Supporting information for:

Gadolinium and Platinum in Tandem: Real-time Multi-Modal Monitoring of Drug Delivery by MRI and Fluorescence Imaging.

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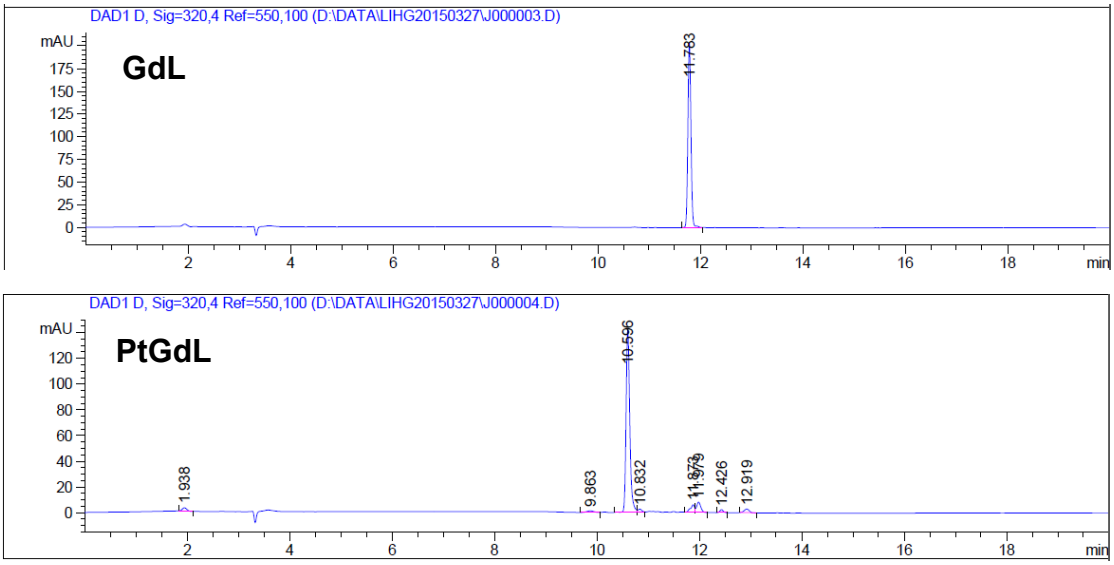

Figure S1. HPLC spectra of the **GdL** and **PtGdL**. Experimental conditions: Agilent ZORBAX SB-C18 Stable Bond Analytical 4.6 X 150 mm 5-micron column, solvent gradient show in table S1.

Table S1. Solvent gradient of the HPLC for characterization of **GdL** and **PtGdL**.

Time /min	0.05% TFA in water /%	0.05% TFA in CH_3CN /%	Flow rate/ $mLmin^{-1}$
0	90	10	1.0
5	90	10	1.0
15	60	40	1.0
20	90	10	1.0

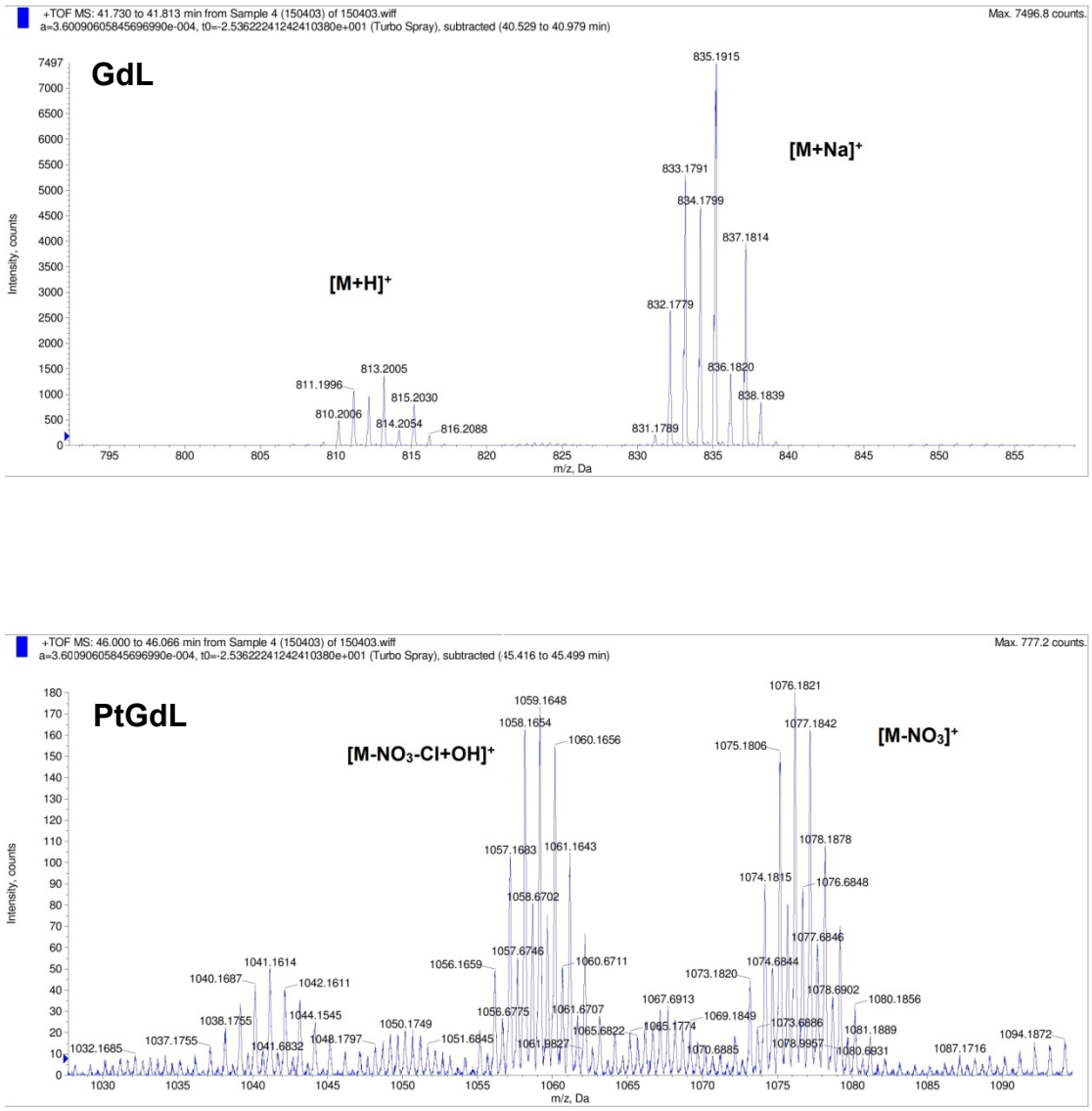

Figure S2. ESI-HRMS spectra of **GdL** and **PtGdL. GdL**: calcd. for $C_{34}H_{37}GdN_7O_7$ $[M + H]^+$ 813.1995, found 813.2005, for $C_{34}H_{36}GdN_7NaO_7$ $[M + Na]^+$ 835.1815, found 835.1915. **PtGdL:** HRMS (+ESI) m/z calcd. for $C_{34}H_{42}ClGdN_9O_7Pt$ $[M - NO_3]^+$ 1076.1784, found 1076.1821, for $C_{34}H_{43}ClGdN_9O_8Pt$ $[M - NO_3 - Cl + OH]^+$ 1058.2123, found 1058.1654.

Table S2. Photophysical properties and relaxivity of **PtGdL** and **GdL**.

Complex	λ_{max}/ nm [a]	ε/ M^{-1} cm^{-1} [a]	q ± 0.2 [b]	ϕ/ % [d]	$r_{1/}$ $mM^{-1}s^{-1}$ [e]
PtGdL	327	22300	1.0 [c]	< 0.1	29.4
GdL	324	20000	1.0	3	23.1

a) Absorption coefficient in H_2O, 298 K; b) Coordination number of water molecules, the q value of **GdL** was determined by comparison of the emission lifetime of europium(III) analogue of **GdL**, **EuL** in D_2O and H_2O, which is reported in our previous work. (*Chem. Commun.* **2015**, *51*, 14022; *J. Chem. Soc., Perkin Trans.* **1999**, *2*, 493.) c) For **PtGdL** the q value could not be determined by using the same method with **GdL** because **PtEuL** is non-emissive, however **PtGdL** should have the same hydration number (q = 1.0 ± 0.2) as **GdL** due to the similarity of structure. d) Fluorescence quantum yield of the ligand emission of the complexes was determined by integrated sphere methods. (*Chem. Rev*. **2010**, *110*, 2729.) e) T_1 relativity of the Gd(III) complexes at 10 MHz, 25 ºC.

Table S3. IC_{50} (μM) values of **PtGdL**, **GdL** and cisplatin (as contral) in HeLa and WPMY-1 cells under dark and UVA irradiation. [a]

Complex	HeLa		WPMY-1	
	Dark IC_{50}	UVA[b] IC_{50}	Dark IC_{50}	UVA[b] IC_{50}
PtGdL	23.6 ± 0.8	3.8 ± 0.7	43.9 ± 1.1	~6.9 ± 1.1
GdL	> 200	> 200	> 200	> 200
Cisplatin	3.3 ± 0.3	3.4 ± 0.7	4.2 ± 0.6	4.1 ± 0.9

a) Incubation time = 24 hour; b) λ_{ex} = 365 nm, light dosage = 1 Jcm^{-2}. Raw data shows in Figure S3.

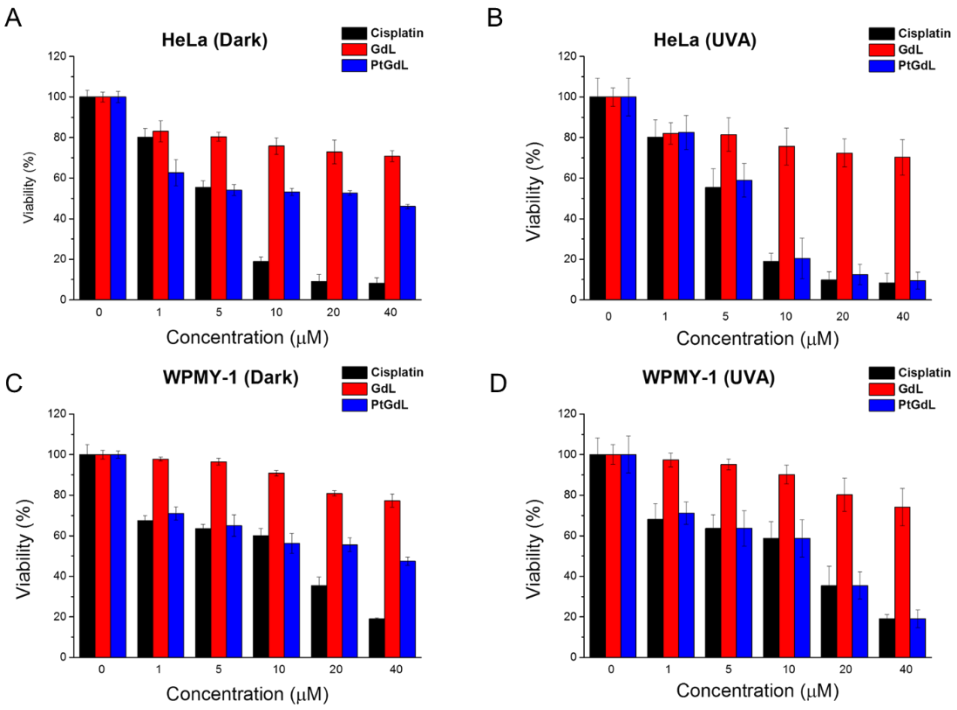

Figure S3. Raw data of MTT dark (A and C) and photo (B and D) cytotoxicity in Table S3.

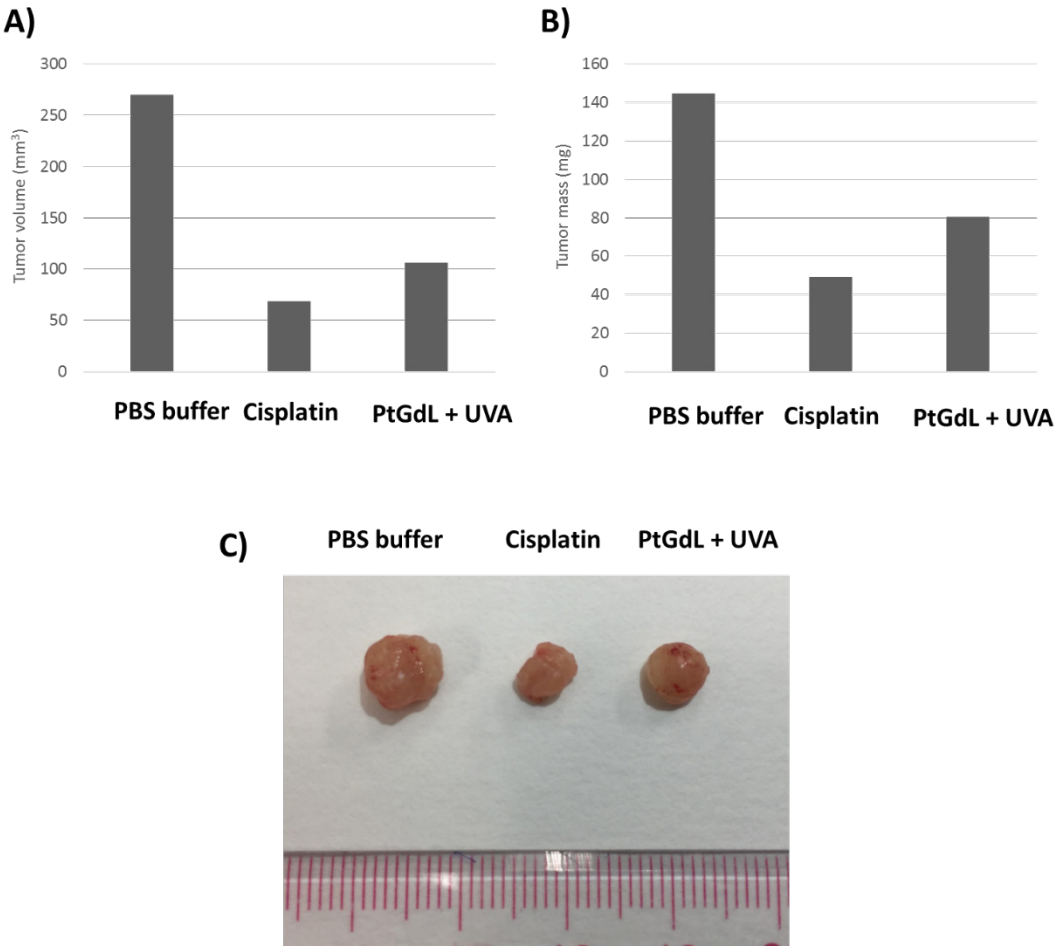

Figure S4. *In vivo* tumor inhibition of **PtGdL** with UVA irradiation. A) The volume, (B) mass and the photograph of the tumor after 14 days treatment of the PBS buffer (control), cisplatin (control) and **PtGdL** + UVA.

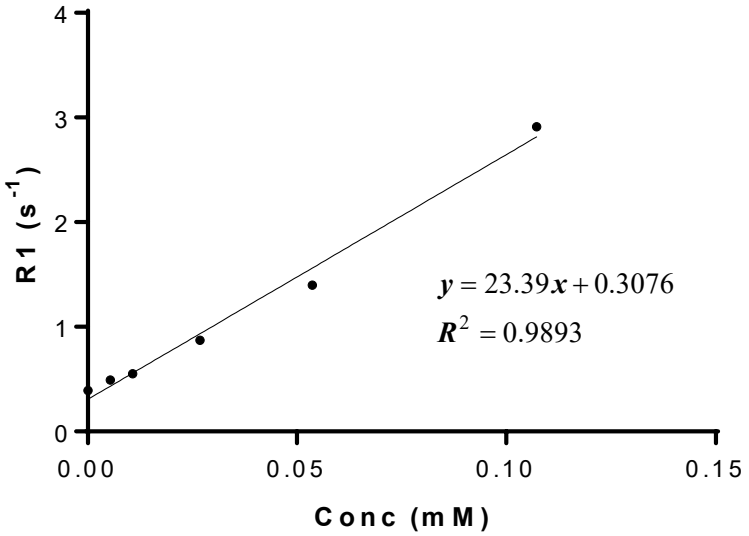

Figure S5. The plot of R_1 versus the concentration of **PtGdL** in aqueous solution. Linear fitting of the data gives a relaxivity of **PtGdL** = 23.4 $mM^{-1}s^{-1}$, at 3T and 25°C.

Table S4. Raw data of the T_1 relativity of **PtGdL** at 3T (25°C) in Figure S4.

Conc.[a] (mol/L)	T_1 (ms) [b] (± SD)	R_1 (s^{-1}) [c]
1.07E-04	343 ± 13	2.91
5.36E-05	713 ± 73	1.40
2.68E-05	1148 ± 25	0.87
1.07E-05	1805 ± 44	0.55
5.36E-06	2047 ± 35	0.49
PBS	2507 ± 45	0.39

[a] The concentration of Gd(III) was corrected by ICP-MS. [b] The longitudinal relaxation T_1 is the average of T_1 values of three slices and SD is the standard deviation, for each sample. [c] The relaxation rate, $R_1 = 1/T_1$.

			Size (d.nm...	% Intensity	Width (d.n...
Z-Average (d.nm):	4252	Peak 1:	671.6	100.0	47.98
PdI:	0.156	Peak 2:	0.000	0.0	0.000
Intercept:	0.577	Peak 3:	0.000	0.0	0.000

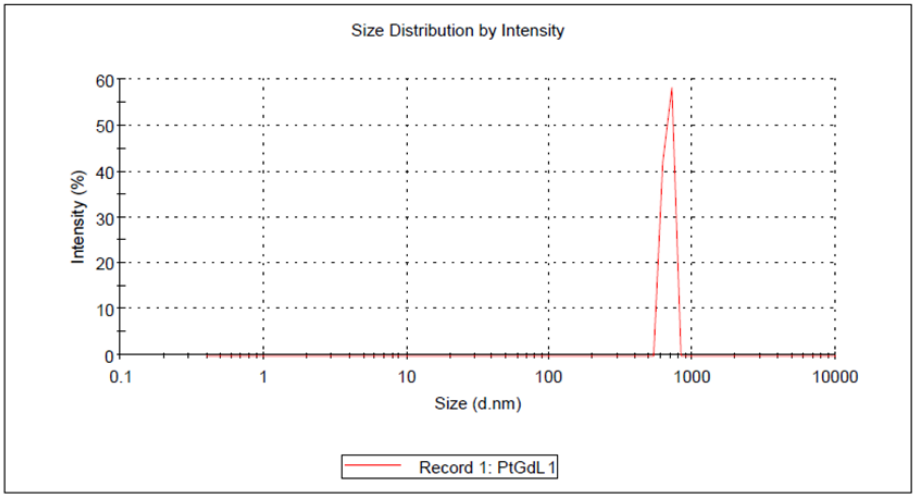

Figure S6. DLS spectrum of **PtGdL** in aqueous solution. The DLS spectrum of **PtGdL** proves that **PtGdL** could form aggregations in aqueous solution.

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