Electronic Supplementary Material (ESI) for RSC Advances

Electronic Supplementary Information

Chitosan gel scaffolds for recyclable adsorption of Cu(II) ions

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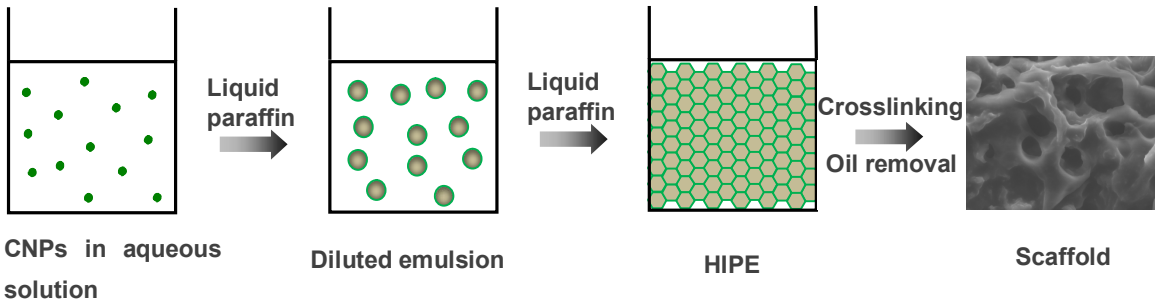

Scheme S1 Formation of chitosan scaffold by templating from Pickering high internal phase emulsions (HIPEs).

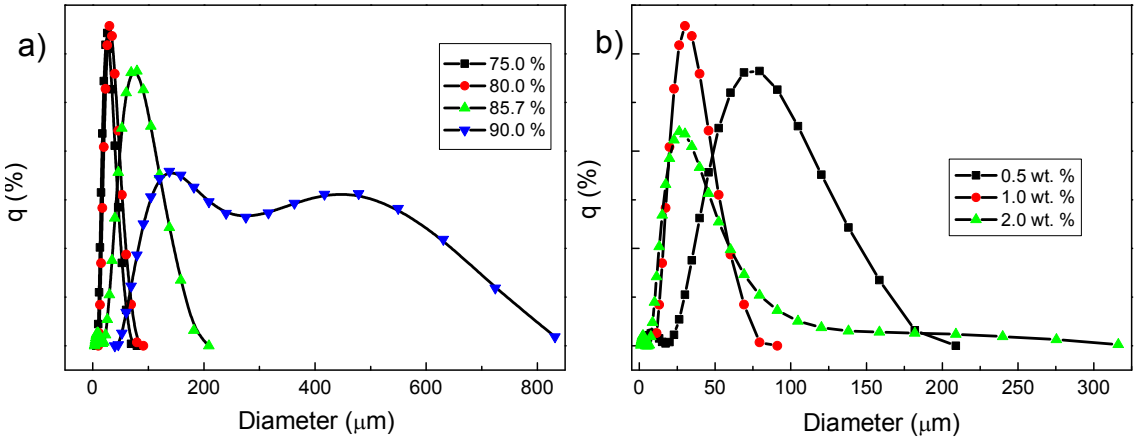

Fig. S1 The size distribution graphs of HIPEs at: a) different internal phase fractions, and b) different chitosan nanoparticle concentrations.

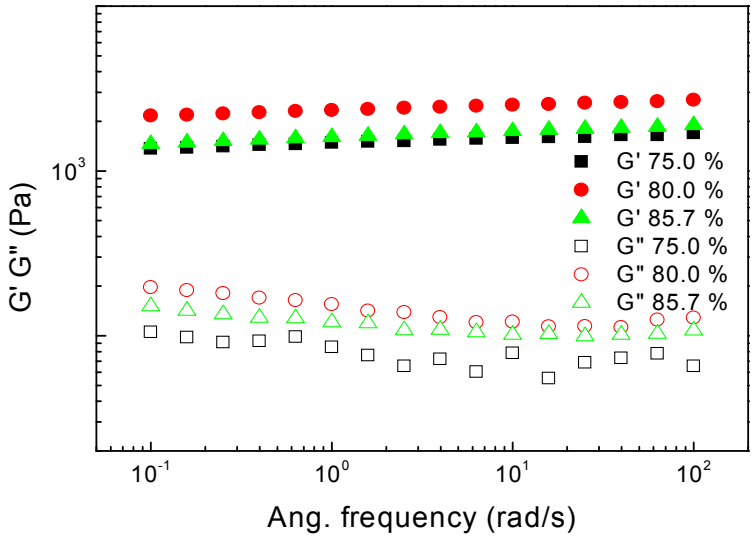

Fig. S2 The frequency dependence of the storage G′ (solid symbols) and loss G″ (open symbols) moduli of the chitosan nanoparticles-stabilized HIPEs formed at different internal phase fractions of 75.0, 80.0, 85.7 %, respectively, measure at strain $\gamma = 1\%$.

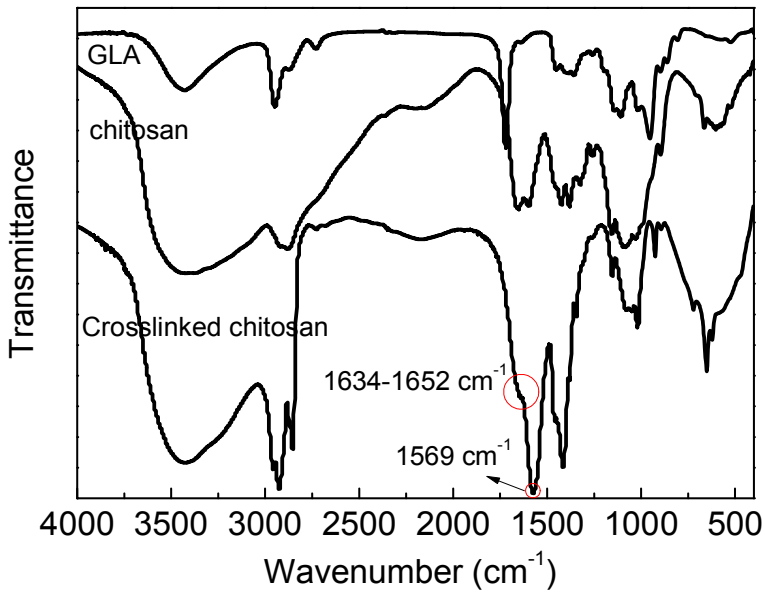

Fig. S3 FTIR spectra of GLA, chitosan and scaffold 3.

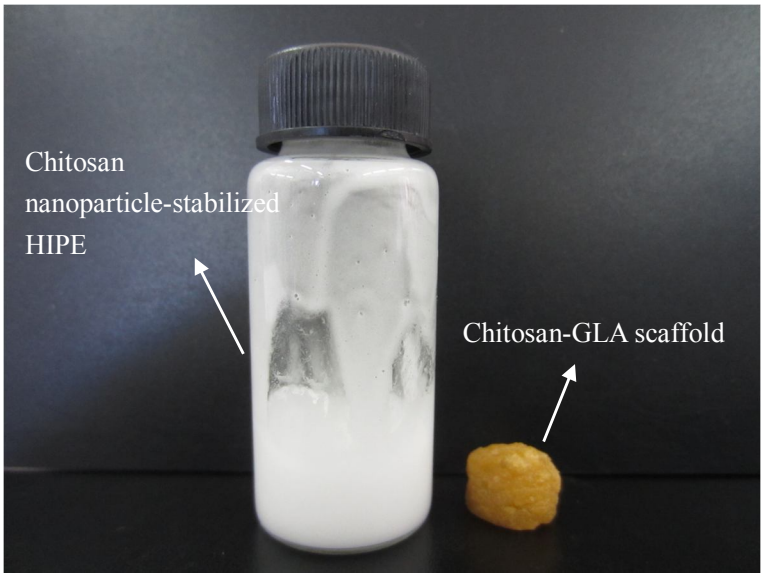

Fig. S4 Digital photograph: left, HIPE 2 and right, scaffold 3.

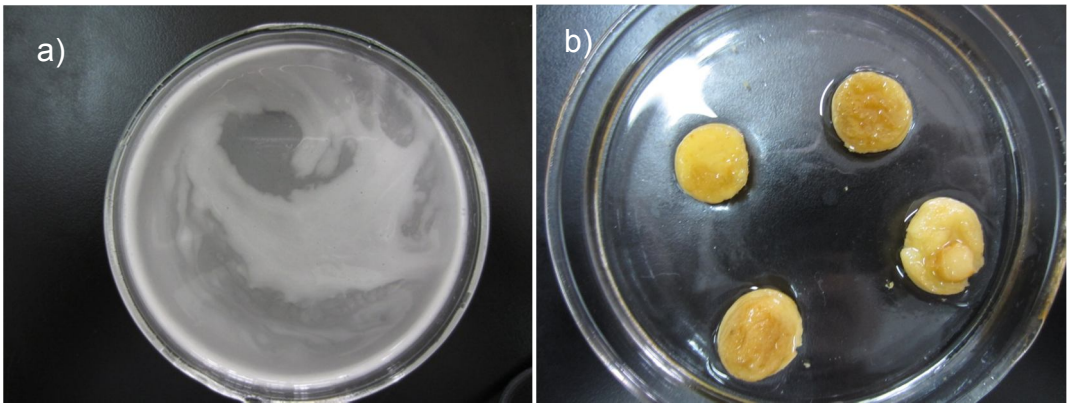

Fig. S5 Appearance of the monoliths after the introduction of acid solution, a) HIPE 2, b) scaffold 3.

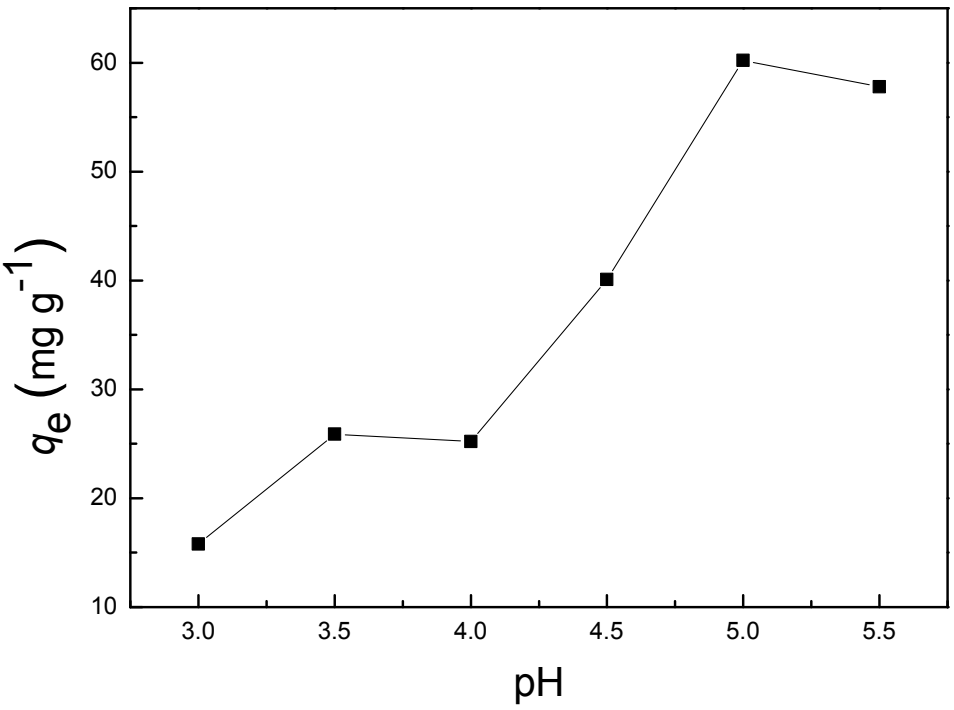

Fig. S6 Effect of initial solution pH values on adsorption capacities of Cu(II) ions for chitosan-GLA scaffold. The initial Cu(II) ions concentration is 400 mg/L, and the adsorption is performed at room temperature.

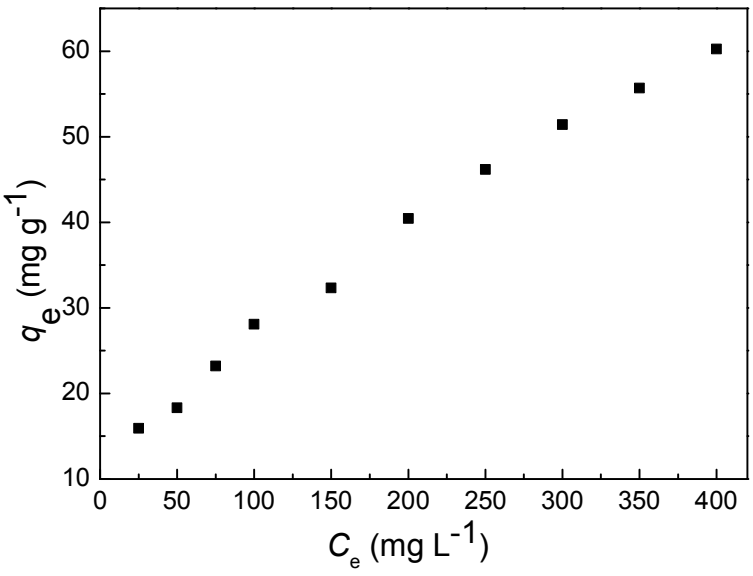

Fig. S7 Isotherms of Cu(II) ions adsorption on chitosan-GLA scaffold. The initial copper concentration is 400 mg/L, and the adsorption is performed at room temperature and pH 5.0.