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## Enhancement of Photo-reduction of Water by Exploiting Zn Doped Mesoporous TiO<sub>2</sub>

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Zn-doped TiO<sub>2</sub> mesoporous microspheres with high photocatalytic activity were synthesized via combined sol-gel and solvothermal methods for photocatalytic water splitting. It is found that the photocatalytic water splitting and photocatalytic degradation activity can be enhanced by doping an appropriate amount of Zn. Our results reveal that Zn doping inhibits the recombination of photo-generated charge carriers of TiO<sub>2</sub> and improves the probability of photo-generated charge carrier separation and hence the photocatalytic activity of TiO<sub>2</sub>.

**Keywords:** Water Splitting, Zn doped Mesoporous TiO<sub>2</sub>