Construction of Hypoxia Responsive Upconversion Nanosensor for Tumor Imaging by
Fluorescence Resonance Energy Transfer from Carbon Dots to Ruthenium Complex

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Supplementary Figures

\textbf{Figure S1.} MALDI/TOF-MS spectra of the CDs (a), CD-Ru\textsubscript{2}b (b) and CD-Ru-mPEG (c). The mean m/z is 507, 1250 and 4400 for CDs, CD-Ru\textsubscript{2}b and CD-Ru-mPEG respectively.
Figure S2. Excitation and emission spectra of CDs.

Figure S3. Emission spectra of CDs, Rud₂b and the CD-Ru-mPEG (0.5 μmol/ml) under an excitation of 360 nm.
Figure S4. Emission of Rud₂b at different concentration ($\lambda_{ex} = 440$ nm).

Figure S5. Oxygen concentration dependence of luminescence emission of Rud₂b and diluted CD-Ru-mPEG dispersion (0.012 μmol/mL).
Figure S6. Cytotoxicity of CDs, Rud2b and the CD-Ru-mPEG at different concentration.

Figure S7. Distribution (a, b) and integrated luminescence intensity (c, d) of CD-Ru-mPEG (a, c) and Rud2b (b, d) in L929 cells after an incubation for 8 h.