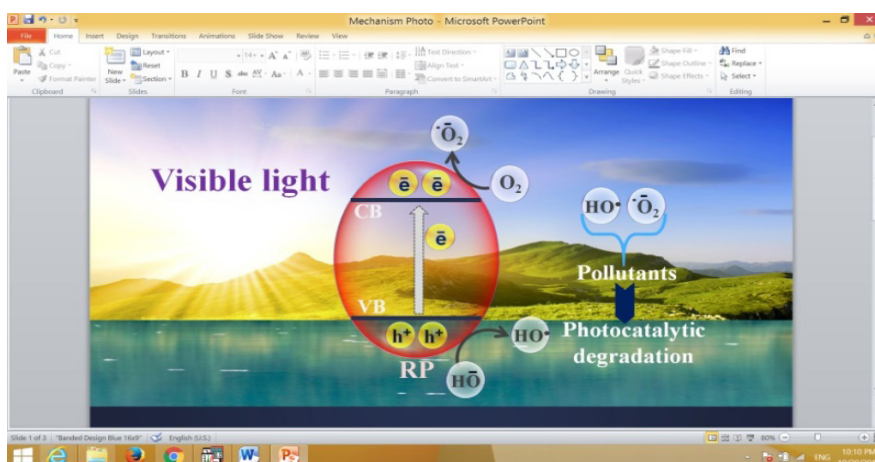


Red phosphorus: An metal free visible light photocatalyst and photoelectrode material

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Developing high-performance photocatalysts and photoelectrode with enhanced visible light harvesting properties are essential for practical visible light photocatalytic applications. Noble metal-free, highly visible light-active, elemental red phosphorus (RP) was prepared by a facile mechanical ball milling method, which is a reproducible, low cost and controllable synthesis process. The synthesis used inexpensive and abundant raw materials because most RP hybrids are based on expensive noble-metal. The novel milled RP showed significantly enhanced photocatalytic and photoelectrochemical performance with a lower charge transfer resistance than commercial RP under wide visible photoirradiation, making it a feasible alternative for photocatalytic applications.¹



Biography:

Moo Hwan Cho is a Professor at School of Chemical Engineering, Yeungnam University, South Korea. He earned his MS in Chemical engineering from Korea Advanced Institute of Science and Technology in 1980 and received his PhD from Dept. of Chemical & Biochemical Engineering, Rutgers University, USA in 1988. His research area includes synthesis of metal nanoparticles and nanocomposite using electrochemically active biofilms, band gap engineering of semiconductor metal oxide nanoparticles for visible light photocatalysis, design, and development of electrode materials for supercapacitor and microbial fuel cells applications.