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Recent Progress in the Chiral Phosphoric Acid Catalysis

ABSTRACT: We designed and developed chiral phosphoric acid derived from (R)-BINOL as a chiral Brønsted acid in 2004, and have reported a number of enantioselective reactions by means of chiral phosphoric acid. Development of chiral phosphoric acid, and recent progress on the chiral phosphoric acid catalyzed reactions, such as Friedel-Crafts alkylation reactions of indoles, transfer hydrogenation, construction of chiral biaryls, and internal redox reactions will be discussed in the lecture.

BIO:

Employment:

04/1997-	Professor, Department of Chemistry, Gakushuin University
04/1994-03/1997	Associate Professor, Department of Chemistry, Gakushuin University
04/1992-03/1993	Visiting Scholar, Department of Chemistry, Stanford University
07/1988-03/1994	Assistant Professor, Department of Applied Chemistry, Ehime University
04/1985-06/1988	Research Chemist, Shionogi Research Laboratories, Shionogi & Co., Ltd.

Education:

03/1985	Ph.D. The University of Tokyo
03/1982	M. Sc. Department of Chemistry, The University of Tokyo
02/1980	B.Sc. Department of Chemistry, The University of Tokyo

Awards:

2017	Synthetic Organic Chemistry Award, Japan	Humboldt Research Award
2016	Arthur C. Cope Scholar Award	
2012	JSPC (The Japanese Society for Process Chemistry) Award for Excellence 2012 Nagoya Silver Medal	
2009	The Chemical Society of Japan Award for Creative Work for 2009.	
2009	SSOCJ (The Society of Synthetic Organic Chemistry, Japan) Daiichi-Sankyo Award for Medicinal Organic Chemistry 2009.	
1997	1997 Takeda Pharmaceutical Company Award in Synthetic Organic Chemistry, Japan.	

Honorary Lectureships & Visiting Professorships:

2017	LabEx CHARMMMAT Visiting Professor, University of Paris-Saclay (France)
2017	SUSTC Chemical Sciences Lectureship, South University of Science and Technology of China, Shenzhen, (P. R. China)

Research Interest:

Synthetic Organic Chemistry, Organocatalysis, Metal-mediated reactions