

NAMED EQUATIONS AND LAWS IN CHEMISTRY (H – Z)

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John Burdon Sanderson Haldane

5 November 1882 - 1 December 1964

British-Scottish, b. Oxford, England

Haldane equation

Haldane, J.B.S., *Enzymes*, Longmans, Green, & Co.: London, 1930

Briggs-Haldane solution

see George Edward Briggs

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Pirie, N.W., *Biog. Memoirs Fellows Roy. Soc.*, **1966**, 12, 219

Louis Plack Hammett

7 April 1894 - 9 February 1987

American, b. Wilmington, Delaware, USA

Hammett equation

Hammett sigma constants

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Hammett, L.P., *Chem. Rev.* **1935**, 17, 125

Hammett acidity function

Hammett, L.P.; Deyrup, A.J., *J. Am. Chem. Soc.* **1932**, 54, 2721

Biographical References:

Westheimer, F.H., *Biog. Memoirs Natl. Acad. Sci.* **1997**, 72, 137

Anon., *Chem. Eng. News* **1998**, 76(2), 171

Charles Samuel Hanes

21 May 1903 - 6 July 1990

Canadian, b. Toronto, Ontario, Canada

Hanes-Woolf plot

Hanes, C.S., *Biochem. J.* **1932**, 26, 1406

Woolf's contributions cited in Haldane, J.B.S.; Stern, K.G. *Allgemeine Chemie der Enzyme*, Steinkopff: Dresden, Leipzig, 1932 though Woolf did not publish his own papers.

Method of Wong and Hanes

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Wong, J.T.F.; Thompson, W., *Biog. Memoirs Fellows Roy. Soc.* **1994**, 39, 147

Douglas Rayner Hartree



27 March 1897 - 12 February 1958

British, b. Cambridge, England

Hartree equation

Hartree, D.R., *Proc. Cambridge Phil. Soc.* **1928**, 24, 111

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Darwin, Sir C., *Biog. Memoirs Fellows Roy. Soc.* **1958**, 4, 103

Karl Albert Hasselbalch

1 November 1874 - 19 September 1962

Danish, b. Aastrup, Denmark

Henderson-Hasselbalch equation

Henderson, L.J., *J. Physiol.* **1908**, 21, 173; 427

Hasselbalch, K.A. *Biochem. Z.* **1916**, 78, 112

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Herman Ludwig Ferdinand von Helmholtz



31 August 1821 - 8 September 1894

German, b. Potsdam, Germany

Helmholtz equation

Helmholtz, H. *Sitzber. Berlin Akad. Wissen. Abh.* **1882**, 1, 21; 825

Helmholtz, H. *Sitzber. Berlin Akad. Wissen. Abh.* **1883**, 2, 958; 1895

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Lawrence Joseph Henderson

3 June 1878 - 10 February 1942

American, b. Lynn, Massachusetts, USA

Henderson-Hasselbalch equation

see Karl Albert Hasselbalch

Biographical References:

Parascandola, J. in Gillispie, Charles Coulston (ed.), *Dictionary of Scientific Biography*, Charles Scribner & Sons: New York, 1972, Vol. 6, 260

Cannon, W.B., *Biog. Memoirs Natl. Acad. Sci.* **1943**, 23, 31

Victor Henri

6 June 1872 - 21 June 1940

French, b. Marseilles, France

Enzyme kinetics (Michaelis-Menten kinetics)

Henri, V. *Lois générales de l'action des diastases*, Hermann: Paris, 1903

Henri, V. *Compt. Rend.* **1901**, 133, 891

Henri, V. *Z. Phys. Chem.* **1901**, 39, 194

Henri, V. *Compt. Rend.* **1902**, 135, 916

Biographical references:

Debru, C. in Gillispie, Charles Coulston (ed.), *Dictionary of Scientific Biography*, Charles Scribner & Sons: New York, 1990, Vol. 18, Supplement II, 410

William Henry



12 December 1775 - 2 September 1836

British, b. Manchester, England

Henry's law

Henry, W., *Nicholson's J.* **1804**, 8, 297

Biographical References:

Abbott, David (ed.), *The Biographical Dictionary of Scientists: Chemists*, Peter Bedrick Books: New York, 1983

Proceedings Roy. Soc. London **1836**, 27, 439-440

William G. Herkstroeter

30 November 1938 -

American, b. St. Louis, Missouri, USA

Hammond-Herkstroeter plot

Herkstroeter, W.G.; Hammond, G.S. *J. Am. Chem. Soc.* **1966**, 88, 4769; 4777

Biographical References:

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Germain Henri Hess



7 August 1802 - 30 November 1850

Swiss-Russian, b. Geneva, Switzerland

Hess' law

Hess, G.H., *Bull. Sci. Acad. Imper. Sci. (St. Petersburg)* **1840**, 8, 257

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Partington, J.R., *A History of Chemistry*, Vol. IV, Macmillan and Co., Ltd.: London, 1964, p. 608

Archibald Vivian Hill

26 September 1886 - 3 June 1977

British, b. Bristol England

Nobel Prize Physiology and Medicine 1922

Hill plot

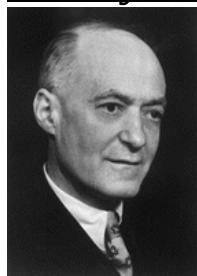
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Katz, Sir B., *Biog. Memoirs Fellows Roy. Soc.* **1978**, 24, 71

Sir Cyril Norman Hinshelwood



19 June 1897 - 9 October 1967

British, b. London, England

Nobel Prize Chemistry 1956

Hinshelwood equation

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Barend Hendrik Jan Hofstee

19 September 1912 - 1980

Dutch-American, b. Stedum, Netherlands

Hofstee plot

Hofstee, B.H.J. *Science* **1952**, 116, 329

Hofstee, B.H.J., *Nature* **1959**, 184, 1296

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Norris John Holness

1927 -

British, b. ?

Winstein-Holness equation

Winstein, S.; Holness, N.J., *J. Am. Chem. Soc.* **1955**, 77, 5562

Biographical References:

Seeman, J.I. *Chem. Rev.* **1983**, 83, 83

Robert Hooke

18 July 1635 - 3 March 1703

British, b. Freshwater, Isle of Wight

Hooke's law

Hooke, R., *De Potentia Restitutiva*, 1678

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Daintith, J.; Mitchell, S.; Tootill, E.; Gjersten, D., *Biographical Encyclopedia of Scientists*, Institute of Physics Publishing: Bristol, UK, 1994

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Erich Armand Arthur Joseph Hückel

9 August 1896 - 16 February 1980

German, b. Berlin-Charlottenburg, Germany

Debye-Hückel law

Debye, P.; Hückel, E., *Physik.Z.* **1923**, 24, 185

Biographical References:

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Maurice Loyal Huggins

19 September 1897 - 1981

American, b. Berkeley, California, USA

Flory-Huggins theory

see Paul John Flory

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Noel Sydney Hush

15 December 1924 -

British-Australian, b. ?

Marcus-Hush relationship

Hush, N.S., *Trans. Faraday Soc.* **1961**, 57, 557

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Marcus, R.A., *J. Chem. Phys.* **1965**, 43, 679

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William Platt Jencks

15 August 1927 -

American, b. Bar Harbor, Maine, USA

Keeffe-Jencks equations

Keeffe, J.R.; Jencks, W.P. *J. Am. Chem. Soc.* **1981**, 103, 2457

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James Prescott Joule



24 December 1818 - 11 October 1889

British, b. Salford, England

Joule's first law, Joule's second law

Joule, J.P., *Phil. Mag.* **1841**, 19, 260

Biographical references:

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Martin Karplus



15 March 1930 -

Austrian-American, b. Vienna, Austria

Karplus equation

Karplus, M., *J. Chem. Phys.* **1959**, 30, 11

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James R. Keeffe

American, b. ?

Keeffe-Jencks equations

Keeffe, J.R.; Jencks, W.P. *J. Am. Chem. Soc.* **1981**, 103, 2457

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Biographical references:

Gustav Robert Kirchhoff

12 March 1824 - 17 October 1887

German, b. Königsberg, Prussia, now Kaliningrad, Lithuania

Kirchhoff's laws (electrolytes)

Kirchhoff, G.R., *Ann. Physik* **1858**, 103, 206

Kirchhoff, G.R., *Ann. Physik* **1858**, 104, 612

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John Gamble Kirkwood

30 May 1907 - 9 August 1959

American, b. Gatebo, Oklahoma, USA

Kirkwood-Onsager equation

Kirkwood, J.G., *J. Chem. Phys.* **1934**, 2, 351

Onsager, L., *J. Am. Chem. Soc.* **1936**, 58, 1486

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Friedrich Wilhelm Georg Kohlrausch

14 October 1840 - 17 January 1910

German, b. Rinteln, Germany

Kohlrausch relaxation function

Kohlrausch square root law

Kohlrausch, F., *Ann. Physik* **1863**, 119, 337

Kohlrausch law of independent migration of ions

Kohlrausch, F., *Ann. Physik* **1880**, 11, 653

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Johann Heinrich Lambert

26 August 1728 - 23 September 1777

German, b. Mulhouse, Alsace, France

Beer-Lambert-Bouguer law

see August Beer

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Alfred Landé

13 December 1888 - 1975

German, b. Elberfeld, Germany

Landé g-factor (splitting factor)

Landé, A., *Verh. Deut. Physik. Gesell.* **1919**, 21, 585

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Paul Langevin



23 January 1872 - 19 December 1946
French, b. Paris, France

Langevin equation

Langevin, P., *Compt. Rend.* **1904**, 139, 1204
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Irving Langmuir



31 January 1881 - 16 August 1957
American, b. Brooklyn, New York, USA

Nobel Prize Chemistry 1932

Langmuir's equation

Langmuir, I., J. Am. Chem. Soc. **1932**, 54, 2798

Langmuir, I., J. Chem. Phys. **1933**, 1, 3

Biographical References:

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Max Theodor Felix von Laue



9 October 1879 - 24 April 1960

German, b. Pfaffendorf, Koblenz, Germany

Nobel Prize Physics 1914

Laue equations

Friedrich, W.; Knipping, P.; v. Laue, M., *Sitzber. Math.-Phys. Klasse Bayer. Akad. Wissen. Munchen* **1912**, 303

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Antoine Laurent Lavoisier



26 August 1743 - 8 May 1794

French, b. Paris, France

Lavoisier's law

Lavoisier, A., *Mem. Acad. Roy. Sci.* **1775**, 520

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Sir John Edward Lennard-Jones

27 October 1894 - 1 November 1954

British, b. Leigh, England

Lennard-Jones potential

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Hans Lineweaver

25 December 1907 - ?

American, b. Pickens, West Virginia, USA

Lineweaver-Burk plot

see Dean Burk

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<http://www.library.yale.edu/pubstation/databases/biogen.html>

American Men of Science, Physical and Biological Sciences, 11th ed.,

R.R. Bowker: Providence, N.J., 1967

Hendrik Antoon Lorentz



18 July 1853 - 4 February 1928

Dutch, b. Arnhem, Netherlands

Physics Nobel Prize 1902

Lorentzian function, Lorentzian bandshape

Biographical References:

Fokker, A.D., *Physica* **1928**, 8, 4

O.W.R. *Proc. Roy. Soc. London* **1928**, 121A, xx-xxviii

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McCormach, R. in Gillispie, Charles Coulston (ed.), *Dictionary of Scientific Biography*, Charles Scribner & Sons: New York, 1980, Vol. 8, 487

Elmer Cornelius Lupton, Jr.

8 August 1945 -

American, b. Baltimore, Maryland

Swain-Lupton equation

Swain, C.G.; Lupton, E.C., Jr., *J. Am. Chem. Soc.* **1968**, 90, 4328

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Biography and Genealogy Master Index,

<http://www.library.yale.edu/pubstation/databases/biogen.html>

personal communication

Erwin Madelung

18 May 1881 – 1 August 1972

German, b. Bonn, Germany

Madelung series, Madelung constant

Madelung, E., *Physik. Z.* **1910**, 11, 898

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Pogg. **1926**, 5, 789

Schröder, U.E. in *Physiker und Astronomen in Frankfurt*, University of Frankfurt, Department of Physics: Frankfurt, 1989

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Rudolph Arthur Marcus



21 July 1923 -

Canadian-American, b. Montreal, Quebec, Canada

Marcus equation, Marcus inverted region

Marcus, R.A., *J. Chem. Phys.* **1956**, 24, 966

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Marcus, R.A., *J. Chem. Phys.* **1963**, 38, 1858

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Marcus-Hush relationship

see N.S. Hush

Be(ll)-Ma(rcus)-Ha(mmond)-Po(lanyi)-Th(ornton)-Le(ffler) principle

see Ronald Percy Bell

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Edme Mariotte

1620 - 12 May 1684

French, b. Bourgogne, near Dijon, France

Mariotte's law (1676) (also known as Boyle's law)

Mariotte, E. *Essai de la nature de l'air*, 1676

Biographical references:

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M.F. Massieu

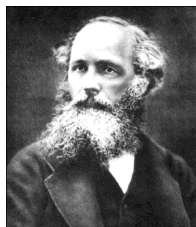
French, b. ?

Massieu functions

Massieu, M.F., *Compt. Rend.* **1869**, 69, 858; 1057

Biographical references:

James Clerk Maxwell



13 June 1831 - 5 November 1879
Scottish, b. Edinburgh, Scotland

Maxwell's equations

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Maxwell distribution

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Dimitri Ivanovich Mendeleev (Mendeleev)



7 February 1834 - 7 February 1907
Russian, b. Tobol'sk, Siberia, Russia

Mendeleev periodicity law

Mendeleev, D., *J. Russ. Chem. Soc.* **1869**, 1, 60

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Maud Leonora Menten



20 March 1879 - 20 July 1960

Canadian, b. Port Lambton, Ontario, Canada

Michaelis-Menten equation

Brown, A.J. *J. Chem. Soc. Trans.* **1892**, 61, 369

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British, b. Llandovery, Carmarthenshire, Wales

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British, b. Weymouth, England

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25 June 1864 - 18 November 1941

German, b. Briessen, West Prussia, now Wabrezno, Poland

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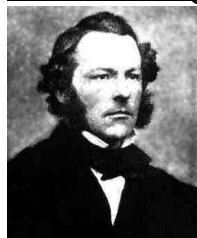
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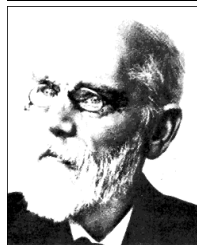
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Max Volmer

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Barnet Woolf

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