Minor Research Project

Principal Investigator	Dr. Madhukar Gunwantrao Dhonde
Status of Project	Completed
Amount Sanctioned	2 Lac
UGC File No.	47 – 873/2009 dated 3rd September 2009
Duration of Project	**2009-11** (Two Years)
Sanctioning Authority	UGC
Title of research project	Synthesis and Characterization of different photocatalyst materials and its Environmental applications.
Brief outline of project work	We have developed carbon doped ZnS nanocrystalite by using benign and naturally abundant starch as stabilizer. This visible light active photocatalyst showed excellent activity for dechlorination of variety of poly-chlorinated benzene derivatives and crucially the entire process was carried out in aqueous medium, without using organic solvent in the reaction as well as during the workup. The reduction of polychlorobenzene photocatalyzed by ZnS nanocrystallites gives selective and successive dechlorination without formation of any unidentified byproducts containing chlorine atoms. This photoreduction should provide a new strategy for detoxification of hazardous chlorinated aromatics under minimum-energy conditions.