Fig. S1. Schematic diagram for preparation of ZnO nanoparticles.
**Fig. S2.** Schematic diagram for preparation of pristine and Bismuth doped ZnO nanowires.
Fig. S3-a Cross-sectional structure view of (a) pristine ZnO, and (b) Bi:ZnO-1% NWs.
Table. S3-b. FESEM (EDS) table of pristine and Bi-doped ZnO NWs.

| Element | Atomic % | Pure | 1%-doped | 3%-doped |
|---------|----------|------|----------|----------|
| C       | 6.52     | 11.11| 6.49     |
| O       | 49.14    | 47.11| 49.63    |
| Si      | 3.43     | 1.71 | 0.75     |
| Zn      | 40.90    | 39.88| 42.80    |
| Bi      | 0.00     | 0.20 | 0.32     |
Fig. S4. Elemental mapping of Bi:ZnO-3%
Fig. S5. Survey scan XPS of pristine and Bi-doped ZnO NWs samples.
Fig. S6. XPS of Bi:ZnO 5% NWs for Zn, O and Bi elements.
Fig. S7. Magnetization vs temperature (M-T) curves.
