KONAN UNIVERSITY

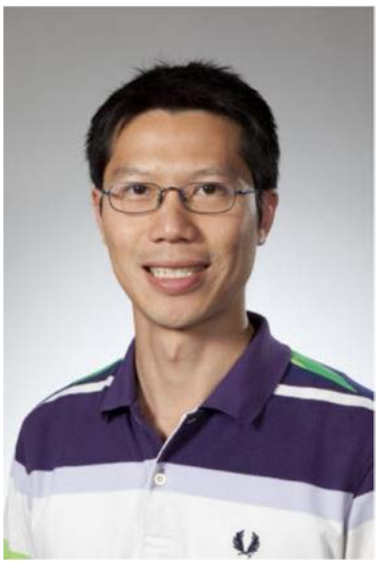
Dept. Chem., Fac. Sci. Eng. / FRONT

2019年度 第3回 機能分子化学セミナー

太陽光を基礎とする恒久的エネルギーシステムの実現を目指した
甲南新素材フロンティア研究プロジェクト 第4回講演会

教職員・院生・学生向けに以下の講演会を開催します。ぜひ御参加ください。

Advanced Design of Zeolite As A Selective Catalyst and Adsorbent



Dr. Alex Yip

Department of Chemical and Process Engineering, University of Canterbury

2020年 1月 8日（水）14:00 ～ 15:00
@ 7号館サイコモンズ SaLaCo-Center

Abstract

Ionothermal synthesis method, in which ionic liquids (ILs) act as both solvent and template/structure-directing agent (SDA), has received great attention due to its almost zero vapor pressure at typical zeolite synthesis temperatures (ca. 170-180 ℃). However, the existing reports in literature show that a wide range of random zeolite types tend to form when ionic liquids were used for zeolite synthesis. We systematically studied the effect of various ILs, such as 1-ethyl-3-methylimidazolium bromide ([EMIM]Br), 1-ethyl-3-methylimidazolium chloride ([EMIM]Cl), 1-buthyl-3-methylimidazolium chloride ([BMIM]Cl), etc., on the resulted zeolite products using tetraethyl orthosilicate (TEOS), fumed silica and colloidal silica as the Si sources. The results showed that the morphology of the product zeolite can be tailored using appropriate ILs as a soft template and that anisotropic behavior can be obtained in zeolite catalysis. This talk will also present a core-shell zeolite that is suitable for use as an ethylene scavenger, which finds a great potential in the food storage and transporting industry.