Supplementary Materials

Polydopamine Modified Superparamagnetic Iron Oxide Nanoparticles as Multifunctional Nanocarrier for Targeted Prostate Cancer Treatment

Figure S1. XRD pattern of the bare IONPs (\( \lambda = 1.540598 \text{ Å} \)).

Figure S2. SAED patterns obtained via TEM analyses of A. bare IONPs and B. pDA-IONPs.
Figure S3. Suspension images of (A). pDA-IONPs and (B). GSSG-pDA–IONPs after 24 h in PBS (10 mM, pH 7.4)

Figure S4. Calibration curve showing the magnetic susceptibility vs. concentration of bare IONPs. Measurements were carried out in deionized water at pH 5.0-6.0.
Figure S5. FTIR spectrum of the prepared DTX-PMPI.

Figure S6. ¹H-NMR predicted spectrum of DTX-PMPI.
Figure S7. DLS size measurements to check the colloidal stability of the developed nanoparticles drug loaded FDG (GSH-pDA-SPIONs) in biological media (RPMI and albumin in NaCl) at 37 °C.

Figure S8. Confocal images of PC3 cell lines with A. no treatment, B. only DOX and C. DOX loaded nanoparticles.
Table S1. Comparative chart showing the drug loading efficiencies of doxorubicin and docetaxel, calculated using different methods.

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Loading Method (DOX)</th>
<th>Loading %</th>
<th>Loading Method (DTX)</th>
<th>Loading %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>UV-vis spectroscopy</td>
<td>&lt; 50°</td>
<td>HPLC</td>
<td>~ 40°</td>
</tr>
<tr>
<td>2.</td>
<td>UV-vis spectroscopy</td>
<td>68°</td>
<td>HPLC</td>
<td>9°</td>
</tr>
<tr>
<td>3.</td>
<td>UV-vis spectroscopy</td>
<td>2.5°</td>
<td>HPLC</td>
<td>67.5°</td>
</tr>
<tr>
<td>4.</td>
<td>UV-vis spectroscopy</td>
<td>76°</td>
<td>HPLC</td>
<td>~ 23°</td>
</tr>
<tr>
<td>5.</td>
<td>UV-vis spectroscopy</td>
<td>72°</td>
<td>HPLC</td>
<td>52.7°</td>
</tr>
<tr>
<td>6.</td>
<td>UV-vis spectroscopy</td>
<td>6.5°</td>
<td>HPLC</td>
<td>~ 8°</td>
</tr>
<tr>
<td>7.</td>
<td>UV-vis spectroscopy</td>
<td>62°</td>
<td>HPLC</td>
<td>~8.9°</td>
</tr>
</tbody>
</table>

References


