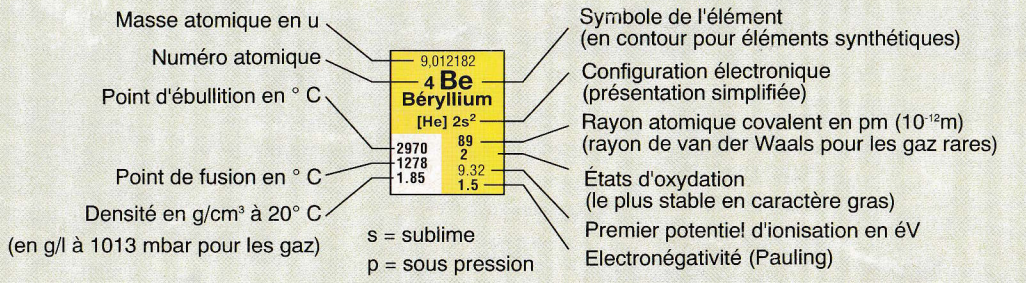
Principales propriétés physiques des éléments



	IA 1	IIA 2	IIIB 3	IVB 4	VB 5	VIB 6	VIIB 7	VIII 8	VIII 9	VIII 10	IB 11	IIB 12	IIIA 13	IVA 14	VA 15	VIA 16	VIIA 17	VIIIA 18
1	1.00794 1 H Hydrogène 1s¹ −253 / −259 / 0.084 30 / -1,1 / 13.60 / 2.1																	4.002602 2 He Hélium [He] 1s² −269 / −272 p / 0.17 120 / – / 24.58
2	6.941 3 Li Lithium [He] 2s¹ 1342 / 180 / 0.53 123 / 1 / 5.39 / 1.0	9.012182 4 Be Béryllium [He] 2s² 2970 / 1278 / 1.85 89 / 2 / 9.32 / 1.5											10.811 5 B Bore [He] 2s²2p¹ 2550 s / 2300 / 2.34 81 / 3 / 8.30 / 2.0	12. 011 6 C Carbone [He] 2s²2p² Graphite / 4827 / 3650 s / 2.25 77 / ±4,2 / 11.26 / 2.5	14.00674 7 N Azote [He] 2s²2p³ −196 / −210 / 1.17 70 / ±3,5,4,2 / 14.53 / 3.0	15.9994 8 O Oxygène [He] 2s²2p⁴ −183 / −219 / 1.33 66 / -2 / 13.62 / 3.5	18.9984032 9 F Fluor [He] 2s²2p⁵ −188 / −219 / 1.58 64 / -1 / 17.42 / 4.0	20.1797 10 Ne Néon [He] 2s²2p⁶ −246 / −249 / 0.84 141 / – / 21.56 / –
3	22.989768 11 Na Sodium [Ne] 3s¹ 883 / 98 / 0.97 157 / 1 / 5.14 / 0.9	24.3050 12 Mg Magnésium [Ne] 3s² 1107 / 649 / 1.74 136 / 2 / 7.65 / 1.2											26.981539 13 Al Aluminium [Ne] 3s²3p¹ 2467 / 660 / 2.70 125 / 3 / 5.98 / 1.5	28.0855 14 Si Silicium [Ne] 3s²3p² 2355 / 1410 / 2.32 117 / 4 / 8.15 / 1.8	30.973762 15 P Phosphore [Ne] 3s²3p³ Blanc / 280 / 44 / 1.82 110 / ±3,5,4 / 10.48 / 2.1	32.066 16 S Soufre [Ne] 3s²3p⁴ 444 / 113 / 2.07 104 / ±2,4,6 / 10.36 / 2.5	35.4527 17 Cl Chlore [Ne] 3s²3p⁵ −35 / −101 / 2.95 99 / ±1,3,5,7 / 12.97 / 3.0	39.948 18 Ar Argon [Ne] 3s²3p⁶ −186 / −189 / 1.66 181 / – / 15.76 / –
4	39.0983 19 K Potassium [Ar] 4s¹ 760 / 63 / 0.86 203 / 1 / 4.34 / 0.8	40.078 20 Ca Calcium [Ar] 4s² 1484 / 839 / 1.54 174 / 2 / 6.11 / 1.0	44.955910 21 Sc Scandium [Ar] 4s²3d¹ 2831 / 1541 / 3.0 144 / 3 / 6.54 / 1.3	47.88 22 Ti Titane [Ar] 4s²3d² 3287 / 1660 / 4.51 132 / 4,3 / 6.82 / 1.5	50.9415 23 V Vanadium [Ar] 4s²3d³ 3380 / 1890 / 5.96 122 / 5,4,3,2 / 6.74 / 1.6	51.9961 24 Cr Chrome [Ar] 4s¹3d⁵ 2672 / 1857 / 7.20 118 / 6,3,2 / 6.77 / 1.6	54.93805 25 Mn Manganèse [Ar] 4s²3d⁵ 1962 / 1244 / 7.20 118 / 7,6,4,2,3 / 7.44 / 1.5	55.847 26 Fe Fer [Ar] 4s²3d⁶ 2750 / 1535 / 7.86 116 / 2,3 / 7.87 / 1.8	58.9332 27 Co Cobalt [Ar] 4s²3d⁷ 2870 / 1495 / 8.9 116 / 2,3 / 7.86 / 1.8	58.6934 28 Ni Nickel [Ar] 4s²3d⁸ 2730 / 1455 / 8.90 115 / 2,3 / 7.63 / 1.8	63.546 29 Cu Cuivre [Ar] 4s¹3d¹⁰ 2567 / 1083 / 8.92 117 / 2,1 / 7.73 / 1.9	65.39 30 Zn Zinc [Ar] 4s²3d¹⁰ 907 / 419 / 7.14 125 / 2 / 9.39 / 1.6	69.723 31 Ga Gallium [Ar] 4s²3d¹⁰4p¹ 2403 / 30 / 5.90 125 / 3 / 6.0 / 1.6	72.61 32 Ge Germanium [Ar] 4s²3d¹⁰4p² 2830 / 937 / 5.35 122 / 4 / 7.90 / 1.8	74.92159 33 As Arsenic [Ar] 4s²3d¹⁰4p³ 817 p / 613 s / 5.72 121 / ±3,5 / 9.81 / 2.0	78.96 34 Se Sélénium [Ar] 4s²3d¹⁰4p⁴ 685 / 217 / 4.81 117 / -2,4,6 / 9.75 / 2.4	79.904 35 Br Brome [Ar] 4s²3d¹⁰4p⁵ 59 / −7 / 3.12 114 / ±1,5 / 11.81 / 2.8	83.80 36 Kr Krypton [Ar] 4s²3d¹⁰4p⁶ −152 / −157 / 3.48 196 / – / 14.00 / –
5	85.4678 37 Rb Rubidium [Kr] 5s¹ 686 / 39 / 1.53 216 / 1 / 4.18 / 0.8	87.62 38 Sr Strontium [Kr] 5s² 1384 / 769 / 2.60 191 / 2 / 5.69 / 1.0	88.90585 39 Y Yttrium [Kr] 5s²4d¹ 3338 / 1522 / 4.47 162 / 3 / 6.38 / 1.3	91.224 40 Zr Zirconium [Kr] 5s²4d² 4377 / 1852 / 6.49 145 / 4 / 6.84 / 1.4	92.90638 41 Nb Niobium [Kr] 5s¹4d⁴ 4742 / 2468 / 8.57 134 / 5,3 / 6.88 / 1.6	95.94 42 Mo Molybdène [Kr] 5s¹4d⁵ 5560 / 2610 / 10.2 130 / 6,5,4,3,2 / 7.10 / 1.8	98.9063 43 Tc Technétium [Kr] 5s¹4d⁶ 4877 / 2172 / 11.5 127 / 7 / 7.28 / 1.9	101.07 44 Ru Ruthénium [Kr] 5s¹4d⁷ 3900 / 2310 / 12.3 125 / 2,3,4,6,8 / 7.37 / 2.2	102.9055 45 Rh Rhodium [Kr] 5s¹4d⁸ 3727 / 1966 / 12.4 125 / 2,3,4 / 7.46 / 2.2	106.42 46 Pd Palladium [Kr] 4d¹⁰ 2970 / 1554 / 12.0 128 / 2,4 / 8.34 / 2.2	107.8682 47 Ag Argent [Kr] 5s¹4d¹⁰ 2212 / 962 / 10.5 134 / 1 / 7.57 / 1.9	112.411 48 Cd Cadmium [Kr] 5s²4d¹⁰ 765 / 321 / 8.65 141 / 2 / 8.99 / 1.7	114.82 49 In Indium [Kr] 5s²4d¹⁰5p¹ 2080 / 156 / 7.30 150 / 3 / 5.78 / 1.7	118.710 50 Sn Étain [Kr]5s²4d¹⁰5p² 2270 / 232 / 7.30 140 / 4,2 / 7.34 / 1.8	121.757 51 Sb Antimoine [Kr]5s²4d¹⁰5p³ 1750 / 630 / 6.68 141 / ±3,5 / 8.64 / 1.9	127.60 52 Te Tellure [Kr]5s²4d¹⁰5p⁴ 990 / 449 / 6.00 137 / -2,4,6 / 9.01 / 2.1	126.90447 53 I Iode [Kr]5s²4d¹⁰5p⁵ 184 / 113 / 4.93 133 / ±1,5,7 / 10.45 / 2.5	131.29 54 Xe Xénon [Kr]5s²4d¹⁰5p⁶ −107 / −112 / 5.49 215 / – / 12.13 / –
6	132.90543 55 Cs Caesium [Xe] 6s¹ 669 / 28 / 1.88 235 / 1 / 3.89 / 0.7	137.327 56 Ba Baryum [Xe] 6s² 1640 / 725 / 3.51 198 / 2 / 5.21 / 0.9	57–71 La–Lu	178.49 72 Hf Hafnium [Xe] 6s²4f¹⁴5d² 4602 / 2227 / 13.3 144 / 4 / 7.0 / 1.3	180.9479 73 Ta Tantale [Xe] 6s²4f¹⁴5d³ 5425 / 2996 / 16.6 134 / 5 / 7.89 / 1.5	183.85 74 W Tungstène [Xe] 6s²4f¹⁴5d⁴ 5660 / 3410 / 19.3 130 / 6,5,4,3,2 / 7.98 / 1.7	186.207 75 Re Rhénium [Xe] 6s²4f¹⁴5d⁵ 5627 / 3180 / 20.5 128 / 7,6,4,2,-1 / 7.88 / 1.9	190.2 76 Os Osmium [Xe] 6s²4f¹⁴5d⁶ 5300 / 2700 / 22.5 126 / 2,3,4,6,8 / 8.7 / 2.2	192.22 77 Ir Iridium [Xe] 6s²4f¹⁴5d⁷ 4130 / 2410 / 22.4 127 / 2,3,4,6 / 9.1 / 2.2	195.08 78 Pt Platine [Xe] 6s¹4f¹⁴5d⁹ 3827 / 1772 / 21.4 130 / 2,4 / 9.0 / 2.2	196.96654 79 Au Or [Xe] 6s¹4f¹⁴5d¹⁰ 3080 / 1064 / 18.9 134 / 3,1 / 9.22 / 2.4	200.59 80 Hg Mercure [Xe] 6s²4f¹⁴5d¹⁰ 356 / −39 / 13.6 144 / 2,1 / 10.4 / 1.9	204.3833 81 Tl Thallium [Xe] 6s²4f¹⁴5d¹⁰6p¹ 1457 / 303 / 11.8 155 / 3,1 / 6.11 / 1.8	207.2 82 Pb Plomb [Xe] 6s²4f¹⁴5d¹⁰6p² 1740 / 327 / 11.4 154 / 4,2 / 7.41 / 1.8	208.98037 83 Bi Bismuth [Xe] 6s²4f¹⁴5d¹⁰6p³ 1560 / 271 / 9.8 146 / 3,5 / 7.29 / 1.9	208.9824 84 Po Polonium [Xe] 6s²4f¹⁴5d¹⁰6p⁴ 962 / 254 / 9.4 146 / 2,4 / 8.42 / 2.0	209.9871 85 At Astate [Xe] 6s²4f¹⁴5d¹⁰6p⁵ 337 / 302 / – 145 / ±1,3,5,7 / – / 2.2	222.0176 86 Rn Radon [Xe] 6s²4f¹⁴5d¹⁰6p⁶ −62 / −71 / 9.23 222 / – / 10.75 / –
7	223.0197 87 Fr Francium [Rn] 7s¹ 677 / 27 / – – / – / 0.7	226.0254 88 Ra Radium [Rn] 7s² 1140 / 700 / 5 – / – / 5.28 / 0.9	89–103 Ac–Lr	261.1087 104 Ku Kurtschatovium [Rn] 7s²5f¹⁴6d² U.S.A.: Rf Rutherfordium	262.1138 105 Ha Hahnium [Rn] 7s²5f¹⁴6d³ C.E.I.: Ns Nielsbohrium	263.1182 106 Unh Unnilhexium [Rn] 7s²5f¹⁴6d⁴	262.1229 107 Uns Unnilseptium	265 108 Uno Unniloctium	266 109 Une Unnilennium									

$_{15}$P rouge, p. fusion 590 (p), densité 2.34

$_{6}$C diamant, p. fusion > 3550, densité 3.51

6	138.9055 57 La Lanthane [Xe] 6s²5d¹ 3457 / 921 / 6.17 169 / 3 / 5.58 / 1.1	140.115 58 Ce Cérium [Xe] 6s²4f² 3426 / 799 / 6.65 165 / 3,4 / 5.47 / 1.1	140.90765 59 Pr Praséodyme [Xe] 6s²4f³ 3512 / 931 / 6.77 165 / 3,4 / 5.42 / 1.1	144.24 60 Nd Néodyme [Xe] 6s²4f⁴ 3027 / 1024 / 7.00 164 / 3 / 5.49 / 1.1	145 61 Pm Prométhium [Xe] 6s²4f⁵ 2460 / 1168 / 7.22 163 / 3 / 5.55 / 1.1	150.36 62 Sm Samarium [Xe] 6s²4f⁶ 1791 / 1077 / 7.52 162 / 3,2 / 5.63 / 1.2	151.965 63 Eu Europium [Xe] 6s²4f⁷ 1597 / 822 / 5.24 185 / 3,2 / 5.67 / 1.2	157.25 64 Gd Gadolinium [Xe] 6s²4f⁷5d¹ 3268 / 1313 / 7.90 161 / 3 / 6.14 / 1.2	158.92534 65 Tb Terbium [Xe] 6s²4f⁹ 3123 / 1360 / 8.23 159 / 3,4 / 5.85 / 1.2	162.50 66 Dy Dysprosium [Xe] 6s²4f¹⁰ 2562 / 1412 / 8.55 159 / 3 / 5.93 / 1.2	164.93032 67 Ho Holmium [Xe] 6s²4f¹¹ 2695 / 1474 / 8.79 158 / 3 / 6.02 / 1.2	167.26 68 Er Erbium [Xe] 6s²4f¹² 2863 / 1529 / 9.06 157 / 3 / 6.10 / 1.2	168.93421 69 Tm Thulium [Xe] 6s²4f¹³ 1947 / 1545 / 9.32 156 / 3,2 / 6.18 / 1.2	173.04 70 Yb Ytterbium [Xe] 6s²4f¹⁴ 1194 / 819 / 6.96 174 / 3,2 / 6.25 / 1.1	174.967 71 Lu Lutécium [Xe] 6s²4f¹⁴5d¹ 3395 / 1663 / 9.84 156 / 3 / 5.43 / 1.2
7	227.0278 89 Ac Actinium [Rn] 7s²6d¹ 3200 / 1050 / 10.1 – / 3 / 6.9 / 1.1	232.0381 90 Th Thorium [Rn] 7s²6d² 4790 / 1750 / 11.7 165 / 4 / 6.95 / 1.3	231.03588 91 Pa Protactinium [Rn] 7s²5f²6d¹ – / – / 15.4 – / 5,4 / 5.89 / 1.5	238.0289 92 U Uranium [Rn] 7s²5f³6d¹ 3818 / 1132 / 19.0 142 / 6,5,4,3 / 6.08 / 1.4	237.0482 93 Np Neptunium [Rn] 7s²5f⁴6d¹ – / 630 / 20.4 – / 6,5,4,3 / 6.19 / 1.3	244.0642 94 Pu Plutonium [Rn] 7s²5f⁶ 3232 / 641 / 19.8 – / 6,5,4,3 / 6.06 / 1.3	243.0614 95 Am Américium [Rn] 7s²5f⁷ 2607 / 994 / 13.6 – / 6,5,4,3 / 5.99 / 1.3	247 96 Cm Curium [Rn] 7s²5f⁷6d¹ – / 1340 / 13.5 – / 3 / 6.02 / 1.3	247.0703 97 Bk Berkélium [Rn] 7s²5f⁹ – / – / – – / – / 4,3 / 6.23 / 1.3	251.0796 98 Cf Californium [Rn] 7s²5f¹⁰ – / – / – – / – / 3 / 6.30 / 1.3	254 99 Es Einsteinium [Rn] 7s²5f¹¹ – / – / – – / – / – / 6.42 / 1.3	257.0951 100 Fm Fermium [Rn] 7s²5f¹² – / – / – – / – / – / 6.50 / 1.3	258.0986 101 Md Mendelevium [Rn] 7s²5f¹³ – / – / – – / – / – / 6.58 / 1.3	259.1009 102 No Nobelium [Rn] 7s²5f¹⁴ – / – / – – / – / 2 / 6.65 / 1.3	260.1053 103 Lr Lawrencium [Rn] 7s²5f¹⁴6d¹ – / – / – – / – / – / – / –