

Masayuki Kaneda

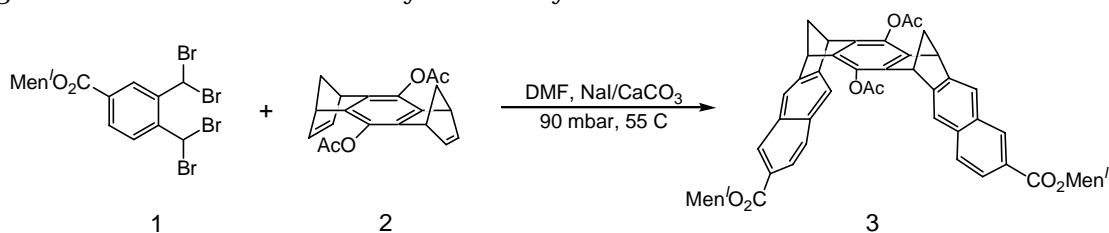
Visited country: Germany

Laboratory: F.-G. Klärner Lab. (Institute of Organic Chemistry, University of Essen)

The period of stay: 55 days (6th Jan to 28th Feb)

Theme: Entropy control of mono- and bimolecular asymmetric photoreaction

The purpose of this research in Germany was to synthesize chiral molecular clips (e.g. compound **3**) as a new class of host molecules for supramolecular asymmetric photoreaction. In this context, Prof. F.-G. Klärner had already succeeded to synthesize a variety of achiral molecular clips, although chiral ones had never been synthesized yet.



In the first trials, I was not very successful in synthesizing even a chiral precursor **1**, which needs three to four-step reactions, and spent nearly one month without a fruitful result. However, after many efforts and invention, I finally succeeded to synthesize a chiral molecular clip **3** for the first time, just before I came back to Japan. This chiral clip, after optical resolution by preparative chiral HPLC which is currently in progress in Japan, will be used as an enantiopure sensitizing host for a variety of supramolecular asymmetric photoreactions, and eventually the results to be obtained provide us with a tool for entropically controlling the supramolecular photochirogenic processes.

Although the period of my stay in Essen was too short (only two months) to fully, I have completed the planned schedule to synthesize the chiral molecular clip. Moreover, I have been able to learn and enjoy the academic and social life in Germany; thanks to Professor Klärner, and German colleagues and students, who were always friendly and hospitable to me. Since I always tried to tell about what I felt and how I thought (despite my not-very-fluent English), they also tried to know about me and gave me many advices.

Finally, I would like to appreciate Professor Klärner, Ph.D. student Madenci (who greatly helped me in the lab) and other.



Photo: Professor Klärner (second from right) and my colleagues near the very old castle in suburban Essen

Financial support of my visit to Professor Klärner's lab by COE is gratefully acknowledged.