**Electronic Supplementary Information**

![Graph](image)

**Fig. S1** – Kubelka-Munk elaboration \([F(R_{\infty})h\nu]^2\) versus energy of pure ZnO, to show the optical \(E_g\) as calculated using the Tauc procedure. The dotted line represents the \(x\)-axis = 0, while the red continuous line the \(x\)-axis intercept of the line tangent to the inflection point of the samples, *i.e.* the optical \(E_g\).
Fig. S2 – Kubelka-Munk elaboration $[F(R_\infty)hv]^2$ versus energy of ZnO/ZnS, to show the optical $E_g$ as calculated using the Tauc procedure. The dotted line represents the x-axis = 0, while the red continuous line the x-axis intercept of the line tangent to the inflection point of the samples, i.e. the optical $E_g$. 

ZnO/ZnS- $E_g=3.38$ eV