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Georg Wittig: The perfect symphonist in organic chemistry

Georg Wittig was a German organic chemist who discovered, in 1953, how a family of organic compounds, which are called ylides, could form the basis of the Wittig reaction, which easily causes two carbon atoms from different molecules to form a double bond. The Wittig reaction is a chemical reaction between an aldehyde or a ketone with a triphenylphosphonium ylide, referred to as the "Wittig reagent", which produces an alkene and triphenylphosphine oxide side product. The key step of the mechanism of the ylide reaction is the nucleophilic addition of the ylide to the electrophilic carbonyl group, which forms a 4-membered ring that dissociates into the product molecules. The Wittig reaction is one of the most common techniques to prepare stereoselectively alkenes. The process has been used to synthesize important classes of substances such as biological pesticides, vitamin A, and related compounds for many foods and animal feeds, vitamin D derivatives, and steroids. Because of the Wittig reaction, such compounds can easily be synthesized on an industrial scale (BASF). Wittig is a primary contributor to the progress of organic syntheses in the 20th century because of the use of derivatives of nearly all elements in the periodic table, such as reactions with triphenylborane, phenyllithium, and triphenylphosphine. He also discovered the directed aldol condensation.

Wittig was a member of the French Academy of Sciences. On the occasion of the 350th anniversary of this institution, which has recorded many great achievements in the field of science, particularly chemistry, Wittig was honored. The scientific work of Wittig is nearly overwhelming. He was a universal scientist who had looked into the future of chemistry with the belief that new frontiers would introduce new opportunities for chemistry in science and industry.

1. Spectacular breakthrough and career

Wittig was born on 16 June 1897 in Berlin to an artistic family; his mother was a musician, and his father was a painter. He was born in the same year as the physicist Cockroft (who received the Nobel Prize in Physics in 1951) and in the very year Thomson discovered the electron and its properties. Because his father worked in Kassel as a professor of applied arts at the high school, the entire family moved to this city. He attended high school (*Wilhelmsgymnasium*) in Kassel. Although it was a highly artistic and cultural atmosphere and his mother encouraged Wittig to play the piano, he decided to study chemistry. In 1916, he was enrolled to such studies at the University of Tübingen. His career was interrupted by World War I. Between 1916 and 1919, he was drafted and became a lieutenant in the cavalry of Hesse-Kassel and was subsequently made a prisoner of war by the British (1918–1919). One problem followed another, because after the war and his return to Germany in 1919, Wittig found admission by a German university difficult. Following several rejections, he finally was accepted by Karl von Auwers, a professor of organic chemistry who, at the time, was the director of the Chemical Institute in Marburg. *Ecce homo! Ecce homo* Karl von Auwers! Wittig continued his studies in chemistry at the University of Marburg between 1919 and 1923 with him and was awarded a Ph.D. in organic chemistry in 1923. Encouraged by Auwers, he decided to continue an academic career. He became an assistant professor (*Privatdozent*) in 1923 at the University of Marburg. Between 1923 and 1926, he worked for his *Habilitation* at the University of Marburg. He remained an assistant professor there until 1932. There, he and Karl Ziegler (a 1963 Nobel laureate in chemistry) became lifelong friends. Both were rock climbers in the Alps. He was also a friend of Walter Hückel, a professor of chemistry in Breslau and later Tübingen. In Marburg, Wittig married Waltraud Ernst, who also worked in von Auwers' group. They had three daughters. Waltraud Wittig, who also had a doctoral degree, took great interest in the scientific work of her husband, Georg Wittig. Wittig received his first permanent position as "Außerplanmäßiger Professor" in 1932 at the Technische Hochschule in Braunschweig. However, this period of time there proved to be a difficult period in

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Wittig's academic career. In Braunschweig, there was a strong Nazi presence among the professors at that time. Karl Fries, who was well known for the discovery of Fries rearrangement and the director of the institute, opposed the Nazi regime and was forced to retire. Wittig supported Fries and feared that he would also lose his academic position, but he remained in Braunschweig until 1937. In 1937, he followed the invitation of Hermann Staudinger (who received the Nobel Prize in Chemistry in 1953), who was the director of the Chemical Institute at the University of Freiburg im Breisgau, to become an associate professor. Staudinger also refused the Nazi regime and had to suffer under political pressure, but he could hold his position in this difficult period because of his high scientific reputation. Notably, Wittig supported Staudinger's concept of high polymers in his *Stereochemie*. Wittig remained as an associate professor in Freiburg between 1937 and 1944. In 1943, Wilhelm Schlenk died, and the faculty of the University of Tübingen nominated Wittig as his successor there. He was appointed a full professor and director of the university's Chemical Institute. Finally, at the age of forty-seven, in 1944, he moved to the University of Tübingen as a professor and remained there until 1956. In 1956, Wittig moved once more to become a professor and the successor of Karl Freudenberg at the University of Heidelberg and the director of the Institute of Organic Chemistry at this university. Herein, he established a group with more than forty members and remained there until his formal retirement in 1967.

2. *Cogito ergo sum*

The most important discoveries of Wittig occurred between 1937 and 1956. Wittig is well known in the history of science for the Wittig reaction and the Wittig rearrangement. The mechanism of the Wittig reaction has long been a contentious issue in organic chemistry. The scientific research of Wittig was marked by the chemistry of his academic teacher, von Auwers. Wittig aimed to enter new fields in chemistry, and his objective was to find highly strained three- and four-membered ring systems with a tendency to form diradicals. At that time, the available physicochemical methods did not help to detect radicals, and this subject of research was notably difficult. Notably, Wittig's interest in radicals significantly affected his further scientific work because it led him to organometallic chemistry. In chemical synthesis, as starting materials, he used sterically hindered compounds with phenyl groups, which were synthesized by the classical reaction of Grignard compounds to ketones. The wise Wittig decided to use phenyllithium, which was proven to be superior to phenylmagnesium bromide. This decision was life changing! In this way, Wittig created a new field of “carbanion chemistry”, which was later named “organometallic chemistry” or “carbanionoid chemistry”. He observed the exchange of hydrogen for lithium and the exchange of bromine against lithium; the metalation and halogen–metal exchange reactions were published in 1942. He remarked that the treatment of fluorobenzene with phenyllithium gave interesting products, which led Wittig to propose dehydrobenzene C_6H_4 as a reactive intermediate in 1942. The Wittig rearrangement has an interesting mechanism and a broad scope of application, which is discussed in modern textbooks of organic chemistry. The success with phenyllithium led Wittig to start another research project in Freiburg. He sought to overthrow the octet rule for nitrogen compounds, and he attempted to prepare the pentacovalent compounds, tetramethylphenyl nitrogen, and pentamethyl nitrogen. As a result of his efforts, he discovered a new class of ammonium ylides, and other researcher showed that the derivatives containing a lithium salt should be considered lithiated ammonium salts instead of ylides. Ammonium ylides undergo various rearrangements and elimination reactions. In the course of this work, Wittig always used benzophenone to determine the position of lithiation. This principle of obtaining crystalline derivatives to characterize sounds trivial, but this procedure using benzophenone led him to the discovery of the Wittig reaction in 1953. Wittig continued the work on hypervalent compounds of the elements in the 5–7 groups of the periodic table and synthesized pentaphenyl phosphorene and higher homologues tetraphenyltellurium and triphenyliodine. Triphenylphosphine oxide and 1,1-diphenylethylene were formed in high yield via the intermediate. A pioneering paper of Wittig with Schöllkopf was published, called “Über Triphenyl-phosphinmethylene als olefinbildende Reagenzien (I. Mitteil)” (1954; Triphenylphosphine methylene derivatives as reagents for the formation of olefins) in *Chemische Berichte*. Wittig's work was guided by the general idea of establishing the field of carbanion chemistry as equal in importance to the fields of free radical and carbonium ion chemistry. His studies led him to various new structures. Best known is his work on phosphorus ylides, which condense with carbonyl compounds to form alkenes.

After his formal retirement, Wittig worked on aromatic compounds and diradicals, in which he had been interested more than fifty years earlier as a young lecturer. These late studies of Wittig as a professor emeritus opened an elegant path for other authors, after his death, to dendrimers. A dendrimer is a member of a modern class of macrocycles.

During his long career, Wittig also had great success as a mentor, and he encouraged many young scientists to start an academic career. More than three hundred graduate students and postdoctoral colleagues were associated with work with Wittig. He recognized a universal scientific demand for a renewed alliance between science and students/colleagues and the sharing and transfer of its knowledge to colleagues.

Between 1953 and 1979, Wittig received many awards, honorary doctorates, and other forms of recognition. The Adolf von Baeyer Memorial Medal was awarded to him by the German Chemical Society in 1953. He was the first German after World War II to receive an honorary doctorate from the Sorbonne, in Paris, in 1957. He received Honorary Doctorates from the Universities of Tübingen and Hamburg in 1962, the Silver Medal from the University of Helsinki in 1957, the Dannie Heinemann Award from the Göttingen Academy of Sciences in 1965, the Otto Hahn Award for Chemistry and Physics in 1967, the Silver Medal from the City of Paris in 1969, the Paul Karrer Medal from the University of Zurich in 1972, the “Médaille de la chaire

Bruylants" (University of Louvain, Belgium) in 1972, the Roger Adams Award from the American Chemical Society in 1973, and the Karl Ziegler Prize in 1975. Last but not least, he received the Nobel Prize in Chemistry in 1979, which he shared with Herbert C. Brown. The prize was divided equally between the two "for their development of the use of boron- and phosphorus-containing compounds, respectively, into important reagents in organic synthesis".

3. *Scripta manent*

Over three hundred scientific papers were published between 1924 and 1980, which demonstrate the fruitfulness of his career. His scientific work was stressed in his article for the Nobel Lecture, dated 8 December 1979.

4. *Fugit irreparabile tempus*… and means the good stories have an ending

Time flies inexorably, and Georg Wittig died on 26 August 1987, at the age of 90. He is remembered herein for his pioneering organic chemistry work and numerous honors over his decade-long research career. His success shows the indivisible relationship between chemistry and life.

References

[1] G. Wittig, Angew. Chem. 70 (1958) 65.
[2] G. Wittig, E. Dreher, W. Reuther, H. Weidinger, Justus Liebigs Ann. Chem. 726 (1969) 188.
[3] G. Wittig, A. Maercker, Chem. Ber. 97 (1964) 747.
[4] G. Wittig, L. Löhmann, Justus Liebigs Ann. Chem. 550 (1942) 260.
[5] G. Wittig, H. Döser, I. Lorenz, Justus Liebigs Ann. Chem. 562 (1949) 192.
[6] D.L. Pavia, G.M. Lampman, G.S. Kritz, R.G. Engel, Introduction to laboratory techniques, 4th ed., Thomson Brooks/Cole, Mason, OH, 2006, p. 359.
[7] R.W. Hoffmann, Angew. Chem. Int. Ed. 40 (2001) 1411.
[8] G. Wittig, U. Schöllkopf, Chem. Ber. 87 (1954) 1318.
[9] H.H. Inhoffen, J.F. Kath, K. Brückner, Angew. Chem. 67 (1955) 276.
[10] G. Wittig, Naturwissenschaften 30 (1942) 696.
[11] G. Wittig, H.-J. Schmidt, H. Renner, Chem. Ber. 95 (1962) 2377.
[12] G. Wittig, H.D. Frommeld, P. Suchanek, Angew. Chem. 75 (1963).
[13] G. Wittig, M.H. Wetterling, Justus Liebigs Ann. Chem. 557 (1944) 193.
[14] G. Wittig, M. Rieber, Justus Liebigs Ann. Chem. 562 (1949) 177.
[15] G. Wittig, M. Rieber, Justus Liebigs Ann. Chem. 562 (1949) 187.
[16] G. Wittig, U. Pockels, H. Dröge, Ber. Dtsch. Chem. Ges. 71 (1938) 1903.
[17] G. Wittig, R. Ludwig, R. Polster, Chem. Ber. 88 (1955) 294.
[18] G. Wittig, Pure Appl. Chem. 7 (1963) 173.
[19] G. Wittig, U. Thiele, Justus Liebigs Ann. Chem. 762 (1969) 1.
[20] G. Wittig, L. Pohmer, Chem. Ber. 89 (1956) 1334.
[21] G. Wittig, F. Bickelhaupt, Chem. Ber. 91 (1958) 865.
[22] G. Wittig, E. Benz, Chem. Ber. 91 (1958) 873.
[23] G. Wittig, A. Rückert, Justus Liebigs Ann. Chem. 566 (1950) 101.
[24] G. Wittig, H. Schloeder, Justus Liebigs Ann. Chem. 592 (1955) 38.
[25] G. Wittig, D. Wittenberg, Justus Liebigs Ann. Chem. 606 (1957) 1.
[26] G. Wittig, H.G. Reppe, T. Eicher, Justus Liebigs Ann.Chem. 643 (1961) 47.
[27] G. Wittig, H. Reiff, Angew. Chem. 80 (1968) 8–15. Angew. Chem. Int. Ed. Engl. 7 (1968) 7.
[28] G. Wittig, Angew. Chem. 92 (1980) 671.

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June

JUNE	MEMBERS OF THE FRENCH ACADEMY OF SCIENCES
1	**Reboul, Georges Scipion Antoine** (1 June 1879–22 May 1955), French scientist. **Escande, Léopold Charles Marie Jean-Baptiste** (1 June 1902–13 September 1980), French scientist. **Schwartz, Maxime Simon** (1 June 1940), French biologist. **Brézis, Haïm** (1 June 1944), French mathematician. **Mégie, Gérard** (1 June 1946–5 June 2004), French scientist.
2	**Kraijenhoff, Cornelis Rudolph Theodor** (2 June 1758–24 November 1840), baron of Nederland. **Durand, Émile Victor** (2 June 1911–15 January 1999), French scientist. **Flandrin, Patrick** (2 June 1955), French physicist.
3	**Rosily-Mesros, François-Étienne de** (3 June 1748–12 November (19 August?) 1832), French naval commander. **Héricart-Ferrand, Louis-Étienne François** (3 June 1776–15 January 1854), French scientist. **Desormes, Charles-Bernard** (3 June 1777–30 August 1862), French chemist. **Provençal, Jean-Michel** (3 June 1781–8 April 1845), French medical doctor.
4	**Gerbillon, Jean-François** (4 June 1654–27 March 1707), French astronomer and mathematician. **Quesnay, François** (4 June 1694–16 December 1774), French medical doctor and economist. **Zach, Franz Xaver von** (4 June 1754–26 August 1832), Hungarian astronomer. **Chaptal, Jean Antoine de Chanteloup** (4 [5] June 1756–29 July 1832), French chemist. **Hombres-Firmas, Louis, Augustin d'** (4 June 1776–5 March 1857), French naturalist. **Prévost, Louis Constant** (4 June 1787–16 August 1856), French geologist. **Robin, Charles Philippe** (4 June 1821–6 October 1885), French medical doctor. **Sire, Georges Étienne** (4 June 1826–12 September 1906), French physicist. **Tardi, Pierre Antoine Ernest** (4 June 1897–5 August 1972), French astronomer. **Van den Dungen, Frans Henri Antoine** (4 June 1898–22 May 1965), Belgian mathematician and physicist. **Ribéreau-Gayon, Pascal** (4 June 1930–15 May 2011), French winemaker.

5	**Tournefort, Joseph Pitton de** (5 June 1656–28 December 1708), French botanist. **Razoux, Jean** (5 June 1723–29 November 1798), French medical doctor. **Palassou, Pierre Bernard** (5 June 1745–9 April 1830), French naturalist. **Bohnenberger**, **Johann Gottlieb Friedrich von** (5 June 1765–19 April 1813), German physicist. **Adams, John Couch** (5 June 1819–1 January 1892), British mathematician. **Pelseneer, Paul** (26 June 1863–5 May 1945), Belgian zoologist. **Fayet, Gaston Jules** (5 June 1874–27 December 1967), French astronomer. **Peierls, Rudolph Ernst** (5 June 1907–19 September 1995), German physicist. **Lederer, Edgar** (5 June 1908–20 October 1988), French biochemist of Austrian origin.
6	**Marchini, Giulio Vincenzo di Fabio** (6 June 1666 – ? 1751), Italian intellectual. **Thulis, Jacques-Joseph-Claude** (6 June 1748 – 25 January 1810), French astronomer. **Molard, Claude Pierre** (6 June 1759 – 13 February 1837), French engineer. **Yung, Émile Jean Jacques** (6 June 1854 – 2 February 1918), Swiss zoologist. **Willems, René Alexandre Jean Hubert Gérard** (6 June 1896 – 19 September 1967), Belgian intellectual. **Bleaney, Brebis** (6 June 1915 – 4 November 2006), British physicist.
7	**Rouillé, Antoine-Louis de Jouy de** (7 June 1689 – 20 September 1761), French statesman. **Jacquier, P. François de Paule** (7 June 1711 – 3 July 1788), French intellectual. **Conybeare, William Daniel** (7 June 1787 – 12 August 1857), English geologist. **Bang, Bernhard Laurits Frederik** (7 June 1848 – 22 June 1932), Danish veterinarian. **Townsend, John Sealy** (7 June 1868 – 16 February 1957), Irish mathematical physicist. **Perrin, René Marie Victor** (7 June 1893 – 15 January 1966), French industrialist. **Wang, Yu** (7 June 1910 – 6 May 1997), Chinese chemist. **Vincent**, **Jean-Didier** (7 June 1935), French neurobiologist.
8	**Cassini, Jean Dominique, Cassini 1er** (8 June 1625 – 14 September 1712), French engineer and astronomer. **Magnol, Pierre** (8 June 1638 – 21 May 1715), French botanist. **Van Swinden, Jan Hendrik** (8 June 1746 – 9 March 1823), Dutch physicist and mathematician. **Fliche, Henri Marie Thérèse André** (8 June 1836 – 29 November 1908), French botanist. **Considère, Armand Gabriel** (8 June 1841 – 3 August 1914), French engineer. **Arsonval**, **Jacques Arsène d'** (8 June 1851 – 31 December 1940), French medical docteur and physicist. **Molliard, Marin** (8 June 1866 – 24 July 1944), French botanist. **Crick, Francis** (8 June 1916 - 28 July 2004), British molecular biologist and Nobel Prize laureate (1962). **Martchouk, Goury Ivanovitch** (8 June 1925 – 24 March 2013), Russian mathematician.
9	**Jurain, Henry François** (9 June 1709–25 March 1773), French intellectual. **Brodie, Benjamin Collins** (9 June 1783–21 October 1862), British surgeon. **Blume, Carl Ludwig** (9 June 1796–3 February 1892), German-Dutch botanist. **Lebert, Hermann** (9 June 1813–1 August 1878), German naturalist. **Guyénot, Émile Louis Charles** (9 June 1885–20 March 1963), French biologist. **Littlewood, John Edensor** (9 June 1885–6 September 1977), British mathematician. **Collignon, Maurice Jules Marie** (9 June 1893–21 October 1978), French medical doctor.
10	**May, Jean-Christophe** (10 June 1701–16 April 1736), French intellectual. **Saucerotte, Nicolas** (10 June 1741–15 January 1814), French medical doctor. **Duhem, Pierre Maurice Marie** (10 June 1861–14 September 1916), French physicist. **Casteras, Marcel Paul Aimé** (10 June 1904–18 November 1976), French intellectual.
11	**Du Hamel, Jean-Baptiste** (11 June 1623–6 August 1706), French scientist. **Reynau, Charles-René** (11 June 1656–24 February 1728), French mathematician. **Schwerz, Johann Nepomuk von** (11 June 1759–11 February 1844), German agronomist. **Lindenau, Bernhard August von** (11 June 1780–21 May 1854), German astronomer. **Lagatu, Henri Désiré** (11 June 1862–21 January 1942), French chemist and agronomist. **Mesnager, Augustin Charles Marie** (11 June 1862–6 February 1933), French physicist. **Fabry, Marie Paul Auguste Charles** (11 June 1867–11 December 1945), French physicist. **Bouin, André Pol** (11 June 1870–5 February 1962), French medical doctor. **Marguet, Frédéric Philippe** (11 June 1874–2 June 1951), French naval officer. **Lejay, Pierre** (11 June 1898–11 October 1958), French physicist. **Charlot, Gaston Victor** (11 June 1904–17 April 1994), French chemist. **Horeau, Alain** (11 June 1909–14 February 1992), French chemist.
12	**Hébert, Edmond** (12 June 1812–4 April 1890), French geologist. **Gill, David** (12 June 1843–24 January 1914), Scottish astronomer. **Guye, Philippe Auguste** (12 June 1862–15 July 1942 (1922?)), Swiss chemist. **Lameere, Auguste Alfred Lucien Gaston** (12 June 1864–6 May 1942), Belgian zoologist. **Holmgren, Israel Frithiofsson** (12 June 1871–20 September 1961), Swedish scientist. **Arnol'd, Vladimir Igorevich** (12 June 1937–3 June 2010), Soviet et Russian mathematician. **Bréchignac, Catherine** (12 June 1946), French physicist.
13	**Le Sage, Georges Louis** (13 June 1724–9 November 1803), Genevan scientist. **Young, Thomas** (13 June 1773–10 May 1829), English physicist. **Palasciano, Ferdinando Antonio Leopoldo** (13 June 1815–28 November 1891), Italian medical doctor. **Bordet, Jules Jean Baptiste Vincent** (13 June 1870–6 April 1961), Belgian immunologist and microbiologist. **Flückiger, Gottlieb** (13 June 1892–23 September 1987), Swiss veterinarian. **Royer, Pierre Eugène** (13 June 1917–20 January 1995), French scientist.
14	**Galloys, Jean** (14 June 1632–19 April 1707), French intellectual. **Coulomb, Charles-Augustin** (14 June 1736–23 August 1806), French physicist.

Rudolphi, Carl Asmund (14 June (July?) 1771–29 November 1832), Swedish naturalist.
Bouisson, Étienne Frédéric (14 June 1813–26 May 1884), French surgeon.

15

Blondel, Nicolas François (15 (10) June 1618–21 January 1686), French engineer and architect.
Gordon, Andrew George (15 June 1712–22 August 1751), British physicist.
Nicolas-Christiern de Thy (15 June 1728–19 September 1784), French nobleman.
Cels, Jacques Philippe Martin (15 June 1740–15 May 1806), French botanist.
L'Héritier de Brutelle, Charles-Louis (15 June 1746–16 August 1800), French magistrate and botanist.
Fourcroy, Antoine-François de (15 June 1755–16 December 1809), French chemist.
Kilian, Wilfrid (15 June 1862–30 September 1925), French geologist.
Aspect, Alain (15 June 1947), French physicist.

16

Ozanam, Jacques (16 June 1640–3 April 1718), French mathematician.
Turgot, Étienne-François Sousmont de (16 June 1721–26 December 1788), Master of the merchants of Paris.
Gosselin, Athanase Léon (16 June (January?) 1815–30 April 1887), French surgeon.
Douvillé, Joseph Henri Ferdinand (16 June 1846–19 January 1937), French paleontologist.
Hartmann, Henri Albert Charles Antoine (16 June 1860–1 January 1952), French surgeon.
Hitier, Henri Joseph Robert (16 June 1864–1 April 1958), French agronomist.
Vallée, Henri Pierre Michel (16 June 1874–12 March 1947), French microbiologist.
Wittig, Georg (16 June 1897–26 August 1987), German chemist and Nobel Prize (1979).
Koiter, Warner Tjardus (16 June 1914–2 September 1997), Dutch mechanical engineer.

17

Cassini de Thury, César François, Cassini III (17 June 1714–4 September 1784), French astronomer.
Baron, Hyacinthe – Théodore (17 June 1715–10 March 1768), French chemist and medical doctor.
Nélaton, Auguste (17 June 1807–21 September 1873), French medical doctor and surgeon.
Crookes, William (17 June 1832–4 April 1919), English chemist and physicist.
Perkin, William Henry (17 June 1860–17 September 1929), English organic chemist.
Baulig, Henri (17 June 1877–8 August 1962), French geographer.
Jacob, François (17 June 1920–20 April 2013), French biologist and Nobel Prize (1965).
Cercignani, Carlo (17 June 1939–7 January 2010), Italian mathematician.

18

Hotton, Petrus (18 June 1648–10 January 1709), Dutch botanist.
Kunth, Karl Sigismond (18 June 1788–22 March 1850), German botanist.
Secchi, Angelo (18 (29?) June 1818–26 February 1878), Italian astronomer.
Laveran, Charles Louis Alphonse (18 June 1845–18 May 1922), Italian medical doctor and Nobel Prize (1907).
Mouriquand, Georges Émile Jean Achille Paul (18 June 1880–23 September 1966), French medical doctor.
Le Pichon, Xavier (18 June 1937), French geophysicist.
Rossier, Jean Pierre (18 June 1944), Belgian biologist.
Le Treut, Hervé (18 June 1956), French climatologist.

19

Peysonnel, Jean-André (19 June 1694–23 December 1759), French medical doctor and naturalist.
Meusnier de La Place, Jean-Baptiste-Marie-Charles (19 June 1754–13 June 1793), French engineer.
Gergonne, Joseph-Diez (19 June 1771–4 April 1859), French mathematician.
Haug, Gustave Émile (19 June 1861–28 August 1927), French geologist and paleontologist.
Chain, Ernst Boris (19 June 1906–12 August 1979), German-British biochemist and Nobel Prize (1945).

20

Bourdelin, Claude II (20 June 1667–20 April 1711), French medical doctor.
Gardeil, Jean-Baptiste (20 June 1726–19 April 1808), French medical doctor.
Matteuci, Carlo (20 June 1811–25 June 1868), Italian physicist.

21

Lieutaud, Joseph (21 June 1703–6 December 1780), French medical doctor.
Héron de Villefosse, Antoine Marie (21 June 1774–6 June 1852), French geographer.
Poisson, Siméon Denis (21 June 1781–25 April 1840), French physicist and mathematician.
Fouqué, Ferdinand André (21 June 1828–7 March 1904), French geologist.
Bourquelot, Élie Émile (21 June 1851–26 January 1921), French chemist.
Guinier, Marie Joseph Jean-Baptiste Philibert (21 June 1876–3 April 1962), French botanist.
Roy, Louis Maurice (21 June 1882–13 July 1959), French engineer.
Martens, Pierre Édouard (21 June 1895–29 May 1981), Belgian botanist.

22

Fleury André-Hercule de (22 June 1653–29 January 1743), French intellectual.
Vallière, Joseph-Florent de (22 June 1717–10 January 1776), French intellectual.
Cuvier, Georges Frédéric (22 June 1773–24 July 1838), French zoologist and paleontologist.
Prunelle, Clément Victor François Gabriel (22 June 1777–20 August 1853), French medical doctor.
Weddell, Hugh d'Algernon (22 June 1819–22 July 1877), English botanist.
Huxley, Julian Sorell (22 June 1887–14 February 1975), British biologist.

23

Dolomieu, Dieudonné Sylvain Guy Tancrède (23 June 1750–28 November 1801), French geologist.
Chevalier, Auguste Jean-Baptiste (23 June 1873–4 June 1956), French botanist.
Heckmann, Otto (23 June 1901–13 May 1983), German astronomer.
Couteaux, René (23 June 1909–12 December 1999), French neurobiologist.

24

Ressons, Jean-Baptiste Deschiens de (24 June 1660–31 January 1735), French chemist and biologist.
Petit, François (24 June 1664–18 June 1741), French medical doctor.
Saint-Leu (??) (24 June 1668 – ? January 1700), French intellectual.
Dalrymple, Alexander (24 June 1737–19 June 1808), Scottish geographer.
Dolomieu, Dieudonné Sylvain Guy Tancrède Gratet de (24 June 1750–28 November 1801), French geologist.
Rosenbusch, Karl Harry Ferdinand Heinrich (24 June 1836–20 January 1914), German petrographer.
Sarrau, Jacques Rose Ferdinand Émile (24 June 1837–10 May 1904), French engineer.
Duclaux, Pierre Émile (24 June 1840–3 May 1904), French chemist and biologist.
Havelock, Thomas Henry (24 June 1877–1 August 1968), British mathematician.

	Litardière, René Jean Alexandre Verriet de (24 June 1888–24 October 1957), French botanist. **Darmois, Georges Ernest** (24 June 1888–3 January 1960), French mathematician.
25	**Daubrée, Gabriel Auguste** (25 June 1814–29 May 1896), French geologist. **Kelvin, William Thompson** (25 June 1824–17 December 1907), Irish physicist and engineer. **Depéret, Charles Jean Julien** (25 June 1854–18 May 1929), French medical doctor. **Fallot, Paul** (25 June 1889–25 October 1960), French geologist. **Normant, Henri Marie** (25 June 1907–5 December 1997), French chemist.
26	**Messier, Charles Joseph** (26 June 1730–12 April 1817), French astronomer. **Lemoine, Clément Georges** (26 June 1841–13 November 1922), French chemist. **Pelseneer, Paul** (26 June 1863–5 May 1945), Belgian ethologist and malacologist. **Thiry, René-Paul-Eugène** (26 June 1886–5 October 1968), French engineer. **Niggli, Paul** (26 June 1888–13 January 1953), Swiss crystallographer. **Levallois, Jean-Jacques Adrien Léonide** (26 June 1911–31 August 2001), French geographer.
27	**Malouin**, **Paul-Jacques** (27 June 1701–3 January 1778), French chemist and medical doctor. **Le Monnier, Louis-Guillaume** (27 June 1717–7 September 1799), French botanist. **Bouvard, Alexis** (27 June 1767–7 June 1843), French astronomer. **Blow, David** (27 June 1931–8 June 2004), British biophysicist.
28	**Le Monnier, Pierre** (28 June 1675–27 November 1757), French mathematician. **Lelièvre, Claude-Hugues** (28 June 1750–19 October 1835), French chemist. **Beauchamp, Pierre–Joseph de** (28 June 1752–19 November 1801), French astronomer. **Cuvier**, **Georges Frédéric** (28 June 1773–24 July 1838), French zoologist. **Carrel, Alexis** (28 June 1873–5 November 1944), French surgeon and biologist. Nobel Prize in Physiology or Medicine - 1912. **Lebesgue, Henri Léon** (28 June 1875–26 July 1841), French mathematician. **Nicolas, Léon Marie Joseph Gustave** (28 June 1879–29 January 1955), French naturalist and botanist. **Bremer, Frédéric Gaston Nicolas** (28 June 1892–7 April 1782), Belgian physiologist.
29	**Malouin, Paul-Jacques** (29 June 1701–31 December 1777), French chemist. **Gasparin, Adrien Étienne Pierre de** (29 June 1783–7 September 1862), French agronomist. **Bréauté, Éléonore Suzanne Nell** (29 June 1794–3 February 1855), French physicist. **Hale, George Ellery** (29 June 1868–22 February 1938), American astronomer. **Fabre, René Jean-Marie** (29 June 1889–4 October 1966), French pharmacist and medical doctor. **Gunsalus, Irwin** (29 June 1912–25 October 2008), American biochemist. **Behr**, **Jean-Paul** (29 June 1947), French chemist.
30	**Cassini, Jean Dominique de** (30 June 1748–18 October 1845), French astronomer. **Savart, Félix** (30 June 1791–16 March 1841), French physicist and medical doctor. **Hooker, Joseph Dalton** (30 June 1817–10 December 1911), British botanist. **Mueller, Ferdinand von** (30 June 1825–9 October 1896), German botanist. **Soret, Jacques Louis** (30 June 1827–13 May 1890), Swiss chemist. **Godlewski, Émile** (30 June 1847–11 September 1930), Polish chemist. **Déjardin, Georges Louis Charles Léon** (30 June 1893–12 April 1977), French physicist. **Ozenda, Paul** (30 June 1920), French botanist.