

$$\frac{1}{[X]} = \frac{1}{[X]_0} + kt$$

$$E = E^\circ - \frac{RT}{nF} \ln Q = E^\circ - \frac{0.0592}{n} \log Q \text{ (at 25 } ^\circ\text{C)}$$

$$R = 8.3145 \text{ J mol}^{-1} \text{ K}^{-1} = 0.08206 \text{ L atm mol}^{-1} \text{ K}^{-1}$$

$$0\text{ }^{\circ}\text{C} = 273.15\text{ K}$$

IA		IIA																				IIIA		IVA		VA		VIA		VIIA		VIIIA						
1 H 1.00794																										2 He 4.00260												
3 Li 6.941		4 Be 9.01218												5 B 10.81		6 C 12.011		7 N 14.0067		8 O 15.9994		9 F 18.9884		10 Ne 20.1797														
11 Na 22.9898		12 Mg 24.305		IIIB		IVB		VB		VIB		VIIB		VIII B		IB		IIB		13 Al 26.9815		14 Si 28.0855		15 P 30.9738		16 S 32.066		17 Cl 35.453		18 Ar 39.948								
19 K 39.0983		20 Ca 40.078		21 Sc 44.9559		22 Ti 47.88		23 V 50.9415		24 Cr 51.996		25 Mn 54.9380		26 Fe 55.847		27 Co 58.9332		28 Ni 58.69		29 Cu 63.546		30 Zn 65.39		31 Ga 69.72		32 Ge 72.61		33 As 74.9216		34 Se 78.96		35 Br 79.904		36 Kr 83.80				
37 Rb 85.4678		38 Sr 87.62		39 Y 88.9059		40 Zr 91.224		41 Nb 92.9064		42 Mo 95.94		43 Tc (98)		44 Ru 101.07		45 Rh 102.906		46 Pd 106.42		47 Ag 107.868		48 Cd 112.41		49 In 114.82		50 Sn 118.710		51 Sb 121.757		52 Te 127.60		53 I 126.905		54 Xe 131.29				
55 Cs 132.905		56 Ba 137.33		57 La 138.906		72 Hf 178.49		73 Ta 180.948		74 W 183.85		75 Re 186.207		76 Os 190.2		77 Ir 192.22		78 Pt 195.08		79 Au 196.967		80 Hg 200.59		81 Tl 204.383		82 Pb 207.2		83 Bi 208.980		84 Po (209)		85 At (210)		86 Rn (222)				
87 Fr (223)		88 Ra 226.025		89 Ac 227.028		104 Rf (261)		105 Db (262)		106 Sg (266)		107 Bh (264)		108 Hs (265)		109 Mt (268)																						
58 Ce 140.12		59 Pr 140.908		60 Nd 144.24		61 Pm (145)		62 Sm 150.36		63 Eu 151.96		64 Gd 157.25		65 Tb 158.925		66 Dy 162.50		67 Ho 164.930		68 Er 167.26		69 Tm 168.934		70 Yb 173.04		71 Lu 174.967												
90 Th 232.038		91 Pa 231.036		92 U 238.029		93 Np 237.048		94 Pu (244)		95 Am (243)		96 Cm (247)		97 Bk (247)		98 Cf (251)		99 Es (252)		100 Fm (257)		101 Md (258)		102 No (259)		103 Lr (260)												