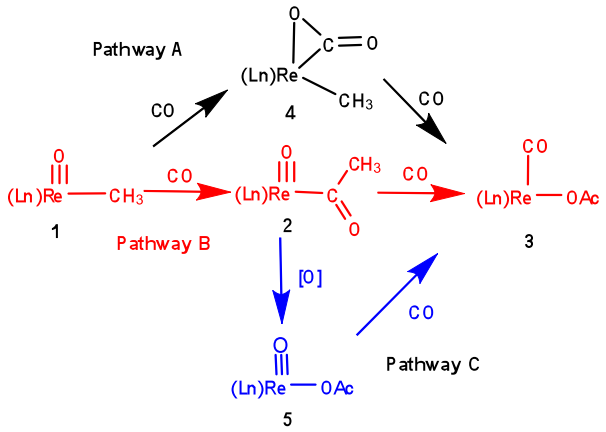
INORGANIC SEMINAR

"Development of Re and Ir Complexes as Catalysts for Oxygen Atom Transfer and C-H Activation/ Functionalization."

Prof. Elon Ison, North Carolina State

Abstract:
The development of homogeneous catalysts for the efficient utilization of our chemical feedstocks will be described. Specifically, we will discuss our efforts at synthesizing novel oxorhenium catalysts for the conversion of syngas to high value chemicals. The discovery of a new mechanism for the activation of CO by transition metal oxos will be discussed (Scheme 1).

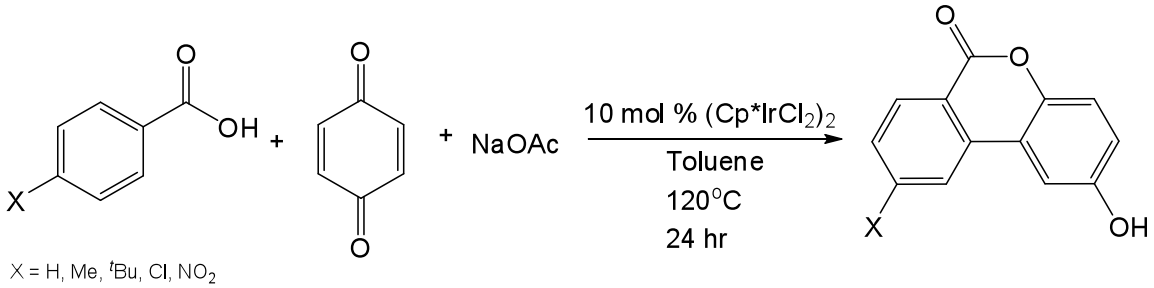
Scheme 1



Ln = $(N(R)CH_2CH_2)_2N(CH_3)$; R = C_6F_5, Mesityl

In addition we will discuss our efforts at developing new catalysts for the catalytic functionalization of C-H bonds. This work is in conjunction with the Center for Enabling New Technologies through Catalysis (CENTC). We will describe new insights into the activation of C-H bonds by Cp*Ir(NHC) complexes (NHC = *N*-Heterocyclic carbene) as a function of the solvent used for H/D exchange reactions of benzene and a variety of deuterium sources. We will also describe a new catalytic method for the functionalization of benzoic acids to produce benzo[*c*]chromen-6-ones

Scheme 2.



X = H, Me, ^{t}Bu, Cl, NO_2

Wednesday, February 15, 2012

3:30 PM ROOM 1315 CHEMISTRY

IF YOU WISH MORE INFORMATION PLEASE CALL THE INORGANIC OFFICE AT 262-6815.
Refreshments will be available at 3:15 p.m. outside of the seminar room setup by Tristan Brown. Thanks Tristan!