

# ADVANCED FUNCTIONAL MATERIALS

## Supporting Information

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Development of a Multifunctional Platform Based on Strong, Intrinsically Photoluminescent and Antimicrobial Silica-Poly(citrates)-Based Hybrid Biodegradable Elastomers for Bone Regeneration

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# Development of a multifunctional platform based on strong, intrinsically photoluminescent and antimicrobial silica-poly (citrates)-based hybrid biodegradable elastomers for bone regeneration

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**Table S1.** The monomers composition and molecular weight distributions of PC, MSPC hybrid prepolymers

Samples	CA(mol)	OD(mol)	Si (mol)	$M_n$ (g/mol)	$M_w$ (g/mol)	PDI
PC	1.0	1.1	0	4291	5004	1.1662
MSPC(0.2)	1.0	1.1	0.2	21743	22312	1.0262
MSPC(0.3)	1.0	1.1	0.3	24764	24927	1.0066
MSPC(0.4)	1.0	1.1	0.4	28710	28726	1.0005

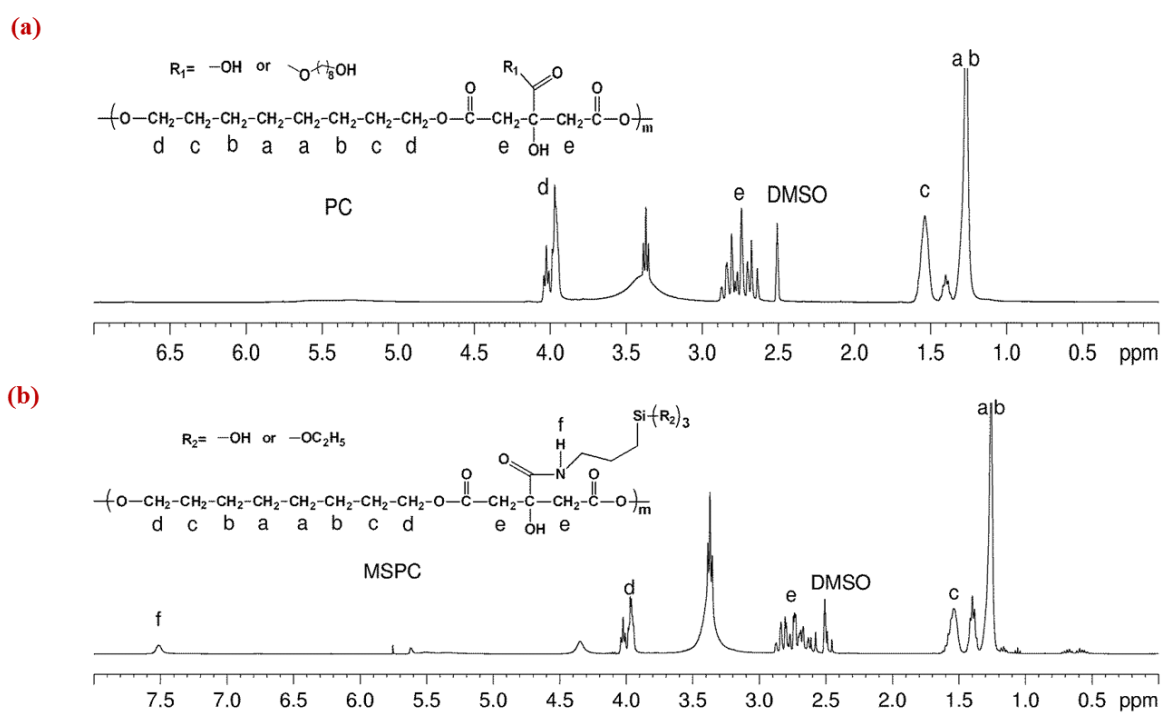
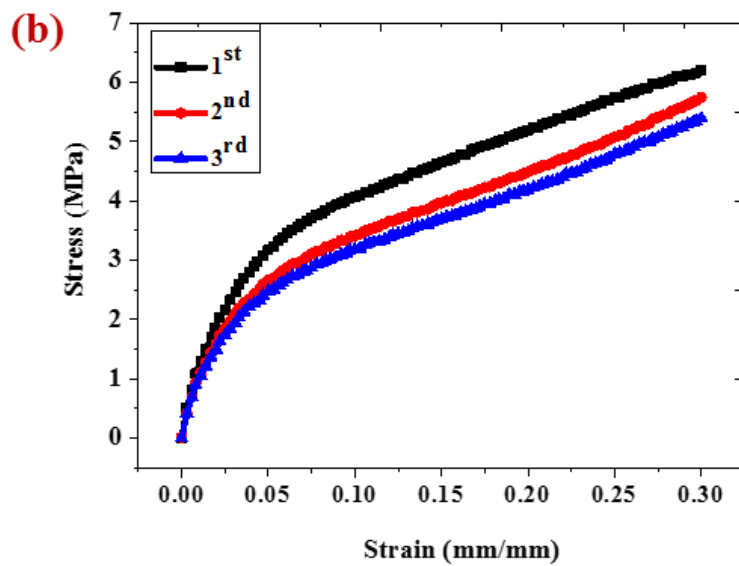
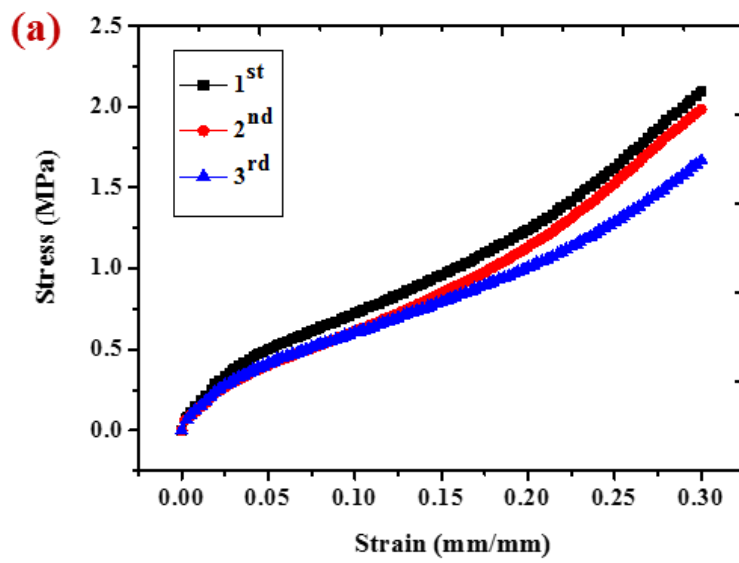
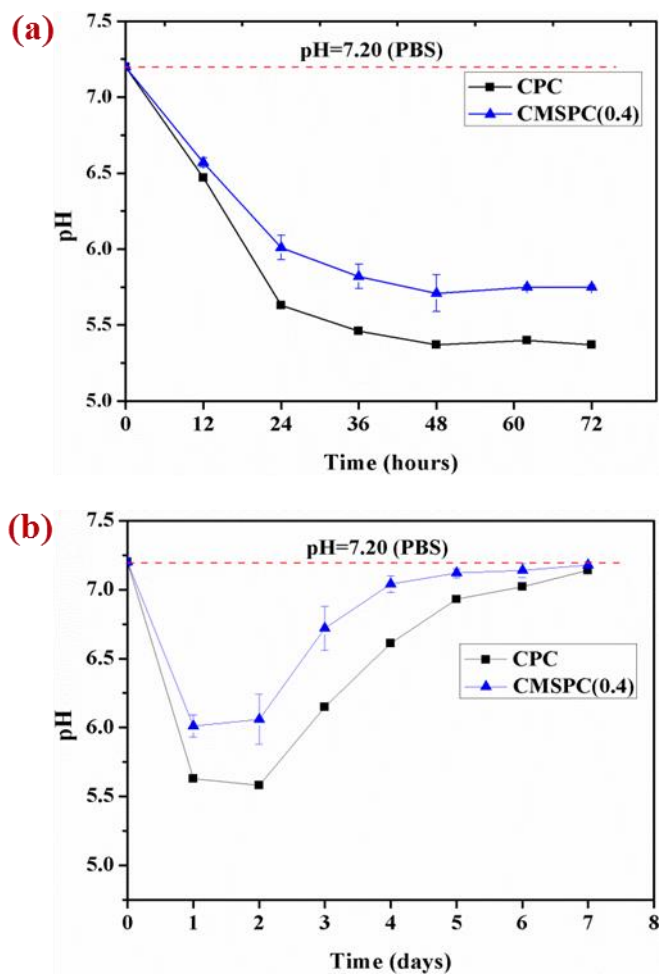


Figure S1.  $^1\text{H}$  NMR spectra of PC and MSPC hybrid pre-polymers. (a) PC; (b) MSPC.



**Figure S2.** Anti-fatigue mechanical behavior of CPC and CMSPC hybrid pre-polymers. (a) CPC; (b) CMSPC(0.4).



**Figure S3. Acidic and alkaline evaluation of PBS after immersing CPC and CMSPC hybrid elastomers. (a) pH test under static condition at 37°C without changing PBS;(b) pH test under dynamic condition at 37°C with refreshing PBS.**

