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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ■ 氏名                        |                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 松本 一嗣 (Kazutsugu Matsumoto) |                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ■ 研究分野                      | ■ 研究分野キーワード           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 有機合成化学、生体触媒化学               | 光学活性体、生体触媒、酵素、環境調和型反応 |
| ■ 研究テーマ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                             |                       |
| <p>「環境に優しく、無駄なく、効率的に」物質合成を行うグリーン・サステイナブルケミストリーがもてめられている今日、新しい手法・考え方を提案し、新規物質合成法の開発を目指して研究を進めている。特に、生体触媒〔酵素や微生物（酵素を内包している）などの天然由来の触媒〕の基質特異性を利用した反応による光学活性体の合成、酵素酸化反応の開発、再利用可能な環境調和型触媒の開発研究など、従来の有機化学と生物化学の境界領域研究を展開している。</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                             |                       |
| ■ 文献                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                             |                       |
| <p>□Synthesis of optically active heterocyclic compounds via deracemization of 1,2-diol monotosylate derivatives bearing a long aliphatic chain by a combination of enzymatic hydrolysis with Mitsunobu inversion<br/>Tetrahedron: Asymmetry, 24/2-3, 108-115 2013 (学術雑誌)</p> <p>□Enzyme-Mediated Enantioselective Hydrolysis of Dicarboxylic Acid Monoesters<br/>Lett. Org. Chem., 9/9, 615-621 2012 (学術雑誌)</p> <p>□Degradation of the synthetic dye amaranth by the fungus Bjerkandera adusta Dec 1: influence of the degradation pathway from an analysis of decolorized products<br/>Biodegradation, 22/6, 1239-1245 2011 (学術雑誌)</p> <p>□Microbial Oxidation of 1,2-Diols Bearing a Substituent with an Oxyfunctional Group: Preparation of Optically Active 1,2-Diols and <math>\alpha</math>-Hydroxy Ketones<br/>Lett. Org. Chem., 8/8, 536-539 2011 (学術雑誌)</p> <p>□Mild oxidation of alcohols using soluble polymer-supported in combination with Oxone: Effect of a basic matrix of TEMPO derivatives<br/>Heterocycles, 81/11, 2539-2553 2010 (学術雑誌)</p> <p>□Enzyme-mediated enantioselective hydrolysis of soluble polymer-supported carboxylates<br/>Tetrahedron, 66/40, 8060-8067 2010 (学術雑誌)</p> <p>□Easy separation of optically active secondary alcohols by enzymatic hydrolysis of soluble polymer-supported carbonates<br/>Bull. Chem. Soc. Jpn., 83/2, 182-189 2010 (Selected Papers) (学術雑誌)</p> <p>□Deracemization of 1,2-diol monotosylate derivatives by combination of enzymatic hydrolysis with the Mitsunobu inversion using polymer-bound triphenylphosphine<br/>Tetrahedron: Asymmetry, 20/24, 2802-2808 2009 (学術雑誌)</p> <p>□Preparation of optically active 1-O-alkyl-3-O-arylsulfonyl-sn-glycerol derivatives: substrate engineering in enzyme-mediated enantioselective hydrolysis<br/>Synlett, /19, 2981-2984 2008 (学術雑誌)</p> <p>□Enzyme-mediated enantioselective hydrolysis of soluble polymer-supported dendritic carbonates<br/>Tetrahedron Lett., 49/47, 6642-6645 2008 (学術雑誌)</p> <p>□Enantioselective Microbial Oxidation of Allyl Alcohols<br/>Chem. Lett., 36/12, 1428-1429 2007 (学術雑誌)</p> <p>□Deracemization of Acyclic <math>\alpha</math>-Hydroxy Ketone Derivatives by Dynamic Resolution Using an Optically Active Host Compound<br/>Synlett, /5, 729-732 2007 (学術雑誌)</p> <p>□Enantioselective microbial hydrolysis of dissymmetrical cyclic carbonates with disubstitution<br/>Tetrahedron, 62/51, 12071-12083 2006 (学術雑誌)</p> <p>□Enantioselective Microbial Hydrolysis of Disubstituted Cyclic Carbonates<br/>Heterocycles, 68/7, 1329-1334 2006 (学術雑誌)</p> <p>□Optical Resolution of Acyclic <math>\alpha</math>-Hydroxy Ketone Derivatives by Inclusion Complexation<br/>Bull. Chem. Soc. Jpn., 77/11, 2051-2056 2004 (学術雑誌)</p> |                             |                       |

## ■ 解説・総説

☐ 光学活性体を合成する -生体触媒の利用-  
明星大学物性研究センター  $\mu$ , /29, 3-9 2002

☐ 加水分解酵素（リパーゼ）を使ってカルボン酸フェノール（エステル）の加水分解反応を確認する  
化学と教育, 43, 237-238 1995

☐ 高選択的不斉プロトン化反応  
化学, 43, 217 1994

## ■ 著書

☐ 「生体触媒化学」 幸書房, 2003年9月

## ■ 招待講演

☐ Deracemization of 1,2-diol monotosylate derivatives by combination of enzymatic hydrolysis with the Mitsunobu inversion using polymer-bound triphenylphosphine  
22nd International Symposium on Fine Chemistry and Functional Polymers (FCFP-XXII) & IUPAC 8th International Symposium on Novel Materials and Synthesis (NMS-VIII), 2012年10月 (中国, 西安)

☐ Preparation of Optically Active 1,2-Diol Monotosylates by Enzymatic Hydrolysis  
20th International Symposium on Fine Chemistry and Functional Polymers (FCFP-XX) & IUPAC 6th International Symposium on Novel Materials and Synthesis (NMS-VI), 2010年10月 (中国, 武漢)

☐ Efficient Oxidation of Alcohols by PEG-Supported TEMPO  
10th International Symposium on Biotechnology, Metal Complexes, and Catalysis (BMC-X), 2008年5月 (中国, 鄭州)

☐ The Use of Soluble Polymer in Enzymatic Reactions  
17th International Symposium on Fine Chemistry and Functional Polymers (FCFP-XVII) & IUPAC 3rd International Symposium on Novel Materials and Synthesis (NMS-III), 2007年10月 (中国, 上海)

## ■ 主な研究設備等

☐ 高速液体クロマトグラフィー  
☐ ガスクロマトグラフィー  
☐ 分取液体クロマトグラフィー  
☐ 遠心分離器  
☐ 紫外可視分光計  
☐ 赤外分光光度計  
☐ 卓上クリーンベンチ  
☐ 振とう器  
☐ インキュベーター  
☐ 冷却機付きスターラー  
☐ エバポレーター  
☐ オートクレーブ  
☐ マクロモデル  
☐ クーゲルロール