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**Applications of Inorganic Platinum Complexes for the Production of H<sub>2</sub> as an Energy Source** CHRISTOPHER LEMON, Ohio Northern University, PINGWU DU, RICHARD EISENBERG, University of Rochester — Due to the world's ever increasing energy demands, alternative energy sources must thoroughly be explored. One method is to harness solar power and cause the dissociation of water into hydrogen and oxygen gas. This is an ideal situation since both sunlight and water are abundant. Through a process of photo- induced charge separation and a series of electron transfer processes, two aqueous protons are reduced to hydrogen gas. Inorganic metal complexes are one approach to collecting solar photons. In this investigation platinum compounds of the form Pt (diimine)(dithiolene) were synthesized. The photochemical and photophysical properties of these molecules were thoroughly examined. Absorbance spectra were obtained as well as an emission spectrum at 77K. Two experiments were executed to test the ability of the complex to produce hydrogen. However, no hydrogen gas was evolved using the present system. Further refinement of reaction conditions is necessary to completely evaluate the potential of these compounds.

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