

## Supporting Information

# Photoluminescence, chemiluminescence and anodic electrochemiluminescence of hydrazide-modified graphene quantum dots

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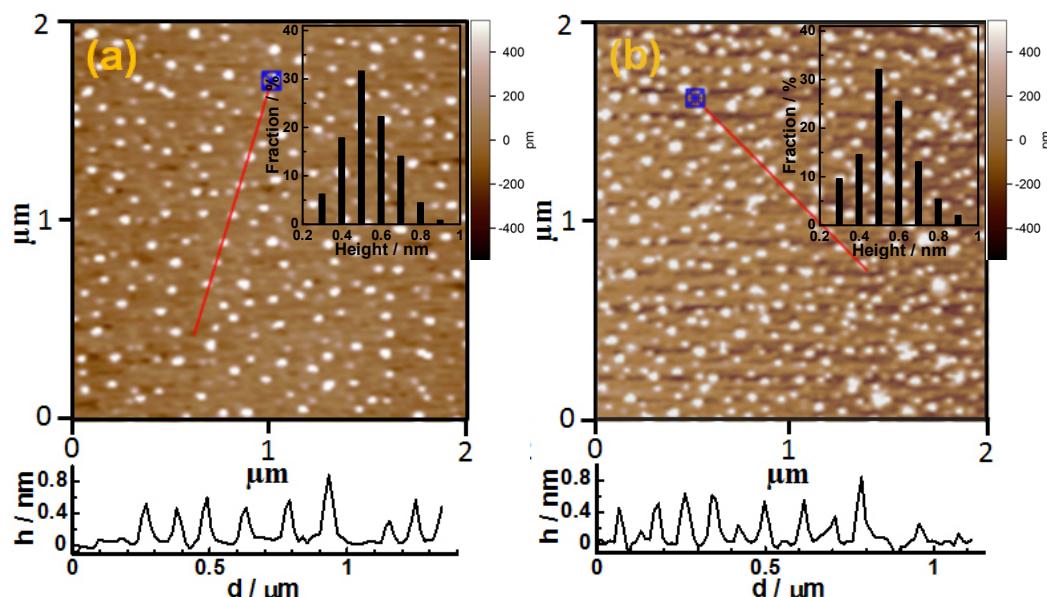
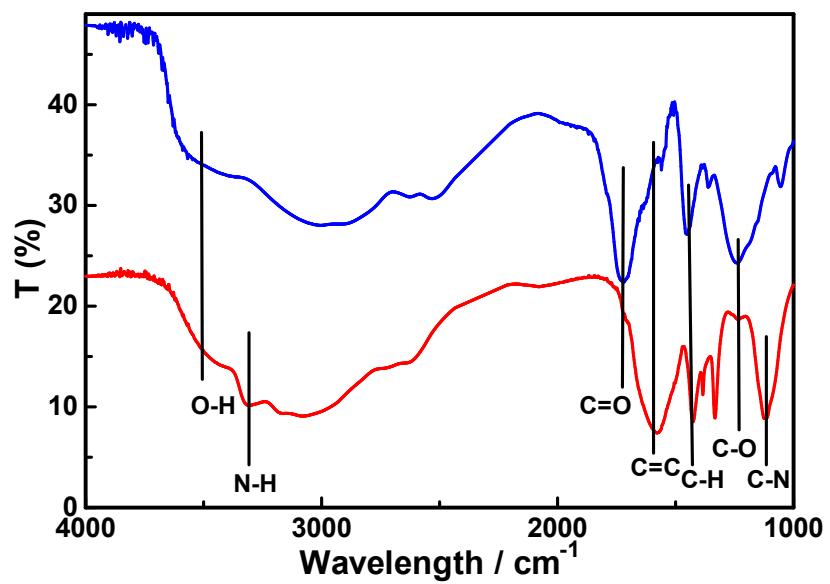
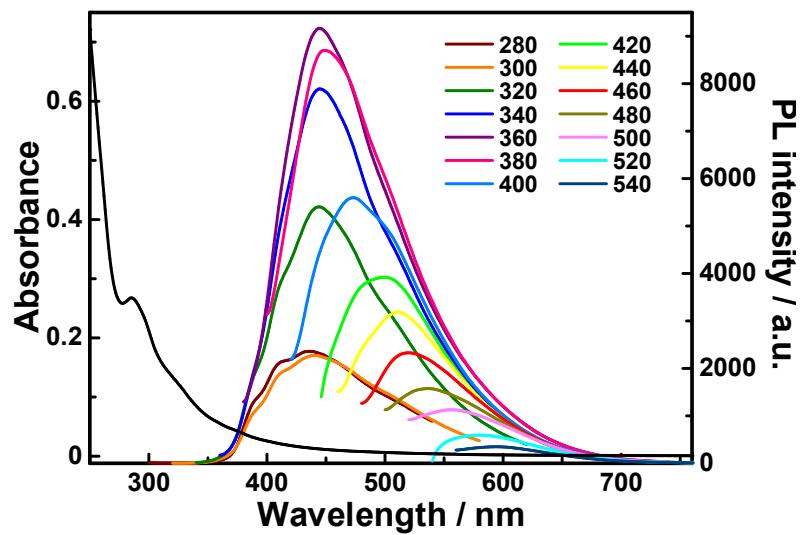


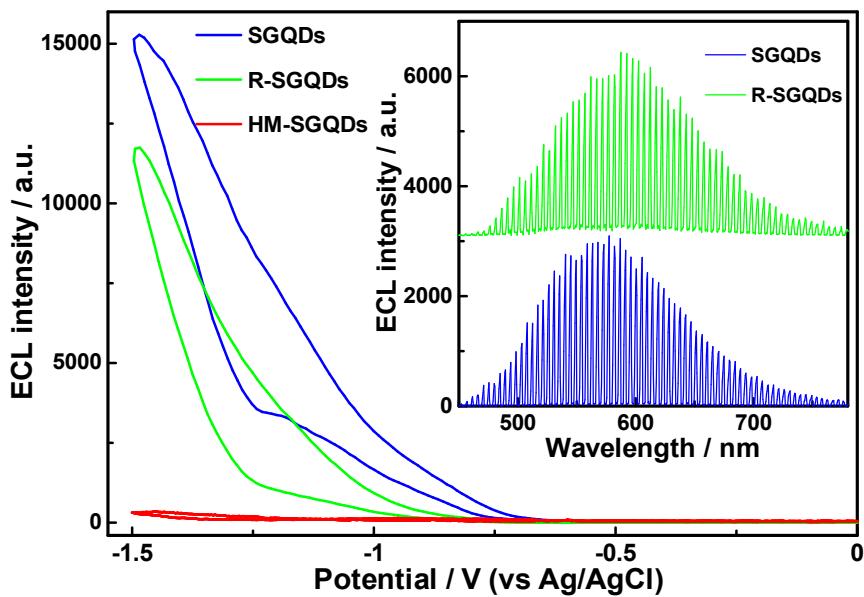
Fig. S1 AFM images of SGQDs (a) and HM-SGQDs (b). The insets below (a) and (b) are the corresponding height profile along the red lines.



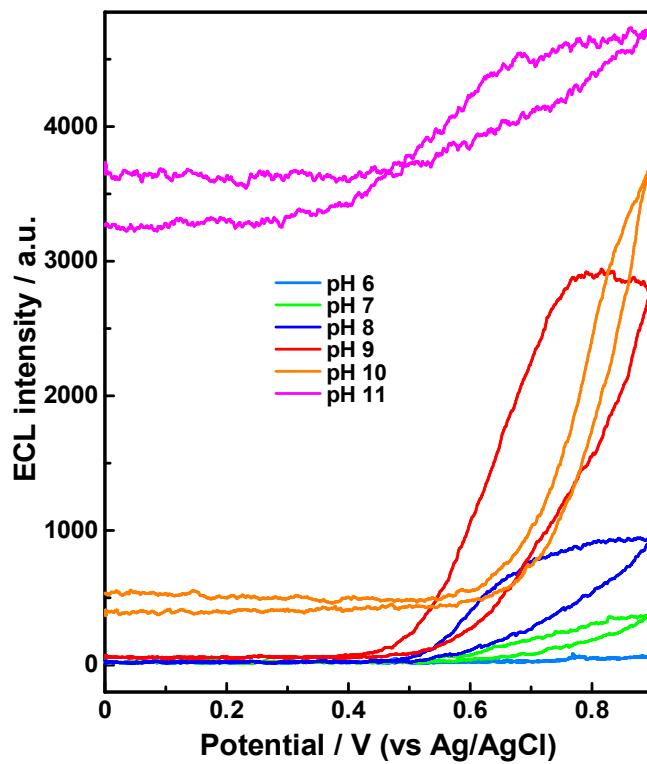
**Fig. S2** FT-IR spectra obtained for SGQDs (blue curve) HM-SGQDs (red curve).



**Fig. S3** UV-vis absorption and PL emission spectra (recorded for progressively increasing excitation wavelengths in 20 nm increments) of R-SGQDs



**Fig. S4** ECL responses of 40  $\mu\text{g}/\text{mL}$  SGQD, R-SGQDs, HM-SGQDs in pH 7 PBS in the presence of 1 mM  $\text{K}_2\text{S}_2\text{O}_8$ . Inset: ECL spectra of SGQD/ $\text{K}_2\text{S}_2\text{O}_8$  and R-SGQD/ $\text{K}_2\text{S}_2\text{O}_8$  systems.



**Fig. S5** ECL responses of 40  $\mu\text{g}/\text{mL}$  HM-SGQDs in air-saturated PBS of various pH values.