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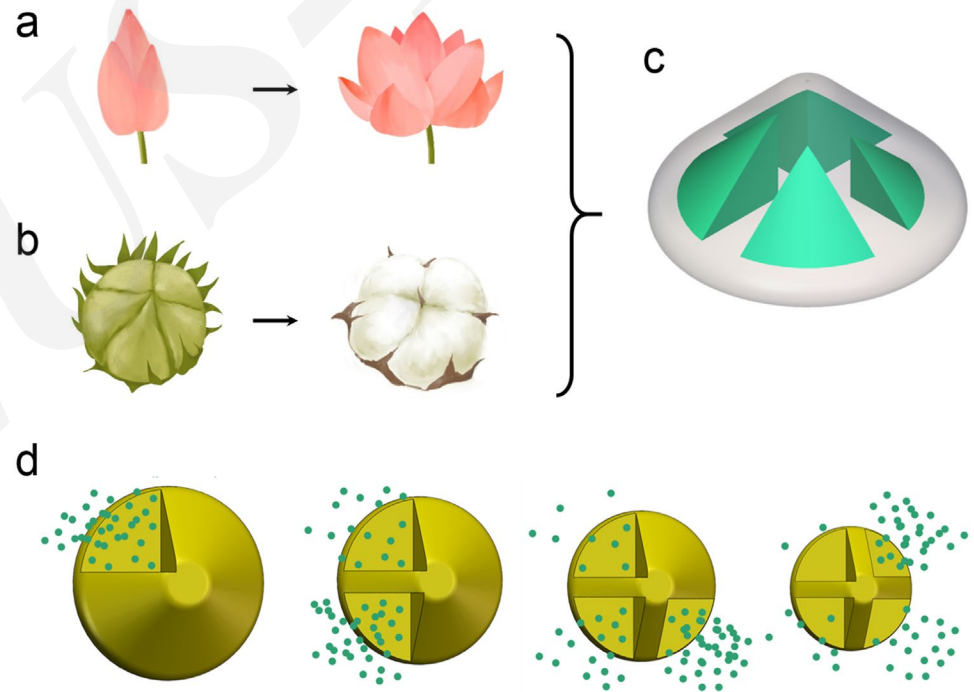
3D printing of bioinspired compartmentalized capsular structure for controlled drug release

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

Research Summary

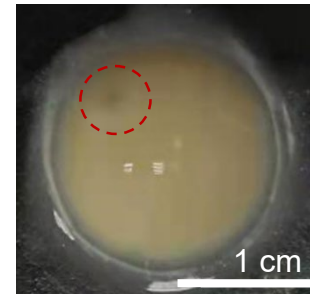
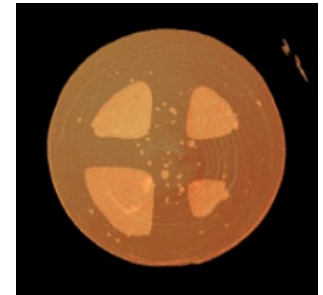
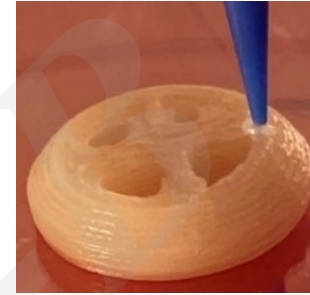
Inspired by natural plant structures, a multiple compartmentalized capsular structure was designed and fabricated by 3D printing for controlled drug delivery.

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

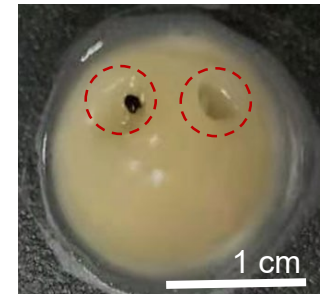


Innovation points

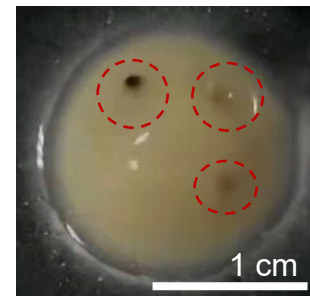
- **Bioinspired design of multiple compartmentalized capsular structure**
- **3D printing with biodegradable materials, forming a complete structure without significant defects.**
- **Successive dissolving and opening of external walls of different compartments, allowing a prolonged drug release with several release pulses.**



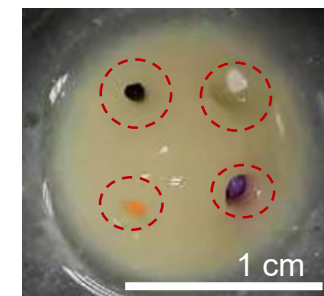
110 min



150 min



190 min



220 min