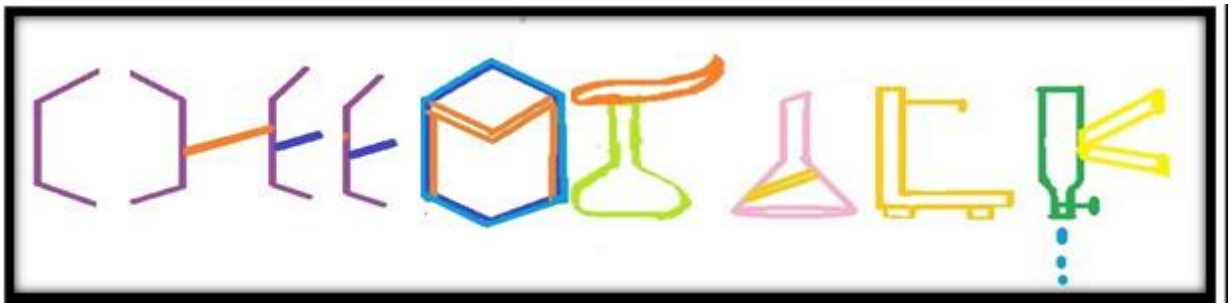
A.P.C.Mahalaxmi College For Women

Thoothukudi.

Department of Chemistry



A Students'Magazine

Edition I,Volume IV

04/10/2019

This edition brings to you an interesting article about Did you know. Besides these, Noble Laureates and March's Advanced Organic Chemistry books are 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

Publisher :**Department of Chemistry,**
A.P.C.Mahalaxmi College for Women, Thoothukudi.

Email : chemtalk123@gmail.com

DEPARTMENTAL ACTIVITIES

GUEST LECTURE:

On behalf of the Chemistry association, a guest lecture was organised on 03.07.2019. Dr.Chandramouli, Technical Senior manager,Heavy water plant delivered a lecture on "HWP an Overview". Dr.Rajamohan, HWP Thoothukudi explained the internship details for the PG students' project .

A motivational talk was delivered by our department alumna, Ms. M. Mahalakshmi on the topic "career guidance" through video conferencing .

INDUSTRIAL VISIT:

Industrial visit was carried out at Heavy Water Plant (HWP), Thoothukudi, Tamilnadu, on 8th August 2019. The main objective behind the visit was to make students aware about how various activities related to chemical products manufactured and human resource are carried out .

SPECIAL DAY PROGRAMME:

In connection with the Birth Anniversary of Dr. A.P.J Abdul Kalam, Chemistry association conducted a special programme on 26.7.2019. Dr. S. Sivakamisundari, Assistant Professor of Tamil was the invited chief guest. On behalf of chemistry association,**73rd Independence Day** was celebrated at the College premises on August 15th, 2019. All the staff members and students were gathered in the College premises at 8.00AM to celebrate the function.The Chief Guest Dr.P.G.Seethalakshmi, Former Principal, has accepted the Guard of Honor by the College N.C.C team and unfurled the tricolor in the backdrop of melodious notes of the flag song **.** In connection with Book Lover'sDay, Chemistry association conducted a competition on Book Reception on 09.08..2019.

ALUMNI REPORT:

On behalf of the Chemistry association, alumni meet was conducted at 2.00 p.m on 15.08.2019. Mrs. Raja Kavitha, Manager, Union Bank of India, Thoothukudi, alumna of Chemistry was the chief guest.

. Alumni of various batches attended the function.

COMPETITION

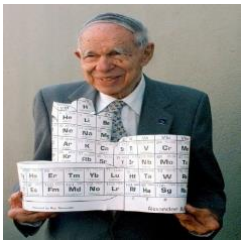
Competitions conducted by Chemistry association

S.No	Date	Competition	Prize
1.	09.08.2019	Book Recitation (Book lovers' Day)	I Prize - M. Subashree - I B. Sc Maths (U.A) II Prize – AlaguMeena - II B. Sc

			Zoology
2.	14.08.2019	Pencil Drawing	I Prize - S. Akila – II M. Sc Chemistry II Prize - P. Muthumari - II M. Sc Chemistry
3.	14.08.2019	Tamil Elocution	I Prize - V. Krishna Prabha – II M. Sc Chemistry II Prize - M. Karthiga – II M. Sc Chemistry
4.	15.08.2019	Rangoli Competition (Corruption Free India)	I Prize - M. Ilakiya T. Sobika – I B. Sc Chemistry; II Prize - S. Akila, V. Krishna Prabha - II M. Sc Chemistry II Prize - Sindhuja, PonIndra – I B. Com (R)
5.	15.08.2019	Fashion Parade	I Prize - P. Regina – II B. Com (R) II Prize - SakthiSwarna – I. B. Sc Maths
6.	15.10.2019	Slogan "Innovate and Inspire"	I prize-S.Umasankari, III B. Sc.Chemistry II Prize-C.Atchaya, I B.Sc.Chemistry

DID YOU KNOW?
-V.RanjithaSelvamari (I B.Sc.,)

- Your car's airbags are packed with salt sodium azide, which is *very* toxic.
- Air becomes liquid at -190°C.
- Mars is red because of iron oxide.
- Famous chemist Glenn Seaborg was the only person who could write his address in chemical elements.



- One inch of rain is equal to 10 inches of snow.
- DNA is a flame retardant.
- The rarest naturally-occurring element in the Earth's crust is astatine.

CHEM INNOVATION

'Artificial leaf' successfully produces clean gas

-G.Siva Sakthi (II B.Sc.,)

A widely-used gas that is currently produced from fossil fuels can instead be made by an 'artificial leaf' that uses only sunlight, carbon dioxide and water, and which could eventually be used to develop a sustainable liquid fuel alternative to petrol.

On the artificial leaf, two light absorbers, similar to the molecules in plants that harvest sunlight, are combined with a catalyst made from the naturally abundant element cobalt.When the device is immersed in water, one light absorber uses the catalyst to produce oxygen. The other carries out the chemical reaction that reduces carbon dioxide and water into carbon monoxide and hydrogen, forming the syngas mixture.As an added bonus, the researchers discovered that their light absorbers work even under the low levels of sunlight on a rainy or overcast day.

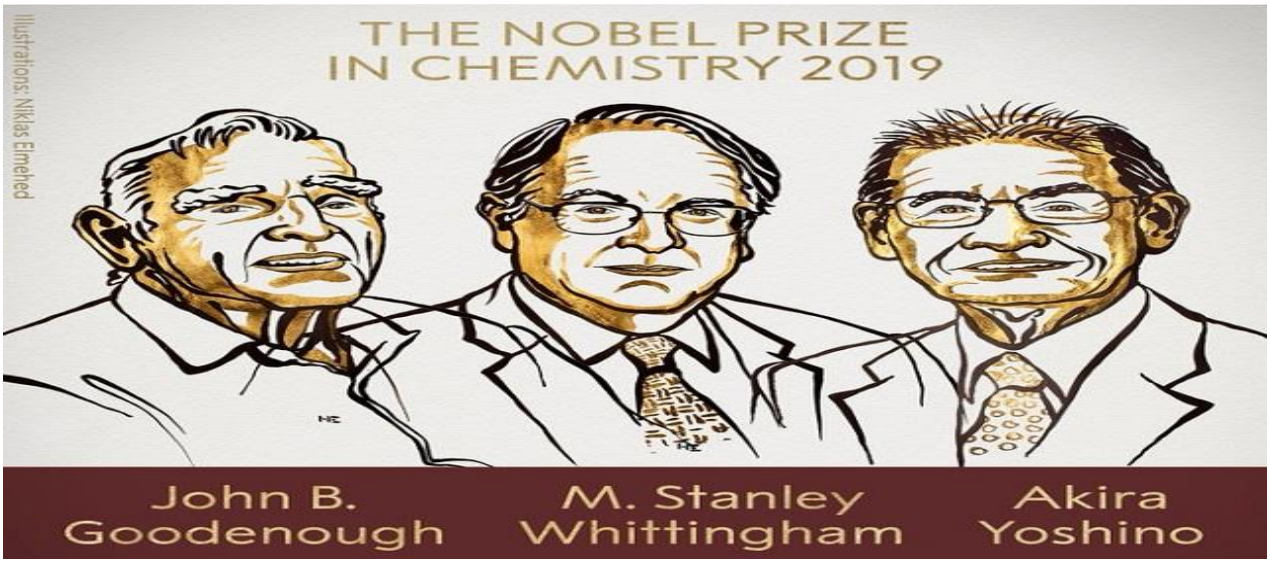
The research was carried out in the Christian Doppler Laboratory for Sustainable SynGas Chemistry in the University's Department of Chemistry. Other 'artificial leaf' devices have also been developed, but these usually only produce hydrogen. The Cambridge researchers say the reason they have been able to make theirs produce syngas sustainably is thanks the combination of materials and catalysts they used.

These include state-of-the-art perovskite light absorbers, which provide a high photovoltage and electrical current to power the chemical reaction by which carbon dioxide is reduced to carbon monoxide, in comparison to light absorbers made from silicon or dye-sensitised materials. The researchers also used cobalt as their molecular catalyst, instead of platinum or silver. Cobalt is not only lower-cost, but it is better at producing carbon monoxide than other catalysts.

NOBLE LAUREATES IN CHEMISTRY

M.PETCHIAMMAL (I B.Sc.,)

Nobel Prize in Chemistry 2019 honours John B Goodenough, M Stanley Whittingham and Akira Yoshino for the development of lightweight, powerful and rechargeable lithium-ion batteries.



Nobel Prize in Chemistry 2019

The Nobel Prize in Chemistry 2019 has been jointly awarded to John B Goodenough, M Stanley Whittingham and Akira Yoshino for the development of lithium-ion batteries.

The Nobel Prize in Chemistry rewards the development of lithium-ion batteries, as the lightweight, rechargeable and powerful batteries are used in almost every kind of wireless electronics these days, ranging from mobile phones and laptops to electric vehicles.The lithium-ion batteries can also store vast energy from solar and wind power, making possible a fossil fuel-free society.

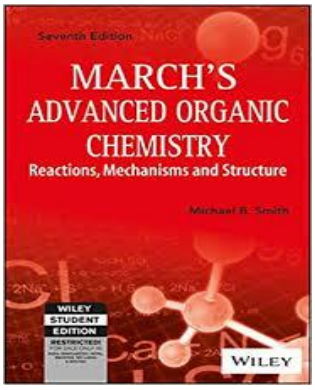
Lithium-ion batteries: Significance

The lithium-ion batteries are currently used to power portable electronics and long-range electric cars. The batteries have revolutionized the technology sector by paving the way for a wireless and fossil energy-free society. The batteries can store energy from renewable energy sources such as wind and solar power.

Eagle's View

March's Advanced Organic Chemistry

- S.Amutha (II B.Sc.,)

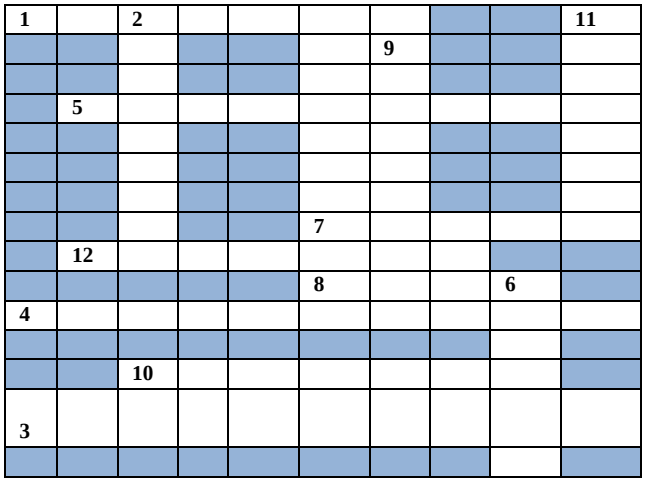


March's Advanced Organic Chemistry, by Michael B. Smith and Jerry March, 6th Edition,Wiley-Interscience, Hoboken, N.J., 2007; ISBN 978-0-471-72091-1; xx*p*2357 pp, $99.95.

The first edition of this textbook appeared in 1969. Hence, at least two generations of organic chemistry graduate students have learned from earlier versions of this book. This latest edition retains the considerable established strengths of the earlier editions, enhances most of them, and introduces some new features. It is the second edition in which Michael Smith is coauthor responsible for the revision. Many sections have been updated and some have been rearranged. These books have always been well referenced, and this book has over 25000 references, 6800 of which are new to this edition. The book deals with structures, reactions, and mechanisms in the mainstream of organic chemistry and omits meaningful treatment of steroids, alkaloids, terpenes, carbohydrates, etc., as too specialized. It is intended as a textbook for a course after a student has taken introductory courses in organic chemistry and physical chemistry. Indeed, a student who masters the material in this text is well situated to get into more specialized subjects and also has a valuable reference source. As in previous editions, the book is organized into two parts. Part 1 (Chapters 1–9) deals with issues of structure, bonding, stereochemistry, and general issues about reaction mechanisms in organic chemistry. Part 2 (Chapters 10–19) deals with reactions organized according to mechanistic type. This organization has been consistent through all six editions. These are followed by Appendix A, the literature of organic chemistry (41 pp.), and Appendix B, classification of reactions by type of compound synthesized (26 pp.). The book finishes with an author index (253 pp.) and a subject index (167 pp.). While the book is intended as a textbook, there are no problems at the end of each chapter, as was the case in previous editions.To summarize, this latest edition is a worthy successor to the previous ones. It will continue to be useful to students as well as professional practitioners of organic chemistry and related disciplines.

CHEMYSTERY

- V.RanjithaSelvamari(I B.Sc.,)



From Left to Right

1.Example for pure element
3.What is the 120th element
4.Which element is used in the manufacture of safety matches,Pyrotechnics,incendiary shells
5.Which element damaged cells when exposd
7.Which element prevents the cells from making protein
10.Which element is most expensive
12.What is the newest element

From Right to Left

2.Which element is used for thyroid and cancer treatment as radioactive tracer
6.Which element used to provide power to electrical equipment
9.Which element is used as fuel making nuclear weapons
11.What is the heaviest element

From the bottom

8.Which element was dis covered by Martin Heinrich Klaproth

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 V.Ranjitha Selvamari(IB.Sc.).The correct answers are 1.Endothermic 2.Chemical equation 3.Chemical formula 4.Decomposition 5.Synthesis 6.Activation Energy 7.LCE 8.Inhibitor 9.Reactant 10.Product 11.Catalyst 12.Exothermic 13.Single replacement