

Role of BiOX Nano composites for enhancing the photo catalytic activity

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Abstract

Bismuth oxyhalides (BiOX, X= F, Cl, Br and I) and their composites have been successfully synthesized using different leaf extracts. Leaf extract is known to possess anti-oxidant and stabilizing properties that aids in the immediate reduction and stabilization of the metal ions into their corresponding nanostructures. To obtain a better understanding of the results, the BiOX and their composites were also synthesized by hydrolysis method (without leaf extract). The synthesized photocatalyst was characterized using SEM, XRD, FTIR, UV-vis DRS etc. A comparative study was envisaged between both BiOX and its composites towards the degradation of organic pollutants. The results revealed that leaf extract mediated BiOX and its composites led to much higher degradation of organic pollutants as compared to the without leaf extract synthesized BiOX photocatalysts under visible light irradiation. The enhanced photocatalytic activity was attributed to the role of leaf extract that added some additional features to BiOX and their composites such as smaller size, mesoporous structure with higher surface area, lower band gap and effective separation of electron-hole pairs.

Biography:

Dr. Seema Garg is Professor at Dept of Chemistry and Head, Student Affairs, AIAS, Amity University Uttar Pradesh, Noida. She received her M.Sc. in 1998 and Ph.D.(Chemistry) in 2003 from Dr. B. R. Ambedkar University, Agra, UP. She began her career in 2000 as a guest faculty for classes of MSc (Analytical Chemistry) in Agra college Agra then moved on to serve at Sachdeva Institute of Technology, Mathura from 2001-2011 as Head & Dean

Students' Welfare. She then moved to Amity University in 2011. She had been Chairperson NTCC, AIAS. She has experience of teaching B.Tech., B.Sc., M.Sc., and PhD students. She had a career standing of more than 20 years

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