

LOGO

The History of Organic Chemistry

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History of organic chemistry

A graphic of a molecular structure, possibly a diamond crystal lattice, rendered in a blue and white color scheme, positioned behind the title bar.

Bible Verses

⁷ And the LORD God formed man *of* the dust of the ground, and breathed into his nostrils the breath of life; and man became a living soul.

Genesis 2:7;3:19

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A graphic of a molecular structure, possibly a diamond crystal lattice, rendered in a blue and white color scheme, positioned behind the title bar.

- And by the river upon the bank thereof, on this side and on that side, shall grow all trees for meat, whose leaf shall not fade, neither shall the fruit thereof be consumed: it shall bring forth new fruit according to his months, because their waters they issued out of the sanctuary: and the fruit thereof shall be for meat, and the leaf thereof for medicine.

Ezekiel 47:12

History of organic chemistry

A decorative graphic showing a ball-and-stick molecular model of a complex organic molecule, possibly a protein or a large organic compound, rendered in shades of blue and white. It is positioned behind the title bar.

- ³⁴ And went to *him*, and bound up his wounds, pouring in oil and wine, and set him on his own beast, and brought him to an inn, and took care of him.

Luke 10:34

History of organic chemistry

What is *organic*?



History of organic chemistry

- **No synthetic chemicals added**
- **Came from living sources**
- **Cannot be synthesized from non living material**



History of organic chemistry

A decorative graphic showing a ball-and-stick molecular model of a complex organic molecule, possibly a protein or a large organic compound, rendered in shades of blue and white. It is positioned behind the title bar.

Egyptians

- The practice of mummification – the use of *natron* in preserving dead bodies and placing oil and perfume

Indians

- The use of dyes and pigments

Chinese

- The use of gunpowder and paper

Carbon was discovered in prehistory and was known in the soot and charcoal

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Hilaire Marin Rouelle

(1718-1779)

- French chemist
- Discovered urea crystals from the urine of several animals, including humans

History of organic chemistry

Henri-Étienne Sainte-Claire Deville

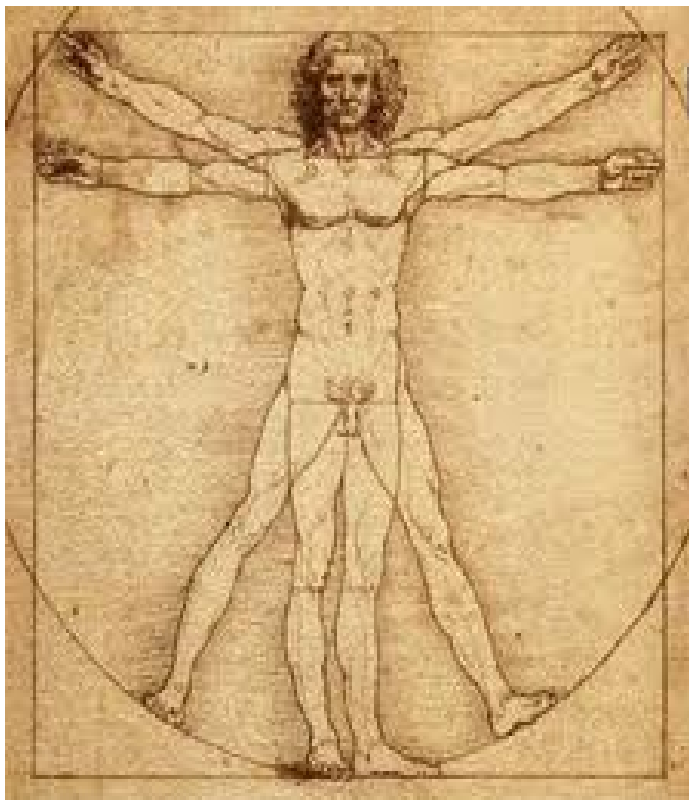
(1818-1881)

- French chemist
- Worked on the investigations of oil of turpentine and tolu balsam, in the course of which he discovered toluene



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- Early 19th Century



- **Vitalism**

- They believed that there was an unknown, even divine principle, that governed living organisms, called the *life spark* or *vital force*.

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- Jöns Jacob Berzelius (1779–1848)
- Swedish chemist.
- He worked out the modern technique of chemical formula notation
- suggested that in the division of organic and inorganic that a mysterious vital force exists in organic compounds

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A graphic of a molecular structure, possibly a hydrocarbon, rendered in a blue and white color scheme, positioned behind the title text.

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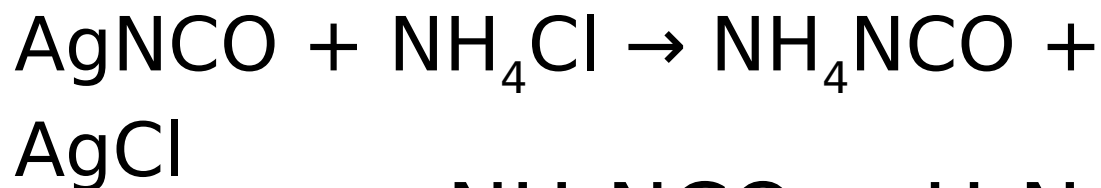
- **Wöhler, Friedrich**
(1800-1882)
- German chemist
- First created organic substance from inorganic source
- Discovered aluminum, beryllium and calcium carbide



Wohler synthesis

of urea

He was trying to make ammonium cyanate by mixing ammonium chloride with silver cyanate.



urea

History of organic chemistry



- Interestingly, Wohler was upset by his discovery. He wrote to Berzelius, "The great tragedy of science, the slaying of a beautiful hypothesis by an ugly fact." For he saw Vitalism to be a beautiful concept, but the crystals of urea seemed to say that the theory was false.

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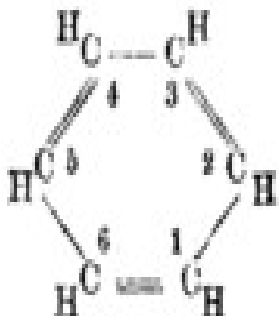
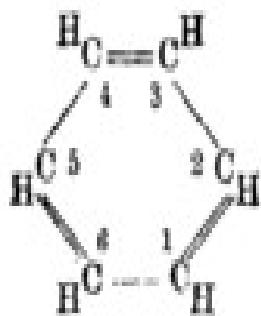
- **Adolph Wilhelm Hermann Kolbe (1818-1884)**
- German chemist
- First to convert carbon disulfide to acetic acid
- Prepared salicylic acid
- First to use the word synthesis



History of organic chemistry



- Friedrich August Kekulé von Stradonitz (1829-1896)
- German organic chemist
- Famous work was on the structure of benzene suggesting that the structure contained a six-membered ring of carbon atoms with alternating single and double bonds.



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- Vladimir Markovnikov (1837-1904)
- Russian chemist
- Markovnikov is best known for *Markovnikov's rule*, elucidated in 1869 to describe addition reactions of H-X to alkenes.



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- François Auguste Victor Grignard (1871-1935)
- French chemist who developed the “Grignard reagent” for devising a new method for generating carbon-carbon bonds using magnesium to couple ketones and alkyl halides in producing alcohol
- Nobel Prize Awardee in chemistry in 1912

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A blue-tinted graphic of a molecular structure, possibly a diamond crystal lattice or a complex organic molecule, is positioned behind the title bar.

- The history of organic chemistry flourished from late 17th century to late 18th century originated from European countries. What does this mean?

INDUSTRIAL REVOLUTION

History of organic chemistry

So, what is *organic*?

- Those that contain carbon either from living or non living source and its derivatives



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- **Anacleto del Rosario**
(1860-1895)
- First Filipino chemist
- Winner of first prize at the World Fair in Paris in 1881 for producing a pure alcohol from tuba of a nipa palm. His research also led to the process of extracting castor oil from a native plant called palma christi.

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References

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A graphic of a molecular structure, possibly a diamond or silicon crystal, rendered in a blue and white color scheme, positioned behind the title bar.

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Thank You !

