

SUPPORTING INFORMATION

Functionalized R9-Reduced Graphene Oxide as an efficient Nano-Carrier for Hydrophobic Drug Delivery ‡

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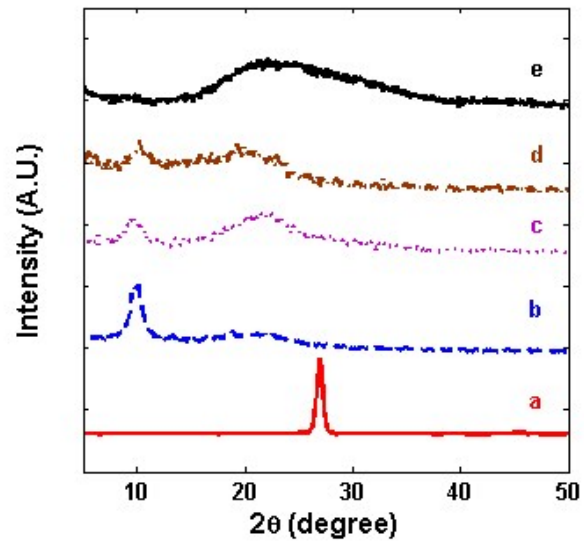
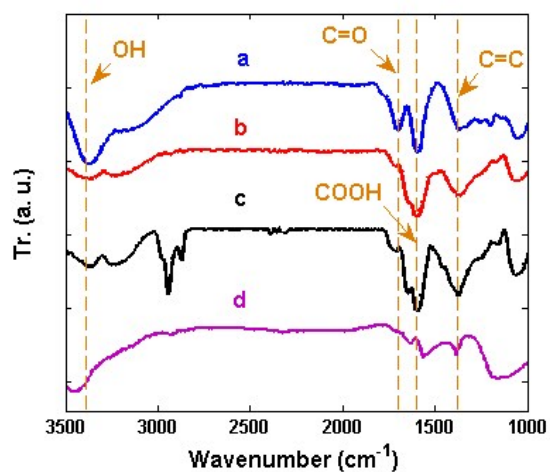
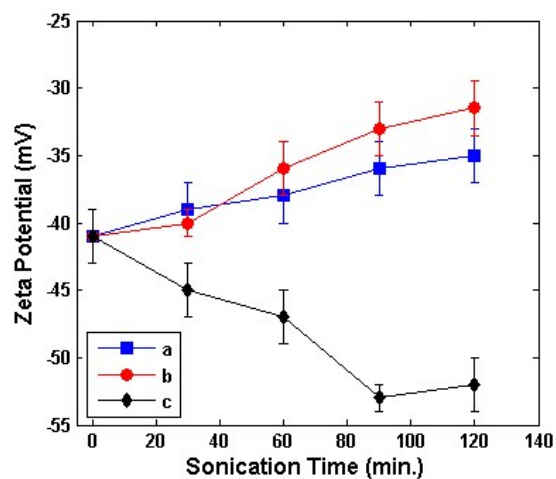


Figure S1. XRD patterns of pristine graphite (a), the as prepared GO (b), the treated GO after 60 minutes sonication (c), the treated GO after 120 minutes (d), and rGO (e).



A



B

Figure S2. FT-IR spectra (A) of the as prepared GO (a), the sonicated GO in 1M HCl for 120 minutes (b), the sonicated GO in 1M H_2SO_4 for 120 minutes (c), the sonicated GO in 1M NaOH for 120 minutes (d). Comparing the effect of sonication time on zeta potential (B) for the as prepared GO in pH 4.7 (a), the as prepared GO in pH 12 (b), and the as prepared GO in pH 2 (c).

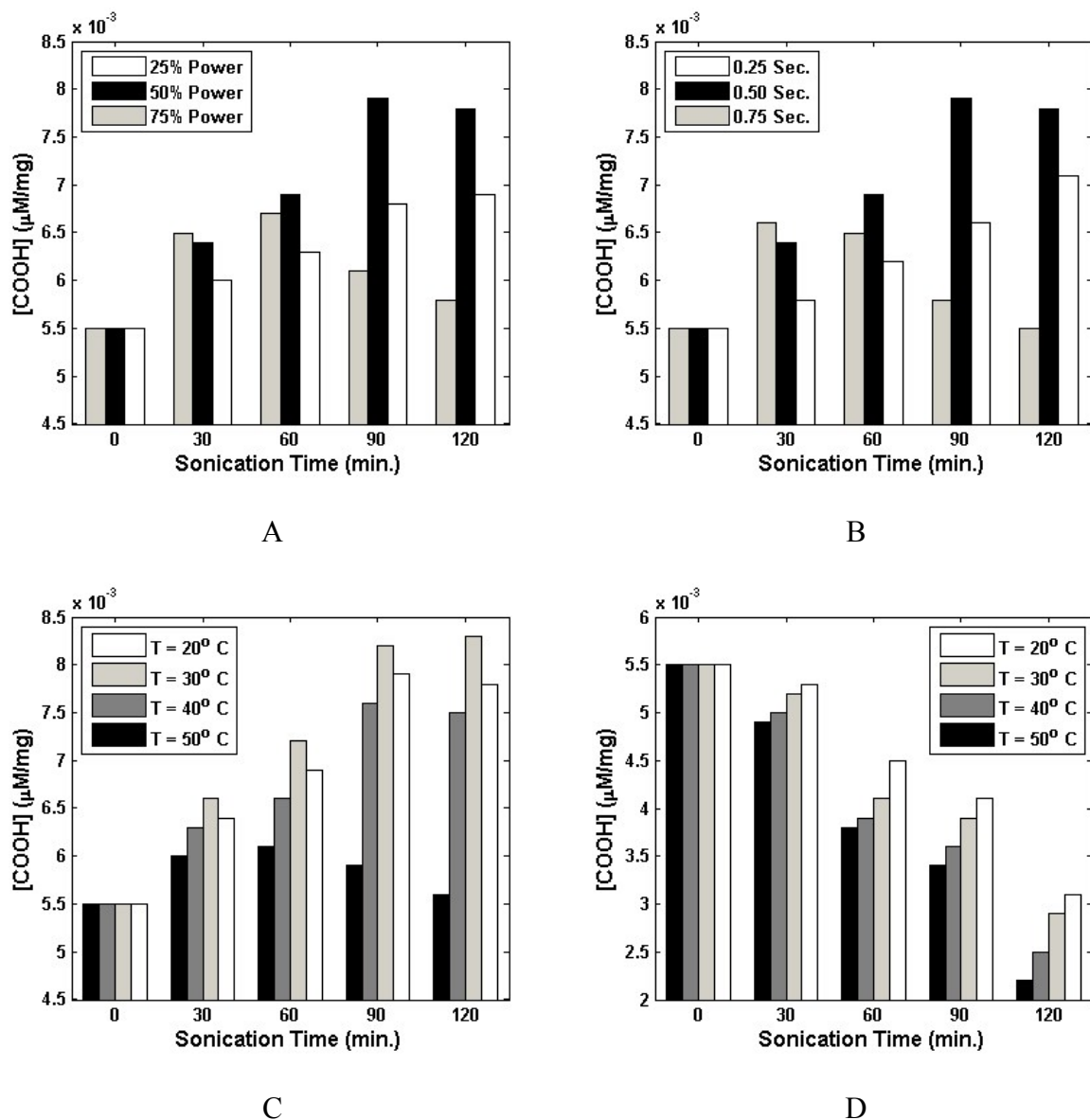
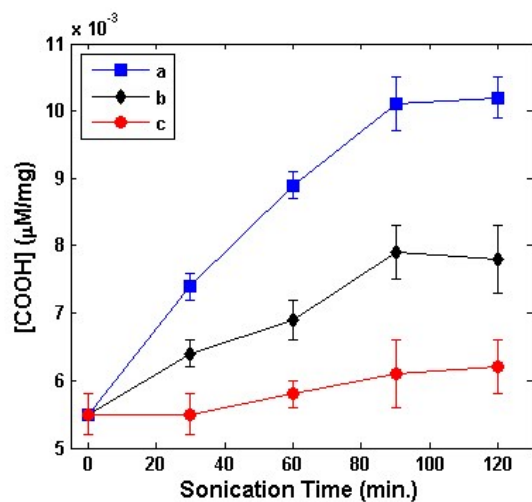
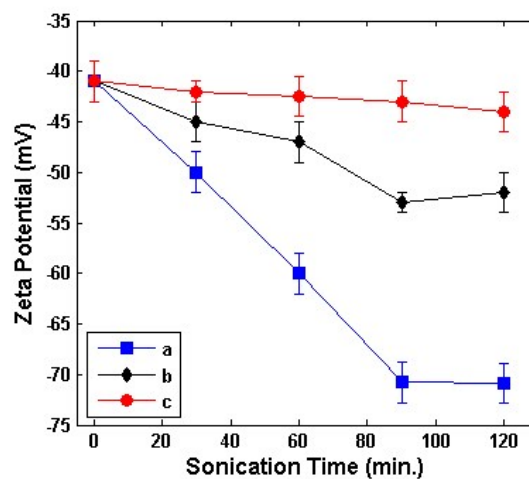


Figure S3. The effect of ultrasonic irradiation time and power (A), ultrasonic irradiation time and pulse mode (B), ultrasonic irradiation time and temperature at pH 2 (C), ultrasonic irradiation time and temperature at pH 12 (D) on the amount of the as prepared GO carboxyl functional (oxygen-containing) groups, measured by XPS analysis.



A



B

Figure S4. The influence of sonication time and various acidic media on the amount of carboxyl functional groups (A), and the effect of sonication time and various acidic media on zeta potential (B) of the as prepared GO. H₂SO₄ (a), HCl (b), and Citric acid (c).

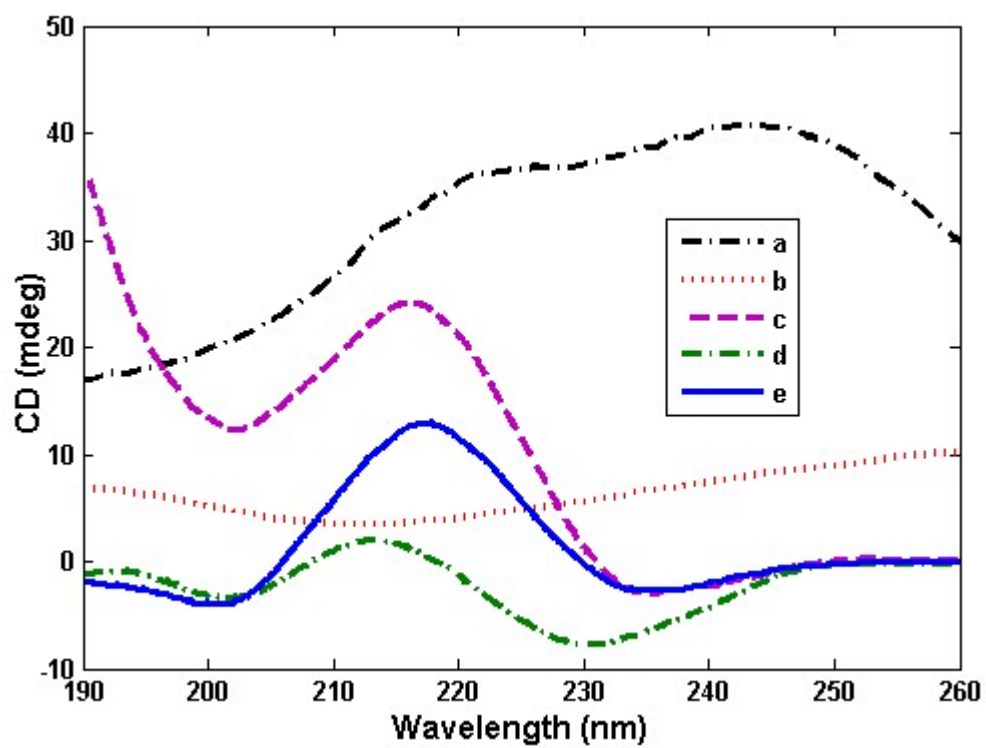


Figure S5. Circular dichroism spectra in water at 25 °C of as prepared GO (a) rGO, (b) R9, (c) R9 at 95 °C, (d) and R9-rGO(120) (e).

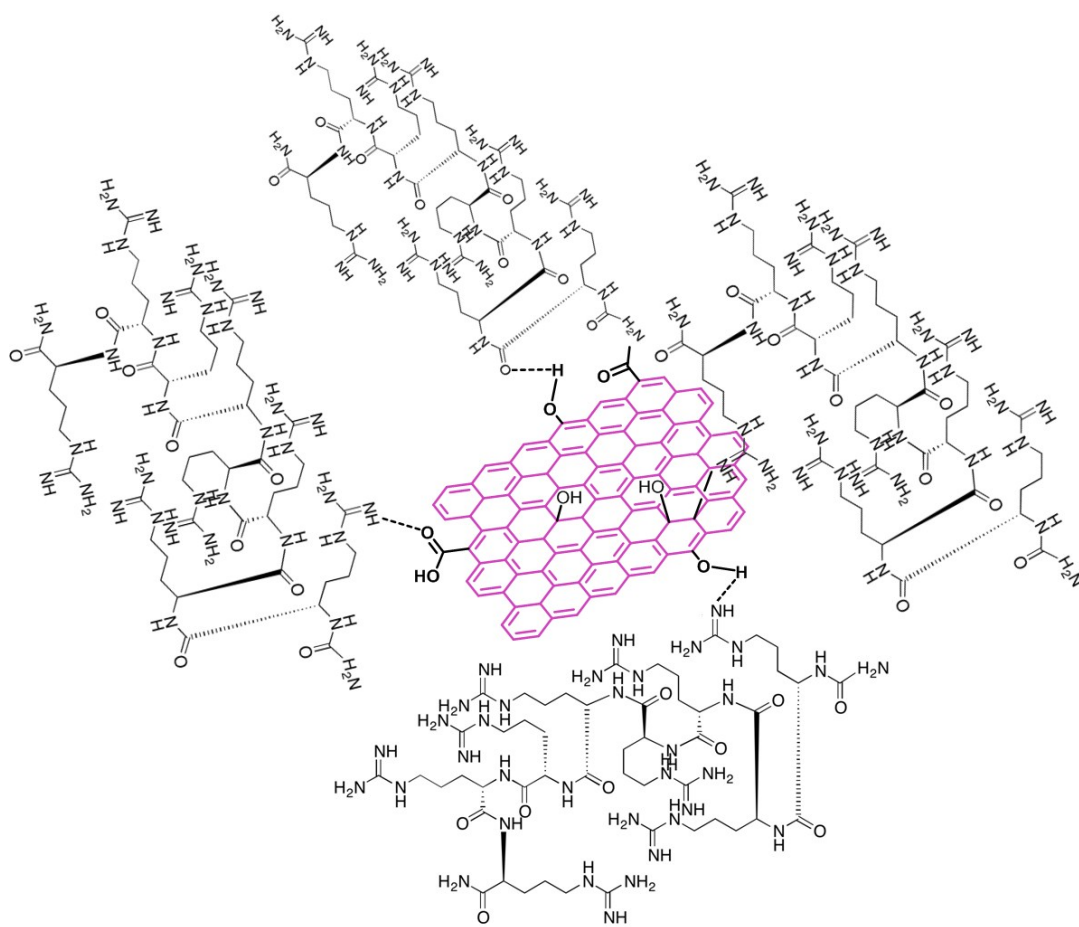


Figure S6. Schematic illustration for conjugation of R9 peptide and graphene oxide