Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B. This journal is © The Royal Society of Chemistry 2019

Supplementary Information

## Injectable colloidal hydrogel with mesoporous silica nanoparticles for

sustained co-release of microRNA-222 and aspirin to achieve

innervated bone regeneration in rat mandibular defects

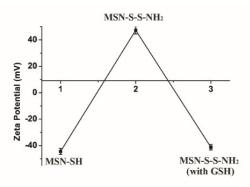
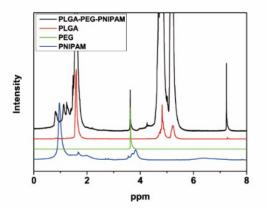


Figure S1. Different surface charge of MSNs modified with thiol, amino and with the presence of GSH that is in consonance with their each



functional component function.

Figure S2. Nuclear magnetic resonance (NMR) showing characteristic proton signals of of PEG, PNIPAM and PLGA, revealing successful formation of the triblock copolymer.

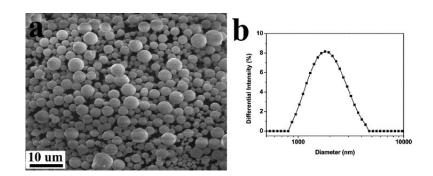


Figure S3. Scanning electron microscopy (SEM) image showed the spherical morphology of the prepared microspheres, and dynamic light scattering (DLS) indicated that the diameter of the microsphere was about  $2 \mu m$ .

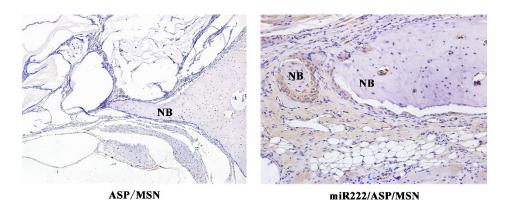


Figure S4. Immunohistochemical staining of CGRP in the MSN/ASP and miR222/MSN/ASP groups.