## Construction of a three-mode sensor for detecting thiocarbazone

## based on gold nanoparticles and carbon quantum dots as probes

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Fig S1 Full scan image of fluorescence emission and excitation of CQDs



Fig S2 XPS survey spectra of CQDs; High-resolution XPS of C 1s (b), N 1s (c) and O 1s (d) of

CQDs.



Fig S3 Optimization of temperature, n=3 (a) and time, n=3 (b) during CQDs synthesis