

# CCRC News #14

January 23, 2018

新年あけましておめでとうございます。本年も、触媒研とコミュニティーを繋ぐ連携活動に尽力いたしますので、ご協力の程宜しくお願い申し上げます。

今年最初のお知らせですが、産総研触媒化学融合研究センター・佐藤一彦センター長（触媒研連携センター産学官ユニット・客員教授）、田中真司主任研究員ほかと触媒研・触媒理論研究部門・長谷川、Ratanasak博士の共同研究の成果がACS Catalysisに出版されました。産総研で開発された四級アンモニウム塩を触媒とするエステル交換反応が報告され、触媒研は理論計算による反応メカニズム解析に協力しました。特に、エポキシドを有する基質について、三員環を保ったままエステル交換ができる特徴があります。

所外コミュニティーと所内の皆さまのご尽力によりユニットが厚みを増し、連携センターを介した研究・教育活動が充実して参りました。センターを代表しまして、厚く御礼申し上げます。

(記 長谷川淳也)

At the beginning of 2018, I wish you a successful new year. In this year, CCRC will keep a persistent effort on bridging between catalysis community and ICAT. We wish your kind understanding and cooperation.

The first news of the year is about a just-published paper by Interdisciplinary Research Center for Catalytic Chemistry (IRC3, AIST) and Catalyst Theory group (ICAT). Dr. Sato, director of IRC3, is also a guest professor at ICAT and belongs to Unit for Industry-Government-Academia Collaborative Research on Catalysis at CCRC. This successful collaboration is on a quaternary alkyl ammonium salt catalyst that transforms glycidol while keeping its epoxide moiety intact. This reaction was developed at IRC3, and ICAT worked together on the catalytic mechanism.

Cooperation on research and education by the units is being enriched year by year. On the behalf of CCRC, I would like to appreciate the great effort along this direction.

(Jun-ya Hasegawa)

The screenshot shows the ACS Catalysis journal article page. The title is "Quaternary Alkyl Ammonium Salt-Catalyzed Transformation of Glycidol to Glycidyl Esters by Transesterification of Methyl Esters". The authors listed are Shinji Tanaka, Takuya Nakashima, Toshie Maeda, Manussada Ratanasak, Jun-ya Hasegawa, Yoshihiro Kon, Masanori Tamura, and Kazuhiko Sato. The article is published in ACS Catalysis, 8, pp 1097–1103 (2018). The DOI is 10.1021/acscatal.7b03303. The abstract section includes a chemical reaction scheme showing the transesterification of a methyl ester with glycidol, catalyzed by a quaternary ammonium salt, to produce a glycidyl ester and methanol. A note above the reaction says "Keep epoxide moiety intact".

“Quaternary Alkyl Ammonium Salt-Catalyzed Transformation of Glycidol to Glycidyl Esters by Transesterification of Methyl Esters”, S. Tanaka, T. Nakashima, T. Maeda, M. Ratanasak, J. Hasegawa, Y. Kon, M. Tamura, K. Sato, *ACS Catal.*, 8, 1097–1103 (2018). DOI: [10.1021/acscatal.7b03303](https://doi.org/10.1021/acscatal.7b03303)