*Article*

# Effects of Copper Dopants on the Magnetic Property of Lightly Cu-Doped ZnO Nanocrystals

**Zhi Wang, Wenzhen Xiao, Mengmeng Tian, Neng Qin, Haidong Shi, Xiwei Zhang, Wenke Zha, Jiahua Tao and Junlong Tian**

Supplementary Materials

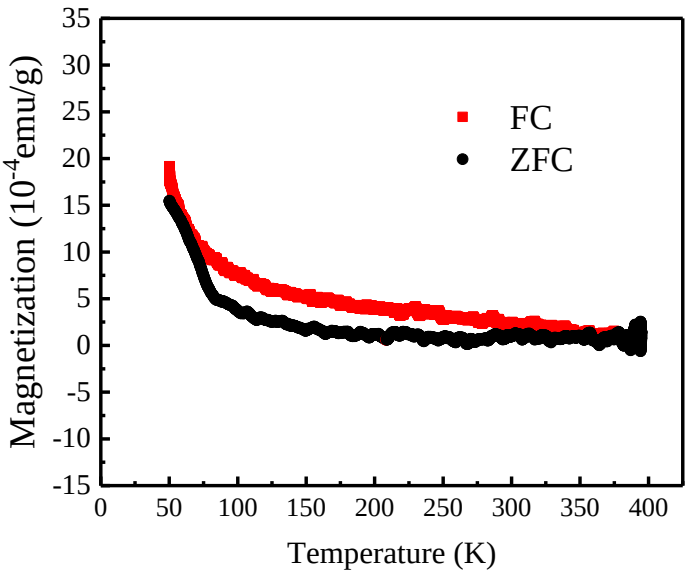



Figure S1. The M–T curves of the 0.25% Cu-doped ZnO sample.

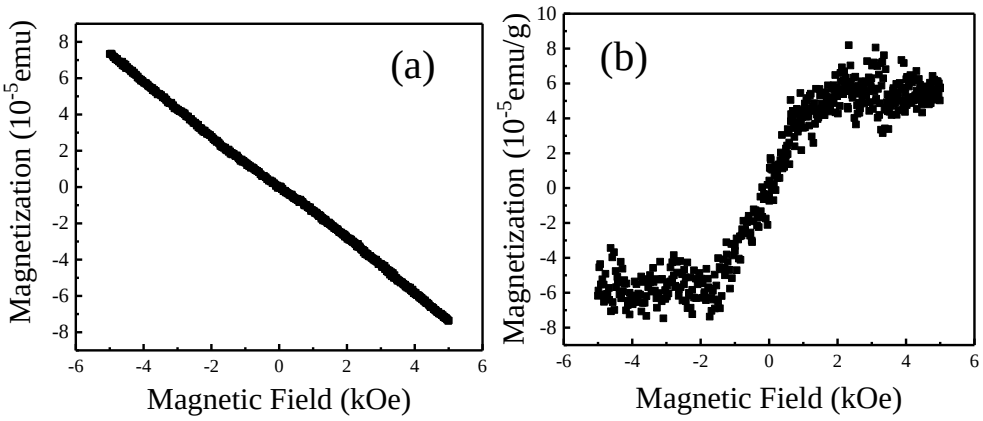



Figure S2. The M–H curves of the 1.5% Cu-doped ZnO sample and those after a subtraction of the diamagnetic background.

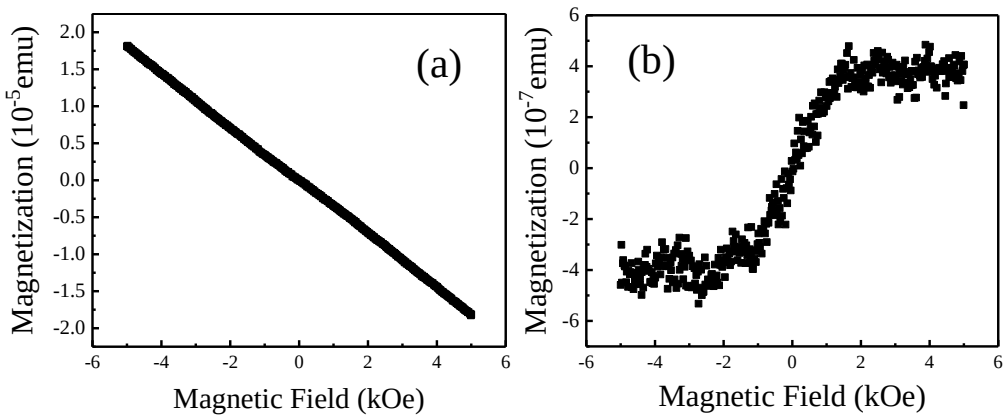



Figure S3. The M–H curves of the blank sample holder and those after a subtraction of the diamagnetic background.

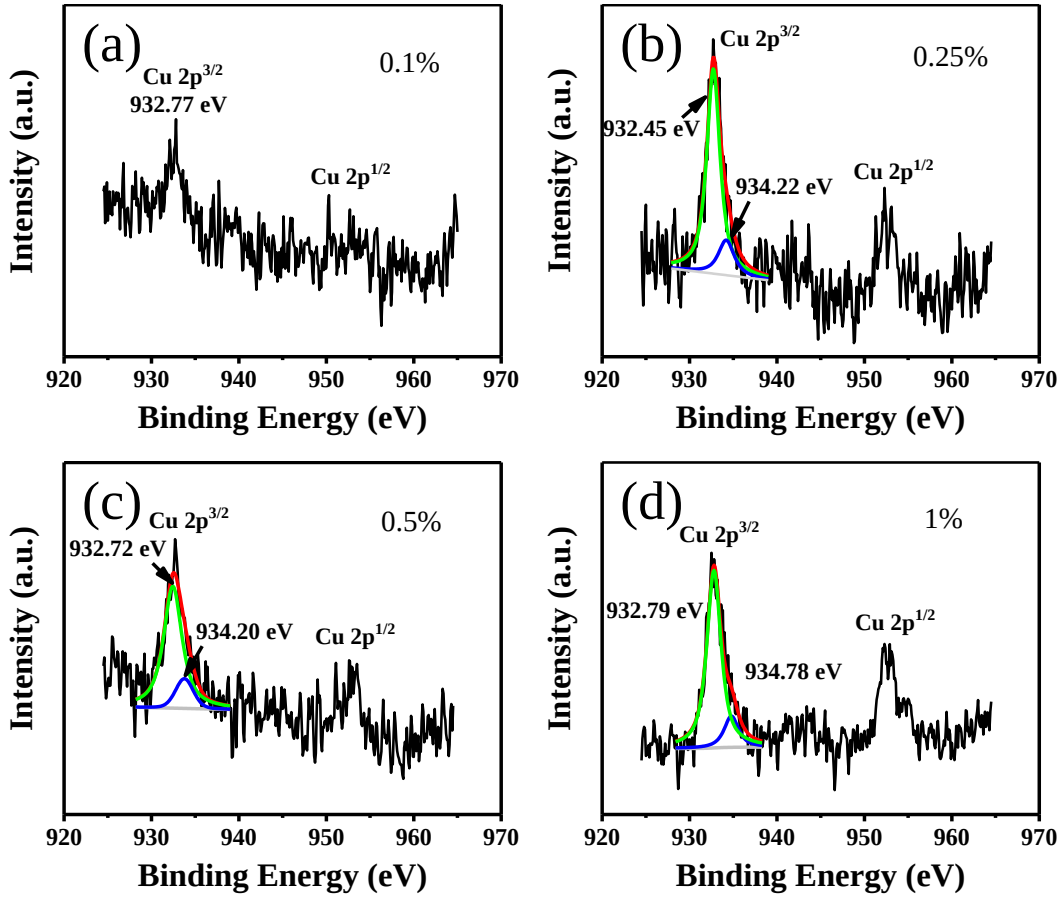



Figure S4. The corresponding narrow-scan spectra of Cu 2*p* for the 0.1%, 0.25%, 0.5% and 1% Cu-doped samples. Except for the 0.1% Cu doped sample which doped concentration is too low, the Cu XPS peaks are well-shaped and can be fitted by $Cu^{2+}$ and $Cu^{1+}$ phases. The nonmagnetic $Cu^{1+}$ ($d^{10}$) ions accounts for 86%, 83% and 80% for the 0.25%, 0.5% and 1% Cu-doped samples, respectively.