

NAMED EQUATIONS AND LAWS IN CHEMISTRY

(R – Z)

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François Marie Raoult

10 May 1830 - 1 April 1901

French, b. Fournes, Nord, France

Raoult's law

Raoult, F.M., *Compt. Rend.* **1882**, 95, 1030

Raoult, F.M., *Compt. Rend.* **1887**, 104, 1430

Raoult, F.M., *Z. Physik. Chem.* **1888**, 2, 353

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Dieter Rehm

16 March 1938 -

German, b. Stuttgart, Germany

Rehm-Weller equation

Rehm, D.; Weller, A., *Isr. J. Chem.* **1970**, 8, 259

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Calvin Donald Ritchie

30 January 1930 -

American, b. Arlington, Virginia, USA

Ritchie equation

Ritchie, C.D., *Acc. Chem. Res.* **1972**, 5, 348

Biographical References:

Ritchie, C.D., *Acc. Chem. Res.* **1972**, 5, 348

George Scatchard

19 March 1892 - 10 December 1973

American, b. Oneonta, New York, USA

Scatchard plot

Scatchard, G., *Ann. N.Y. Acad. Sci.* **1949**, 51, 660

Biographical References:

Edsall, J.T.; Stockmayer, W.H., *Biog. Memoirs Natl. Acad. Sci.* **1980**, 52, 335

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Hannibal: Missouri, 1968

Lawrence Joseph Schaad



23 September 1930 – 12 November 2009

American, b. Columbus, Ohio, USA

Swain-Schaad equation

Swain, C.G.; Stivers, E.C.; Reuwer, J.F., Jr.; Schaad, L.J., *J. Am. Chem. Soc.* **1958**, 80, 5885

Biographical References:

Hess, B.A. Jr.; Schaad, L.J.; Carsky, P.; Zahradnik, R., *Chem. Rev.* **1986**, 86, 709
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Erwin Schrödinger



12 August 1887 - 4 January 1961
Austrian, b. Vienna, Austria

Nobel Prize Chemistry 1933

Schrödinger equation

Schrödinger, E., *Ann. Physik* **1926**, 79, 361

Schrödinger, E., *Ann. Physik* **1926**, 79, 489

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Carlton Browne Scott

1924 -
American, b. ?

Swain-Scott equation

Swain, C.G.; Scott, C.B., *J. Am. Chem. Soc.* **1953**, 75, 141

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

Marian Smoluchowski

28 May 1872 - 5 September 1917

Austrian, b. Vorderbrühl, near Vienna, Austria

Smoluchowski equation

Smoluchowski, M., *Z. Physik. Chem.* **1917**, 92, 129

Einstein-Smoluchowski equation

Smoluchowski, M., *Ann. Physik* **1908**, 25, 205

Biographical References:

Teske, A.E. in Gillispie, Charles Coulston (ed.), *Dictionary of Scientific Biography*, Charles Scribner & Sons: New York, 1975, Vol. 12, 496

Ivan Mikhailovich Setschenow (Sechenov, Secenov)

1 August 1829 - 2 November 1905

Russian, b. Teply Stan (now Sechenovo), Russia

Setschenow equation

Setschenow, J. *Z. Physik. Chem.* **1889**, 4, 117

Setschenow *Ann. Chim. Phys.* **1892**, 25, 226

Biographical References:

Laroshevsky, M.G. in Gillispie, Charles Coulston (ed.), *Dictionary of Scientific Biography*, Charles Scribner & Sons: New York, 1981, Vol. 12, 270

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Koshtoyants, K.S. *I.M. Sechenov*, Moscow, 1950

Yaroslavski, M.G. *I.M. Sechenov*, Leningrad, 1968

Johannes Stark



15 April 1874 - 21 June 1957

German, b. Schikhenhof, Upper Palatinate, Germany

Nobel Prize Physics 1919

Stark-Einstein law of photochemical equivalence

see Albert Einstein

Biographical References:

Maurer, James F. (ed.) *Concise Dictionary of Scientific Biography*, Charles Scribner's Sons: New York, 1981

Otto Stern



17 February 1888 - 17 August 1969

German-American, b. Sohrau, Upper Silesia, Germany, now Zory, Poland

Nobel Prize Physics 1943

Stern-Volmer equation, Stern-Volmer plot

Stern, O.; Volmer, M., *Physik. Z.* **1919**, 20, 183

Biographical References:

Segre, E., *Biog. Memoirs Natl. Acad. Sci.* **1973**, 43, 215

Maurer, James F. (ed.) *Concise Dictionary of Scientific Biography*, Charles Scribner's Sons: New York, 1981

Sir George Gabriel Stokes, 1st Baronet



13 August 1819 - 1 February 1903

British, b. Skreen, County Sligo, Ireland

Stokes law of fluorescence

Stokes lines, anti-Stokes lines

Stokes shifts

Stokes, G.G., *Proc. Roy. Soc.* **1852**, 6, 195

Stokes law

Stokes, G.G., *Proc. Camb. Phil. Soc.* **1856**, 9, 5

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Charles Gardner Swain

26 May 1917 -

American, b. Quincy, Massachusetts, USA

Swain-Lupton equation (see Elmer Cornelius Lupton, Jr.)

Swain-Scott equation (see Carleton B. Scott)

Swain-Schaad equation (see Lawrence Joseph Schaad)

Biographical References:

Press, Jaques Cattell (ed.) *American Men & Women of Science*, 14th ed., R.R. Bowker Co.: New York, 1979

Robert Wheaton Taft, Jr.

17 December 1922 - 1996

American, b. Lawrence, Kansas, USA

Taft equation

Taft, R.W., Jr., *J. Am. Chem. Soc.* **1952**, 74, 3120

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Yuhō Tsuno

1931 -

Japanese, b. ?

Yukawa-Tsuno equation

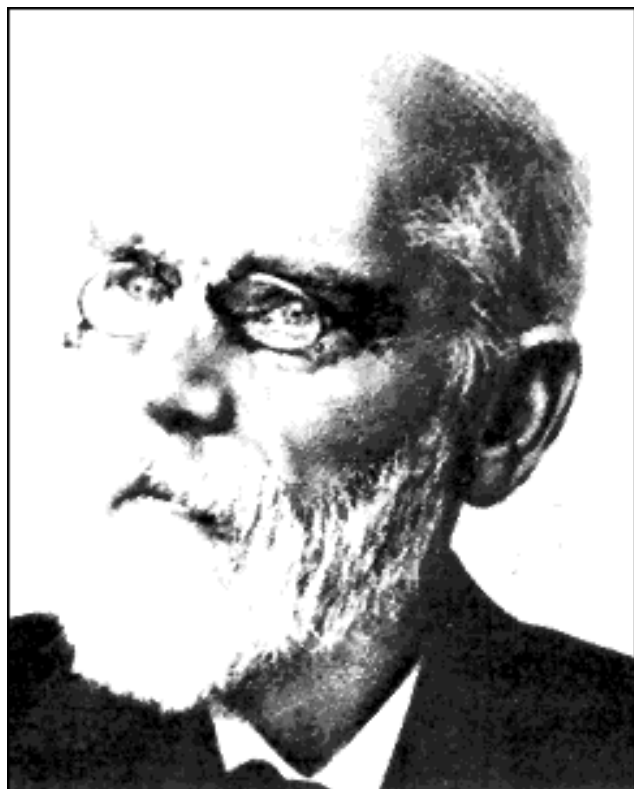
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Johannes Diderik van der Waals



23 November 1837 - 9 March 1923
Dutch, b. Leiden, Netherlands

Nobel Prize Physics 1910

van der Waals equation of state

van der Waals, J.D., *Ann. Physik Chem. Beiblatter* **1877**, 1, 10

van der Waals, J.D., *Proc. Akad. Wetenschappen* **1912**, 13, 107

van der Waals, J.D., *Chem. Weekblad* **1914**, 10, 628

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van der Waals radii, forces

van der Waals, J.D., *Chem. Zentr.* **1911**, 1, 110

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Jacobus Henricus van't Hoff



30 August 1852 - 1 March 1911
Dutch, b. Rotterdam, Netherlands

Nobel Prize Chemistry 1901

Van't Hoff's law, theory of dilute solutions

van't Hoff, J.H., *Z. Physik. Chem.* **1887**, 1, 481

van't Hoff, J.H., *Chem. Ber.* **1877**, 10, 669

Van't Hoff law of osmosis

Van't Hoff, J.H., *Phil. Mag.* **1888**, 26, 81

Van't Hoff plot, Van't Hoff equation

van't Hoff, J.H. *Etudes de Dynamique Chimique*, Muller: Amsterdam, 1884, p. 114 - 118

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Snelders, H.A.M. in Gillispie, Charles Coulston (ed.), *Dictionary of Scientific Biography*, Charles Scribner & Sons: New York, 1976, Vol. 13, 575

Max Volmer

3 May 1885 - 3 June 1965

German, b. Hilden-Rheinland, Germany

Stern-Volmer plot

see Otto Stern

Biographical References:

Turvich, John; Turkevich, Ludmilla B. *Prominent Scientists of Continental Europe*, Elsevier: New York, 1968

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Thiessen, P.A., *Z. Physik. Chem.* **1960**, 214, 1

Gans, W., *J. Crystal. Growth* **1985**, 73, 407

Pierre Ernest Weiss

25 March 1865 – 24 October 1940

French, b. Mulhouse, France

Curie-Weiss law

Weiss, P. *J. Physique* **1905**, 4, 469; 829

Weiss, P.; Kunz, J. *J. Physique* **1905**, 4, 847

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see Pierre Curie

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Foëx, G. *Ann. Physique* **1945**, 20[11], 111

Vincent, H. *Compt. Rend.* **1940**, 211, 345

Albert Hermann Weller

5 April 1922 - 27 September 1996

German, b. Welzheim Baden-Württemberg, Germany

Rehm-Weller equation

see Dieter Rehm

Biographical References:

Zachariasse, K., *J. Phys. Chem.* **1991**, 95, 1867

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Saul Winstein

8 October 1912 - 23 November 1969

Canadian-American, b. Montreal, Quebec, Canada

Winstein-Holness equation (see Norris John Holness)

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Max Wolfsberg

28 May 1928 –

German-American, b. Hamburg, Germany

Bigeleisen-Wolfsberg equation

see Jacob Bigeleisen

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New Providence, New Jersey, 1998

Barnet Woolf

24 November 1902 – 20 March 1983

British, b. Bethnal Green, England

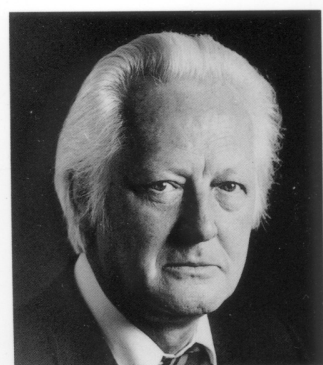
Hanes-Woolf plot

see Charles Samuel Hanes

Biographical references:

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Keith Yates



22 October 1928 - 2 December 2006
British-Canadian, b. Preston, England

Cox-Yates acidity function
see Robin Cox

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Kyonka, M. *Toronto Star*, December 26, 2006, p. J12.

Yasuhide Yukawa

1 March 1914 –
Japanese, b. ?

see Yuho Tsuno

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