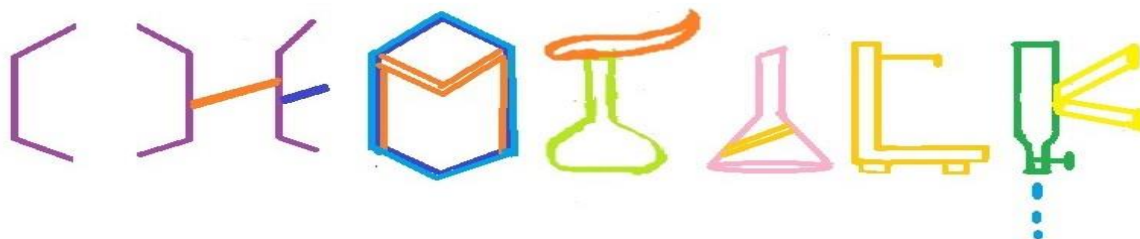


A.P.C.Mahalaxmi College For Women

Thoothukudi.

Department of Chemistry



A Students' Magazine

Edition I, Volume X

10/11/2022



This edition brings an article with chem fact. Besides this, Chem Medicine and chemistry also discussed.

From Editor's Desk

Dear Readers,

As our Government has strongly enforced plastic ban, we have also tried to take a step towards environmental protection by publishing a novel method of plastic degradation. To give a new perspective of chemistry to readers, we have introduced chemfiction, i.e. a fictional story on chemistry. We assure that this edition will satisfy the expectation of the readers.

- Editor

Editorial

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Publisher :**Department of Chemistry**,

A.P.C.Mahalaxmi College for Women, Thoothukudi.

Email : chemtalk123@gmail.com

DEPARTMENTAL ACTIVITIES

On behalf of Chemistry Association, A.P.C.Mahalaxmi College for Women conducted a gender equity programme on Health and Wellness for Women at 11.00 a.m on 22.09.2022. Dr.H.Kohila Subathra Christy, Head and Assistant Professor of Chemistry welcomed the gathering. Mrs.M.Breetha, M.L, Senior Civil Judge, District legal services authority was the invited chief guest. She addressed the students about legal rights, education on fundamental duties, and education on the availability and benefits of legal aid.

PG and Research department of Chemistry, A.P.C.Mahalaxmi College for Women conducted a Guest lecture on 06.10.2022 from 2.00 pm to 3.00 pm. Chief guest Dr.A.Lakshmi, Assistant Professor of Chemistry, St.Mary's College, Thoothukudi, has taken a lecture on topic "Electrocoagulation in Waste water treatment" for second year, third year UG students and PG students in New Seminar Hall.

PG & Research Department of Chemistry, A.P.C Mahalaxmi College for Women, Thoothukudi observed International Girl Child day by organising a gender equity programme on 11th October 2022 to create awareness about the rights of the girl child, to remove gender-based bias and education of girl child, child marriage, various schemes for the girl child and empowering the girl child. Dr.S.Mary Suba Selvarani, Assistant Professor of Tamil, A.P.C.Mahalaxmi College for Women was the invited chief guest. In her speech, she said that the girls around the world continue to face unprecedented challenges to their education, their physical and mental wellness, and the protections needed for a life without violence. Girls with disabilities face additional barriers to accessing support and services.

PG & Research Department of Chemistry, A.P.C Mahalaxmi College for Women, Thoothukudi organized a tree plantation programme on the occasion of National Green Peaceday which falls on 15th Sep.2022. The objective of this event was to teach students, to create an awareness regarding climate change and its adverse effect on us and how we can save our climate from pollution.

In connection with the Birth Anniversary celebrations of Dr.A.P.J. Abdul Kalam, Chemistry Association conducted a Special Day Programme at 12.00pm on 15.10.2022 Dr.R.Selvalatha,

Assistant Professor of Tamil, A.P.C. Mahalaxmi College for Women, Thoothukudi was the invited chief guest and delivered a talk on “கலாமிடம் கற்றுக்கொள்ளுங்கள்”,

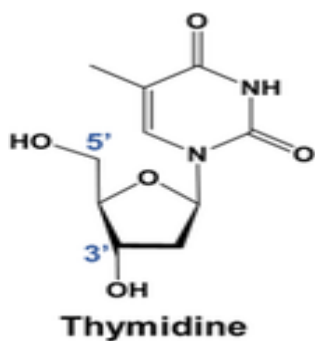
CHEM MEDICINE

M.Yuvarani-(I B. Sc. Chemistry)

Azido thymidine



AZT, in full **azidothymidine**, also called **zidovudine**, drug used to delay development of AIDS (acquired immunodeficiency syndrome) in patients infected with HIV (human immunodeficiency virus). AZT belongs to a group of drugs known as nucleoside reverse transcriptase inhibitors (NRTIs). In 1987 AZT became the first of these drugs to be approved by the U.S. Food and Drug Administration for the purpose of prolonging the lives of AIDS patients.



Nobel Laureate in Chemistry 2022

N.L.Lakshmi Priya (III B. Sc., Chemistry)

Carolyn R. Bertozzi

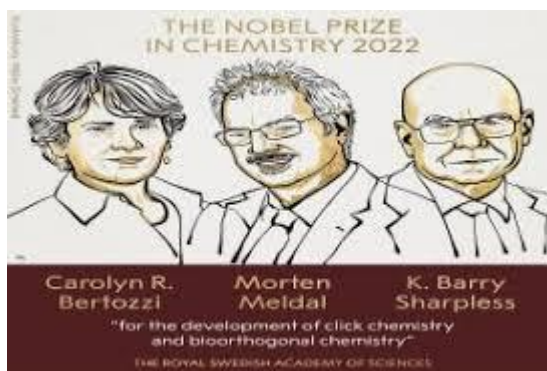
Stanford University, CA, USA

Morten Meldal

University of Copenhagen, Denmark

K. Barry Sharpless

Scripps Research, La Jolla, CA, USA



“for the development of click chemistry and bioorthogonal chemistry”

The Nobel Prize in Chemistry 2022 is about making difficult processes easier. Barry Sharpless and Morten Meldal have laid the foundation for a functional form of chemistry – *click chemistry* – in which molecular building blocks snap together quickly and efficiently. Carolyn Bertozzi has taken click chemistry to a new dimension and started utilising it in living organisms. **Barry Sharpless** – who is now being awarded his second Nobel Prize in Chemistry – started the ball rolling. Around the year 2000, he coined the concept of click chemistry, which is a form of simple and reliable chemistry, where reactions occur quickly and unwanted by-products are avoided.

Shortly afterwards, **Morten Meldal** and Barry Sharpless – independently of each other – presented what is now the crown jewel of click chemistry: *the copper catalysed azide-alkyne*

cycloaddition. This is an elegant and efficient chemical reaction that is now in widespread use. Among many other uses, it is utilised in the development of pharmaceuticals, for mapping DNA and creating materials that are more fit for purpose.

Carolyn Bertozzi took click chemistry to a new level. To map important but elusive biomolecules on the surface of cells – glycans – she developed click reactions that work inside living organisms. Her *bioorthogonal reactions* take place without disrupting the normal chemistry of the cell.

These reactions are now used globally to explore cells and track biological processes. Using bioorthogonal reactions, researchers have improved the targeting of cancer pharmaceuticals, which are now being tested in clinical trials.

Click chemistry and bioorthogonal reactions have taken chemistry into the era of functionalism. This is bringing the greatest benefit to humankind

Just for Laugh

Did you hear about the man who got cooled to absolute zero?

He's OK now.

Why can you never trust atoms?

They make up everything

Why are chemists great for solving problems?

They have all the solutions

What do you call an acid with an attitude?

A-mean-o Acid

Why did the white bear dissolve in water?

Because it was polar

EAGLE VIEW

K.Abitha (II B. Sc., Chemistry)

Introduction to Bioorganic Chemistry and Chemical Biology

By David L. Van Vranken, Gregory A. Weiss



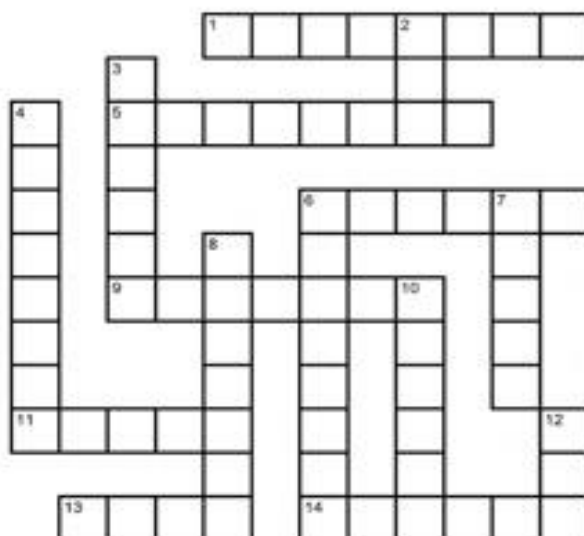
Introduction to Bioorganic Chemistry and Chemical Biology is the first textbook to blend modern tools of organic chemistry with concepts of biology, physiology, and medicine. With a focus on human cell biology and a problems-driven approach, the text explains the combinatorial architecture of biooligomers (genes, DNA, RNA, proteins, glycans, lipids, and terpenes) as the molecular engine for life. Accentuated by rich illustrations and mechanistic arrow pushing, organic chemistry is used to illuminate the central dogma of molecular biology.

Introduction to Bioorganic Chemistry and Chemical Biology is appropriate for advanced undergraduate and graduate students in chemistry and molecular biology, as well as those going into medicine and pharmaceutical science.

Please note that Garland Science flashcards are no longer available for this text. However, the solutions can be obtained through our Support Material Hub link below, but should only be requested by instructors who have adopted the book on their course.

CHEMYSTERY

- N.L.Lakshmi Priya(III B. Sc. Chemistry)



Across

1. The subatomic particle of an atom that has a negative charge is called a(n) _____.
5. A chemical _____ occurs when 2 or more molecules interact with each other causing the molecules to change.
6. The 4 fundamental states of matter are: solid, liquid, gas and _____.
9. The subatomic particle of an atom that does not have an electric charge is called a(n) _____.
11. The _____ gases are found in group 18 of the periodic table, the last column on the right (helium, neon, argon, krypton, xenon & radon).
13. The amount of matter in a object
14. Organic chemistry is the branch of chemistry that deals with compounds containing _____.

Down

2. How many hydrogen atoms are in a molecule of water?
3. The positively charged subatomic particle in the nucleus of an atom is called a(n) _____.
4. The chemical element with atomic number 1. It's the first element in the periodic table.
6. The _____ table is a tabular arrangement of the elements.
7. A type of material that is considered a good conductor of electricity and heat
8. The central core of the atom containing protons and neutrons
10. The atomic _____ is the number of protons in an atom.
12. A charged atom or molecule (the number of electrons is not equal to the number of protons)

Please send your answers to chemtalk123@gmail.com. Cash award Rs.100 will be given to puzzle solver. The winner of the previous Chemystery puzzle is M.Yuvarani(I B.Sc.The Correct answers are 1. Chemical Laboratory 2. Plastic 3. Copper 4. Mercury 5. Nucleus 6. Compounds 7. NaCl 8. Proton 9. Periodic Table 10. Hundred and Eighteen 11. Hydrogen 12. Atomic Orbital 13. Electron 14. Atom 15. Neutron 16. AtomicMassUnit 17. Alkalimetal 18. Isotopes19. Carbon 20. Mendeleev