Supplementary materials

**Manuscript Title:** “Hydrogel films based on chitosan and oxidized carboxymethylcellulose optimized for the controlled release of curcumin with applications in treating dermatological conditions”

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**Figure S1:**

![Figure S1](image1.png)

*Figure S1*: Schematic representation of CMC’s oxidation reaction under the sodium periodate action.

**Figure S2:**

![Figure S2](image2.png)

*Figure S2*: The structure of the hydrogel films based on chitosan and oxidized carboxymethyl cellulose - schematic presentation
Figure S3. Antioxidant activity determination expressed by IC50 values for the analyzed samples using the DPPH assay.

Figure S4: The CS calibration curve determined with ninhydrine test

Figure S5
Figure S5. Calibration curves of curcumin in ethanol (a), phosphate buffer at pH=7.4 (b), and acetate buffer at pH=5.5 (c)

Table S1. The CI values (%) for samples obtained by chemical cross-linking and physical interaction between CS and CMCOx, respectively, by the CS amino groups’ interaction with CMC’s carboxylic groups.

<table>
<thead>
<tr>
<th>Samples</th>
<th>Molar ratios</th>
<th>CI chemical cross-linking and physical interactions (%)</th>
<th>CI physical interactions (%)</th>
<th>CI chemical cross-linking and physical interactions - CI physical interactions = CI chemical cross-linking (Shiff base) (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>0.25:1</td>
<td>42.27±0.1</td>
<td>16.47±2.5</td>
<td>25.8</td>
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<td>P2</td>
<td>0.375:1</td>
<td>49.05±9.3</td>
<td>17.97±2.3</td>
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<td>P3</td>
<td>0.5:1</td>
<td>61.83±7.3</td>
<td>23.89±3.7</td>
<td>37.94</td>
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</tbody>
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