

SUPPLEMENTARY INFORMATION

Toxicological profiling and long-term effects of bare, PEGylated-and galacto-oligosaccharide-functionalized mesoporous silica nanoparticles

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Methods

Release assays

Delivery experiments were carried out with the capped materials MSNs-PEG and MSNs-GAL. 1 mg of MSNs-PEG was dissolved in distilled water and divided into two Eppendorf tubes, to one of which was added GSH (final concentration of 10 mM). 1 mg of MSNs-GAL was dissolved in distilled water at pH 4.5 and divided into two Eppendorf tubes, to one of which was added β GAL (final concentration of 3.5 mg/mL). The suspensions were then stirred, and some aliquots were separated and centrifuged at different times. Dye delivery was monitored through the emission band of Safo or RhoB, centered at 585 nm ($\lambda_{\text{exc}} = 520$ nm) or 575 nm ($\lambda_{\text{exc}} = 555$ nm), respectively.

Figures

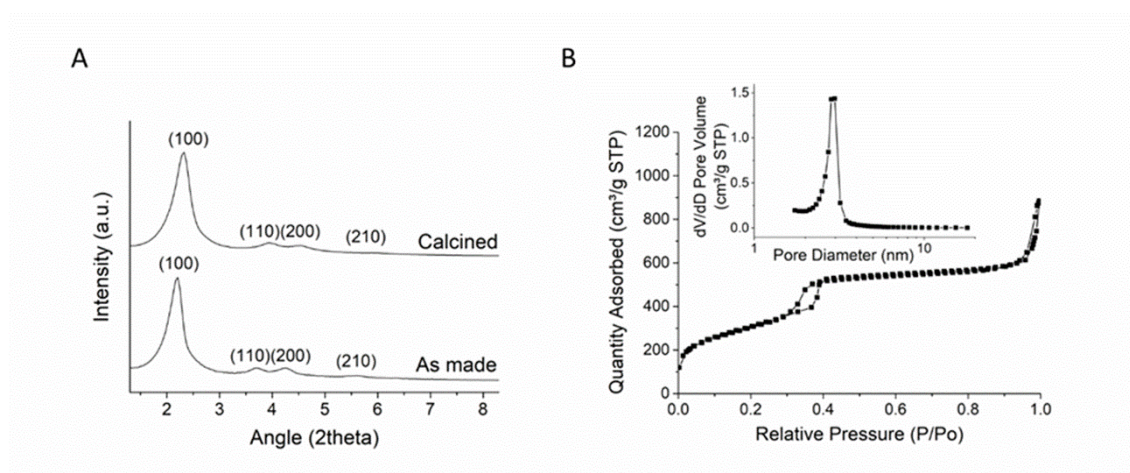


Figure S1. Characterization of structure and mesoporosity of bare MSNs under PXRD and N₂ adsorption–desorption isotherms. (A) Diffractograms for bare MSNs, both as

made and calcined samples. (B) N₂ adsorption–desorption isotherms for bare MSNs. Inset: pore-size distribution.

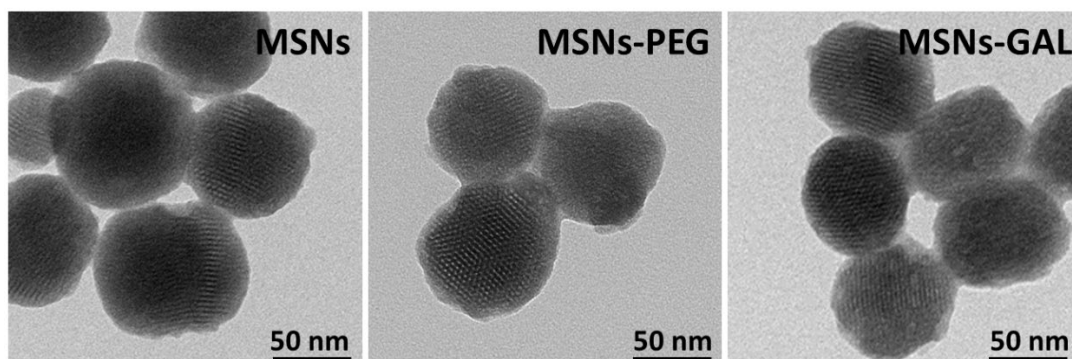


Figure S2. Representative TEM images for bare MSNs, MSNs-PEG and MSNs-GAL.

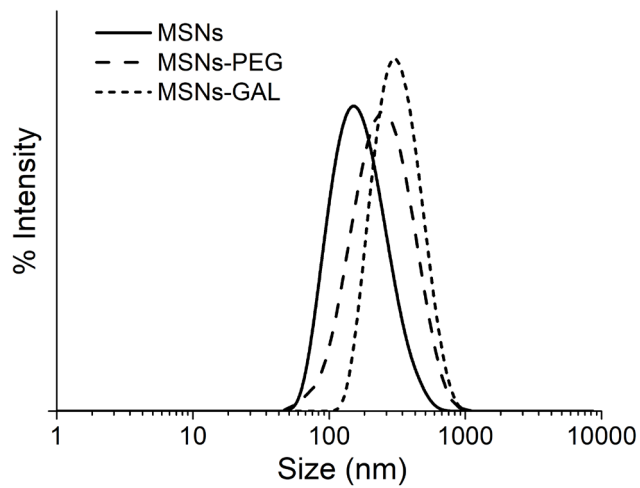


Figure S3. Dynamic light scattering (DLS) curves of bare MSNs, MSNs-PEG and MSNs-GAL.

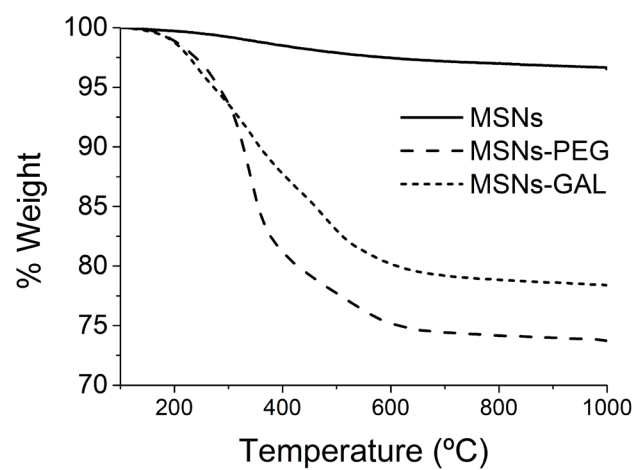


Figure S4. Thermogravimetric assay (TGA) curves of bare MSNs, MSNs-PEG and MSNs-GAL.

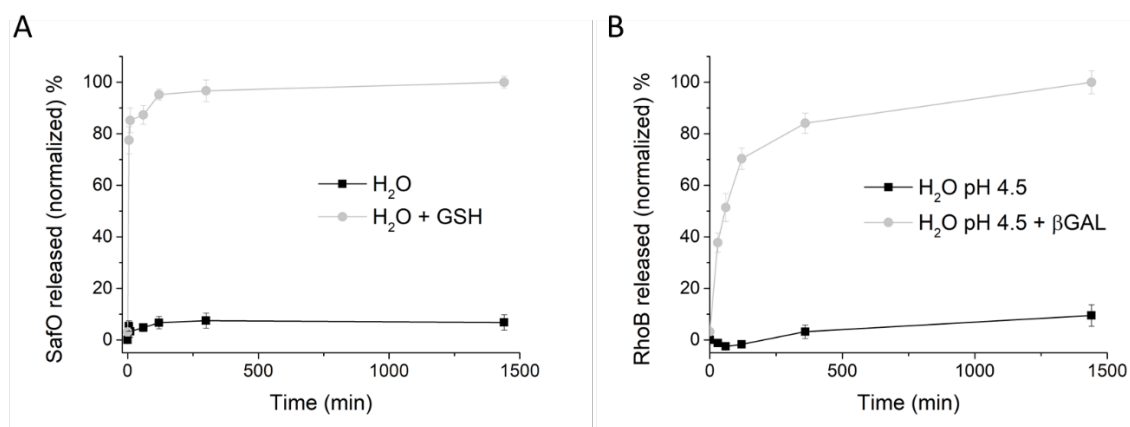


Figure S5. Controlled release assays monitoring curves.