

## Supporting Information

### **pH-Responsive PEGylated Niosomal Nanoparticles as an Active-Targeting Cyclophosphamide Delivery System for Gastric Cancer Therapy**

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**Table S1.** Different levels of independent variables used by Central Composite design.

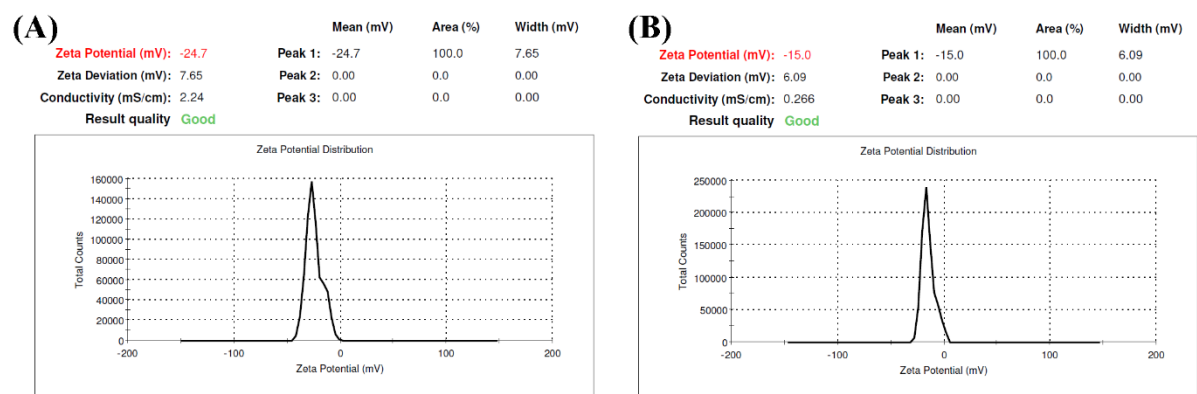
Level	-1	0	+1
A (Lipid: Drug, molar ratio)	10	20	30
B (Surfactant: Cholesterol, molar ratio)	0.5	1	2

**Table S2.** Two types of categorical variables used by Central Composite design.

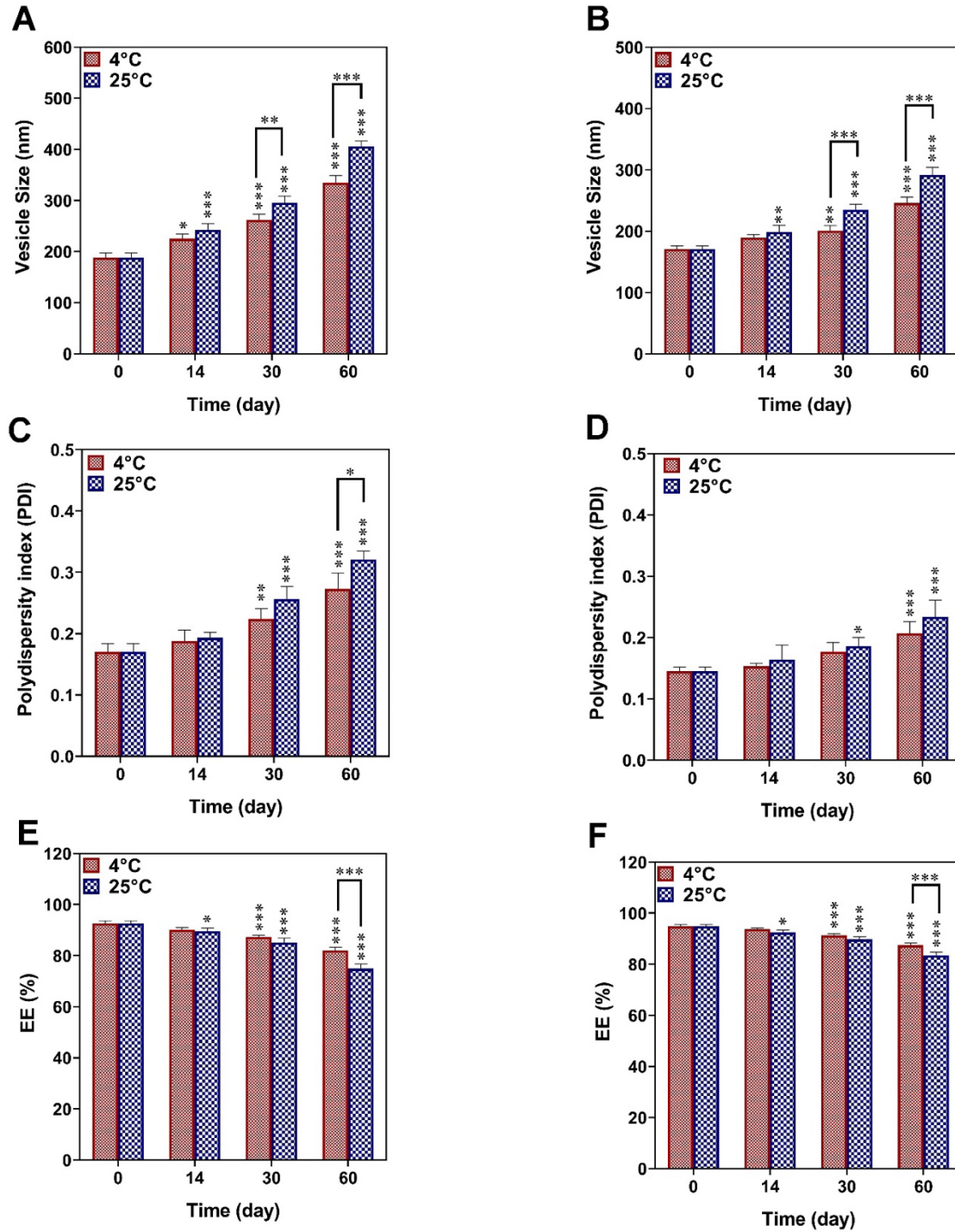
Factor	Name	Type	Level 1	Level 2
C	Surfactant type	Categoric	Span20	Span60

**Table S3.** The primers used in PCR

Gene	Primer Sequence
<i>Cyclin D</i>	Forward: 5'- CAGATCATCCGCAAACACGC-3' Reverse: 5'- AAGTTGTTGGGGCTCCTCAG-3'
<i>β-actin</i>	Forward: 5'- TCCTCCTGAGCGCAAGTAC-3' Reverse: 5'- CCTGCTTGCTGATCCACATCT-3'
<i>Caspase 3</i>	Forward: 5'- CATACTCCACAGCACCTGGTTA-3' Reverse: 5'- ACTCAAATTCTGTTGCCACCTT-3'
<i>Caspase 9</i>	Forward: 5'-CATATGATCGAGGACATCCAG-3 Reverse: 5'-TTAGTTTCGCAGAAACGAAGC-3'
<i>Cyclin E</i>	Forward: 5'- CTCCAGGAAGAGGAAGGCAA-3' Reverse: 5'- TTGGGTAAACCCGGTCATCA-3'
<i>MMP-2</i>	Forward: 5'- TTG ACG GTA AGG ACGGAC TC -3' Reverse: 5'- CAT ACT TCA CAC GGA CCA CTTG -3'
<i>MMP-9</i>	Forward: 5'- GCACGACGTCTTCCAGTACC -3' Reverse: 5'- CAGGATGTCATAGGTCACGTAGC -3'



**Figure S1.** Zeta potential measurement of Nio-Cyclo (A), and Nio-Cyclo-PEG (B).



**Figure S2.** The impact of storage time (14, 30 and 60 days) and storage temperature (4 °C and 25 °C) on a, b) The average size, c, d) the polydispersity index (PDI), and e, f) The entrapment efficiency of cyclophosphamide in Nio-Cyclo and Nio-Cyclo-PEG formulations (Data presented as average  $\pm$  SD); The P-values are \*: P<0.05, \*\*: P<0.01 and \*\*\*: P<0.001.