



**The Department of Chemistry Presents:**

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**Title: Towards earth-abundant photoredox catalysts: Photoactive complexes of manganese**

Over the past two decades, photoredox catalysis has become one of the key approaches to organic photochemistry, thanks to its versatility and the large number of transformations that it enables. Most photoredox catalysts, however, are complexes of iridium or ruthenium, which are rare and expensive transition metals. Manganese, on the other hand, is the third-most abundant transition metal on earth, cheap, non-toxic, and has several oxidation states available. As such, it is an attractive alternative to develop earth-abundant photoredox catalysts.

Our work focuses on complexes of Mn(I) and Mn(II) with N-donor ligands. Herein, we report the syntheses of these compounds, describe their crystal structures, and use optical spectroscopy, electrochemistry, and computational modelling to interrogate their properties.

**Monday, March 25, 2024 at 4:00 PM**

**1260 Chemistry**