Department of Chemistry & Biochemistry

Seminar On

Drug Discovery & Biomedical Sciences

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Selected publication of 2018:

Nat. Chem. Biol. **2018**, *14*, 853-860.

Angew. Chem. Int. Ed. **2018**, *57*, 8149-8153.

J. Am. Chem. Chem. **2018**, *140*, 4372-4379.

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Enzyme mediated C-C bond formation

The oxidative coupling of carbon-carbon bond formation mediated by metalloenzymes is found in a growing number of iron- and copper-containing proteins. The resulting crosslinked cofactors enable or significantly enhance the capacity of the host protein to mediate a specific redox process. However, the mechanism of their biosynthesis is often a challenge to understand. In this presentation, the first attention is focused on the tryptophanyl tryptophane quinone (TTQ) biosynthesis by a di-heme-dependent enzyme MauG through a long-range remote catalytic mechanism. The second focus will be placed on the chemistry of an irreversible, a P450 enzyme-mediated C-C bond coupling of cyclodityrosine (cYY) for mycocyclosin formation in *Mycobacterium tuberculosis*. From the spectroscopic, structural, and mechanistic studies, new chemistry phenomena were observed. A novel charge transfer concept of electron transfer through space, rather than bond, will be discussed.

DATE:	Friday, October 12, 2018	
TIME:	4:00 – 5:00 pm	*Coffee, donuts and gathering at 3:45 pm*
LOCATION:	CCSB G.0208	*The seminar auditorium below Starbucks*
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