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Anny Jutand

Ecole Normale Supérieure, France

Contribution of electrochemistry to organometallic catalysis

Many organic reactions are catalyzed by transition metals and the catalytic cycle is a succession of chemical steps involving organometallic species whose metal exhibits different oxidation states. Most organometallic complexes may be oxidized or reduced. Consequently, they can be detected and characterized by electrochemical techniques. Moreover, their reactivity in chemical steps can be followed by using the same techniques, taking advantages of the fact that currents are proportional to the concentrations of electroactive species. It is thus, possible to investigate the mechanism of the chemical steps of a catalytic cycle (characterization of the reactive species and their reactivity *via* the determination of rate constants) so that to determine factors that will control the efficiency of catalytic reactions. This strategy has been used to investigate the role of the base in palladium catalyzed reactions.

Biography

Anny Jutand has studied Chemistry at the University Paris 6 (France). She has obtained her PhD at the University Paris 13 in 1980. After the Post-doctoral study at the Royal Institute of Technology in Stockholm, she moved to the Ecole Normale Supérieure in Paris. She became the Research Director at CNRS in 1992. Her current research interest is transition metal catalysis (Pd, Ru, Cu, Fe, Ni) and focusing on mechanistic investigation by means of electrochemical techniques. She has published more than 175 papers.

Anny.Jutand@ens.fr