

Plant-Mediated Biosynthesis and Photocatalysis activities of Zinc Oxide Nanoparticles: A prospect towards dyes mineralization

Mohamed Fagier
University of Blue Nile, Sudan

Copyright: © 2021 Mohamed Fagier. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract

In recent years, nanoparticles greensynthesis has gained extensive attention as a facile, inexpensive, and environmentally friendly method compared with chemical and physical synthesis methods. This review covered the biosynthesis of zinc oxide nanoparticles (ZnO NPs), including procedure and mechanism. Factors affecting the formation of ZnO NPs are discussed. The presence of active bio-organic molecules in plant extract played a vital role in the formation of ZnO NPs as natural green medium in the metallic ion reduction processes. ZnO NPs exhibit attractive photocatalysis properties due to electrochemical stability, high electron mobility and large surface area. In this review, the procedure and mechanism of the ZnO photocatalysis process are studied. The effect of dyes amount, catalysts, and light on photodegradation efficiency is also considered. This review provides useful information for researchers who are dealing with greensynthesis of ZnO NPs. Moreover, it can provide investigators with different perceptions towards the efficiency of biosynthesized ZnO NPs on dyes degradation and its restrictions.

Biography:

Mr. Mohamed Fagier is assistant professor at department of chemistry, Education faculty, University of Blue Nile, Sudan. A PhD. in chemistry 2016, Sudan University of Science and Technology, Faculty of Sciences - Sudan. Worked as researcher 2014 in the department of chemistry, University of Malaya, Malaysia. M.Sc. in chemistry 2009, Faculty of Engineering and Technology. University of Gezira -Sudan. B.Sc. in chemical industries 2003, Faculty of Applied Sciences. Red Sea University -Sudan.

Publication of speakers:

1. Characterization and treatment of sugarcane vinasse by coagulation-flocculation followed by sulfate radical based on advanced chemical oxidation process
2. Characterization of Sugarcane Vinasse

Full name of webinars, dates,

Webinar on Nano materials. March 30, 2021

Volume Information: S1

Citation: Mohamed Awad Fagier, Plant-Mediated Biosynthesis and Photocatalysis activities of Zinc Oxide Nanoparticles: A prospect towards dyes mineralization, Webinar on Nano materials, March 30, 2021.