

Accepted Manuscript

Title: A multifunctional ZnO thin film based devices for photoelectrocatalytic degradation of terephthalic acid and CO₂ gas sensing applications

Authors: Y.M. Hunge, A.A. Yadav, S.B. Kulkarni, V.L. Mathe



PII: S0925-4005(18)31365-0
DOI: <https://doi.org/10.1016/j.snb.2018.07.117>
Reference: SNB 25086

To appear in: *Sensors and Actuators B*

Received date: 13-3-2018
Revised date: 16-7-2018
Accepted date: 25-7-2018

Please cite this article as: Hunge YM, Yadav AA, Kulkarni SB, Mathe VL, A multifunctional ZnO thin film based devices for photoelectrocatalytic degradation of terephthalic acid and CO₂ gas sensing applications, *Sensors and amp; Actuators: B. Chemical* (2018), <https://doi.org/10.1016/j.snb.2018.07.117>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

A multifunctional ZnO thin film based devices for photoelectrocatalytic degradation of terephthalic acid and CO₂ gas sensing applications

Y. M. Hunge^{a†*}, A. A. Yadav^{b†}, S.B. Kulkarni^b, V. L. Mathe^a

a. Department of Physics, Savitribai Phule Pune University, Pune- 411 007, India

b. Department of Physics, The Institute of Science, Mumbai-400 032, India

† indicate authors are equally contributed

* Corresponding author:

Dr. Y. M. Hunge

yuvrajhunge@gmail.com

Research Highlights

- Hexagonal ZnO thin films are prepared by simple spray pyrolysis approach.
- Photoelectrocatalytic degradation of terephthalic acid is achieved up to 91 %.
- ZnO thin films are exposed to CO₂ gas with a concentration of 250 – 450 ppm.
- ZnO electrode shows an excellent CO₂ gas sensing property with good response and recovery time periods.

Download English Version:

<https://daneshyari.com/en/article/7138567>

Download Persian Version:

<https://daneshyari.com/article/7138567>

[Daneshyari.com](https://daneshyari.com)