

## Tunable Photocatalytic Selectivity of Aniline functionalized ZnO/rGO nanostructures

로디오크 찻차이, 단탄중, 정진석<sup>†</sup>

울산대학교

(jschung@mail.ulsan.ac.kr<sup>†</sup>)

ZnO nanoparticles have widely been applied for photocatalytic organic dyes degradation from wastewater. As well-known, it is a non-selective adsorption material which is simultaneous and indistinguishable degradation of various organic dyes. Therefore, a controllable surface charge property of ZnO is challenging task to enhance photocatalytic activity and selective adsorption of target organic dyes in wastewater. This study focus on surface charge modification by applying the additive element into material to generate lattice distortions and enhance the preferential adsorption site for cationic and anionic dyes. Herein, we has been demonstrated aniline (as positive charge dopant) and rGO (as a negative charge dopant) functionalized ZnO by simple grafting technique and hydrothermal. Photocatalytic activity of as-synthesized catalyst is studied by UV-vis spectrometer with mixed cationic MB and anionic MO dye solution. The increased photocatalytic activity and preferential adsorption of as-synthesized catalyst was discussed based on charge modification and the active species creation on catalyst surface.