



INORGANIC/ORGANIC SEMINAR

**Oxygen Atom Transfer to Ruthenium-Nitrile Compounds:
Evidence for Nitrile Oxidation and Imido Group Transfer to
Substrates**

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HOPE COLLEGE
Host: Prof. JENNIFER SCHOMAKER

Acetonitrile is a simple organic molecule and is often used as a reaction solvent. But can acetonitrile and other nitriles be used as inexpensive building blocks for pharmaceutical and agricultural products? In the Turlington lab, we investigate the reactivity of nitriles when they are coordinated to transition metals. Based on the well-known field of nitrile hydrolysis, where water performs a nucleophilic attack on a metal-coordinated nitrile ligand to form an amide, we wondered what would happen instead if a chemical oxidant could be enticed to do a nucleophilic attack and then an oxidation of an acetonitrile ligand. We postulated that this could be a new avenue to generate reactive metal-imido intermediates, which can be the reactive species of carbon-nitrogen bond forming reactions, making products such as aziridines. In this seminar, the synthesis of ruthenium(II)nitrile compounds and their reactivity with oxygen atom transfer reagents will be discussed.

DATE: THURSDAY, JULY 28, 2022

TIME: 1:30 pm in the Learning Studio, Room 1435

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