

Supporting Information

Self-discriminating Fluorescent Hybrid Nanocrystals: Efficient and Accurate Tracking of Translocation via Oral Delivery

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Table S1. Physicochemical properties of QT-HNCs (mean $\pm$ SD, n=3)

Formulation	Particle size (nm)	PDI	Zeta potential (mV)	TRE[p/s]/ [μ W/cm ²] $\times 10^9$	QT content (mg/mL)	EE (%)	Loading (%)
P2/QT-HNCs-280	274.23 $\pm$ 5.80	0.13 $\pm$ 0.03	-20.3 $\pm$ 3.1	5.79 $\pm$ 0.09	18.46 $\pm$ 0.49	59.13 $\pm$ 0.97	0.13 $\pm$ 0.0029
P2/QT-HNCs-550	541.20 $\pm$ 44.11	0.17 $\pm$ 0.01	-21.4 $\pm$ 2.7	5.21 $\pm$ 0.25	18.00 $\pm$ 0.51	60.61 $\pm$ 0.23	0.13 $\pm$ 0.0033
P2/QT-HNCs-1100	1163.00 $\pm$ 134.36	0.20 $\pm$ 0.03	-23.2 $\pm$ 3.2	5.11 $\pm$ 0.15	17.90 $\pm$ 0.38	66.69 $\pm$ 1.30	0.15 $\pm$ 0.0009
P4/QT-HNCs-280	283.41 $\pm$ 4.12	0.17 $\pm$ 0.02	-24.1 $\pm$ 1.9	22.87 $\pm$ 0.24	18.06 $\pm$ 0.10	97.75 $\pm$ 1.04	0.22 $\pm$ 0.0020
P4/QT-HNCs-550	558.14 $\pm$ 38.24	0.15 $\pm$ 0.04	-22.8 $\pm$ 2.8	21.94 $\pm$ 0.08	17.68 $\pm$ 0.15	98.62 $\pm$ 0.63	0.22 $\pm$ 0.0033
P4/QT-HNCs-1100	1093.52 $\pm$ 108.32	0.19 $\pm$ 0.03	-23.7 $\pm$ 2.2	22.26 $\pm$ 0.21	18.45 $\pm$ 0.68	97.15 $\pm$ 0.88	0.2 $\pm$ 0.0086

Table S2. The composition of SGF, SIF, FaSSIF and FeSSIF.

Component	SGF	SIF	FaSSIF	FeSSIF
Sodium taurocholate	-	-	6 mM	15 mM
Lecithin	-	-	1.5 mM	3.75 mM
Pepsin	3.2 g	-	-	-
Trypsin	-	10 g	-	-
NaH ₂ PO ₄ ·H ₂ O	-	7.7 g	3.954 g	-
NaOH	-	q.s.	0.348 g	4.04 g
NaCl	2.0 g	-	6.186 g	11.874 g
CH ₃ COOH	-	-	-	8.65 g
HCl	7.0 mL	-	-	-
H ₂ O	1000 mL	1000 mL	1000 mL	1000 mL

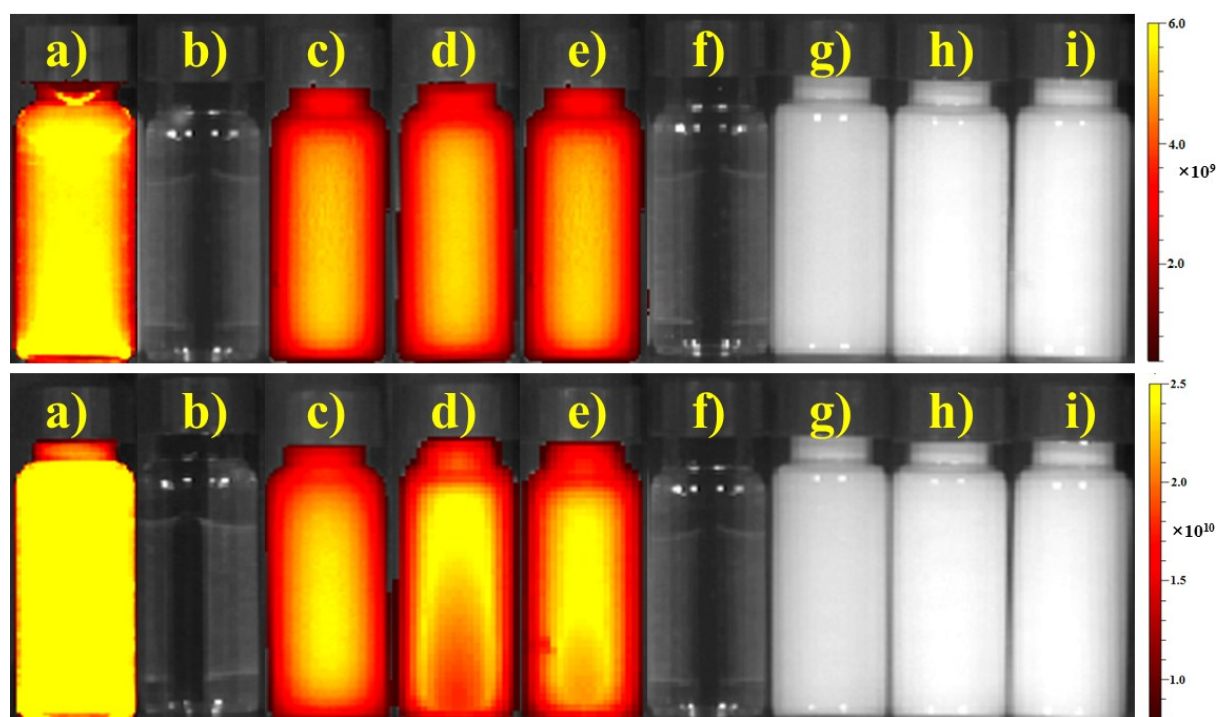


Figure S1. Fluorescence images of P2 samples (upper row) and P4 samples (lower row). The samples in each row from are listed left to right: a) probe solution in acetonitrile, b) probe solution in water, c) QT-HNCs-280, d) QT-HNCs-550, e) QT-HNCs-1100, f) probe solution in P188 (0.016%), g) QT-NCs-280, h) QT-NCs-550, i) QT-NCs-1100.