

Supporting Information

A Facile One-pot Preparation of Chitosan/Calcium Pyrophosphate Hybrid Microflowers

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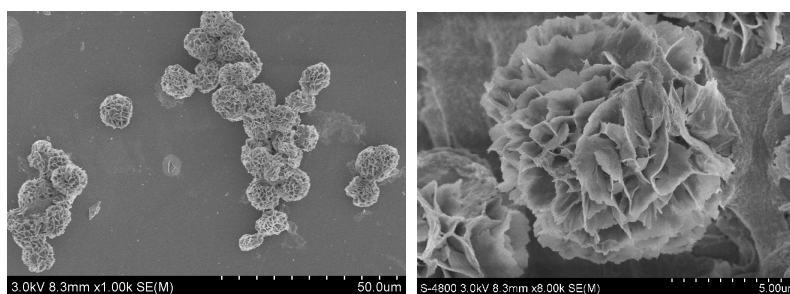


Figure S1. SEM images of the microflowers obtained by scaling-up preparation.

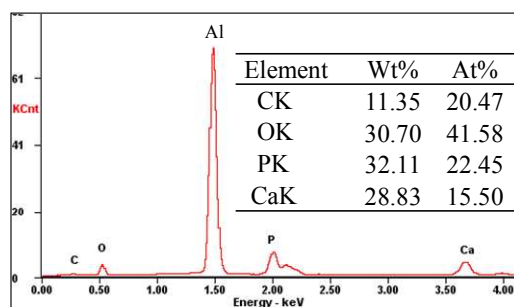


Figure S2. EDS analysis of the microflowers.

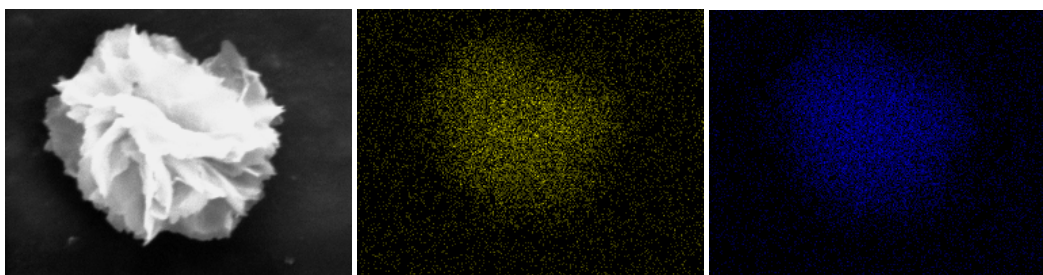


Figure S3. SEM image of the microflowers, and corresponding EDS element mapping of Ca (yellow) and P (blue) in the microflowers.

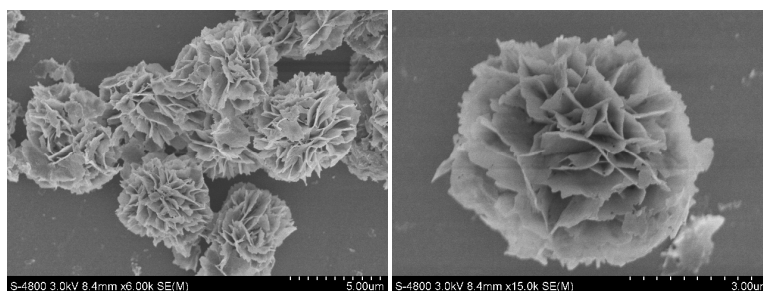


Figure S4. SEM images of the microflowers after thermal treatment at 400 °C for 4 h in air.

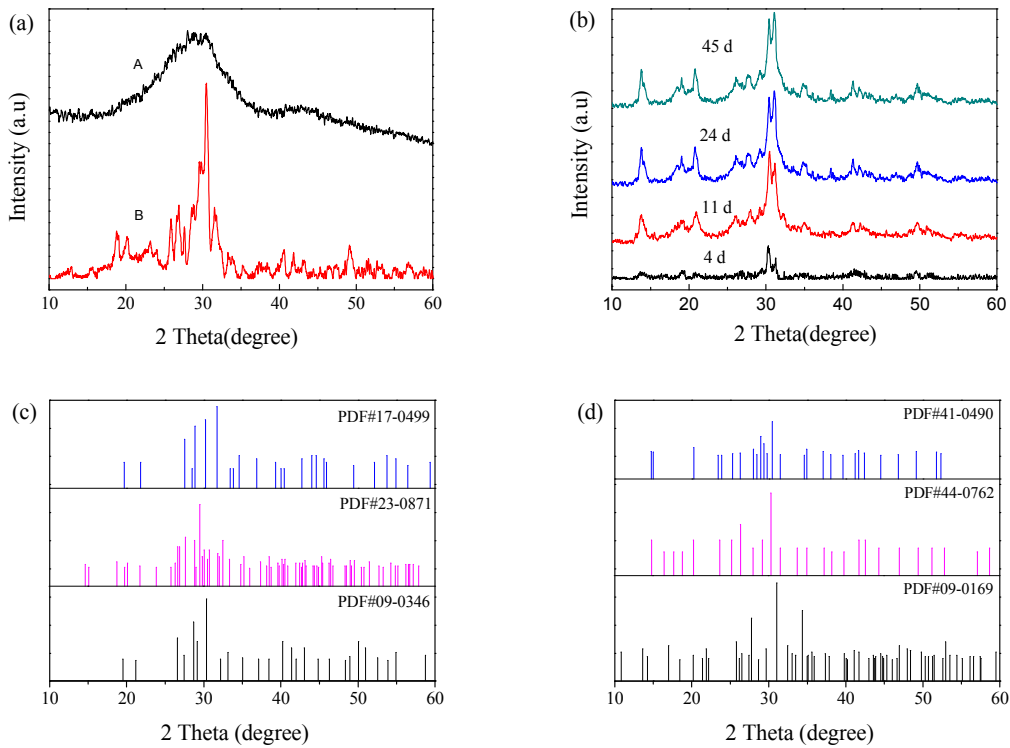


Figure S5. (a) XRD patterns of the microflowers before (A) and after thermal treatment (B), (b) XRD patterns of the microflowers after immersing in water for different times, (c) the standard XRD patterns of calcium pyrophosphate (CPP, Ca₂P₂O₇, PDF#17-0499, #23-0871 and #09-0346), and (d) the standard XRD patterns of calcium pyrophosphate hydrate (CPPD, Ca₂P₂O₇·2H₂O, PDF#41-0490 and Ca₂P₂O₇·4H₂O, PDF#44-0762) and whitlockite (Ca₃(PO₄)₂, PDF#09-0169).

The relative content of the component in the hybrid microflowers was determined according to P/Ca ratio, given by **Eq. S1**:

$$\text{P/Ca ratio} = \frac{2x + 3(1-x)}{2x} \quad (\text{S1})$$

where x represented the relative content of Ca₂P₂O₇ crystals, $1-x$ represented the relative content of chitosan-tripolyphosphate (CS-P₃O₁₀) nanocomplexes, 2 and 3 were the numbers of P or Ca atoms in the crystals or nanocomplexes.