

Ions That Form <i>Soluble</i> Compounds	Exceptions
Li^+ NH_4^+	
NO_3^-	
ClO_4^-	

Table H
Vapor Pressure of Four Liquids

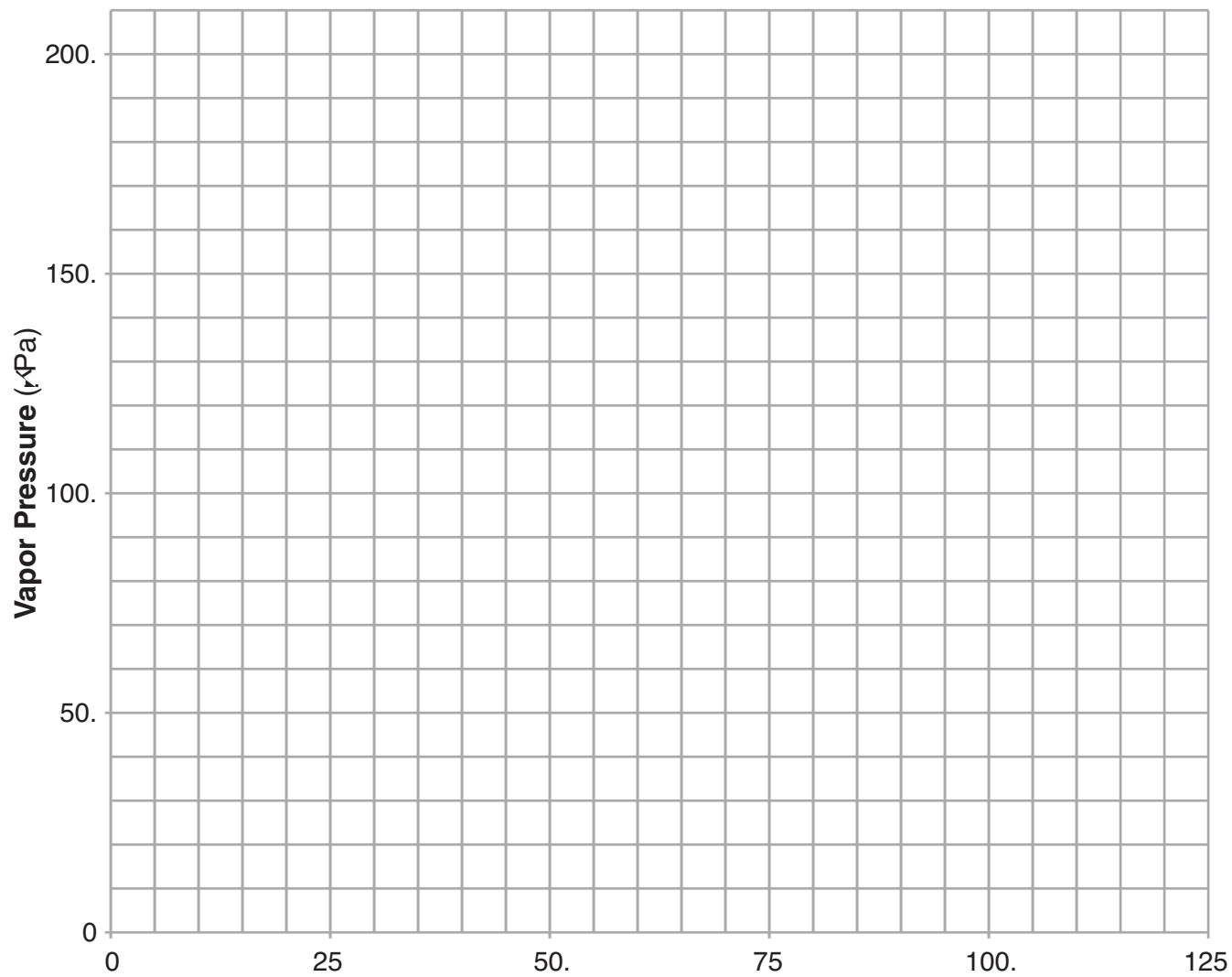


Table I
Heats of Reaction at 101.3 kPa and 298 K

Reaction	ΔH (kJ)*
<div style="text-align: center; margin-top: 20px;"> </div>	

Table J
Activity Series**

Table K
Common Acids

Table N

Table L
Common Bases

Table O

Name	General Formula	Examples	
		Name	Structural Formula
/ / /		/ / /	
/ / /		/ / /	
/ / /		/ / /	

Table R
Organic Functional Groups

Class of Compound	Functional Group	General Formula	Example
		R	
		R	
		R	
		R R'	
		R R'	

Periodic Table of the Elements

Period	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1	1.00794 1 H 1																		4.00260 2 He 2

KEY

A I Ma → ← S O i a i . S a
S → R a a a i a a a a
A I N → Note: N i a a
E C i a i → a a

12.011	-4	+2	+4
C			
6			
2-4			

2	6.941 3 2-1 Li 3	+1 4 2-2 Be 4																		
3	22.98977 11 2-8-1 Na 11	+1 24.305 2-8-2 Mg 12																		
4	39.0983 19 2-8-8-1 K 19	+1 40.08 2-8-2 Ca 20	+2 44.9559 2-8-9-2 Sc 21	+2 50.9415 2-8-11-2 V 23	+2 51.996 2-8-13-1 Cr 24	+2 54.9380 2-8-13-2 Mn 25	+2 55.845 2-8-14-2 Fe 26	+2 58.9332 2-8-15-2 Co 27	+2 58.9332 2-8-15-2 Co 27	+2 58.9332 2-8-15-2 Co 27	+2 58.9332 2-8-15-2 Co 27	+2 58.9332 2-8-15-2 Co 27	+2 58.9332 2-8-15-2 Co 27	+2 58.9332 2-8-15-2 Co 27	+2 58.9332 2-8-15-2 Co 27	+2 58.9332 2-8-15-2 Co 27	+2 58.9332 2-8-15-2 Co 27	+2 58.9332 2-8-15-2 Co 27	+2 58.9332 2-8-15-2 Co 27	+2 58.9332 2-8-15-2 Co 27

5	85.4678 37 2-8-18-8-1 Rb 37	+1 87.62 2-8-18-8-2 Sr 38	+2 132.905 2-8-18-9-2 Ba 56	+2 137.33 2-8-18-9-2 La 57	+2 138.9055 2-8-18-9-2 Ac 89	+2 178.49 2-8-18-10-2 Hf 72	+2 178.49 2-8-18-10-2 Zr 40	+2 180.948 2-8-18-10-2 Ta 73	+2 180.948 2-8-18-10-2 Nb 41	+2 186.207 2-8-18-13-2 W 74	+2 186.207 2-8-18-13-2 Re 75	+2 190.23 2-8-18-15-1 Os 76	+2 190.23 2-8-18-15-1 Ru 44	+2 192.227 2-8-18-16-1 Ir 77	+2 192.227 2-8-18-16-1 Rh 45	+2 195.08 2-8-18-17-1 Pt 78	+2 195.08 2-8-18-17-1 Au 79	+2 196.967 2-8-18-18-1 Ag 47	+2 196.967 2-8-18-18-1 Cd 48	+2 200.59 2-8-18-18-2 Hg 80	+2 200.59 2-8-18-18-2 Pb 82	+2 204.383 2-8-18-18-3 Tl 81	+2 204.383 2-8-18-18-3 Pb 82	+2 207.2 2-8-18-18-4 Sn 50	+2 207.2 2-8-18-18-4 Sb 51	+2 208.980 2-8-18-18-5 Bi 83	+2 208.980 2-8-18-18-5 Po 84	+2 210 2-8-18-18-7 At 85	+2 210 2-8-18-18-7 I 53	+2 216.998 2-8-18-18-8 Xe 54	+2 216.998 2-8-18-18-8 Rn 86							
6	132.905 55 2-8-18-18-8-1 Cs 55	+1 87.62 2-8-18-8-2 Sr 38	+2 132.905 2-8-18-9-2 Ba 56	+2 137.33 2-8-18-9-2 La 57	+2 138.9055 2-8-18-9-2 Ac 89	+2 178.49 2-8-18-10-2 Hf 72	+2 178.49 2-8-18-10-2 Zr 40	+2 180.948 2-8-18-10-2 Ta 73	+2 180.948 2-8-18-10-2 Nb 41	+2 186.207 2-8-18-13-2 W 74	+2 186.207 2-8-18-13-2 Re 75	+2 190.23 2-8-18-15-1 Os 76	+2 190.23 2-8-18-15-1 Ru 44	+2 192.227 2-8-18-16-1 Ir 77	+2 192.227 2-8-18-16-1 Rh 45	+2 195.08 2-8-18-17-1 Pt 78	+2 195.08 2-8-18-17-1 Au 79	+2 196.967 2-8-18-18-1 Ag 47	+2 196.967 2-8-18-18-1 Cd 48	+2 200.59 2-8-18-18-2 Hg 80	+2 200.59 2-8-18-18-2 Pb 82	+2 204.383 2-8-18-18-3 Tl 81	+2 204.383 2-8-18-18-3 Pb 82	+2 207.2 2-8-18-18-4 Sn 50	+2 207.2 2-8-18-18-4 Sb 51	+2 208.980 2-8-18-18-5 Bi 83	+2 208.980 2-8-18-18-5 Po 84	+2 210 2-8-18-18-7 At 85	+2 210 2-8-18-18-7 I 53	+2 216.998 2-8-18-18-8 Xe 54	+2 216.998 2-8-18-18-8 Rn 86							
7	87 2-8-32-18-8-1 Fr 87	+1 88 2-8-32-18-8-2 Ra 88	+2 132.905 2-8-18-9-2 Ba 56	+2 137.33 2-8-18-9-2 La 57	+2 138.9055 2-8-18-9-2 Ac 89	+2 178.49 2-8-18-10-2 Hf 72	+2 178.49 2-8-18-10-2 Zr 40	+2 180.948 2-8-18-10-2 Ta 73	+2 180.948 2-8-18-10-2 Nb 41	+2 186.207 2-8-18-13-2 W 74	+2 186.207 2-8-18-13-2 Re 75	+2 190.23 2-8-18-15-1 Os 76	+2 190.23 2-8-18-15-1 Ru 44	+2 192.227 2-8-18-16-1 Ir 77	+2 192.227 2-8-18-16-1 Rh 45	+2 195.08 2-8-18-17-1 Pt 78	+2 195.08 2-8-18-17-1 Au 79	+2 196.967 2-8-18-18-1 Ag 47	+2 196.967 2-8-18-18-1 Cd 48	+2 200.59 2-8-18-18-2 Hg 80	+2 200.59 2-8-18-18-2 Pb 82	+2 204.383 2-8-18-18-3 Tl 81	+2 204.383 2-8-18-18-3 Pb 82	+2 207.2 2-8-18-18-4 Sn 50	+2 207.2 2-8-18-18-4 Sb 51	+2 208.980 2-8-18-18-5 Bi 83	+2 208.980 2-8-18-18-5 Po 84	+2 210 2-8-18-18-7 At 85	+2 210 2-8-18-18-7 I 53	+2 216.998 2-8-18-18-8 Xe 54	+2 216.998 2-8-18-18-8 Rn 86							
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S : C H N C m p j , 91 , 2010 2011, CRC P

**Table S
Properties of Selected Elements**

Atomic Number	Symbol	Name	First Ionization Energy	Electro-negativity	Melting Point	Boiling Point	Density**	Atomic Radius
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								

Table T
Important Formulas and Equations

Density	$\rho = \frac{m}{V}$
Mole Calculations	$n = \frac{m}{M}$
Percent Error	$\% \text{ Error} = \frac{ \text{Experimental} - \text{Theoretical} }{\text{Theoretical}} \times 100$
Percent Composition	$\% \text{ Composition} = \frac{\text{mass of element}}{\text{molar mass}} \times 100$
Concentration	$M = \frac{n}{V}$
	$m = \rho \times V$
Combined Gas Law	$\frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2}$
Titration	$M_A V_A = M_B V_B$
Heat	$Q = C \Delta T$ $H = C \times m \times \Delta T$ $H = H_f + H_v + H_c$
Temperature	$T(^{\circ}\text{C}) = T(^{\circ}\text{F}) - 32 \times \frac{5}{9}$