

PERIODIC TABLE OF THE ELEMENTS

Table of Selected Radioactive Isotopes

GROUP IA

1 1.0079
20.268 1
14.025
0.0899*
Hydrogen

IIA

3 6.941
1615 1
453.7
0.53
Lithium

Beryllium

4 9.01218
2745 2
1560
1.85

Boron

11 22.98977
1156 1
371.0
0.97
Sodium

Magnesium

12 24.305
1363 2
922
1.74

Aluminum

III A

Scandium

Titanium

Vanadium

Chromium

Manganese

Iron

Cobalt

Nickel

Copper

Zinc

Gallium

Arsenic

Selenium

Bromine

Krypton

Xenon

Argon

Neon

Hydrogen

Helium

Lithium

Boron

Aluminum

Scandium

Titanium

Vanadium

Chromium

Manganese

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Cobalt

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Hydrogen

Helium

Lithium

Boron

TABLE OF PERIODIC PROPERTIES OF THE ELEMENTS

Percent Ionic Character of a Single Chemical Bond

GROUP IA

H	
0.32	2.20
0.79	0.44936
14.4	0.05868
13.58	—
14.304	0.001815

IIA

Li		Be	
1.23	0.98	0.90	1.57
2.05	14.920	5.0	12.20
13.10	3.00	—	—
5.392	0.168	9.322	0.312
3.6	0.847	1.82	2.00

Na		Mg	
1.54	0.93	1.36	1.31
2.23	96.960	1.72	127.40
23.7	2.598	13.97	8.954
5.139	0.161	7.646	0.239
1.23	1.41	1.02	1.56

DATA CONCERNING THE MORE STABLE ELEMENTARY (SUBATOMIC) PARTICLES

Symbol	Neutron	Proton	Electron*	Neutrino*	Photon
Rest mass (kg)	1.67495×10^{-37}	1.67265×10^{-37}	9.1095×10^{-31}	~0	0
Relative atomic mass ($^{12}\text{C} = 12$)	1.008665	1.007276	5.48580×10^{-4}	~0	0
Charge (C)	0	1.60219×10^{-19}	-1.60219×10^{-19}	0	0
Radius (m)	8×10^{-16}	8×10^{-16}	$< 1 \times 10^{-16}$	~0	0
Spin quantum number	1/2	1/2	1/2	1/2	1
Magnetic Moment†	-1.913 μ_N	2.793 μ_N	1.001 μ_B	0	0

* The positron (e^+) has properties similar to those of the (negative) electron or beta particle except that its charge has opposite sign (+). The antineutrino ($\bar{\nu}$) has properties similar to those of the neutrino except that its spin (or rotation) is opposite in relation to its direction of propagation.
† An antineutrino accompanies release of an electron in radioactive β^- (particle) decay, whereas neutrino accompanies the release of a positron in β^+ decay.

† μ_B =Bohr magneton and μ_N =Nuclear magneton.

III A

IV A

V A

VIA

VIIA

The position (e^+) has properties similar to those of the (negative) electron or beta particle except that its charge has opposite sign (+). The antineutrino ($\bar{\nu}$) has properties similar to those of the neutrino except that its spin (or rotation) is opposite in relation to its direction of propagation.
An antineutrino accompanies release of an electron in radioactive β^- (particle) decay, whereas neutrino accompanies the release of a positron in β^+ decay.

† μ_B =Bohr magneton and μ_N =Nuclear magneton.

VIII A

VIIIA

IB

IIB

Ga

Ge

As

Se

Br

Kr

I

Xe

Rn

At

Fr

Ra

Ac

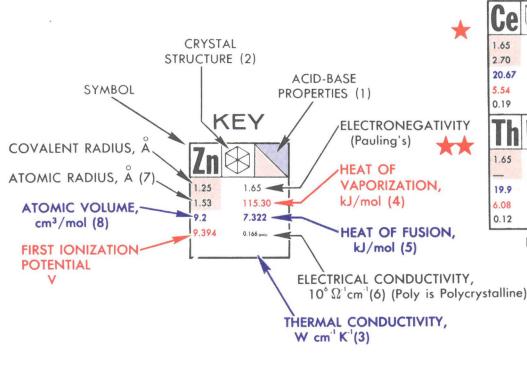
Unq

Unp

Unh

The names and symbols of elements 104 - 106 are those recommended by IUPAC as systematic alternatives to those suggested by the purported discoverers. Berkeley (USA) researchers have proposed Rutherfordium, Rf, for element 104 and Hahnium, Ha, for element 105. Dubna (USSR) researchers, who also claim the discovery of these elements have proposed different names (and symbols).

Fr		Ra		Ac		Unq	Unp	Unh
—	0.7	—	0.9	—	1.1	—	—	—
—	—	45.20	—	22.54	—	—	—	—
—	—	5.29	—	5.17	—	—	—	—
—	0.15*	—	0.186*	—	0.12*	—	—	—



Difference in electronegativity	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2
Percent ionic character %	0.5	1	2	4	6	9	12	15	19	22	26	30	34	39	43	47	51	55	59	63	67	70	74	76	79	82	84	86	88	89	91	92

IIIIB	IVB	VB	VIB	VIIIB
B	C	N	O	F
0.82	2.04	0.77	0.75	0.72
1.17	489.70	0.91	355.80	0.71
4.6	50.20	4.58	—	—
8.298	10^{17}	11.260	17.3	14.0
0.90	2.070	0.71	1.04	0.000298
102	—	—	—	0.82
1.18	1.61	1.11	1.25	0.98
1.82	293.40	1.46	384.220	—
10.0	10.790	12.1	12.19	10.20
5.986	0.377	8.151	2.52x10 ¹⁷	2.85
0.90	2.37	0.71	1.48	0.000279
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