

Discovery of the Elements

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Element 1 (Hydrogen) [1333-74-0]

Cavendish, H. *Phil. Trans. Roy. Soc.* **1765**, 56, 141

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Element 2 (Helium) [7440-59-7]

Janssen, P. *Compt. Rend.* **1869**, 68, 93; 112; 181; 245; 312; 367

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Collie, J.N.; Ramsay, W. *Proc. Roy. Soc. London* **1895 - 1896**, 59, 257

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Ramsay, W.; Travers, M.W. *Proc. Roy. Soc. London* **1900**, 67, 329

Element 3 (Lithium) [7439-93-2]

Arfredson, J.A. *Ann. Physik* **1818**, 59, 229

Element 4 (Beryllium, Glucinium, Glucinum) [7440-41-7]

Vauquelin, L. *Ann. Chim. Phys.* **1798**, 26[1], 155; 170

Element 5 (Boron) [7440-42-8]

Davy, H. *Proc. Roy. Soc. London* **1800 - 1814**, 1, 318

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Gay-Lussac, J.L.; Thenard, L. *Ann. Chim. Phys.* **1808**, 68[1], 169

Vauquelin, L. *Ann. Physik* **1802**, 11, 249

Vauquelin, L. *J. de Physique* **18xx**, 54, 318

Element 6 (Carbon) [7440-44-0]

Element 7 (Nitrogen) [7727-37-9]

Rutherford, D. *Dissertatio inauguralis de Aere fixo dicto, aut mephitico*, Edinburgh, 1772
 Partington, J.R. *A History of Chemistry*, Vol. 3, Macmillan and Co., Ltd.: London, 1962,
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Element 8 (Oxygen) [7782-44-7]

Priestley, J. *Phil. Trans. Roy. Soc.* **1785**, 75, 279
 Priestley, J. *Phil. Trans. Roy. Soc.* **1788**, 78, 147; 313
 Priestley, J. *Phil. Trans. Roy. Soc.* **1791**, 81, 213
 Scheele, C.W. *Nachgelassene Briefe und Aufzeichnungen.*, (A.E. Nordenskiöld, ed.),
 Stockholm, 1892
 Partington, J.R. *A History of Chemistry*, Vol. 3, Macmillan and Co., Ltd.: London, 1962,
 p. 219 - 220 (Scheele); 256 - 263 (Priestley); 402 - 410 (Lavoisier)

Element 9 (Fluorine) [7782-41-4]

Moissan, H. *Ann. Chim. Phys.* **1887**, 12[6], 472
 Moissan, H. *Ann. Chim. Phys.* **1892**, 25[6], 125

Element 10 (Neon) [7440-01-9]

Ramsay, W.; Travers, M.W. *Proc. Roy. Soc. London* **1898**, 63, 437
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Element 11 (Sodium, Natrium) [7440-23-5]

Davy, H. *Phil. Trans. Roy. Soc.* **1807**, 97, 1
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 Davy, H. *Phil. Trans. Roy. Soc.* **1809**, 99, 39
 Davy, H. *Proc. Roy. Soc. London* **1800 - 1814**, 1, 247; 278; 318

Element 12 (Magnesium) [7439-95-4]

Black, J. *Dissertio Medica Inauguralis, de Humore acido a cibis orto, et Magnesia alba*,
 Edinburgh, 1754
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Element 13 (Aluminum) [7429-90-5]

Oersted, H.C. *Oversigt K. Danske Selskab.* **1824-1825**, 15
 Oersted, H.C. *Phil. Mag.* **1827**, 2, 391
 Partington, J.R. *A History of Chemistry*, Vol. 4, Macmillan and Co., Ltd.: London, 1964,
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Element 14 (Silicon) [7440-21-3]

Berzelius, J.J. *Kongliga Svenska Vetenskaps Academiens Handlingar (Stockholm)*, **1824**, 46

Thomson, R.D. *Ann. Physik* **1831**, 1, 222

Element 15 (Phosphorus) [7723-14-0]

Partington, J.R. *A History of Chemistry*, Vol. 3, Macmillan and Co., Ltd.: London, 1962, p. 67, 559

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Element 16 (Sulfur) [7704-34-9]

Element 17 (Chlorine) [7782-50-5]

Scheele, C.W. *Nachgelassene Briefe und Aufzeichnungen.*, (A.E. Nordenskiöld, ed.), Stockholm, 1892

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Element 18 (Argon) [7440-37-1]

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Crookes, W. *Proc. Roy. Soc. London* **1894 - 1895**, 57, 287

Olszewski, K. *Proc. Roy. Soc. London* **1894 - 1895**, 57, 290

Hartley, W.N. *Proc. Roy. Soc. London* **1894 - 1895**, 57, 293

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Crookes, W. *Phil. Trans. Roy. Soc.* **1895**, 186A, 243

Olszewski, K. *Phil. Trans. Roy. Soc.* **1895**, 186A, 253

Ramsay, W.; Young, S. *Phil. Trans. Roy. Soc.* **1895**, 186A, 257

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Element 19 (Potassium, Kalium) [7440-09-7]

Davy, H. *Phil. Trans. Roy. Soc.* **1807**, 97, 1

Davy, H. *Phil. Trans. Roy. Soc.* **1808**, 98, 1

Davy, H. *Phil. Trans. Roy. Soc.* **1809**, 99, 39

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Element 20 (Calcium) [7440-70-2]

Davy, H. *Phil. Trans. Roy. Soc.* **1807**, 97, 1
Davy, H. *Phil. Trans. Roy. Soc.* **1808**, 98, 1
Davy, H. *Phil. Trans. Roy. Soc.* **1809**, 99, 39
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Element 21 (Scandium, Eka-boron) [7440-20-2]

Nilson, L.F. *Compt. Rend.* **1879**, 88, 645
Nilson, L.F. *Chem. Ber.* **1880**, 13, 139

Element 22 (Titanium) [7440-32-6]

Klaproth, M. *Beitrage zur chemischen Kenntniss der Mineralkorper*, Vol. 1, Posen and Berlin, 1795, p. 233, 245
Klaproth, M. *Beitrage zur chemischen Kenntniss der Mineralkorper*, Vol. 2, Posen and Berlin, 1797, p. 226
Gregor, W. *Crell's Chem. Ann.* **1791**, 1, 55
Partington, J.R. *A History of Chemistry*, Vol. 3, Macmillan and Co., Ltd.: London, 1962, p. 656

Element 23 (Vanadium, Erythronium) [7440-62-2]

Del Rio, M. *Ann. Physik.* **1822**, 71, 7
Berzelius, J.J. *Ann. Chim.* **1830**, 45, 332
Sefström, N.G. *Ann. Chim.* **1831**, 46, 105
Sefström, N.G. *Kongliga Svenska Vetenskaps Academiens Handlingar (Stockholm)*, **1830**, 255
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Element 24 (Chromium) [7440-47-3]

Vauquelin, L. *Ann. Chim. Phys.* **1798**, 25[1], 21; 194

Element 25 (Manganese) [7439-96-5]

Partington, J.R. *A History of Chemistry*, Vol. 3, Macmillan and Co., Ltd.: London, 1962, p. 190; 201

Element 26 (Iron, Ferrum) [7439-89-6]

Element 27 (Cobalt) [7440-48-4]

Brandt, G. *Cobalti nova species examinata et descripta*, Acta Reg. Soc. Sci, Upsal **1742 (1748)**, 33

Brandt, G. *Recueil des Mémoires les plus intéressants de chimie, et l'histoire naturelle, contenus dans les Actes de l'Académie d'Upsal et dans les Mémoires de l'Académie des Sciences de Stockholm* **1764**, 1, 38

Brandt, G. *Kongliga Svenska Vetenskaps Academiens Handlingar (Stockholm)*, **1746**, 7, 119

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Element 28 (Nickel) [7440-02-0]

Cronstedt, A. *Kongliga Svenska Vetenskaps Academiens Handlingar (Stockholm)*, **1751**, 12, 287

Cronstedt, A. *Kongliga Svenska Vetenskaps Academiens Handlingar (Stockholm)*, **1754**, 15, 38

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Element 29 (Copper) [7440-50-8]

Element 30 (Zinc) [7440-66-6]

Element 31 (Gallium, Eka-aluminum) [7440-55-3]

Lecoq de Boisbaudran, P. *Compt. Rend.* **1875**, 81, 493; 1100

Element 32 (Germanium, Eka-silicon) [7440-56-4]

Winkler, C. *J. Prakt. Chem.* **1886**, 34, 177

Element 33 (Arsenic) [7440-38-2]

Partington, J.R. *A History of Chemistry*, Vol. 3, Macmillan and Co., Ltd.: London, 1962, p. 168

Element 34 (Selenium) [7782-49-2]

Berzelius, J.J. *Ann. Chim. Phys.* **1818**, 9[2], 160; 225; 337

Berzelius, J.J. *Kongliga Svenska Vetenskaps Academiens Handlingar (Stockholm)*, **1818**, 13

Berzelius, J.J. *J. Chemie und Physik* **1817**, 21, 342

Element 35 (Bromine) [7726-95-6]

Balard, A. *Ann. Chim. Phys.* **1826**, 32[2], 337

Element 36 (Krypton) [7439-90-9]

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 Ramsay, W.; Travers, M.W. *Proc. Roy. Soc. London* **1898**, 63, 405
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Element 37 (Rubidium) [7440-17-7]

Kirchhoff, G.; Bunsen, R. *Ann. Physik* **1861**, 113[2], 337

Element 38 (Strontium) [7440-24-6]

Hope, T.C. *Trans. Roy. Soc. Edinburgh* **1794**, 3, 141
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 Partington, J.R. *A History of Chemistry*, Vol. 3, Macmillan and Co., Ltd.: London, 1962, p. 656

Element 39 (Yttrium) [7440-65-5]

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 Gadolin, J. *Kongliga Svenska Vetenskaps Academiens Handlingar (Stockholm)*, **1794**, 15, 137
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Element 40 (Zirconium) [7440-67-7]

Klaproth, M. *Ann. Chim. Phys.* **1790**, 6[1], 1

Element 41 (Niobium, Columbium) [7440-03-1]

Wollaston, W.H. *Proc. Roy. Soc. London* **1800 - 1814**, 1, 336
 Wollaston, W.H. *Phil. Trans. Roy. Soc.* **1809**, 99, 246
 Hatchett, C. *Phil. Trans. Roy. Soc.* **1802**, 92, 49

Element 42 (Molybdenum) [7439-98-7]

Hjelm, P.J. *Annals of Philosophy* **1814**, 4, 322
 Hjelm, P.J. *Kongliga Svenska Vetenskaps Academiens Handlingar (Stockholm)*, **1790**, 11, 50; 81
 Partington, J.R. *A History of Chemistry*, Vol. 3, Macmillan and Co., Ltd.: London, 1962, p. 216

Element 43 (Technetium, Masurium, Eka-manganese) [7440-26-8]

Noddack, W.; Noddack, I. *Angew. Chem.* **1927**, 40, 250
 Perrier, C.; Segre, E. *Nature* **1937**, 140, 193
 Perrier, C.; Segre, E. *J. Chem. Phys.* **1937**, 5, 712
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 Segre, E. *Nuovo Cimento* **1937**, 14, 528

Element 44 (Ruthenium) [7440-18-8]

Osann, G. *Ann. Physik* **1829**, 15[2], 158
Osann, G. *Ann. Physik* **1828**, 14[2], 329
Osann, G. *Ann. Physik* **1828**, 13[2], 283
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Claus, C.E. *Ann. Physik* **1845**, 64, 192; 622
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Claus, C.E. *Ann. Chem. Pharm.* **1847**, 63, 337
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Element 45 (Rhodium) [7440-16-6]

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Wollaston, W.H. *Phil. Trans. Roy. Soc.* **1804**, 94, 419

Element 46 (Palladium, Eka-tantalum) [7440-05-3]

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Wollaston, W.H. *Phil. Trans. Roy. Soc.* **1804**, 94, 419
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Element 47 (Silver, Argentum) [7440-22-4]

Element 48 (Cadmium) [7440-43-9]

Stromeyer, H. *Ann. Physik* **1818**, 60, 193

Element 49 (Indium) [7440-74-6]

Reich, F.; Richter, H.T. *J. Prakt. Chem.* **1863**, 90, 172
Reich; Richter *J. Prakt. Chem.* **1864**, 92, 480
Müller, J. *Ann. Physik* **1865**, 124[2], 637
Müller, J. *Ann. Physik* **1863**, 118[2], 641

Element 50 (Tin, Stannum) [7440-31-5]

Element 51 (Antimony, Stibium) [7440-36-0]

Element 52 (Tellurium) [13494-80-4]

Klaproth, M. *Ann. Chim. Phys.* **1798**, 25[1], 273
Klaproth, M. *Mém. Acad. Berlin* **1798**, 117

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Element 53 (Iodine) [7553-56-2]

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Courtois, B. *Ann. Physik* **1814**, 46, 111

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Balard, A. *Ann. Chim. Phys.* **1825**, 28[2], 178

Element 54 (Xenon) [7440-63-3]

Ramsay, W.; Travers, M.W. *Proc. Roy. Soc. London* **1900**, 67, 329

Element 55 (Cesium) [7440-46-2]

Bunsen, R. *Ann. Physik* **1863**, 119[2], 1

Element 56 (Barium) [7440-39-3]

Davy, H. *Phil. Trans. Roy. Soc.* **1807**, 97, 1

Davy, H. *Phil. Trans. Roy. Soc.* **1808**, 98, 1

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Element 57 (Lanthanum) [7439-91-0]

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Element 58 (Cerium) [7440-45-1]

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Berzelius, J.J. *Neues Allgem. J. Chemie* **1804**, 2, 397

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Element 59 (Praseodymium) [7440-10-0]

Auer von Welsbach, K. *Monatsch. Chem.* **1885**, 6, 477

Element 60 (Neodymium, Didymium) [7440-00-8]

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Delafontaine, M. *Compt. Rend.* **1878**, 87, 634

**Element 61 (Promethium, Cyclonium, Florentium, Illinium)
[7440-12-2]**

Marinsky, J.A.; Glendenin, L.E.; Coryell, D.C. *J. Am. Chem. Soc.* **1947**, 69, 2781

Element 62 (Samarium) [7440-19-9]

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Element 63 (Europium) [7440-53-1]

Demarcay, E. *Compt. Rend.* **1896**, 122, 728

Demarcay, E. *Compt. Rend.* **1901**, 132, 1484

Element 64 (Gadolinium) [7440-54-2]

Lecoq de Boisbaudran, P. *Compt. Rend.* **1886**, 102, 902

Element 65 (Terbium) [7440-27-9]

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Element 66 (Dysprosium, Demonium) [7429-91-6]

Lecoq de Boisbaudran, P. *Compt. Rend.* **1886**, 102, 1005

Element 67 (Holmium) [7440-60-0]

Cleve, P.T. *Compt. Rend.* **1879**, 89, 478; 708

Soret, J.L. *Compt. Rend.* **1878**, 86, 1062

Soret, J.L. *Compt. Rend.* **1879**, 89, 521

Element 68 (Erbium) [7440-52-0]

Element 69 (Thulium) [7440-30-4]

Cleve, P.T. *Compt. Rend.* **1879**, 89, 478; 708

Soret, J.L. *Compt. Rend.* **1878**, 86, 1062

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Element 70 (Ytterbium, Aldebaranium, Neoytterbium) [7440-64-4]

Marignac, J.C. *Compt. Rend.* **1878**, 87, 281; 578

Element 71 (Lutetium, Cassiopeium, Celtium) [7439-94-3]

Urbain, G. *Compt. Rend.* **1908**, 145, 759
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Element 72 (Hafnium, Celtium) [7440-58-6]

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 Urbain, G.; Dauvillier, A. *Nature* **1923**, 111, 218
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 Coster, D.; von Hevesy, G. *Nature* **1923**, 111, 79; 182; 252; 462
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Element 73 (Tantalum) [7440-25-7]

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 Ekeberg, A.G. *Ann. Physik* **1803**, 14, 243

Element 74 (Tungsten, Wolfram, Wolframium) [7440-33-7]

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Element 75 (Rhenium, Dwi-manganese) [7440-15-5]

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 Noddack, I. *Z. Elektrochem.* **1928**, 34, 629
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 Noddack, I.; Noddack, W. DE 606,448 (Siemens & Halske A-G) 1934/12/03
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Element 76 (Osmium) [7440-04-2]

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 Tennant, S. *Phil. Trans. Roy. Soc.* **1804**, 94, 411

Element 77 (Iridium) [7439-88-5]

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Tennant, S. *Phil. Trans. Roy. Soc.* **1804**, 94, 411

Element 78 (Platinum) [7440-06-4]

Element 79 (Gold, Aurum) [7440-57-5]

Element 80 (Mercury, Hydrargyrum, Quicksilver) [7439-97-6]

Element 81 (Thallium) [7440-28-0]

Crookes, W. *Proc. Roy. Soc. London* **1862 - 1863**, 12, 150; 438

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Element 82 (Lead, Plumbum) [7439-92-1]

Element 83 (Bismuth) [7440-69-9]

Element 84 (Polonium) [7440-08-6]

Curie, M.S., Curie, P., *Compt. Rend.* **1898**, 127, 175

Element 85 (Astatine, Alabamine, Eka-iodine) [7440-68-8]

Segre, E.; Mackenzie, K.R.; Corson, D.R. *Phys. Rev.* **1940**, 57, 459

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