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

Supporting information

Core-shell alginate@silica microparticles encapsulating probiotics

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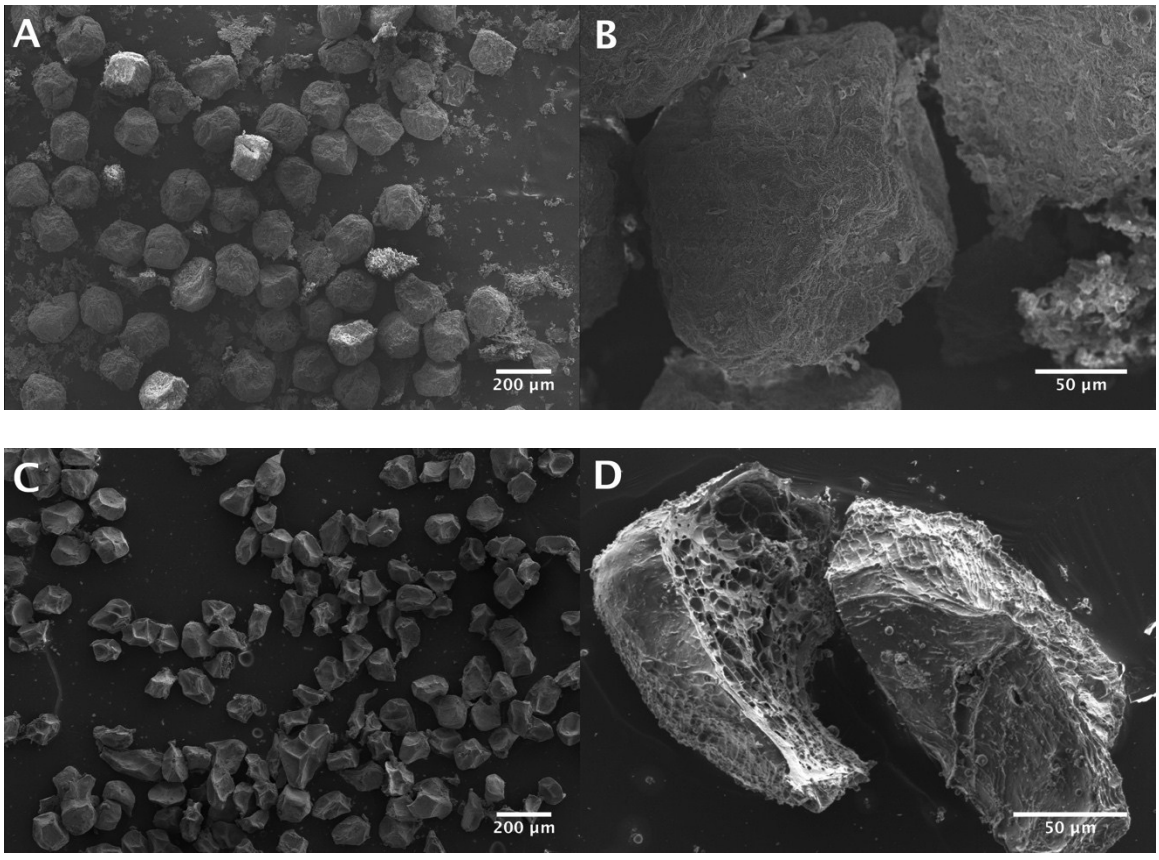
Table SI1: Sizes of alginate before and after coating for organic and aqueous medias.

SYSTEMS	Alginate (H_2O)	Alginate (tris)	C_wS_{org}	$C_{tris}S_{org}$	C_wS_{aq}	$C_{tris}S_{aq}$
Average sizes*	225 ± 15 µm	229 ± 14 µm	238 ± 20 µm	210 ± 18 µm	233 ± 11 µm	238 ± 19 µm

*Average on 300 beads for 3 individual experiments



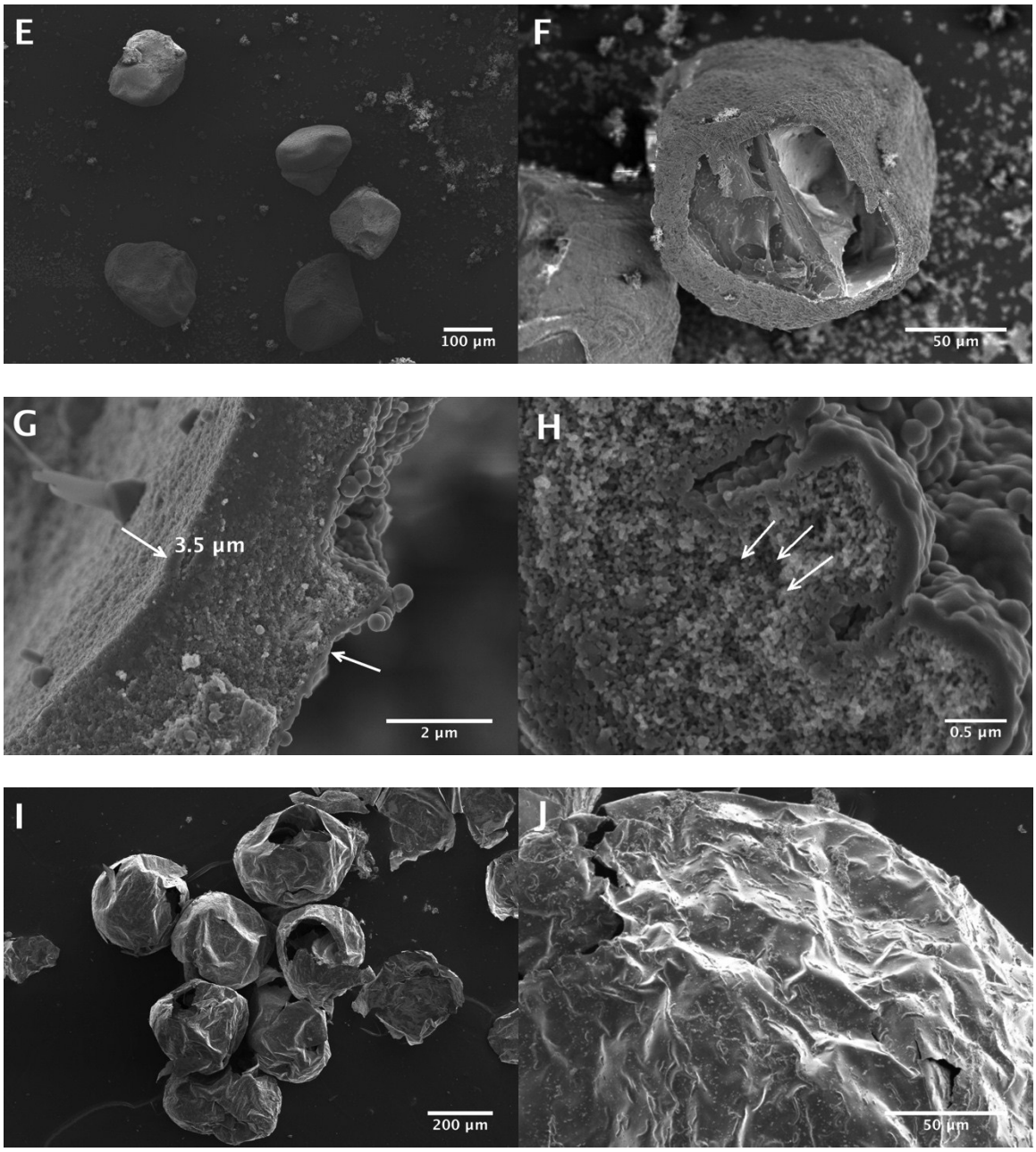


Figure SI1: Additional SEM images of core shell microparticles prepared with various reaction conditions. A,B: C_wS_{org}; C,D: $C_{tris}S_{org}$; E,F,G,H: C_wS_{aq}; I,J: $C_{tris}S_{aq}$. On image G, one can observe the shell thickness and on image H, the grainy and porous structure of the silica shell.

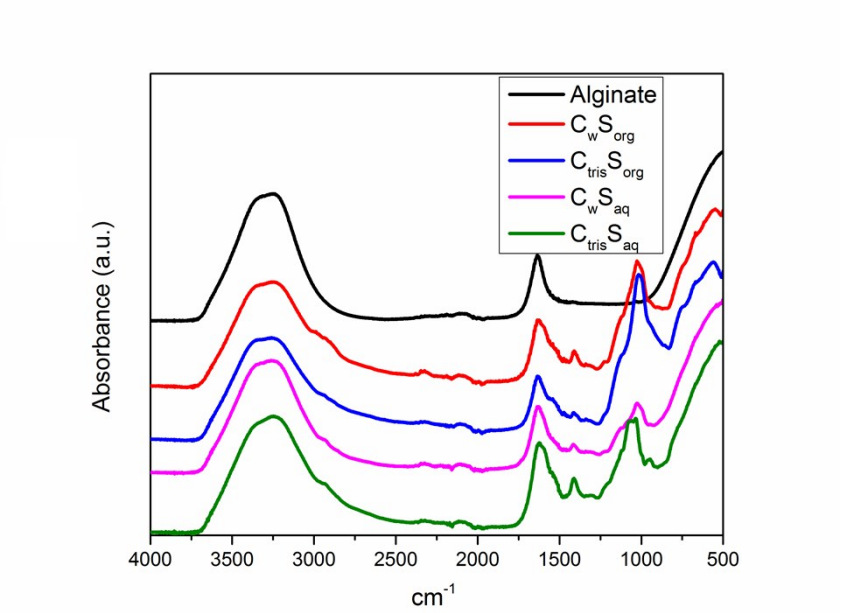


Figure SI2: FTIR-ATR spectra of alginate beads and of silica coated alginate beads confirming both the presence of alginate in the core-shell beads (ν_{COO^-} = 1410, 1612 cm^{-1}) and of silica ($\delta_{Si\text{-}O}$ 990-1100 cm^{-1})

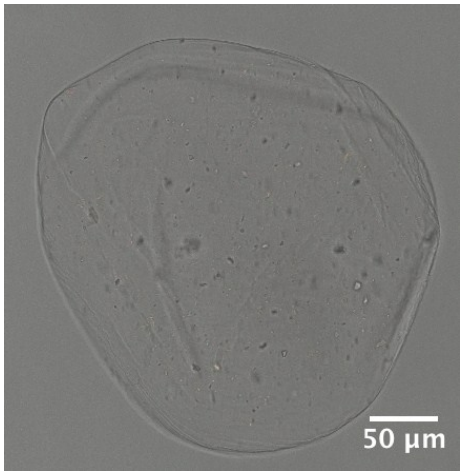


Figure SI3: CLSM image of silica coated alginate bead free of LGG. The size and the shape of the beads are similar to the one containing bacterial cells

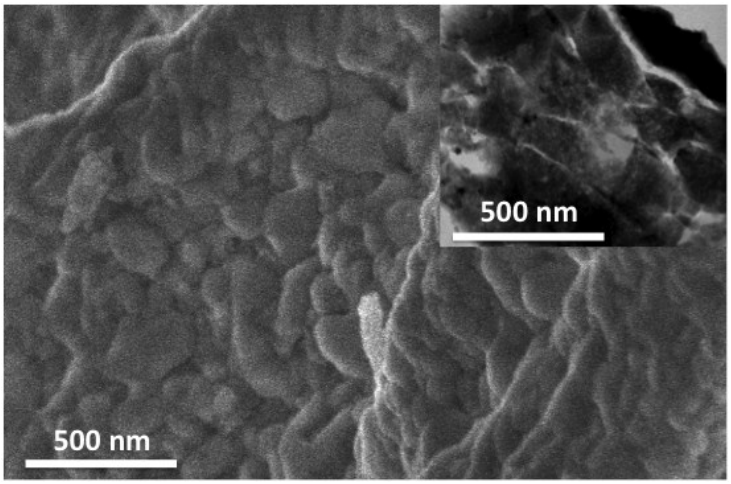
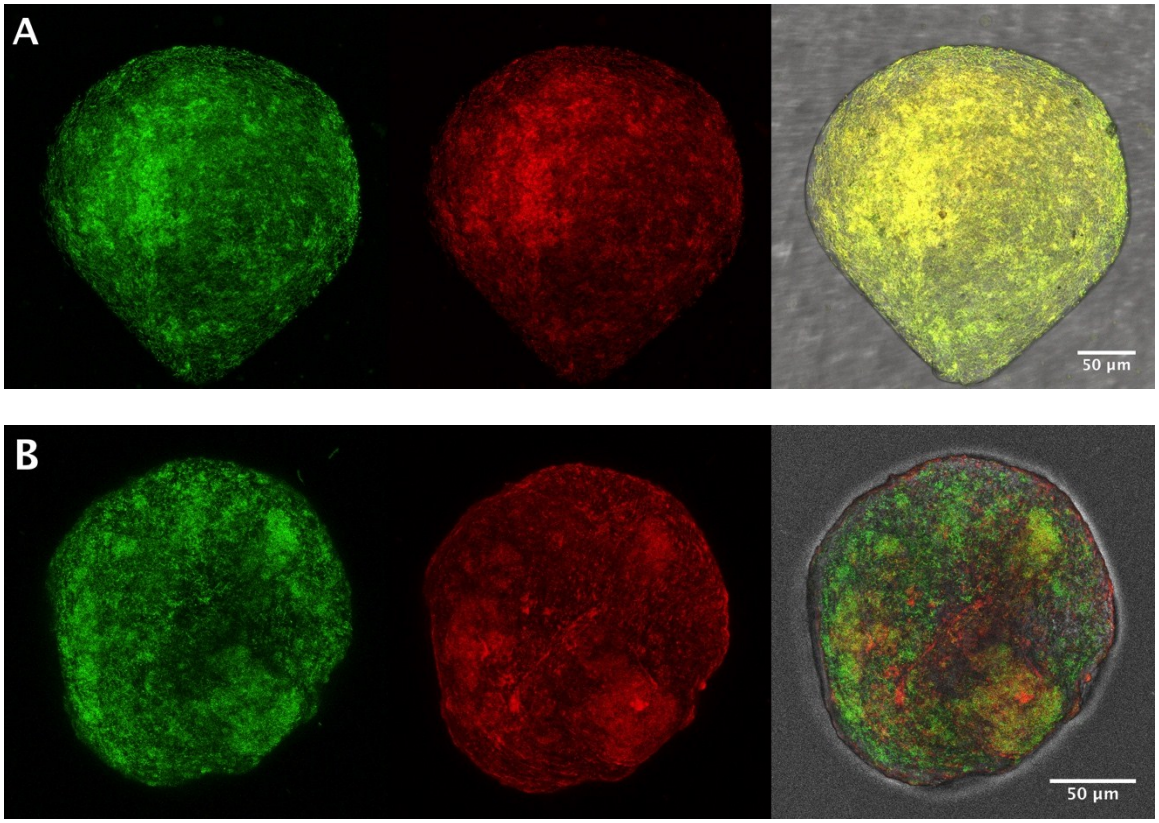


Figure SI4: SEM and (insert) TEM micrographs of the coated alginate beads obtained in aqueous media in the absence of surfactants.



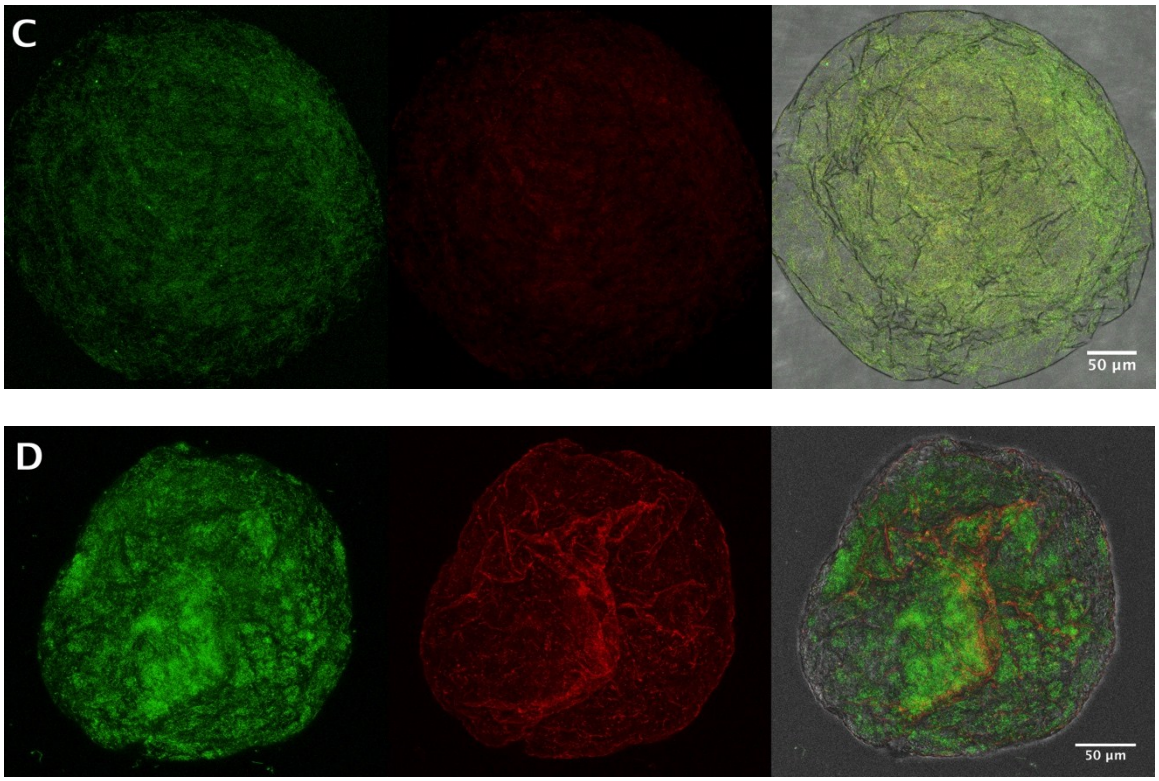


Figure SI5: Confocal images of green, red and transmission channels for: A: $C_{tris}S_{org}$, B: $C_{tri}S_{org}$ after 60h exposure to MRS, C: $C_{tris}S_{aq}$, D: $C_{tris}S_{aq}$ after 60h exposure to MRS.