

Supplementary Material

A co-type ductile film with high tensile strength and fast self-healing properties for shaped fruit preservation

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Fig. S1. The maximum elongation at break over 5500% (Strain behavior of CTPB hydrogel at the peak of test on an electronic universal testing machine)

Table. S1. Comparison of the properties of hydrogels with different compositions

Base of hydrogel	Functional additives	Strain (%)	Self-healing	Antibacterial	References
CMCS	Cellulose/Zn ²⁺	22	-	✓	1
CS/PVA/Guar gum	HCA	40	-	✓	2
PVA/IN	-	100	-	-	3
Guar gum	CNCs/Fe ³⁺	170	12h	-	4
PVA/CMC	PEI/TA	400	✓	-	5
PVA/CS	TA	440	-	✓	6
CS/PVA	porous g-C ₃ N ₄	450	-	✓	7
PVA-Borax	CNFs-PPy	600	20s	-	8
PVA-Borax	TA@CNC	916	25s	-	9
PVA-Borax	CNFs	1000	✓	-	10
PVA-SA-AN	TA/CTAB	2264	-	-	11
PVA-Borax	Starch	2485	81min	-	12
PVA/TA	Ag/CNC	4100	10min	✓	13
PVA-Borax	Silk Fibroin	5000	✓	-	14
★This work		>5500%	Within 8s	Within 60s	



	0%	0.1%	0.2%	0.3%	0.4%
0d	8	8	8	8	8
7d	8	8	8	8	8
15d	8	8	8	8	8
22d	6	8	8	8	8
29d	5	8	8	8	8

Fig. S2. Controllable thickness and uniform texture of CTPB hydrogel film

Fig. S3. Survival of zebrafish at different hydrogel concentrations

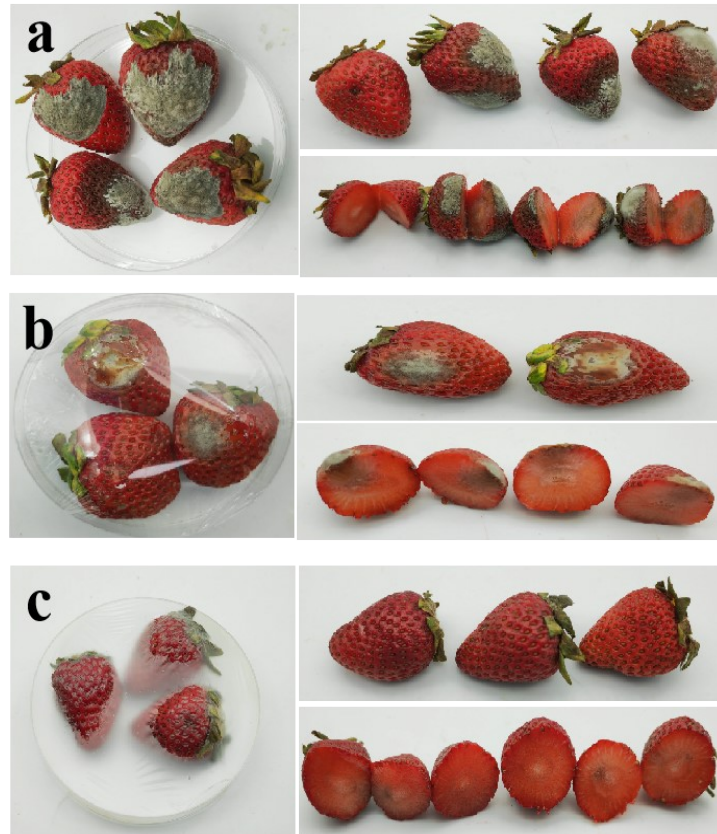


Fig. S4. Cross-sections of strawberries under different storage conditions. (a) Cross-section of blank group; (b) Cross-section of PE film; (c) Cross-section of CTPB hydrogels film;

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