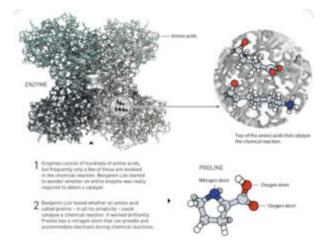
Chemistry Nobel 2021

October 7, 2021

In news- The 2021 Nobel Prize in Chemistry was awarded to German scientist Benjamin List and Scotland-born scientist David WC MacMillan "for the development of asymmetric organocatalysis."

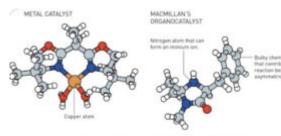
About the research-

- They developed a new and ingenious tool for molecule building- organocatalysis.
- Researchers long believed that there were just two types of catalysts available: metals and enzymes.
- Independently of each other, laureates Benjamin List and David MacMillan developed a third type – asymmetric organocatalysis – which builds upon small organic molecules.



- Organic catalysts have a stable framework of carbon atoms and more active chemical groups can be attached to them.
- They contain elements such as oxygen, nitrogen, sulphur or phosphorus, meaning that they are both environmentally friendly and cheap to produce.
- The increased use of organic catalysts is due to their ability to drive asymmetric catalysis.

- Whenever molecules are being built, two different molecules can form and chemists would want to use any one of them when producing pharmaceuticals.
- Both Benjamin List and David MacMillan have demonstrated how organic catalysts can be used to drive multitudes of chemical reactions.
- •With the help of these reactions, chemists can now produce anything ranging from new pharmaceuticals to molecules that can capture light in solar cells.



David MacMillan worked with metal catalysts that were assily destroyed by moisture. We therefore started to wonder whether it was possible to develop a more durable type of catalyst. 2 Ne talagned same simple indecules that could create invision zons. One of these proved to be excellent at asymmetric catality