Title: Surfactant assisted solvothermal synthesis of ZnO nanoparticles and study of their antimicrobial and antioxidant properties

Authors: Mina Zare, K. Namratha, K. Byrappa, D.M. Surendra, S. Yallappa, Basavaraj Hungund

PII: S1005-0302(17)30228-1
DOI: http://dx.doi.org/10.1016/j.jmst.2017.09.014
Reference: JMST 1059

To appear in:

Received date: 22-5-2017
Revised date: 28-7-2017
Accepted date: 31-8-2017

Please cite this article as: {http://dx.doi.org/

Surfactant Assisted Solvothermal Synthesis of ZnO Nanoparticles and Study of their Antimicrobial and Antioxidant Properties

Mina Zare[1], K. Namratha[1,2], K. Byrappa[1,2,*], D.M. Surendra[2], S. Yallappa[3], Basavaraj Hungund[4]

[1] *Centre for Materials Science and Technology, Vijnana Bhavan, University of Mysore, 570006, India*

[2] *DOS in Earth Science, University of Mysore, Vijnana Bhavan, Manasagangotri, Mysore, 570 006, India*

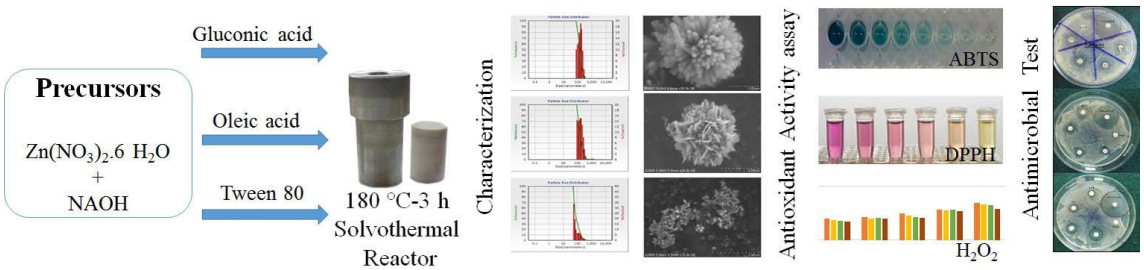
[3] *P.G. Dept. of Chemistry, Gokhale Centenary College, Vandige, Ankola-581314, India*

[4] *Department of Biotechnology, KLE Technological University, Hubballi-580031, India*

* Corresponding author. Prof., Ph.D.;

E-mail address: kbyrappa@gmail.com (K. Byrappa).

Graphical abstract



[Received 22 May 2017; Received in revised form 28 July 2017; Accepted 31 August 2017]

This study demonstrated a solvothermal method of growth of three different morphologies of zinc oxide nanoparticles (ZnO NPs): i) flower-like nanorod and nanoflakes, ii) assembled hierarchical structure, and iii) nano granule. Oleic acid ($C_{18}H_{34}O_2$), gluconic acid ($C_6H_{12}O_7$) and tween 80 ($C_{64}H_{124}O_{26}$) were used as surfactant/capping/reducing agent for the formation of different morphologies of