

Supporting Information

La-doped ZnO ultra-flexible flutter-Piezoelectric Nanogenerator for Energy Harvesting and Sensing Applications: A Novel Renewable Source of Energy

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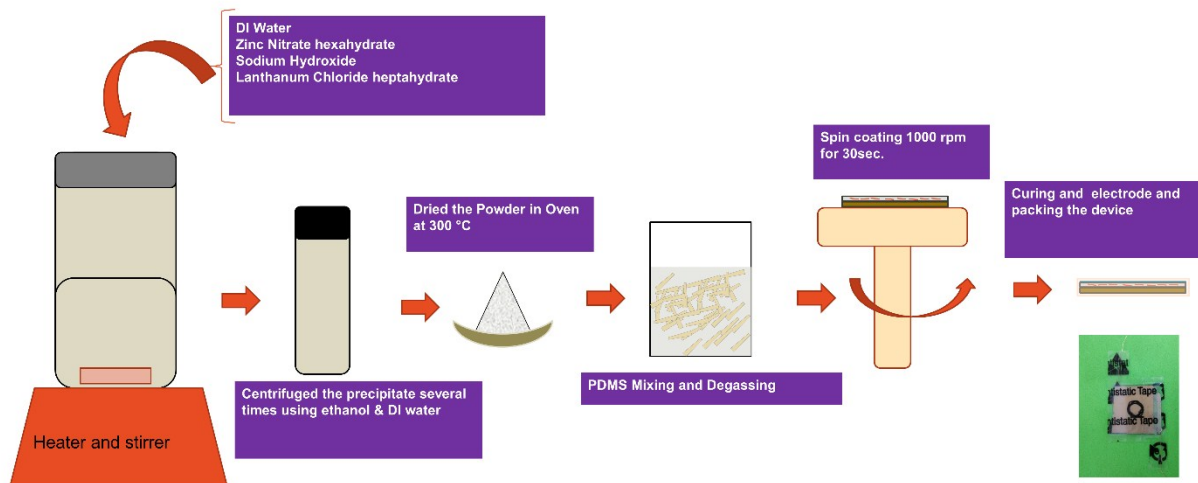


Figure S1. Schematic diagram of material and device fabrication and packaging

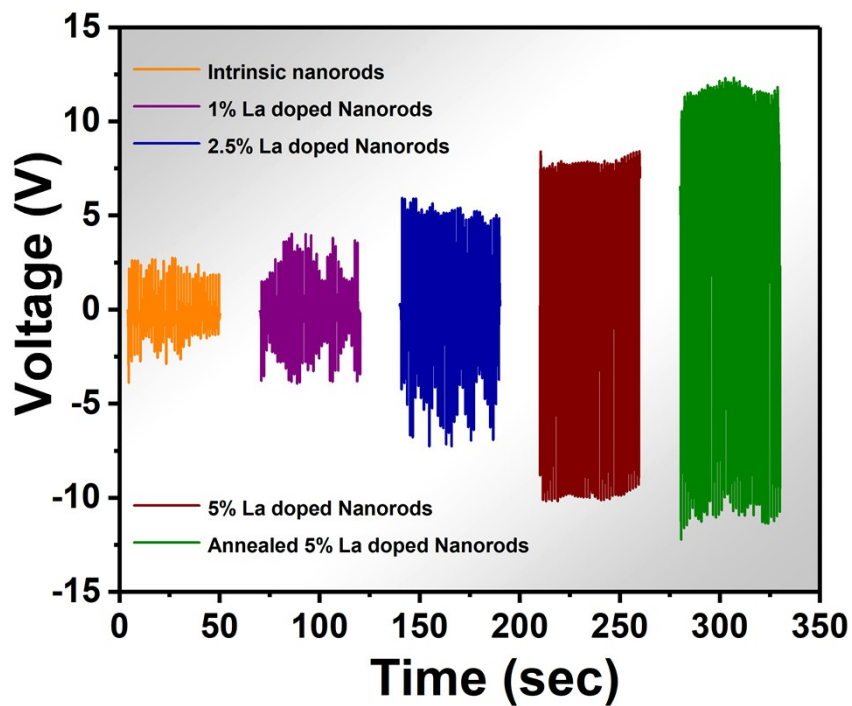


Figure S2. Optimization of Lanthanum dopant in ZnO. The data shows the piezoelectric output of ZnO samples doped in various percentage of Lanthanum

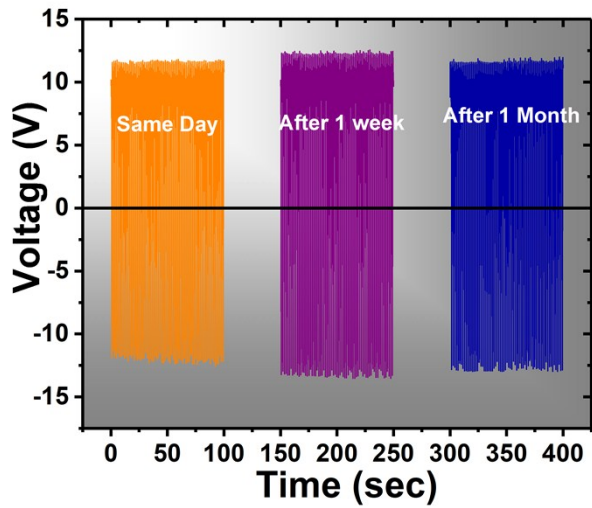


Figure S3. Long term stability of La-doped Device.

Table T1. Parameters used in the simulation

| Sr. No. | Parameters | Value |
|---------|--------------------------|------------------------------|
| 1 | Radius of the bluff body | 30 mm |
| 2. | Fluid | Air |
| 3. | Density | 1.022 Kg/m ³ |
| 4. | Specific density | 1.81 × 10 ⁻⁵ Pa-s |
| 5. | Temperature | 293.15 K |
| 6. | Mean Velocity | 2.8 , 3.4, 3.8 m/s |

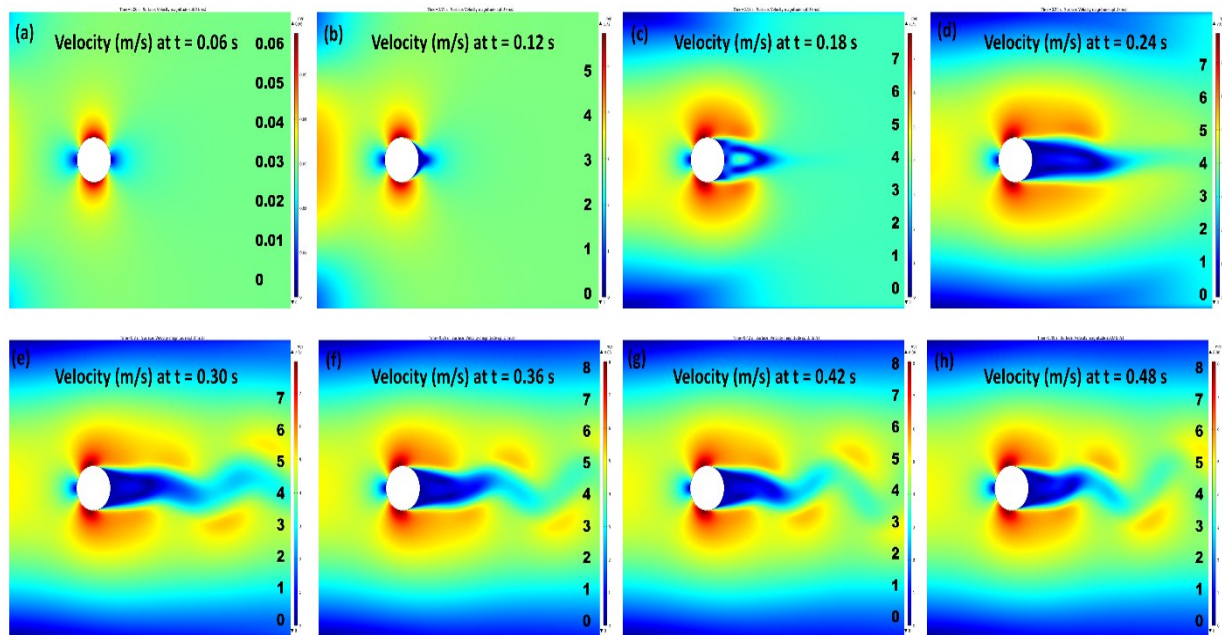


Figure S4. Time-dependent flow velocity variations around the body at $t = 0.06, 0.12, 0.18, 0.24, 0.30, 0.36, 0.42, 0.48$ s.