

Supplementary Material

Considerations on the controlled delivery of bioactive compounds through hydrogel membrane

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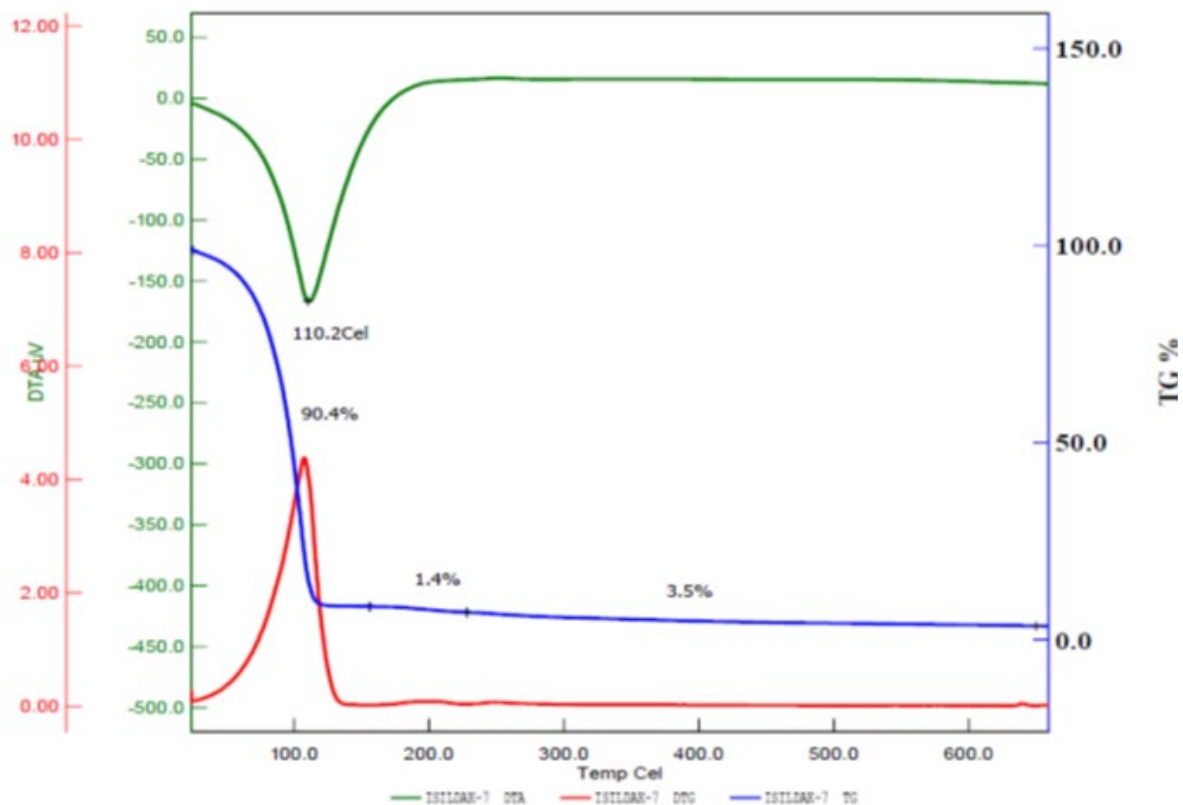
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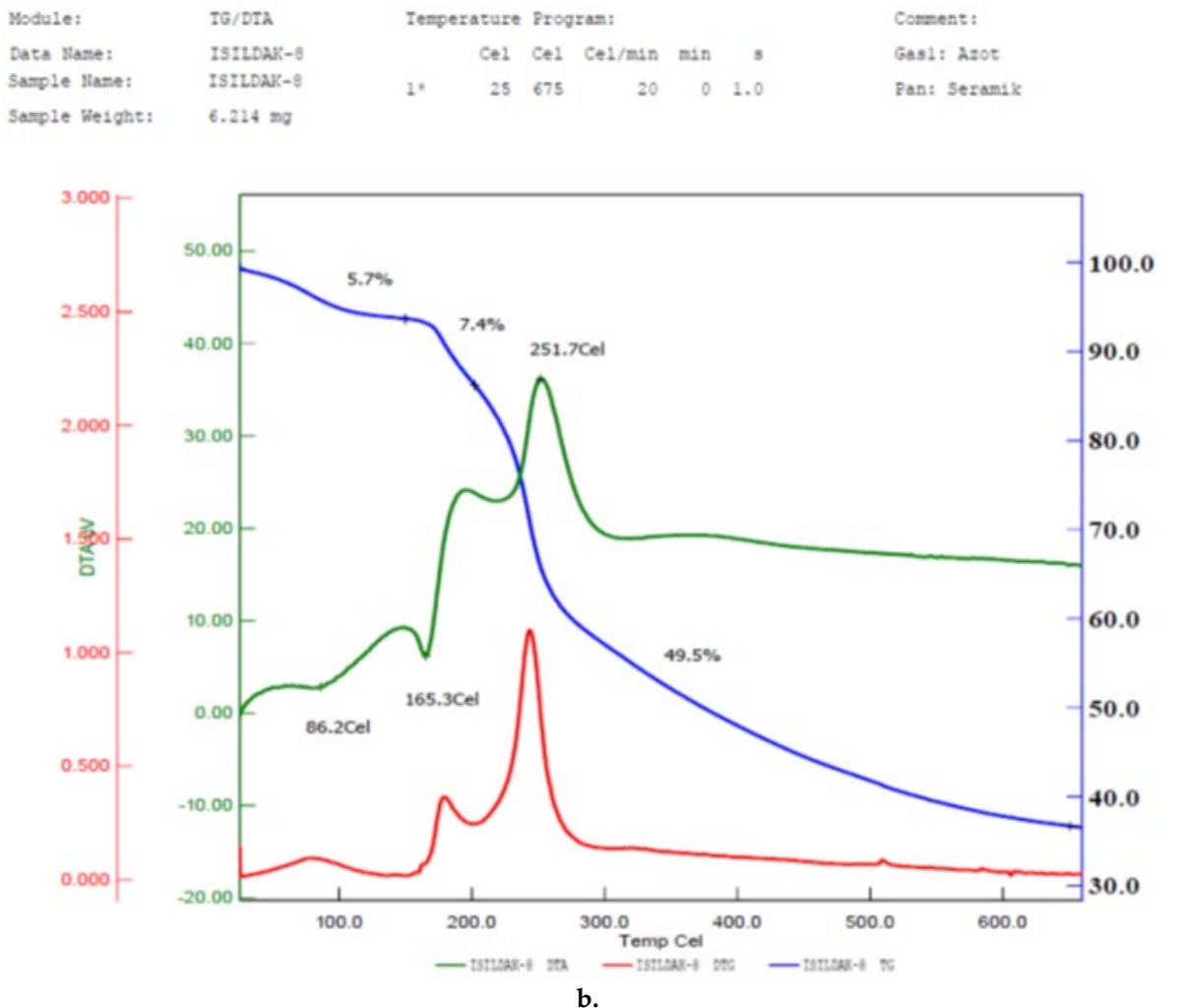
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The present Supplementary Material comprises thermal analysis investigations, FTIR, fluorescence, and UV spectrophotometry analysis that support the main manuscript. Also, are introduced images from the microbiological assessment performed.

Module:	TG/DTA	Temperature Program:	Comment:										
Data Name:	ISILDAK-7	<table border="0"> <tr> <td>Cel</td> <td>Cel</td> <td>Cel/min</td> <td>min</td> <td>s</td> </tr> <tr> <td>1^o</td> <td>25</td> <td>675</td> <td>20</td> <td>0 1.0</td> </tr> </table>	Cel	Cel	Cel/min	min	s	1 ^o	25	675	20	0 1.0	Gasi: Azot
Cel	Cel	Cel/min	min	s									
1 ^o	25	675	20	0 1.0									
Sample Name:	ISILDAK-7		Pan: Keramik										
Sample Weight:	11.426 mg												

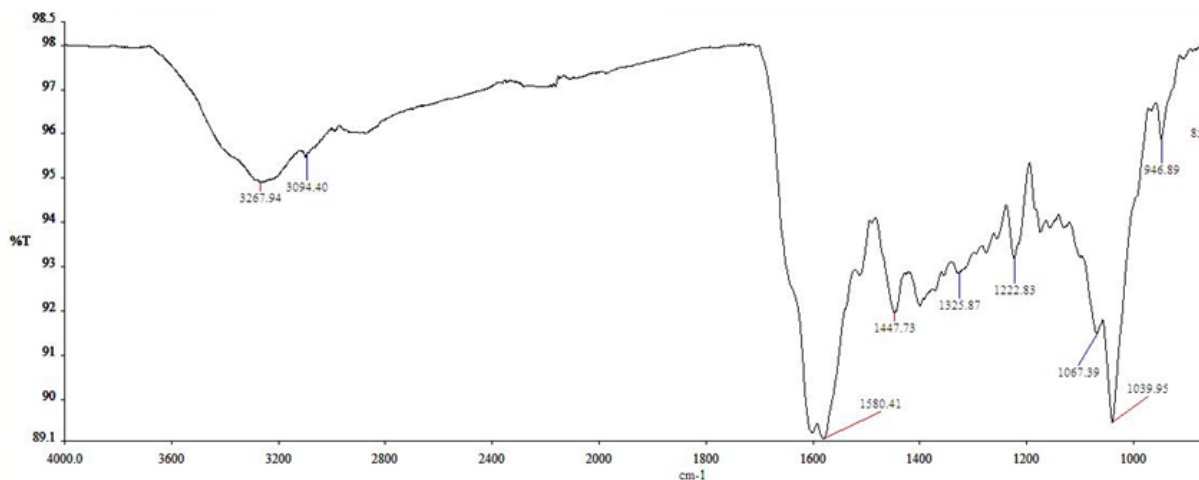


a.

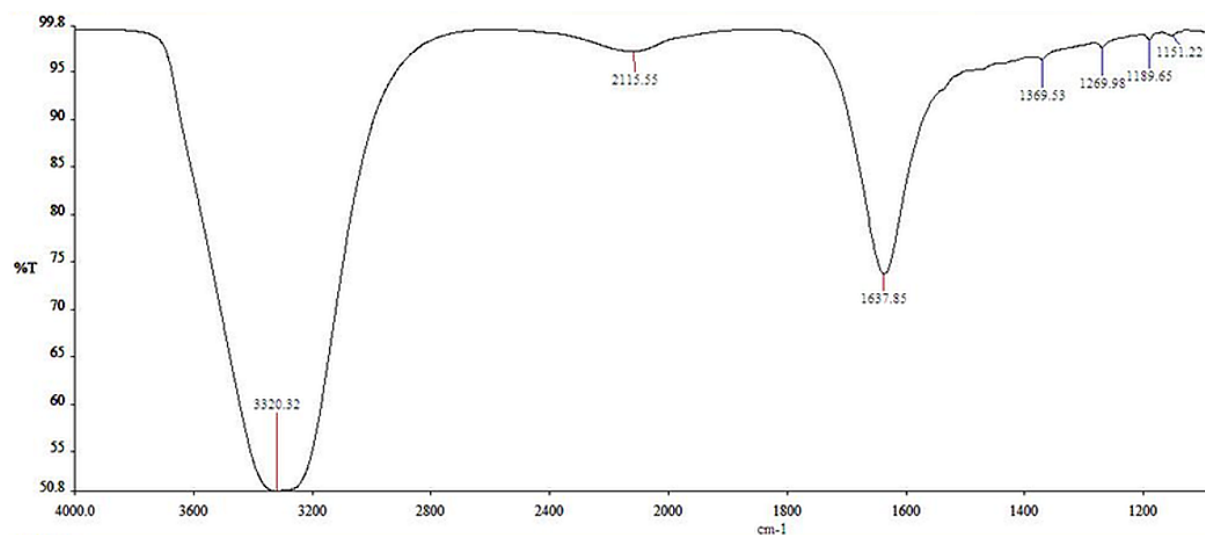


b.

Figure S1. Thermal analysis. a. HA complex matrix; b. solid complex mixture



a.



b.

Figure S2. FTIR spectra. a. solid complex mixture; b. HA matrix.

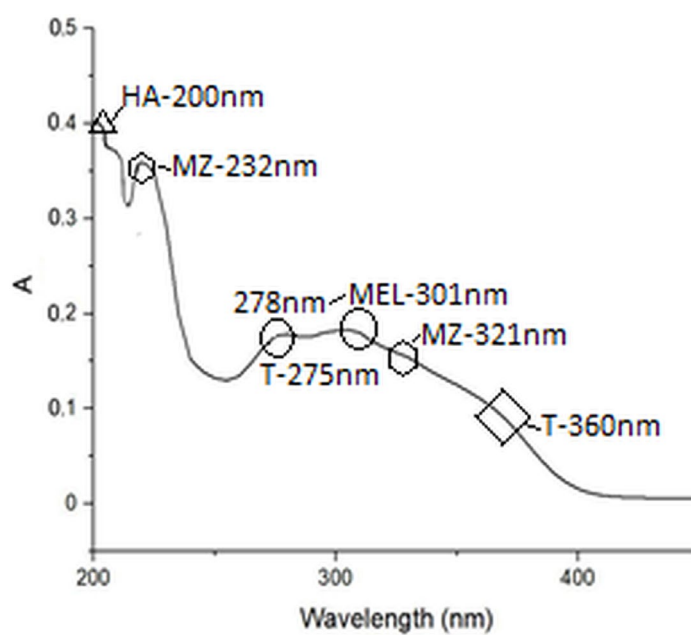
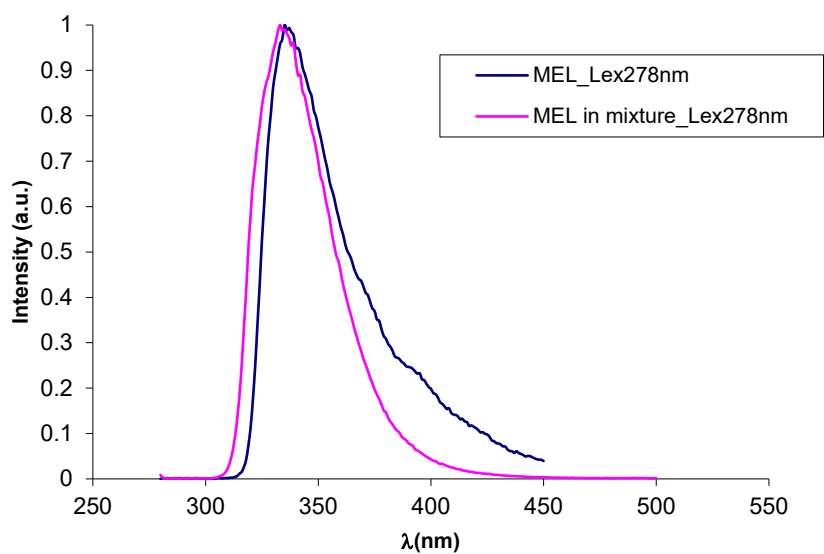
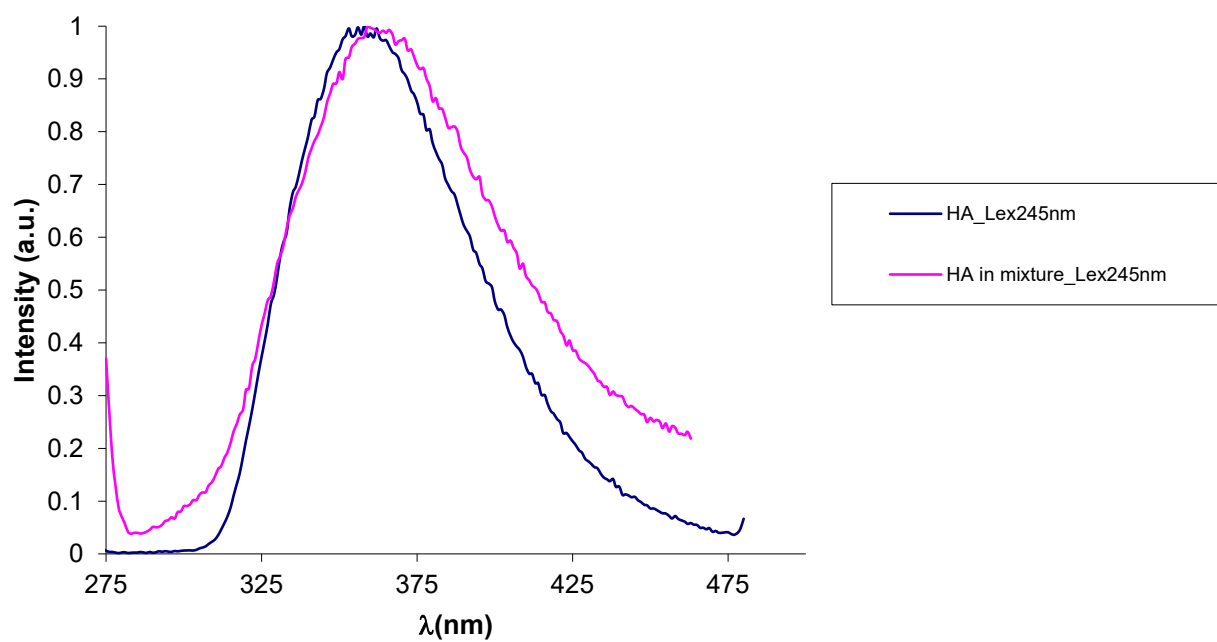


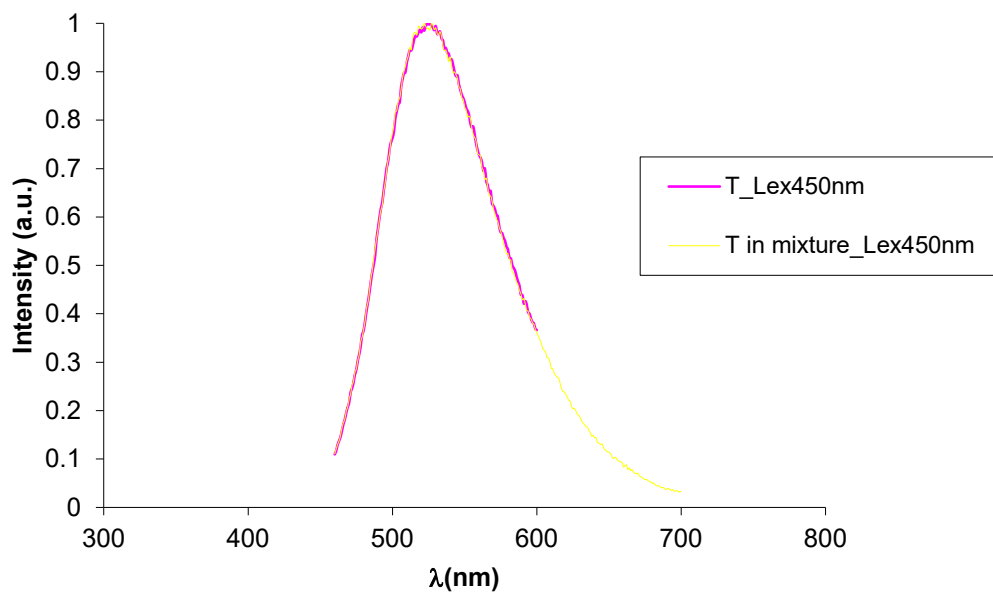
Figure S3. UV Spectrum for HA hydrogel form.



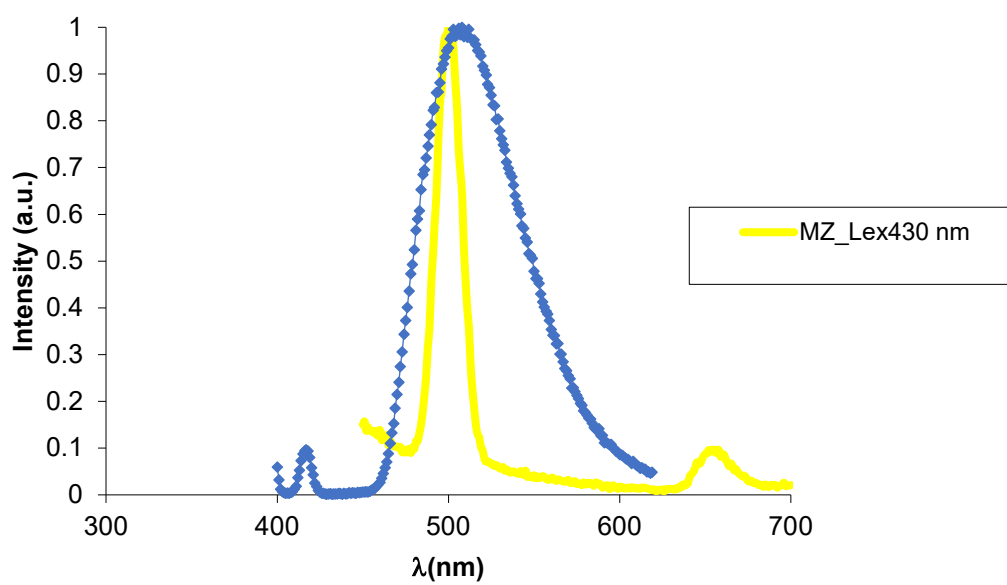
a.



b.

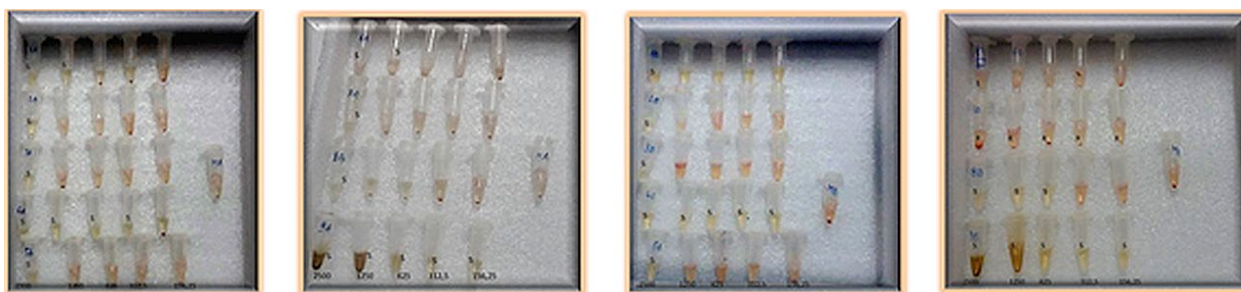


c.



d.

Figure S4. Fluorescence spectra (detailed) for each component: individually and in complex mixture:
a. melatonin-MEL; b. hyaluronic acid-HA; c. metronidazole-MZ; d. tetracycline-T.



a.

b.

c.

d.

Figure S5. The action of the microbial agents on the systems based on the bioactive formulation.

a. *Staphylococcus* spp. 1-5; b. *Staphylococcus* spp. 6-9; c. *Streptococcus* spp. 1-5; d. *Streptococcus* spp. 6-9.

The notations 1 to 9 correspond to 1- Tetracycline, Metronidazole, Soft paraffin; 2- Melatonin, Hyaluronic Acid, Soft paraffin; 3- Melatonin, Hyaluronic Acid – solid sample; 4- Metronidazole, Tetracycline, Melatonin, Hyaluronic Acid matrix; 5-Soft paraffin; 6- Hyaluronic Acid; 7- Melatonin; 8- Metronidazole; 9-Tetracycline.