

Dr. John Andraos, <http://www.careerchem.com/NAMED/NobelChem.pdf>

Nobel Prizes in Chemistry

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<http://www.chem.yorku.ca/NAMED/>

NOBEL PRIZE CHEMISTRY			
YEAR	NAMES OF SCIENTISTS	NATIONALITY	TYPE OF CHEMISTRY
1901	Jacobus van't Hoff	Dutch	physical
1902	Emil Fischer	German	organic
1903	Svante Arrhenius	Swedish	physical
1904	Sir William Ramsay	British	physical
1905	Adolf von Baeyer	German	organic
1906	Henri Moissan	French	inorganic
1907	Eduard Buchner	German	organic/bioorganic
1908	Lord Ernest Rutherford	British	nuclear
1909	Wilhelm Ostwald	Latvian	physical
1910	Otto Wallach	German	organic
1911	Marie Curie	Polish-French	nuclear
1912	Victor Grignard	French	organic
1912	Paul Sabatier	French	organic
1913	Alfred Werner	German	inorganic
1914	Theodore Williams Richards	American	physical
1915	Richard Martin Willstätter	German	organic
1916	no prize awarded	N/A	N/A
1917	no prize awarded	N/A	N/A
1918	Fritz Haber	German	physical/industrial
1919	no prize awarded	N/A	N/A

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1920	Walther Hermann Nernst	German	physical
1921	Frederick Soddy	British	nuclear
1922	Francis William Aston	British	analytical
1923	Fritz Pregl	Slovenian	analytical
1924	no prize awarded	N/A	N/A
1925	Richard Zsigmondy	Austrian	physical
1926	Theodor Svedberg	Swedish	physical
1927	Heinrich Wieland	German	organic
1928	Adolf Windaus	German	organic
1929	Hans von Euler-Chelpin	German	bioorganic
1929	Arthur Harden	British	bioorganic
1930	Hans Fischer	German	bioorganic
1931	Friedrich Bergius	German	physical
1931	Carl Bosch	German	physical
1932	Irving Langmuir	American	physical
1933	no prize awarded	N/A	N/A
1934	Harold Urey	American	nuclear
1935	Frederic Joliot	French	nuclear
1935	Irene Joliot-Curie	French	nuclear
1936	Peter Debye	Dutch	physical
1937	Sir Walter Haworth	British	organic
1937	Paul Karrer	Russian	organic
1938	Richard Kuhn	Austrian	organic
1939	Adolf Butenandt	German	organic
1939	Leopold Ruzicka	Croatian	organic
1940	no prize awarded	N/A	N/A
1941	no prize awarded	N/A	N/A
1942	no prize awarded	N/A	N/A
1943	George de Hevesy	Hungarian	nuclear
1944	Otto Hahn	German	nuclear
1945	Artturi Virtanen	Finnish	agricchemistry
1946	James Sumner	American	bioorganic

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1946	John Northrup	American	bioorganic
1946	Wendell Stanley	American	bioorganic
1947	Sir Robert Robinson	British	organic
1948	Arne Tiselius	Swedish	bioorganic
1949	William Francis GIAUQUE	Canadian-American	physical
1950	Kurt Alder	German	organic
1950	Otto Paul Hermann Diels	German	organic
1951	Edwin McMillan	American	nuclear
1951	Glenn T. Seaborg	American	nuclear
1952	Archer John Porter Martin	British	analytical
1952	Richard Laurence Millington Synges	British	analytical
1953	Hermann Staudinger	German	organic
1954	Linus Carl Pauling	American	organic
1955	Vincent Du Vigneaud	American	organic
1956	Sir Cyril Hinshelwood	British	physical
1956	Nikolay Nikolayevich Semenov	Russian	physical
1957	Alexander Robertus Todd	Scottish	bioorganic
1958	Frederick Sanger	British	bioorganic
1959	Jaroslav Heyrovksy	Czech	analytical
1960	Willard Libby	American	nuclear
1961	Melvin Calvin	American	bioorganic
1962	John Kendrew	British	bioorganic
1962	Max Perutz	Austrian-British	bioorganic
1963	Giulio Natta	Italian	polymer
1963	Karl Ziegler	German	polymer
1964	Dorothy Crowfoot Hodgkin	British	physical-bioorganic
1965	Robert Woodward	American	organic
1966	Robert Mulliken	American	physical
1967	Ronald Wreyford Norrish	British	physical-organic
1967	Sir George Porter	British	physical-organic
1967	Manfred Eigen	German	physical
1968	Lars Onsager	Norwegian	physical
1969	Sir Derek Harold Richard Barton	British	organic
1969	Odd Hassel	Norwegian	organic
1970	Luis Leloir	French	bioorganic

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1971	Gerhard Herzberg	German-Canadian	physical
1972	Christian Anfinsen	Norwegian	bioorganic
1972	Stanford Moore	American	bioorganic
1972	William Stein	American	bioorganic
1973	Ernst Otto Fischer	German	inorganic
1973	Sir Geoffrey Wilkinson	British	inorganic
1974	Paul Flory	American	polymer
1975	Sir John Cornforth	Australian	organic
1975	Vladimir Prelog	Croatian	organic
1976	William N. Lipscomb, Jr.	American	organic
1977	Ilya Prigogine	Russian-French	physical
1978	Peter Mitchell	British	bioorganic
1979	Herbert Charles Brown	American	organic
1979	Georg Wittig	German	organic
1980	Paul Berg	American	bioorganic
1980	Walter Gilbert	American	bioorganic
1980	Frederick Sanger	British	bioorganic
1981	Kenichi Fukui	Japanese	theoretical
1981	Roald Hoffmann	Polish-American	organic
1982	Aaron Klug	South African-British	bioorganic
1983	Henry Taube	Canadian-American	inorganic
1984	Robert Bruce Merrifield	American	bioorganic
1985	Herbert Aaron Hauptman	American	mathematical biology
1985	Jerome Karle	American	physical
1986	Dudley R. Herschbach	American	physical
1986	Yuan Tseh Lee	Taiwanese-American	physical
1986	John Charles Polanyi	British-Canadian	physical
1987	Donald James Cram	American	organic
1987	Jean-Marie Lehn	French	organic

1987	Charles J. Pedersen	Korean-American	organic
1988	Hartmut Michel	German	bioorganic
1988	Johann Deisenhofer	German	bioorganic
1988	Robert Huber	German	bioorganic
1989	Sidney Altman	Canadian-American	bioorganic
1989	Thomas R. Cech	American	bioorganic
1990	Elias James Corey	American	organic

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1991	Richard R. Ernst	Swiss	physical
1992	Rudolph A. Marcus	Canadian-American	physical
1993	Kary B. Mullis	American	bioorganic
1993	Michael Smith	British-Canadian	bioorganic
1994	George A. Olah	Hungarian-American	organic
1995	Paul Crutzen	Dutch	atmospheric
1995	Mario Molina	Mexican-American	atmospheric
1995	F. Sherwood Rowland	American	atmospheric
1996	Robert F. Curl, Jr.	American	organic
1996	Sir Harold W. Kroto	British	organic
1996	Richard E. Smalley	American	organic
1997	Paul D. Boyer	American	bioorganic
1997	John E. Walker	British	bioorganic
1997	Jens C. Skou	Danish	bioorganic
1998	Walter Kohn	Austrian-American	theoretical
1998	John A. Pople	British-American	theoretical
1999	Ahmed Zewail	Egyptian-American	physical
2000	Alan J. Heeger	American	polymer
2000	Alan G. MacDiarmid	New Zealander-American	polymer
2000	Hideki Shirakawa	Japanese	polymer
2001	William S. Knowles	American	organic
2001	Karl Barry Sharpless	American	organic
2001	Ryoji Noyori	Japanese	organic
2002	John Fenn	American	analytical (MS of proteins)
2002	Koichi Tanaka	Japanese	analytical (MS of proteins)

2002	Kurt Wuethrich	Swiss	analytical (NMR of proteins)
2003	Peter C. Agre	American	water channels in cell membranes
2003	Roderick MacKinnon	American	ion channels in cell membranes
2004	Aaron J. Ciechanover	Israeli	ubiquitin mediated protein degradation
2004	Avram Hershko	Israeli	ubiquitin mediated protein degradation
2004	Irwin A. Rose	American	ubiquitin mediated protein degradation
2005	Yves Chauvin	French	metathesis reaction
2005	Robert H. Grubbs	American	metathesis reaction
2005	Richard R. Schrock	American	metathesis reaction
2006	Roger D. Kornberg	American	RNA transcription in eukaryotes
2007	Gerhard Ertl	German	chemical processes on solid surfaces

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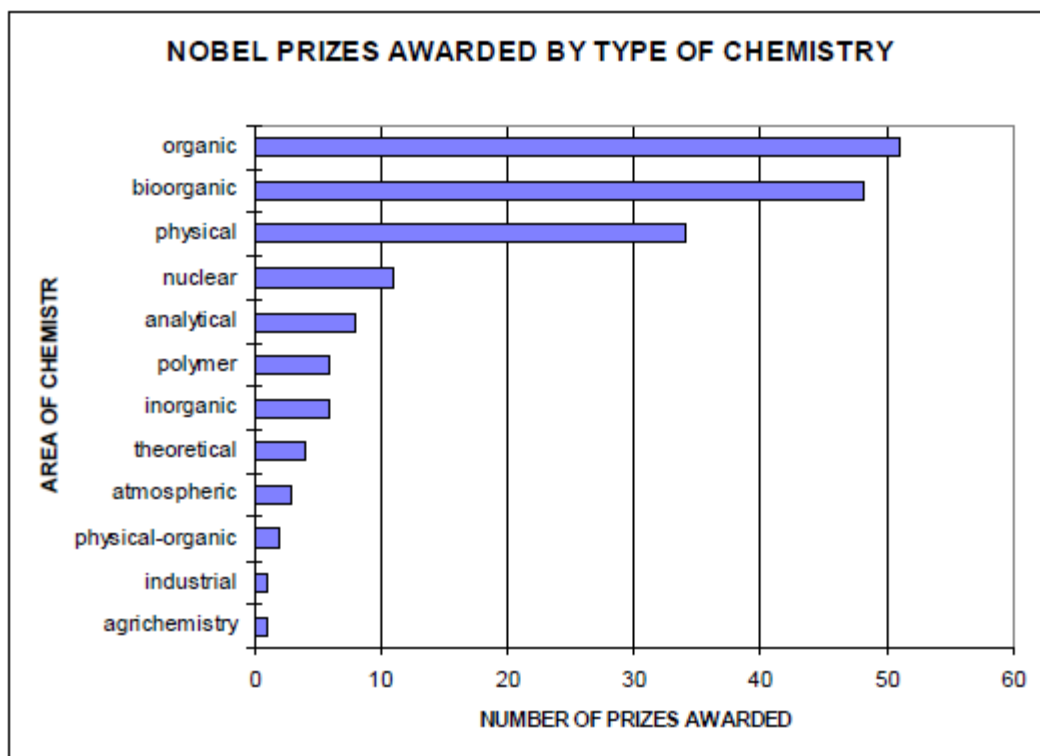
2008	Roger Y. Tsien	American	green fluorescent protein
2008	Martin Chalfie	American	green fluorescent protein
2008	Osamu Shimomura	Japanese	green fluorescent protein
2009	Venkatraman Ramakrishnan	American	ribosome structure
2009	Thomas A. Steitz	American	ribosome structure
2009	Ada E. Yonath	Israeli	ribosome structure
2010	Richard F. Heck	American	cross-coupling reactions
2010	Ei-ichi Negishi	Japanese-American	cross-coupling reactions
2010	Akira Suzuki	Japanese	cross-coupling reactions
2011	Dan Shechtman	Israeli	discovery of quasicrystals
2012	Robert J. Lefkowitz	American	studies of G-protein-coupled receptors
2012	Brian K. Kobilka	American	studies of G-protein-coupled receptors
2013	Martin Karplus	Austrian-American	development of multiscale models for complex chemical systems
2013	Michael Levitt	American-British-Israeli	development of multiscale models for complex chemical systems
2013	Ariel Warshel	Israeli-American	development of multiscale models for complex chemical systems
2014	Eric Betzig	American	for the development of super-resolved fluorescence microscopy
2014	Stefan W. Hell	Romanian-German	for the development of super-resolved fluorescence microscopy
2014	William E. Moerner	American	for the development of super-resolved fluorescence microscopy
2015	Tomas Lindahl	Swedish	mechanistic studies of DNA repair
2015	Paul Modrich	American	mechanistic studies of DNA repair
2015	Aziz Sankar	Turkish-American	mechanistic studies of DNA repair
2016	Bernard L. Feringa	Dutch	design and synthesis of molecular machines
2016	James Fraser Stoddart	Scottish-American	design and synthesis of molecular machines
2016	Jean-Pierre Sauvage	French	design and synthesis of molecular machines
2017	Jacques Dubochet	Swiss	for developing cryo-electron microscopy for the high-resolution structure determination of biomolecules in solution
2017	Joachim Frank	German-American	for developing cryo-electron microscopy for the high-resolution structure determination of biomolecules in solution
2017	Richard Henderson	Scottish	for developing cryo-electron microscopy for the high-resolution structure determination of biomolecules in solution
2018	Frances H. Arnold	American	for directed evolution of enzymes
2018	George P. Smith	American	for the phage display of peptides and antibodies

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2018	Sir Gregory P. Winter	British	for the phage display of peptides and antibodies
2019	John Bannister Goodenough	American	development of the lithium-ion battery
2019	Michael Stanley Whittingham	British	development of the lithium-ion battery
2019	Akira Yoshino	Japanese	development of the lithium-ion battery
2020	Emmanuelle Charpentier	French	for the development of a method for genome editing
2020	Jennifer A. Doudna	American	for the development of a method for genome editing
2021	Benjamin List	German	for the development of asymmetric organocatalysis
2021	David W.C. MacMillan	Scottish-American	for the development of asymmetric organocatalysis

NUMBER OF PRIZES AWARDED BY TYPE OF CHEMISTRY	
AREA OF CHEMISTRY	NUMBER OF PRIZES
agrichemistry	1
analytical	8
atmospheric	3
bioorganic	49
industrial	1
inorganic	6
nuclear	11
organic	52
physical	34
physical-organic	2
polymer	6
theoretical	4

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Ph.D.	UNIVERSITY	SUPERVISOR	PhD		DATES	Age at Prize
2003	Agre, Peter C.	Pedro Cuatrecasas	1974	Johns Hopkins (MD)	1949 -	54
1950	Alder, Kurt	Otto Diels	1926	Kiel	1902 - 1958	48
1989	Altman, Sidney	Leonard S. Lerman	1967	Colorado	1939 -	50
1972	Anfinsen, Christian B.	Albert B. Hastings (Harvard), Hugo Theorell (Medical Nobel Inst.)	1943	Harvard Medical School	1916 - 1995	56
2018	Arnold, Frances H.	Harvey Warren Blanch	1985	UC Berkeley	1956 -	62
1903	Arrhenius, Svante	Erik Edlund, Sven O. Pettersson	1884	Uppsala	1859 - 1927	44

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1922	Aston, Francis William	Percy F. Frankland, John H. Poynting	1898-1900, 1903-8 (no Ph.D.)	Birmingham	1877 - 1945	45
1905	Baeyer, Adolf von	Robert Bunsen, F. Kekule	1858	Berlin	1835 - 1917	70
1969	Barton, Sir Derek Harold Richard	Ewart R.H. Jones, Ian Heilbron	1942	London	1918 - 1998	51
1980	Berg, Paul	Herman Kalckar (Copenhagen); Arthur Kornberg (Washington at St. Louis)	1952	Case Western Reserve	1926 -	54
1931	Bergius, Friedrich	Arthur Hanzsch	1907	Leipzig	1884 - 1949	47
2014	Betzig, Eric	Michael S. Isaacson	1988	Cornell	1960 -	54
1931	Bosch, Carl	Johannes Wislicenus	1898	Leipzig	1874 - 1940	57
1997	Boyer, Paul D.	Paul Phillips	1943	Wisconsin	1918 - 2018	79
1979	Brown, Herbert Charles	Hermann I. Schlesinger	1938	Chicago	1912 - 2004	67
1907	Buchner, Eduard	Adolf Baeyer	1888	Munich	1860 - 1917	47
1939	Butenandt, Adolf	Adolf Windaus	1927	Goettingen	1903 - 1995	36
1961	Calvin, Melvin	George A. Glockler	1935	Minnesota	1911 - 1997	50
1989	Cech, Thomas R.	John E. Hearst	1975	UC Berkeley	1947 -	42
2008	Chalfie, Martin	Robert L. Perlman	1977	Harvard	1947 -	61
2020	Charpentier, Emmanuelle	Patrice Courvalin	1995	Inst. Pasteur, Paris	1968 -	52
2005	Chauvin, Yves	No supervisor	1954	Lyon (MSc)	1930 -	75
2004	Ciechanover, Aaron J.	Harvey Lodish (MIT)	1981	Technion (MD)	1947 -	57
1990	Corey, Elias James	John C. Sheehan	1951	MIT	1928 -	62
1975	Cornforth, Sir John	Sir Robert Robinson	1941	Oxford	1917 -	58
1987	Cram, Donald James	Louis F. Fieser	1947	Harvard	1919 - 2001	68
1995	Crutzen, Paul Josef	Bert Bolin	1968	Stockholm	1933 -	62
1911	Curie, Marie	Henri Becquerel	1902	Sorbonne	1867 - 1934	44
1996	Curl, Jr., Robert Floyd	Kenneth Pitzer	1957	UC Berkeley	1933 -	63
1936	Debye, Peter	Arnold Sommerfeld	1908	Munich	1884 - 1966	52
1988	Deisenhofer, Johann	Robert Huber	1974	TU Berlin, Max Planck Inst. Biochem.	1943 -	45

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1950	Diels, Otto Paul Hermann	Emil Fischer	1899	Berlin	1876 - 1954	74
1967	Eigen, Manfred	Arnold Eucken	1951	Georg-August U, Goettingen	1927 - 2019	40
2020	Doudna, Jennifer A.	Jack Szostak	1989	Harvard Med. School	1964 -	56
2017	Dubochet, Jacques	Eduard Kellenberg	1973	Geneva; Basel	1942 -	75
1991	Ernst, Richard R.	Hans Primas	1962	ETH	1933 - 2021	58
2007	Ertl, Gerhard	Heinz Gerischer	1965	Munich	1936 -	71
1929	Euler-Chelpin, Hans von	Emil Fischer; Emil Warburg; Max Planck	1895	Berlin	1873 - 1964	56
2002	Fenn, John Bennett	Gus Akerlof	1940	Yale	1917 - 2010	85
2016	Feringa, Bernard L.	Hans Wijnberg	1978	Groningen	1951 -	65
1902	Fischer, Emil	Adolf Baeyer	1874	Strasbourg	1852 - 1919	50
1973	Fischer, Ernst Otto	Walter Hieber	1952	TH Munich	1918 - 2007	55
1930	Fischer, Hans	Theodore Zincke	1904	Marburg	1881 - 1945	49
1974	Flory, Paul	Herrick Lee Johnston	1934	Ohio State	1910 - 1985	64
1981	Fukui, Kenichi	Shinjiro Kodama	1948	Kyoto (eng.)	1918 - 1998	63
2017	Frank, Joachim	Walter Hoppe	1970	TU Munich	1940 -	77
1949	Giauque, William Francis	George Ernest Gibson	1922	UC Berkeley	1895 - 1982	54
1980	Gilbert, Walter	Abdus Salam	1957	Cambridge	1932 -	48
2019	Goodenough, John B.	Clarence Zener	1952	Chicago	1922 -	97
1912	Grignard, Victor	Louis Bouveault, Phillipe Barbier	1901	Lyon	1871 - 1935	41
2005	Grubbs, Robert Howard	Ronald Breslow	1968	Columbia	1942 -	63
1918	Haber, Fritz	Carl Liebermann	1891	Berlin-Charlottenberg	1868 - 1934	50
1944	Hahn, Otto	Theodore Zincke	1901	Marburg	1879 - 1968	65
1929	Harden, Arthur	Otto Fischer	1888	Erlangen	1865 - 1940	64
1969	Hassel, Odd	Fritz Haber	1924	Berlin	1897 - 1981	72
1985	Hauptman, Herbert Aaron	Jerome Karle	1955	Maryland (mathematics)	1917 -	68
1937	Haworth, Sir Walter	Otto Wallach	1910	Goettingen	1883 - 1950	54
2010	Heck, Richard F.	Saul Winstein	1954	UCLA	1931 - 2015	79
2000	Heeger, Alan J.	Alan M. Portis	1961	UC Berkeley	1936 -	64
2014	Hell, Stefan W.	Siegfried Hunklinger	1990	Heidelberg	1962 -	52

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2017	Henderson, Richard	David Blow	1969	Cambridge	1945 -	72
1986	Herschbach, Dudley R.	Edgar Bright Wilson, Jr.	1958	Harvard	1932 -	54
2004	Hershko, Avram	G. Tomkins	1969	Hebrew U (MD)	1937 -	67
1971	Herzberg, Gerhard	Hans Rau	1928	TU Darmstadt (eng. physics)	1904 - 1999	67
1943	Hevesy, George de	Georg Meyer	1908	Freiburg	1885 - 1966	58
1959	Heyrovksy, Jaroslav	Jan S. Sterba-Bohm	1918	Charles U, Prague	1890 - 1967	69
1956	Hinshelwood, Sir Cyril	Harold Brewer Hartley	1920	Oxford (MA)	1897 - 1967	59
1964	Hodgkin, Dorothy Crowfoot	John D. Bernal	1937	Cambridge	1910 - 1994	54
1981	Hoffmann, Roald	M. Gouterman, W.N. Lipscomb, Jr.	1962	Harvard	1937 -	44
1988	Huber, Robert	Walter Hoppe, P. Karlson	1963	TU Munich	1937 -	51
1935	Joliot, Frederic	Marie Curie, Paul Langevin	1920s	Radium Institute	1900 - 1958	35
1935	Joliot-Curie, Irene	Marie Curie	1920s	Radium Institute	1897 - 1956	38
1985	Karle, Jerome	Lawrence O. Brockway	1943	Michigan	1918 - 2013	67
2013	Karplus, Martin	Linus Pauling	1953	Cal Tech	1930 -	83
1937	Karrer, Paul	Alfred Werner	1911	Zurich	1889 - 1971	48
1962	Kendrew, John	William Hodge Taylor	1949	Cambridge	1917 -	45
1982	Klug, Aaron	Douglas Rayner Hartree	1952	Cambridge	1926 - 2018	56
2001	Knowles, William Standish	Robert C. Elderfield	1942	Columbia	1917 - 2012	84
2012	Kobilka, Brian K.	Robert J. Lefkowitz		Yale (MD)	1955 -	57

				Duke (post-doc)		
1998	Kohn, Walter	Julian Schwinger	1948	Harvard	1923 - 2016	75
2006	Kornberg, Roger David	Harden M. McConnell	1972	Stanford	1947 -	59
1996	Kroto, Sir Harold Walter	Richard Dixon	1964	Sheffield	1939 - 2016	57
1938	Kuhn, Richard	Richard Willstätter	1922	Munich	1900 - 1967	38
1932	Langmuir, Irving	Walther Nernst	1906	Goettingen	1881 - 1957	51
1986	Lee, Yuan Tseh	Bruce Mahan	1965	UC Berkeley	1936 -	50
2012	Lefkowitz, Robert J.	Jesse Roth (NIH)	1966	Columbia (MD)	1943 -	69
1987	Lehn, Jean-Marie	Guy Ourisson	1963	Strasbourg	1939 -	48
1970	Leloir, Luis	Carl F. Cori (Washington at St. Louis)	1932	Buenos Aires (MD)	1906 - 1987	64

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2013	Levitt, Michael	R. Diamond	1971	Cambridge	1947 -	66
1960	Libby, Willard	Gilbert N. Lewis, Wendell Latimer	1933	UC Berkeley	1908 - 1980	52
2015	Lindahl, Tomas	Jacques R. Fresco; Gerald Edelman	1967	Karolinska Inst.; Princeton, Rockefeller	1938 -	77
1976	Lipscomb, Jr., William N.	Linus Pauling	1946	Cal Tech	1919 -	57
2021	List, Benjamin	Johann Mulzer	1997	Frankfurt	1968 -	53
2000	MacDiarmid, Alan G.	Norris F. Hall; Harry J. Emeleus	1955	Wisconsin(1953), Cambridge(1955)	1927 - 2007	73
2003	MacKinnon, Roderick	Christopher Miller (Brandeis)	1982	Tufts (MD)	1956 -	47
2021	MacMillan, David W.C.	Larry E. Overman	1996	UC Irvine	1968 -	53
1992	Marcus, Rudolph A.	Carl A. Winkler	1946	McGill	1923 -	69
1952	Martin, Archer John Porter	Sir Charles Martin	1936	Cambridge	1910 - 2002	42
1951	McMillan, Edwin	Edward U. Condon	1932	Princeton	1907 - 1991	44
1984	Merrifield, Robert Bruce	Max Dunn	1949	UCLA	1921 -	63
1988	Michel, Hartmut	Dieter Oesterhelt	1977	Wuerzburg	1948 -	40
1978	Mitchell, Peter	James F. Danielli	1951	Cambridge	1920 - 1992	58
2015	Modrich, Paul	I. Robert Lehman	1973	Stanford	1946 -	69
2014	Moerner, William E.	Albert J. Sievers III	1982	Cornell	1953 -	61

1906	Moissan, Henri	Edmond Fremy	1880	Paris	1852 - 1907	54
1995	Molina, Mario Jose	George C. Pimentel	1972	UC Berkeley	1943 -	52
1972	Moore, Stanford	Karl Paul Link	1938	Wisconsin	1913 - 1982	59
1966	Mulliken, Robert	William D. Harkins	1922	Chicago	1896 - 1986	70
1993	Mullis, Kary Banks	John Brian (Joe) Neilands	1973	UC Berkeley	1944 -	49
1963	Natta, Giulio	Giorgio R. Levi	1924	Milan Poly.Inst. (chem. eng.)	1903 - 1979	60
2010	Negishi, Ei-ichi	Allan R. Day; HC Brown	1963	Penn.; Purdue (post-doc)	1935 - 2021	75
1920	Nernst, Walther Hermann	Friedrich Kohlrausch	1887	Wuerzburg	1864 - 1941	56
1967	Norrish, Ronald Wreyford	Sir Eric Keightley Rideal	1924	Cambridge	1897 - 1978	70

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1946	Northrup, John	John M. Nelson	1915	Columbia	1891 - 1987	55
2001	Noyori, Ryoji	Hitosi Nozaki	1967	Kyoto	1938 -	63
1994	Olah, George A.	Geza Zemplen	1949	Tech.U. Budapest	1927 - 2017	67
1968	Onsager, Lars	Peter Debye	1928	Norges TH	1903 - 1976	65
1909	Ostwald, Wilhelm	Carl Schmidt, Johann Lemberg	1877	Dorpat	1853 - 1932	56
1954	Pauling, Linus Carl	Roscoe G. Dickinson	1925	Cal Tech	1901 - 1994	53
1987	Pedersen, Charles J.	James F. Norris	1927	MIT (M.Sc.)	1904 - 1989	83
1962	Perutz, Max	John Desmond Bernal	1940	Cambridge	1914 - 2002	48
1986	Polanyi, John Charles	Ernest Warhurst	1952	Manchester	1929 -	57
1998	Pople, John Anthony	Sir John Lennard-Jones	1951	Cambridge (mathematics)	1925 - 2004	73
1967	Porter, Sir George	Ronald G.W. Norrish	1948	Cambridge (no Ph.D.)	1920 - 2002	47
1923	Pregl, Fritz	Alexander Rollett, Z. Skraup, W. Ostwald (Leipzig), E. Fischer (Berlin)	1894	Graz (MD)	1869 - 1930	54
1975	Prelog, Vladimir	Emil Votocek	1929	Prague	1906 - 1998	69
1977	Prigogine, Ilya	Theophile de Donder	1941	U Libre de Bruxelles	1917 - 2003	60
2009	Ramankrishnan, Venkatraman	Tomayasu Tanaka	1976	Ohio	1952 -	57
1904	Ramsay, Sir William	Rudolf Fittig	1873	Tubingen	1852 - 1916	52

1914	Richards, Theodore Williams	Josiah Cooke	1888	Harvard	1868 - 1928	46
1947	Robinson, Sir Robert	William H. Perkin, Jr.	1909	Manchester	1885 - 1975	62
2004	Rose, Irwin A.	Bernard S. Schweigert	1952	Chicago	1926 - 2015	78
1995	Rowland, Frank Sherwood	Willard F. Libby	1952	Chicago	1927 - 2010	68
1908	Rutherford, Lord Ernest	Sir J.J. Thomson	1897	Cambridge	1871 - 1937	37
1939	Ruzicka, Leopold	Hermann Staudinger	1910	TU Karlsruhe	1887 - 1967	52
1912	Sabatier, Paul	Marcellin Berthelot	1880	College de France	1854 - 1941	58
1958	Sanger, Frederick	Albert Neuberger	1943	Cambridge	1918 - 2013	40
1980	Sanger, Frederick	Albert Neuberger	1943	Cambridge	1918 - 2013	62
2015	Sankar, Aziz	Claud Stanley Rupert	1977	Texas (Dallas)	1946 -	69
2016	Sauvage, Jean-Pierre	Jean-Marie Lehn	1971	U Louis Pasteur	1944 -	72

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2005	Schrock, Richard Royce	John A. Osborn	1972	Harvard	1945 -	60
1951	Seaborg, Glenn T.	Gilbert N. Lewis, E.O. Lawrence	1937	UC Berkeley	1912 - 1999	39
1956	Semenov, Nikolay Nikolayevich	Abram Fedorovich Ioffe	1917	Petrograd (St. Petersburg)	1896 - 1986	80
2001	Sharpless, Karl Barry	Eugene E. van Tamelen	1968	Stanford	1941 -	60
2011	Shechtman, Dan	David G. Brandon	1972	Technion	1941 -	70
2008	Shimomura, Osamu	Yoshimasa Hirata	1960	Nagoya	1928 - 2018	80
2000	Shirakawa, Hideki	Alan J. Heeger (Pennsylvania)	1966	Tokyo Institute of Technology	1936 -	64
1997	Skou, Jens Christian	Soren L. Orskov	1954	Aarhus (Dr. MD)	1918 - 2018	79
1996	Smalley, Richard Errett	Elliot R. Bernstein	1973	Princeton	1943 - 2005	53
2018	Smith, George P.	Oliver Smithies	1970	Harvard PD Wisconsin	1941 -	77
1993	Smith, Michael	Harold B. Henbest	1956	Manchester	1932 - 2000	61
1921	Soddy, Frederick	Ernest Rutherford (post-doc)	1898	Oxford (BA)	1877 - 1956	44

1946	Stanley, Wendell	Roger Adams	1929	Illinois	1904 - 1971	42
1953	Staudinger, Hermann	Daniel Vorlaender	1903	Halle	1881 - 1965	72
1972	Stein, William	E.G. Miller	1937	Columbia	1911 - 1980	61
2009	Steitz, Thomas Arthur	William N. Lipscomb	1966	Harvard	1940 - 2018	69
2016	Stoddart, James Fraser	Edmund L. Hirst	1966	Edinburgh	1942 -	74
1946	Sumner, James	Otto Folin	1914	Harvard Medical School	1887 - 1955	59
2010	Suzuki, Akira	Takeshi Matsumoto	1959	Hokkaido	1930 -	80
1926	Svedberg, Theodor	no supervisor	1907	Uppsala	1884 - 1971	42
1952	Syngé, Richard Laurence Millington	Norman W. Pirie	1941	Cambridge	1914 - 1994	38
2002	Tanaka, Koichi	No supervisor	1983	Tohoku (B.Eng.)	1959 -	43
1983	Taube, Henry	William C. Bray	1940	UC Berkeley	1915 - 2005	68
1948	Tiselius, Arne	Theodor Svedberg	1930	Uppsala	1902 - 1971	46
1957	Todd, Lord Alexander Robertus	Walther Borsche	1931	Frankfurt	1907 - 1997	50
2008	Tsien, Roger Y.	Jeremy Sanders	1977	Cambridge	1952 -	56
1934	Urey, Harold	Gilbert N. Lewis	1923	UC Berkeley	1893 - 1981	41

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1901	van't Hoff, Jacobus	Eduard Mulder	1874	Utrecht	1852 - 1911	49
1955	Vigneaud, Vincent Du	John R. Murlin	1927	Rochester	1901 - 1978	54
1945	Virtanen, Artturi	Ossian Aschan	1919	Helsinki	1895 - 1973	50
1997	Walker, John E.	Sir Edward Penley Abraham	1969	Oxford	1941 -	56
1910	Wallach, Otto	Friedrich Wohler	1869	Goettingen	1847 - 1931	63
2013	Warshel, Ariel	Shneior Lifson	1969	Weizmann Inst. Science	1940 -	73
1913	Werner, Alfred	Arthur Hantzsch	1890	ETH	1866 - 1919	47
2019	Whittingham, Michael Stanley	Peter G. Dickens	1968	Oxford	1941 -	78
1927	Wieland, Heinrich	Johannes Thiele	1901	Munich	1877 - 1957	50
1973	Wilkinson, Sir Geoffrey	Henry Vincent Aird Briscoe	1941	Imperial College, U London	1921 - 1996	52
1915	Willstätter, Richard Martin	Alfred Einhorn	1894	Munich	1872 - 1942	43

1928	Windaus, Adolf	Heinrich Kiliani	1899	Freiburg	1876 - 1959	52
2018	Winter, Sir George P.	Brian Hartley; George Brownlee	1976	Cambridge	1951 -	67
1979	Wittig, Georg	Karl von Auwers	1923	Marburg	1897 - 1987	82
1965	Woodward, Robert Burns	Avery Ashdown; James F. Norris	1937	MIT	1917 - 1979	48
2002	Wuethrich, Kurt	Silvio Arthur Fallab	1964	Basel	1938 -	64
2009	Yonath, Ada E.	Wolfie Traub	1968	Weizmann Institute	1939 -	70
2019	Yoshida, Akira		1972 2005	Kyoto (MSc) Osaka (PhD)	1948 -	71
1999	Zewail, Ahmed	Robin Main Hochstrasser	1974	U Pennsylvania	1946 - 2016	53
1963	Ziegler, Karl	Karl von Auwers	1920	Marburg	1898 - 1973	65
1925	Zsigmondy, Richard	Wilhelm von Miller	1889	Erlangen	1865 - 1929	60

Note: Bolded names are those that are still alive at the time of this writing.

TOP 5 UNIVERSITY RANKING		
18	Cambridge	U.K.
11	UC Berkeley	U.S.
10	Harvard	U.S.

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7	Munich	Germany
4	Berlin	Germany
4	Goettingen	Germany
4	Marburg	Germany
3	MIT	U.S.
3	Uppsala	Sweden

NATIONALITY DEMOGRAPHICS	NUMBER OF PRIZES
American	78
American born	54

German	31
British	29
British born	26
French	10
Canadian	7
Canadian born	4
Japanese	8
Austrian	5
Norwegian	5
Russian	4
Swedish	3
Dutch	4
Croatian	3
Hungarian	2
Polish	2
Swiss	2
Israeli	3
Finnish	2
Egyptian	1
Danish	3
Czech	1
Australian	1
Italian	1
Korean	1

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Latvian	1
Mexican	1
New Zealander	1
Scottish	1
Slovenian	1
South African	1
Taiwanese	1
Turkish	1

TOTAL	299
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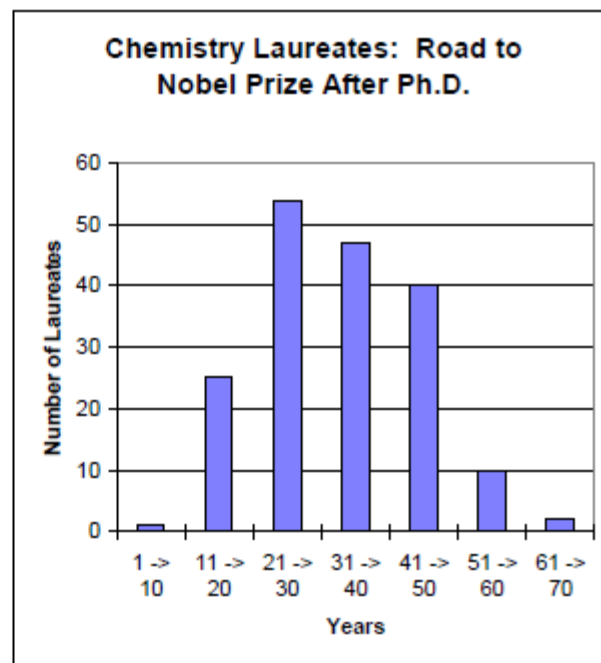
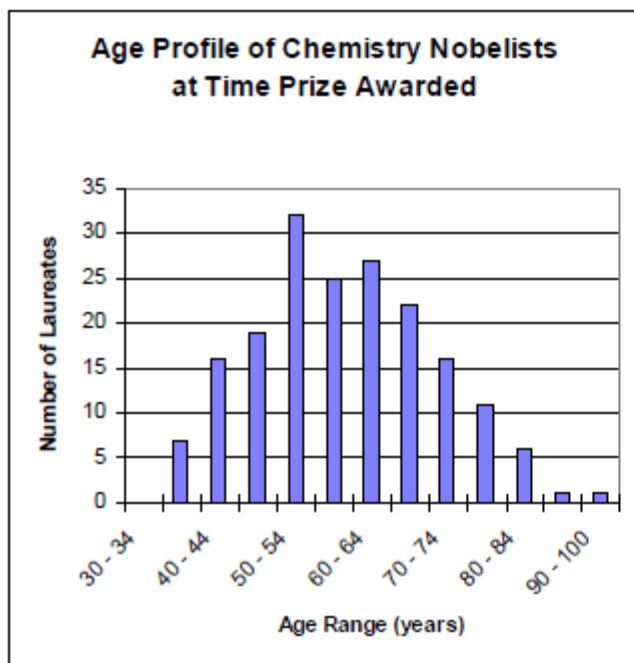
CANADIAN-BORN CHEMISTRY NOBEL LAUREATES				
PRIZE YEAR	NAME	PLACE OF BIRTH	EDUCATION	
1949	WILLIAM FRANCIS GIAUQUE	b. Niagara Falls, ON	Ph.D. 1922, California	went to UC Berkeley, USA
1983	HENRY TAUBE	b. Neudorf, SK	Ph.D. 1940, UC Berkeley	went to Cornell, Chicago, and Stanford, USA
1989	SIDNEY ALTMAN	b. Montreal, PQ	Ph.D. 1967, Colorado	went to Yale
1992	RUDOLPH A. MARCUS	b. Montreal, PQ	Ph.D. 1946, McGill	went to Polytech. Brooklyn, Illinois, Cal Tech

CHEMISTRY NOBEL LAUREATES: CANADIAN IMPORTS				
PRIZE YEAR	NAME	PLACE OF BIRTH	EDUCATION	
1971	GERHARD HERZBERG	b. Hamburg, Germany	Ph.D. 1928, TU Darmstadt	NRC
1986	JOHN CHARLES POLANYI	b. Berlin, Germany	Ph.D. 1952, Manchester	TORONTO
1993	MICHAEL SMITH	b. Blackpool, England	Ph.D. 1956, Manchester	UBC

Age Range (yrs)	Number of Laureates
30 - 34	0
35 - 39	7
40 - 44	16
45 - 49	19
50 - 54	35

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55 - 59	26
60 - 64	27
65 - 69	22
70 - 74	16
75 - 79	11
80 - 84	6
85 - 89	1
90 - 100	1



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