

PART III THE BUSINESS OF CHEMISTRY



A dateline of events of interest to the chemical enterprise

1668 E. Merck (Germany) founded.
 1819 Instruments SA forerunner founded.
 1843 Eberbach Corp. founded.
 1849 Pfizer founded.
 1850 Pennsylvania Salt Manufacturing Co. (Pennwalt) founded.
 1851 Corning founded.
 1852 E. H. Sargent & Co. founded.
 1853 Bausch & Lomb Optical Co. founded.
 1857 Carl Zeiss founded.
 1860 A. S. Aloe Co. founded.
 1864 Philadelphia Quartz Co. (PQ Corp.) founded.
 1866 Sherwin-Williams founded.
 1867 Mallinckrodt Chemical Works founded.
 1869 William Ainsworth Co. founded.
 1870 Sartorius founded.
 1870 J. D. Rockefeller formed Standard Oil Company.
 1875 Shimadzu founded.
 1878 Barnstead founded.
 1878 Omega Protein Co. precursor founded by the Hanie Brothers.
 1880 W. M. Welch Manufacturing Co. founded.
 1883 Benjamin Moore founded.
 1884 Miles Medical Company founded.
 1884 Solvay Process Co. founded.
 1885 Honeywell founded.
 1885 Stauffer Chemical Co. founded.
 1886 Brin's Oxygen Co. (later BOC) founded.
 1887 First electric arc furnace in U.S. operated at Oldbury Electrochemical.

1888 Wheaton founded.
 1888 Liquid Carbonic founded.
 1890 Cargill founded.
 1891 The North American Philips Co. (Norelco) founded.
 1892 General Electric Co. founded.
 1892 Shell founded.
 1892 Olin Industries founded.
 1897 Dow Chemical Co. founded.
 1898 Union Carbide Co. founded.
 1899 Parr Instrument Co. founded.
 1899 Eastman begins producing nitrocellulose film on roll.
 1900 Arthur H. Thomas Co. (Thomas Scientific) founded.
 1901 IMO Deval Co. founded.
 1902 Fisher (Scientific Materials Co.) founded.

1902 Grasselli Chemical Co. began manufacturing lime-sulfur insecticides.
 1902 Daniels Linseed Co. (future Archer Daniels Midland) formed.
 1902 Victor Chemical Co. founded.
 1902 Air Liquide founded by Georges Claude.
 1902 Minnesota Mining and Manufacturing Co. (3M) founded.
 1903 DuPont Experimental Station founded.
 1904 J.T. Baker Co. founded.
 1907 Ohaus Corp. founded.
 1907 Bell and Howell Co. founded.
 1907 Grasselli begins lead arsenate insecticide production.
 1907 Shell and Royal Dutch Co. merged.
 1907 Bakelite synthesized.
 1908 Chicago Apparatus Co. founded.
 1909 Rohm and Haas established U.S. office in Philadelphia.
 1910 Hitachi founded.
 1910 Nippon Sanso founded.
 1912 Electric Heating Apparatus Co. (Lindberg) founded.
 1912 Hercules and Atlas were formed out of divestiture of DuPont explosives.
 1912 "Methyl rubber" first synthesized.
 1916 Foote Mineral Co. founded from precursor company.
 1917 Burrell Scientific founded.
 1919 American Instrument Co. founded.

1919 BOC Edwards Vacuum Technology founded.
 1920 Allied Chemical and Dye Co. acquired Solvay Process Co.
 1921 Visolac nitrocellulose lacquer developed by DuPont.
 1921 First successful alkyd coating developed at General Electric.
 1921 Rust-Oleum (now part of RPM International) founded.
 1922 Anton Paar GmbH founded.
 1922 Hellma GmbH founded.
 1922 Raytheon Co. founded.
 1924 Resin Products Co. founded by Rohm and Haas and Karl Albert Co.
 1925 Labconco Corp. founded.
 1925 I.G. Farben formed.
 1926 Matheson Gas Products founded.
 1926 ICI formed.
 1927 Schlumberger Corp. founded.
 1928 GFS Chemicals founded.
 1928 DuPont acquired Grasselli.
 1928 G. Frederick Smith founded GFS Chemicals.
 1929 Kimble Glass Co. (merges with Kontes in 1982) founded.
 1932 Stepan Co. founded as a calcium chloride distributor.
 1934 Applied Research Laboratories founded.
 1934 Wallace Carothers at DuPont discovered nylon.
 1935 National Technical Laboratories (Beckman) founded.
 1935 GOW-MAC Instrument Co. founded.
 1935 PURAC began lactic acid production.
 1936 Baird Corp. founded.
 1936 LECO Corp. founded.
 1937 Perkin-Elmer founded.
 1938 Jarrell-Ash Co. founded.
 1939 Gilson founded.
 1939 Hewlett-Packard founded.
 1939 Photovolt founded.
 1939 Paul Muller discovers insecticidal properties of DDT.
 1939 Liquid Carbonic acquired Wall Chemicals.
 1940 Air Products founded.
 1941 Brinkmann Instruments founded.
 1942 Thermolyne (merges with Barnstead, 1988) founded.
 1942 Aeroject Engineering Corp. founded.
 1943 Kontes Glass Co. founded.

1943 Dow Corning Corp. founded.
 1943 Cargill entered soybean processing.
 1944 DuPont manufactured commercial-scale DDT.
 1945 Mettler founded.
 1946 Blue M Electric Co. founded.
 1946 Applied Physics Corp. founded.
 1946 Kratos Analytical founded.
 1947 Dock Resins founded.
 1948 Hamamatsu forerunner founded.
 1948 Varian Associates founded.
 1949 Nalge founded.



1949 Packard Instrument Co. founded.
 1949 Heptachlor developed; produced by Velsicol.
 1950 Spectronic (as part of Bausch & Lomb) founded.
 1950 Whatman founded.
 1951 Aldrich Chemical Co. founded.
 1951 Wang Laboratories founded.
 1951 Hach founded.
 1951 Geigy Chemical Co. introduced carbamate pesticides.
 1951 Siemens produced first workable ink-jet.
 1952 Monsanto began herbicide research.
 1953 Horiba Instruments founded.
 1953 McPherson founded.
 1953 Hamilton founded.
 1954 Millipore founded.
 1954 Packard Tricarb marketed.
 1954 Spex CertiPrep founded.
 1956 Cole-Parmer founded.
 1956 Thermo Electron Corp. founded.

1956 Hooker Electrochemical acquired Oldbury Electrochemical Co.
 1957 Bio-Rad founded.
 1957 Cahn Instruments founded.
 1957 F&M Scientific Corp. founded.
 1957 Hercules began making polypropylene for consumer bottling.
 1958 Instruments for Research and Industry founded.
 1958 Isco founded.
 1958 Waters Corp. founded.
 1958 Coulter Electronics Corp. founded.
 1958 Jack Kilby at Texas Instruments developed integrated circuit.
 1959 Galileo Corp. (as Mosaic Fabrications) founded.
 1959 Robert Noyce at Fairchild Semiconductor developed alternate integrated circuit.
 1959 Richard Feynman predicted nanotechnology.
 1960 Bruker founded.
 1960 Scott Specialty Gases founded.
 1960 Stauffer Chemical Co. acquired Victor Chemical Co.
 1961 Spectra-Physics founded.
 1962 EDAX International founded.
 1962 JEOL USA founded.
 1962 Oriol (originally Gilbert Technical Sales) founded.
 1962 Orion Research founded.
 1962 TA Instruments formed by DuPont (separates 1990).
 1962 *Silent Spring* by Rachel Carson published.
 1963 O.I. Corp. founded.
 1964 Mobil Oil acquired Virginia-Carolina Chemical.
 1966 Coherent Laser founded.
 1967 Antek Instruments founded.
 1967 Finnigan Corp. founded.
 1967 First commercial shipment of high-fructose corn syrup.
 1968 Bio-Tek Instruments founded.
 1968 Scientific Software founded.
 1968 Hooker Electrochemical became part of Occidental Petroleum Co.
 1968 Robert Noyce and Gordon Moore founded Intel Corp.
 1969 Bohdan Automation founded.
 1969 Melles Griot founded.
 1969 Thermo Separation founded.
 1970 NuAire founded.
 1970 Buck Scientific founded.
 1970 Alltech founded.
 1971 Vydac founded.

1972 Tekmar-Dohrmann founded.
 1972 Burleigh Instruments founded.
 1973 Bomem founded.
 1973 VICI founded.
 1974 Bionalytical Systems (BAS) founded.
 1974 HNU founded.
 1974 Norio Taniguchi coined "nanotechnology."
 1974 Monsanto markets Roundup herbicide.
 1975 J&W Scientific founded.
 1975 Dionex founded.
 1975 Jasco founded.
 1976 National Instruments founded.
 1976 Nicolet founded.
 1976 SABIC founded.
 1976 Genentech founded.
 1978 Graseby founded.
 1978 CEM founded.
 1978 SGE founded.
 1978 Midac founded.
 1978 Hybritech founded.
 1978 Biogen founded.
 1979 Asoma Instruments founded.
 1979 Spectra Tech founded.
 1979 Tripos Associates founded.
 1979 Canon offers first commercial ink-jet printer.
 1980 Analect Instruments founded.
 1980 Tecan founded.
 1980 Applied Molecular Genetics (Amgen) founded.
 1981 Leeman Labs founded.
 1981 IBM's Gerd Binnig and Heinrich Rohrer invented scanning tunneling microscope (STM).
 1981 Genzyme founded.
 1982 Alfa Aesar founded.
 1982 Wyatt Technology Corp. founded.
 1982 Connecticut Oxygen Corp. became U.S. Airgas (Airgas).
 1982 Genentech's Humulin—the first bioengineered product—marketed by Eli Lilly.
 1983 Anatel founded.
 1983 Burdick & Jackson founded.
 1983 Cosa founded.
 1983 Occidental Petroleum became Occidental Chemical (OxyChem).
 1983 Nippon Sanso acquired Matheson Gas Products.

1983 Cetus Corp. developed PCR.
 1985 Jones Chromatography founded.
 1985 MSA Instrument Division founded.
 1985 Telecation founded.
 1985 Cargill Co. acquired 80% of Gardinier, a phosphate mining company.
 1985 Robert Curl, Harold Koto, and Richard Smalley discovered fullerenes.
 1985 Eli Lilly acquired Hibritech.
 1986 Source for Automation founded.



1986 Thermo Instrument Systems founded.
 1986 FFFraction founded.
 1986 Applied Biosystems developed the first marketable DNA sequencer.
 1987 Cypress Systems founded.
 1987 Digital Instruments founded.
 1987 Dynatherm Analytical Instruments founded.
 1987 Justice Innovations founded.
 1987 Stauffer Chemical Co. acquired by ICI.
 1988 Axiom founded.
 1988 Park Scientific Instruments founded.
 1988 J-Kem Scientific founded.
 1989 LEAP Technologies founded.
 1989 Entech Instruments founded.
 1989 Ocean Optics founded.
 1990 CSS Company (CSS Analytical in 1994) founded.
 1990 Sensor founded.
 1990 SciOptics Corp. founded.

1990 Affymetrix founded.
 1991 Perseptive Biosystems founded.
 1991 Chromatofast founded.
 1992 Linde Division of Union Carbide became independent Praxair.
 1992 William Hazeltine founded Human Genome Sciences (HGS).
 1993 Applied Biosystems and Perkin-Elmer merged.
 1994 Micromass (formerly VG Instruments) founded.
 1994 Metorex founded.
 1996 ArrayIt founded.
 1996 Chemical Computing Group founded.
 1997 Mitsui Chemical founded (parent of Anderson Development).
 1997 Nutrinova formed from Hoechst AG.
 1997 Beckman Instruments acquired Coulter Electronics.
 1997 Genomic Solutions founded.
 1998 Dynamit Nobel acquired Foote Mineral Co.
 1998 QuantumDot formed.
 1998 FDA approved first monoclonal drug (Rituxan) from IDEC Pharmaceuticals and Genentech.
 1998 Celera Genomics founded by Perkin-Elmer and Craig Venter.
 1999 Morton Salt became part of Rohm and Haas.
 1999 Perkin-Elmer merged with EG&G and was renamed PerkinElmer.
 1999 Agilent Technologies spun off from HP.
 2000 Beard Research (partner to CB Research and Development) founded.
 2000 Syngenta formed by merger of Novartis and Zeneca agribusinesses.
 2000 Evident Technologies founded.
 2001 Accelrys founded.
 2002 Frontier Carbon Corp. opened first fullerene plant in the world.
 2002 Amgen acquired Immunex.
 2004 Sigma-Aldrich Fine Chemicals purchased Ultrafine. ♦