

## Photocatalytic hydrogen production from quasi-spherical ZnO photocatalysts

박대길, 김정현<sup>†</sup>

서울시립대학교

(jhkamad@uos.ac.kr<sup>†</sup>)

ZnO has good optoelectronic properties and widely used for UV-sensible material. CdS has band gap of 2.44eV so it can utilize visible light. In this study, ZnO core synthesized by simple solution-growth route and CdS shell was decorated under ion exchange method. Water splitting reaction performed at one-sun condition and hydrogen production varied with precursor molar ratio. TEM and SEM images was used to view heterojunction and morphologies, which collapsed after certain precursor composition. Heat treatment also conducted to increase photocatalytic efficiency. XRD patterns showed CdO was formed after heat treatment. This confirmed that formation of CdO influences on ZnO-CdS system and occasionally increases hydrogen production.