

Photo-Activated Singlet Oxygen Triggered Release of CO from 17e-Rhenium(II) Dicarbonyl CORMs

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Herein we explore the singlet oxygen triggered release of CO from a series of 17e- $\text{Re}^{\text{II}}\text{Br}_2(\text{CO})_2\text{L}$ type complexes (L = bpy, bpyR₂, bpyX₂, bpyBODIPY, BODIPY). The process is initiated by photo-excitation of a Ruthenium(II) sensitizer, forming singlet oxygen in-situ. Liquid state infrared spectroscopy monitors Rhenium carbonyl vibrational modes as the reaction proceeds. A decrease of signal intensity during light exposure suggests release of CO associated with singlet oxygen generation. Novel Re^{II} and Re^{I} complexes containing fluorescent BODIPY tags are also prepared and measured in this system. Myoglobin assay and Raman microscopy are attempted as secondary methods for identifying CO release.

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