Supporting Information

Water-Stable Magnesium-Doped ZnO

Quantum Dots：One-Pot Synthesis and Cell Labeling Applications

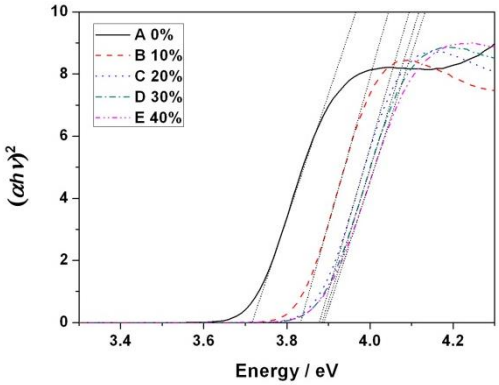

Fig. S1. Plots of $(\alpha h\nu)^2$ versus $h\nu$ of ZnO QDs with un-doped ZnO QDs and Mg-doped ZnO QDs

Data transformed from Fig. 4. For a direct band gap semiconductor, the relationship of the absorption coefficient and the band gap energy can be described by the following equation: $(\alpha h\nu)^2 = A(h\nu - E_g)$. where A is a constant, and α, $h\nu$ and E_g are denoted as the absorption coefficient, photon energy and optical band gap, respectively. The optical band gap (E_g) is obtained by plotting $(\alpha h\nu)^2$ versus $h\nu$ and extrapolating the tangent of the curve to $(\alpha h\nu)^2 = 0$. These band gap values are listed in Table 1.

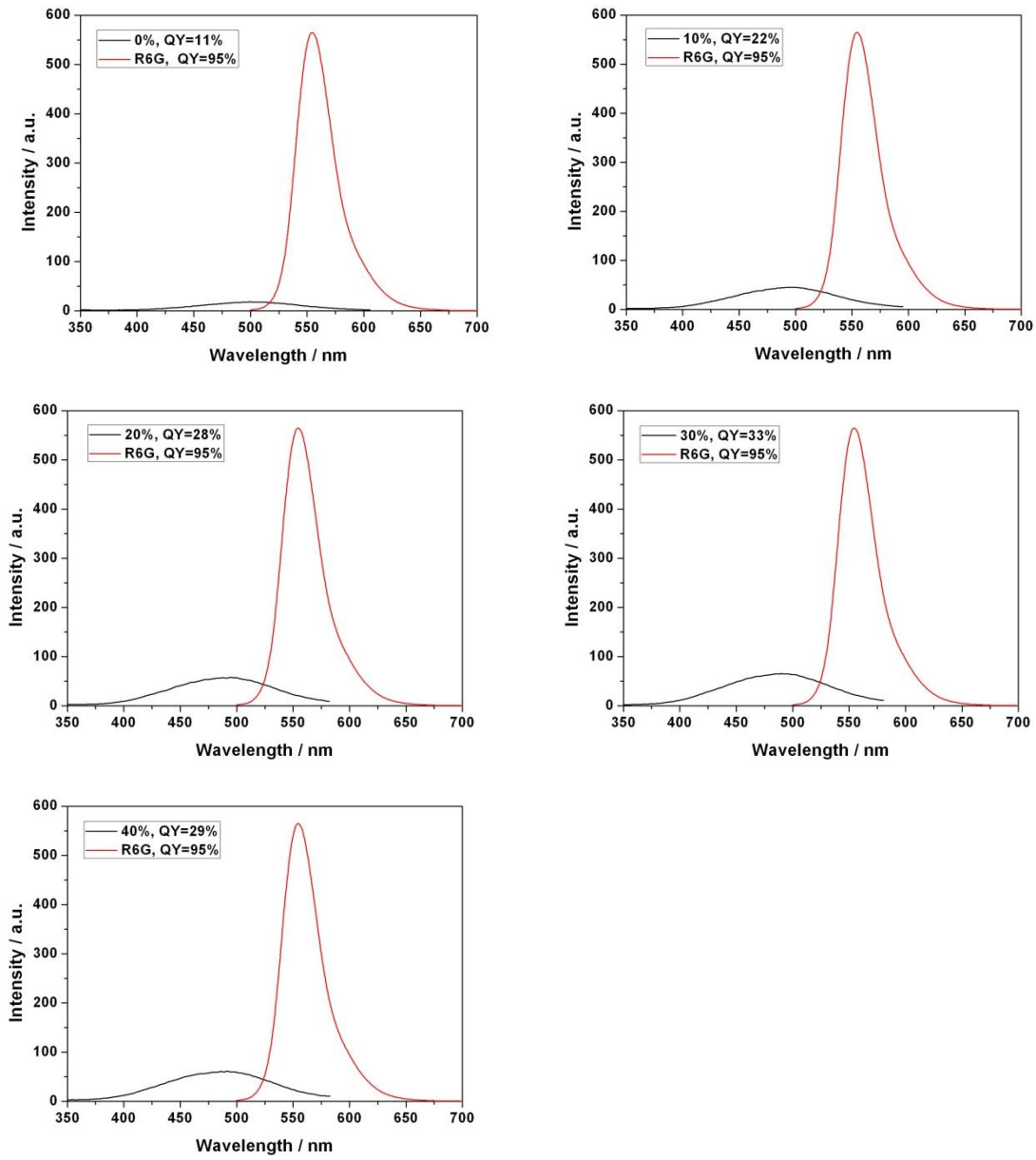

Fig. S2. The QY of the Mg:ZnO ethanol sols are evaluated by comparison with standard Rhodamine 6G ethanol solution (QY = 95 %). For each evaluation, both solutions are diluted to have the same UV absorption at the excitation wavelength. The QY of the Mg**:**ZnO sample is obtained by comparing its PL peak area with that of R6G.