Electronic Supporting Information

Biodegradable nanoparticles based on an amine terminated polyester as a strategy to tune surface properties, protein interaction and accumulation in lung metastasis

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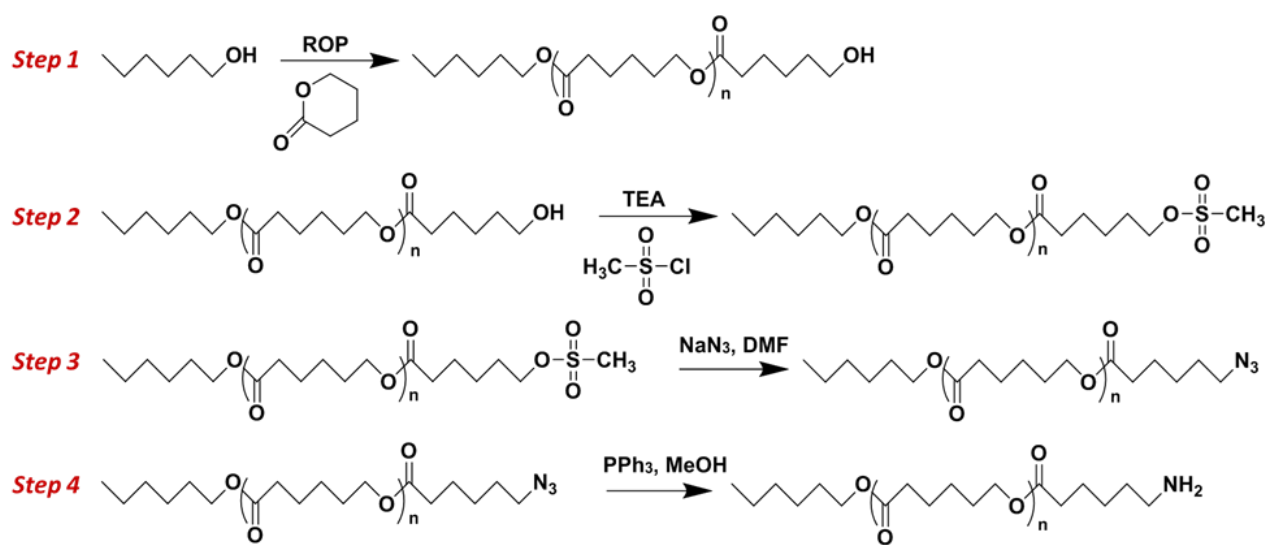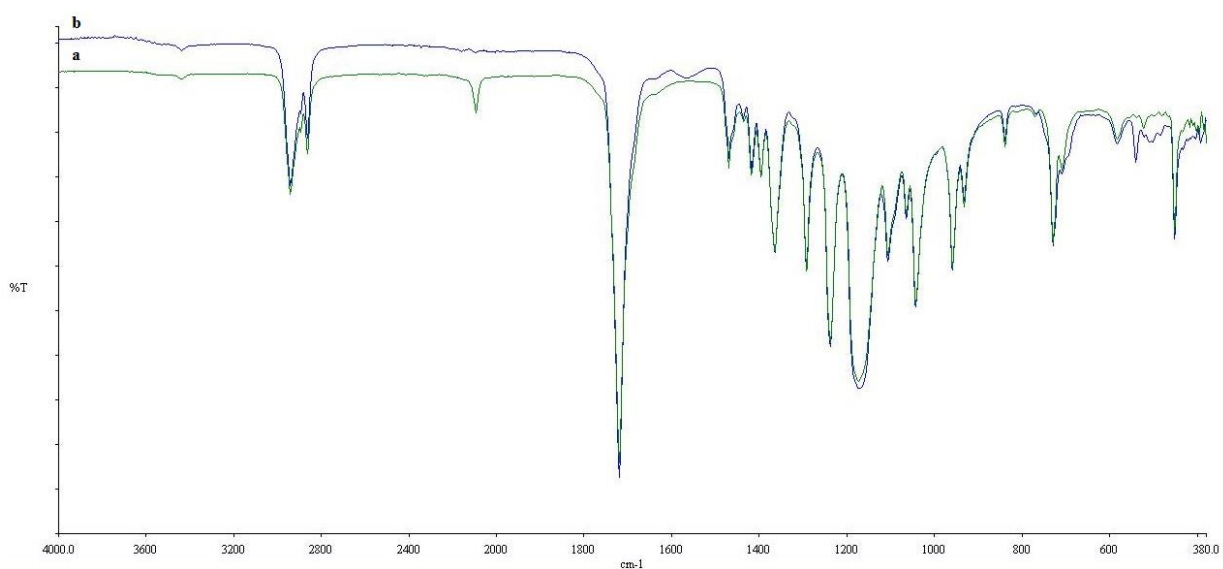[d.]   *Animal Facility, National Cancer Institute - Foundation "G. Pascale", Naples, Italy*

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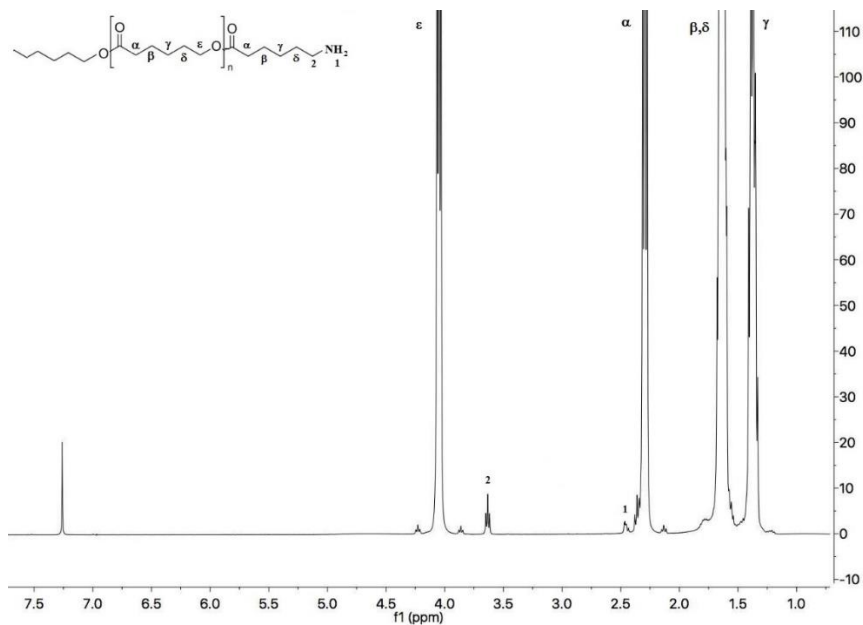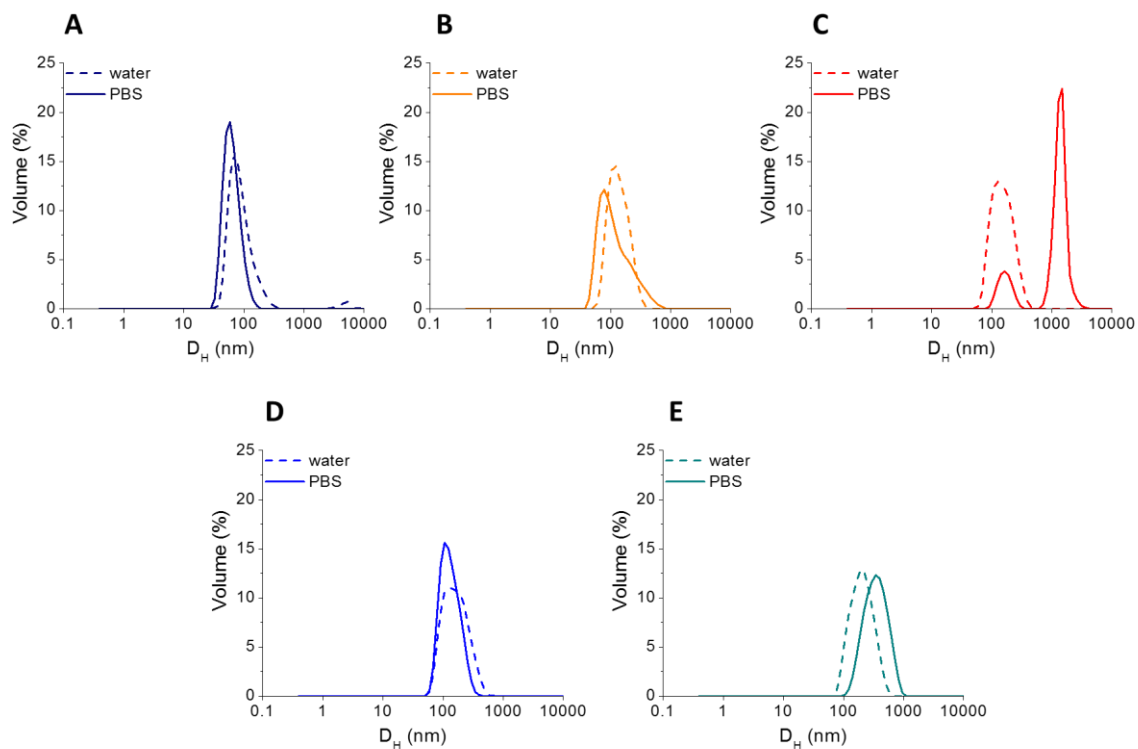
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Scheme S1. Synthetic strategy for PCL–NH$_2$.
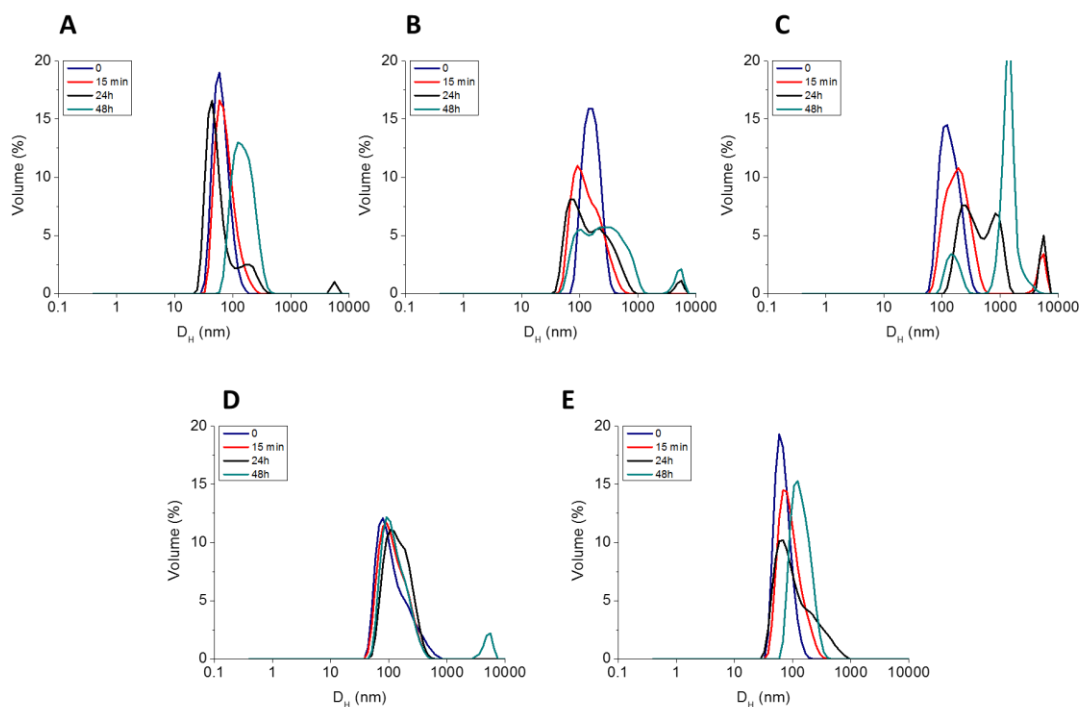

**Figure S1.** FTIR spectra of PCL-N$_3$ (**a**) and PCL-NH$_2$ (**b**)

Figure S2. ^1H NMR spectrum of PCL-NH_2 (solvent: $CDCl_3$)

Figure S3. Distribution curves of PEG-NPs (A), NH_2/PEG-NPs (B), NH_2-NPs (C), NH_2/PEG-NPs@HA (D) and NH_2-NPs@HA (E) in water and in PBS pH 7.4 after 30 minutes of incubation at 37 °C.

Figure S4. Distribution curves of PEG-NPs (A), NH_2/PEG-NPs (B), NH_2-NPs (C), NH_2/PEG-NPs@HA (D) and NH_2-NPs@HA (E) in human plasma along time.
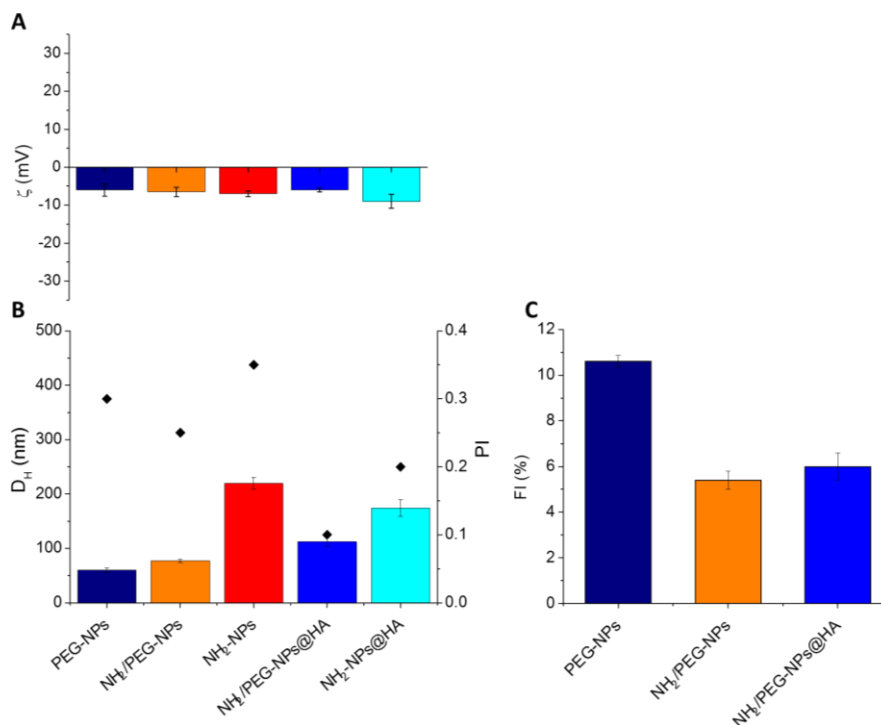
Figure S5. NPs properties in DMEM+FBS. A) Zeta potential (ζ); B) mean diameter (D_H); C) uptake of DiD-Oil loaded NPs in A549 cells after 4 h ([NPs]= 0.5 mg/mL). Results are the mean of three measurements obtained on three different NP batches.

Table S1. Properties of Did-Oil loaded nanoparticles

Formulation code	Size (nm ± SD)	PI	ζ (mV ± SD)	Actual load mg Did-Oil/100 mg NPs	Encaps. Eff (%)
Did-Oil/PEG-NPs	119±8	0.2	-8±4	0.19	95
Did-Oil/NH$_2$/PEG-NPs[a]	121±12	0.2	+8±3	0.19	95
Did-Oil/NH$_2$/PEG-NPs@HA	124±11	0.1	-12±4	0.20	98

[a] NH$_2$-PCL/mPEG-PCL ratio was 1:1 by weight