Electronic Supporting Information

A Down-Scaled Fluorimetric Determination of the Solubility Properties of Drugs to Minimize Waste Generation

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Table S1: Excitation and fluorescence emission maxima of the compounds studied employed for the down-scaled fluorimetric assay

	Camptothecin (1)	Luotonin A (2)	3
λ_{ex} (nm)	369	341	348
λ_{em} (nm)	428	416	404



Figure S1: Overlayed chromatograms corresponding to a mix of solubilized compounds in the presence of HP β -CD (top) and a calibration solution of the alkaloids (bottom). The cyclodextrin inclusion complexes were prepared individually (as described in the Experimental Section) and simultaneously chromatographed.

	LOD (multi-well plate)	LOD (HPLC)
Camptothecin (1)	$2.1 \times 10^{-7} M$	$3.2 \times 10^{-10} M$
Luotonin A (2)	$2.7 \times 10^{-7} M$	6.4 x 10 ⁻¹⁰ M
3	2.0 x 10 ⁻⁷ M	$6.3 \times 10^{-10} M$

Table S2: Limits of detection deduced from the calibration curves for the downscaled spectrofluorimetry (multi-well plate) determination of the anti-tumour agents studied.

Equations employed for the determination of apparent association constants K_{ass} using the solubility phase diagrams.

$$S_{t} = S_{0} + K_{1:1}S_{0}[CD]$$

$$S_{t} = S_{0} + K_{1:1}S_{0}[CD] + K_{1:1}K_{1:2}S_{0}[CD]^{2}$$

$$S_{t} = S_{0} + K_{1:1}S_{0}[CD] + K_{1:1}K_{1:2}S_{0}[CD]^{2} + K_{1:1}K_{1:2}K_{1:3}S_{0}[CD]^{3}$$

$$K_{ass} = K_{1:1} \cdot K_{1:2} \cdot K_{1:3}$$

Where:

- S_t is the total solubilized amount of alkaloid
- S₀ is the native solubility in water of every compound.
- $K_{1:1}$, $K_{1:2}$ and $K_{1:3}$ are the corresponding association constants for the complexes of 1:1, 1:2 and 1:3 drug:cyclodextrin stoichiometric ratios.
- $K_{\rm ass}$ is the apparent global association constant.

Taken from reference 14b (M. E. Brewster, T. Loftsson, Adv. Drug Delivery Rev., 2007, 59, 645-666).



Figure S2: Mass spectra of the camptothecin:HP β -CD inclusion complex. The HP β -CD concentration was 25% w/v.



Figure S3: Mass spectra of the 3:HP β -CD inclusion complex. The HP β -CD concentration was 25% w/v.