CBC SEMINAR ANNOUNCEMENT

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Polydentate Ligands Effects in Palladium Cross-Coupling/ C–H Activation Catalysis

The development of polydentate ligands based on ferrocene platform has driven progress in homogeneous catalysis. [1-3] Catalyst longevity and ultra-low catalyst loadings have been used to reach high turnover numbers (TONs > 10,000). These performances were based on original multidentarity effects, which are now used to develop very efficient methods for palladium-catalysed C–C, C–N and C–O cross-couplings, thus direct C–H and O–H functionalization of demanding substrates including organic chlorides are feasible. The features of robust, air-stable polyphosphine auxiliaries and their performances in recent low loading palladium-catalyzed reactions in direct arylation and etherification reactions of heteroaromatics will be detailed. [4,5,6] Mechanisms in oxidative addition and reductive elimination (electroanalysis, kinetics, DFT modeling) have revealed net differences with traditional monophosphine ligands that will be described. [8-10]

Reference

Date: 2nd December 2013 (Monday)
Time: 11:00am – 12:30pm
Venue: NTU SPMS CBC Building Level 2, Conference Room
Host: Assoc Professor Shunsuke Chiba