Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Supporting information

Silica@proton-alginate microreactors: a versatile platform for cell encapsulation

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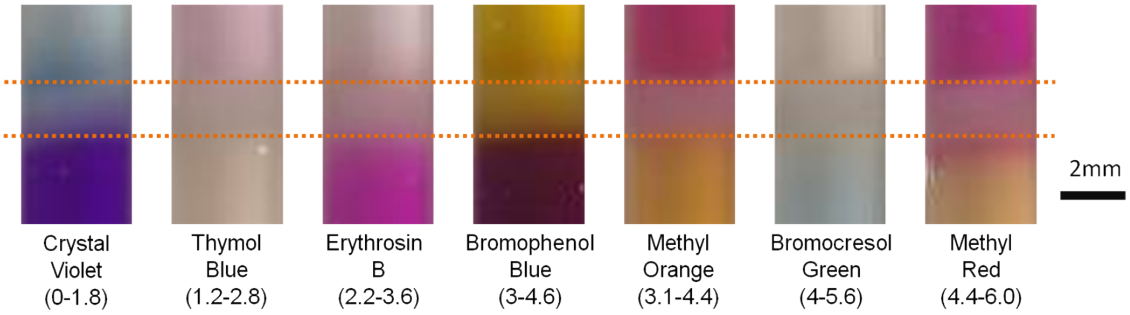

Figure S1. Digital images of samples after 21 min-long diffusion of proton (HCl 0.17M) through Na-Alg 3% wt in the presence of different acid-base indicators.

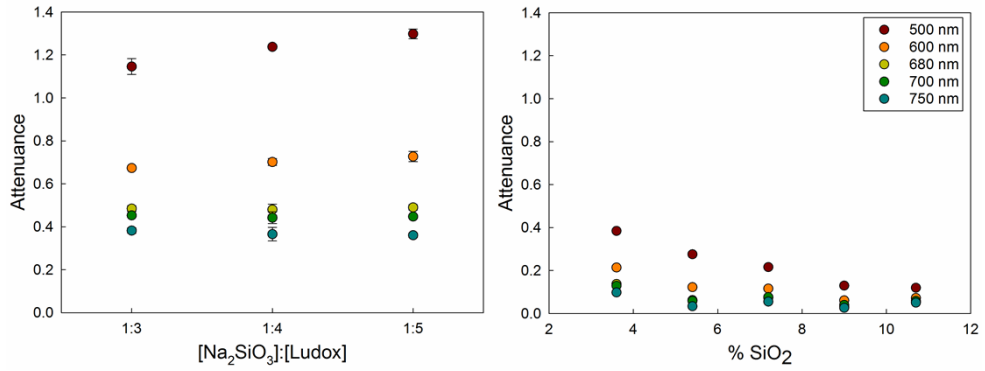

Figure S2. Attenuance of SL gels with 10.7% wt total SiO_2 content prepared with different silicate:Ludox mole ratios and a 10.7% wt total SiO_2 content (left) and TAFR gels with different total SiO_2 content (right) recorder at representative wavelengths.

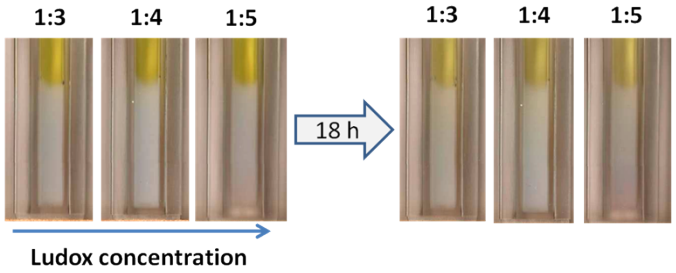

Figure S3. SL hydrogels with 10.7% total SiO_2 and increasing Na_2SiO_3:Ludox® concentration left in contact with 0.5 mL of $HAuCl_4$ 0.02M. Images of the hydrogels at initial time and 18 h are shown. After two weeks, no further reduction was observed.

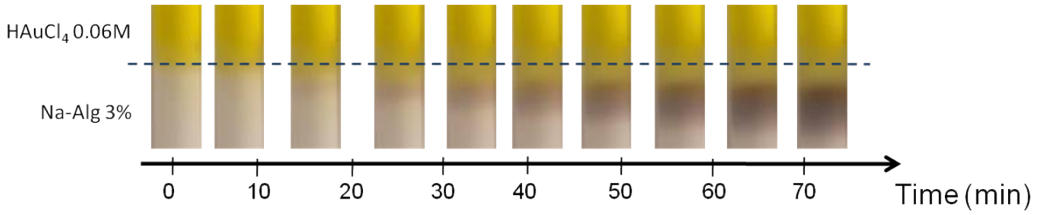

Figure S4. Digital image of $HAuCl_4$ 0.06 M solution diffusing towards Na-Alg 3% wt.

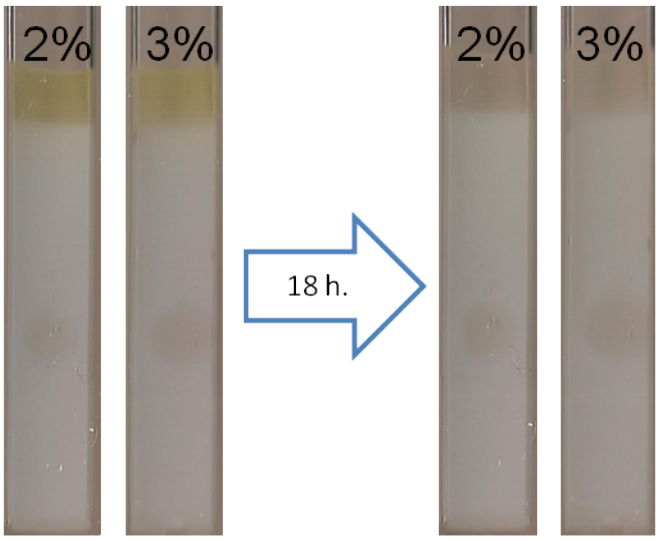

Figure S5. Digital image of $HAuCl_4$ 0.06 M solution diffusing towards SL 1:3 hydrogels loaded with H-Alg (2 and 3%).

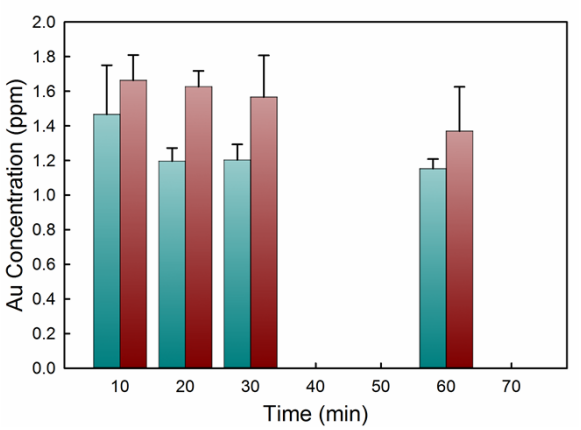

Figure S6. Total Au(III) concentration in alginate gels (2% wt, blue; 3% wt, red) exposed to $HAuCl_4$ 0.01 M for increasing times.

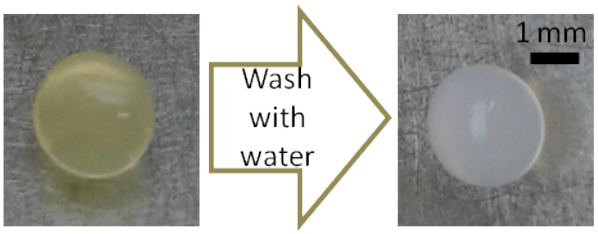

Figure S7. Image of an alginate gel exposed to $HAuCl_4$ 0.02 M for 5 minutes (left) and after washing in pure water (right).

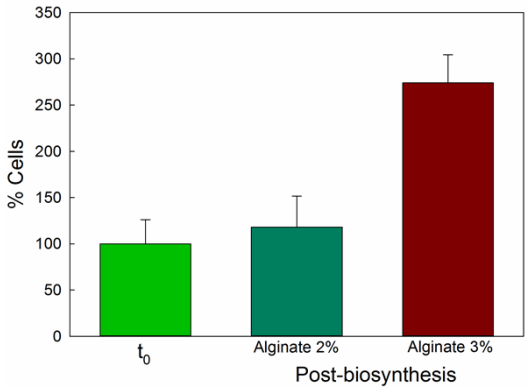

Figure S8. Viability of *C. vulgaris* entrapped in SL hydrogels (Silicate:Ludox® 1:3) and H-Alg (2-3%), after exposure to $HAuCl_4$ 0.02M for 72h.

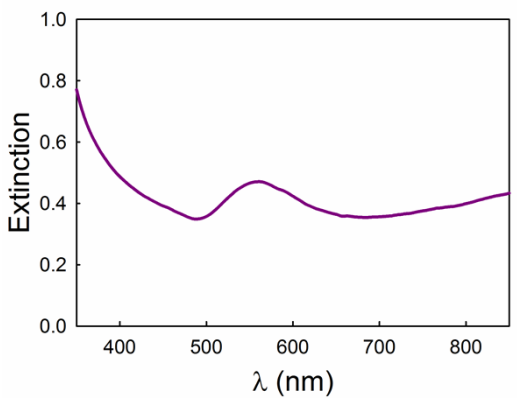

Figure S9. UV-Vis absorption of Au nanoparticles obtained from SL hydrogel loaded with a *C. vulgaris* culture (7×10^4 cells/mL) exposed to a nominal $HAuCl_4$ 10^{-3} M for 24 h.