

Electronic Supplementary Materials (ESI) for Biomaterials Science.

Supporting Information

Chitosan-*Alginate-Pectin*-Coated *Suspended-Liquid-Encapsulating (CAPSuLE)* Marbles for Therapeutic Agents Storage and Delivery

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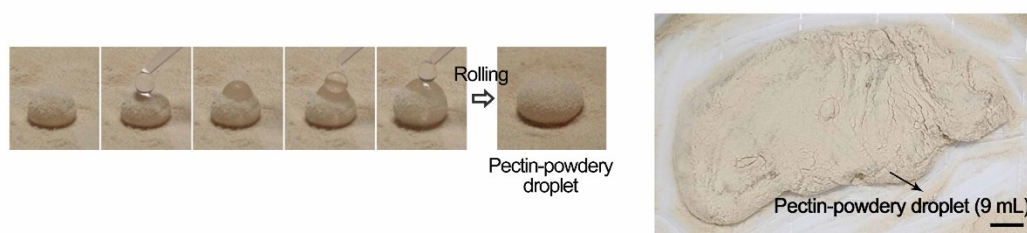


Figure S1. Premature CAPSuLE marble with a large volume (9 mL).

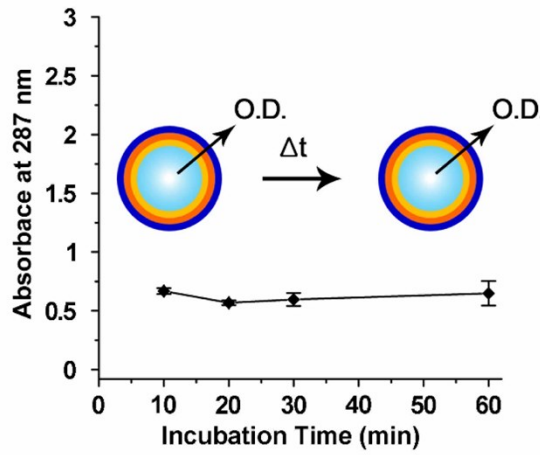


Figure S2. Analysis of the turbidity of the inner droplets. The optical density of the inner liquid was analyzed at different time points (i.e., 10, 20, 30, and 60 min) using an ultraviolet spectrophotometer.



Figure S3. Morphology and the integrity of the liquid marbles formed by varying the dipping order and the presence/absence of the pectin layer.

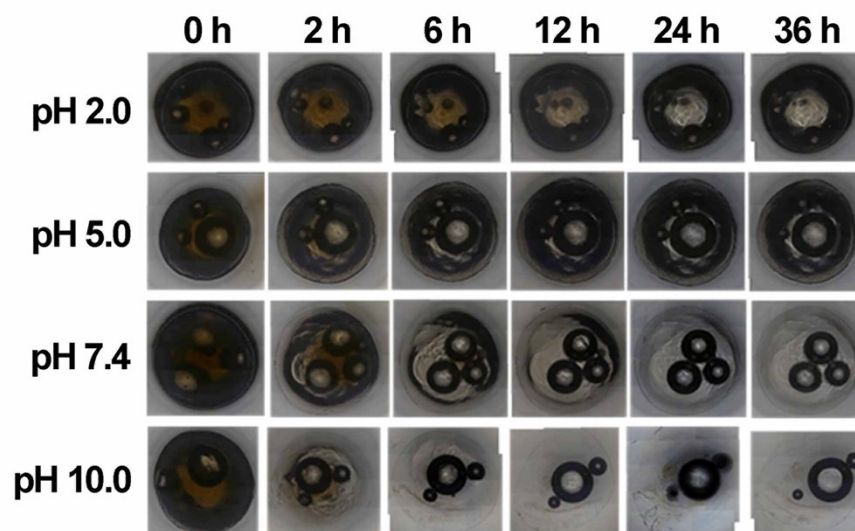


Figure S4. Optical images showing the changes in the outer membrane of the capsules at different time points under various pH values.

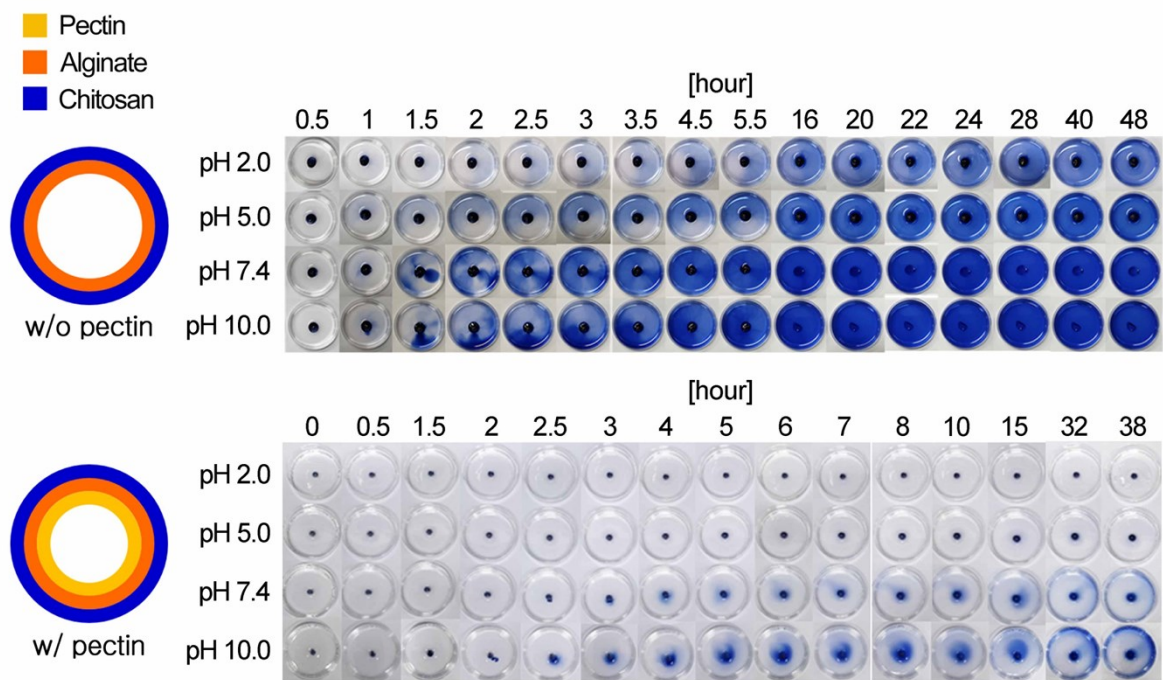


Figure S5. Analysis of trypan blue release from CAPSuLE marbles with and without the pectin layer.

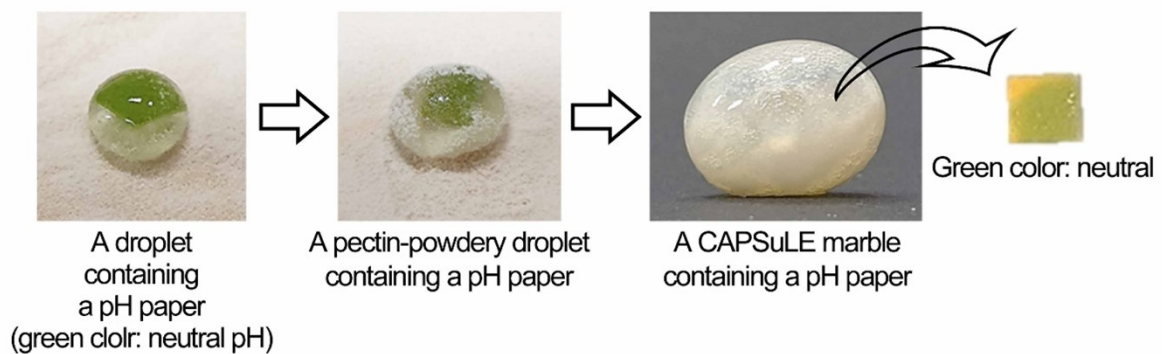


Figure S6. Analysis of the pH value of the CAPSuLE core under the ambient acidic condition (pH = 2.0). A pH paper was inserted in the bicarbonate buffer solution, and the CAPSuLE marbles were formed. After 2 hour-exposure to a pH of 2.0, the pH paper was extracted from the CAPSuLE core, and its color was monitored (green color: neutral pH).

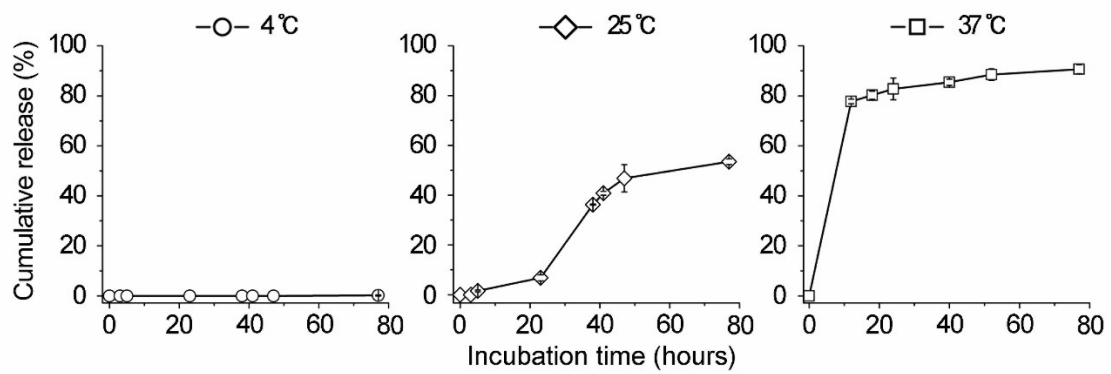


Figure S7. Release profiles of trypan blue at different temperatures of the ambient PBS. The percentage indicates the ratio of the cumulative quantity at a designated time point to the initial quantity administered into the CAPSuLE marbles.

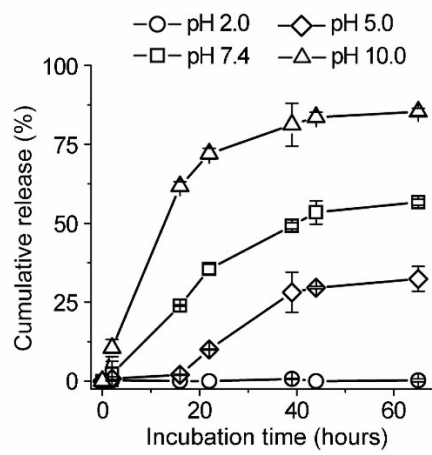


Figure S8. The pH-dependent release profiles (trypan blue) from the CAPSuLE marbles at 37°C.