

Supporting information

A Galvanic Cell Type Sensor for Soil Moisture Analysis

Pramod Gaikwad¹, Mruthyunjayachari Chattanahalli Devendrachari¹, Ravikumar Thimmappa¹, Bhuneshwar Paswan¹, Alagar Raja Kottaichamy¹, Harish Makri Nimbegondi Kotresh², Musthafa Ottakam Thotiy^{1*}

¹Indian Institute of Science Education and Research (IISER) Pune, Dr. Homi Bhabha Road, Pashan, Pune, 411008, India

²Dr. Harish M. N. K, Department of Chemistry, Acharya Institute of Technology, Soldevanahalli, Bangalore-560107, India

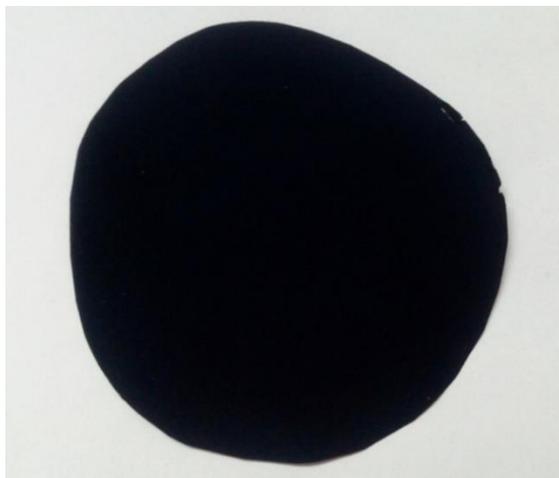
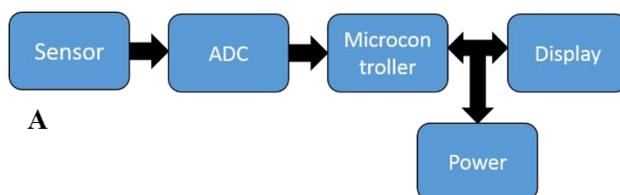
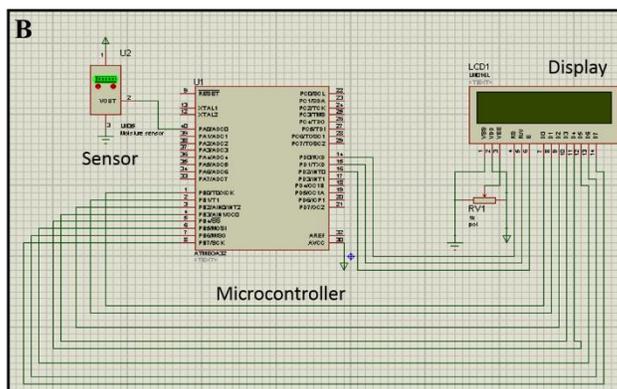


Figure S1. Photograph of PANI on Whatman filter paper.



A



B

Figure S2. (A) Block diagram and (B) The complete electronic circuitry of the sensing device.

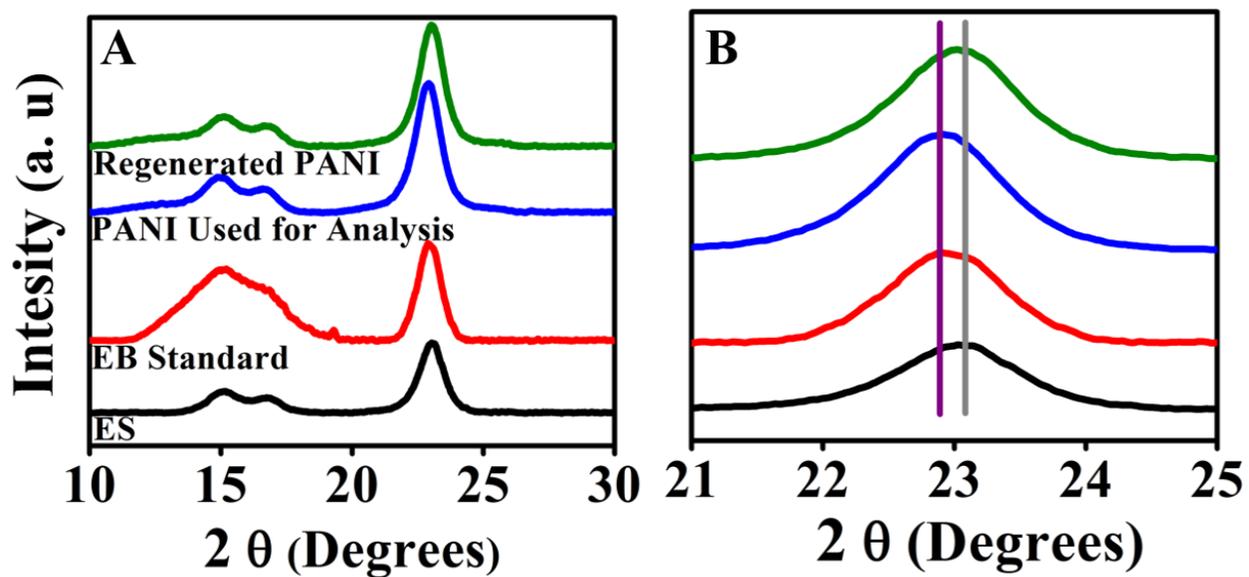


Figure S3. (A) XRD patterns of PANI electrode before and after soil moisture sensing. (B) Zoomed XRD pattern for the 2θ range 21-25.

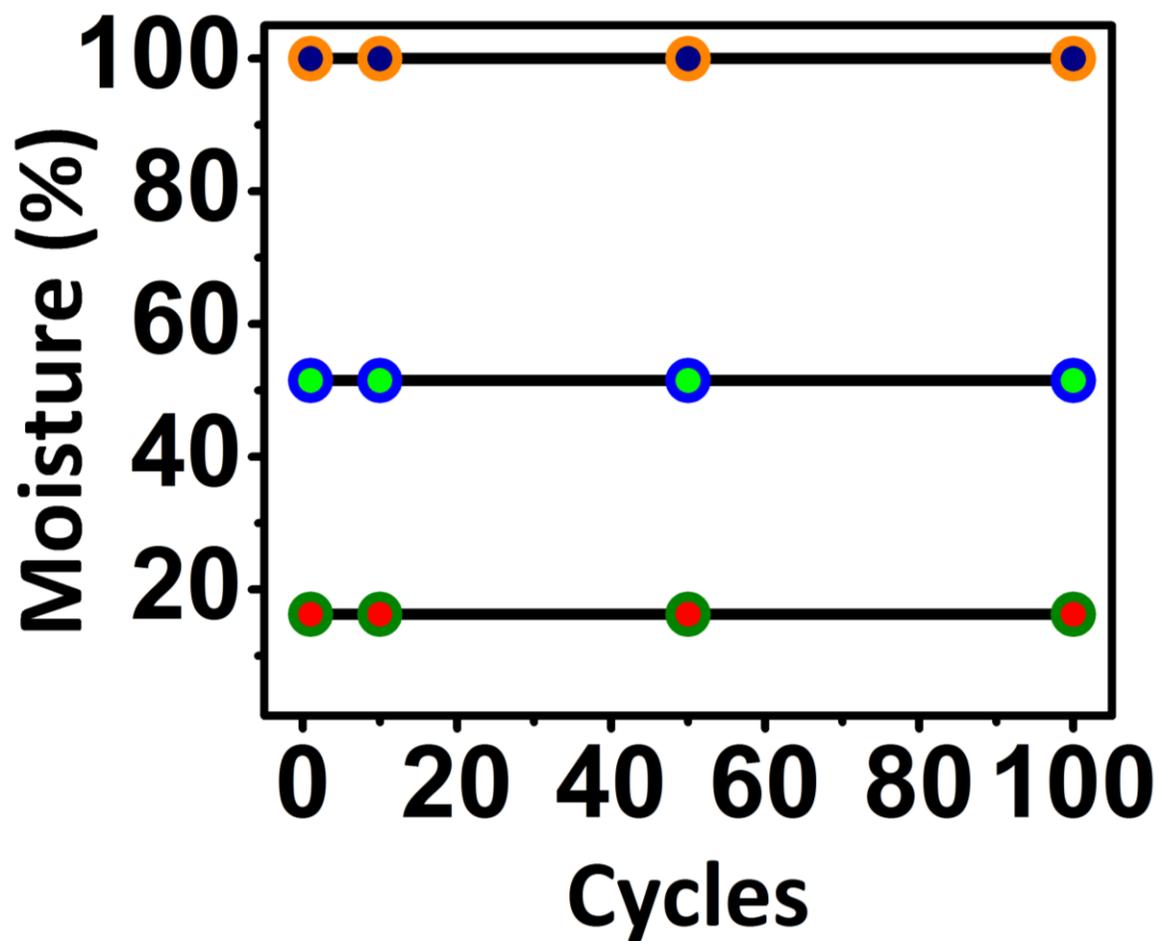


Figure S4. Al-PANI sensor output reproducibility measurements for different soil moisture levels. After each cycle the sensor was regenerated by treating with 1 M HCl.