



SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	Chemical Science International Journal
Manuscript Number:	Ms_CSIJ_35086
Title of the Manuscript:	Preparation, Microstructure and Performance of Activated FA / TiO ₂ -WO ₃ Composite Photocatalyst
Type of Article:	Original Research Article

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	Authors' response to final evaluator's comments
The authors did not answer my questions. The most important one is the role of TiO ₂ in this process. If they intent to publish it as a technical note, it is up to the editor to decide. The theoretical bases needs improved .	The main components of fly ash(FA) are silica, alumina, ferrous oxide, and calcium oxide with varying amounts of carbon, the chemical composition is difference due to the type, source and combustion condition. In our work, the FA was collected from the electro-filters of the thermal power plant, the chemical composition containing a variety of oxides with SiO ₂ (36.2%), Al ₂ O ₃ (22.6%), Fe ₂ O ₃ (2.8%), CaO (2.9%), MgO(0.8%), K ₂ O (1.2%), Na ₂ O(0.3%), TiO ₂ (1.3%) and so on. In soaking process, the soluble alkaline oxides (K ₂ O, Na ₂ O, MgO, CaO) and free inorganic component were removed from the raw FA into the solution. This article focused on how to prepare loading FA/TiO ₂ -WO ₃ composite photocatalyst, the performance was investigated under UV light. In this process, the TiO ₂ is the most important role in photocatalytic process. The reason may be attributed to the doping WO ₃ presence in composite photocatalysts. The TiO ₂ and WO ₃ simultaneously occur interband transitions under the UV irradiation. The photoinduced electron transfer from the surface to the lower energy level WO ₃ due to different energy levels, the WO ₃ induced hole was migrated to the higher TiO ₂ valence band, this process suppressed the electron-hole pair recombination