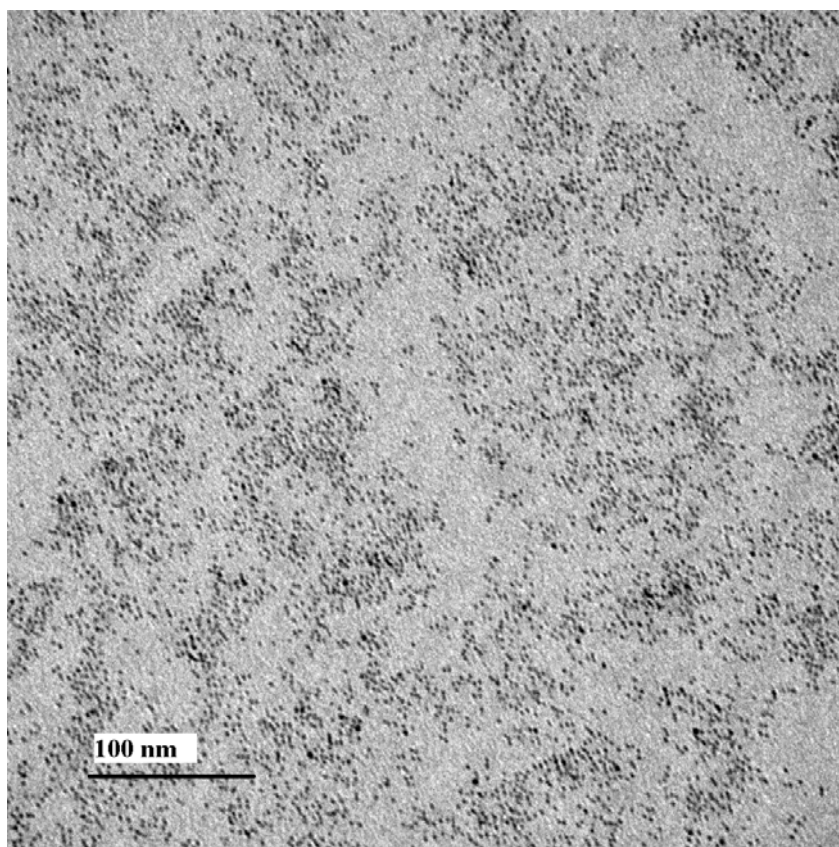


*Electronic Supplementary Information*

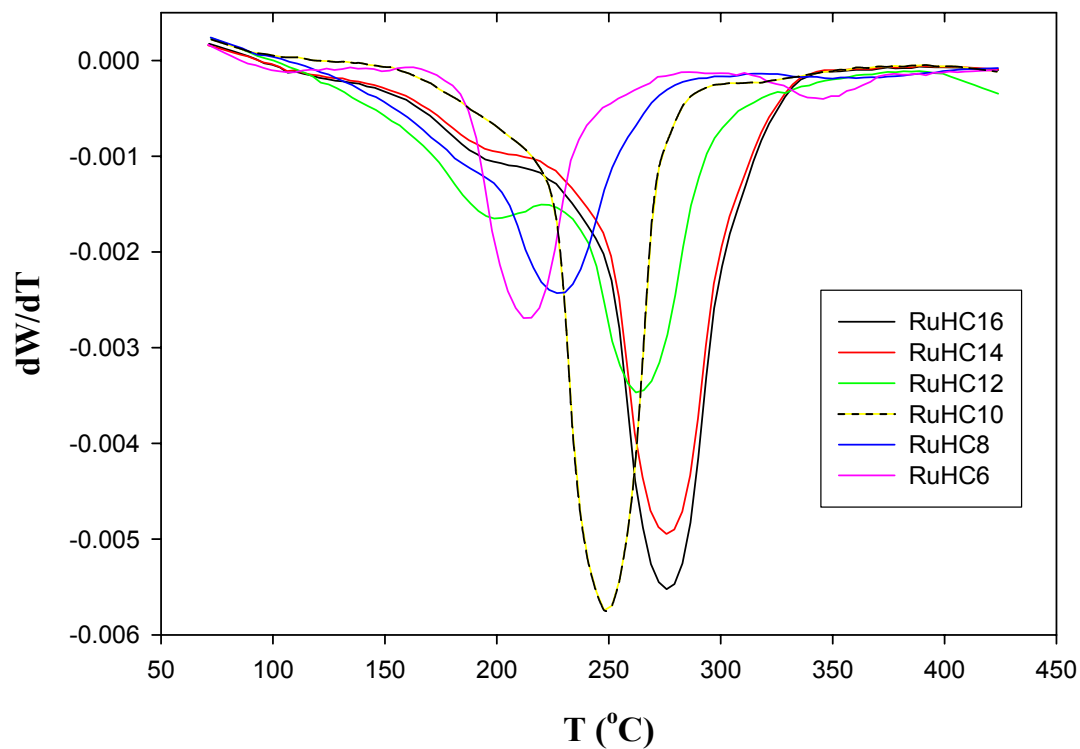
## **Electronic Conductivity of Alkyne-Capped Ruthenium Nanoparticles**

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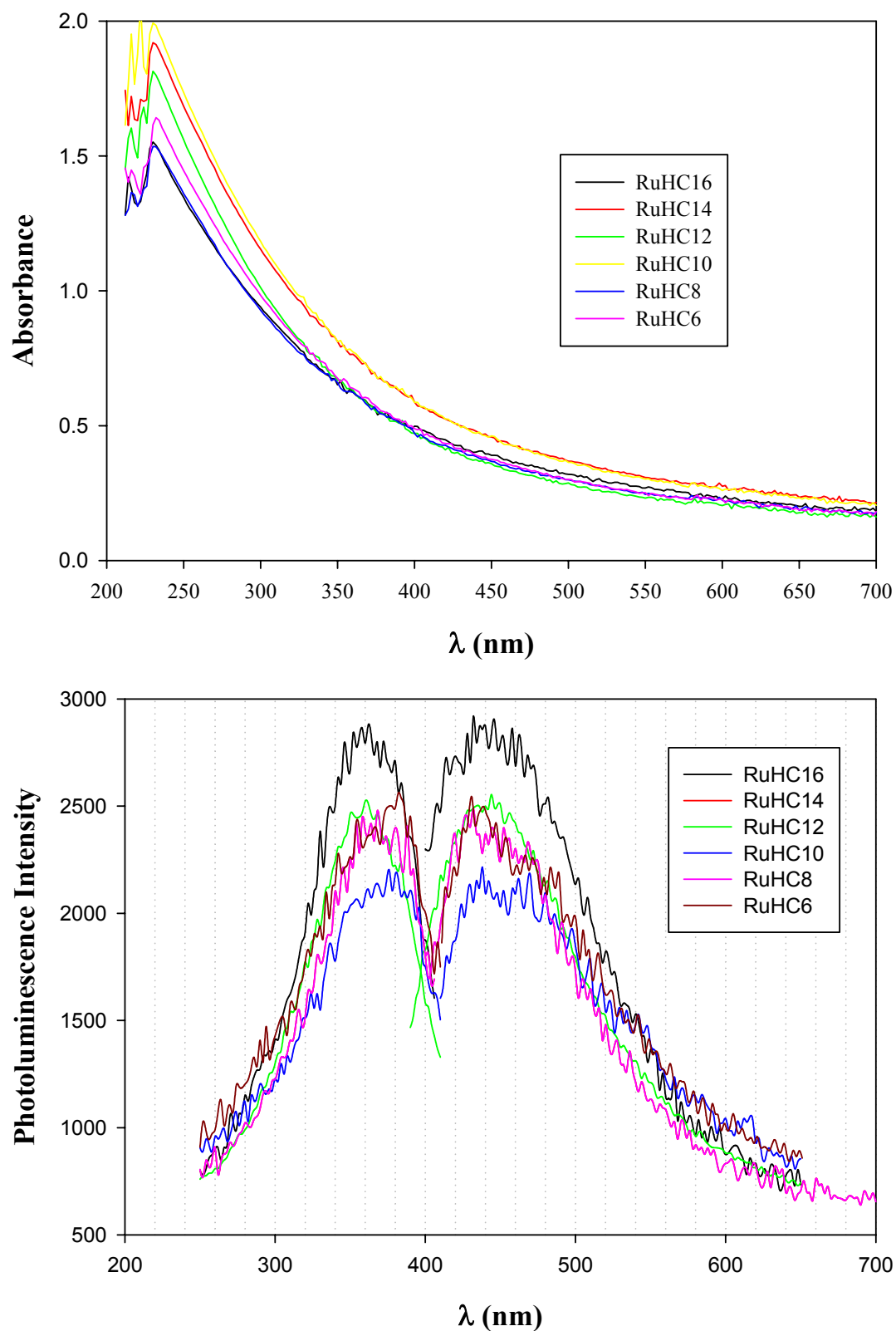
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**Figure S1.** Representative TEM micrograph of ruthenium nanoparticles prepared by thermolysis of  $\text{RuCl}_3$  in 1,2-propanediol at 165 °C.



**Figure S2.** First-order derivatives of the weight loss curves of the varied nanoparticle samples by TGA measurements, from which the transition temperature ( $T_g$ ) was determined (and summarized in Table 1).



**Figure S3.** (top) UV-vis absorption and (bottom) photoluminescence spectra of alkyne-capped ruthenium nanoparticles in  $\text{CH}_2\text{Cl}_2$ .