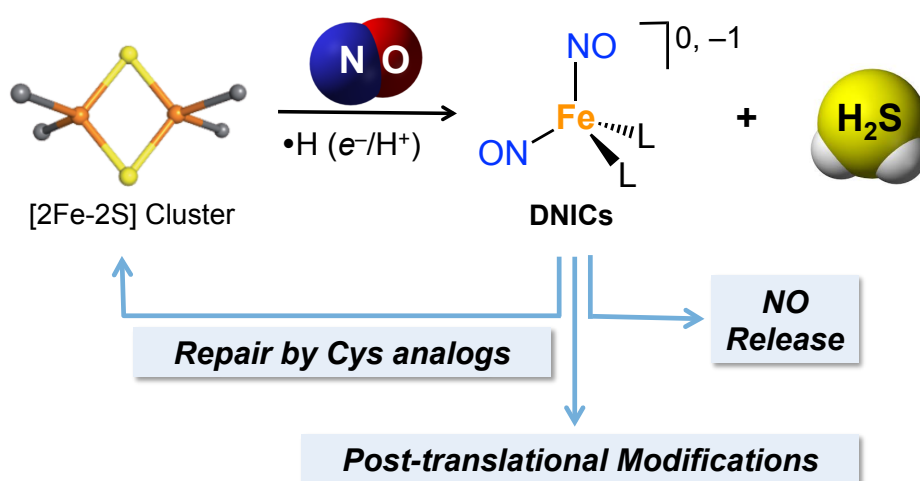


“Synthetic Modeling Chemistry of Iron-Sulfur Clusters in NO Signaling”

INORGANIC SEMINAR
MONDAY, APRIL 11TH, 2016
4:00 P.M.
HUTCHISON HALL 473
DEPARTMENT OF CHEMISTRY

GUEST SPEAKER: PROFESSOR EUNSUK KIM
BROWN UNIVERSITY, DEPARTMENT OF CHEMISTRY



Abstract:

Nitric oxide (NO) is an important messenger molecule that is involved in many physiological and pathological functions. Although NO signaling mechanisms are largely unknown, it has been found that iron-sulfur proteins are one of the main reaction targets for NO, wherein [Fe-S] clusters become modified and convert to dinitrosyl iron complexes (DNICs). Although it is known that DNICs are the result of the degradation of [Fe-S] clusters by NO, it is not well understood what other product(s) besides DNICs may form during the cluster degradation nor what DNICs and other degradation product(s) can do once they are generated in cells. Our laboratory employs synthetic chemistry to identify the cluster degradation products derived from the [Fe-S]/NO reaction and establish their chemical reactivity so that unknown biological consequences of the cluster modifications can be extrapolated from such chemical knowledge and insight. Reaction chemistry of synthetic [Fe-S] clusters with NO will be presented in my talk highlighting the new types of degradation products of iron-sulfur clusters by nitric oxide (NO) and the novel chemical reactivity of DNICs.

Host: Professor Kara Bren, email: bren@chem.rochester.edu