

October

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b. 1867 Wilder D. Bancroft, first systematic study of oxidation cells; research on heterogenous equilibria, emulsions, and theory of dyeing; founded the Journal of Physical Chemistry & Editor from 1896 -1932; President of ACS (1910).

b. 1868 Georg Bredig, researcher on anomalous atomic weights of lead (Pb, 82) from different sources, catalytic action of colloidal platinum, "poisoning" of catalysts & preparation of colloids by electrical means.

• Air Products & Chemicals, Inc., incorporated, 1940.

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b. 1791 Alexis T. Petit, studied specific heats of solids; discovered product of specific heat and atomic weight is constant for all elements (Dulong-Petit law).

b. 1852 William Ramsay, discovered argon (Ar, 18) with J. W. Strutt (Lord Rayleigh) (1894), 1895 he isolated helium (He, 2) with N. Langlet and P. T. Cleve (1895), and neon (Ne, 10), xenon (Xe, 54) and krypton (Kr, 36) with M. W. Travers (1898); Nobel Prize (1904) in recognition of his services in the discovery of the inert gaseous elements in air, and his determination of their place in the periodic system.



b. 1907 Alexander R. Todd, research chemistry of nucleotides and coenzymes; Nobel Prize (1957) for synthesizing nucleic acids.

b. 1908 Walter Baird, analytical instrument maker; founded Baird Corporation.

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b. 1904 Charles J. Pedersen, found that alkali metal ions could be bound by crown ethers in a rigid layered structure; Nobel Prize (1987) with Jean-Marie Lehn and Donald J. Cram for their development and use of molecules with structure-specific interactions of high selectivity.

•A long article on spontaneous combustion by A. S. (Adam Seyfert) appears in Philadelphia newspaper, Aurora: second article submitted by the Columbian Chemical Society, 1811.

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b. 1918 Kenichi Fukui, developed frontier orbital theory of reactivity; Nobel Prize (1981) with R. Hoffman "for their theories, developed independently, concerning the course of chemical reactions".

•Sputnik I, first artificial earth satellite, launched by USSR, 1957.

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b. 1872 Emil Votocek, introduced concept of epimerism; researcher in sugars; chemist-composer.

b. 1889 Dirk Coster discovered hafnium (Hf, 72) with Georg von Hevesy, 1923.

- The Chemical Society of Union College, precursor of the American Chemical Society, founded in 1861.

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b. 1783 François Magendie performed classic studies in nutrition and experimental pharmacology, importance of proteins, effects of morphine, strychnine and other chemical agents on human beings.

b. 1897 Florence B. Seibert studied biochemistry of tuberculosis; awarded Garvin Medal, 1942.

- Humphry Davy at the Royal Institution isolated potassium (K, 19), 1807.

- William Remington of Boston received U.S. Patent 82,877 for nickel electroplating, 1868.

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b. 1885 Niels Bohr proposed "solar system" model of atom, 1913, based upon Planck's quantum law; Nobel Prize (1922) for his services in the investigation of the structure of atoms and of the radiation emanating from them.



b. 1886 Neil E. Gordon, founder and editor of the *Journal of Chemical Education*; founder of the Gibson Island Conferences, later known as the Gordon Research Conferences.

b. 1939 Harold W. Kroto, researched carbon chain molecules by using combination of synthesis, spectroscopy, and radioastronomy; Nobel Prize (1996) with R. F. Curl, Jr., & R. E. Smalley for their discovery of fullerenes.

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b. 1850 Henry Le Chatelier discovered the law of reaction governing the effect of pressure & temperature on equilibrium (Le Chatelier's Law); researcher on specific heat of gases at high temperature, mass action in explosives, & chemistry of silicates.

b. 1883 Otto H. Warburg, researcher on respiration & cancer; Nobel Prize in Physiology & Medicine (1931) for his discovery of the nature and mode of action of the respiratory enzyme.

b. 1917 Rodney R. Porter, researched structure of antibodies; 1972 Nobel Prize in Medicine (1972) for their discoveries concerning the chemical structure of antibodies.



b. 1918 Jens C. Skou, discovered enzyme promotes directed (vectored) transport of substances through cell membrane, Na^+ , K^+ -ATPase; Nobel Prize (1997) with P. D. Boyer & J. Walker for elucidation of the enzymatic mechanism underlying the synthesis of adenosine triphosphate (ATP).

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b. 1718 Pierre J. Macquer studied platinum (Pt, 78); discovered arsenates of potassium & sodium.

b. 1852 Emil H. Fischer synthesized sugars, caffeine, uric acid, & other organic chemicals; Nobel Prize (1902) in recognition of the extraordinary services he has rendered by his work on sugar and purine syntheses.



b. 1879 Max von Laue, researcher in x-rays and crystal structure; suggested crystals diffract x-rays, 1912; Nobel prize in Physics (1914) for his discovery of the diffraction of X-rays by crystals.



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b. 1731 Henry Cavendish discovered hydrogen (H, 1) 1766; synthesized water; independent discoverer of nitrogen.

• Ernest O. Lawrence invented the cyclotron, 1930.

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b. 1884 Frederich Bergius, researched chemical reactions at high pressure, conversion of coal into oil, hydrolysis of wood to sugar and cattle feed; Nobel Prize (1931) with Carl Bosch in recognition of their contributions to the invention and development of chemical high pressure methods. (1884–1949)

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b. 1827 J. P. Cooke, first to use laboratory instruction in undergraduate (Harvard University) course.

b. 1865 Vladimir A. Kistiakowsky, researcher in electrochemistry and thermodynamics.

b. 1865 Arthur Harden, researcher on enzymes & fermentation; demonstrated structure of zymase; Nobel Prize (1929) with Hans Euler-Chelpin for their investigations on the fermentation of sugar and fermentative enzymes.

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• GM incorporated, 1916.

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b. 1840 Friederich W. G. Kohlrausch, researcher on electrical conductivity, dilution of strong electrolytes & conductivity (Kohlrausch's equation).



b. 1898 John M. Gulland, research on DNA, electromeric titration to prove existence of hydrogen bonds, titration of phosphoric acid.

- Jacobus H. Van't Hoff presented law showing that osmotic pressure of a dilute solution obeys Boyle's, Charles's & Avogadro's Laws, & that $pV = RT$ before Swedish Academy of Sciences, 1886

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b. 1608 Evangelista Torricelli, first man to create sustained vacuum; discovered principle of barometer.

16

b. 1875 Henry C. Sherman, researcher on assay methods and functions of vitamins.



- William T. G. Morton demonstrated use of ether as anesthetic at Massachusetts General Hospital, 1846.

17

b. 1873 Lev A. Chugaev developed complexing agents for analysis; studied inorganic chemistry of metal complexes & xanthate pyrolysis.

- Unocal incorporated as Union Oil Co. of California, 1890.

18

b. 1799 Christian F. Schönbein discovered ozone, 1840, & collodion, 1846;

researcher on hydrogen peroxide & gun-cotton.



b. 1844 Harvey W. Wiley, "Father of Pure Food Law".

- Hercules incorporated, 1912.

- Emilio Segrè and Owen Chamberlain discover a new sub-atomic sub particle, negative proton or antiproton, 1955.

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b. 1870 Robert Bowie Owens detected thorium radiation.

b. 1909 Maguerite Perey discovered francium (Fr, 87), 1939.

- Hercules Powder Co. incorporated in Delaware, 1912.

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b. 1891 James Chadwick, discovered neutron, 1932; Nobel Prize (1935) for the

discovery of the neutron. (1891–1974)

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b. 1660 Georg E. Stahl, researcher on oxidation & reduction; prepared glacial acetic acid; responsible for theory of phlogiston with Johann J. Becher.



b. 1833 Alfred Nobel invented dynamite; established Nobel Prizes; later constructed companies and laboratories in more than 20 countries all over the world. On November 27, 1895, Nobel signed his last will providing for the establishment of the Nobel Prize.

- John Dalton presented the first experimental evidence for atoms before the Manchester Literary & Philosophical Society, 1803.

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b. 1903 George Beadle, researcher in chemical genetics; Nobel Prize in Medicine (1958) with Edward L. Tatum & Joshua Lederberg for their discovery that genes act by regulating definite chemical events.

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b. 1875 Gilbert N. Lewis developed theories of chemical bond & valency, researcher in thermodynamics.

- [Mole Day](#), 6.02 a.m. through 6.02 p.m. (Mole Times); Mole Moment: 50.453 s after 6:42 p.m.

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b. 1817 Hippolyte Mège Mouriés discovered margarine, an oral formulation of the drug Copahin used against syphilis, and various patents relating to tanning and sugar extraction. He developed a health chocolate with his calcium phosphate protein



b. 1842 Nikolai A. Menshutkin, researcher on kinetics of nucleophilic substitution reactions of amines and quaternary ammonium ions.

b. 1854 Hendrik W. B. Roozeboom, researcher on application of the phase rule.

b. 1877 Roger Clark Wells, researcher on sodium compounds & chemical analyses of radioactive minerals; Chief Chemist of U. S. Geological Survey.

- Eastman Kodak Co. formed, 1901.

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b. 1891 Edgar C. Britton contributed to industrial organic developments.

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- Signing of Trust Agreement by 7 major oil companies creating the Petroleum

Research Fund, 1944.

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b. 1827 Marcellin P. E. Berthelot, a founder of thermochemistry; showed that nitrogen (N, 7) was fixed by electric discharges & bacteria; synthesized alcohol, formic acid, methane & acetylene.



b. 1894 John E. Lennard-Jones, researcher on surface chemistry, chemistry of carbon, liquid structure & interatomic forces.

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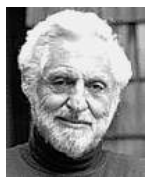
b. 1845 Zygmunt F. von Wróblewski, first to liquefy air on large scale & with K. S. Olszewski; liquefied nitrogen (N, 7), oxygen (O,8), & carbon monoxide (CO).

b. 1893 Christopher K. Ingold, researcher in mechanisms of organic reactions & naming stereoisomers (Cahn-Ingold-Prelog system).

b. 1914 Richard L. M. Synge, discovery of partition chromatography; Nobel Prize (1952) with Archer J. P. Martin for their invention of partition chromatography.

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b. 1923 Carl Djerassi, researcher in structure elucidation of natural products, synthesis of medicinals, & computer artificial intelligence to chemical problems; author of novels and plays.



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b. 1817 Hermann F. M. Kopp, researcher on atomic & molecular volume, crystallography, boiling points, specific heats, & dissociation; historian of physical chemistry.

b. 1895 Gerhard Domagk discovered the properties of prontosil, orange-red dye containing sulfanilamide; reported that isoniazid had anti-tubercular properties, 1952, (opened age of chemotherapy); Nobel Prize (1939) for the discovery of the antibacterial effects of prontosil; refused in 1939 on instructions from Nazi government,

b. 1895 Dickinson W. Richards, Jr., first clinical use of cardiac catheterization; Nobel Prize in Medicine (1956) with [André Frédéric Cournand](#) and [Werner Forssmann](#) for their discoveries concerning heart catheterization and pathological changes in the circulatory system.

b. 1906 Max Tishler was an industrial chemist who developed antibiotics, actinomycin and streptomycin and synthesized vitamin A and riboflavin.



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b. 1835 Adolf von Baeyer (Johann Friedrich Wilhelm Adolf Von Baeyer), researcher on indigo; evolved strain theory of carbon rings; prepared acetylene; discovered barbituric acid, 1863; Nobel Prize (1905) in recognition of his services in the advancement of organic chemistry and the chemical industry, through his work on organic dyes and hydroaromatic compounds,

b. 1925 John A. Pople received the Nobel Prize in 1998 for his development of computational methods in quantum chemistry shared with Walter Kohn for his development of the density-functional theory.