

## WATER PHOTOLYSIS VIA REVERSIBLE OXIDATION AND REDUCTION BETWEEN $\text{MnO}_2$ AND $\text{MnO}_4^{2-}$

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(Received August 16, 1989; in revised form October 16, 1989)

### Summary

$\text{TiO}_2$  ground with  $\text{MnO}_2$  and suspended in an aqueous alkaline medium is found to photogenerate hydrogen with concomitant oxidation of  $\text{MnO}_2$  to  $\text{MnO}_4^{2-}$ .  $\text{TiO}_2$  suspended in a solution of  $\text{MnO}_4^{2-}$  liberates oxygen on irradiation. Thus, in principle, reversible oxidation and reduction between  $\text{MnO}_2$  and  $\text{MnO}_4^{2-}$  can be used to photodecompose water.

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