The Development of a Near Infrared Inulin Optical Probe for Measuring Glomerular Filtration Rate

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Table S1. FTIR analysis of inulin, carboxymethyl inulin, and Cy7.5-labeled inulin

<table>
<thead>
<tr>
<th>Polymer</th>
<th>–OH stretch (cm⁻¹)</th>
<th>–NH stretch (cm⁻¹)</th>
<th>–CO stretch (cm⁻¹)</th>
<th>–CH bend (alkane) (cm⁻¹)</th>
<th>–C=O stretch (cm⁻¹)</th>
<th>–C=C– stretch (cm⁻¹)</th>
<th>–CN stretch (cm⁻¹)</th>
<th>–NH bend (cm⁻¹)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inulin</td>
<td>3277</td>
<td>–</td>
<td>1130</td>
<td>–</td>
<td>1660</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>CMI</td>
<td>3217</td>
<td>–</td>
<td>1134</td>
<td>1425</td>
<td>1600</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>C7.5-inulin conjugate</td>
<td>3320</td>
<td>3320</td>
<td>1123</td>
<td>1442</td>
<td>1708</td>
<td>1604</td>
<td>1228</td>
<td>1650</td>
</tr>
</tbody>
</table>
**Figure S1.** $^1$H NMR spectroscopy of inulin (A), CMI (B), dye-inulin conjugate (C). The signal at 5.15 ppm in inulin corresponds to the proton of the anomeric carbon. All samples were run in DMSO-d$_6$.

**Figure S2.** $^{13}$C NMR spectroscopy of inulin (A), CMI (B), dye-inulin conjugate (C). All samples were run in DMSO-d$_6$. 
Figure S3. MALDI-MS spectrum of dye-inulin conjugate. Depending on the sample, the dye was observed to cleave off easily, producing a strong signal (A) and subsequently fragment (A and B). Mass differences of 71 Da was also observed, which does not correlate with any mass where the polysaccharide could be easily fragmented.