

Supporting Information

Ultra-Responsive and Highly Sensitive 1D ZnO Nanotubes for Detecting Perilous Low Levels of NO₂ Gas

Prasad Godse ^a, Sujit A Kadam^{*b}, T. M. Nimbalkar^a, Y.M. Jadhav ^a, Yuvraj B Jadhao^c

Yuan-Ron Ma^b, V. B. Patil ^{a*}

^aFunctional Materials Research Laboratory, School of Physical Sciences, Solapur University,
Solapur, Maharashtra 413255, India

^bDepartment of Physics, National Dong Hwa University, Hualien 97401, Taiwan

^cGovt.College of Arts and Science, Chh.Sambhajinagar 431005

*Email: ksujit17@gmail.com, drvbpatil@gmail.com/vbpatil@sus.ac.in

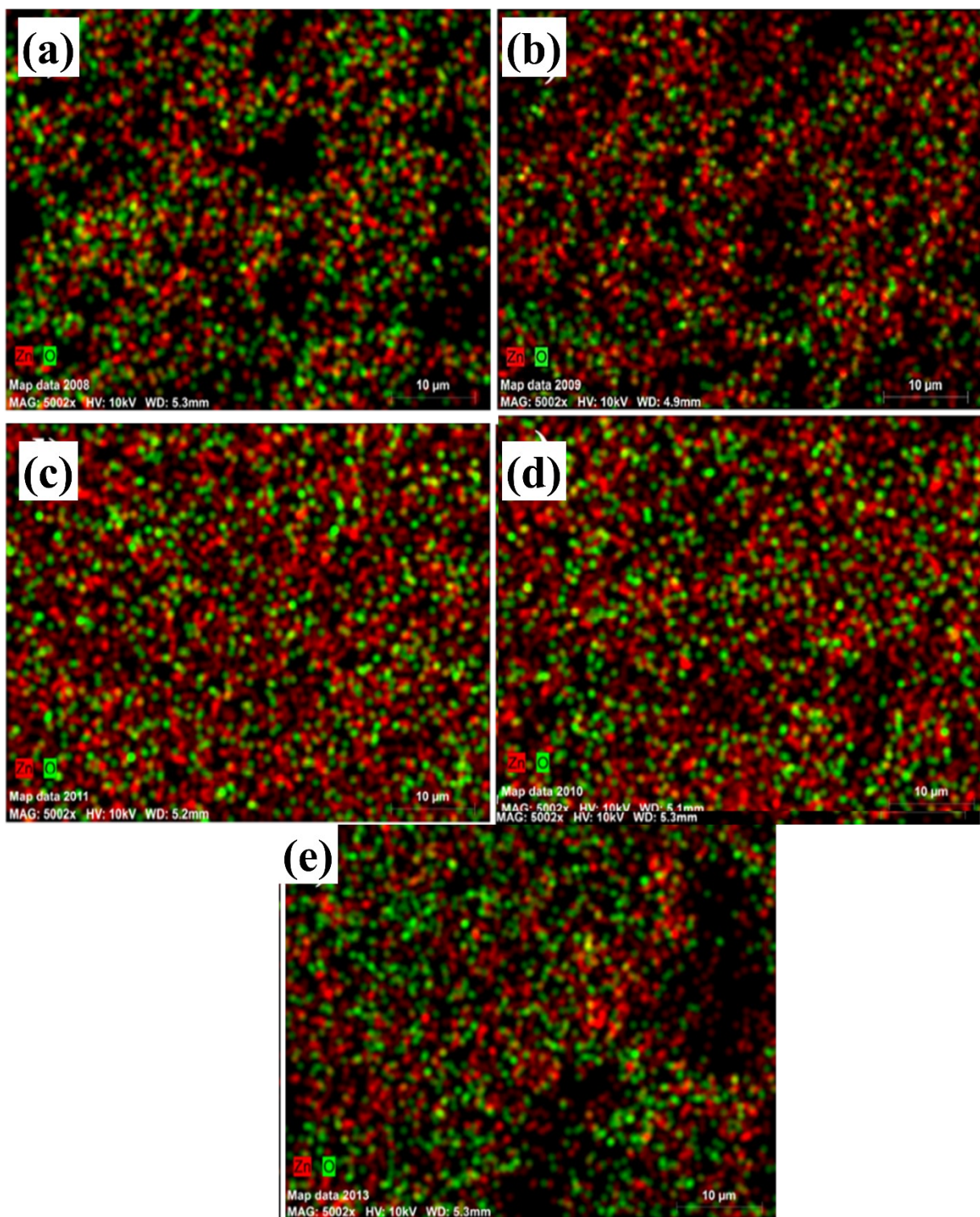


Fig.S1. Elemental mapping of ZnO nanostructures of (a) ZnO-100, (b) ZnO-200, (c) ZnO-300, (d) ZnO-400, and (e) ZnO-500 °C.

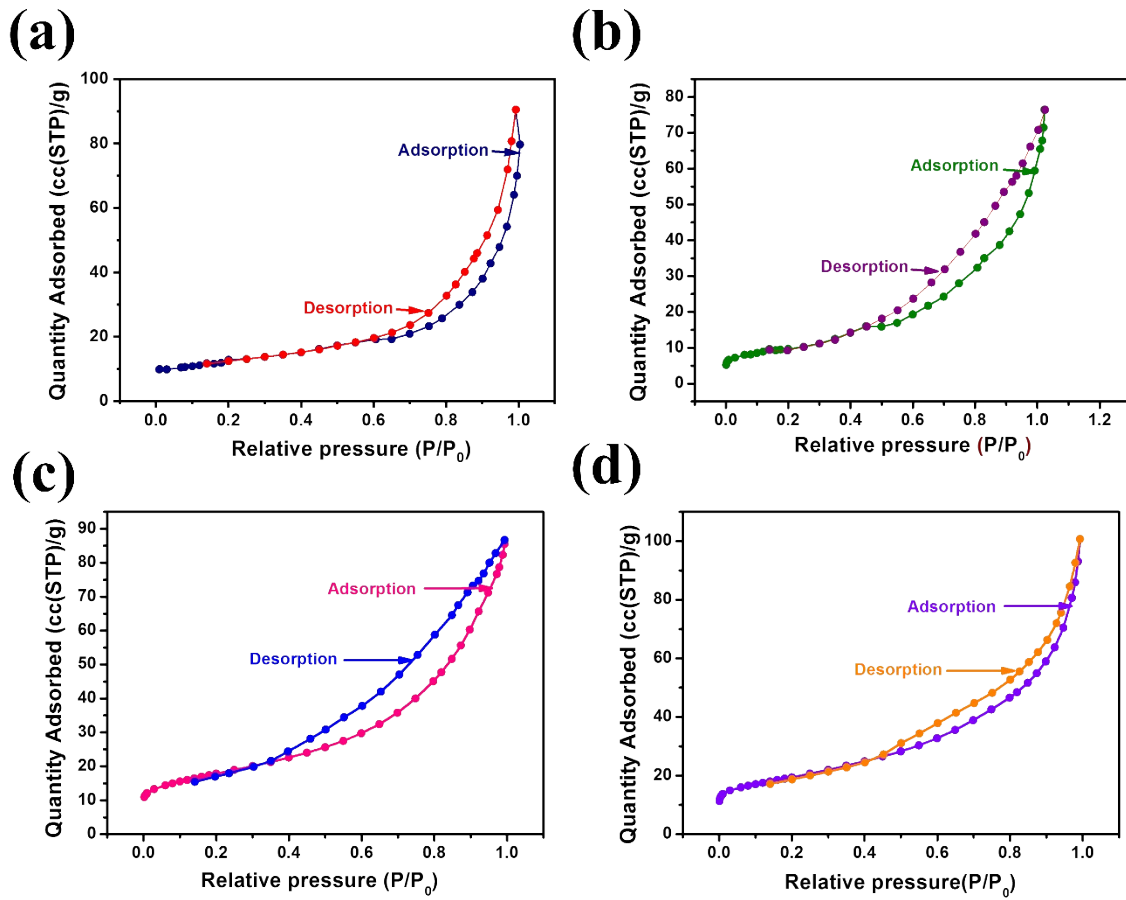


Fig. S2. BET study: Nitrogen adsorption - desorption isotherm of (a) ZnO-300, (b) ZnO-400, (c) ZnO-500 and (d) ZnO-600 nanostructures.

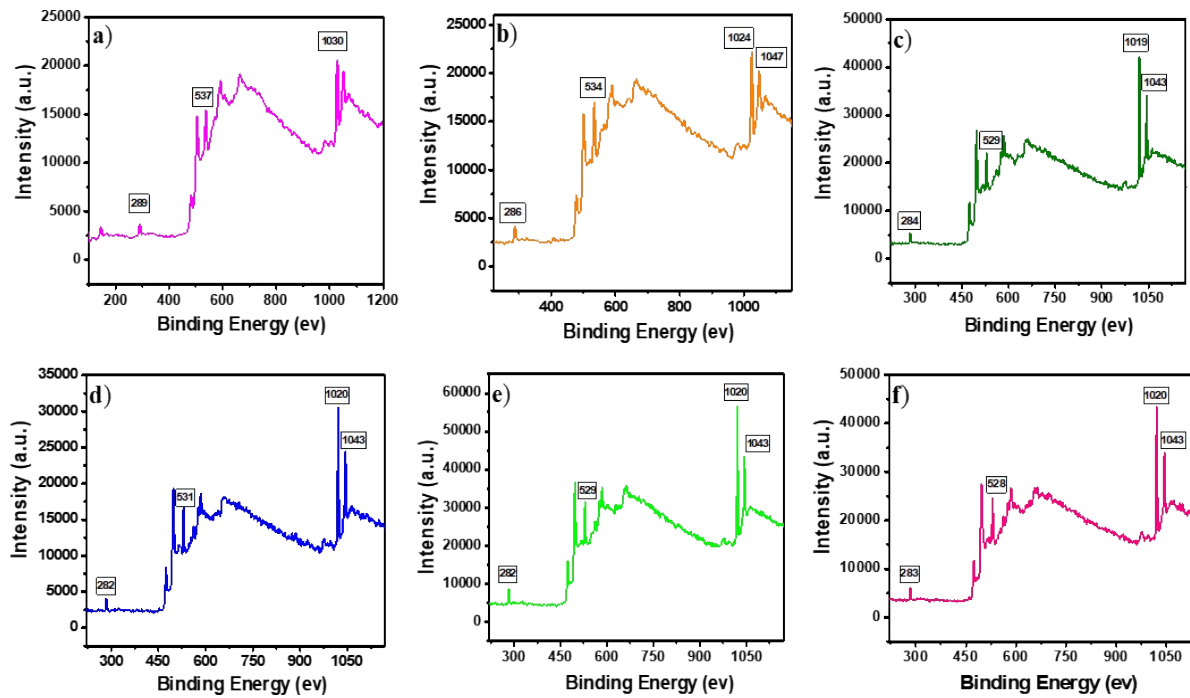


Fig. S3. Wide region survey spectrum of ZnO nanostructures of (a) ZnO-100, (b) ZnO-200, (c) ZnO-300, (d) ZnO-400, (e) ZnO-500, and (f) ZnO-600.

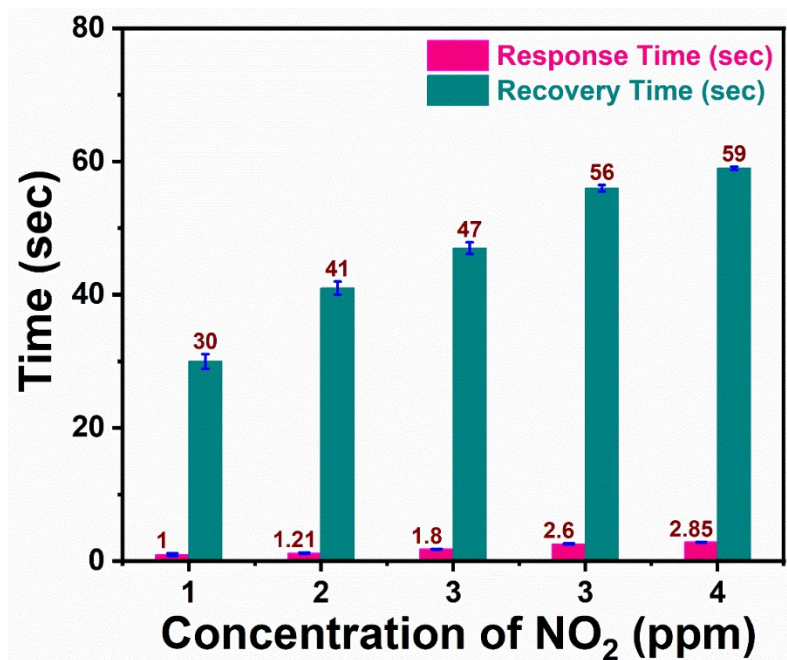


Fig. S4. Response-recovery time versus different concentration of NO₂.

Table T1: Microstructural parameter of 1D ZnO nanostructure at ZnO-100 to ZnO-600 °C

Sr. No.	Temp. (°C)	Microstrain	Stacking fault (SF)
1	ZnO-100	0.0584	0.1183
2	ZnO-200	0.0794	0.1612
3	ZnO-300	0.0828	0.1681
4	ZnO-400	0.0844	0.1714
5	ZnO-500	0.0913	0.1853
6	ZnO-600	0.0923	0.1874