

Article

# Fluorescent Imprinted Nanoparticles for the Effective Monitoring of Irinotecan in Human Plasma

**Martina Tommasini** <sup>1</sup>, **Elena Pellizzoni** <sup>1,2</sup>, **Valentina Iacuzzi** <sup>2,3</sup>, **Elena Marangon** <sup>4</sup>, **Paola Posocco** <sup>5</sup>, **Cristina Forzato** <sup>1</sup>, **Paolo Bertoncin** <sup>3</sup>, **Giuseppe Toffoli** <sup>4,\*</sup>, **Marina Resmini** <sup>6,\*</sup> and **Federico Berti** <sup>1,\*</sup>

<sup>1</sup> Department of Chemical and Pharmaceutical Sciences, University of Trieste, Via Giorgieri 1, 34127 Trieste, Italy; martina.tommasini28@gmail.com (M.T.); pelizzoni.elena@gmail.com (E.P.); cforzato@units.it (C.F.)

<sup>2</sup> PhD School in Nanotechnology, University of Trieste, Via Giorgieri 1, 34127 Trieste, Italy; valentina.iacuzzi@cro.it

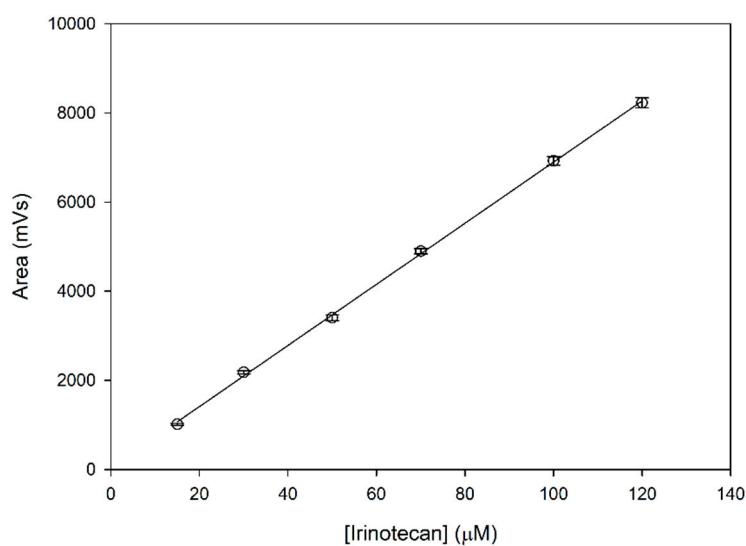
<sup>3</sup> Department of Life Sciences, University of Trieste, Via Giorgieri 5, 34127 Trieste, Italy; pbertoncin@units.it

<sup>4</sup> CRO–National Cancer Institute, SOC–Experimental and Clinical Pharmacology, Via Gallini 2, 33081 Aviano (PN), Italy; elenamarangon@hotmail.com

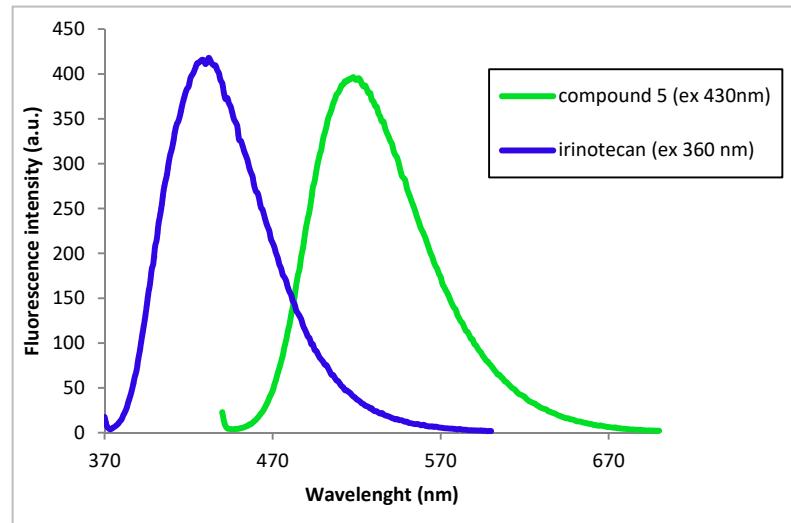
<sup>5</sup> Department of Engineering and Architecture, University of Trieste, Via Valerio 6/1, 34127 Trieste, Italy; paola.posocco@dia.units.it

<sup>6</sup> School of Biological and Chemical Sciences, Queen Mary University of London, Mile End Road, London E14NS, UK

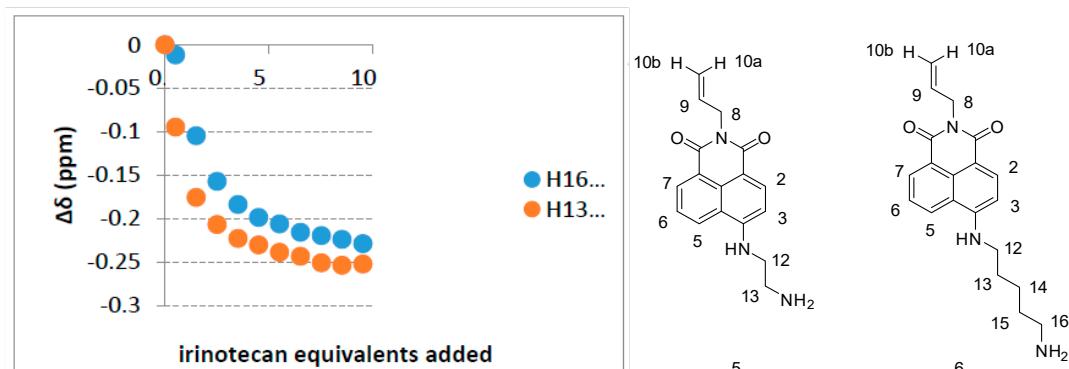
\* Correspondence: gtoffoli@cro.it (G.T.); m.resmini@qmul.ac.uk (M.R.); fberti@units.it (F.B.); Tel.: +39-040-558-3921 (F.B.)



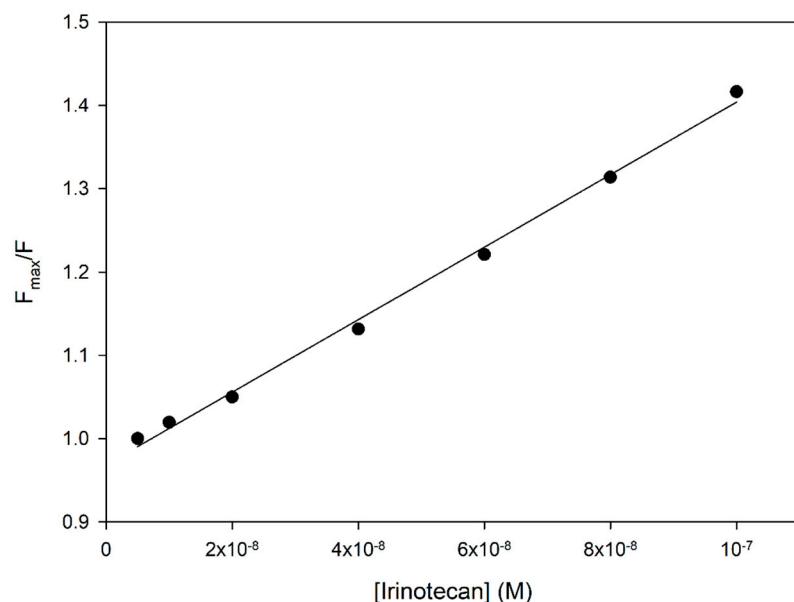
**Figure S1.** HPLC calibration curve for irinotecan, used to measure residual irinotecan concentrations in rebinding tests. Slope 38.9204, intc. 68.5995,  $r^2$  0.9984.



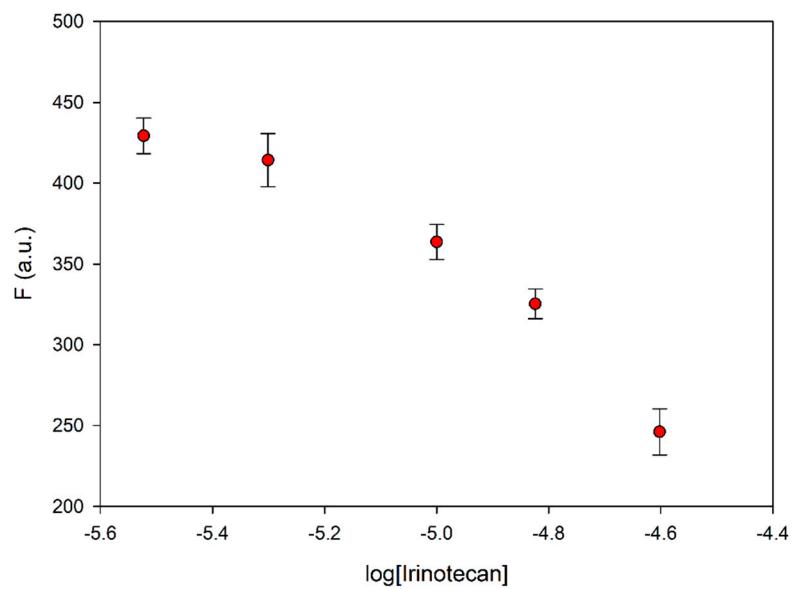
**Figure S2.** fluorescence emission spectra of 250 nM irinotecan and of 1  $\mu$ M naphtlimide 5.



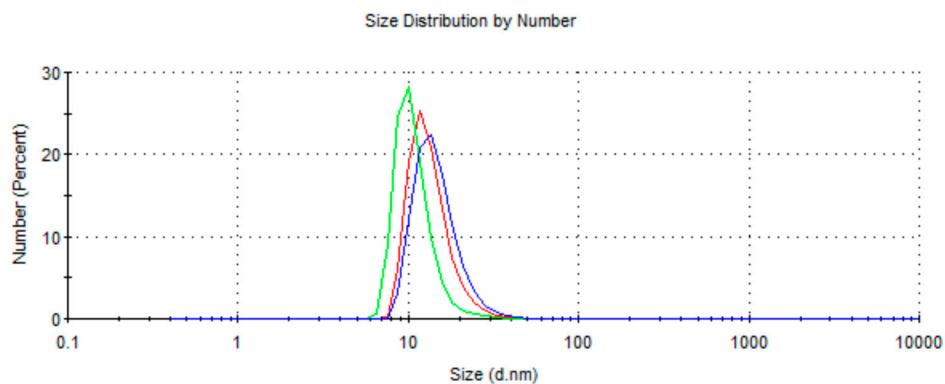
**Figure S3.** change of chemical shifts of protons 13 (compound 5) and 16 (compound 6) upon titration with irinotecan.



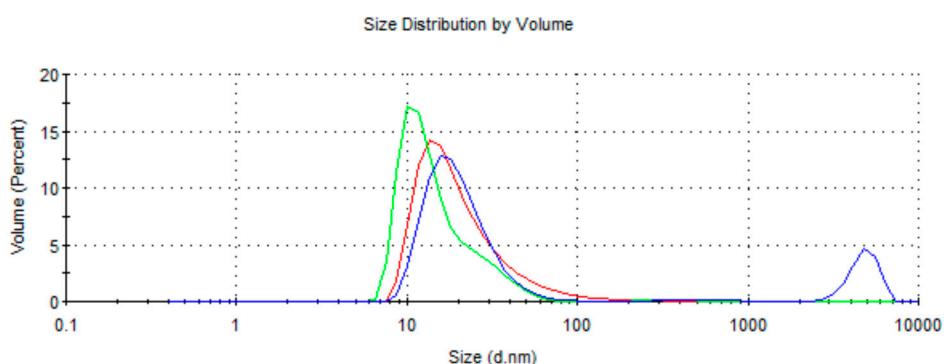
**Figure S4.** Stern-Volmer plot for the fluorescence titration of MIP F with irinotecan.



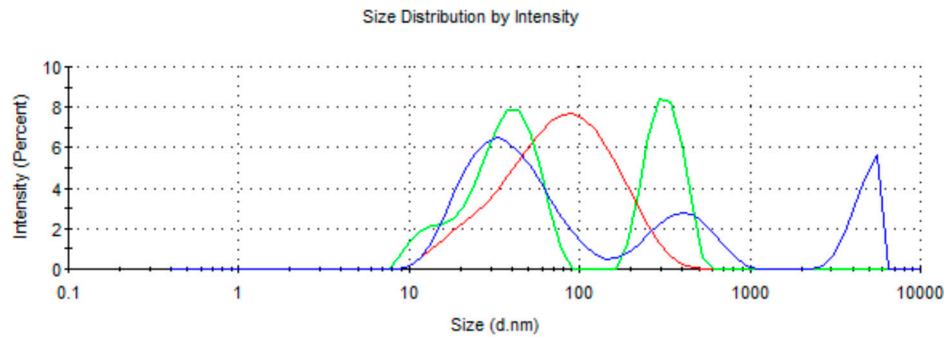
**Figure S5.** quenching of the fluorescence emission of MIP F in the high irinotecan concentration range (3–25  $\mu\text{M}$ ).



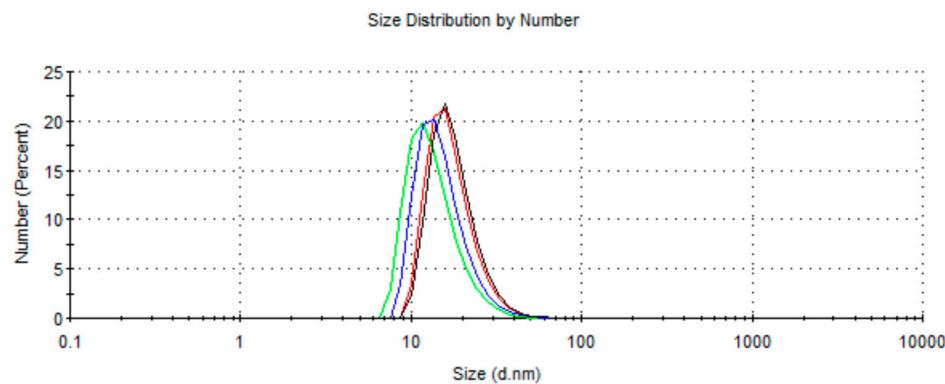
**Figure S6.** size distribution by number of MIP F.



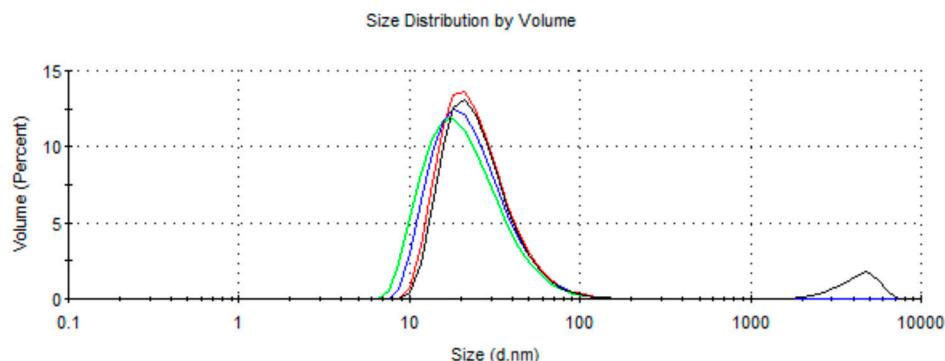
**Figure S7.** size distribution by volume of MIP F.



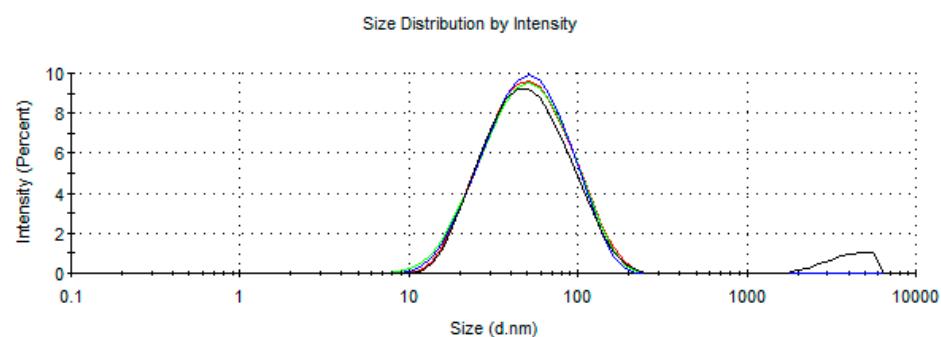
**Figure S8.** size distribution by intensity of MIP F.



**Figure S9.** size distribution by number of NIP F.



**Figure S10.** size distribution by volume of NIP F.



**Figure S11.** size distribution by intensity of NIP F.



© 2020 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).