Electronic Supplementary Material (ESI) for Biomaterials Science.

PEGylated cationic nanoassemblies based on triblock copolymers to combine siRNA therapeutics with anticancer drugs

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Table S1. Molecular weight (Da) and polydispersity index (PDI) of mPEG, mPEG-pDMAEMA-N_3 and butynyl-PCL

Polymer	Mn (theoretical)	Mn (^{1}H NMR)	Mn (GPC)	Mw (GPC)	PDI (GPC)
$mPEG_{2k}$	-	-	1870	2240	1.20
$mPEG_{5k}$	-	-	4980	5826	1.17
$mPEG_{2k}pDMAEMA_{5.6k}$-N_3	6000*	5660*	7720	10036	1.32
$mPEG_{5k}pDMAEMA_{15k}$-N_3	15000*	14934*	19853	24022	1.21
PCL_{750}	750	762	753	895	1.18
PCL_{4k}	4000	4161	4376	5443	1.24

* molecular weights refer to pDMAEMA block

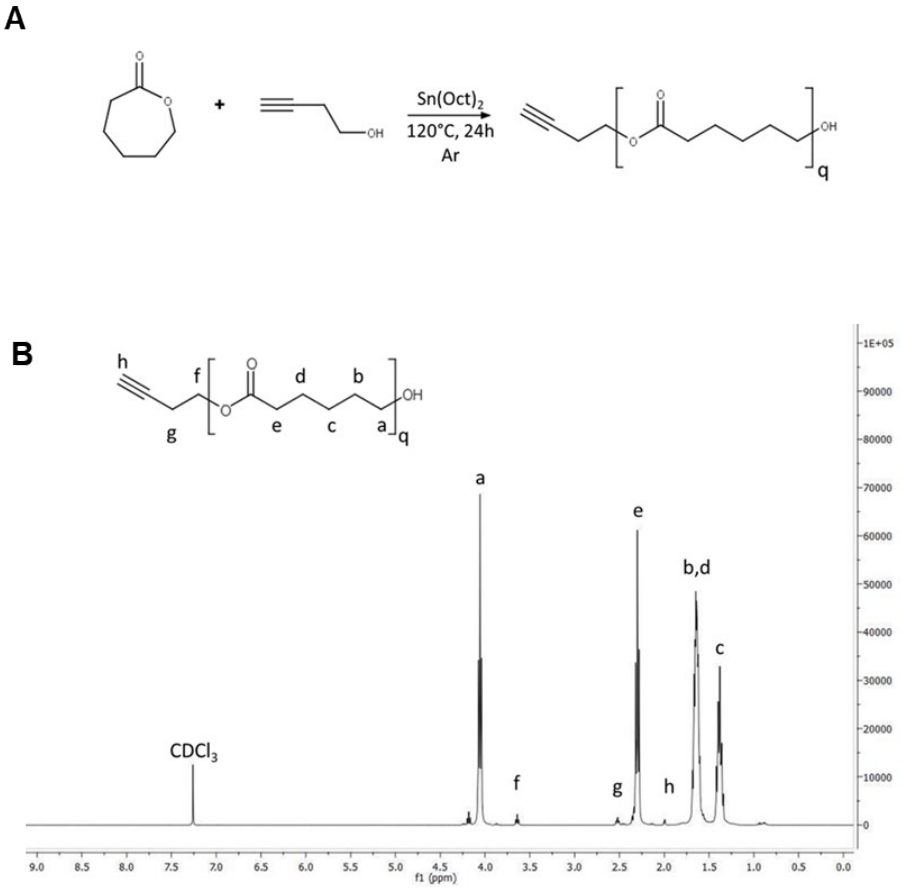

Figure S1. A) Polymerization of ε-CL initiated by 3-butyn-1-ol); B) ^{1}H-NMR spectrum of butynyl-PCL_{4k}

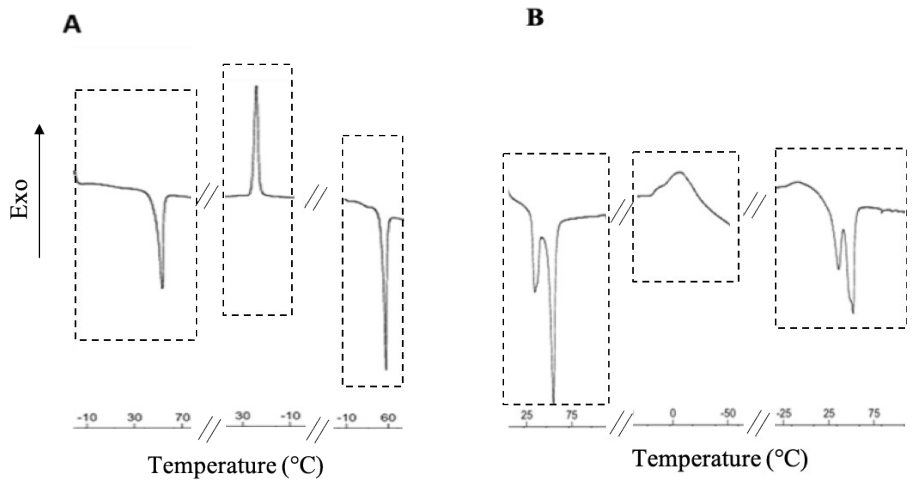

Figure S2. DSC thermograms of LLS (A) and SSL (B) copolymers showing first melting, crystallization from the melt and second melting peaks.

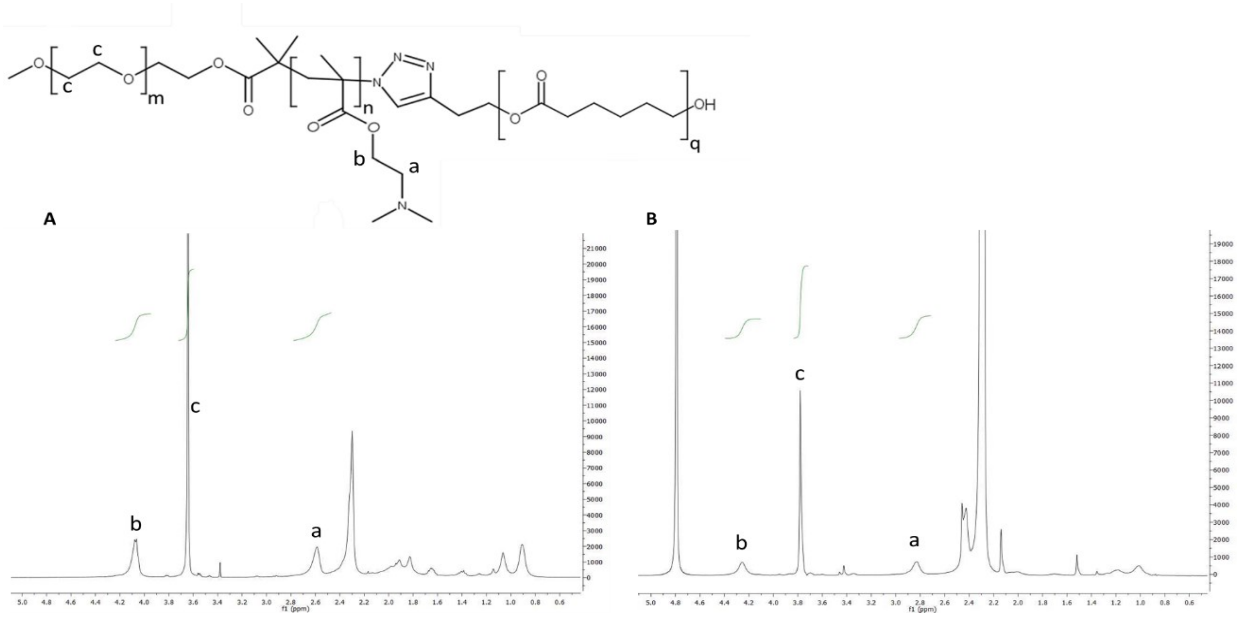

Figure S3. ^{1}H-NMR spectrum of SSS-NPs in $CDCl_3$ (A) and D_2O (B). In evidence signals relative to O-CH_2-C**H**$_2$-N (a) and O-C**H**$_2$-CH_2-N (b) protons of DMAEMA block, and O-C**H**$_2$-C**H**$_2$-O (c) protons of mPEG.

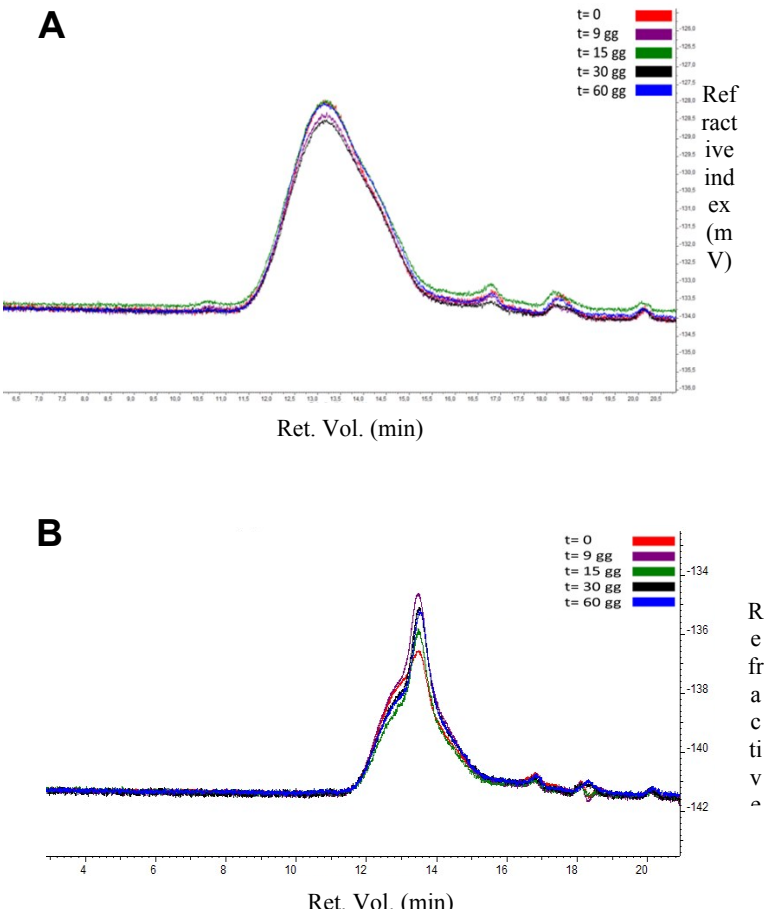

Figure S4. Hydrolytic degradation analyzed through gel permeation chromatography (refractive index detector) of SSL-NPs (A) and LLL-NPs (B).

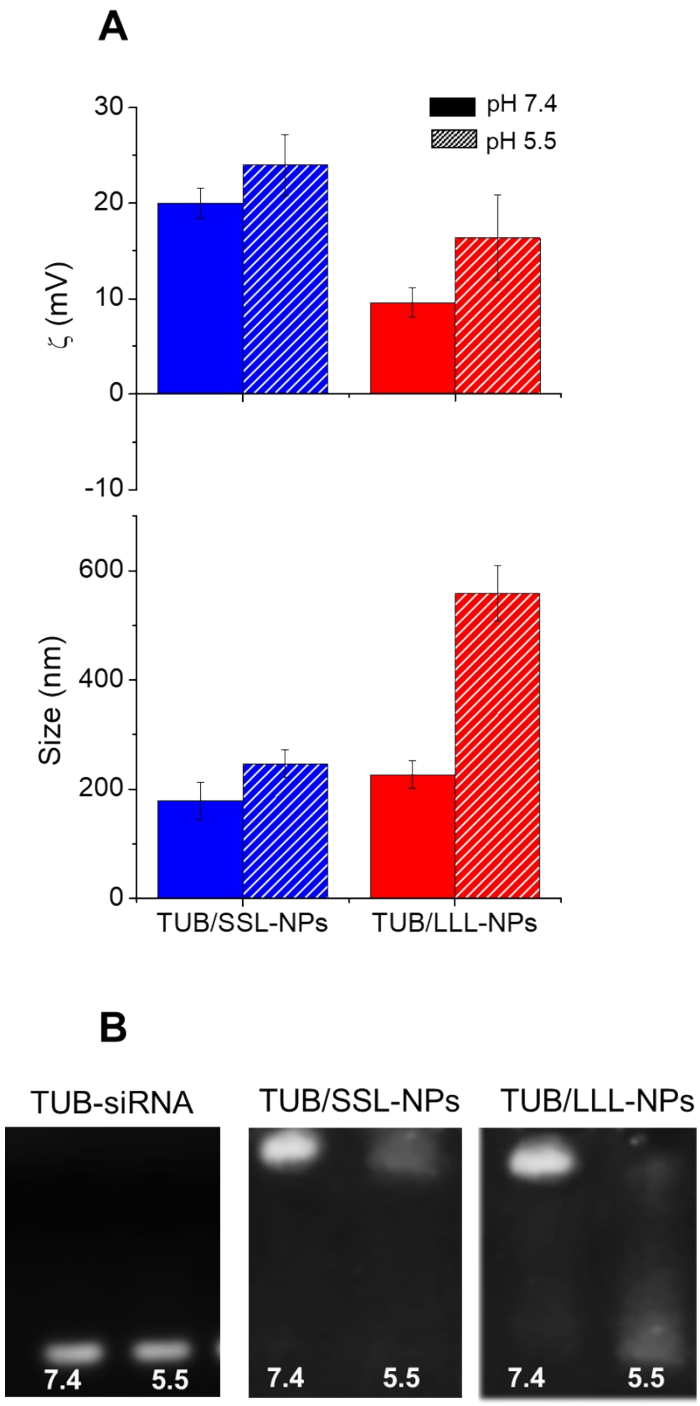

Figure S5. Stability of siRNA/NP complexation in PBS at pH 7.4 and 5.5. (A) Size, polydispersity index and ζ of NPs complexed with TUB-siRNA at N/P ratio 10. B) siRNA complexation as evaluated by the gel retardation assay.

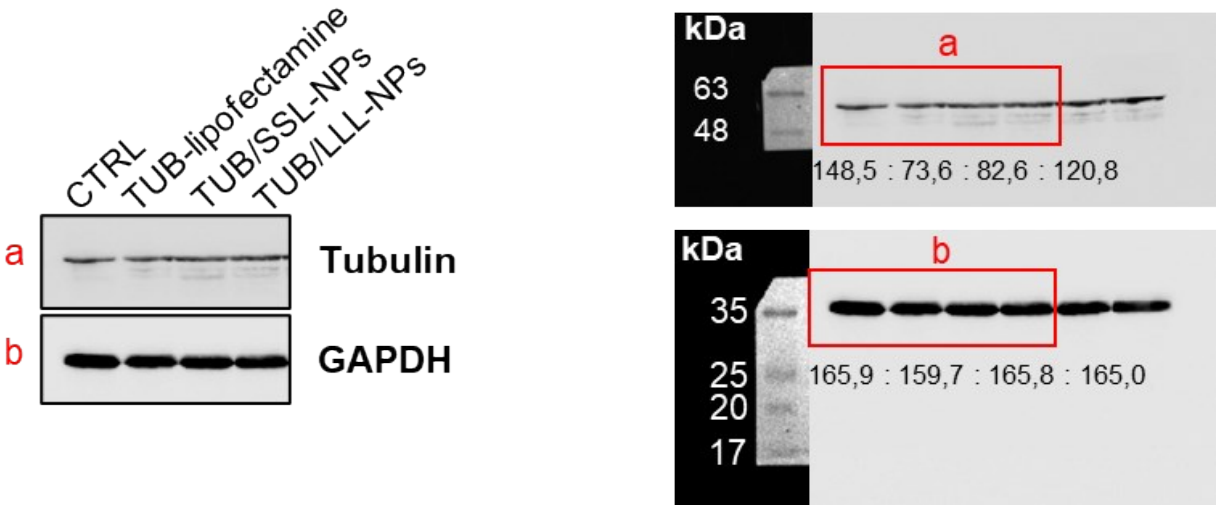

Figure S6. Full length western blots of Figure 7 with antibodies against indicated proteins. GAPDH was used as loading control. Mean densitometric values of three independent experiments are reported.