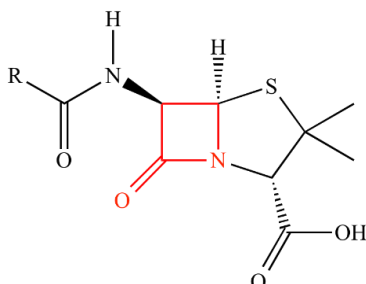


Celebrating the Complexities of Chemistry:Stimulations2017

How Organic Chemistry Unravels Drug Action !

On the 11th of December, 2017, at PSBB NGM, the students of the science stream of classes eleven and twelve witnessed a captivating and utterly fascinating lecture by an alumnus of the school, Mr. Prithvi Vangal, stimulating their penchant for the mysteries of science. After completing his schooling in India, Mr.Prithvi undertook extensive research in the field of chemistry at premier institutions like Harvard University.

The topic of his lecture was the significance of organic chemistry in understanding the action of certain drugs. He gave the students a brief introduction to the various classes of drugs that exist currently, mainly β -lactams and macrolides. He explained how the core all of these classes of drugs contained one functional group, and how addition of various groups on this skeleton leads to better action of the drug in question. For example, in β -lactams, one ring finds itself in all drugs of the class.



Above: A β -lactam derivative with the core function

Mr.Prithvi also spoke about convergent synthesis, a novel approach to synthesis of organic compounds, which uses different routes to achieve the same products, with a much higher yield than a linear approach. Hess highlighted the fact that if we have just right primary materials, we can add on to it multiple functions that can increase the efficacy of the drug by leaps and bounds.

The lecture concluded with some questions from the students, which included the inevitable “Wouldn’t there be a time when the battle against superbugs will be impossible to win? Would all our drugs stop working?” and also “How is it confirmed that a drug is suitable and would work for all people?”

Mr. Vangal then spoke about how all this research is the new exciting domain in organic chemistry, with a Nobel prize already won. The lecture helped students to appreciate the beauty and complexity of organic chemistry, inspiring many to take up further studies on the same in future!

