

1 I A

1

1.0079

H

$1s^1$

Hydrogen

2 IIA

3

6.941

Li

$[He]2s^1$

Lithium

4

9.0122

Be

$[He]2s^2$

Beryllium

11

22.990

Na

$[Ne]3s^1$

Sodium

12

24.305

Mg

$[Ne]3s^2$

Magnesium

3 IIIA

4 IVB

5 VB

6 VIB

7 VIIB

8 VIIIB

9 VIIIB

10 VIIIB

11 IB

12 IIB

19

39.098

K

$[Ar]4s^1$

Potassium

20

40.078

Ca

$[Ar]4s^2$

Calcium

21

44.956

Sc

$[Ar]3d^1 4s^2$

Scandium

22

47.867

Ti

$[Ar]3d^2 4s^2$

Titanium

23

50.942

V

$[Ar]3d^3 4s^2$

Vanadium

24

51.996

Cr

$[Ar]3d^5 4s^1$

Chromium

25

54.938

Mn

$[Ar]3d^5 4s^2$

Manganese

26

55.845

Fe

$[Ar]3d^6 4s^2$

Iron

27

58.933

Co

$[Ar]3d^7 4s^2$

Cobalt

28

58.693

Ni

$[Ar]3d^8 4s^2$

Nickel

29

63.546

Cu

$[Ar]3d^{10} 4s^1$

Copper

30

65.39

Zn

$[Ar]3d^{10} 4s^2$

Zinc

31

69.723

Ga

$[He]2s^2 p^1$

Gallium

32

72.64

Ge

$[Ar]3d^{10} 4s^2 p^2$

Germanium

33

74.922

As

$[Ar]3d^{10} 4s^2 p^3$

Arsenic

34

78.96

Se

$[Ar]3d^{10} 4s^2 p^4$

Selenium

35

79.904

Br

$[Ar]3d^{10} 4s^2 p^5$

Bromine

36

83.8

Kr

$[Ar]3d^{10} 4s^2 p^6$

Krypton

37

85.468

Rb

$[Kr]5s^1$

Rubidium

38

87.62

Sr

$[Kr]5s^2$

Strontium

39

88.906

Y

$[Kr]4d^1 5s^2$

Yttrium

40

91.224

Zr

$[Kr]4d^2 5s^2$

Zirconium

41

92.906

Nb

$[Kr]4d^4 5s^1$

Niobium

42

95.94

Mo

$[Kr]4d^5 5s^1$

Molybdenum

43

96

Tc

$[Kr]4d^5 5s^2$

Technetium

44

101.07

Ru

$[Kr]4d^6 5s^1$

Ruthenium

45

102.91

Rh

$[Kr]4d^7 5s^1$

Rhodium

46

106.42

Pd

$[Kr]4d^{10}$

Palladium

47

107.87

Ag

$[Kr]4d^{10} 5s^1$

Silver

48

112.41

Cd

$[Kr]4d^{10} 5s^2$

Cadmium

49

114.82

In

$[Kr]4d^{10} 5s^2 p^1$

Indium

50

118.71

Sn

$[Kr]4d^{10} 5s^2 p^2$

Tin

51

121.76

Sb

$[Kr]4d^{10} 5s^2 p^3$

Antimony

52

127.6

Te

$[Kr]4d^{10} 5s^2 p^4$

Tellurium

53

126.9

I

$[Kr]4d^{10} 5s^2 p^5$

Iodine

54

131.29

Xe

$[Kr]4d^{10} 5s^2 p^6$

Xenon

55

132.91

Cs

$[Xe]6s^1$

Caesium

56

137.33

Ba

$[Xe]6s^2$

Barium

57-71

La-Lu

$[Xe]4f^0 5d^0 6s^2$

Lanthanide

72

178.49

Hf

$[Xe]4f^{14} 5d^2 6s^2$

Hafnium

73

180.95

Ta

$[Xe]4f^{14} 5d^3 6s^2$

Tantalum

74

183.84

W

$[Xe]4f^{14} 5d^4 6s^2$

Tungsten

75

186.21

Re

$[Xe]4f^{14} 5d^5 6s^2$

Rhenium

76

190.23

Os

$[Xe]4f^{14} 5d^6 6s^2$

Osmium

77

192.22

Ir

$[Xe]4f^{14} 5d^7 6s^2$

Iridium

78

195.08

Pt

$[Xe]4f^{14} 5d^9 6s^1$

Platinum

79

196.97

Au

$[Xe]4f^{14} 5d^{10} 6s^1$

Gold

80

200.59

Hg

$[Xe]4f^{14} 5d^{10} 6s^2$

Mercury

81

204.38

Tl

$[Xe]4f^{14} 5d^{10} 6s^2 p^1$

Thallium

82

207.2

Pb

$[Xe]4f^{14} 5d^{10} 6s^2 p^2$

Lead

83

208.98

Bi

$[Xe]4f^{14} 5d^{10} 6s^2 p^3$

Bismuth

84

209

Po

$[Xe]4f^{14} 5d^{10} 6s^2 p^4$

Polonium

85

210

At

$[Xe]4f^{14} 5d^{10} 6s^2 p^5$

Astatine

86

222

Rn

$[Xe]4f^{14} 5d^{10} 6s^2 p^6$

Radon

87

223

Fr

$[Rn]7s^1$

Francium

88

226

Ra

$[Rn]7s^2$

Radium

89-103

Ac-Lr

$[Rn]6d^1 7s^2$

Actinide

104

261

Rf

$[Rn]5f^{14} 6d^2 7s^2$

Rutherfordium

105

262

Db

$[Rn]5f^{14} 6d^3 7s^2$

Dubnium

106

266

Sg

$[Rn]5f^{14} 6d^4 7s^2$

Seaborgium

107

264

Bh

$[Rn]5f^{14} 6d^5 7s^2$

Bohrium

108

277

Hs

$[Rn]5f^{14} 6d^6 7s^2$

Hassium

109

268

Mt

$[Rn]5f^{14} 6d^7 7s^2$

Meitnerium

110

281

Ds

$[Rn]5f^{14} 6d^8 7s^2$

Darmstadtium

111

280

Rg

$[Rn]5f^{14} 6d^9 7s^2$

Roentgenium

112

285

Uub

$[Rn]5f^{14} 6d^{10} 7s^2$

Ununbium

113

284

Uut

$[Rn]5f^{14} 6d^{10} 7s^2 p^1$

Ununtrium

114

289

Uuq

$[Rn]5f^{14} 6d^{10} 7s^2 p^2$

Ununquadium

115

288

Uup

$[Rn]5f^{14} 6d^{10} 7s^2 p^3$

Ununpentium

116

293

Uuh

$[Rn]5f^{14} 6d^{10} 7s^2 p^4$

Ununhexium

117

292

Uus

$[Rn]5f^{14} 6d^{10} 7s^2 p^5$

Ununseptium

118

294

Uuo

$[Rn]5f^{14} 6d^{10} 7s^2 p^6$

Ununoctium

57

138.91

La

$[Xe]5d^1 6s^2$

Lanthanum

58

140.12

Ce

$[Xe]4f^1 5d^1 6s^2$

Cerium

59

140.91

Pr

$[Xe]4f^3 6s^2$

Praseodymium

60

144.24

Nd

$[Xe]4f^4 6s^2$

Neodymium

61

145

Pm

 $[Xe]4f^5 6s^2$ 

Promethium

62

150.36

Sm

 $[Xe]4f^6 6s^2$ 

Samarium

63

151.96

Eu

 $[Xe]4f^7 6s^2$ 

Europium

64

157.25

Gd

 $[Xe]4f^7 5d^1 6s^2$ 

Gadolinium

65

158.93

Tb

 $[Xe]4f^9 6s^2$ 

Terbium

66

162.50

Dy

 $[Xe]4f^{10} 6s^2$ 

Dysprosium

67

164.93

Ho

 $[Xe]4f^{11} 6s^2$ 

Holmium

68

167.26

Er

 $[Xe]4f^{12} 6s^2$ 

Erbium

69

168.93

Tm

 $[Xe]4f^{13} 6s^2$ 

Thulium

70

173.04

Yb

 $[Xe]4f^{14} 6s^2$ 

Ytterbium

71

174.97

Lu

 $[Xe]4f^{14} 5d^1 6s^2$ 

Lutetium

89

227

Ac

$[Rn]6d^1 7s^2$

Actinium

90

232.04

Th

 $[Rn]6d^2 7s^2$ 

Thorium

91

231.04

Pa

 $[Rn]5f^2 6d^1 7s^2$ 

Protactinium

92

238.03

U

 $[Rn]5f^3 6d^1 7s^2$ 

Uranium

93

237

Np

 $[Rn]5f^4 6d^1 7s^2$ 

Neptunium

94

244

Pu

 $[Rn]5f^6 7s^2$ 

Plutonium

95

243

Am

 $[Rn]5f^7 7s^2$ 

Americium

96

247

Cm

 $[Rn]5f^7 6d^1 7s^2$ 

Curium

97

247

Bk

 $[Rn]5f^9 7s^2$ 

Berkelium

98

251

Cf

 $[Rn]5f^{10} 7s^2$ 

Californium

99

252

Es

 $[Rn]5f^{11} 7s^2$ 

Einsteinium

100

257

Fm

 $[Rn]5f^{12} 7s^2$ 

Fermium

101

258

Md

 $[Rn]5f^{13} 7s^2$ 

Mendelevium

102

259

No

 $[Rn]5f^{14} 7s^2$ 

Nobelium

103

262

Lr

 $[Rn]5f^{14} 6d^1 7s^2$ 

Lawrencium

Z

mass

Symbol

orbitals

Name

man-made

18 VIIA

2

4.0025

He

$1s^2$

Helium

13 IIIA

14 IVA

15 VA

16 VIA

17 VIIA

5

10.811

B

$[Ar]3d^{10} 4s^2 p^1$

Boron

6

12.011

C

$[He]2s^2 p^2$

Carbon

7

14.007

N

$[He]2s^2 p^3$

Nitrogen

8

15.999

O

$[He]2s^2 p^4$

Oxygen

9

18.998

F

$[He]2s^2 p^5$

Fluorine

10

20.180

Ne

$[He]2s^2 p^6$

Neon

13

26.982

Al

$[Ne]3s^2 p^1$

Aluminum

14

28.086

Si

$[Ne]3s^2 p^2$

Silicon

15

30.974

P

$[Ne]3s^2 p^3$

Phosphorus

16

32.065

S

$[Ne]3s^2 p^4$

Sulphur

17

35.453

Cl

$[Ne]3s^2 p^5$

Chlorine

18

39.948

Ar

$[Ne]3s^2 p^6$

Argon