

Anisotropic Microparticles for Differential Drug Release in Nerve Block Anesthesia

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SUPPLEMENTARY FIGURES

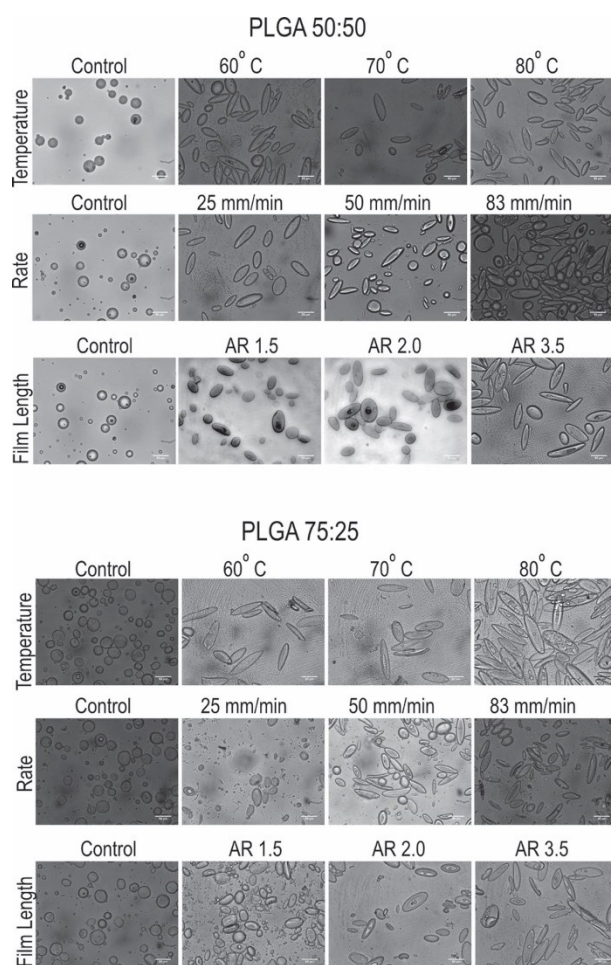


Figure S1. Representative bright field images of drug-free microparticles extracted from PVA films that were exposed to varying temperature, stretching rate, and stretch-length

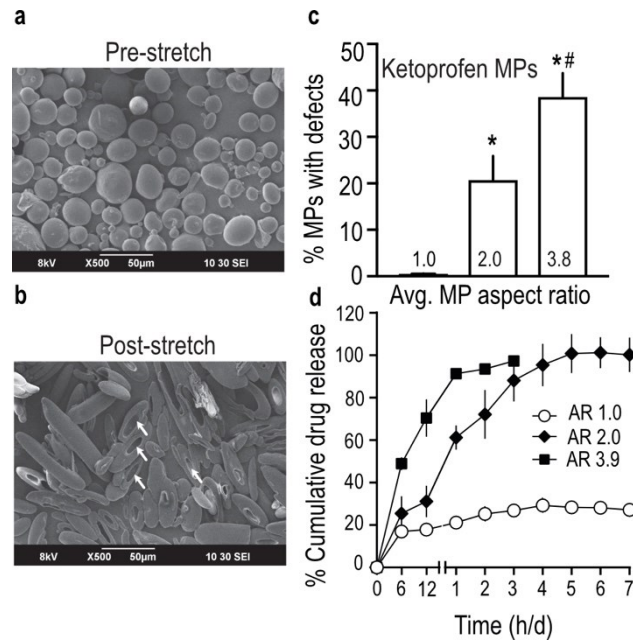


Figure S2. MPs loaded with an unrelated drug (ketoprofen) and its release profile. Representative SEM images of blank, or ketoprofen loaded spherical microparticles (a) sized $20.3 \pm 6.4 \mu\text{m}$, that were subjected to a controlled stretching force, resulting in oblong and ellipsoid shaped microparticles (b). Stretched ketoprofen loaded microparticles showed large central defects (arrow). Number of visible defects from ketoprofen microparticles were counted from 4-6 images (ca 150-200 microparticles per image) and plotted on a bar graph, where AR indicates the aspect ratio of the stretched microparticles (c). Data shown are mean \pm SD, *, # $P < 0.05$, where * indicates statistical comparison between the indicated and non-stretched group (AR 1.0), while # indicates comparison between the indicated and AR 2.0 groups. Percent cumulative drug release from ketoprofen loaded microparticles of varying aspect ratio (d). Data shown are mean \pm SD from 2-3 separate experiments conducted in triplicates.