

Supporting Information

A Promising ‘Single’ and ‘Dual’ Drug-Nanocomposite Enriched Contact Lens for the Management of Glaucoma in Response to Tear Fluid Enzyme

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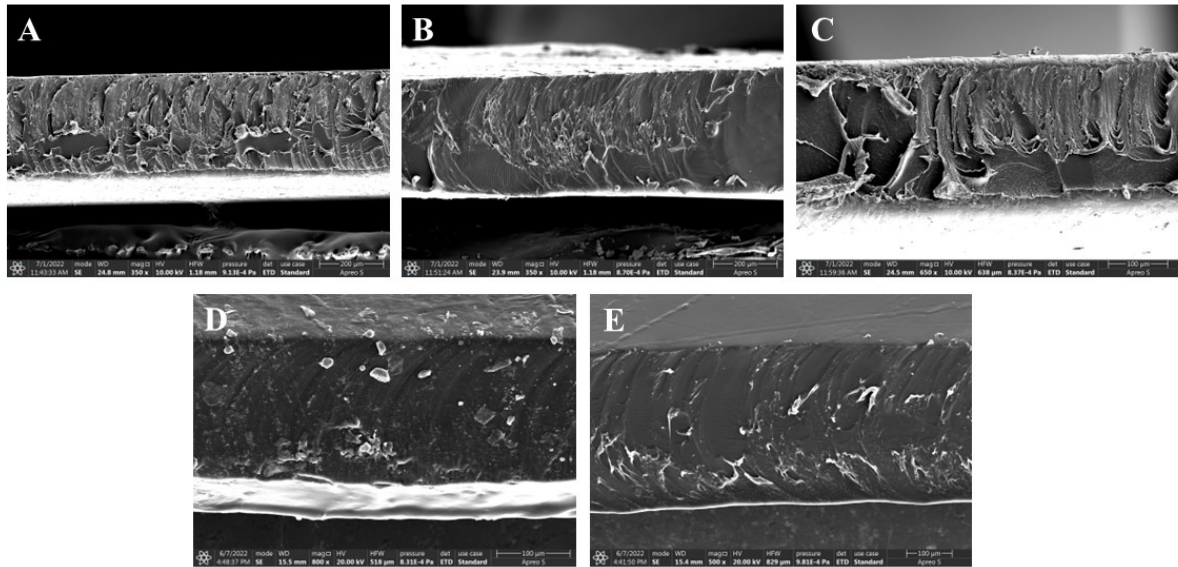
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Table. S1. Light transparency of fabricated CLs at various spectrum ranges.

Contact Lenses	Light Transmittance (%)		
	SWB	LWB	Visible
	381-460 nm	461-500 nm	381-700 nm
Blank CL	93.71	94.31	95.65
pGQD-CL	90.45	91.05	91.26
CS-CL	57.11	58.91	67.40
LP-CL	81.82	84.51	87.06
LP-TM-CL	83.91	86.28	88.21



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26 **Fig.S1. Cross-sectional view FE-SEM images of A. Blank CL, B. pGQD-CL, C. CS-CL,**

27 **D. LP-CL, and E. LP-TM-CL.**

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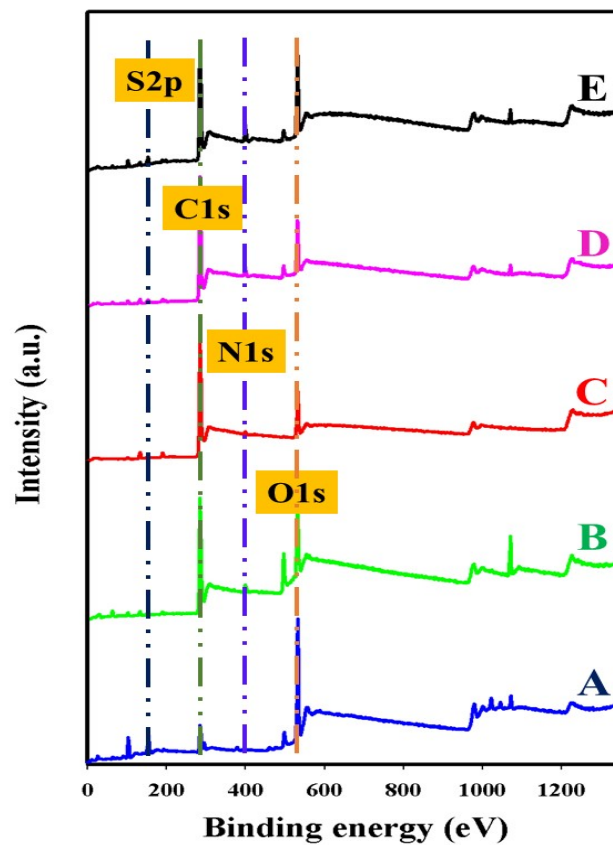
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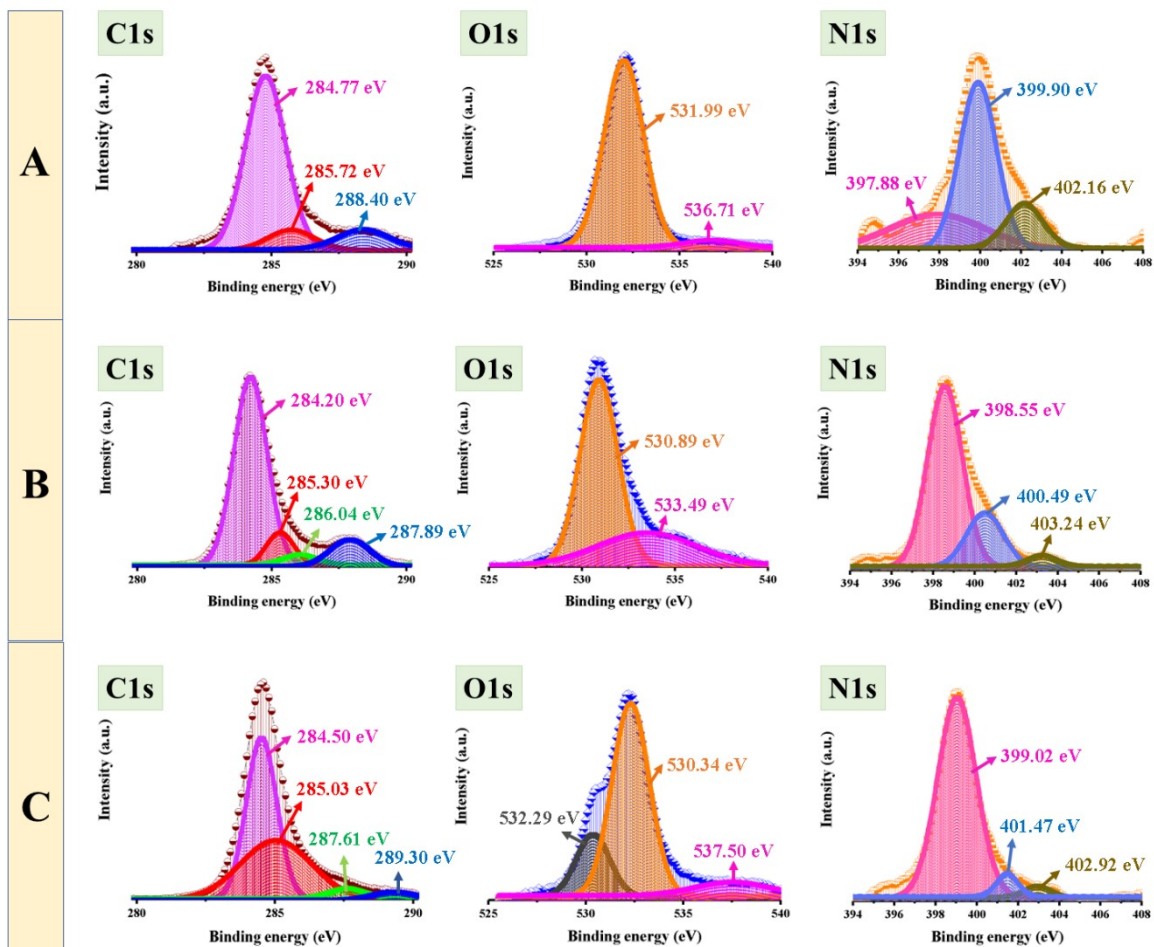
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41 **Fig.S2. XPS survey scan spectral analysis of fabricated contact lens A. Blank CL, B.**

42 **pGQD-CL, C. CS-CL, D. LP-CL, and E. LP-TM-CL.**



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44 **Fig.S3. XPS high-resolution deconvoluted spectrum of A. Blank CL, B. pGQD-CL, and**
 45 **C. CS-CL.**

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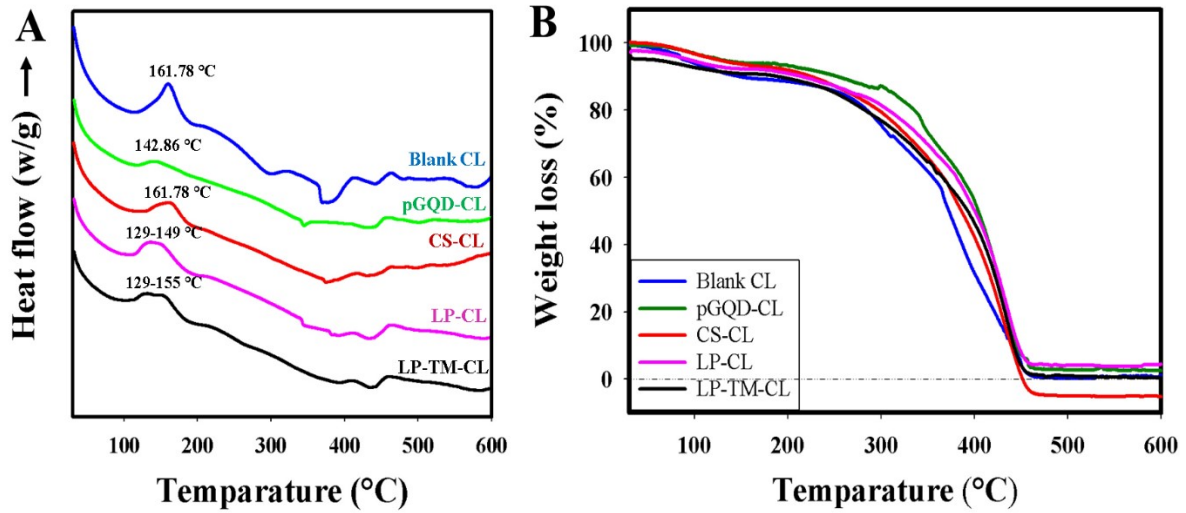
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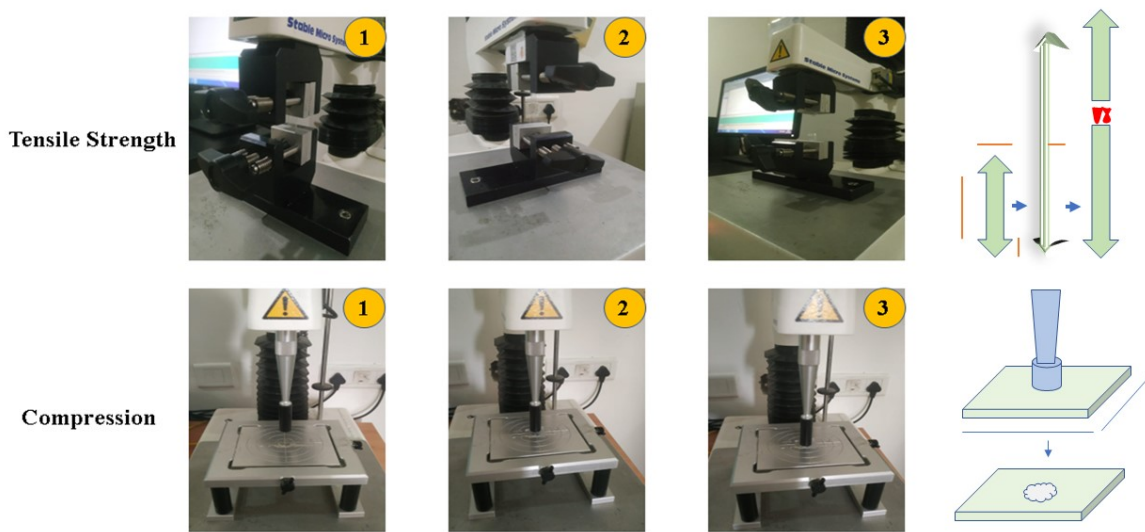
55 **Fig.S4. Represents A. Differential scanning calorimetry and B. Thermogravimetric**
 56 **analysis of fabricated CLs.**

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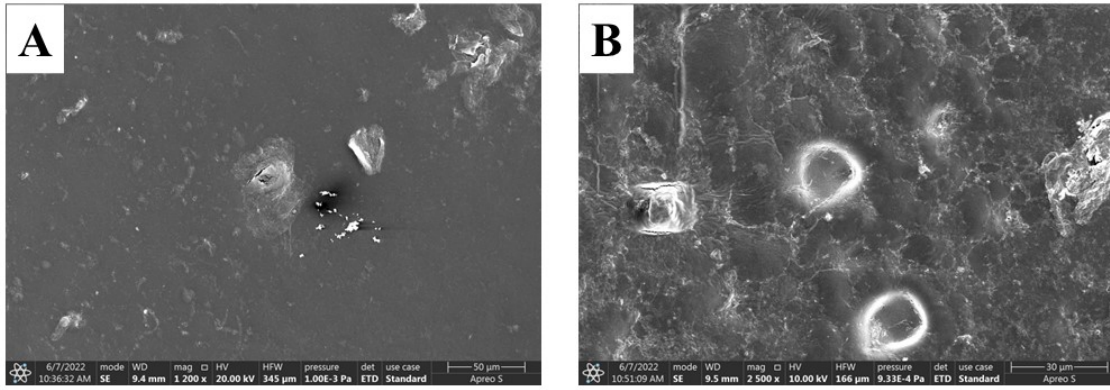
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62 **Fig.S5. Analysis of Tensile strength and compressions studies of the fabricated CLs by**
 63 **using a Universal testing machine (UTM).**

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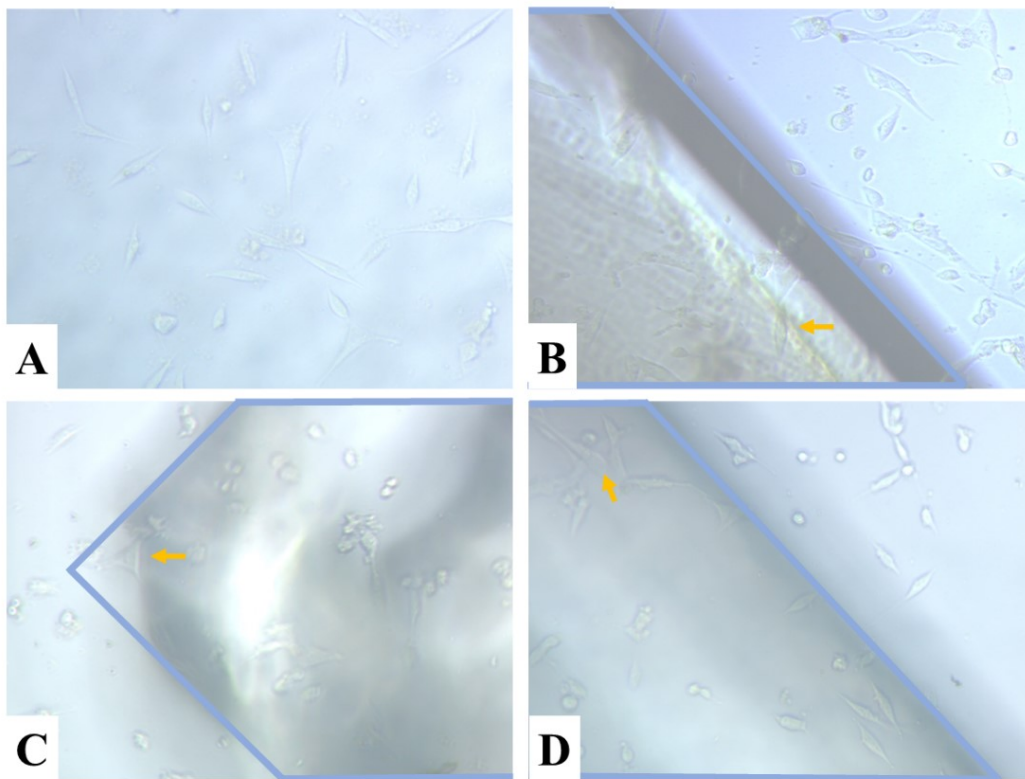
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68 **Fig.S6. A & B. Represents the Field Emission-Scanning Electron Microscopic (FE-SEM)**
 69 **image of interaction of lysozyme towards blank CL (Magnifications at 50 and 30 μm).**

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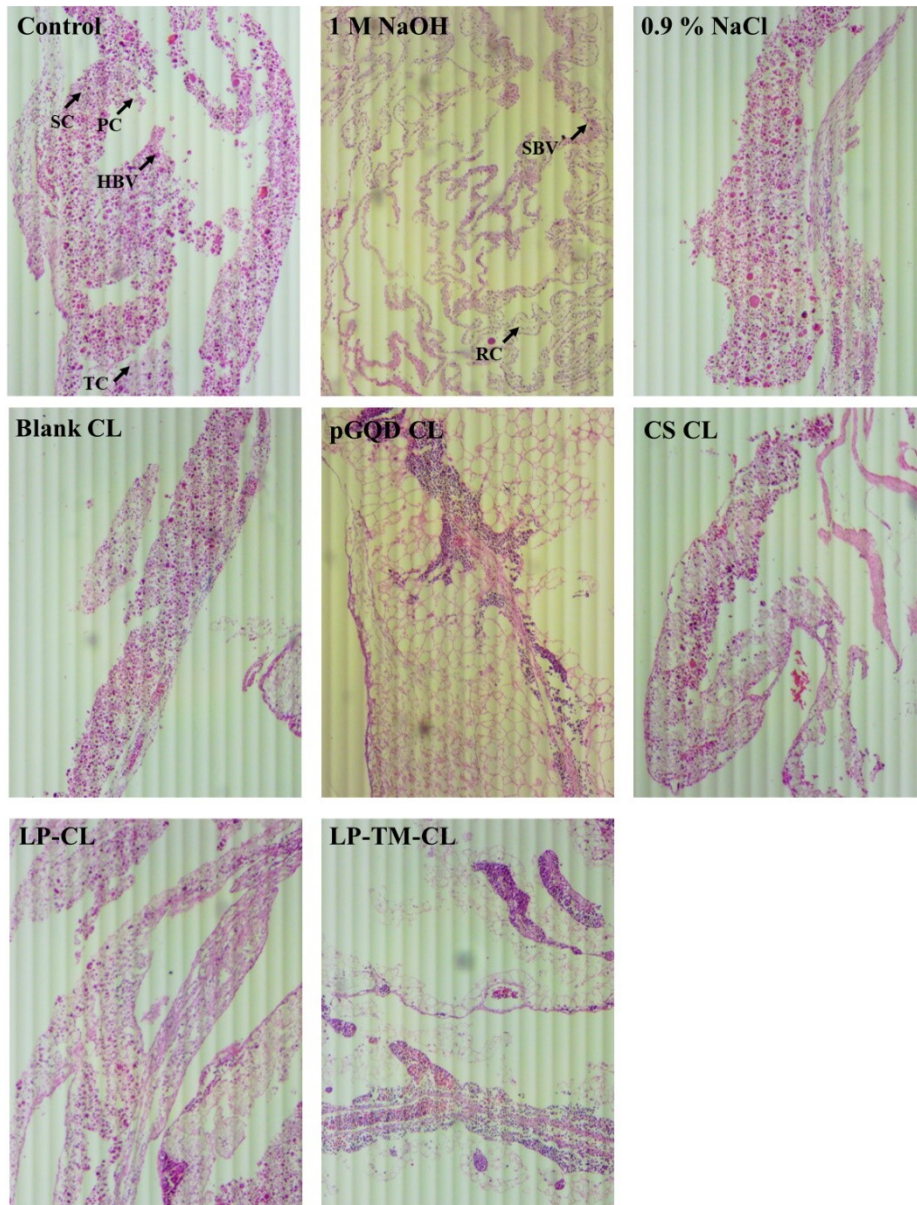


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74 **Fig.S7. *In vitro* bright field imaging studies of A. Control, B. Blank CL, C. LP-CL, and D.**
 75 **LP-TM-CL.**

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80 **Fig.S8. Histopathological sections of chorioallantoic membranes (CAMs) treated with**
 81 **fabricated contact lenses (Control, 1M NaOH, 0.9 % NaCl, Blank CL, pGQD CL, CS CL,**
 82 **LP-CL, LP-TM-CL) by H & E staining with 20 X magnification (HBV-Healthy blood**
 83 **vessels; PC-Primary capillaries; SC-Secondary capillaries; TC-Tertiary capillaries;**
 84 **SBV-Shrunken blood vessels; RC-Reduced capillaries).**

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88 **Table. S2. Scoring table of *in vivo* ocular safety evaluation of LP-CL, and LP-TM-CL.**

Corneal regions	Degree of irritation	
	LP-CL	LP-TM-CL
Cornea		
Corneal opacity	1	1
Iris		
Irritation value	0	0
Conjunctiva		
Degree of flare	0	0
Degree of swelling	0	0
Degree of redness	0	0
Congestion	0	0
Secretion (discharge)	0	0

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