Supplementary Material

PEG-modified upconversion nanoparticles for \textit{in vivo} optical imaging of tumors

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\textbf{Supplementary Information 1 (SI-1).} Colloid stability of modified UCNPs in \( \nu \) PBS buffer, pH 7.0, was confirmed by dynamic light scattering (DLS) measurements. No significant differences in sizes of modified UCNPs was observed over 2 months (Fig. SI-1)

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{SI-1.png}
\caption{Diameters of UCNPs modified with PMAO and with PMAO followed by PEG-DGE cross-linking at 0.1 and 0.6 mg/ml concentrations vs. time.}
\end{figure}

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Fig. SI-1.1. A cuvette with UCNPs-PMAO in PBS buffer, pH 7.0, exhibiting high transparency of the solution (left) and uniform blue emission at the 975 nm excitation laser beam (right). UCNP concentration is 0.5 mg/ml.

Supplementary Information 2 (SI-2). Viability of human dermal fibroblasts incubated with the obtained UCNP probes at the 0.1 mg/ml concentration of NPs for 24 h at 37 °C (Fig. SI-2).

Fig. SI-2. Cell viability of fibroblasts after incubation with UCNPs modified with PMAO and with PMAO followed by PEG-DGE cross-linking at 0.1 and 0.6 mg/ml concentrations.