SISP 1109
A Logical Approach to Organic Chemistry

Course Description

This course is offered under the program of the HKUST Summer Institute for Secondary School Students by the School of Science.

High school students often perceive Organic Chemistry as a memory test for reactions. In this course, we want to change this wrong perception.

By providing students with fundamental chemical understanding and basic thinking skills of organic chemistry, they will be able to understand the logic behind these reactions and learn to think like an organic chemist.

Many application of organic chemistry in the society will also be discussed, and two commonly used analytical techniques (IR and NMR) will be covered. Students will also be shown to the IR and NMR spectrometers housed in HKUST.

Topics

1. Electron organisation in atoms
2. Covalent bonding in organic compounds
3. Structure of organic compounds
4. Reactivity of organic compounds
5. Using curly arrows to explain simple reactions
6. Competing reactions: thermodynamic and kinetic considerations
7. IR and NMR spectroscopy

Grading Scheme

- Written assignment (60%)
- Course participation (40%)

[Topics and grading schemes are subject to change as deemed appropriate. Students will receive information and guidelines in class on how they will be assessed for the course.]

Instructor

Dr. Jason CHAN

Dr. Jason Chan is a Lecturer in the Department of Chemistry. Jason read Natural Sciences at the University of Cambridge and developed a fondness for Organic Chemistry, then he moved to St Andrews, Scotland to carry out a PhD research in the field of Bio-Organic Chemistry. He received a Common Core Teaching Excellence Award in 2016.