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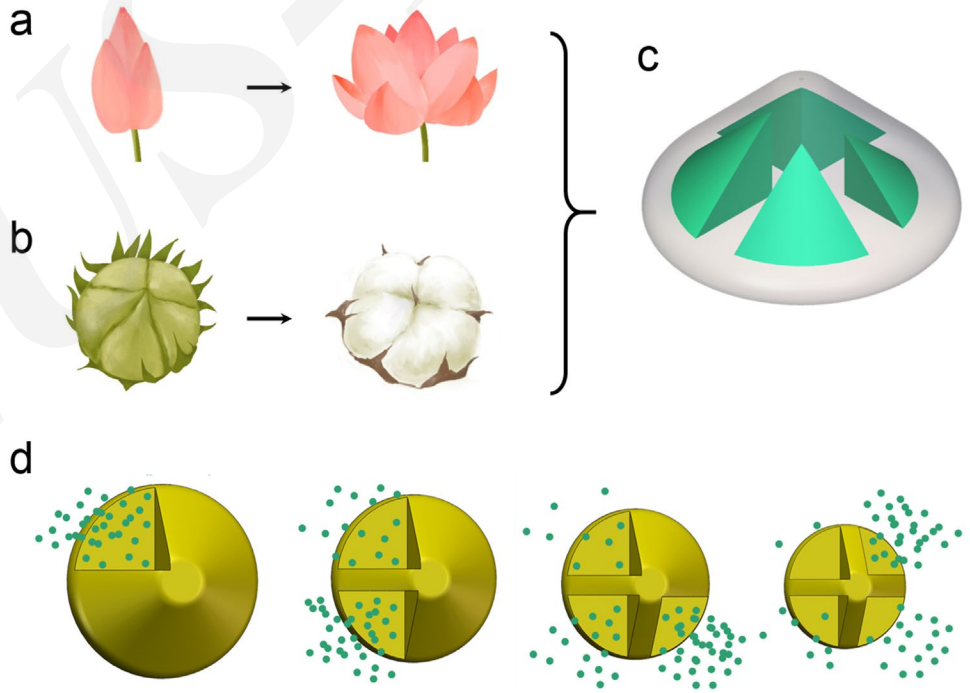
3D printing of bioinspired compartmentalized capsular structure for controlled drug release

Key words: 3D printing; Bioinspired; Capsule; Bioink; Drug release

Research Summary

Inspired by natural plant structures, a multiple compartmentalized capsular structure was designed and fabricated by 3D printing for controlled drug delivery.

- **Design of biomimetic structure**
- **Bioink optimization**
- **3D printing of structure**
- **Drug release profile**



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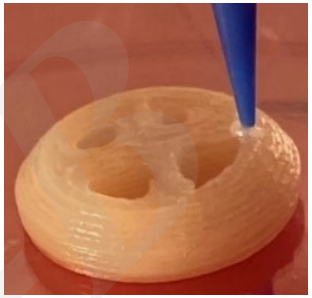
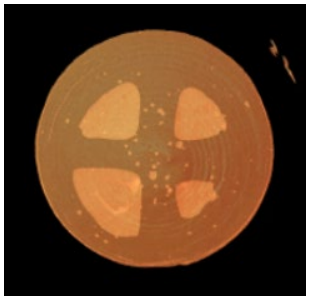
Innovation points

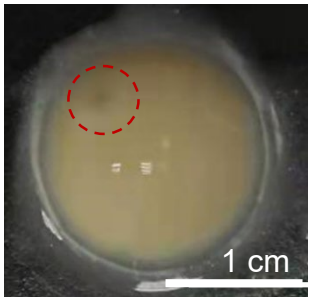
- **Bioinspired design of multiple compartmentalized capsular structure**

- **3D printing with biodegradable materials, forming a complete structure without significant defects.**

- **Successive dissolving and opening of external walls of different compartments, allowing a prolonged drug release with several release pulses.**







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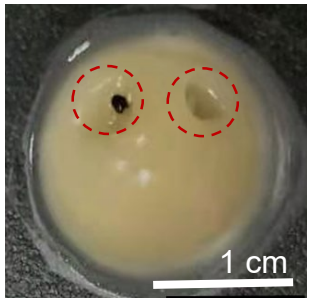

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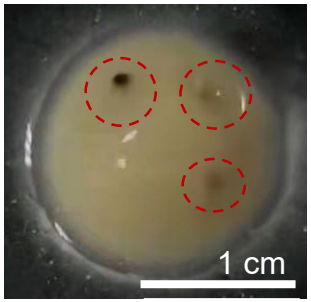

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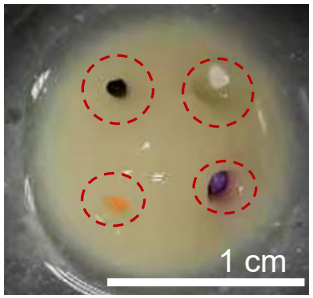

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