Supplementary Materials

Air-filled bubbles stabilized by gold nanoparticle/ photodynamic dye hybrid structures for theranostics

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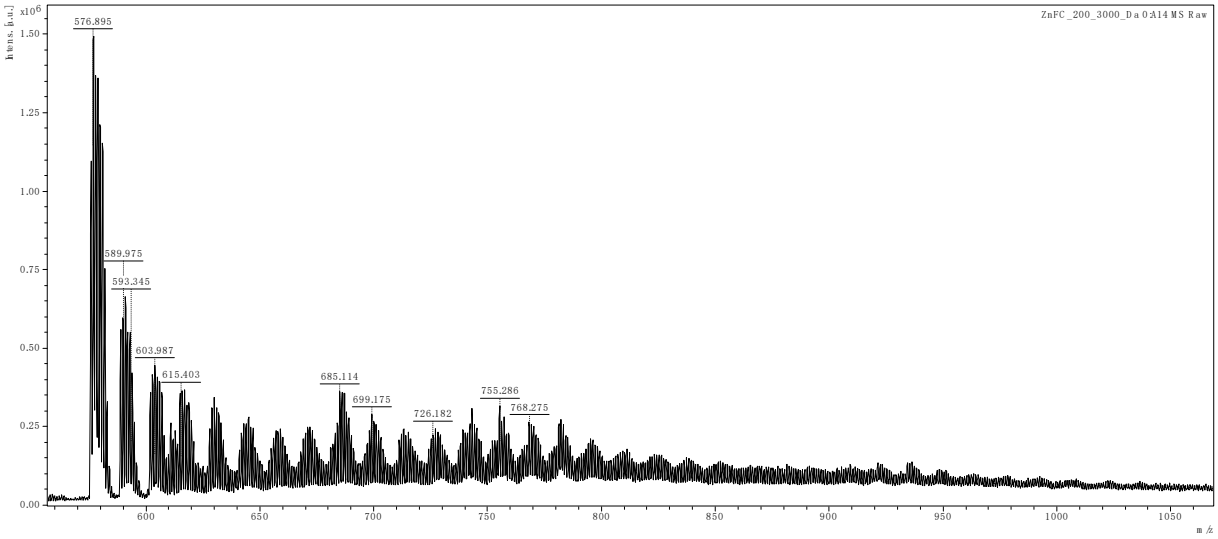

Figure S1. Mass spectrometry measurements for zinc (II) phthalocyanine (ZnPc) used as a dye for microbubbles preparation.

Table S1. Zeta-potential and dynamic light scattering measurements of gold nanoparticles containing samples.

Samples	Zeta-potential measurements (mV)	Mean size obtained with dynamic light scattering measurements (nm)
AuNPs	-49±0.9	15±2
AuNPs coated with BSA	-1±0.4	45±4

Table S2. Zeta-potential measurements of microbubbles-containing samples.

Samples	Zeta-potential measurements (mV)
BSA MBs	-8.4±0.6
BSA-AuNPs MBs	-6.0±0.6
BSA-ZnPc MBs	-6.2±1.0
BSA-ZnPc-AuNPs MBs	-5.3±0.9
BSA-ICG MBs	-6.6±0.9
BSA-ICG-AuNPs MBs	-4.8±0.2

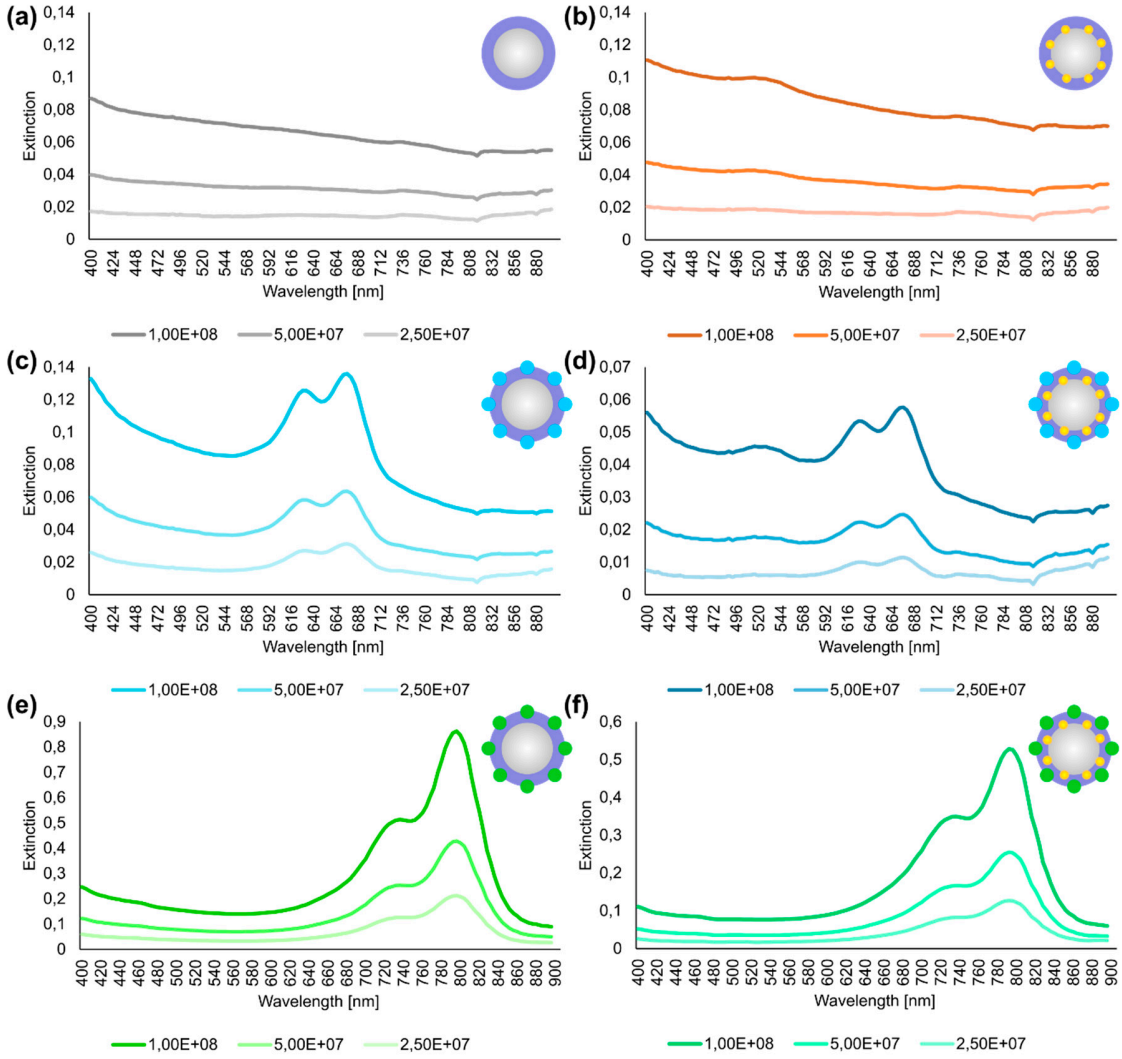

Figure S2. Extinction spectra of obtained bubbles: a) microbubbles with BSA only shell (BSA MBs), b) microbubbles with the BSA shell stabilized with gold nanoparticles (BSA-AuNPs MBs), c) microbubbles with the BSA shell functionalized with ZnPc (BSA-ZnPc MBs), d) microbubbles with the BSA shell functionalized both with ZnPc and gold nanoparticles (BSA-ZnPc-AuNPs MBs), e) microbubbles with the BSA shell functionalized with ICG (BSA-ICG MBs), f) microbubbles with the BSA shell functionalized both with ICG and gold nanoparticles (BSA-ICG-AuNPs MBs). All samples presented in Figure were diluted with concentrations 10^8, $5*10^7$ and $2.5*10^7$ probes / mL.

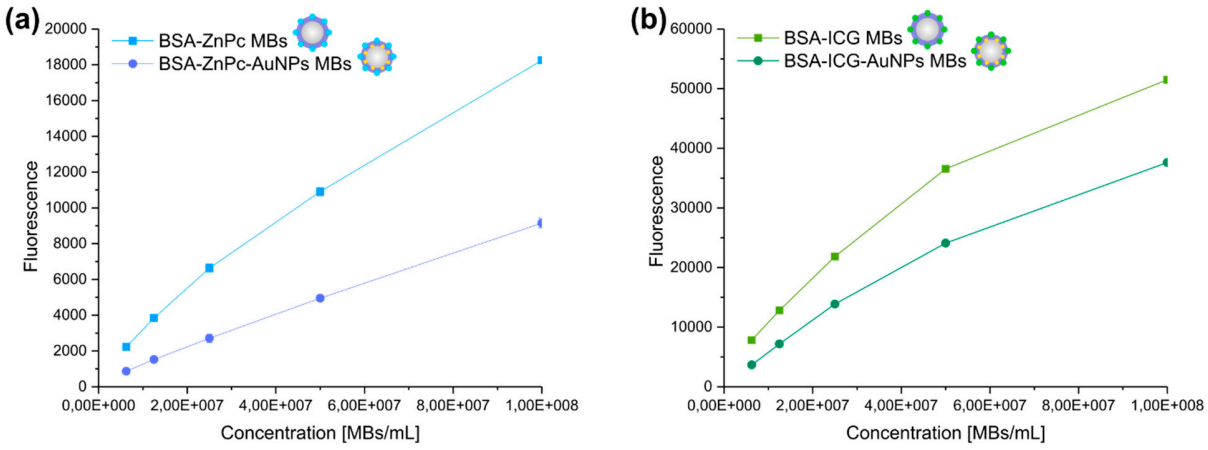

Figure S3. Fluorescence dependence on concentration for obtained microbubbles: a) BSA-ZnPc MBs (light blue line and dots) and BSA-ZnPc-AuNPs MBs (dark blue line and dots) at the wavelength of 700 nm, b) BSA-ICG MBs (light green line and dots) and BSA-ICG-AuNPs MBs (dark green line and dots) at the wavelength of 830 nm. All samples presented in Figure were diluted with concentrations 10^8, $5*10^7$, $2.5*10^7$, $1.25*10^7$ and $6.25*10^6$ microbubbles / mL.