1-difluoroethene	75-38-7	-336.81	-313.06			<u>103.78</u>	297.00	<u>1.4</u>
49	C ₂ H ₂ F ₄	1,1,1,2-tetrafluoroethane (R-134a)	811-97-2	-907.10	-838.40			<u>75.38</u>	255.00	
50	C ₂ H ₂ F ₄	1,1,2,2-tetrafluoroethane (R-134)	359-35-3	-892.40	-824.60			<u>74.42</u>	275.00	<u>0.0</u>
51	C ₂ H ₃ ClF ₂	1-chloro-1,1-difluoroethane	75-68-3	-529.70	-465.70	22.38	2.69	90.49	298.15	<u>2.1</u>
52	C ₂ H ₃ Cl ₂ F	1,1-dichloro-1-fluoroethane (R-141b)	1717-00-6	-339.70	-276.20	25.94		93.63	290.00	
53	C ₂ H ₃ F ₃	1,1,1-trifluoroethane (R-143a)	420-46-2	-745.60	-678.70	<u>18.99</u>	<u>6.19</u>	<u>75.38</u>	245.00	<u>2.3</u>
54	C ₂ H ₃ F ₃	1,1,2-trifluoroethane (R-143)	430-66-0	-669.40	-609.40			<u>69.22</u>	300.00	
55	C ₂ H ₄	ethene (ethylene)	74-85-1	52.50	68.48	13.53	3.35	<u>51.07</u>	183.15	<u>0.0</u>
56	C ₂ H ₄ Br ₂	1,2-dibromoethane	106-93-4	<u>-38.94</u>	<u>-1.06</u>	<u>34.77</u>		86.62	298.15	<u>1.0</u>
57	C ₂ H ₄ Cl ₂	1,1-dichloroethane	75-34-3	-130.12	-73.23	28.85	7.87	84.73	298.15	<u>2.0</u>
58	C ₂ H ₄ Cl ₂	1,2-dichloroethane	107-06-2	-126.78	-70.20	31.98	8.84	79.45	298.15	<u>1.8</u>
59	C ₂ H ₄ F ₂	1,1-difluoroethane (R-152a)	75-37-6	-500.80	-443.30	<u>21.56</u>		<u>65.76</u>	252.47	<u>2.3</u>
60	C ₂ H ₄ O ₂	ethanoic acid (acetic acid)	64-19-7	-432.25	-374.27	<u>23.70</u>	11.72	<u>57.53</u>	298.15	<u>1.3</u>
61	C ₂ H ₄ O ₂	methyl methanoate (methyl formate)	107-31-3	-352.40	-294.90	<u>27.92</u>		62.14	298.15	<u>1.8</u>
62	C ₂ H ₅ Br	bromoethane	74-96-4	-63.60	-25.70	<u>27.04</u>		75.12	298.15	<u>2.0</u>
63	C ₂ H ₅ Cl	chloroethane	75-00-3	-112.26	-60.43	<u>24.53</u>	4.45	72.58	298.15	<u>2.0</u>

Section B Basic Constants II (*Continued*)

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64	C ₂ H ₅ F	fluoroethane	353-36-6	-264.40	-212.40			56.67	213.15	2.0
65	C ₂ H ₆	ethane	74-84-0	-83.82	-31.86	14.70	2.86	46.15	90.36	0.0
66	C ₂ H ₆ O	ethanol	64-17-5	-234.95	-167.73	38.56	5.01	58.68	298.15	1.7
67	C ₂ H ₆ O	dimethyl ether	115-10-6	-184.11	-112.92	21.51	4.94	69.07	293.15	1.3
68	C ₂ H ₆ S	ethanethiol (ethyl mercaptan)	75-08-1	-46.02	-2.07	26.79	4.98	74.58	298.15	1.6
69	C ₂ H ₆ S	2-thiapropane (dimethylsulfide)	75-18-3	-37.20	7.41	27.00	7.98	73.77	298.15	1.5
70	C ₂ H ₇ N	ethanamine (ethyl amine)	75-04-7	-47.47	36.28			66.59	298.15	1.3
71	C ₂ H ₇ N	N-methylmethanamine (dimethyl amine)	124-40-3	-18.80	68.80	26.40	5.94	68.73	293.15	1.0
72	C ₃ F ₈	octafluoropropane (R-218)	76-19-7	-1737.62	-1610.31			140.00	295.00	0.0
73	C ₃ HF ₇	1,1,1,2,3,3,3-heptafluoropropane (R-227ea)	431-89-0					121.40	295.00	
74	C ₃ H ₂ ClF ₅ O	2-chloro-1,1,2-trifluoroethyl difluoromethyl ether (enflurane)	13838-16-9			30.09				
78	C ₃ H ₃ F ₅	1,1,1,2,2-pentafluoropropane (R-245cb)	1814-88-6					112.82	295.00	
79	C ₃ H ₃ F ₅	1,1,1,3,3-pentafluoropropane (R-245fa)	460-73-1					99.50	295.00	
81	C ₃ H ₃ F ₅ O	2-(difluoromethoxy)-1,1,1-trifluoroethane (E-245)	1885-48-9					107.71	295.00	
82	C ₃ H ₃ NO	1,2-oxazole(isoxazole)	288-14-2	82.02		37.17		51.408	298.15	
83	C ₃ H ₄	1-propyne (methyl acetylene)	74-99-7	110.00	150.60	22.15		62.31	273.15	0.7
84	C ₃ H ₄	1,2-propadiene	463-49-0	190.92	201.30	20.60	4.40	60.95	243.15	0.2
85	C ₃ H ₆	propene (propylene)	115-07-1	20.00	62.50	18.42	3.00			0.4
86	C ₃ H ₆	cyclopropane	75-19-4	53.30	104.40	20.05	5.44	71.76	233.15	0.0
87	C ₃ H ₆ Cl ₂	1,2-dichloropropane	78-87-5			36.17		100.815	323.14	
88	C ₃ H ₆ O	2-propen-1-ol (allyl alcohol)	107-18-6	-123.60		47.30				
89	C ₃ H ₆ O	propanone (acetone)	67-64-1	-217.10	-152.60	29.10	5.69	73.94	298.15	2.9

90	C ₃ H ₆ O ₂	propanoic acid	79-09-4	-452.80	-369.60	31.14	10.66	74.97	298.15	<u>1.5</u>
91	C ₃ H ₆ O ₂	methyl ethanoate (methyl acetate)	79-20-9	-408.80	-321.40	30.32	7.49	79.89	298.15	<u>1.7</u>
92	C ₃ H ₆ O ₂	ethyl methanoate (ethyl formate)	109-94-4	-388.30	-303.00	<u>29.91</u>		80.93	298.15	<u>2.0</u>
93	C ₃ H ₆ O ₃	dimethylcarbonate	616-38-6	-571		<u>37.7</u>		<u>84.82</u>	298.15	
94	C ₃ H ₇ Cl	1-chloropropane	540-54-5	-133.18	-52.51	<u>27.18</u>		<u>88.95</u>	298.15	<u>2.0</u>
95	C ₃ H ₈	propane	74-98-6	-104.68	-24.29	<u>19.04</u>	<u>3.53</u>	74.87	233.15	<u>0.0</u>
96	C ₃ H ₈ O	1-propanol	71-23-8	-255.20	-159.81	<u>41.44</u>	<u>5.20</u>	75.14	298.15	<u>1.7</u>
97	C ₃ H ₈ O	2-propanol	67-63-0	-272.70	-173.32	<u>39.85</u>	<u>5.38</u>	76.92	298.15	<u>1.7</u>
98	C ₃ H ₈ O	methyl ethyl ether	540-67-0	-216.50	-117.13	<u>25.69</u>		<u>85.85</u>	293.15	<u>1.2</u>
99	C ₃ H ₈ S	2-thiabutane (methyl ethyl sulfide)	624-89-5	-59.29	11.92	<u>29.53</u>	9.76	<u>91.02</u>	298.15	
100	C ₃ H ₉ N	1-propanamine (propyl amine)	107-10-8	-70.10	41.90	<u>29.55</u>		83.11	298.15	<u>1.3</u>
101	C ₃ H ₉ N	2-propanamine (methyl ethyl amine)	75-31-0	-83.70	32.23	<u>27.83</u>		86.33	298.15	
102	C ₃ H ₉ N	N,N-dimethylmethanamine (trimethyl amine)	75-50-3	-23.60	99.30	<u>22.94</u>	<u>6.55</u>	94.28	298.15	<u>0.6</u>
103	C ₃ H ₉ NO	2-ethoxymethanamine (2-methylaminoethanol)	109-83-1			<u>57</u>		<u>82.21</u>	323.14	
104	C ₄ F ₈	octafluorocyclobutane	115-25-3					<u>120.94</u>	253.15	<u>0.0</u>
105	C ₄ F ₁₀	decafluoro-2-methylpropane	354-92-7					<u>156.91</u>	293.15	
106	C ₄ H ₄ O	furan	110-00-9	-34.73	0.94	27.10	3.80	73.09	298.15	<u>0.7</u>
107	C ₄ H ₄ S	thiophene	110-02-1	114.90	126.10	<u>31.48</u>	<u>4.97</u>	79.47	298.15	<u>0.5</u>
108	C ₄ H ₅ N	pyrrole	109-97-7	108.20	160.30	<u>38.75</u>	<u>7.91</u>	<u>69.38</u>	294.00	<u>1.8</u>
109	C ₄ H ₆	1-butyne	107-00-6	162.26	198.77	<u>24.52</u>	<u>6.03</u>	<u>83.22</u>	298.15	<u>0.8</u>
110	C ₄ H ₆	1,3-butadiene	106-99-0	110.00	150.60	<u>22.47</u>	7.98	88.04	298.15	<u>0.0</u>
111	C ₄ H ₆ O ₃	acetic anhydride	108-24-7	-575.70	-476.80					<u>3.0</u>
112	C ₄ H ₈	cyclobutane	287-23-0	28.40	112.20	<u>24.19</u>	1.09	81.43	298.15	<u>0.0</u>
113	C ₄ H ₈	1-butene	106-98-9	-0.54	70.37	<u>22.07</u>	3.96	95.34	298.15	<u>0.3</u>
114	C ₄ H ₈	trans-2-butene	624-64-6	-11.00	63.34	<u>23.34</u>	9.76	93.65	298.15	<u>0.0</u>
115	C ₄ H ₈	cis-2-butene	590-18-1	-7.40	65.46	<u>22.72</u>	<u>7.58</u>	91.01	298.15	<u>0.3</u>
116	C ₄ H ₈	2-methylpropene	115-11-7	-17.10	58.18	<u>21.53</u>	<u>5.93</u>	95.24	298.15	<u>0.5</u>
117	C ₄ H ₈ O	butanone (methyl ethyl ketone)	78-93-3	-238.60	-146.50	31.30	<u>8.44</u>	90.13	298.15	<u>3.3</u>
118	C ₄ H ₈ O	tetrahydrofuran	109-99-9	-184.18	-79.57	29.81	<u>8.54</u>	81.71	298.15	<u>1.7</u>
119	C ₄ H ₈ O ₂	butanoic acid	107-92-6	-473.60		40.45	<u>11.08</u>	92.46	298.15	<u>1.5</u>
120	C ₄ H ₈ O ₂	2-methylpropanoic acid	79-31-2	-484.20				93.42	298.15	<u>1.3</u>
121	C ₄ H ₈ O ₂	1,3-dioxane	505-22-6	-337.30	-203.90	34.37				
122	C ₄ H ₈ O ₂	1,4-dioxane	123-91-1	-314.70	-180.20	34.16	12.85	<u>85.29</u>	293.15	<u>0.0</u>

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123	C ₄ H ₈ O ₂	methyl propanoate	554-12-1	-427.50	-310.90	<u>32.24</u>		96.93	298.15	<u>1.7</u>
124	C ₄ H ₈ O ₂	ethyl ethanoate (ethyl acetate)	141-78-6	-444.50	-328.00	31.94	10.48	98.55	298.15	<u>1.9</u>
125	C ₄ H ₈ O ₂	propyl methanoate (propyl formate)	110-74-7	-407.60	-293.50	<u>33.61</u>		97.94	298.15	<u>1.9</u>
126	C ₄ H ₉ Cl	2-chlorobutane	78-86-4	-165.69	-55.06	<u>29.17</u>		106.76	298.15	<u>2.1</u>
127	C ₄ H ₁₀	butane	106-97-8	-125.79	-16.57	22.44	4.66	100.48	298.15	<u>0.0</u>
128	C ₄ H ₁₀	2-methylpropane	75-28-5	-134.99	-21.44	21.30	4.61	104.36	298.15	<u>0.1</u>
129	C ₄ H ₁₀ N ₂	piperazine	110-85-0			31.6				
130	C ₄ H ₁₀ O	1-butanol	71-36-3	-274.60	-150.17	<u>43.29</u>	<u>9.28</u>	91.96	298.15	<u>1.8</u>
131	C ₄ H ₁₀ O	2-methyl-1-propanol (isobutanol)	78-83-1	-282.90	-167.40	<u>41.82</u>		92.91	298.15	<u>1.7</u>
132	C ₄ H ₁₀ O	2-methyl-2-propanol (tert-butanol)	75-65-0	<u>-325.81</u>	<u>-191.20</u>	<u>39.07</u>	<u>6.79</u>	94.88	298.15	<u>1.7</u>
133	C ₄ H ₁₀ O	2-butanol (sec-butanol)	78-92-2	-292.75	-167.71	<u>40.75</u>		92.35	298.15	<u>1.7</u>
134	C ₄ H ₁₀ O	diethyl ether	60-29-7	-250.80	-120.70	<u>26.52</u>	<u>7.27</u>	104.75	298.15	<u>1.3</u>
135	C ₄ H ₁₀ O ₂	1,2-dimethoxyethane	110-71-4	<u>-342.80</u>		<u>36.69</u>		<u>104.56</u>	298.15	
136	C ₄ H ₁₀ O ₂	1,2-butandiol	26171-83-5			<u>71.55</u>		<u>92.06</u>	323.14	
137	C ₄ H ₁₀ O ₂	1,3-butanediol	107-88-0			<u>74.46</u>		<u>138.54</u>	323.14	
138	C ₄ H ₁₀ S	3-thiapentane (diethyl sulfide)	352-93-2	-83.22	18.24	<u>31.77</u>	11.90	<u>108.51</u>	298.15	<u>1.6</u>
139	C ₄ H ₁₁ N	1-butanamine (butyl amine)	109-73-9	-91.76	49.03	<u>31.81</u>		98.97	298.15	<u>1.3</u>
140	C ₄ H ₁₁ N	N-ethylethanamine (diethyl amine)	109-89-7	-71.70	73.00	<u>29.06</u>		104.24	298.15	<u>1.1</u>
141	C ₄ H ₁₁ N	2-methyl-1-propanamine (isobutyl amine)	78-81-9	-98.55		<u>30.61</u>		100.45	298.15	<u>1.2</u>
142	C ₅ F ₁₂	dodecafluoropentane	678-26-2	-2561.86	-2351.67			<u>177.80</u>	293.15	<u>0.0</u>
143	C ₅ H ₅ N	pyridine	110-86-1	140.37	190.55	35.09	8.28	<u>80.88</u>	298.15	<u>2.3</u>
144	C ₅ H ₆ O	2-methylfuran	534-22-5	-66.32	-2.36	28.35	8.55	89.73	293.15	<u>0.7</u>
145	C ₅ H ₈	1-pentyne	627-19-0	143.10	209.20	26.86		98.91	298.15	<u>0.9</u>
146	C ₅ H ₈	cyclopentene	142-29-0	<u>32.95</u>	<u>110.90</u>	<u>26.76</u>	<u>3.36</u>	<u>91.43</u>	293.15	<u>0.9</u>
147	C ₅ H ₈ O	cyclopentanone	120-92-3	<u>-192.80</u>		<u>36.35</u>				<u>3.0</u>
148	C ₅ H ₁₀	cyclopentane	287-92-3	-77.10	38.92	<u>27.30</u>	0.61	94.73	298.15	<u>0.0</u>
149	C ₅ H ₁₀	1-pentene	109-67-1	-21.30	78.60	25.20	<u>5.81</u>	110.40	298.15	<u>0.4</u>
150	C ₅ H ₁₀	cis-2-pentene	627-20-3	-26.30	73.50	26.06	7.11	107.85	298.15	
151	C ₅ H ₁₀	2-methyl-2-butene	513-35-9	-40.80	61.60	26.31	7.60	107.57	298.15	

152	C ₅ H ₁₀	3-methyl-1-butene	563-45-1	-27.60	76.00	23.94	5.36	112.77	298.15	
154	C ₅ H ₁₀ O	2-pentanone (methyl propyl ketone)	107-87-9	-259.20	-138.20	33.44	10.63	107.33	298.15	<u>2.5</u>
155	C ₅ H ₁₀ O	3-pentanone (diethyl ketone)	96-22-0	-257.90	-134.30	33.45	11.59	106.41	298.15	<u>2.7</u>
156	C ₅ H ₁₀ O	3-methyl-2-butanone (methyl isopropyl ketone)	563-80-4	-262.60	-139.30	32.35	9.34	107.91	298.15	<u>2.8</u>
157	C ₅ H ₁₀ O	2-methyltetrahydrofuran	96-47-9			30.13		100.39	298.15	
158	C ₅ H ₁₀ O ₂	pentanoic acid	109-52-4	-497.00	-351.00	62.40	14.16	109.30	298.15	
159	C ₅ H ₁₀ O ₂	3-methylbutanoic acid	503-74-2					110.79	298.15	<u>1.0</u>
160	C ₅ H ₁₀ O ₂	methyl butanoate	623-42-7	-450.70	-305.10	<u>33.79</u>		114.42	298.15	<u>1.7</u>
161	C ₅ H ₁₀ O ₂	ethyl propanoate	105-37-3	-463.60	-319.10	<u>33.88</u>		115.54	298.15	<u>1.8</u>
162	C ₅ H ₁₀ O ₂	methyl 2-methylpropanoate	547-63-7	-464.00	-317.00	<u>32.61</u>		<u>114.63</u>	293.15	<u>2.0</u>
163	C ₅ H ₁₀ O ₂	propyl ethanoate (propyl acetate)	109-60-4	-464.80	-320.20	<u>33.92</u>		<u>115.72</u>	298.15	<u>1.8</u>
164	C ₅ H ₁₀ O ₂	2-methylpropyl methanoate (isobutyl formate)	542-55-2	-436.30	-293.00	<u>33.60</u>		116.96	298.15	<u>1.9</u>
165	C ₅ H ₁₁ Cl	1-chloropentane	543-59-9	-175.02	-36.68	<u>33.15</u>		121.53	298.15	<u>2.2</u>
166	C ₅ H ₁₂	pentane	109-66-0	-146.76	-8.65	<u>25.79</u>	8.40	115.22	298.15	<u>0.0</u>
167	C ₅ H ₁₂	2-methylbutane	78-78-4	-153.70	-13.86	24.69	5.16	116.46	298.15	<u>0.1</u>
168	C ₅ H ₁₂	2,2-dimethylpropane (neopentane)	463-82-1	-168.11	<u>-15.24</u>	22.74	<u>3.26</u>	122.16	298.15	<u>0.0</u>
169	C ₅ H ₁₂ O	1-pentanol	71-41-0	-295.60	-142.20	44.40	<u>9.38</u>	108.63	298.15	<u>1.7</u>
170	C ₅ H ₁₂ O	2-pentanol	6032-29-7	<u>-313.80</u>		41.40				
171	C ₅ H ₁₂ O	2-methyl-1-butanol	137-32-6	<u>-302.00</u>		<u>55.18</u>				
172	C ₅ H ₁₂ O	2-methyl-2-butanol	75-85-4	-329.00	-166.00	40.00	4.46	109.50	298.15	<u>1.9</u>
173	C ₅ H ₁₂ O	3-methyl-1-butanol	123-51-3	-300.00		44.10		109.22	298.15	<u>1.8</u>
174	C ₅ H ₁₂ O	3-methyl-2-butanol	598-75-4	<u>-316.40</u>		<u>53.00</u>				
175	C ₅ H ₁₂ O	ethyl propyl ether	628-32-0	<u>-272.20</u>	-115.00	<u>28.94</u>	8.40	121.35	298.15	<u>1.2</u>
176	C ₅ H ₁₂ S	3-methyl-1-butanethiol (isopentyl mercaptan)	541-31-1	-114.60	17.70		7.45	125.32	298.15	
177	C ₆ ClF ₅	chloropentafluorobenzene	344-07-0			<u>34.76</u>				
178	C ₆ F ₆	hexafluorobenzene	392-56-3			<u>31.66</u>				<u>0.0</u>
179	C ₆ F ₁₂	dodecafluorocyclohexane	355-68-0							<u>0.0</u>
180	C ₆ F ₁₄	tetradecafluorohexane	355-42-0	-2973.99	-2722.34			<u>198.91</u>	293.15	<u>0.0</u>
181	C ₆ F ₁₄	tetradecafluoro-2-methylpentane	355-04-4					<u>195.06</u>	293.15	

Section B Basic Constants II (*Continued*)

No.	Formula	Name	CAS #	DelHf0, kJ/mol	DelGf0, kJ/mol	DelHb, kJ/mol	DelHm, kJ/mol	V liq, cm ³ /mol	T liq, K	Dipole, Debye
184	C ₆ HF ₃	pentafluorobenzene	363-72-4			<u>32.15</u>	<u>10.85</u>			
186	C ₆ H ₅ Cl	chlorobenzene	108-90-7	51.09	98.36	<u>35.19</u>	<u>9.61</u>	102.22	298.15	<u>1.6</u>
187	C ₆ H ₆	benzene	71-43-2	82.88	129.75	<u>30.72</u>	<u>9.95</u>	89.41	298.15	<u>0.0</u>
188	C ₆ H ₆ O	phenol	108-95-2	-96.40	-32.55	<u>46.18</u>	<u>11.29</u>	87.87	298.15	<u>1.6</u>
189	C ₆ H ₇ N	benzeneamine (aniline)	62-53-3	87.45	167.90	<u>42.44</u>	<u>10.56</u>	91.52	298.15	<u>1.6</u>
190	C ₆ H ₇ N	2-methylpyridine (2-picoline)	109-06-8	99.16	177.37	<u>36.17</u>	<u>9.72</u>	99.11	298.15	<u>1.9</u>
191	C ₆ H ₇ N	3-methylpyridine (3-picoline)	108-99-6	106.36	184.62	<u>37.35</u>	<u>14.18</u>	97.81	298.15	<u>2.4</u>
192	C ₆ H ₇ N	4-methylpyridine (4-picoline)	108-89-4	102.13	182.08	<u>37.51</u>	<u>12.58</u>	98.02	298.15	
193	C ₆ H ₈ O	2-cyclohexen-1-one	930-68-7			<u>48.36</u>		<u>99.59</u>	323.14	
194	C ₆ H ₁₀	cyclohexene	110-83-8	-4.32	<u>106.90</u>	<u>33.42</u>	<u>3.29</u>	<u>101.89</u>	298.15	<u>0.6</u>
195	C ₆ H ₁₀ O	cyclohexanone	108-94-1	-230.12	<u>-90.87</u>					
196	C ₆ H ₁₀ O	4-methyl-3-penten-2-one(mesityl oxide)	141-79-7	-178.28						
197	C ₆ H ₁₂	cyclohexane	110-82-7	-123.10	32.26	<u>29.97</u>	<u>2.63</u>	<u>108.75</u>	298.15	<u>0.3</u>
198	C ₆ H ₁₂	methylcyclopentane	96-37-7	-106.00	36.51	<u>29.08</u>	<u>6.93</u>	113.13	298.15	<u>0.0</u>
199	C ₆ H ₁₂	1-hexene	592-41-6	-41.95	86.90	<u>28.28</u>	<u>7.52</u>	125.90	298.15	<u>0.4</u>
200	C ₆ H ₁₂	4-methylpent-1-ene	691-37-2	-49.44	<u>85.69</u>	<u>28.57</u>	<u>3.60</u>	<u>129.44</u>	298.15	
201	C ₆ H ₁₂ O	cyclohexanol	108-93-0	-294.55	-118.05		<u>1.76</u>			<u>1.7</u>
202	C ₆ H ₁₂ O	2-hexanone (methyl butyl ketone)	591-78-6	-279.80	-129.90	<u>36.35</u>	<u>14.90</u>	124.10	298.15	
203	C ₆ H ₁₂ O	3-hexanone (ethyl propyl ketone)	589-38-8	-278.60	-126.10	<u>35.36</u>	<u>13.49</u>	123.43	298.15	
204	C ₆ H ₁₂ O	4-methyl-2(methyl isobutyl ketone)	108-10-1	-286.40	-135.10	<u>34.49</u>		125.81	298.15	<u>2.8</u>
205	C ₆ H ₁₂ O	butylvinylether	111-34-2	-179.20		<u>36.59</u>		<u>130.25</u>	298.15	
206	C ₆ H ₁₂ O ₂	hexanoic acid	142-62-1							
207	C ₆ H ₁₂ O ₂	methyl pentanoate	624-24-8	-471.10	-296.50	<u>35.36</u>		<u>132.75</u>	298.00	
208	C ₆ H ₁₂ O ₂	ethyl butanoate	105-54-4	-485.50	-312.00	<u>35.47</u>		<u>132.95</u>	298.15	<u>1.8</u>
209	C ₆ H ₁₂ O ₂	propyl propanoate	106-36-5	-483.10	-309.70	<u>35.54</u>		<u>132.50</u>	298.15	<u>1.8</u>
210	C ₆ H ₁₂ O ₂	ethyl 2-methylpropanoate	97-62-1	-499.60	-324.00	<u>33.67</u>		<u>133.67</u>	293.15	<u>2.1</u>
211	C ₆ H ₁₂ O ₂	butyl ethanoate (butyl acetate)	123-86-4	-485.30	-312.10	<u>36.28</u>	14.59	<u>132.51</u>	298.15	<u>1.8</u>
212	C ₆ H ₁₂ O ₂	2-methylpropyl ethanoate (isobutyl acetate)	110-19-0	-494.70	-322.00	<u>35.90</u>		133.87	298.15	<u>1.9</u>
213	C ₆ H ₁₂ O ₂	pentyl methanoate (pentyl formate)	638-49-3	-448.20	-276.40			131.72	298.15	<u>1.9</u>

214	C ₆ H ₁₂ O ₂	3-methylbutyl methanoate (isopentyl formate)	110-45-2	-453.80	-279.80			132.85	298.15	
215	C ₆ H ₁₂ O ₃	2-ethoxyethylacetate	111-15-9			<u>52.61</u>		<u>140.62</u>	323.14	
216	C ₆ H ₁₄	hexane	110-54-3	-166.92	0.15	<u>28.85</u>	13.07	<u>131.59</u>	298.15	0.0
217	C ₆ H ₁₄	2-methylpentane	107-83-5	-174.55	-5.14	<u>27.79</u>	6.27	<u>132.89</u>	298.15	<u>0.1</u>
218	C ₆ H ₁₄	3-methylpentane	96-14-0	-172.00	-3.20	<u>28.06</u>	5.30	<u>130.62</u>	298.15	
219	C ₆ H ₁₄	2,2-dimethylbutane	75-83-2	-183.97	-9.63	<u>26.31</u>	0.58	<u>133.73</u>	298.15	
220	C ₆ H ₁₄	2,3-dimethylbutane	79-29-8	-175.90	-2.05	<u>27.28</u>	0.79	<u>131.17</u>	298.15	0.2
221	C ₆ H ₁₄ O	1-hexanol	111-27-3	-316.50	-134.13	<u>44.50</u>	15.40	<u>125.19</u>	298.15	<u>1.8</u>
222	C ₆ H ₁₄ O	2-hexanol	626-93-7	-333.50		<u>41.01</u>		<u>126.07</u>	298.15	
223	C ₆ H ₁₄ O	3-hexanol	623-37-0							
224	C ₆ H ₁₄ O	2-methyl-1-pentanol	105-30-6							
225	C ₆ H ₁₄ O	2-methyl-2-pentanol	590-36-3	-349.00		<u>39.59</u>		126.22	298.15	
226	C ₆ H ₁₄ O	2-methyl-3-pentanol	565-67-3							
227	C ₆ H ₁₄ O	4-methyl-1-pentanol	626-89-1	-324.90		<u>44.46</u>		126.22	298.15	
228	C ₆ H ₁₄ O	4-methyl-2-pentanol	108-11-2	-339.20		<u>44.20</u>		127.20	298.15	
229	C ₆ H ₁₅ N	<i>N,N</i> -diethylethanamine (triethyl amine)	121-44-8	-92.70	118.00	<u>31.01</u>		139.96	298.15	0.9
230	C ₆ H ₁₅ N	<i>N</i> -propyl-1-propanamine (dipropyl amine)	142-84-7	-113.20		<u>33.47</u>		138.07	298.15	<u>1.0</u>
231	C ₇ F ₁₄	tetradecafluoromethylcyclohexane	355-02-2	-2898.00				<u>195.67</u>	298.15	
232	C ₇ F ₁₆	hexadecafluoroheptane	335-57-9	-3386.11	-3093.02	<u>36.29</u>		<u>223.92</u>	293.15	0.0
233	C ₇ H ₅ F ₅	pentafluorotoluene	771-56-2			<u>34.75</u>	<u>12.99</u>			
234	C ₇ H ₈	toluene	108-88-3	50.17	122.29	<u>33.18</u>	<u>6.85</u>	106.87	298.15	0.4
235	C ₇ H ₈ O	benzyl alcohol	100-51-6	-72.38	18.20		<u>8.97</u>			<u>1.7</u>
236	C ₇ H ₈ O	2-methylphenol (<i>o</i> -cresol)	95-48-7	-128.57	-34.27	45.30	<u>13.94</u>	103.64	298.15	<u>1.6</u>
237	C ₇ H ₈ O	3-methylphenol (<i>m</i> -cresol)	108-39-4	-132.30	-40.07	47.45	<u>9.41</u>	104.99	298.15	<u>1.8</u>
238	C ₇ H ₈ O	4-methylphenol (<i>p</i> -cresol)	106-44-5	-125.35	-31.55	47.45	<u>11.89</u>	105.00	298.15	<u>1.6</u>
239	C ₇ H ₉ N	2,3-dimethylpyridine (2,3-lutidine)	583-61-9	68.28	177.59	39.08	<u>13.48</u>	113.73	298.15	<u>2.2</u>
240	C ₇ H ₉ N	2,4-dimethylpyridine (2,4-lutidine)	108-47-4	63.89	172.04	38.53	8.83	115.53	298.15	<u>2.3</u>
241	C ₇ H ₉ N	2,5-dimethylpyridine (2,5-lutidine)	589-93-5	66.44	174.34	38.68	14.65	115.87	298.15	<u>2.2</u>
242	C ₇ H ₉ N	2,6-dimethylpyridine (2,6-lutidine)	108-48-5	58.70	168.40	37.46	13.04	116.52	298.15	<u>1.7</u>
243	C ₇ H ₉ N	3,4-dimethylpyridine (3,4-lutidine)	583-58-4	70.04	179.34	39.99	14.70	112.32	298.15	<u>1.9</u>
244	C ₇ H ₉ N	3,5-dimethylpyridine (3,5-lutidine)	591-22-0	72.80	182.44	39.46	13.11	114.26	298.15	<u>2.6</u>
245	C ₇ H ₁₂ O ₂	butyl-2-propenoate (butylacrylate)	141-32-2	-375.30		<u>47.31</u>				

Section B Basic Constants II (*Continued*)

No.	Formula	Name	CAS #	DelHf0, kJ/mol	DelGf0, kJ/mol	DelHb, kJ/mol	DelHm, kJ/mol	V liq, cm ³ /mol	T liq, K	Dipole, Debye
246	C ₇ H ₁₄	cycloheptane	291-64-5	-118.10	64.30	33.18	1.88	121.73	298.15	0.0
247	C ₇ H ₁₄	methylcyclohexane	108-87-2	-154.70	27.64	31.27	6.75	128.35	298.15	0.0
248	C ₇ H ₁₄	ethylcyclopentane	1640-89-7	-126.90	45.07	31.96	6.87	128.83	298.15	0.0
249	C ₇ H ₁₄	cis-1,3-dimethylcyclopentane	2532-58-3	-135.90	39.23	30.40	7.37	131.91	298.15	
250	C ₇ H ₁₄	trans-1,3-dimethylcyclopentane	1759-58-6	-133.50	41.42	30.80	7.27	132.64	298.15	
251	C ₇ H ₁₄	1-heptene	592-76-7	-62.76	95.06	31.09	12.66	141.77	298.15	0.3
252	C ₇ H ₁₄ O ₂	heptanoic acid	111-14-8							
253	C ₇ H ₁₄ O ₂	ethyl pentanoate	539-82-2	-505.90	-303.50	36.96		148.45	293.15	
254	C ₇ H ₁₄ O ₂	ethyl 3-methylbutanoate	108-64-5	-527.90	-324.00	37.00		149.99	293.15	
255	C ₇ H ₁₄ O ₂	propyl butanoate	105-66-8	-505.30	-303.00			149.95	298.15	1.8
256	C ₇ H ₁₄ O ₂	2-methylpropyl propanoate	540-42-1	-512.70	-311.20			150.21	298.15	
257	C ₇ H ₁₄ O ₂	propyl 2-methylpropanoate	644-49-5	-518.10	-314.00			147.27	273.15	
258	C ₇ H ₁₄ O ₂	3-methylbutyl ethanoate (isopentyl acetate)	123-92-2	-511.20	-306.80	37.50		150.26	298.15	1.8
259	C ₇ H ₁₆	heptane	142-82-5	-187.80	8.20	31.77	14.03	147.47	298.15	0.0
260	C ₇ H ₁₆	2-methylhexane	591-76-4	-194.60	3.70	30.62	9.19	148.60	298.15	0.0
261	C ₇ H ₁₆	3-methylhexane	589-34-4	-191.30	5.30	30.89		146.74	298.15	0.0
262	C ₇ H ₁₆	3-ethylpentane	617-78-7	-189.50	11.40	31.12	9.55	144.40	298.15	0.0
263	C ₇ H ₁₆	2,2-dimethylpentane	590-35-2	-205.81	0.80	29.23	5.82	149.67	298.15	0.0
264	C ₇ H ₁₆	2,3-dimethylpentane	565-59-3	-194.10	5.82	30.46		145.05	298.15	0.0
265	C ₇ H ₁₆	2,4-dimethylpentane	108-08-7	-201.67	3.51	29.55	6.84	149.95	298.15	0.0
266	C ₇ H ₁₆	3,3-dimethylpentane	562-49-2	-201.40	3.50	29.62	6.85	145.40	298.15	0.0
267	C ₇ H ₁₆	2,2,3-trimethylbutane	464-06-2	-204.40	5.00	28.90	2.26	146.15	298.15	0.0
268	C ₇ H ₁₆ O	1-heptanol	111-70-6	-330.90	-119.56	48.10	13.20	141.95	298.15	1.7
269	C ₇ H ₁₆ O	2-heptanol	543-49-7							
270	C ₇ H ₁₆ O	4-heptanol	589-55-9							
271	C ₈ F ₁₈	octadecafluorooctane	307-34-6	-3798.24	-3463.70	33.38		253.21	293.15	0.0
272	C ₈ H ₈ O	methylphenylketone(acetophenone)	98-86-2			55.40		119.94	323.14	
273	C ₈ H ₁₀	ethylbenzene	100-41-4	29.92	130.73	35.57	9.18	123.08	298.15	0.4
274	C ₈ H ₁₀	1,2-dimethylbenzene (<i>o</i> -xylene)	95-47-6	19.08	122.05	36.24	13.60	121.25	298.15	0.5

275	C ₈ H ₁₀	1,3-dimethylbenzene (<i>m</i> -xylene)	108-38-3	17.32	118.89	35.66	11.57	123.47	298.15	0.3
276	C ₈ H ₁₀	1,4-dimethylbenzene (<i>p</i> -xylene)	106-42-3	18.03	121.48	<u>35.67</u>	<u>16.81</u>	123.93	298.15	<u>0.1</u>
277	C ₈ H ₁₀ O	2-ethylphenol	90-00-6	-145.23	-23.15	46.20	13.94	120.41	298.15	
278	C ₈ H ₁₀ O	3-ethylphenol	620-17-7	-146.06	-25.01	48.90	9.41	121.25	298.15	
279	C ₈ H ₁₀ O	4-ethyl-phenol	123-07-9	-144.05	-21.43	48.90	11.89	<u>120.84</u>	298.15	
280	C ₈ H ₁₀ O	2,3-dimethylphenol (2,3 xyleneol)	526-75-0	-157.19	-33.20	47.60	21.02			
281	C ₈ H ₁₀ O	2,4-dimethylphenol (2,4 xyleneol)	105-67-9	-162.88	-41.07	47.40		119.75	293.15	2.0
282	C ₈ H ₁₀ O	2,5-dimethylphenol (2,5 xyleneol)	95-87-4	-161.63	-39.52	47.10	23.38	119.30	293.15	<u>1.5</u>
283	C ₈ H ₁₀ O	2,6-dimethylphenol (2,6 xyleneol)	576-26-1	-161.74	-38.89	44.70	18.90			
284	C ₈ H ₁₀ O	3,4-dimethylphenol (3,4 xyleneol)	95-65-8	-156.56	-34.13	50.10	18.13	118.04	293.15	1.7
285	C ₈ H ₁₀ O	3,5-dimethylphenol (3,5 xyleneol)	108-68-9	-161.54	-39.26	49.70	<u>18.00</u>	119.54	293.15	<u>1.8</u>
286	C ₈ H ₁₆	cyclooctane	292-64-8	-124.40	91.38	35.90	2.41	134.87	298.15	<u>0.0</u>
287	C ₈ H ₁₆	<i>t</i> -1,4-dimethylcyclohexane	2207-04-7	-168.300	62.43	<u>37.88</u>	<u>12.33</u>	<u>147.97</u>	298.15	
288	C ₈ H ₁₆	1-octene	111-66-0	-83.59	103.20	<u>34.07</u>	<u>15.57</u>	157.85	298.15	<u>0.3</u>
289	C ₈ H ₁₆ O ₂	octanoic acid	124-07-2				<u>21.36</u>			
290	C ₈ H ₁₆ O ₂	2-ethylhexanoic acid	149-57-5			<u>76.31</u>		<u>161.81</u>	323.15	
291	C ₈ H ₁₆ O ₂	propyl pentanoate	141-06-0	-525.70	-294.40					
292	C ₈ H ₁₆ O ₂	2-methylpropyl butanoate	539-90-2	-533.00	-302.50			168.24	293.15	
293	C ₈ H ₁₆ O ₂	propyl 3-methylbutanoate	557-00-6	-547.10	-314.00			167.11	293.15	
294	C ₈ H ₁₆ O ₂	3-methylbutyl propanoate	105-68-0	-529.20	-295.80			<u>166.72</u>	298.15	
295	C ₈ H ₁₆ O ₂	2-methylpropyl 2-methylpropanoate	97-85-8	-546.20	-313.00			<u>164.82</u>	273.15	
296	C ₈ H ₁₈	octane	111-65-9	-208.75	16.27	34.41	<u>20.65</u>	<u>163.53</u>	298.15	<u>0.0</u>
297	C ₈ H ₁₈	2-methylheptane	592-27-8	-215.35	11.96	33.26	<u>11.92</u>	164.63	298.15	
298	C ₈ H ₁₈	3-methylheptane	589-81-1	-212.50	13.00	33.66	<u>11.38</u>	162.78	298.15	
299	C ₈ H ₁₈	4-methylheptane	589-53-7	-211.96	15.98	33.35	<u>10.84</u>	163.06	298.15	
300	C ₈ H ₁₈	3-ethylhexane	619-99-8	-210.71	17.11	33.59		161.01	298.15	
301	C ₈ H ₁₈	2,2-dimethylhexane	590-73-8	-224.60	10.68	<u>32.07</u>	6.78	165.29	298.15	
302	C ₈ H ₁₈	2,3-dimethylhexane	584-94-1	-213.80	15.65	<u>33.17</u>		161.31	298.15	
303	C ₈ H ₁₈	2,4-dimethylhexane	589-43-5	-219.24	11.51	32.51		164.08	298.15	
304	C ₈ H ₁₈	2,5-dimethylhexane	592-13-2	-222.51	9.95	32.54	12.95	165.70	298.15	
305	C ₈ H ₁₈	3,3-dimethylhexane	563-16-6	-219.99	13.68	32.31	7.11	161.81	298.15	
306	C ₈ H ₁₈	3,4-dimethylhexane	583-48-2	-212.67	16.99	33.24		159.73	298.15	
307	C ₈ H ₁₈	3-ethyl-2-methylpentane	609-26-7	-212.80	19.23	32.93	11.34	159.72	298.15	
308	C ₈ H ₁₈	3-ethyl-3-methylpentane	1067-08-9	-214.85	22.88	32.78	10.84	157.88	298.15	
309	C ₈ H ₁₈	2,2,3-trimethylpentane	564-02-3	-219.95	17.97	31.94	8.62	160.43	298.15	

Section B Basic Constants II (*Continued*)

No.	Formula	Name	CAS #	DelHf0, kJ/mol	DelGf0, kJ/mol	DelHb, kJ/mol	DelHm, kJ/mol	V liq, cm ³ /mol	T liq, K	Dipole, Debye
310	C ₈ H ₁₈	2,2,4-trimethylpentane (isooctane)	540-84-1	-224.01	14.21	30.79	<u>9.04</u>	166.07	298.15	
311	C ₈ H ₁₈	2,3,3-trimethylpentane	560-21-4	-218.45	18.56	32.12	<u>0.86</u>	158.15	298.15	
312	C ₈ H ₁₈	2,3,4-trimethylpentane	565-75-3	-217.32	19.28	32.36	9.26	159.74	298.15	
313	C ₈ H ₁₈	2,2,3,3-tetramethylbutane	594-82-1	-225.73	<u>10.31</u>	31.42	7.54	139.02	298.15	
314	C ₈ H ₁₈ O	1-octanol	111-87-5	-356.90	-116.59	46.90		158.37	298.15	<u>2.0</u>
315	C ₈ H ₁₈ O	2-octanol	123-96-6			<u>44.40</u>		159.38	298.15	<u>1.6</u>
318	C ₈ H ₁₈ O	2-ethyl-1-hexanol	104-76-7							<u>1.8</u>
319	C ₈ H ₁₉ N	<i>n</i> -octylamine	111-86-4	<u>-173.46</u>		<u>54.63</u>		<u>162.33</u>	298.15	
320	C ₈ H ₁₉ N	<i>N</i> -butyl-1-butanamine (dibutyl amine)	111-92-2			<u>38.44</u>		<u>170.58</u>	298.15	<u>1.1</u>
321	C ₉ F ₂₀	eicosfluorononane	375-96-2	-4210.36	-3834.38			<u>271.15</u>	298.15	<u>0.0</u>
322	C ₉ H ₇ N	quinoline	91-22-5			49.70	<u>10.80</u>	<u>118.50</u>	298.15	<u>2.3</u>
323	C ₉ H ₇ N	isoquinoline	119-65-3			<u>49.00</u>		<u>118.39</u>	293.15	<u>2.7</u>
324	C ₉ H ₁₀	indan	496-11-7	<u>60.75</u>	<u>166.61</u>	<u>39.63</u>		<u>123.15</u>	298.15	
325	C ₉ H ₁₂	propylbenzene	103-65-1	7.91	137.58	38.20	9.27	140.20	298.15	
326	C ₉ H ₁₂	1-methylethylbenzene (cumene)	98-82-8	4.00	139.05	37.50	7.79	140.17	298.15	<u>0.8</u>
327	C ₉ H ₁₂	1-ethyl-4-methylbenzene	622-96-8	-2.05	130.28	38.40	13.36	<u>139.60</u>	293.15	
328	C ₉ H ₁₂	1,2,3-trimethylbenzene	526-73-8	-9.50	124.96	40.00	8.18	<u>133.22</u>	278.70	
329	C ₉ H ₁₂	1,2,4-trimethylbenzene	95-63-6	-13.81	117.50	39.20	13.19	136.00	278.70	
330	C ₉ H ₁₂	1,3,5-trimethylbenzene (mesitylene)	108-67-8	-15.90	118.26	39.00	9.51	142.99	298.15	<u>0.1</u>
331	C ₉ H ₁₈	1-nonene	124-11-8	-104.00	111.80	36.31	18.08	174.05	298.15	
332	C ₉ H ₁₈ O ₂	nonanoic acid	112-05-0				<u>20.28</u>			
333	C ₉ H ₁₈ O ₂	3-methylbutyl butanoate	106-27-4	-551.50	-289.20			184.02	298.15	
334	C ₉ H ₂₀	nonane	111-84-2	-228.86	25.00	<u>36.91</u>	15.50	179.70	298.15	<u>0.0</u>
335	C ₉ H ₂₀	2-methyloctane	3221-61-2	-235.85	20.30	<u>36.10</u>	18.00	180.75	298.15	
336	C ₉ H ₂₀	2,2-dimethylheptane	1071-26-7	-246.10	18.10	34.60	8.90	181.51	298.15	
337	C ₉ H ₂₀	2,2,5-trimethylhexane	3522-94-9	-253.26	14.00	40.30	6.20	<u>182.39</u>	298.15	
338	C ₉ H ₂₀	2,2,3,3-tetramethylpentane	7154-79-2	-237.11	37.60	34.30	<u>2.33</u>	<u>170.34</u>	298.15	
339	C ₉ H ₂₀	2,2,3,4-tetramethylpentane	1186-53-4	-234.97	35.40	33.70	<u>0.50</u>	174.45	298.15	
340	C ₉ H ₂₀	2,2,4,4-tetramethylpentane	1070-87-7	-242.25	34.20	38.30	<u>9.75</u>	<u>179.23</u>	298.15	
341	C ₉ H ₂₀	2,3,3,4-tetramethylpentane	16747-38-9	-236.31	38.30	34.50	<u>9.00</u>	<u>170.76</u>	298.15	

342	C ₉ H ₂₀ O	1-nonanol	143-08-8	-381.20	-111.92	54.40		174.92	298.15	<u>1.7</u>
343	C ₉ H ₂₀ O	2-nonanol	628-99-9							
344	C ₁₀ F ₂₂	docosafluorodecane	307-45-9	-4622.48	-4205.05					<u>0.0</u>
345	C ₁₀ H ₈	naphthalene	91-20-3	150.30	223.50	43.40	<u>19.12</u>	129.13	333.15	<u>0.0</u>
346	C ₁₀ H ₁₂	1,2,3,4-tetrahydronaphthalene	119-64-2	<u>26.61</u>	<u>166.89</u>			136.27	293.15	
347	C ₁₀ H ₁₂	1-methylindan	767-58-8							
348	C ₁₀ H ₁₂	2-methylindan	824-63-5							
349	C ₁₀ H ₁₂	4-methylindan	824-22-6							
350	C ₁₀ H ₁₂	5-methylindan	874-35-1							
351	C ₁₀ H ₁₄	butylbenzene	104-51-8	-13.14	145.39	<u>38.87</u>	11.22	156.78	298.15	<u>0.4</u>
352	C ₁₀ H ₁₄	2-methylpropylbenzene	538-93-2	-20.34	140.20	<u>37.80</u>	12.50	158.08	298.15	<u>0.3</u>
353	C ₁₀ H ₁₄	1,4-diethylbenzene	105-05-5	-20.37	140.30	39.40	10.60	156.45	298.15	<u>0.1</u>
354	C ₁₀ H ₁₄	1-(1-methylethyl)-4-methylbenzene	99-87-6	-27.74	136.70	38.20	9.66	157.49	298.15	<u>0.0</u>
355	C ₁₀ H ₁₄	1,2,4,5-tetramethylbenzene	95-93-2	-44.56	120.50	45.52	21.00	152.28	298.15	<u>0.0</u>
356	C ₁₀ H ₁₈	cis-bicyclo[4.4.0]decane (cis-decalin)	493-01-6	-169.20	85.60	41.00		154.83	298.15	<u>0.0</u>
357	C ₁₀ H ₁₈	trans-bicyclo[4.4.0]decane (trans-decalin)	493-02-7	-182.10	74.20	<u>40.20</u>		159.66	298.15	<u>0.0</u>
358	C ₁₀ H ₂₀	1-decene	872-05-9	<u>-124.20</u>	<u>121.10</u>			<u>189.30</u>	293.15	
359	C ₁₀ H ₂₀ O ₂	decanoic acid	334-48-5				<u>28.01</u>			
360	C ₁₀ H ₂₂	decane	124-18-5	-249.53	33.30	<u>38.75</u>	<u>28.78</u>	195.95	298.15	<u>0.0</u>
361	C ₁₀ H ₂₂	2,2,5-trimethylheptane	20291-95-6	-272.21	22.20	<u>36.20</u>	<u>12.00</u>	196.44	298.15	
362	C ₁₀ H ₂₂	3,3,5-trimethylheptane	7154-80-5	-259.87	32.60	36.40	14.00	192.48	298.15	
363	C ₁₀ H ₂₂	2,2,3,3-tetramethylhexane	13475-81-5	-257.99	47.20	36.20	<u>12.40</u>	<u>187.02</u>	298.15	
364	C ₁₀ H ₂₂	2,2,5,5-tetramethylhexane	1071-81-4	-285.89	19.50	42.40	<u>9.80</u>	<u>199.06</u>	298.15	
365	C ₁₀ H ₂₂ O	1-decanol	112-30-1	-396.70	-98.45	49.80	38.00	191.51	298.15	<u>1.8</u>
366	C ₁₀ H ₂₄ N ₄	octamethylethenetetramine	996-70-3	132.9		<u>53.85</u>		<u>232.40</u>	298.15	
367	C ₁₁ H ₁₀	1-methylnaphthalene	90-12-0	115.20	216.40	<u>46.00</u>	6.94	<u>139.37</u>	293.15	<u>0.5</u>
368	C ₁₁ H ₁₀	2-methylnaphthalene	91-57-6	114.90	215.00	46.50	12.13	145.77	333.15	<u>0.4</u>
369	C ₁₁ H ₂₄	undecane	1120-21-4	-270.16	41.25	41.20	<u>22.32</u>	212.24	298.15	<u>0.0</u>
370	C ₁₁ H ₂₄ O	1-undecanol	112-42-5							
371	C ₁₂ H ₁₀	1,1'-biphenyl	92-52-4	182.42	281.08	48.30	18.57	<u>155.77</u>	347.00	<u>0.0</u>
372	C ₁₂ H ₁₂	1,6-dimethylnaphthalene	575-43-9	79.80	210.90			155.93	293.15	
373	C ₁₂ H ₁₂	2,7-dimethylnaphthalene	582-16-1	79.00	210.70	59.50	23.35			
374	C ₁₂ H ₁₈	1,3,5-triethylbenzene	102-25-0			<u>59.22</u>		<u>193.39</u>	323.14	
375	C ₁₂ H ₂₀	1,3-dimethyltricyclo[3.3.1.1 ^{3,7}]decane (1,3-dimethyladamantane)	702-79-4			<u>49.37</u>		<u>186.61</u>	323.14	

Section B Basic Constants II (*Continued*)

No.	Formula	Name	CAS #	DelHf0, kJ/mol	DelGf0, kJ/mol	DelHb, kJ/mol	DelHm, kJ/mol	V liq, cm ³ /mol	T liq, K	Dipole, Debye
376	C ₁₂ H ₂₄	1-dodecene	112-41-4	<u>-165.50</u>	<u>138.00</u>			<u>222.06</u>	293.15	
377	C ₁₂ H ₂₆	dodecane	112-40-3	<u>-290.79</u>	<u>49.53</u>	43.40	<u>36.58</u>	<u>228.59</u>	298.15	<u>0.0</u>
378	C ₁₂ H ₂₆ O	1-dodecanol	112-53-8	<u>-443.10</u>	<u>-87.13</u>					
379	C ₁₃ H ₁₂	diphenylmethane	101-81-5	<u>165.20</u>				<u>167.23</u>	293.15	<u>0.4</u>
380	C ₁₃ H ₂₈	tridecane	629-50-5	-311.42	57.81	45.65	28.50	<u>244.94</u>	298.15	<u>0.0</u>
381	C ₁₃ H ₂₈ O	1-tridecanol	112-70-9							
382	C ₁₄ H ₁₀	phenanthrene	85-01-8	207.50	308.20		<u>16.47</u>			<u>0.0</u>
383	C ₁₄ H ₁₀	anthracene	120-12-7	230.90	333.70		<u>28.83</u>			<u>0.0</u>
384	C ₁₄ H ₂₂	1,4-di(trimethylmethyl)benzene (<i>p</i> -ditertbutylbenzene)	1012-72-2				<u>22.48</u>	<u>236.17</u>	373.15	
385	C ₁₄ H ₃₀	tetradecane	629-59-4	-332.05	66.09	47.61	45.61	261.32	298.15	<u>0.0</u>
386	C ₁₄ H ₃₀ O	1-tetradecanol	112-72-1							
387	C ₁₅ H ₃₂	pentadecane	629-62-9	-352.68	74.37	49.45	34.80	277.71	298.15	<u>0.0</u>
388	C ₁₅ H ₃₂ O	1-pentadecanol	629-76-5							
389	C ₁₆ H ₃₄	hexadecane	544-76-3	-373.31	82.65	51.21	51.84	294.11	298.15	<u>0.0</u>
390	C ₁₆ H ₃₄	2,2,4,4,6,8,8-heptamethylnonane	4390-04-9							
391	C ₁₆ H ₃₄ O	1-hexadecanol	4485-13-6				<u>34.29</u>			
392	C ₁₇ H ₃₆	heptadecane	629-78-7	-393.94	90.93	52.89	<u>40.50</u>	310.45	298.15	<u>0.0</u>
393	C ₁₇ H ₃₆ O	1-heptadecanol	1454-85-9	<u>-546.30</u>	<u>-44.67</u>					
394	C ₁₈ H ₁₄	1,2-diphenylbenzene	84-15-1							
395	C ₁₈ H ₁₄	1,3-diphenylbenzene	92-06-8							
396	C ₁₈ H ₁₄	1,4-diphenylbenzene	92-94-4				<u>35.50</u>			<u>0.7</u>
397	C ₁₈ H ₃₈	octadecane	593-45-3	-414.57	99.21	54.46	<u>61.39</u>	326.66	298.15	<u>0.0</u>
398	C ₁₈ H ₃₈ O	1-octadecanol	112-92-5	<u>-566.90</u>	<u>-36.22</u>					<u>1.7</u>
399	C ₁₉ H ₄₀	nonadecane	629-92-5	<u>-435.20</u>	<u>107.49</u>	56.02	45.82	343.25	298.15	<u>0.0</u>
400	C ₁₉ H ₄₀ O	1-nonadecanol	1454-84-8							
401	C ₂₀ H ₄₂	eicosane	112-95-8	-455.83	115.77	57.49	69.87	361.18	298.15	<u>0.0</u>
402	C ₂₀ H ₄₂ O	1-eicosanol	629-96-9	<u>-608.10</u>	<u>-19.43</u>					
403	C ₂₁ H ₄₄	heneicosane	629-94-7				<u>47.70</u>	<u>381.11</u>	313.15	<u>0.0</u>
404	C ₂₂ H ₄₆	docosane	629-97-0				<u>49.96</u>	<u>399.14</u>	318.15	<u>0.0</u>

405	C ₂₃ H ₄₈	tricosane	638-67-5				41.76			0.0
406	C ₂₄ H ₅₀	tetracosane	646-31-1				<u>54.89</u>	<u>434.96</u>	324.25	<u>0.0</u>
407	ClD	deuterium chloride	7698-05-7	-93.33	-95.93			<u>31.02</u>	193.15	
408	ClFO ₃	perchloryl fluoride	7616-94-6	-21.44	<u>50.62</u>	<u>19.33</u>		62.70	243.15	<u>0.0</u>
409	ClF ₅	chlorine pentafluoride	13637-63-3	<u>-238.49</u>	<u>-147.11</u>			73.41	298.15	
410	ClH	hydrogen chloride	7647-01-0	-92.31	-95.19	<u>16.15</u>		30.28	183.15	<u>1.1</u>
411	ClH ₄ N	ammonium chloride	12125-02-9							
412	ClNO	nitrogen oxychloride	2696-92-6	<u>51.71</u>	<u>65.97</u>	<u>25.78</u>		<u>46.10</u>	261.00	<u>1.8</u>
413	Cl ₂	chlorine	7782-50-5	0.00	0.00	<u>20.41</u>		<u>45.36</u>	239.00	<u>0.0</u>
414	DH	deuterium hydride	13983-20-5	0.32	-1.46	1.08	0.16			<u>0.0</u>
415	DI	deuterium iodide	14104-45-1	26.23	1.84			<u>46.04</u>	237.00	
416	D ₂	deuterium	7782-39-0	0.00	0.00	1.23	0.20	<u>24.41</u>	22.70	<u>0.0</u>
417	D ₂	deuterium, normal	800000-54-8	0.00	0.00	1.23	0.20			<u>0.0</u>
418	D ₂ O	deuterium oxide	7789-20-0	-249.20	-234.53	41.46	6.38	18.13	298.15	<u>1.9</u>
419	D ₂ S	deuterium sulfide	13536-94-2	-23.89	-35.39	18.85	2.37			
420	D ₃ N	trideuteroammonia	13550-49-7	-64.28	-31.69					
421	D ₃ P	trideutero phosphine	13537-03-6							
422	FH	hydrogen fluoride	7664-39-3	-273.30	-275.40			<u>20.69</u>	293.15	<u>1.8</u>
423	FNO ₂	nitrogen dioxyfluoride	10022-50-1	-108.78	-66.55	<u>18.05</u>				<u>0.5</u>
424	F ₂	fluorine	7782-41-4	0.00	0.00	<u>6.62</u>		<u>25.16</u>	85.00	<u>0.0</u>
425	F ₂ HN	difluoroamine	10405-27-3							<u>1.9</u>
426	F ₂ N ₂	cis-difluorodiazene	13812-43-6	74.89	114.89					<u>0.2</u>
427	F ₂ N ₂	trans-difluorodiazene	13776-62-0	<u>81.17</u>	<u>120.35</u>					<u>0.0</u>
428	F ₂ O	oxygen difluoride	7783-41-7	24.70	42.01	<u>11.09</u>		34.93	123.15	<u>0.2</u>
429	F ₂ Xe	xenon difluoride	13709-36-9					<u>54.09</u>	298.15	<u>0.0</u>
430	F ₃ N	nitrogen trifluoride	7783-54-2	-129.70	-88.29	<u>11.56</u>		<u>46.11</u>	144.00	<u>0.2</u>
431	F ₃ NO	trifluoroamine oxide	13847-65-9	-163.30	-96.46					
432	F ₄ N ₂	tetrafluorohydrazine	10036-47-2	-8.37	<u>79.66</u>	<u>13.27</u>		<u>69.34</u>	163.00	<u>0.3</u>
433	F ₄ S	sulfur tetrafluoride	7783-60-0	-774.04	-731.01	<u>26.44</u>		<u>55.82</u>	195.00	<u>1.0</u>
434	F ₄ Xe	xenon tetrafluoride	13709-61-0	-187.60				<u>68.41</u>	298.15	<u>0.0</u>
435	F ₆ S	sulfur hexafluoride	2551-62-4	-1220.89	-1117.09			<u>79.81</u>	223.15	<u>0.0</u>
436	F ₆ U	uranium hexafluoride	7783-81-5	-2139.00	-2060.00					<u>0.0</u>
437	HI	hydrogen iodide	10034-85-2	26.50	1.70	<u>19.76</u>		46.06	243.15	<u>0.5</u>
438	H ₂	hydrogen	1333-74-0	0.00	0.00	0.89	0.12	<u>28.39</u>	20.00	<u>0.0</u>

Section B Basic Constants II (*Continued*)

No.	Formula	Name	CAS #	DelHf0, kJ/mol	DelGf0, kJ/mol	DelHb, kJ/mol	DelHm, kJ/mol	V liq, cm ³ /mol	T liq, K	Dipole, Debye
439	H ₂	hydrogen, normal	800000-51-5	0.00	0.00	0.90	0.12			<u>0.0</u>
440	H ₂ O	water	7732-18-5	-241.81	-228.42	40.66	6.01	18.07	298.15	<u>1.8</u>
441	H ₂ S	hydrogen sulfide	7783-06-4	-20.63	-33.43	18.68	2.38	34.32	214.00	<u>0.9</u>
442	H ₂ S ₂	dihydrogen disulfide	13465-07-1	15.52	-1.67	35.10	7.53	49.85	298.15	
443	H ₂ S ₃	dihydrogen trisulfide	13845-23-3					66.23	298.15	
444	H ₂ S ₄	dihydrogen tetrasulfide	13845-25-5					82.66	298.15	
445	H ₂ S ₅	dihydrogen pentasulfide	13845-24-4							
446	H ₂ Se	hydrogen selenide	7783-07-5			19.70		38.20	231.00	
447	H ₃ N	ammonia	7664-41-7	-45.94	-16.41	23.35	5.66	24.96	239.15	<u>1.5</u>
448	H ₃ P	phosphine	7803-51-2	5.44	13.44	14.60		45.57	183.15	<u>0.6</u>
449	H ₄ N ₂	hydrazine	302-01-2	95.40	159.38	44.77	12.66	31.79	293.15	<u>3.0</u>
450	He	helium	7440-59-7	0.00	0.00	0.08		32.54	4.30	<u>0.0</u>
451	He	helium-3	14762-55-1	0.00	0.00					<u>0.0</u>
452	I ₂	iodine	7553-56-2	62.42	19.33	41.57		67.86	453.00	<u>1.3</u>
453	Kr	krypton	7439-90-9	0.00	0.00	9.08		34.63	120.00	<u>0.0</u>
454	NO	nitrogen monoxide (nitric oxide)	10102-43-9	90.25	86.58	13.78	2.30	23.44	121.00	<u>0.2</u>
455	N ₂	nitrogen	7727-37-9	0.00	0.00	5.58	0.72	34.84	78.00	<u>0.0</u>
456	N ₂ O	dinitrogen oxide (nitrous oxide)	10024-97-2	82.05	104.18	16.55	6.54	35.90	184.00	<u>0.2</u>
457	N ₂ O ₄	dinitrogen tetroxide (nitrogen dioxide)	10544-72-6	9.16	97.85	29.00	14.65	63.59	293.15	
458	Ne	neon	7440-01-9	0.00	0.00	1.71		16.76	27.00	<u>0.0</u>
459	OT ₂	tritium oxide	14940-65-9	-249.37	-226.24			18.15	298.15	
460	O ₂	oxygen	7782-44-7	0.00	0.00	6.82	0.44	27.85	90.00	<u>0.0</u>
461	O ₂ S	sulfur dioxide	7446-09-5	-296.81	-300.14	24.94	7.40	44.03	263.15	<u>1.6</u>
462	O ₃	ozone	10028-15-6	142.70	163.10	14.20		35.40	161.00	<u>0.6</u>
463	O ₃ S	sulfur trioxide	7446-11-9	-395.72	-370.93	40.69	7.53	42.10	298.15	
464	Rn	radon	10043-92-2	0.00	0.00			50.46	211.15	<u>0.0</u>
465	S	sulfur	7704-34-9	276.98	236.50	10.46	1.61			<u>0.0</u>
466	Se	selenium	7782-49-2	0.00	0.00	95.48				<u>0.0</u>
467	T ₂	tritium	10028-17-8	0.00	0.00					<u>0.0</u>
468	Xe	xenon	7440-63-3	0.00	0.00	12.57		42.91	165.00	<u>0.0</u>