

Photocatalytic Hydrogen Generation on Semiconductor Nanocrystals

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I will review our scientific work on photocatalytic hydrogen generation utilizing II-VI semiconductor nanocrystals decorated with catalytic metal clusters. Key issues are the role of hole scavengers, the size and density of catalytic clusters, and dependencies on external parameters such as pH. Hydrogen generation efficiencies are compared to results of transient absorption experiments in order to find out the limiting microscopic processes.

1. M. Berr et al., [Appl. Phys. Lett. 97, 093108 \(2010\)](#)
2. M. Berr et al., Appl. Phys. Lett. 100, 223903 (2012)
3. M. Berr et al., [Nano Letters 12, 5903 \(2012\)](#)
4. T. Simon et al., Nature Mat. 13, 1013 (2014)