

Synthesis and Photoelectrocatalytic Applications of Metal-Organic Chalcogenolates (MOCHAs)

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Abstract: A facile and improved synthesis procedure for recently reported Metal Organic Chalcogenide Assembly (MOCHA) of mithrene ($[\text{AgSePh}]_\infty$) by microwave synthesis was developed. $[\text{AgSePh}]_\infty$ was characterized by XRD, SEM, EDX, DRS, ATR-FTIR, XPS and electrochemical methods. As to this date no applications have been reported for this material. We have tested this material for photocatalytic hydrogen evolution reaction (HER) as well as photoelectrocatalytic syngas production. This talk will present the characterization, stability measurements and the performance of microwave synthesized mithrene for HER and Syngas production.