

List of Nobel laureates in Chemistry			
Year	Laureate	Country	Rationale
1901	Jacobus Henricus van 't Hoff	Netherlands	"[for his] discovery of the laws of chemical dynamics and osmotic pressure in solutions"
1902	Hermann Emil Fischer	Germany	"[for] his work on sugar and purine syntheses"
1903	Svante August Arrhenius	Sweden	"[for] his electrolytic theory of dissociation"
1904	Sir William Ramsay	United Kingdom	"[for his] discovery of the inert gaseous elements in air, and his determination of their place in the periodic system"
1905	Johann Friedrich Wilhelm Adolf von Baeyer	Germany	"[for] the advancement of organic chemistry and the chemical industry, through his work on organic dyes and hydroaromatic compounds"
1906	Henri Moissan	France	"[for his] investigation and isolation of the element fluorine, and for [the] electric furnace called after him"
1907	Eduard Buchner	Germany	"for his biochemical researches and his discovery of cell-free fermentation"
1908	Ernest Rutherford	United Kingdom New Zealand	"for his investigations into the disintegration of the elements, and the chemistry of radioactive substances"
1909	Wilhelm Ostwald	Germany	"[for] his work on catalysis and for his investigations into the fundamental principles governing chemical equilibria and rates of reaction"
1910	Otto Wallach	Germany	"[for] his services to organic chemistry and the chemical industry by his pioneer work in the field of alicyclic compounds"
1911	Maria Skłodowska-Curie	Poland France	"[for] the discovery of the elements radium and polonium, by the isolation of radium and the study of the nature and compounds of this remarkable element"
1912	Victor Grignard	France	"for the discovery of the Grignard reagent"
	Paul Sabatier	France	"for his method of hydrogenating organic compounds in the presence of finely disintegrated metals"
1913	Alfred Werner	Switzerland	"[for] his work on the linkage of atoms in molecules especially in inorganic chemistry"
1914	Theodore William Richards	United States	"[for] his accurate determinations of the atomic weight of a large number of chemical elements"
1915	Richard Martin Willstätter	Germany	"for his researches on plant pigments, especially chlorophyll"
1916	<i>Not awarded</i>		
1917	<i>Not awarded</i>		
1918	Fritz Haber	Germany	"for the synthesis of ammonia from its elements"
1919	<i>Not awarded</i>		
1920	Walther Hermann Nernst	Germany	"[for] his work in thermochemistry"
1921	Frederick Soddy	United Kingdom	"for his contributions to our knowledge of the chemistry of radioactive substances, and his investigations into the origin and nature of isotopes"
1922	Francis William Aston	United Kingdom	"for his discovery, by means of his mass spectrograph, of isotopes, in a large number of non-radioactive elements, and for his enunciation of the whole-number rule"
1923	Fritz Pregl	Austria Kingdom of Yugoslavia	"for his invention of the method of micro-analysis of organic substances"
1924	<i>Not awarded</i>		
1925	Richard Adolf Zsigmondy	Germany Hungary	"for his demonstration of the heterogeneous nature of colloid solutions and for the methods he used"
1926	The (Theodor) Svedberg	Sweden	"for his work on disperse systems"

1927	Heinrich Otto Wieland	Germany	"for his investigations of the constitution of the bile acids and related substances"
1928	Adolf Otto Reinhold Windaus	Germany	"[for] his research into the constitution of the sterols and their connection with the vitamins"
1929	Arthur Harden	United Kingdom	"for their investigations on the fermentation of sugar and fermentative enzymes"
	Hans Karl August Simon von Euler-Chelpin	Sweden	
1930	Hans Fischer	Germany	"for his researches into the constitution of haemin and chlorophyll and especially for his synthesis of haemin"
1931	Carl Bosch	Germany	"[for] their contributions to the invention and development of chemical high pressure methods"
	Friedrich Bergius	Germany	
1932	Irving Langmuir	United States	"for his discoveries and investigations in surface chemistry"
1933	<i>Not awarded</i>		
1934	Harold Clayton Urey	United States	"for his discovery of heavy hydrogen"
1935	Frédéric Joliot	France	"[for] their synthesis of new radioactive elements"
	Irène Joliot-Curie	France	
1936	Petrus (Peter) Josephus Wilhelmus Debye	Netherlands	"[for his work on] molecular structure through his investigations on dipole moments and the diffraction of X-rays and electrons in gases"
1937	Walter Norman Haworth	United Kingdom	"for his investigations on carbohydrates and vitamin C"
	Paul Karrer	Switzerland	"for his investigations on carotenoids, flavins and vitamins A and B2"
1938	Richard Kuhn	Germany	"for his work on carotenoids and vitamins"
1939	Adolf Friedrich Johann Butenandt	Germany	"for his work on sex hormones"
	Leopold Ruzicka	Kingdom of Yugoslavia Switzerland	"for his work on polymethylenes and higher terpenes"
1940	<i>Not awarded</i>		
1941			
1942			
1943	George de Hevesy	Germany	"for his work on the use of isotopes as tracers in the study of chemical processes"
1944	Otto Hahn	Germany	"for his discovery of the fission of heavy nuclei"
1945	Artturi Ilmari Virtanen	Finland	"for his research and inventions in agricultural and nutrition chemistry, especially for his fodder preservation method"
1946	James Batcheller Sumner	United States	"for his discovery that enzymes can be crystallized"
	John Howard Northrop	United States	"for their preparation of enzymes and virus proteins in a pure form"
	Wendell Meredith Stanley	United States	
1947	Sir Robert Robinson	United Kingdom	"for his investigations on plant products of biological importance, especially the alkaloids"
1948	Arne Wilhelm Kaurin Tiselius	Sweden	"for his research on electrophoresis and adsorption analysis, especially for his discoveries concerning the complex nature of the serum proteins"
1949	William Francis Giaque	United States	"for his contributions in the field of chemical thermodynamics, particularly concerning the behaviour of substances at extremely low temperatures"
1950	Otto Paul Hermann Diels	West Germany	"for their discovery and development of the diene synthesis"
	Kurt Alder	West Germany	
1951	Edwin Mattison McMillan	United States	"for their discoveries in the chemistry of transuranium elements"
	Glenn Theodore Seaborg	United States	
1952	Archer John Porter Martin	United Kingdom	"for their invention of partition chromatography"

1952	Richard Laurence Millington Synge	United Kingdom	for their invention of partition chromatography
1953	Hermann Staudinger	West Germany	"for his discoveries in the field of macromolecular chemistry"
1954	Linus Pauling	United States	"for his research into the nature of the chemical bond and its application to the elucidation of the structure of complex substances"
1955	Vincent du Vigneaud	United States	"for his work on biochemically important sulphur compounds, especially for the first synthesis of a polypeptide hormone"
1956	Sir Cyril Norman Hinshelwood	United Kingdom	"for their researches into the mechanism of chemical reactions"
	Nikolay Nikolaevich Semenov	Soviet Union	
1957	Lord (Alexander R.) Todd	United Kingdom	"for his work on nucleotides and nucleotide co-enzymes"
1958	Frederick Sanger	United Kingdom	"for his work on the structure of proteins, especially that of insulin"
1959	Jaroslav Heyrovský	Czechoslovakia	"for his discovery and development of the polarographic methods of analysis"
1960	Willard Frank Libby	United States	"for his method to use carbon-14 for age determination in archaeology, geology, geophysics, and other branches of science"
1961	Melvin Calvin	United States	"for his research on the carbon dioxide assimilation in plants"
1962	Max Ferdinand Perutz	United Kingdom	"for their studies of the structures of globular proteins"
	John Cowdery Kendrew	United Kingdom	
1963	Karl Ziegler	West Germany	"for their discoveries in the field of the chemistry and technology of high polymers"
	Giulio Natta	Italy	
1964	Dorothy Crowfoot Hodgkin	United Kingdom	"for her determinations by X-ray techniques of the structures of important biochemical substances"
1965	Robert Burns Woodward	United States	"for his outstanding achievements in the art of organic synthesis"
1966	Robert S. Mulliken	United States	"for his fundamental work concerning chemical bonds and the electronic structure of molecules by the molecular orbital method"
1967	Manfred Eigen	West Germany	"for their studies of extremely fast chemical reactions, effected by disturbing the equilibrium by means of very short pulses of energy"
	Ronald George Wreyford Norrish	United Kingdom	
	George Porter	United Kingdom	
1968	Lars Onsager	United States Norway	"for the discovery of the reciprocal relations bearing his name, which are fundamental for the thermodynamics of irreversible processes"
1969	Derek H. R. Barton	United Kingdom	"for their contributions to the development of the concept of conformation and its application in chemistry"
	Odd Hassel	Norway	
1970	Luis F. Leloir	Argentina	"for his discovery of sugar nucleotides and their role in the biosynthesis of carbohydrates"
1971	Gerhard Herzberg	Canada West Germany	"for his contributions to the knowledge of electronic structure and geometry of molecules, particularly free radicals"
1972	Christian B. Anfinsen	United States	"for his work on ribonuclease, especially concerning the connection between the amino acid sequence and the biologically active conformation"
	Stanford Moore	United States	"for their contribution to the understanding of the connection between chemical structure and catalytic activity of the active centre of the ribonuclease molecule"
	William H. Stein	United States	
1973	Ernst Otto Fischer	West Germany	"for their pioneering work, performed independently, on the chemistry of the organometallic, so called sandwich compounds"
	Geoffrey Wilkinson	United Kingdom	
1974	Paul J. Flory	United States	"for his fundamental work, both theoretical and experimental, in the physical chemistry of macromolecules"
1975	John Warcup Cornforth	Australia United Kingdom	"for his work on the stereochemistry of enzyme-catalyzed reactions"
	Vladimir Prelog	Yugoslavia Switzerland	"for his research into the stereochemistry of organic molecules and reactions"
1976	William N. Lipscomb	United States	"for his studies on the structure of boranes illuminating problems of chemical bonding"
1977	Ilya Prigogine	Belgium	"for his contributions to non-equilibrium thermodynamics, particularly the theory of dissipative structures"
1978	Peter D. Mitchell	United Kingdom	"for his contribution to the understanding of biological energy transfer through the formulation of the chemiosmotic theory"
1979	Herbert C. Brown	United States	"for their development of the use of boron- and phosphorus-containing compounds, respectively, into important reagents in organic synthesis"
	Georg Wittig	West Germany	
1980	Paul Berg	United States	"for his fundamental studies of the biochemistry of nucleic acids, with particular regard to recombinant-DNA"
	Walter Gilbert	United States	"for their contributions concerning the determination of base sequences in nucleic acids"

	Frederick Sanger	United Kingdom	for their contributions concerning the determination of base sequences in nucleic acids
1981	Kenichi Fukui	Japan	"for their theories, developed independently, concerning the course of chemical reactions"
	Roald Hoffmann	United States Poland	
1982	Aaron Klug	United Kingdom	"for his development of crystallographic electron microscopy and his structural elucidation of biologically important nucleic acid-protein complexes"
1983	Henry Taube	United States	"for his work on the mechanisms of electron transfer reactions, especially in metal complexes"
1984	Robert Bruce Merrifield	United States	"for his development of methodology for chemical synthesis on a solid matrix"
1985	Herbert A. Hauptman	United States	"for their outstanding achievements in developing direct methods for the determination of crystal structures"
	Jerome Karle	United States	
1986	Dudley R. Herschbach	United States	"for their contributions concerning the dynamics of chemical elementary processes"
	Yuan T. Lee	United States Taiwan	
	John C. Polanyi	Canada Hungary	
1987	Donald J. Cram	United States	"for their development and use of molecules with structure-specific interactions of high selectivity"
	Jean-Marie Lehn	France	
	Charles J. Pedersen	United States	
1988	Johann Deisenhofer	West Germany	"for their determination of the three-dimensional structure of a photosynthetic reaction centre"
	Robert Huber	West Germany	
	Hartmut Michel	West Germany	
1989	Sidney Altman	Canada United States	"for their discovery of catalytic properties of RNA"
	Thomas Cech	United States	
1990	Elias James Corey	United States	"for his development of the theory and methodology of organic synthesis"
1991	Richard R. Ernst	Switzerland	"for his contributions to the development of the methodology of high resolution nuclear magnetic resonance (NMR) spectroscopy"
1992	Rudolph A. Marcus	United States Canada	"for his contributions to the theory of electron transfer reactions in chemical systems"
1993	Kary B. Mullis	United States	"for contributions to the developments of methods within DNA-based chemistry for his invention of the polymerase chain reaction (PCR) method"
	Michael Smith	Canada	"for contributions to the developments of methods within DNA-based chemistry for his fundamental contributions to the establishment of oligonucleotide-based, site-directed mutagenesis and its development for protein studies"
1994	George A. Olah	United States Hungary	"for his contribution to carbocation chemistry"
1995	Paul J. Crutzen	Netherlands	"for their work in atmospheric chemistry, particularly concerning the formation and decomposition of ozone"
	Mario J. Molina	Mexico	
	F. Sherwood Rowland	United States	
1996	Robert F. Curl Jr.	United States	"for their discovery of fullerenes"
	Sir Harold W. Kroto	United Kingdom	
	Richard E. Smalley	United States	
1997	Paul D. Boyer	United States	"for their elucidation of the enzymatic mechanism underlying the synthesis of adenosine triphosphate (ATP)"
	John E. Walker	United Kingdom	
	Jens C. Skou	Denmark	
1998	Walter Kohn	United States	"for his development of the density-functional theory"
	John A. Pople	United Kingdom	"for his development of computational methods in quantum chemistry"
1999	Ahmed Zewail	United States Egypt	"for his studies of the transition states of chemical reactions using femtosecond spectroscopy"

2000	Alan J. Heeger	United States	"for their discovery and development of conductive polymers"
	Alan G. MacDiarmid	United States New Zealand	
	Hideki Shirakawa	Japan	
2001	William S. Knowles	United States	"for their work on chirally catalysed hydrogenation reactions"
	Ryōji Noyori	Japan	
	K. Barry Sharpless	United States	
2002	John B. Fenn	United States	"for the development of methods for identification and structure analyses of biological macromolecules for their development of soft desorption ionisation methods for mass spectrometric analyses of biological macromolecules"
	Koichi Tanaka	Japan	
	Kurt Wüthrich	Switzerland	
2003	Peter Agre	United States	"for discoveries concerning channels in cell membranes for the discovery of water channels"
	Roderick MacKinnon	United States	"for discoveries concerning channels in cell membranes for structural and mechanistic studies of ion channels"
2004	Aaron Ciechanover	Israel	"for the discovery of ubiquitin-mediated protein degradation"
	Avram Hershko	Israel	
	Irwin Rose	United States	
2005	Yves Chauvin	France	"for the development of the metathesis method in organic synthesis"
	Robert H. Grubbs	United States	
	Richard R. Schrock	United States	
2006	Roger D. Kornberg	United States	"for his studies of the molecular basis of eukaryotic transcription"
2007	Gerhard Ertl	Germany	"for his studies of chemical processes on solid surfaces"
2008	Osamu Shimomura	Japan	"for the discovery and development of the green fluorescent protein, GFP"
	Martin Chalfie	United States	
	Roger Y. Tsien	United States	
2009	Venkatraman Ramakrishnan	United States India United Kingdom	"for studies of the structure and function of the ribosome"
	Thomas A. Steitz	United States	
	Ada E. Yonath	Israel	
2010	Richard F. Heck	United States	"for palladium-catalyzed cross couplings in organic synthesis"
	Ei-ichi Negishi	Japan	
	Akira Suzuki	Japan	
2011	Dan Shechtman	Israel	"for the discovery of quasicrystals"
2012	Robert Lefkowitz	United States	"for studies of G-protein-coupled receptors"
	Brian Kobilka	United States	
2013	Martin Karplus	United States Austria	"for the development of multiscale models for complex chemical systems"
	Michael Levitt	United States United Kingdom Israel	
	Arieh Warshel	United States Israel	
2014	Eric Betzig	United States	"for the development of super-resolved fluorescence microscopy"
	Stefan W. Hell	Germany Romania	
	William E. Moerner	United States	

2015	Tomas Lindahl	Sweden United Kingdom	"for mechanistic studies of DNA repair"
	Paul L. Modrich	United States	
	Aziz Sancar	United States Turkey	
2016	Jean-Pierre Sauvage	France	"for the design and synthesis of molecular machines"
	Fraser Stoddart	United Kingdom United States	
	Ben Feringa	Netherlands	
2017	Jacques Dubochet	Switzerland	"for developing cryo-electron microscopy for the high-resolution structure determination of biomolecules in solution"
	Joachim Frank	Germany United States	
	Richard Henderson	United Kingdom	
2018	Frances Arnold	United States	"for the directed evolution of enzymes"
	George Smith	United States	"for the phage display of peptides and antibodies"
	Gregory Winter	United Kingdom	

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