

# Development of Transition Metal Catalysts for the Hydroarylation of Olefins

Frontiers in Catalysis  
Seminar Series

Presented by...

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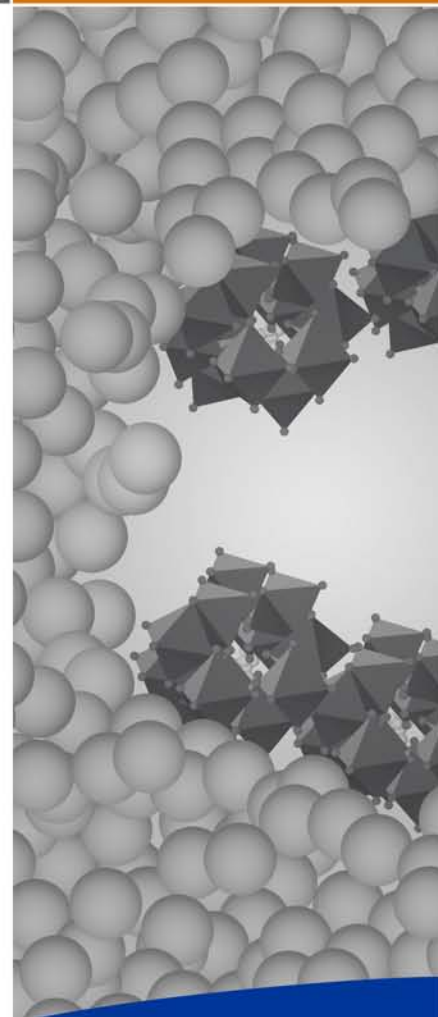
•September 29, 2010 – EMSL Auditorium – 10:00 am

**Abstract** Aromatic substrates are prevalent in both commodity chemicals and higher value fine chemicals. Friedel-Crafts catalysts have historically been used to prepare alkyl arenes; however, such systems suffer from drawbacks that are inherent to the mechanism by which the catalysts function. Solid-state catalysts, largely based on zeolite materials, have provided improvements, but these catalysts are often substrate-specific and are prone to polyalkylation.

Transition metal catalysts can mediate the conversion of aromatic substrates and olefins to alkyl aromatics, and such systems offer opportunities to develop synthetic methods that are complementary (in terms of selectivity) to traditional routes such as Friedel-Crafts catalysis. However, substrates are often limited to heteroaromatics or compounds that possess activating groups. The presentation will cover studies of Ru(II) catalysts for the hydroarylation of olefins of the type  $\text{TpRu(L)(NCMe)Ph}$  {Tp = hydridotris(pyrazolyl)borate; L = CO,  $\text{PMe}_3$ ,  $\text{P(Npyrrolyl)}_3$  or  $\text{P(OCH}_2)_3\text{CEt}$ } with a focus on structure/activity relationships (as a function of the ligand "L") as well as recent results toward the development of Pt(II) catalysts.

**More info?**

See <http://chem.virginia.edu/faculty-research/faculty/t-brent-gunnoe/>



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