Hierarchical polystyrene@reduced graphene oxide-Pt core-shell microspheres for non-enzymatic detection of hydrogen peroxide

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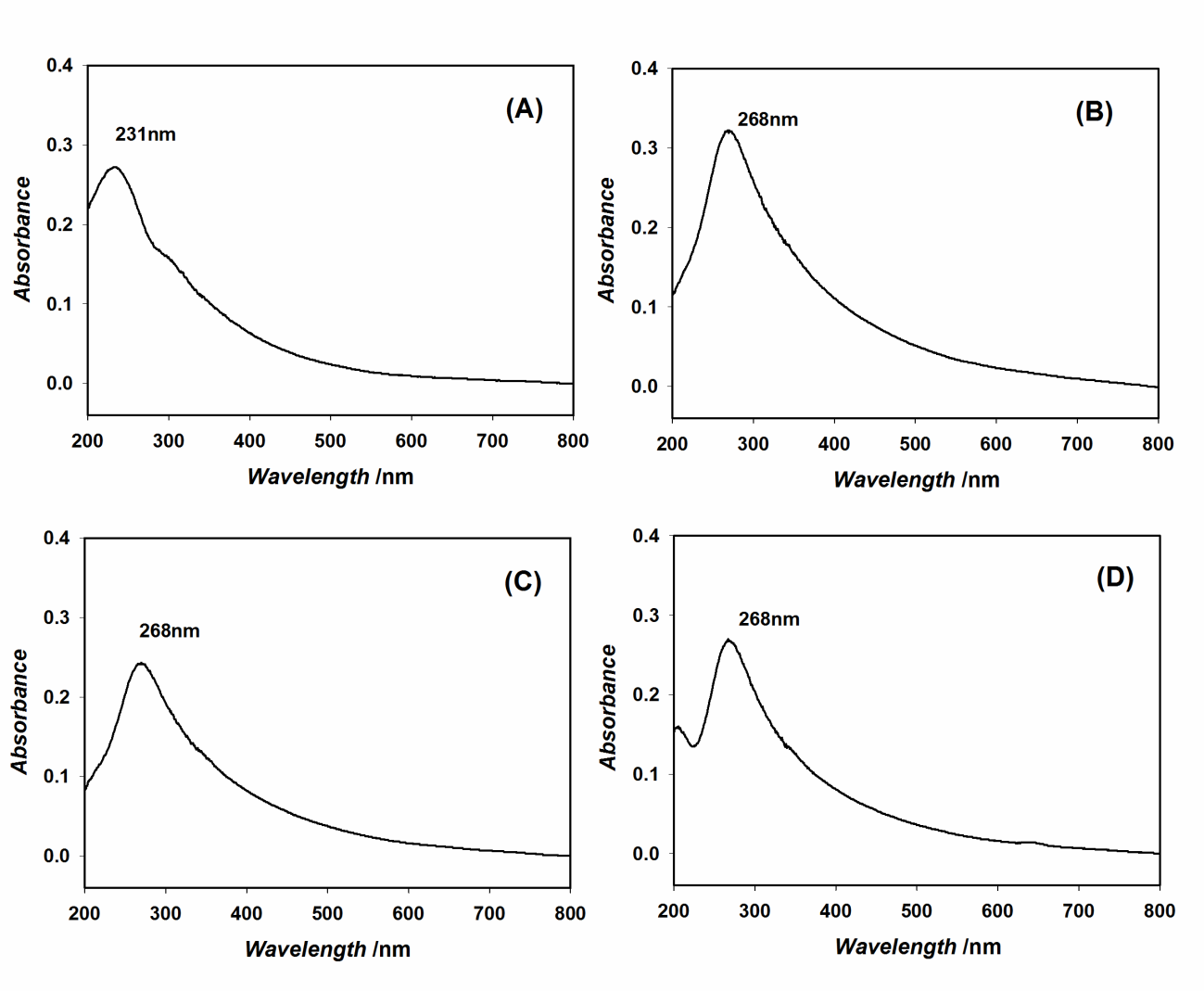
Electronic Supplementary Information

(1) The microwave oven was equipped with a voltage stabilizer (SFig.1 in Supplementary Information), which made sure the stability of the microwave power.

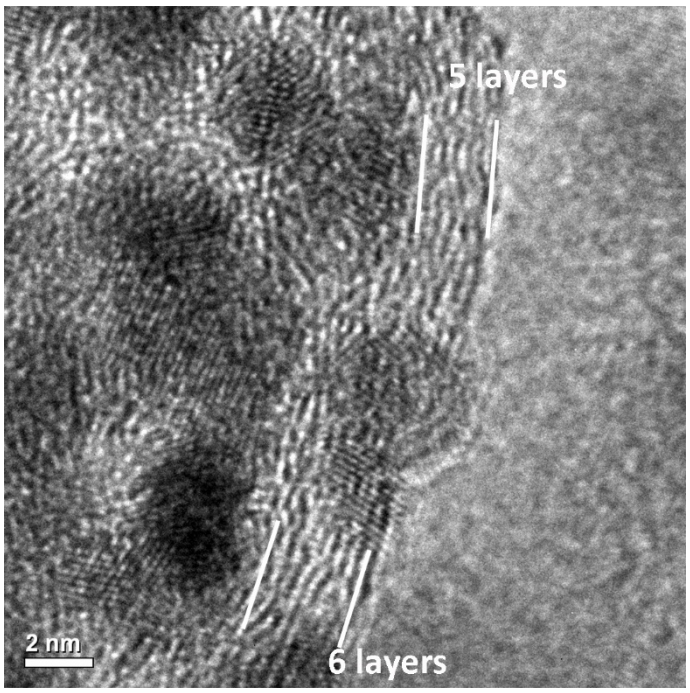
SFig.1 The picture of the microwave heating system.

(2) The synthesis process was repeated three times to demonstrate the reliability of this method. Ultraviolet (UV) absorption spectroscopy was used to monitor the microwave-assisted reduction reaction (SFig.2 in Supplementary Information). The suspension of polystyrene@GO exhibited an absorption peak at 231 nm. After the microwave heating, the absorption peaks of all the products shifted to 268 nm, indicating the reduction of GO to RGO [1] and the reliability of the synthetic method.



SFig.2 UV absorption spectroscopy of polystyrene@GO (A), and the three repeated reduction products (B) (C) (D).

(3) High resolution TEM image on the edge of RGO-Pt nanocomposite.



SFig.3 High resolution TEM image on the edge of RGO-Pt nanocomposite.

Reference

1. D. Li, M. B. Muller, S. Gilje, R. B. Kaner and G. G. Wallace, *Nat Nano*, 2008, **3**, 101-105.