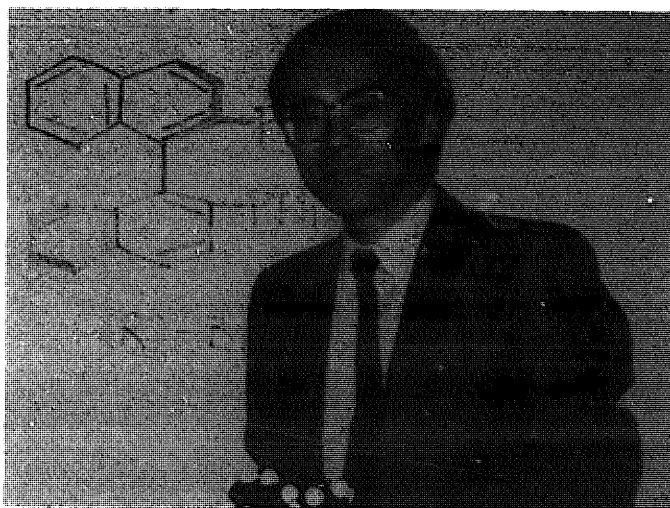


Editorial



Hidemasa Takaya: A life devoted to science

When Hidemasa Takaya died unexpectedly on 4 October 1995 during the Vth Königstein/Kreuth Conference on Organometallic Chemistry in Kreuth/Bavaria, all his friends and colleagues recognized that they lost one of the greatest scientists in the field. His life was dedicated to science which he represented in organometallic chemistry and homogeneous catalysis until the very last day of his life. As a matter of fact, the conference in Kreuth was dedicated to organometallic catalysis, with the leading members of this community being present there. Hidemasa Takaya was the representative of Japan.

The life-work of Hidemasa Takaya must be judged parallel to the work of Ryoji Noyori. The atropisomeric (C_2 -symmetric) binaphthyl framework is the key feature that stands for the two congenial chemists Takaya and Noyori — neither one can be thought of without the other. Homogeneous enantioselective catalysis received its most original, far-reaching contributions from the BINAP ligand, the coordination chemistry of which system was thoroughly investigated by Hidemasa Takaya in a great number of masterful studies.

In the first period of this development, the BINAP ligand and numerous derivatives were exploited in

asymmetric catalytic hydrogenation and isomerization. One famous industrial application, the *L*-menthol synthesis of Takasago Perfumery Ltd., landmarked a breakthrough of homogeneous asymmetric catalysis. Although normally connected with the name of Noyori, this work greatly benefited from the synthetic and structural work of Takaya.

After the year of 1993, Takaya's group achieved significant progress in the area of rhodium-catalyzed asymmetric hydroformylation. They invented a special phosphane/phosphite ligand known as BINAPHOS, again a chelating C_2 -symmetric diphosphane that effects hydroformylation of olefins with enantioselectivities ranging as high as 70–95%¹.

Takaya highlighted his ingenious work for the last time in a very recent paper that appeared shortly after his untimely death of (*J. Am. Chem. Soc.*, 117 (1995) 9911–9912). The isotactic polymerization of propylene with carbon monoxide to yield in a highly enantioselective reaction polyketones of high molecular weights has been achieved by using BINAPHOS in the presence of certain cationic organopalladium catalysts. At the same

¹ N. Sakai, K. Nozaki and H. Takaya, *J. Chem. Soc., Chem. Commun.*, (1994) 395–396; N. Sakai, S. Mano, K. Nozaki and H. Takaya, *J. Am. Chem. Soc.*, 115 (1993) 7033–7034.

time, this short publication is typical for the scientific nimbus of Hidemasa Takaya: stereoselective catalysis with intelligent, tailored catalyst and, at the same time, thorough mechanistic investigations to understand the catalytic success.

The large, international community of his friends and colleagues will miss Hidemasa Takaya. He was so wonderful a person and so gifted a scientist that we cannot replace him, neither in his university nor in our hearts. The *Journal of Organometallic Chemistry* has

been associated with Hidemasa Takaya's scientific life work over a long period of time. Thus, the Editors spontaneously decided to publish a special memorial issue that mainly contains contributions from participants of the Vth Königstein/Kreuth Conference on Organometallic Chemistry.

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