Periodic Table of the Elements

$\begin{array}{c} \mathbf{He} \\ \mathbf{Helium} \\ 4.002602(2) \\ \mathbf{Ne} \\ \mathbf{Neon} \\ \mathbf{Neon} \\ \mathbf{Argen} \\ \mathbf{Argen} \\ 39.948(1) \end{array}$	$\frac{3.00}{\mathbf{Kr}}$ 4p Krypton 83.798(2)	$\overset{2.60}{\mathrm{Xe}}$ 5p $\overset{5p}{\mathrm{Xe}}$ Xenon 131.293(6)	$\mathop{\mathbf{Rn}}_{(222)}^{2.2}$ 6 p	$\bigcup_{\substack{\text{Oganesson} \\ (294)}}^{7p}$
16	36 Ks	p 54	98 d9	7p 1
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	— # %	5p 53 2.66 5	$\stackrel{6p}{=} \underset{\text{Astatine}}{\text{85}} \stackrel{2.2}{=} \\ \overset{A}{=} \underset{(210)}{\text{Astatine}}$	$\begin{array}{c c} 7p & \mathbf{T} & \mathbf{T} & \\ & \mathbf{T} & \mathbf{S} & \\ \mathbf{n} & \mathrm{Tennessine} & \\ & (294) & \end{array}$
3.44 Oxygen 5.990377 2.58 Sulphur 059-32.0	34 2.55 4p 35 Selenium F8.971(8) T9.13	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$P_{\text{Olonium}}^{2.0}$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
7 304 2p 8 Ntrogen 14.00643-1 14.00728 Posphorus Posphorus 30.973761998(5) 32.1 32.1 34.0073761998(5) 32.2 34.00973761998(5) 32.00973761998(5) 32.00973761998(5) 32.00973761998(5) 32.00973761998(5) 32.00973761998(5) 32.00973761998(5) 32.00973761998(5) 32.00973761998(5) 32.00973761998(5) 32.00973761998(5) 32.00973761998(5) 32.00973761998(5) 32.00973761998(5) 32.00973761998(5) 32.00973761998(5) 32.00973761998(5) 32.00972761998761998(5) 32.00972761998761998(5) 32.00972761998(5) 32.00972761998(5) 32.00972761998(5) 32.00972761998(5) 32.00972761998(5) 32.00972761998(5) 32.00972761998(5) 32.00972761998(5) 32.00972761998(5) 32.00972761998(5) 32.00972761998(5) 32.00972761998(5) 32.00972761998(5) 32.00972761998(5) 32.00972761998(5) 32.00972761998(5) 32.009727619980(5) 3	$ \underset{\text{Arsenic}}{\mathbf{AS}} \underbrace{2.18}_{\text{ATSeps}} 4p \mid 34$	2.05 Sb atimon	83 2.02 6p 84 Bismuth 10208.98040(1)	$\stackrel{7p}{\text{Moscovium}}$
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c c} 32 & \underline{2.01} & 4p \\ \mathbf{Ge} \\ \mathbf{Germanium} \\ 72.630(8) & 74. \end{array}$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$egin{array}{c c} \mathbf{Ps} & \mathbf{6p} & 83 \\ \mathbf{Pb} & \mathbf{b} \\ \mathbf{Lead} & \mathbf{E} \\ \mathbf{207.2(1)} & 208 \end{array}$	\mathbf{FI} erovium (289)
$\begin{bmatrix} 5 & \frac{2.04}{\mathbf{B}} & 2p \\ \mathbf{B} \\ \text{Boron} \\ 10.806-10.821 \\ \mathbf{A} \\ \mathbf{A} \\ \text{Aluminium} \\ 26.9815385(7) \end{bmatrix} 6$	$\frac{Gallium}{Gallium}$	1.78 Indium 4.818(1	$\prod_{\substack{1.62 \\ \text{Thallium} \\ 204.385}} 6p$	$\stackrel{\text{II3}}{\text{NM}}$ $\stackrel{7p}{\text{Nihonium}}$ FP (286)
	$\sum_{\mathrm{Zinc}}^{30}$ Sinc $\sum_{\mathrm{G5.38(2)}}^{30}$	$egin{array}{c ccccccccccccccccccccccccccccccccccc$	$\mathbf{H}_{\mathrm{Mercury}}^{80-\underline{2.00}-5d}$	
	$\frac{\mathbf{C}_{\mathbf{u}}}{\mathbf{C}_{\mathbf{opper}}}$	$\overset{47}{A}^{2}_{\mathrm{Silver}}^{2}$	$\overset{\mathbf{A}}{\mathbf{A}}\overset{\mathbf{a}}{\mathbf{a}}$	
ell; omic	28 1.91 3d 29 Nickel 58.6934(4)	$\overset{46}{\overset{2.20}{\mathbf{p}}}\overset{4d^*}{\mathbf{pd}}$	$\begin{array}{c c} 78 & \underline{2.28} & 5d^* & 79 \\ \mathbf{Pt} & \mathbf{Pt} & \\ \mathrm{Platinum} & \\ 195.084(9) & 19 \end{array}$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
	Cobalt 58.93194(4)	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\bigvee_{(278)}^{6d} \mathbf{L}$
ivity; ss = subsl w = standard a	26 1.83 3d 27 Feb Iron 55.845(2) 58	\mathbf{Ru}	$ \begin{array}{c c} 76 & \underline{2.2} & 5d \\ \mathbf{OS} \\ \mathbf{Osmium} \\ 190.23(3) \end{array} $	6d 108 6d HS Hassium (269)
: = electronegat ement name, sa	$\overline{\mathrm{NID}}_{\mathrm{Manganese}}^{25}$ 3d Manganese 54.938044(3)	$\frac{43}{\mathbf{\Gamma}\mathbf{c}}$ Technetium (98)	\mathbf{Re}^{75} \mathbf{Re}^{5d} \mathbf{Re}^{76} $\mathbf{Re}^{\mathbf{C}}$	$^{ m bh}_{ m ohrium}$
$Z = \text{atomic number; eneg} = \text{electronegativity; ss} = \text{subshell;} \\ \text{Sy} = \text{Symbol, Name} = \text{element name, saw} = \text{standard atomic} \\ \text{weight}$	$\sqrt{\frac{1.63}{V}} \ \ \ \ \ \ \ \ \ \ \ \ \$	$\overline{\mathbf{Mo}}$ Molybdenum 95.95(1)	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	6d 106 6d 107 Seaborgium B (269)
Z = atom $Sy = Sym$ weight	. 9 1	$\stackrel{41}{\overset{1.6}{\overset{1.6}{\overset{1}{\overset{1}{\overset{1}{\overset{1}{\overset{1}{\overset{1}{\overset{1}{$	5 <i>d</i> 73 1.5 5 <i>d</i> Ta Tantalum 180.94788(2)	$\begin{array}{c} 6d \ 105 \qquad 6d \\ \mathbf{Db} \\ \mathbf{D} \\ D$
$\sum_{\substack{\mathbf{Z} \text{ eneg} \\ \text{Name} \\ \text{saw}}} \mathbf{z}$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\sum_{\mathrm{Zirconium}}^{40} 2\mathbf{r}$	$ \underbrace{ \mathbf{H}}_{\text{Halfnium}}^{\textbf{72}} \underbrace{ \frac{13}{1.8}}_{178.49(2)} 5d $	$\Pr_{(261)}^{6d}$
	21 1.36 3d 22 Scandium Ti 44.955908(5)	$ \sum_{\substack{\text{Nobium} \\ \text{St.90634(2)}} } \frac{1.22}{\mathbf{N}} 4d \frac{10}{1.33} 4d \frac{1.16}{\mathbf{N}} 4d^* \frac{4d^*}{\mathbf{N}} \frac{2.16}{\mathbf{M}} 4d^* \frac{43}{1.9} \frac{1.9}{4} 4d \frac{2.2}{42.2} 4d \frac{2.2}{4} \frac{2.2}{4} \frac{4}{44} \frac{2.2}{2.2} \frac{2}{4} \frac{2.2}{4} \frac$	57-71 * Lanthanides	89-103 ** Actinides
18 28 4 1.57 28 Be Beryllium 7 9.0121831(5) 38 12 1.31 38 Magnesium (2) 24.304-24.307	Calcium Scr 44.9	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\mathbf{B}_{\mathrm{Barium}}^{\mathrm{66}}$	$\mathop{\mathbf{Radium}}\limits_{(226)}^{88}$
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	19 0.82 48 20	$\begin{array}{c} 37 & \underline{0.82} & 5s \\ \mathbf{Rb} \\ \mathbf{Rubidium} \\ 85.4678(3) \end{array}$	55 0.79 6s 56 Cesium 132.90545196(6)	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$

4			4.			
$\left \begin{array}{ccc} ^{4f} & ^{71} & ^{1.27} & ^{4f} \end{array} \right $	Lutetium	174.9668(1)	103 1.3 5 <i>f</i>	L	Lawrencium	(366)
$\begin{vmatrix} 4f & 70 & 1.1 & 4f \\ & \mathbf{Y} \mathbf{b} \end{vmatrix}$	Ytterbium	173.045(10)	7	o Z	Nobelium	(259)
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Thulium	168.93422(2)	5	Md	Mendelevium	(258)
$\frac{68}{\mathbf{Er}} \frac{1.24}{4f} 4f$	Erbium	167.259(3)	100 1.3 5f	Fm	Fermium	(257)
$\frac{4f}{Ho} = \frac{67 \cdot \frac{1.23}{1.23} \cdot 4f}{Ho}$	Holmium	164.93033(2)	99 <u>1.3</u> 5 <i>f</i>	ΕS	Einsteinium	(252)
$\mathbf{\hat{b}}_{\mathbf{D}\mathbf{\hat{y}}}^{66} \xrightarrow{1.22} {}^{4f}$	Dysprosium	162.500(1)	98 <u>1.3</u> 5 <i>f</i>	CE	Californium	(251)
$\prod_{i=1}^{65} A_i^{ij}$	Terbium	158.92535(2)	97	Bk		
4f 64 12 4f* 65 11 11	Gadolinium	157.25(3)	96 1.28 5f*	$\frac{1}{1}$	Curium	(247)
$\frac{63}{\mathbf{E}\mathbf{u}}$	Europium	151.964(1)	95 1.13 5f	Am	Americium	(243)
$\mathbf{S}_{\mathbf{m}}^{62}$	Samarium	150.36(2)	11.5	Pu	_	
$\overset{\text{61}}{\text{-}}\overset{\text{1.13}}{\text{-}}\overset{\text{4}f}{\text{-}}$	Promethium	(145)	93 1.36 5f*	Q N	Neptunium	(237)
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	Neodymium	144.242(3)	92 1.38 5f*	\supset	Uranium	238.02891(3)
$\Pr_{^{ m Preseodymium}}^{ m U.13}$		140.90766(2)	91 1.5 5f*	Ра	Protactinium	231.03588(2)
$\stackrel{7}{\operatorname{La}} \stackrel{1.1}{\operatorname{5d}^*} \stackrel{56}{\operatorname{1.12}} \stackrel{4f^*}{\operatorname{4f}^*} \stackrel{5}{\operatorname{5e}}$	Cerium	140.116(1)	89 111 64^* 90 1.3 $5f^*$ 91 1.5 $5f^*$ 92 1.38 $5f^*$ 93 1.36 $5f^*$	Ţħ	Thorium	232.0377(4)
$\sum_{\mathbf{La}} \frac{1.1}{\mathbf{La}}$	Lanthanum	138.90547(7)	89 <u>1.1</u> 64*	\mathbf{Ac}	Actinium	(227)
*				* *		

Standard atomic weights taken from the Commission on Isotopic Abundances and Atomic Weights (ciaaw.org/atomic-weights.htm). Adapted from Ivan Griffin's LAEX Periodic Table. © 2017 Paul Danese