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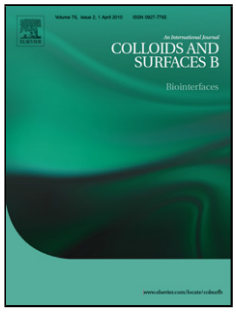

Title: Lotus leaf-inspired design of calcium alginate particles with superhigh drug encapsulation efficiency and pH responsive release

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Lotus leaf-inspired design of calcium alginate particles with superhigh drug encapsulation efficiency and pH responsive release

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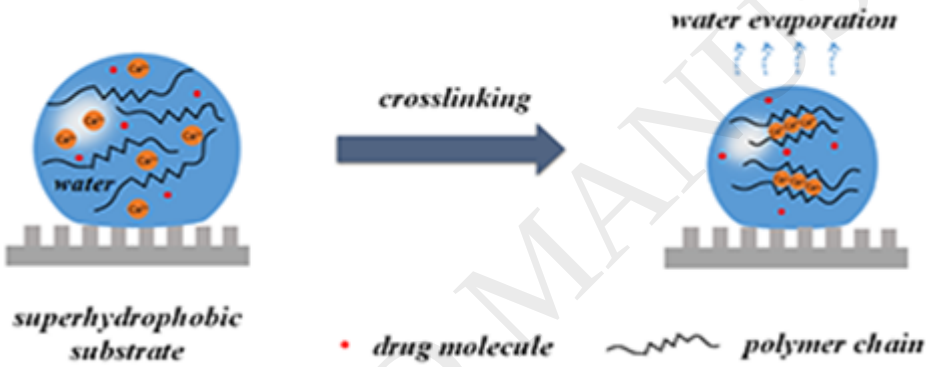
Graphical abstract



Hightlights

- Drug-loaded Ca-Alg particles are fabricated on the superhydrophobic substrate.
- The controllable fabrication of Ca-Alg particles can be easily achieved.
- The drug encapsulation efficiencies are measured to be over 88%.
- The drug exhibits obvious pH responsive release.

Abstract: Drug delivery systems with high drug encapsulation efficiency and controlled release are of great importance in biomedical fields. Herein, we report an ingenious approach inspired from the lotus leaf possessing the ability of strong repellency to water, which enables the rapid fabrication of drug-loaded calcium alginate (Ca-Alg) particles with high drug encapsulation efficiency and controlled drug delivery. The design is achieved by introducing aqueous droplets