Electronic Supplementary Information

Analysing Intracellular Deformation of Polymer Capsules Using Structured Illumination Microscopy

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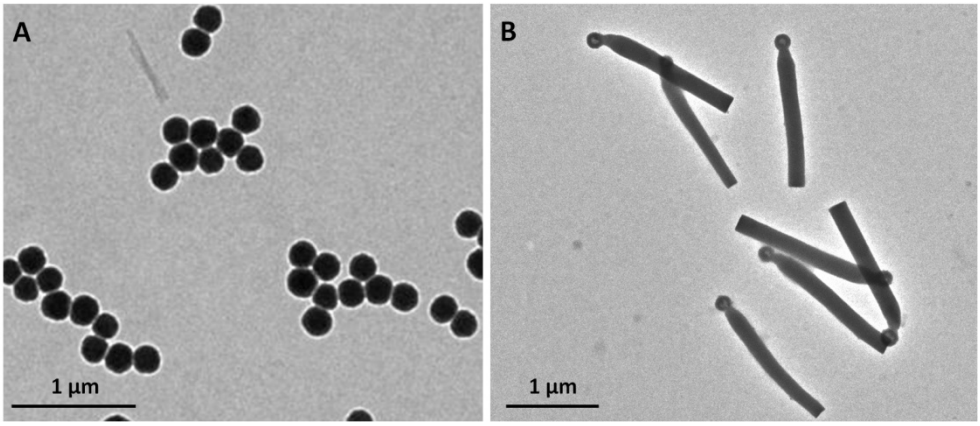

Fig. S1. TEM images of SiO_2 template particles: (A) spherical SiO_2 particles, *D*=235 (±30) nm; (B) cylindrical SiO_2 particles, 1550 (±120) × 150 (±30) nm. At least 150 particles were examined.

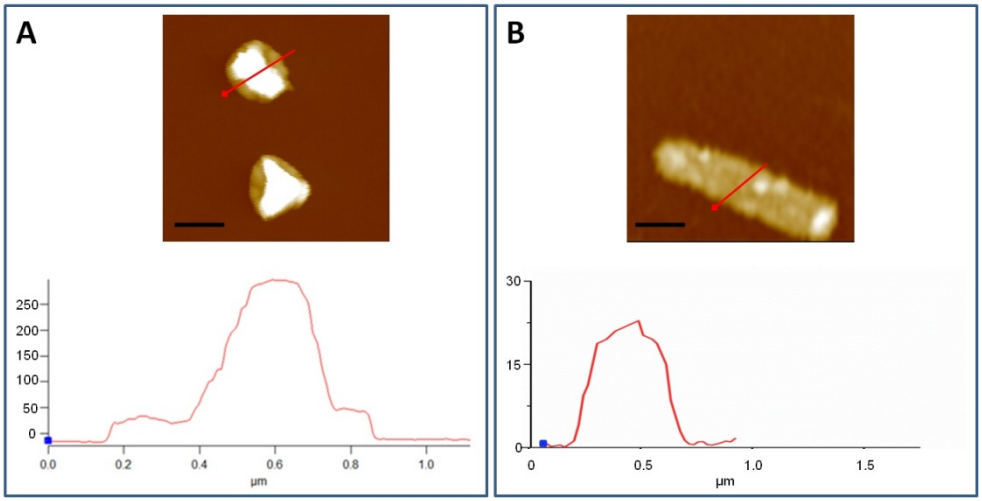

Fig. S2. AFM height profiles of PMA_{SH} capsules: (A) spherical capsules and (B) cylindrical capsules. Scale bars are 0.5 µm. At least 30 capsules were examined.

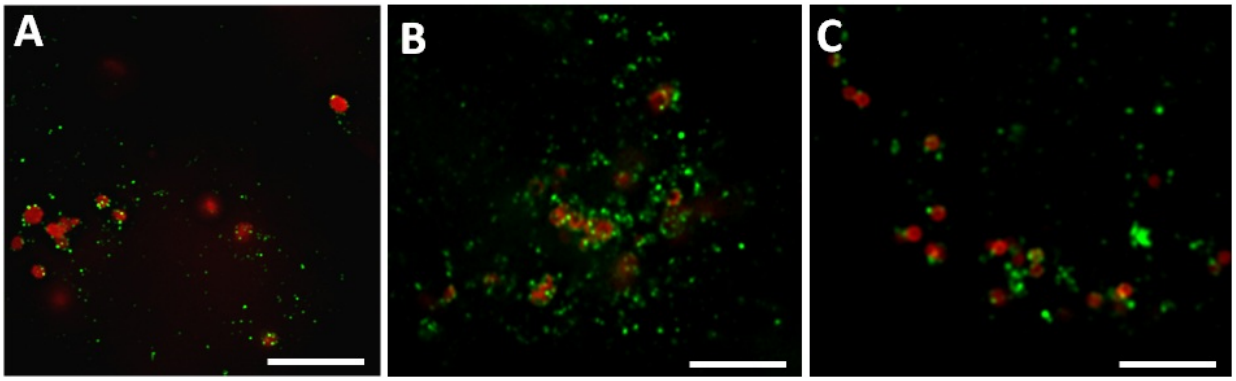

Fig. S3. SIM images of the cellular co-localisation of AF633-fluorescently labelled spherical PMA_{SH} capsules (red) inside (A) HeLa, (B) RAW and (C) dTHP-1 cells. After 24 h incubation, the cells were immunostained with anti-LAMP 1 antibody (green), which binds to lysosomes. Images represent a single z-plane image of cells. Scale bars are 3 μm.

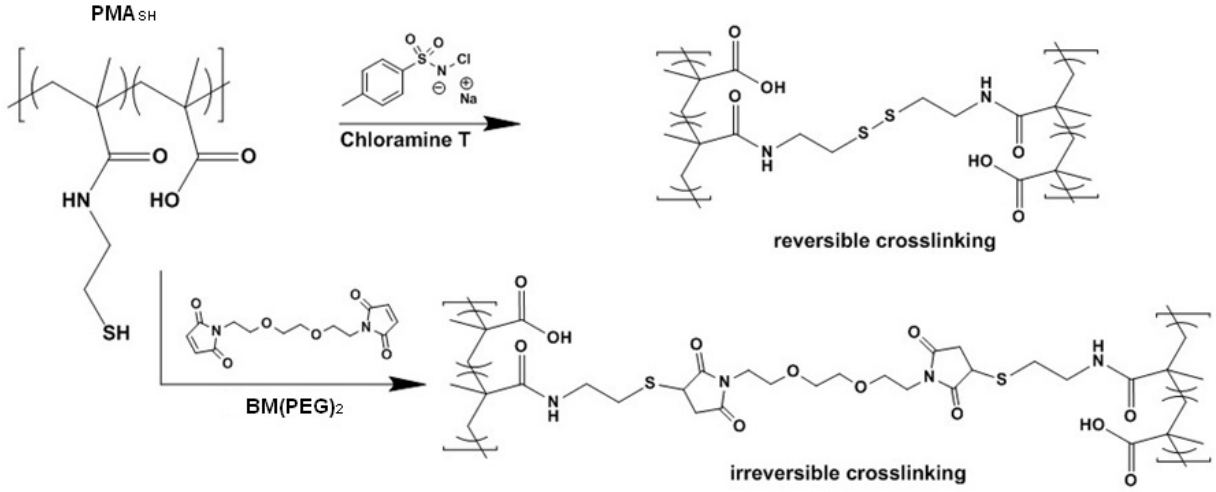

Fig. S4. Covalent crosslinking of PMA_{SH} polymer layers with different linking chemistries: (top) crosslinking of degradable disulfide bonds with chloramine T and (bottom) crosslinking of non-degradable thioether bonds with $BM(PEG)_2$.

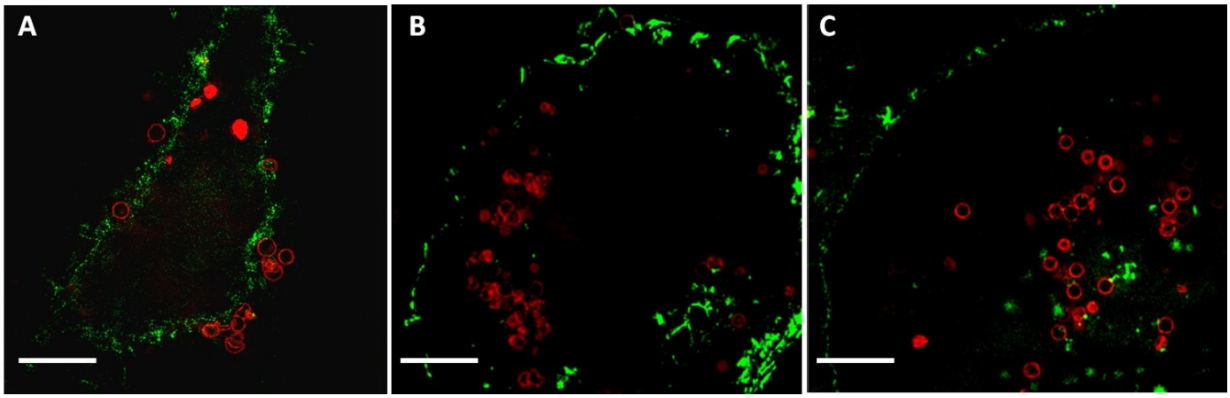

Fig. S5. SIM images of spherical non-degradable PMA_{SH} capsules (red) in (A) HeLa, (B) RAW, and (C) dTHP-1 cells after 24 h incubation at 37 °C, 5% CO_2. Images represent a single z-plane image of cells. Cell membranes were stained with AF488 WGA (green). Scale bars are 2.5 μm.