

SESSION II: SPEAKER ABSTRACTS

Unraveling the Transmetalation Event in the Suzuki-Miyaura Reaction

Andy A. Thomas and Scott E. Denmark

For the first time the intermediacy of Pd–O–B linkages, “*The Missing Links*” have been established in the Suzuki-Miyaura cross-coupling reaction. The use of rapid injection (RINMR) and low temperature NMR spectroscopy has enabled the synthesis and characterization of these highly elusive species. The ability to generate Pd–O–B linkages has provided the opportunity to elucidate aspects of the mechanism for the transfer of the organic moiety from boron to palladium in the cross-coupling process. Specifically, these studies reveal the identity of two distinct Pd–O–B linkages, an activated 8-B-4 and an unactivated 6-B-3 intermediate, both which undergo the transmetalation event leading to cross-coupling product.

