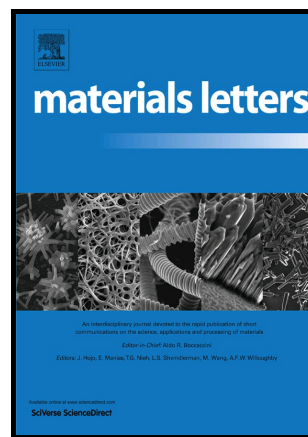


Author's Accepted Manuscript

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PII: S0167-577X(16)31551-8
DOI: <http://dx.doi.org/10.1016/j.matlet.2016.09.091>
Reference: MLBLUE21529

To appear in: *Materials Letters*

Received date: 26 July 2016
Revised date: 17 August 2016
Accepted date: 22 September 2016

Cite this article as: Trilochan Sahoo, Chelliah Pandian, K. Mani Rahulan and Manasa K. Rath, Metal Nanoparticle Assisted Growth of Assembled Zinc Oxide Nanostructure by Low Temperature Solution Phase Technique, *Material Letters*, <http://dx.doi.org/10.1016/j.matlet.2016.09.091>

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Abstract

Herein we report metal nanoparticle directed growth of assembled zinc oxide nanostructures by a facile solution phase route. Si substrates with silver nanoparticles are subjected to low temperature hydrothermal growth. Coulombic attraction resulted in migration of Zn growth species onto Ag nanoparticle surface. SEM analysis revealed preferential nucleation and growth of zinc oxide nanostructures on Ag nanoparticles. Longer reaction period lead to formation of mulberry like assembled ZnO nanostructures. XRD analysis confirmed growth of zinc oxide nanostructures. The formed ZnO nanostructures exhibit well defined band edge PL peak corresponding to excitonic recombination.

Key Word: ZnO, assembly, metal nanoparticle, nanocrystalline material, crystal growth

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