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Supporting Information

Bismuth and gadolinium codoped carbon quantum dots with red/green dual emission for fluorescence /CT/T1-MRI mode imaging

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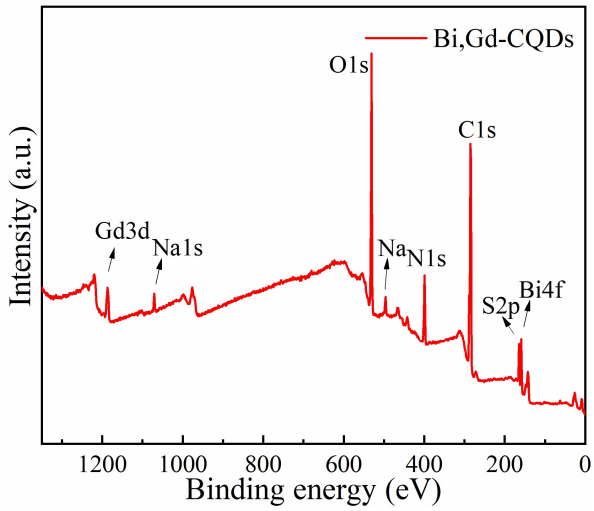

Fig. S1. XPS survey spectrum of Bi,Gd-CQDs.

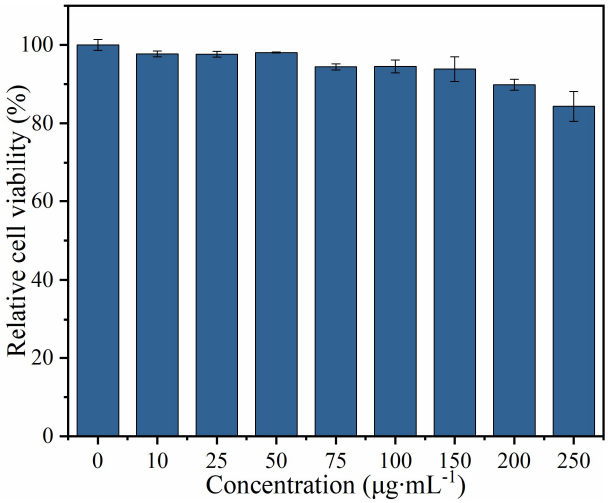

Fig. S2. Cytotoxic effect of various concentrations of undoped CQDs (0-250 μg·mL^{-1}) on the Hela cells after 24 h incubation.

Table S1. Comparison of different Bi-doped nanoparticles as a CT imaging with other reported articles.

Probes	Main reactants	Methods	Bi resource	HU L g^{-1}	Ref.
Gd-PEG-Bi NPs	1-dodecanethiol	direct heating	$Bi(NO_3)_3$	38.04	[1]
Bi_2S_3 NPs	bovine serum albumin	biomineralization	$Bi(NO_3)_3$	85.40	[2]
Bi-BSA NRs	polyvinylpyrrolidone	facile reduction	$Bi(NO_3)_3$	66.70	[3]
BFO-NPs	ethylene glycol	glycol-based sol-gel	$Bi(NO_3)_3$	>240	[4]
Bi,Gd-CQDs	p-phenylenediamine	hydrothermal	$Bi(NO_3)_3$	164.66	This work

Table S2. Comparison of different Gd-doped nanoparticles as a MRI nanoprobes with other reported articles.

Probes	Precursors	Methods	Gd resource	r1 (mM^{-1} s^{-1})	Ref.
RCND-DTPA-Gd	polythiophene phenylpropionic acid	chelation	$Gd(ClO_4)_3$	5.17	[5]
Gd-CQDs	Citric acid	hydrothermal	$GdCl_3$	14.33	[6]
Gd–PDA NPs	Dopamine hydrochloride	hydrothermal	$GdCl_3$	13.72	[7]
Gd^{3+}-CQDs	gadopentetate monomeglumine	hydrothermal	gadopentetate monomeglumine	9.87	[8]
AS1411-Gd-CDs	Citric acid	solvothermal	$GdCl_3$	13.40	[9]
SiQD-Gd	3-(trimethoxysilylpropyl)diethylene triamine	chelation	$Gd(NO_3)_3$	4.2	[10]
Bi,Gd-CQDs	p-phenylenediamine	hydrothermal	$GdCl_3$	4.29	This work

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