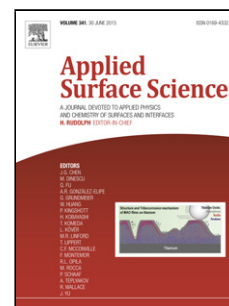


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Three-dimensional (3D) flower-like nanoarchitectures of ZnO-Au on MWCNTs for visible light photocatalytic applications

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Highlights

- Three dimensional (3D) branched flower like nanostructures of the ZnO/Au nanocomposites had grown on the MWCNT surface
- Enhanced visible region photon absorptions for the composite structures.
- Formation of visible region functioning two heterojunctions (MWCNT/ZnO & Au/ZnO) greatly enhanced the solar-physical energy conversions

Abstract:

Nanoflower-like ZnO-Au (zinc oxide/gold) composites were grown on multiwall carbon nanotubes (MWCNT) for visible light functioning plasmonic photocatalysis via a simple wet chemical strategy. Pristine ZnO were also grown in the absence/presence of MWCNTs for comparative studies. The appearance of ZnO-Au and ZnO on MWCNTs were noted to be in flower form. The dimension of ZnO-Au nanoflowers on MWCNTs were measured to be around 350 nm by electron microscopy. Their structural studies revealed the hexagonal wurtzite structure of ZnO to be predominant. UV-visible

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