



catalysts



Special Issue Reprint

Theme Issue in Memory to Prof. Jiro Tsuji (1927–2022)

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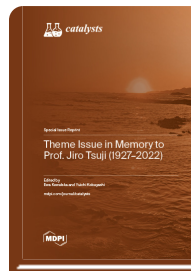
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This reprint is dedicated to Professor Jiro Tsuji, who passed away on April 1st, 2022. He pioneered the discovery of transition metal-catalyzed reactions and showed the general idea of developing these reactions in organic synthesis. Well-known reactions include several types of Pd-catalyzed reactions, e.g., substitutions of allylic substrates based on the stoichiometric reaction of π -allyl palladium with carbon nucleophiles; reactions of allyl β -keto esters, resulting in allylation, olefin formation, and reduction; reactions of propargylic substrates; and methyl ketone formation from 1-olefins based on the Wacker process of ethylene. It is noteworthy that olefin formation is used as the key step in the industrial synthesis of jasmonate. Other reactions catalyzed by Pd, Ru, and Cu are carbonylation of olefins, dienes, acetylenes, and allyl compounds; decarbonylation of acid chloride and aldehydes; oxidative decomposition of catechol to muconic acid, etc. Tsuji focused on the carbon–carbon bond forming reaction from the very beginning of his research.

The significance of the reactions found by Tsuji was proven by their widespread adoption in academic and industrial laboratories. Consequently, it is not surprising that Tsuji was honored with the Chemical Society of Japan Award in 1981, the Japanese Medal of Honor with Purple Ribbon in 1994, the Japan Academy Prize in 2004, and the Tetrahedron Prize in 2014. He received Honorary Professor at the Tokyo Institute of Technology.



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