



Inorganic Chemistry Seminar Series

Wednesday, March 14, 2018, 12:30 pm
SGM 460

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Platinum Organometallics under Superacidic Conditions: An Extreme Approach to Modeling Electrophilic Alkane Activation

Abstract:

Since the pioneering alkane activation work by Shilov in the early 1970s, the detailed mechanism of electrophilic methane to methanol conversion by Pt(II) salts has remained an unresolved issue. In this talk we present our longstanding research on platinum organometallics under acidic and superacidic conditions. By employing strongly electron-withdrawing perfluorinated ancillary phosphine ligands, we have prepared Pt-methyl complexes which are highly resistant to protonolysis even in the strongest superacidic media known, HF/SbF₅. Isotopic labeling and methane exchange studies demonstrate the reversible formation of platinum-methane adducts which serve as models for electrophilic alkane activation.

Hosted by Professor Mark Thompson

The scientific community is invited

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