Electronic Supplementary Material (ESI) for CrystEngComm
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Synthesis and characterization of spherical porous calcium carbonate with ordered secondary structures in the presence of polymer with double hydrophilic ionic moieties

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Supplementary Information

Characterization of SPASP

FT-IR analysis: Fourier transform IR spectra were measured on a Nicolet 6700 Fourier transform IR spectrophotometer using the KBr pellet technique. All the peaks are well assigned (Fig. S1). 3350 cm^{-1} was ascribed to stretching vibration of N-H in secondary amide, the vibration of C=O in imide appearing at 1717 $cm^{-1}$was broadened to characteristic absorption peak of the secondary amide. Strong absorption peak at 1667 cm^{-1} was attributed to vibronic coupling of the two "C=O" bonds in carboxyl group. Peak at 1402 cm^{-1}corresponds to the symmetric stretching of "C=O". Characteristic absorption peaks ascribed to sulfonate were observed at 1043 and 1197 cm^{-1}, indicating the target product is sulfonated poly(aspartic acid).

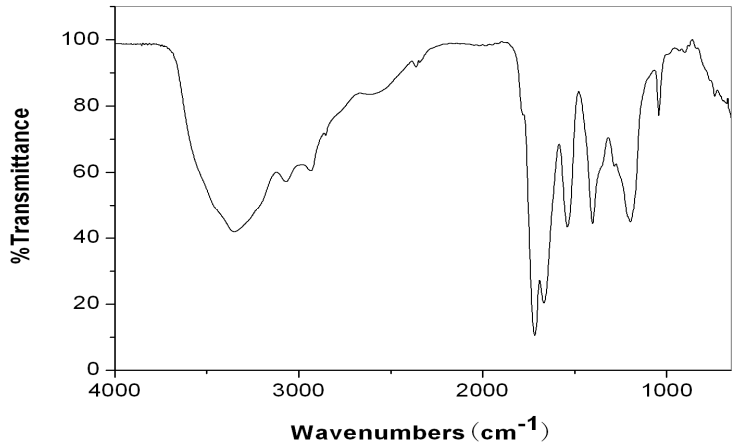

Fig. S1 FT-IR spectra of sulfonated poly(aspartic acid)

Composition analysis: Elemental analysis was performed on Carlo Erba 1106 to determine contents of N, H, O, and S; the calibration of S was in accordance with barium salt analysis. Results show that the sulfonic groups occupied 10% of the sum of sulfonic groups and carboxylic groups (based on PASP).

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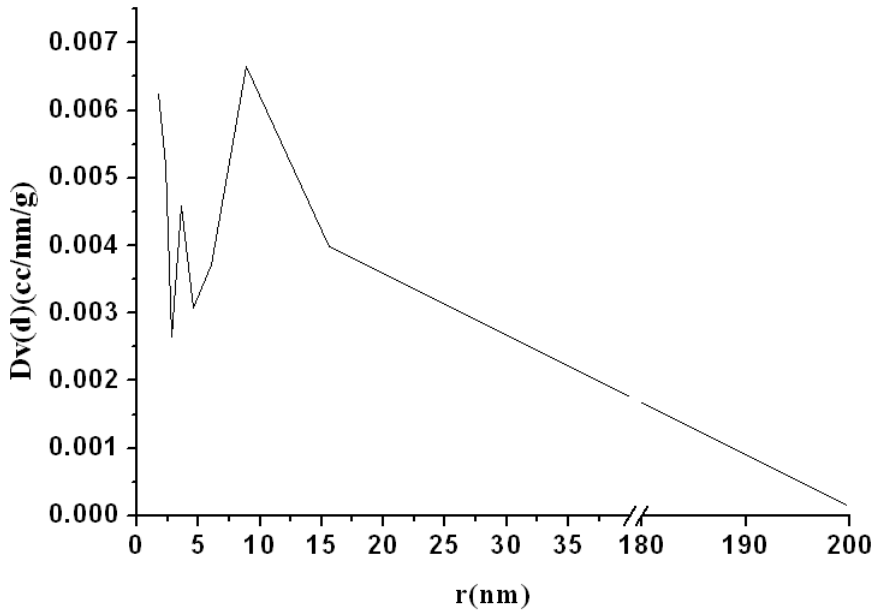

Fig. S2 Pore size distribution of microspheres formed at c_{SPASP} = 0.1 g/L

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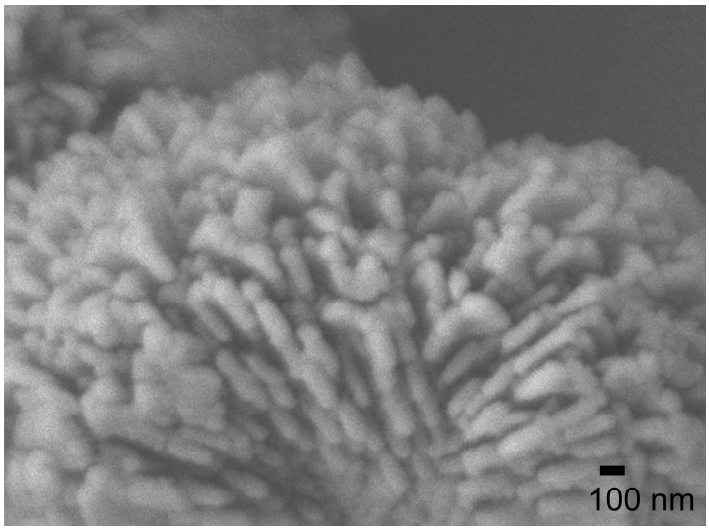

Fig. S3 SEM image of the broken pieces of microspheres

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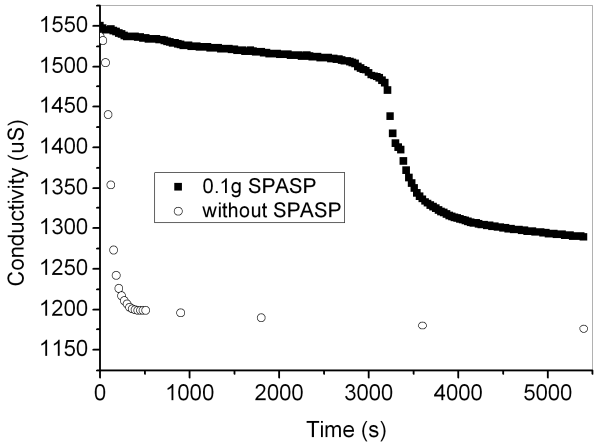

Fig. S4 The observed conductivity with respect to time of the crystallization solution