

Principal Researcher	Kenso Soai			Number of Researchers	2	
Research Institution • Department • Title	Professor, Department of Applied Chemistry, Tokyo University of Science			Location of Institution	Shinjuku-ku	
Title of Project	Research on Asymmetric Autocatalysis, Chiral Recognition and Origin of Chirality					
Abstract of Research Project	<p>Biomolecules such as L-amino acids exhibit strong handedness. Asymmetric synthesis is an important theme. In this project, we will develop asymmetric autocatalysis, <i>i.e.</i>, the reaction in which chiral product acts as chiral catalyst for its own production. In asymmetric autocatalysis, the amount of catalyst increases effectively. The product acts as asymmetric autocatalyst for the next run. Thus, turnover number is infinite. Meanwhile, the origin of chirality and the process of its amplification have been an unsolved theme for many years. In the project, we will develop asymmetric autocatalysis of pyrimidyl alkanol with significant amplification of enantiomeric excess. Asymmetric autocatalysis initiated by chiral physical factors such as circularly polarized light will be examined.</p>					
References	I. Sato, H. Urabe, S. Ishiguro, T. Shibata, K. Soai, "Amplification of Chirality from Extremely Low Enantiomeric Excess to Greater Than 99.5% Enantiomeric Excess by Asymmetric Autocatalysis," <i>Angew. Chem. Int. Ed.</i> , 42, 315-317 (2003).					
Term of Project	Fiscal years 2003-2007 . (5years)					
Budget Allocation (in thousand of yen)	FY2003	FY2004	FY2005	FY2006	FY2007	TOTAL
	25,000	16,800	15,700	14,900	14,200	86,600
Homepage Address	http://www.rs.kagu.tus.ac.jp/soai/					