Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Multiwavelength excitation of photosensitizers interacting with gold nanoparticles and its impact on the optical properties of their hybrid mixtures

Electronic Supplementary Information (ESI)

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Table S1 Energy efficiency transfer and dye-Au nanoparticles distance for different excitation wavelengths calculated based on NSET model in ethanol.

	ϕ_{ET} [%]											
Amount of Au-NPs $\cdot 10^{-10}$ [M]	**Phophorbide *a*** λ_{exc} [nm]						**Hematoporphyrin** λ_{exc} [nm]					
	411	507	523	537	611	668	402	503	523	535	574	624
6.44	8.30	14.60	11.76	13.38	3.91	3.37	9.02	10.71	9.10	12.79	8.11	5.08
8.58	12.18	16.67	16.51	15.44	4.30	4.66	12.01	15.18	13.13	16.28	10.14	7.61
12.9	16.97	24.21	24.31	23.90	6.90	7.34	19.16	24.11	28.71	25.00	16.22	10.41
14.2	18.70	26.47	27.01	27.01	7.92	7.92	21.88	27.54	31.51	29.58	19.03	13.04
15.5	20.95	28.57	28.06	28.57	8.51	8.51	24.24	30.07	32.89	31.51	20.00	14.16
17.2	23.20	32.45	31.15	30.83	9.50	9.32	27.52	34.82	40.69	36.05	23.65	15.74
	R [Å]											
6.44	95.49	90.47	97.77	95.50	142.1	154.6	65.26	69.61	74.26	68.28	80.30	94.89
8.58	85.83	86.97	88.60	91.58	138.7	141.0	60.26	62.99	67.00	63.63	75.52	85.16
12.9	77.89	77.38	78.48	79.97	122.3	125.8	52.49	54.57	52.44	55.61	65.98	78.17
14.2	75.63	75.10	75.75	76.76	117.9	123.3	50.35	52.18	50.73	52.49	62.86	73.32
15.5	73.00	73.14	74.76	75.28	115.6	120.9	48.70	50.59	49.93	51.31	61.89	71.60
17.2	70.65	69.87	72.03	73.27	112.2	118.0	46.66	47.92	45.90	48.76	58.67	69.41

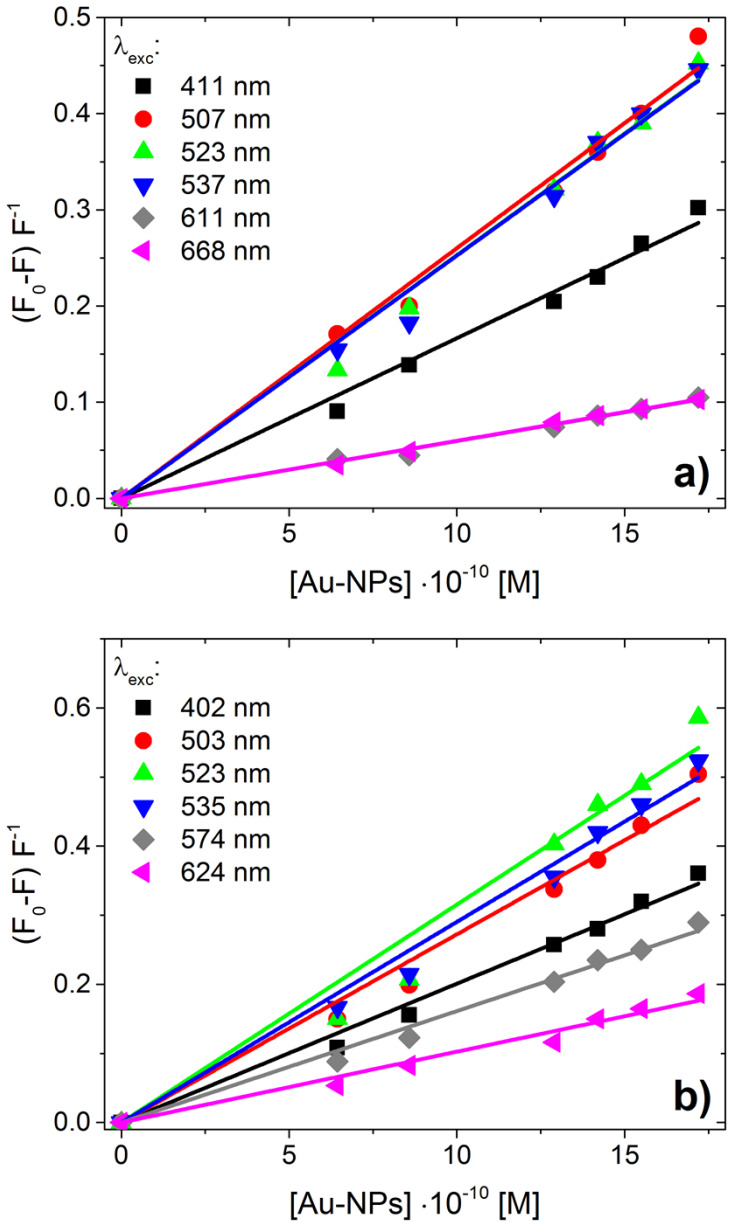

Fig. S1 Stern-Volmer plots for pheophorbide *a* (a), and hematoporphyrin (b) mixed with various concentrations of Au nanoparticles plotted for different excitation wavelengths, $R^2>0.99$.

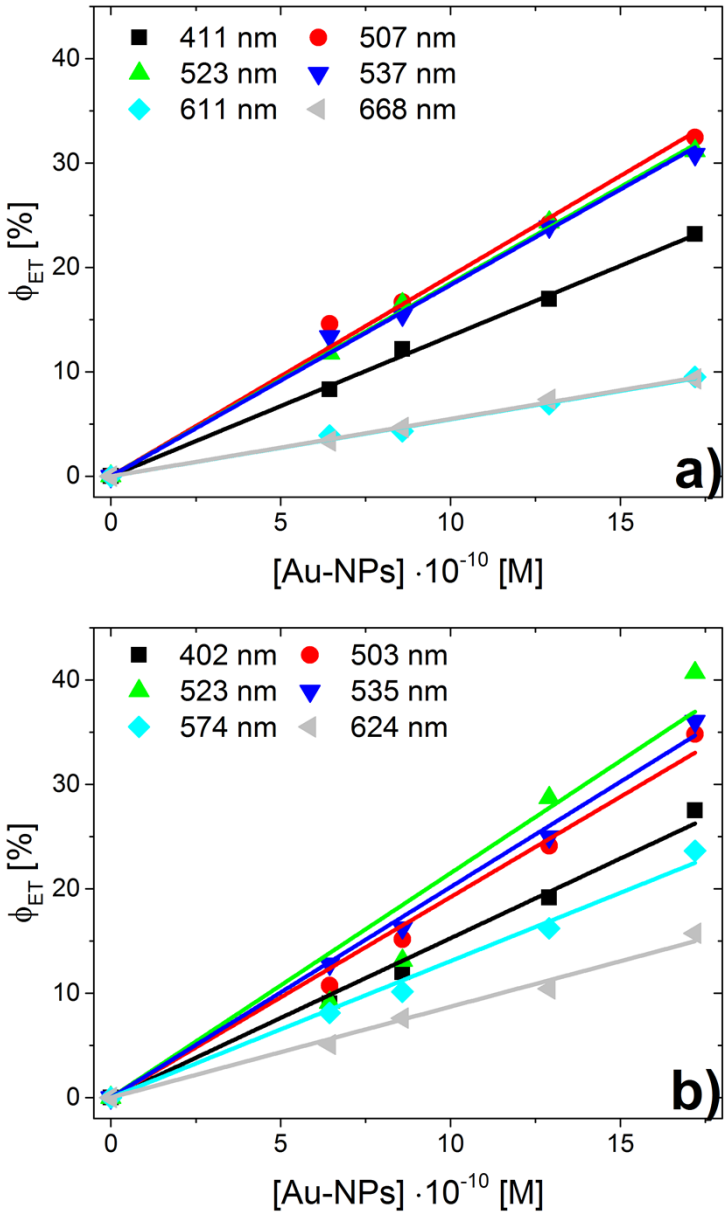

Fig. S2 The energy transfer efficiency *versus* concentration of Au nanoparticles for pheophorbide *a* (a) and hematoporphyrin (b), R^2>0.99.

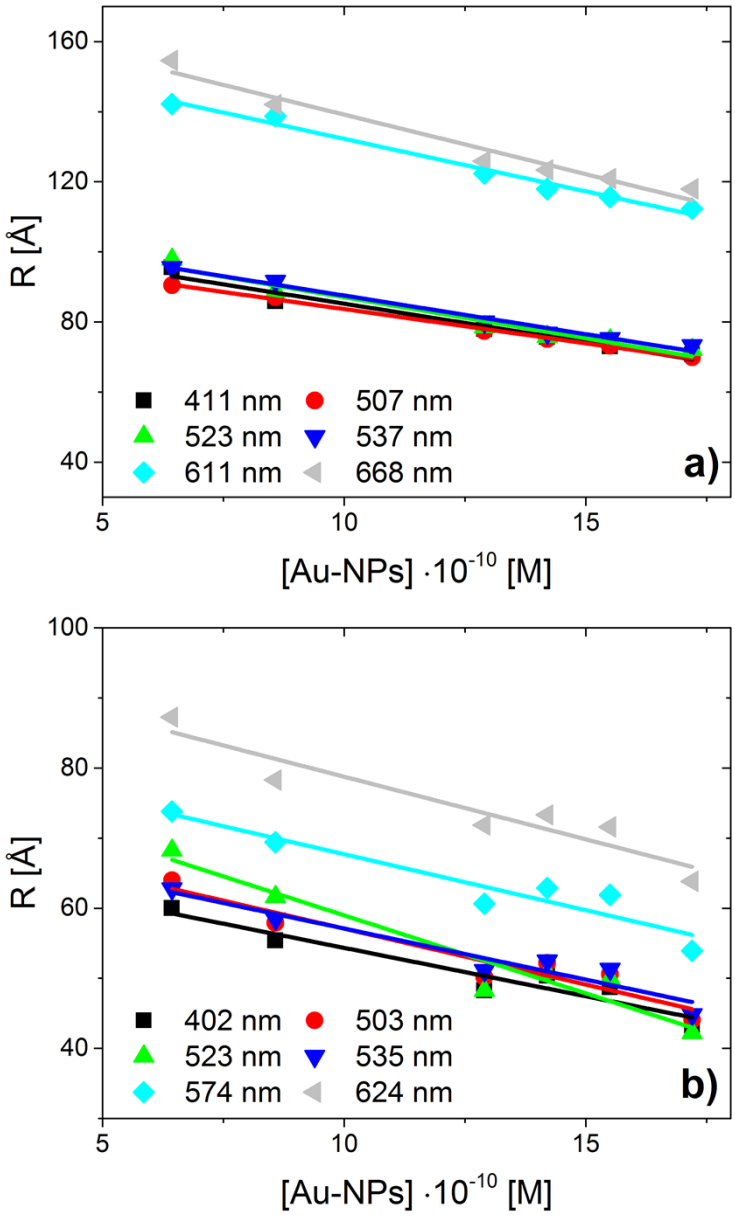

Fig. S3 The distance between the dye and Au nanoparticles evaluated for NSET model *versus* concentration of Au-NPs for pheophorbide *a* (a) and hematoporphyrin (b). The legend the same as in Fig. S1, R^2>0.99.

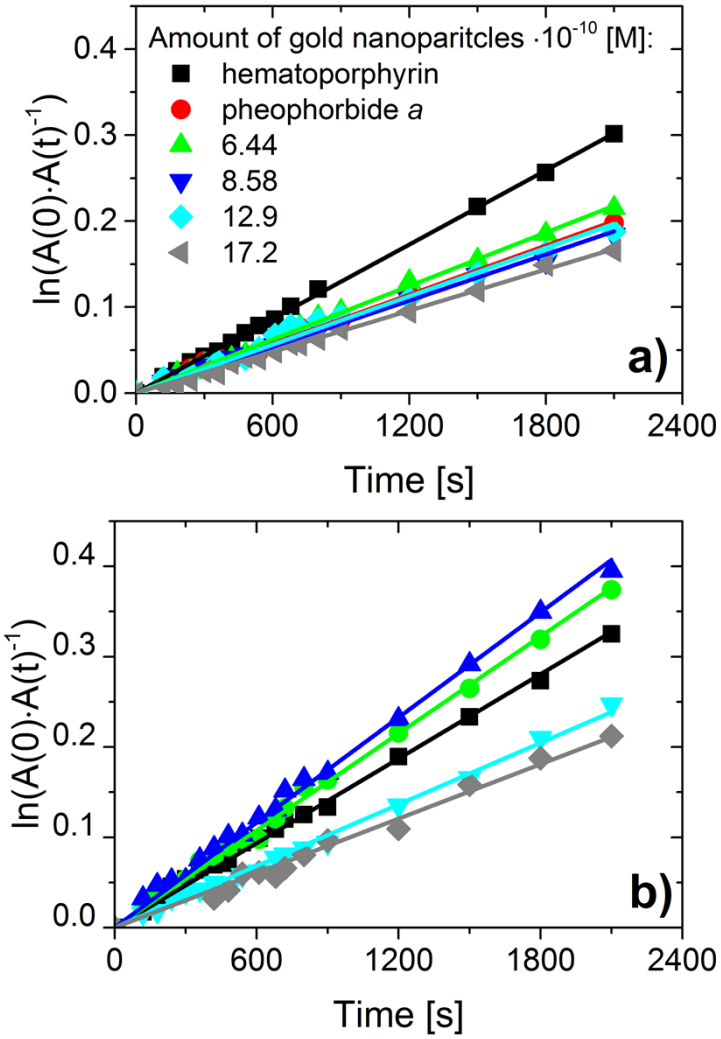

Fig. S4 Plots representing kinetic curves of DPBF decay upon oxidation by reactive oxygen generated during irradiation of pheophorbide *a* (a) and hematoporphyrin (b) for different gold nanoparticles concentrations, R^2>0.99. Plotted for 402 nm irradiation wavelength.