**Electronic Supplementary Informations**

# Bifunctional polypyridyl-Ru(II) complex grafted onto gadolinium-based nanoparticles for MR-imaging and photodynamic therapy.

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**Table S1.** Chemical composition of the nanoparticles

| Element | Gd | Ru | Si | N | C |
|---|---|---|---|---|---|
| Measured quantity (mol) | 1 | 0.0083 | 4 | 5.6 | 24.8 |
| Measured quantity (wt %) | 13.26 | 0.071 | 11.18 | 6.67 | 25.06 |

**Figure S1**: Epsilon value determination for the $[Ru(Phen)_2(PhenCOOH)]^{2+},2PF_6^-$ complex.

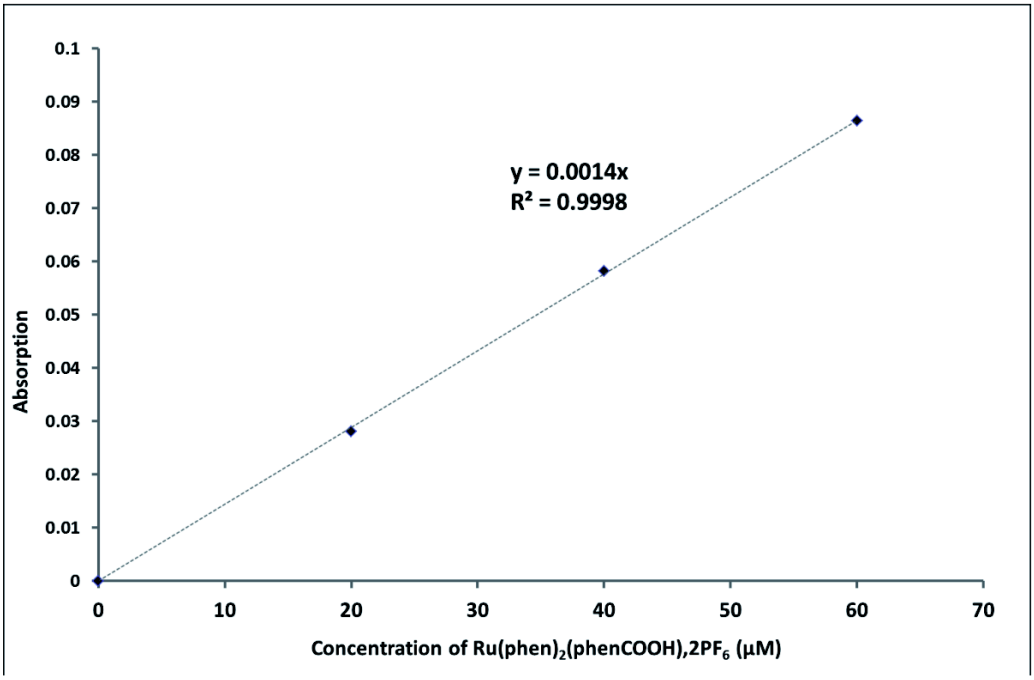


**Figure S2**: Retention spectra of ruthenium complexes by HPLC followed up by emission (black curve).

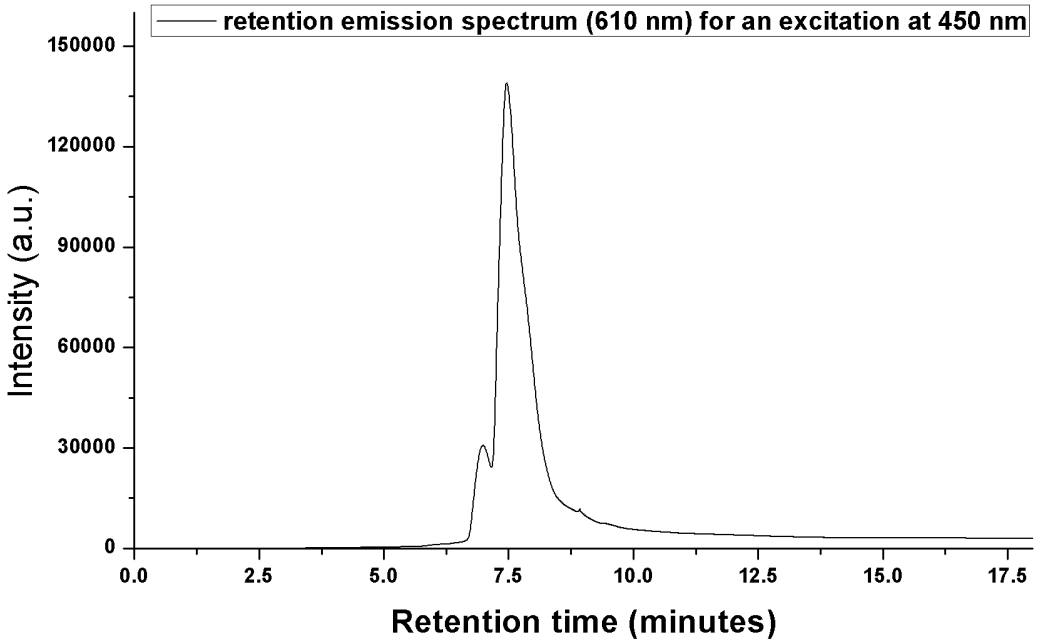
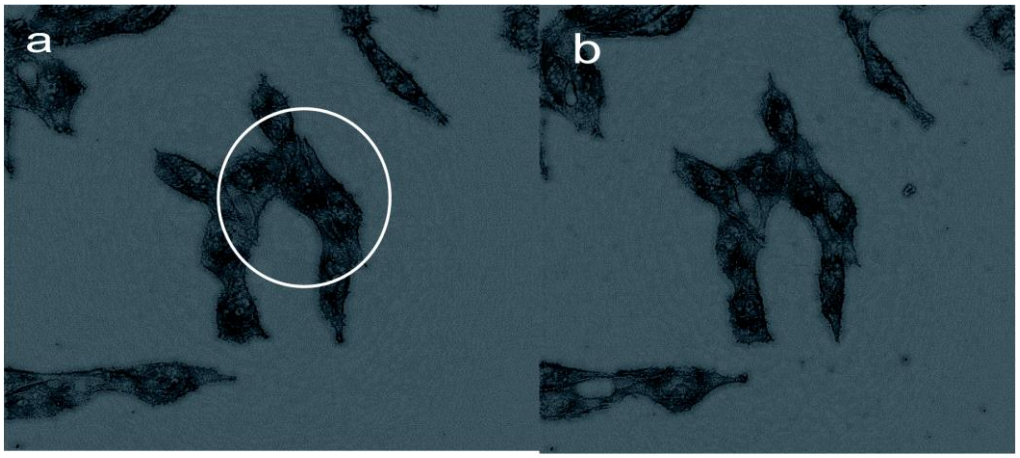



**Figure S3** Irradiation of non-treated cells




Before (a), and after 10 min (b) irradiation and 45 min waiting

**Fig. S4**. Fluorescence cell imaging

Fluorescence imaging revealled no penetration to the nucleus; the ruthenium complex luminescence was detected in the cells cytoplasm.

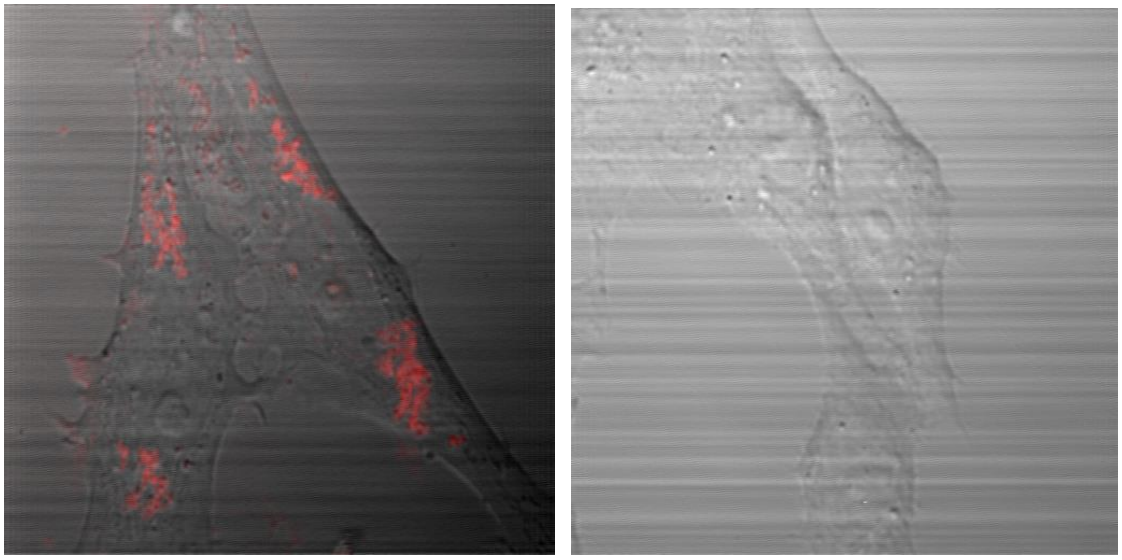
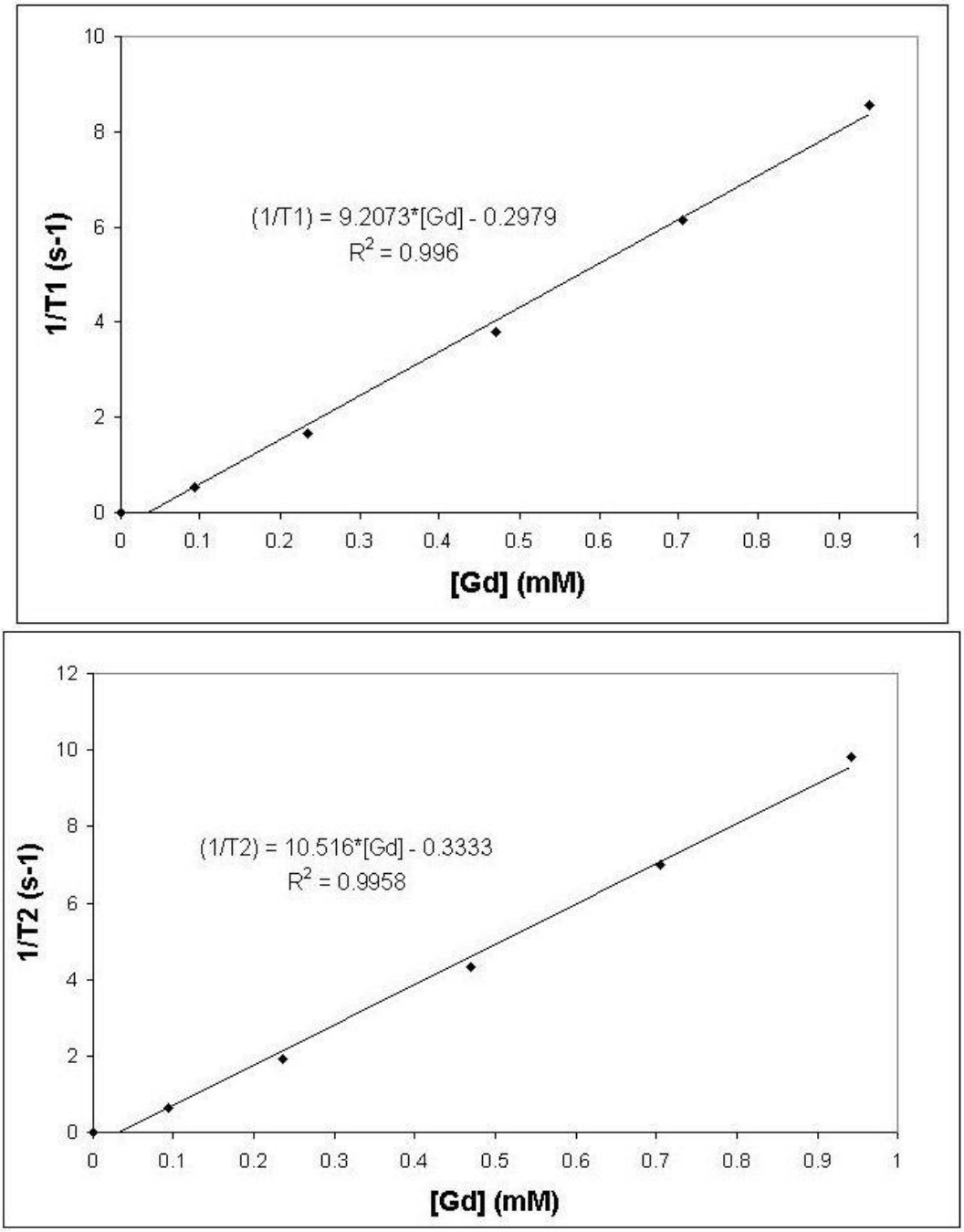


**Figure S5** 1 Plot of $1/T_1$, (up) and $1/T_2$ (down) over Gd concentration of the **GBN-[Ru]** nanoparticles. The slope indicates the specific relaxivities ($r_1$, and $r_2$, respectively).




## References

(1) S. De Feyter, M. M. S. Abdel-Mottaleb, N. Schuurmans, B. J. V. Verkuijl, J. H. van Esch, B. L. Feringa and F. C. De Schryver, *Chem.-Eur. J.* 2004, **10**, 1124.