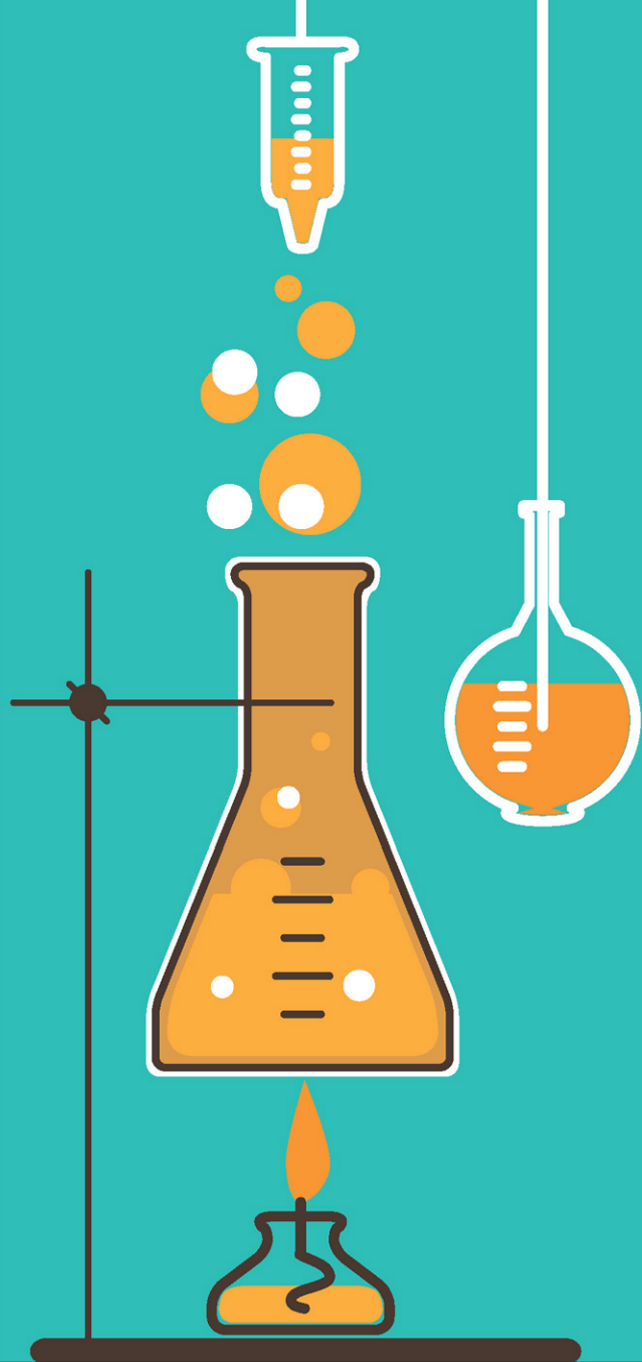


GLOBAL
EDITION



Introductory Chemistry Essentials

SIXTH EDITION in SI Units

Nivaldo J. Tro



Periodic Table of the Elements

GROUP											
1											
1A											
PERIOD	1	1 H 1.01 hydrogen	2 He 4.00 helium								
	2	3 Li 6.94 lithium	4 Be 9.01 beryllium								
	3	11 Na 22.99 sodium	12 Mg 24.31 magnesium	3 B 10.81 boron	4 C 12.01 carbon	5 N 14.01 nitrogen	6 O 16.00 oxygen	7 F 18.99 fluorine	8 Ne 20.18 neon	9 Ar 39.95 argon	
	4	19 K 39.10 potassium	20 Ca 40.08 calcium	21 Sc 44.96 scandium	22 Ti 47.88 titanium	23 V 50.94 vanadium	24 Cr 52.00 chromium	25 Mn 54.94 manganese	26 Fe 55.85 iron	27 Co 58.93 cobalt	
	5	37 Rb 85.47 rubidium	38 Sr 87.62 strontium	39 Y 88.91 yttrium	40 Zr 91.22 zirconium	41 Nb 92.91 niobium	42 Mo 95.95 molybdenum	43 Tc (99) technetium	44 Ru 101.07 ruthenium	45 Rh 102.91 rhodium	
	6	55 Cs 132.91 cesium	56 Ba 137.33 barium	57 La 138.91 lanthanum	72 Hf 178.49 hafnium	73 Ta 180.95 tantalum	74 W 183.85 tungsten	75 Re 186.21 rhenium	76 Os 190.23 osmium	77 Ir 192.22 iridium	
	7	87 Fr (223) francium	88 Ra (226) radium	89 Ac (227) actinium	104 Rf (261) rutherfordium	105 Db (262) dubnium	106 Sg (263) seaborgium	107 Bh (262) bohrium	108 Hs (265) hassium	109 Mt (266) meitnerium	
Lanthanide series		58 Ce 140.12 cerium	59 Pr 140.91 praseodymium	60 Nd 144.24 neodymium	61 Pm (147) promethium	62 Sm 150.36 samarium	63 Eu 151.97 europium				
Actinide series		90 Th (232) thorium	91 Pa (231) protactinium	92 U (238) uranium	93 Np (237) neptunium	94 Pu (244) plutonium	95 Am (243) americium				

1 — Atomic number
H — Element symbol
 1.01 — Atomic mass*
 hydrogen — Element name

*The mass number of an important radioactive isotope—not the atomic mass—is shown in parentheses for those elements with no stable isotopes.

								18
								8A
			13	14	15	16	17	2
			3A	4A	5A	6A	7A	He
								4.00 helium
			5	6	7	8	9	10
			B	C	N	O	F	Ne
			10.81 boron	12.01 carbon	14.01 nitrogen	16.00 oxygen	19.00 fluorine	20.18 neon
10	11	12	13	14	15	16	17	18
8B	1B	2B	Al	Si	P	S	Cl	Ar
			26.98 aluminum	28.09 silicon	30.97 phosphorus	32.06 sulfur	35.45 chlorine	39.95 argon
28	29	30	31	32	33	34	35	36
Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
58.69 nickel	63.55 copper	65.39 zinc	69.72 gallium	72.63 germanium	74.92 arsenic	78.97 selenium	79.90 bromine	83.80 krypton
46	47	48	49	50	51	52	53	54
Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
106.42 palladium	107.87 silver	112.41 cadmium	114.82 indium	118.71 tin	121.75 antimony	127.60 tellurium	126.90 iodine	131.29 xenon
78	79	80	81	82	83	84	85	86
Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
195.08 platinum	196.97 gold	200.59 mercury	204.38 thallium	207.2 lead	208.98 bismuth	(209) polonium	(210) astatine	(222) radon
110	111	112	113	114	115	116	117	118
Ds	Rg	Cn	Nh	Fl	Mc	Lv	Ts	Og
(281) darmstadtium	(280) roentgenium	(285) copernicium	(284) nihonium	(289) flerovium	(289) moscovium	(293) livermorium	(294) tennessine	(294) oganeson

64	65	66	67	68	69	70	71
Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
157.25 gadolinium	158.93 terbium	162.50 dysprosium	164.93 holmium	167.26 erbium	168.93 thulium	173.04 ytterbium	174.97 lutetium
96	97	98	99	100	101	102	103
Cm	Bk	Cf	Es	Fm	Md	No	Lr
(247) curium	(247) berkelium	(251) californium	(252) einsteinium	(257) fermium	(258) mendelevium	(259) nobelium	(260) lawrencium

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INTRODUCTORY
CHEMISTRY
ESSENTIALS

SIXTH EDITION

in SI Units

Nivaldo J. Tro



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To Annie

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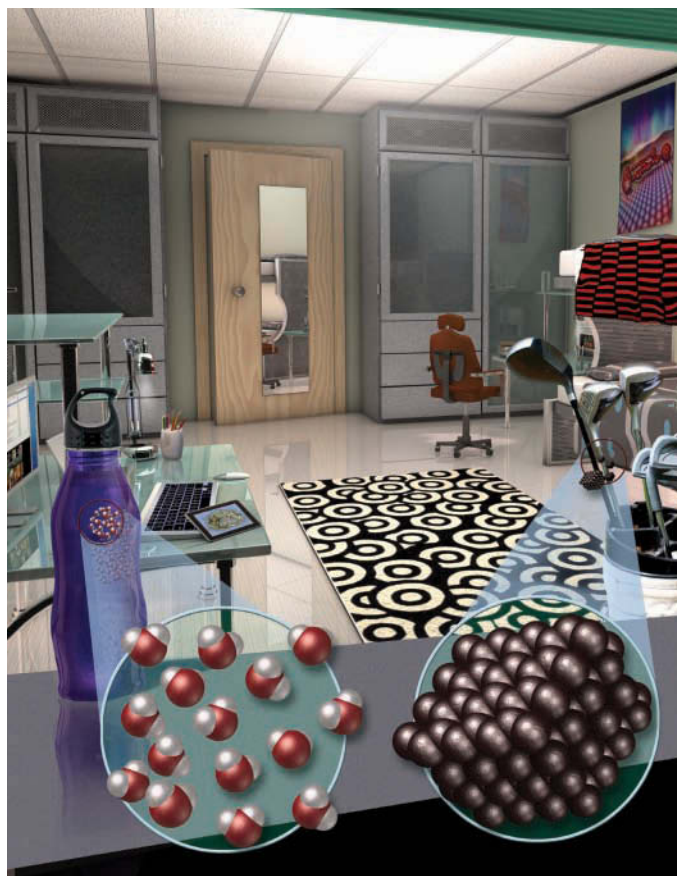
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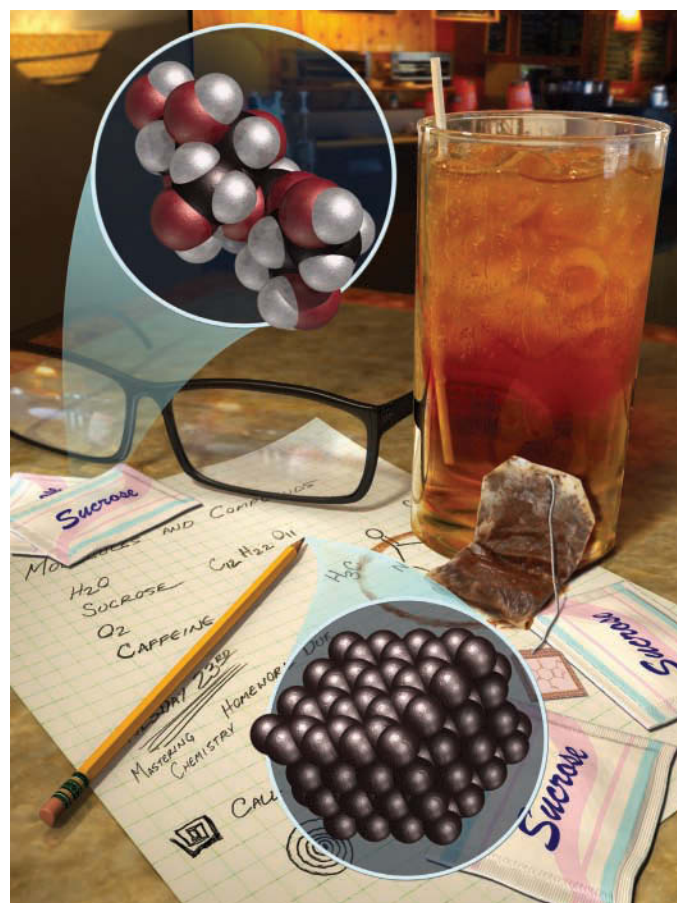
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