**Well Defined Organometallic Complexes for Efficient Organic Synthesis**

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The precise structures of the organometallic complexes as pre-catalysts and the generation of the active catalytic species are important in both Pd catalyzed cross coupling and Ir catalyzed borylation for modern organic syntheses.1-2 Examples related to this topic from both areas will be discussed in detail during the presentation.3--9

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