Electronic Supporting Material

Boron-doped and serine and histidine-functionalized graphene quantum dot with strong yellow fluorescence emission for highly sensitive detection of carbofuran in cucumber and cabbage

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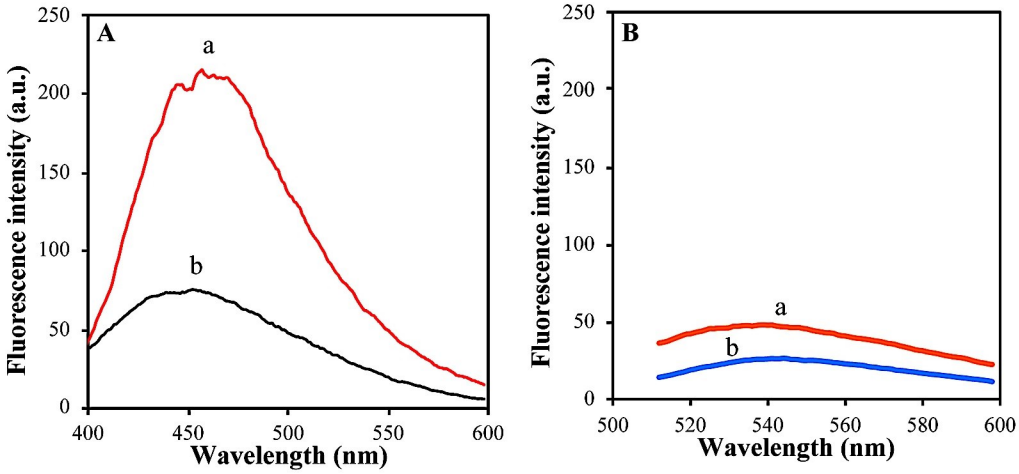

Fig. s1 Fluorescence spectra of Ser-GQD (a) and His-GQD (b) produced by the excitation of the ultraviolet-light of 360 nm (A) and the visible-light of 485 nm (B)

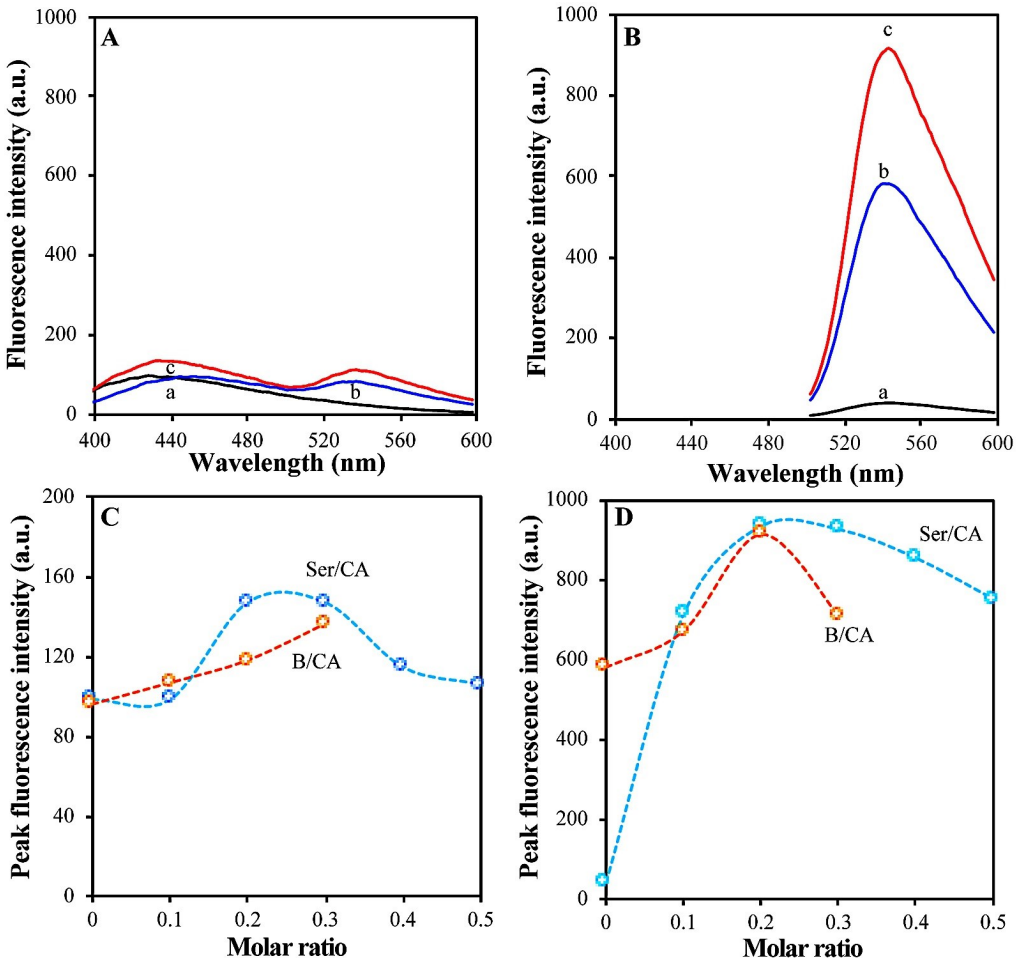

Fig. s2 The fluorescence spectra of His-GQD (a), Ser-His-GQD (b) and B-Ser-His-GQD (c) produced by the ultraviolet-light excitation of 360 nm (A) and visible-light excitation of 485 nm (B), and the calibration curves of the peak fluorescence intensities with the molar rations of Ser/CA and B/CA under the ultraviolet-light excitation of 360 nm (C) and the visible-light excitation of 485 nm (D)

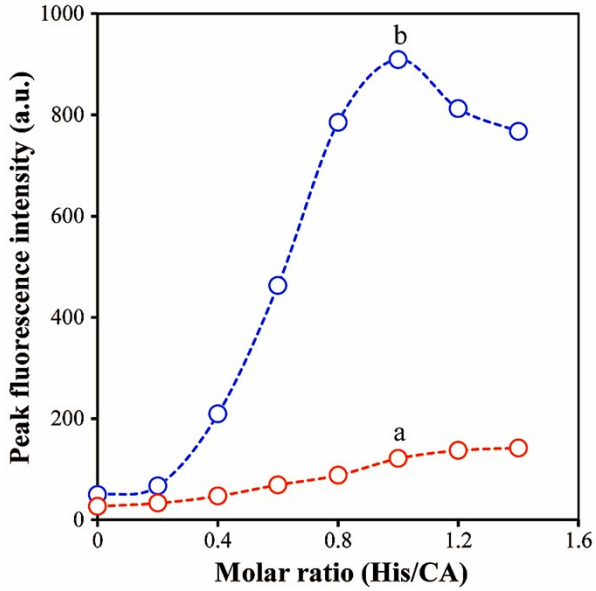

Fig. s3 The relationship curves of the peak fluorescence intensity produced by the ultraviolet-light excitation of 360 nm (a) and visible-light excitation of 485 nm (b) with the molar ratio of His/CA

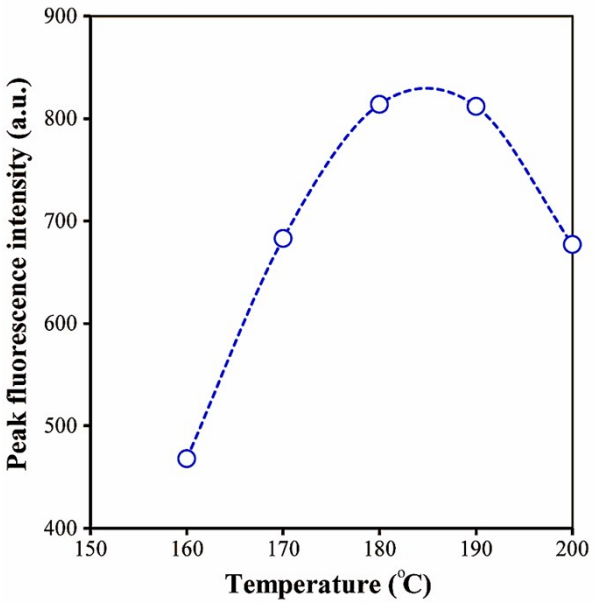

Fig. s4 The relationship curve of the peak fluorescence intensity produced by visible-light excitation of 485 nm with the reaction temperature

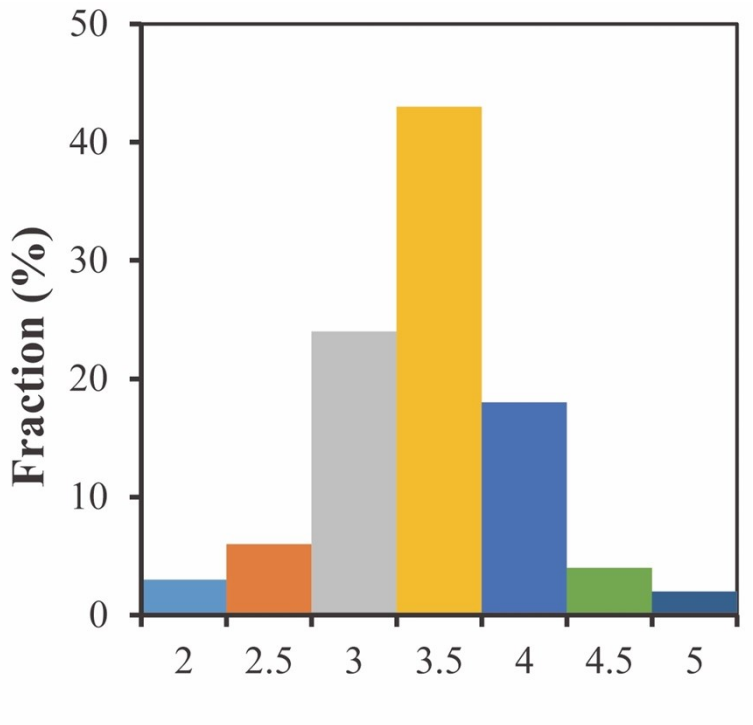

Fig. s5 Size distribution curve of the as-synthesized B-Ser-His-GQDs

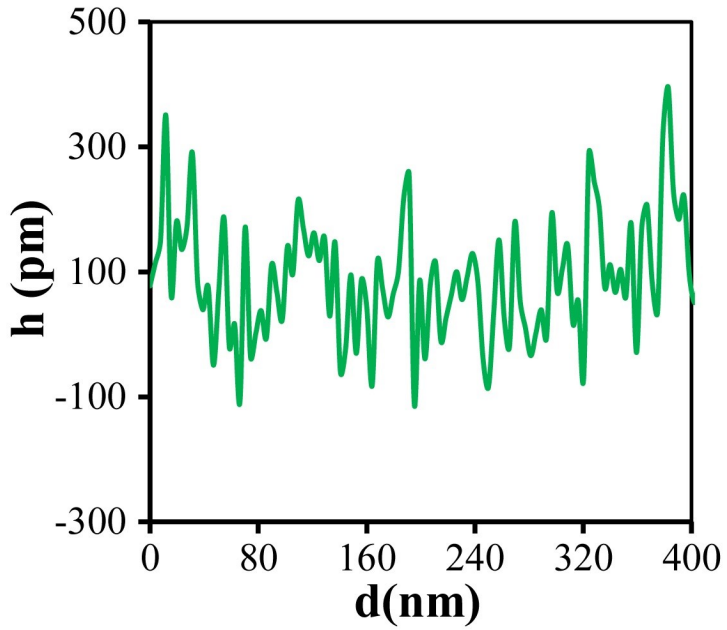

Fig. s6 Thickness distribution of the graphene sheets in B-Ser-His-GQD

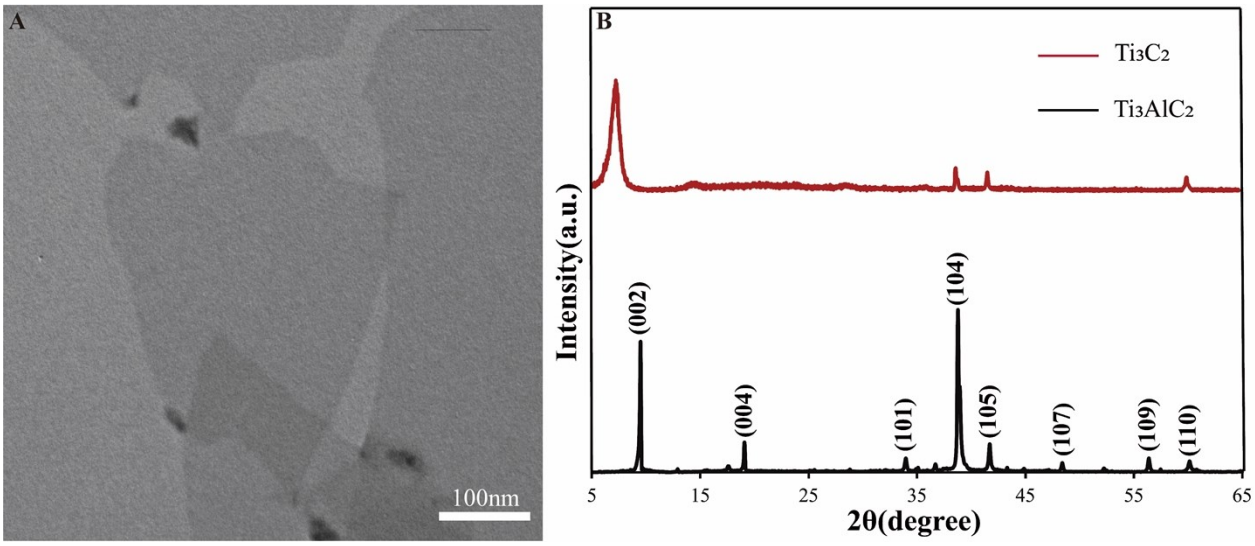

Fig. s7 The TEM image (A) and XRD patterns (B) of Ti_3C_2 and Ti_3AlC_2

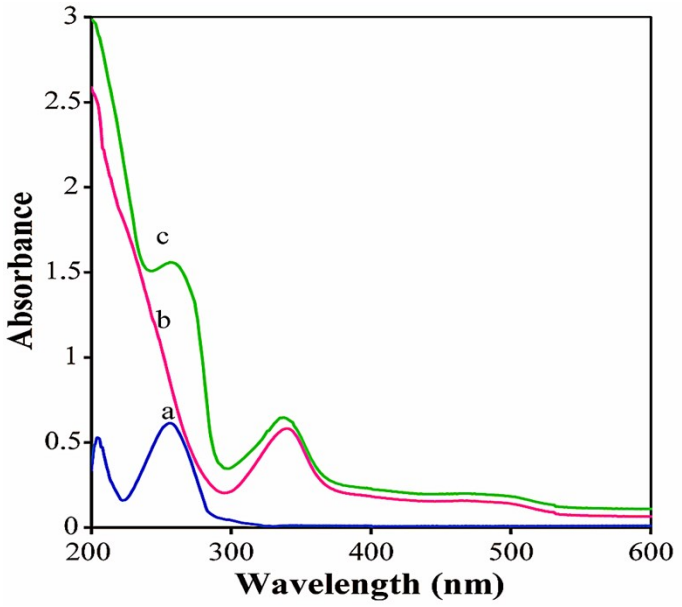

Fig. s8 The absorption spectra of H2 (a) and B-Ser-His-GQD before (b) and after connected with H2 (c)

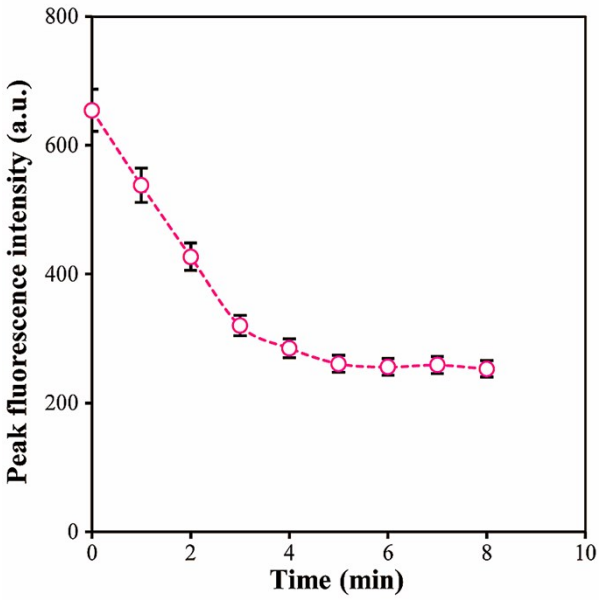

Fig. s9 The effect of incubation time on the peak fluorescence intensity