Supplementary Information

Blue and cyan fluorescent carbon dots: One-pot synthesis, selective cell imaging and their antiviral activity

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1. Hydrodynamic diameters of the two types of CDs

Fig. S1. The size distribution of b-CDs (A) and c-CDs (B) in aqueous solution measured by dynamic light scattering.

2. Cytotoxicity assay of the two types of CDs on HeLa cells and MARC-145 cells

Fig. S2. Cell viability assay of HeLa cells treated with b-CDs (A) and c-CDs (B), and MARC-145 cells treated with b-CDs (C) and c-CDs (D), respectively.
3. Primers used for real-time RT-qPCR

**Table S1** Primers used for real-time RT-qPCR in this study.

<table>
<thead>
<tr>
<th>Primer name</th>
<th>Primer sequence (5’→3’)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IFN-α</td>
<td>TCTGCAAGGTTCCCAATGG</td>
</tr>
<tr>
<td></td>
<td>AGATGGCATTGCAGCTGAGTAG</td>
</tr>
<tr>
<td>IFN-β</td>
<td>GCTAACAAGTGCATCCTCCAAA</td>
</tr>
<tr>
<td></td>
<td>AGCACATCATAGCTCATGGAAGAGA</td>
</tr>
<tr>
<td>ISG54</td>
<td>CTCAGAGGGTCAATGGAATTCC</td>
</tr>
<tr>
<td></td>
<td>AGGAAGGTCTATGAGGTCAGATCT</td>
</tr>
<tr>
<td>MX1</td>
<td>GGCGTGGGAATCAGTCATG</td>
</tr>
<tr>
<td></td>
<td>AGGAAGGTCTATGAGGTCAGATCT</td>
</tr>
</tbody>
</table>

4. Fluorescence lifetimes of the two types of CDs

**Table S2** Fluorescence lifetimes of the two types of CDs when fitted with a double-exponential decay function.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Fitting parameters (double-exponential)</th>
<th>$\chi^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\tau_1$ (ns) $\alpha_1$ (%) $\tau_2$ (ns) $\alpha_2$ (%) $\tau$ (ns)</td>
<td></td>
</tr>
<tr>
<td>b-CDs</td>
<td>2.87 22.32 10.58 77.68 8.86</td>
<td>0.996</td>
</tr>
<tr>
<td></td>
<td>2.72 19.80 10.54 80.20 8.99</td>
<td>1.002</td>
</tr>
<tr>
<td></td>
<td>2.82 20.37 10.58 79.63 9.00</td>
<td>1.004</td>
</tr>
<tr>
<td>c-CDs</td>
<td>3.09 13.85 8.89 86.15 8.09</td>
<td>0.998</td>
</tr>
<tr>
<td></td>
<td>2.67 10.21 8.83 89.79 8.20</td>
<td>0.994</td>
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<tr>
<td></td>
<td>2.97 11.38 8.83 88.62 8.16</td>
<td>1.004</td>
</tr>
</tbody>
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