Degradation of Organic Contaminates from wastewater by Photocatalytic Method via TiO2 Thin film-Preliminary Investigation (With Simultaneous Production Hydrogen)

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Objective and advantage
1. Elimination of filtration steps in water treatment with TiO2.
2. Simultaneous production of H2 from the same procedure.
3. Scaling of process to meet demands.

Materials and Methods
1. The advanced oxidation processes (AOPs) helps for conversion of many organic compounds (herbicides) by degradation
3. TiO2 thin coated film deposited on film is characterized by X-ray diffraction (XRD), SEM and TEM.
4. The degradation of the herbicides would be assessed by liquid chromatography and mass spectrometry (LC-MS) to identify the compound concentration and intermediate degradation products.
5. All these react with organic contaminants that lead to effective decontamination.

Model Treatment
Quinclorac (3,7-Dichloro-8-quinoline carboxylic acid) selective auxine herbicides applied for paddy field mainly used to control baryyard grass Echinochloa Crus-galli

Impact of this compound
1. Ground Water Contamination
2. Phyto toxicity to succeeding crops (Tomato, potato, egg plant etc.)
3. Toxicity to Fish and aquatic animals

Results and Discussion

References