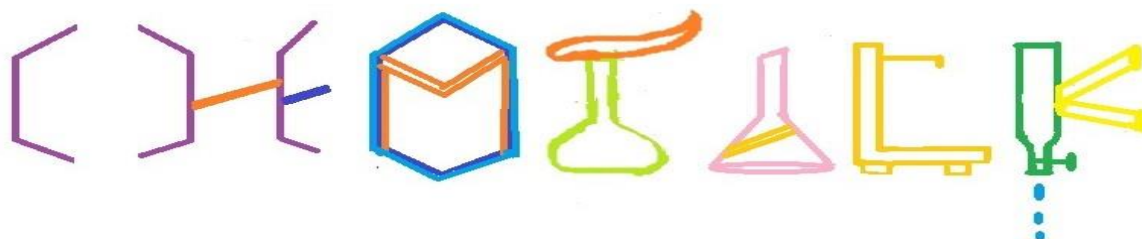


CHEMTALK 2021

# A.P.C.Mahalaxmi College For Women

Thoothukudi.

## Department of Chemistry



A Students' Magazine

Edition I, Volume VII

10/04/2021



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This edition brings an article with did you know about Chemistry. Besides this, Chem Innovations and Chemistry facts and Riddles 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

### Editorial

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## **DEPARTMENTAL ACTIVITIES**

### **FACULTY DEVELOPMENT PROGRAMME:**

On behalf of chemistry association, a Faculty Development Programme on “INNOVATIVE CHEMISTRY CONCEPTS AND TECHNOLOGIES ABOUT COVID\_19 VACCINE” on 12.03.2021&13.03.2021 was organized. 762 participants attended this programme .

### **SPECIAL LECTURE:**

In connection with Women’s Day Celebration, special lecture on “To Conquer Yourself” was organized on 08.03.2021.Dr.G.Vanmathi, Assistant Professor of Chemistry, Kamaraj College as a Chief Guest. 154 participants attended this lecture through Microsoft Teams.

### **SPECIAL DAY PROGRAMME :**

On behalf of chemistry association,**73<sup>rd</sup> Independence Day** was celebrated at the College premises on August 15<sup>th</sup>, 2020. This year, the celebrations are a little different due to the coronavirus pandemic. The grand celebrations were scaled down this year to adhere to the safety protocols to contain the spread of COVID-19. To pay tribute to corona warriors, or those at the forefront of the battle against the coronavirus pandemic, Mr.Tamilselvan, MAS Ambulance service, Social worker and Mr.M.Ibrahim Bashith, Swachh Police were invited to hoist the National flag and to commemorate the sovereignty of our country the Chief guests unfurled the tricolor in the backdrop of melodious notes of the flag song along with the dignitaries and expressed the joy of freedom.

On behalf of chemistry association and in connection with National Science Day, an online quiz “NATIONAL SCIENCE DAY” on 28.02.2020 was organized.134 participants from our department have participated enthusiastically.

### **COMPETITIONS**

On behalf of chemistry association, an online slogan writing competition “Your Vote! Your Voice! ”on 18.03.2021 was conducted. 42students from various discipline have participated enthusiastically. Mrs.S.Kalaiarasi,Assistant Professor of Chemistry and Ms.P.Gurulakshmi, Assistant Professor of Chemistry judged the slogan posters.

I prize was won by R.Narmatha - II B.Sc Chemistry

II prize was bagged by J.Ashwini -II B.Sc Chemistry

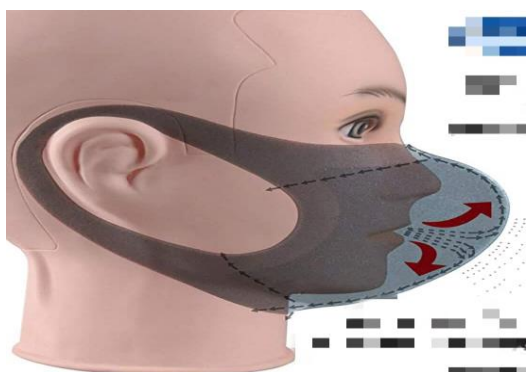
### **INTERNATIONAL CONFERENCE:**

An International conference was organized on enthusiastically 8<sup>th</sup> and 9<sup>th</sup> April 2021 on “Recent Trends in Multidisciplinary Research” (ICRTMDR) in collaboration with IFERP

## CHEM INNOVATION

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

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**Copper Foam is Highly Durable, Efficient,  
as a Filter for Reusable Masks and Air Cleaners**

During the Covid -19 pandemic people were accustomed to use the facemasks, but many of them are fragile and failed to act as an antiseptic agent. Now, researchers in ACS' Nano Letters have transformed copper nanowires into metal foams that could be used in face masks and air filtration systems. The foam, filter efficiently, reuse and are recyclable.

So, Kia Liu and colleagues developed, tested and found that metal foams had excellent filtration efficiency for particles within 0.1- 1.6  $\mu\text{m}$  size range, which is relevant for filtering out SARS-CoV-2,(0.3  $\mu\text{m}$ ). According to the team calculations, the breathability of their foams was generally equal to the commercially available N95 facemasks, allowing many disinfection options, these properties will help kill the trapped bacteria and viruses, say the reseachers.

## INTERESTING FACTS ABOUT SOME ELEMENTS

S. Amutha(III B. Sc., Chemistry)

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### Fluorine

This highly explosive element is carbon's arch-nemesis. Fluorine is one of the few elements that can attack diamond.

### Neon

Neon, the New Helium? If you always find your helium balloons keep flying away from you, you may want to consider gaseous neon as your new balloon guy. If you fill a balloon with neon, it will rise in the air, but it would do it at a much slower rate than a helium-filled one. The balloon-stealing sky wouldn't be happy though...

### Magnesium

Like carbon's diamond, magnesium is almost invincible. What would you do if you saw a magnesium fire? Spray nitrogen or carbon dioxide? Won't work! Pour water to put it out? That will only make it *worse*! Magnesium fires are hard to put out, because they can burn through nitrogen carbon dioxide *and* water.

### Aluminium

Ever wonder why you don't see the thirteenth element in biology? Because of the number 13's bad luck! Aluminium has no function in biology.

### Argon

Amazingly, argon is a lot like humans. It's a homework slacker, chill-out guy and couch potato who ain't care about nothing. Literally. The name argon comes from the Greek word "argos"

meaning "lazy" or "inactive." (It's also best friends with aluminium, because it has nothing to do with biology too!)

### **Potassium**

Where do you think we can find potassium in our food? Potatoes ? (Because it's called "*potassium*")Correct! It can also be found in bananas, avocados, nuts, parsley, and chocolate. (Mmm...)

## **SMART CHEM RIDDLES**

### **V. Ranjitha Selvamari (II B. Sc., Chemistry)**

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1. What is the chemical formula depicted like the alphabet series, K,L,M,N and O.

Answer- Potassium Oxide  $K_2O$ .

2. Shiny like a silver, denser than lead, pricier than gold, could stop a bullet, if I wanted to. What am I?

Answer- Osmium.

3. I may not be gold but I make gold look more beautiful. I help you fly and even though I'm not popular, my prices run high. What am I?

Answer- Rhodium.

4.I'm unique in one way but you can find two of me in your daily drink. What am I?

Answer- Hydrogen.

5.You can get me for free, but inside an atom, I add a lot of weight. What am I?

Answer- Neutron, because it has no charge.

6. Kids really love me because I make things float. You can even use me to expand small things. What am I?

Answer- Helium.

7.I may have twice the life-giving gas but I do not give life to you. However, without me, you will never have food. What am I?

Answer- Carbon Dioxide. (It has two oxygen atoms.)

8.I can keep a swimming pool clean, but I can poison you as well. What am I?

Answer- Chlorine.

9. Yellow in color, I can be a laboratory risk. You'll most often find me used in an explosive. What am I?

Answer- Nitric acid.

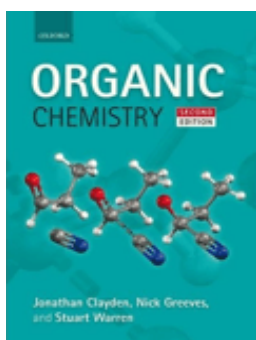
10. I am present in marshes, And also in the rumen of cattle, To stop global warming, I do very little. What am I?

Answer- Methane gas.

## EAGLE'S VIEW

- M. Jeevitha (I M. Sc. Chemistry)

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Jonathan Clayden, Nick Greeves, Stuart Warren

Paperback, 1234 pages

2nd Edition, 2012

**ISBN:**978-0199270293

Oxford University Press

If there is a text book for organic chemistry, which I can recommend without restriction, then it is "Organic Chemistry" from the authors Clayden/Greeves/Warren/Wolters. There are several reasons for this: The book accompanies the beginner in organic chemistry from the structure of the molecules, over NMR up to the topics for advanced, like heterocycles and asymmetrical synthesis. A typical arrangement of functional groups as seen in older text books does not occur. Thus, rather mechanisms and concepts of organic chemistry with rising difficulties are explained. Therefore it can be seen, that a certain mechanism (e.g. the addition to a carbonyl group) can be applied to different functional groups.

A large deficiency of comparable books are the given schemes, which mostly contain "R groups". In this regard, "Clayden" is very practice-related. Thus, in the chapter "acidity, basicity and pKa", the base instability of the Fmoc protective group is explained. Examples like the synthesis of the antibiotic ofloxacin are skillfully inserted later. As very successful I call the marginal notes. Thus, a mechanism is explained again in another kind, or you receive hints, referring to earlier or later chapters, where you can find more information about the topic. Marginal

notes contain remarks like "The Favorskii mechanism want help you understand the Ramberg-Baecklund reaction... ". The book doesn't lead you in temptation of stubborn memorization, but does promote interlaced thinking. Interesting additions are, e.g., chapters about main group chemistry (S, B, Si...), "Organometallic Chemistry" and "The Chemistry of Life". Therefore, the book is not only recommendable for lectures in organic chemistry, but also as a companion in biochemistry lectures.

Who "Clayden" possesses, has in lectures where alcohols, amines, carbonic acids and amides are strictly treated separately from each other, probably more or less to keep leafing back and forth and back again. However, this book has, compared with usual text books, to offer some pluses. Beyond that, I recommend lecturers the acquisition of an "inspection copy". You should use this offer to promote organic knowledge in another way and to encourage interlaced thinking.

## **CHEMYSTERY**

**- N.L.Lakshmi Priya (I B. Sc. Chemistry)**

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**Across**

**Down**

3) Reaction that takes in energy in the form of heat

6) Factor affecting the rate of reactions

9) Reaction that gives out energy in the form of heat

10) Gain of oxygen by a substance during a chemical reaction

11) Substance which slows down or stops a chemical reaction

13) Substance that participates in a chemical reaction

14) Chemical reaction in which a single compound breaks down into two or more elements or compounds

1) Reaction between an acid and base forming water and salts

2) Solid that forms from a solution during a chemical reaction

4) Reaction in which one element replaces another within a compound

5) Substance formed as a result of a chemical reaction

7) .... energy is the energy needed to start a reaction

8) Substance that speeds up a reaction without being consumed

12) Chemical link that holds molecules together

Please send your answers to [chemtalk123@gmail.com](mailto:chemtalk123@gmail.com). Cash award Rs.100 will be given to puzzle solver. The winner of the previous Chemystery puzzle is N. L. Lakshmi Priya(I B.Sc.The Correct answers are 1.Fluorine, 2.Neon, 3.Uranium, 4.Platinum, 5.Beryllium, 6.Helium,7.Aluminium,8.Hydrogen,9.Neodymium,10.Sodium, 11.Sulphur, 12.Gold. 13.Silicone,14.Tin,15.Nickel,16.Gallium,17.Oxygen,18.Calcium,19.Arsenic,20.Xenon,21.Nitrogen,22.Phosphorus,23.Mercury, 24.Iodine,25.Iron,26.Tungsten,27.Magnesium