

Tuesday, 2nd March 2021, 16:00

Video conference, via Zoom

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Mechanistic insight into vitamin B₁₂ chemistry: *femtosecond x-ray spectroscopy of cobalamins*

Vitamin B₁₂ is a family of biologically essential cofactors containing a cobalt that is coordinated equatorially to a corrin ring and axially to a variety of possible ligands. The Co site in vitamin B₁₂ catalyzes a wide range of both 1- and 2-electron reactivity. The B₁₂ unit has a rich, well-characterized photochemistry which is believed to have direct relevance to its non-photochemical reactivity. This connection has grown stronger with the recent discovery that some organisms use B₁₂ as the photosensor for a photoactivated transcriptional regulation. This talk will explore the ability of both K- and L-edge X-ray absorption and X-ray emission to elucidate the photophysics and photochemistry of vitamin B₁₂, with particular emphasis on femtosecond time-resolved measurements.

Host: Sakura Pascarelli

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