

Supporting Information

High performance flexible two dimensional vertical aligned ZnO nanodiscs based piezoelectric nanogenerator via surface passivation.

Ketki Verma,^a Dhiraj Kumar Bharti,^{a, b} Simadri Badatya, Avanish Kumar Srivastava,^{a, b} Manoj Kumar Gupta^{a, b, *}

^aAdvanced Construction Materials Division, CSIR-Advanced Materials and Processes Research Institute, ^bAcademy of Scientific and Innovative Research (AcSIR), Bhopal, Madhya Pradesh, India-462026.

*E-mail: mkgupta@ampri.res.in , manojampri@gmail.com .

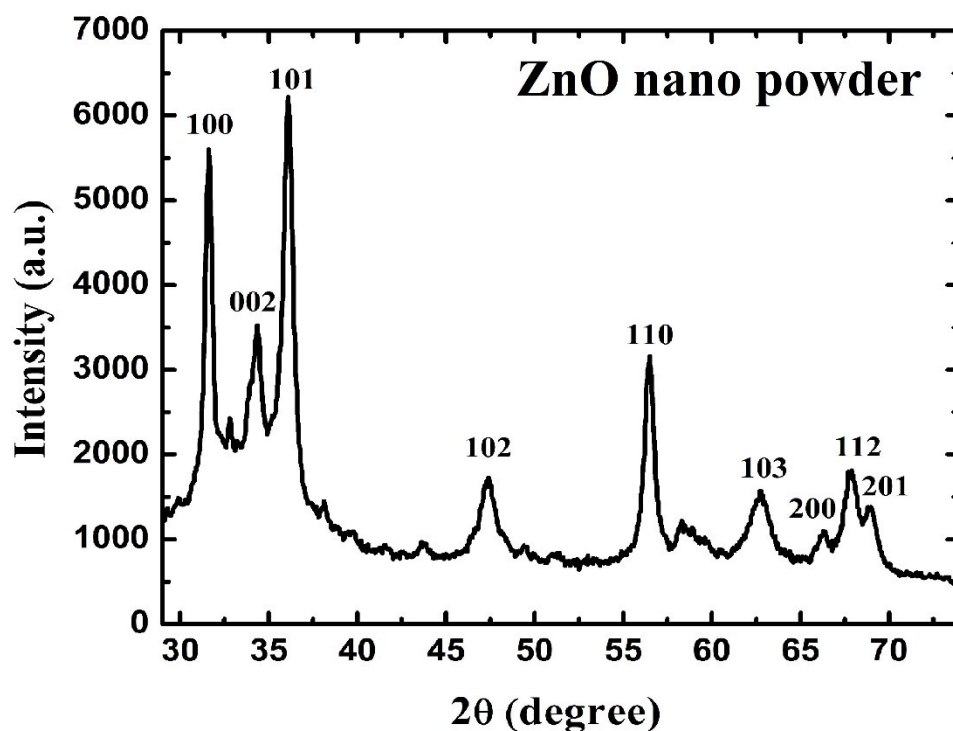


Figure S1. XRD spectrum of ZnO nanodiscs powder collected from ITO/PET substrate

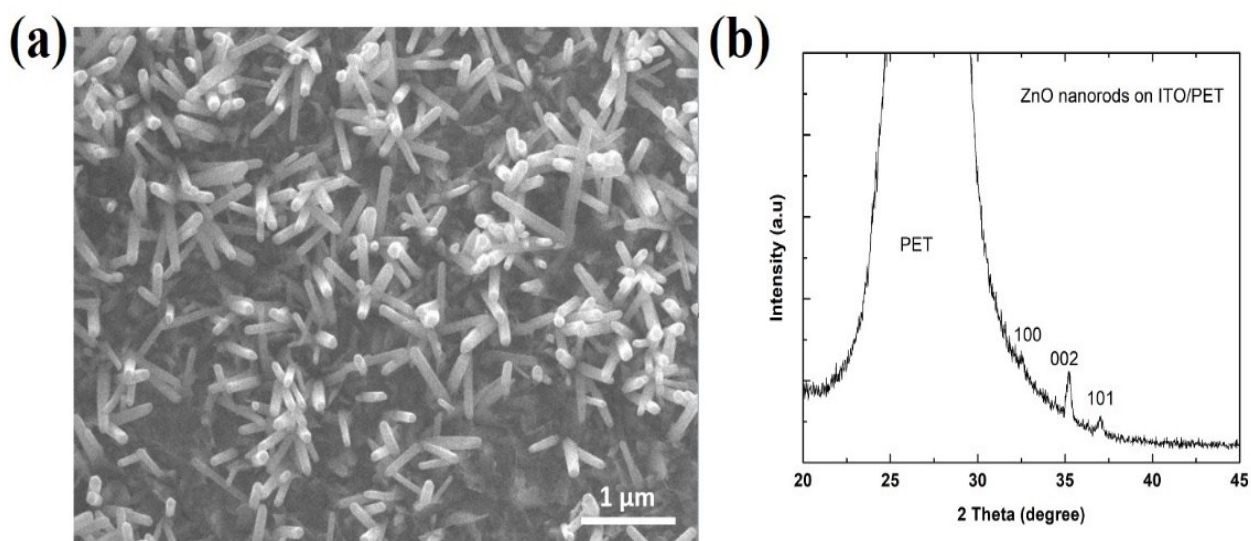


FIG S2. (a) FE-SEM and (b) XRD of pure ZnO nanorods grown in ITO/PET substrate (5 times seed layer coating)

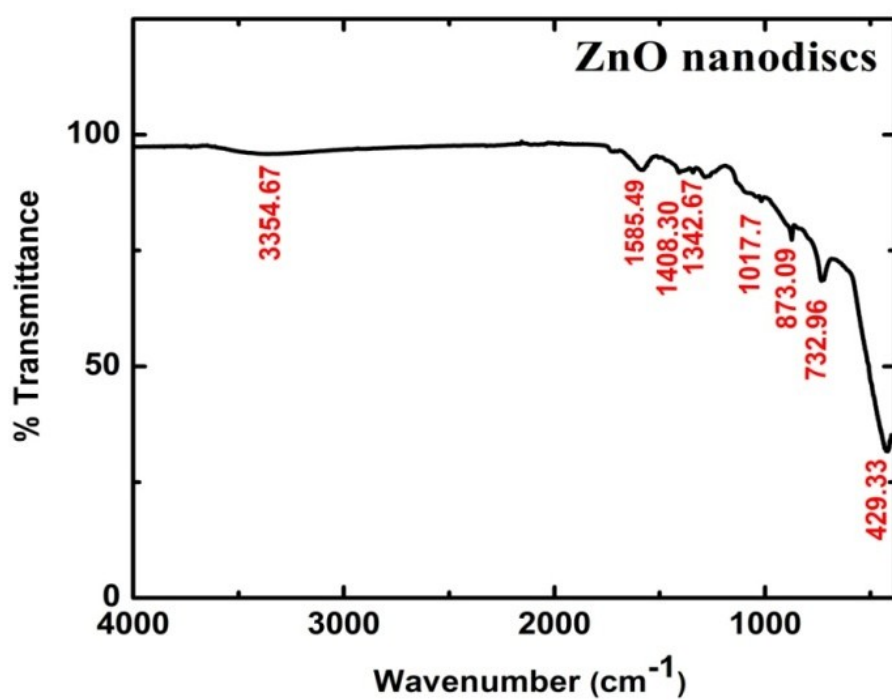


FIG. S3 FT-IR spectra of ZnO nanodiscs on ITO/PET substrate recorded in the range of 400-4000 cm⁻¹

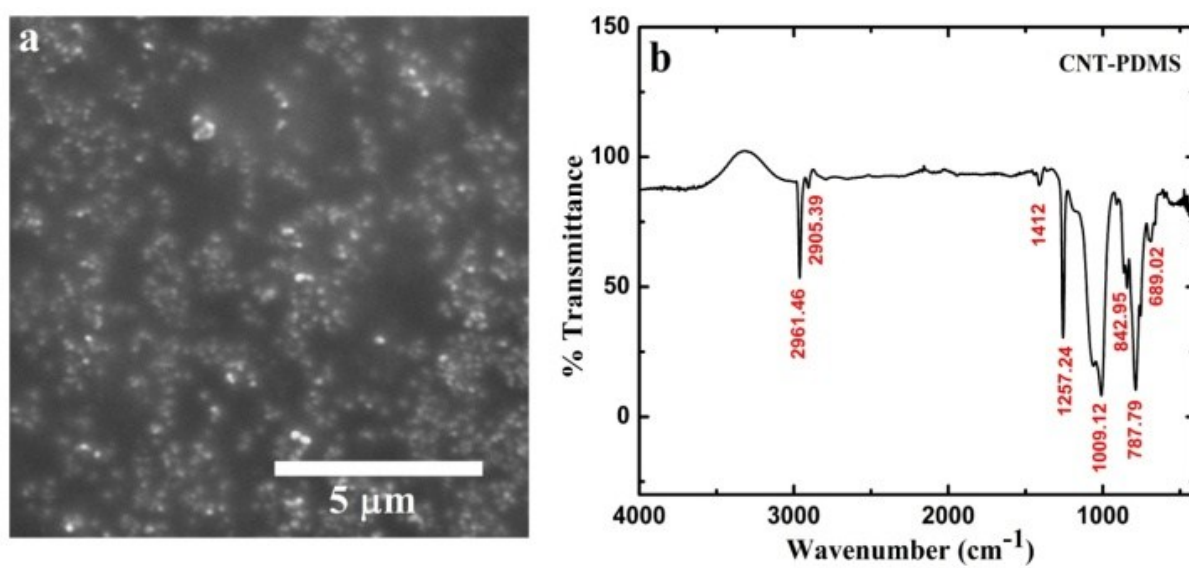


FIG. S4 (a) FE-SEM image of CNT: PDMS composite layer, (b) FT-IR spectra of CNT: PDMS composite layer in the range of 400-4000 cm^{-1} .

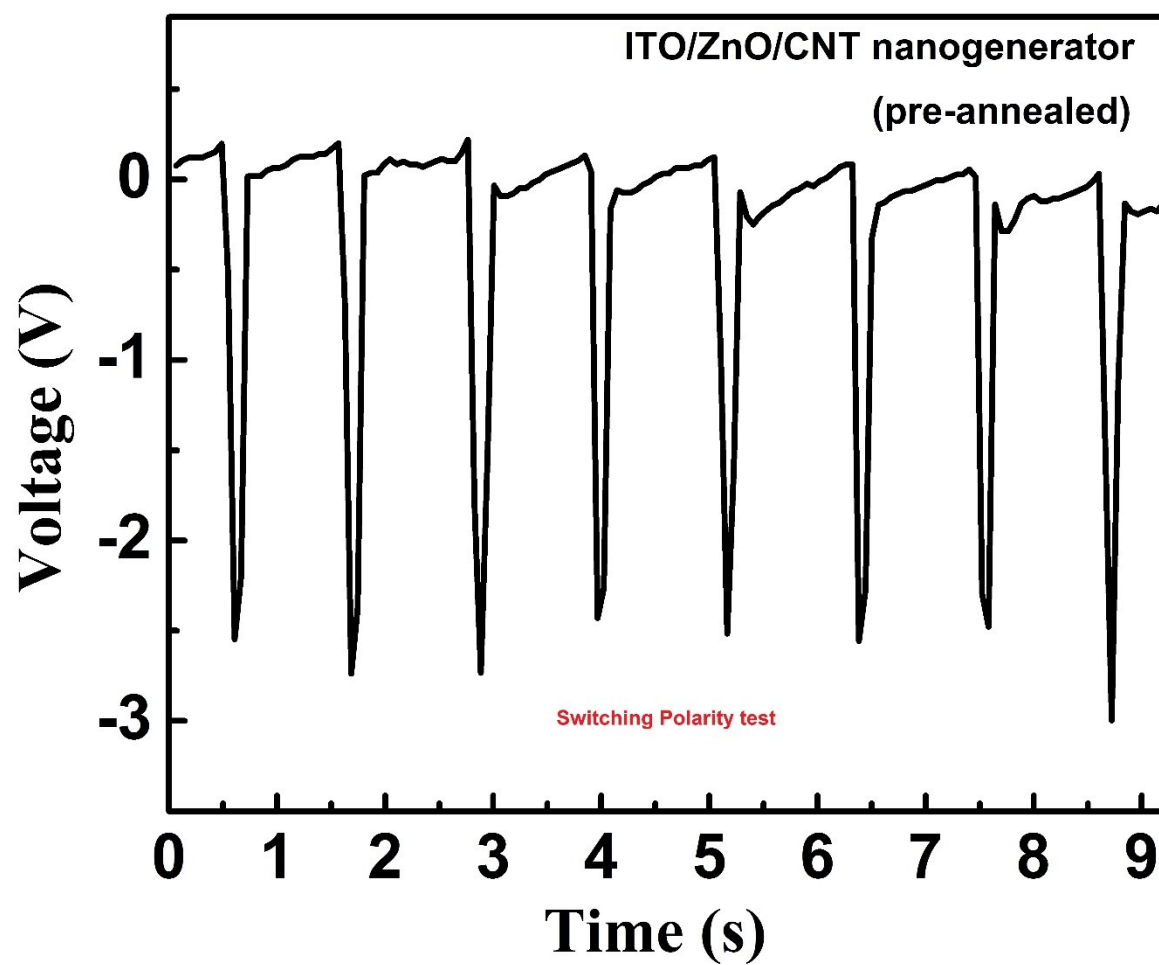


FIG. S5 Switching polarity test of 2D-ZnO nanodiscs based nanogenerator

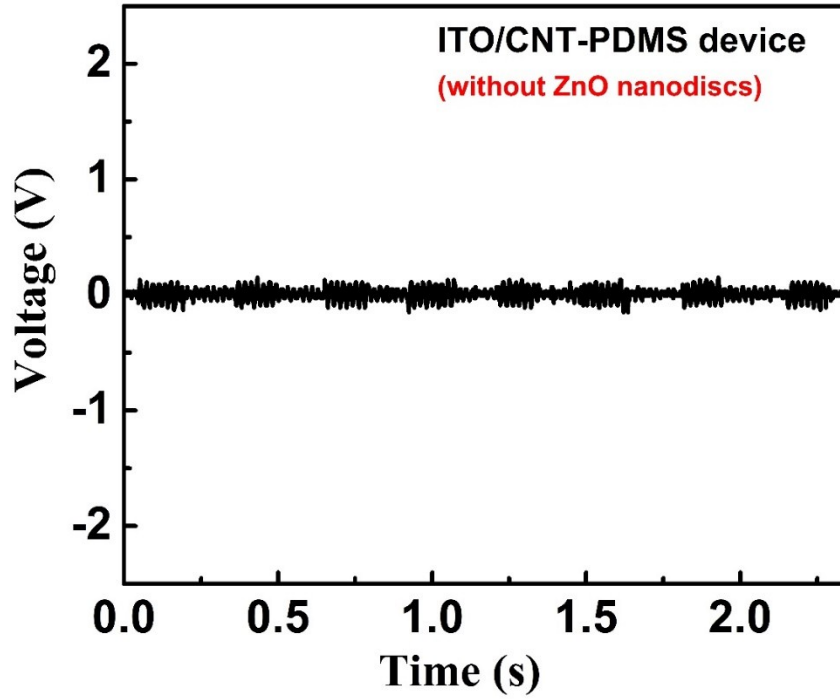


FIG. S6. Piezoelectric output voltage from ITO and CNT-PDMS device (without 2D-ZnO nanodiscs) based nanogenerator, showing no significant electric output

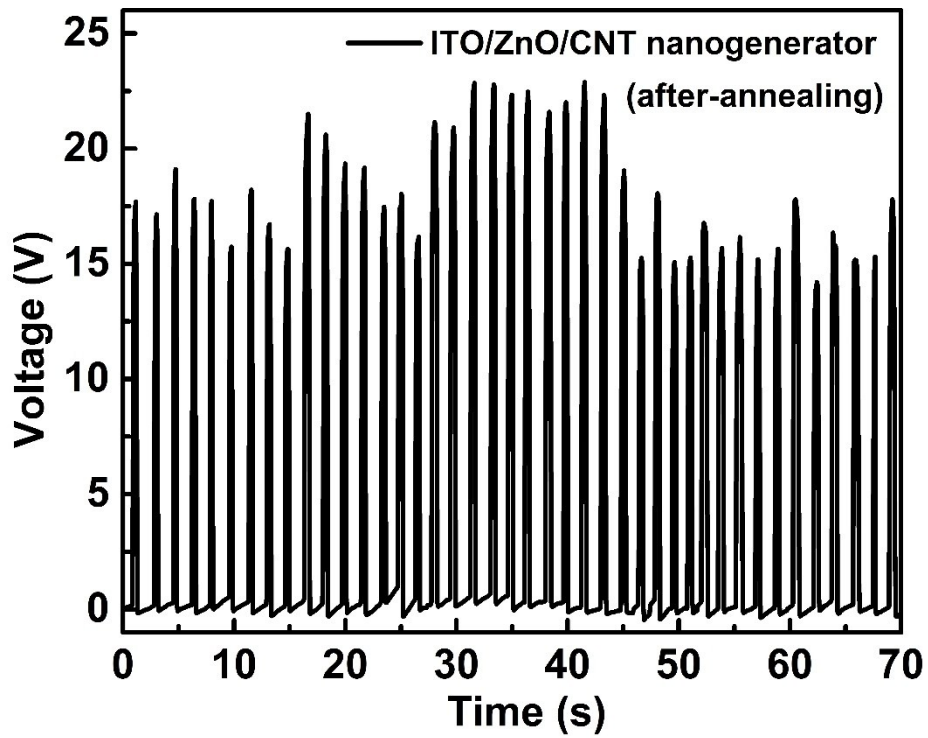


FIG. S7. Stability data (output voltage) of the ZnO nanodiscs based nanogenerator.