\*- Supplementary Information for:

## Intracellular redox potential-responsive micelles based on polyethylenimine-cystamine-poly (ε-caprolactone) block copolymer for enhanced miR-34a delivery

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Fig.S1. Plots of the intensity ratio  $I_{338}/I_{333}$  (from pyrene excitation spectra at  $\lambda_{em}$ =390 nm) vs. log C for PP (A) and PSSP (B).



Fig.S2. Effects of polymer/miR-34a complexes on B16F10 cell motility and migration: representative images of wound-healing assay. Scale bar: 50 µm.



Fig.S3. DAPI staining of fragmented chromatin or apoptotic bodies in B16F10 cells after transfection with polymer/miR-34a. Scale bar:  $30 \mu m$ .

Polymer	N/P ratio	Size (nm)	PDI	Zeta potential (mV)
РР	Blank micelle	$153.2 \pm 3.4$	$0.023\pm0.003$	$+37 \pm 1.6$
	5/1	$203.2 \pm 5.3$	$0.381\pm0.001$	$+16 \pm 1.2$
	15/1	$120.4 \pm 2.7$	$0.143\pm0.003$	$+28 \pm 2.5$
	30/1	$122.5 \pm 4.2$	$0.087\pm0.001$	$+30 \pm 1.6$
PSSP	Blank micelle	$157.4 \pm 3.9$	$0.035\pm0.002$	$+35 \pm 1.9$
	5/1	$210.3 \pm 2.4$	$0.295\pm0.005$	$+17 \pm 0.9$
	15/1	$119.8 \pm 3.6$	$0.120\pm0.003$	$+27 \pm 1.7$
	30/1	$125.2 \pm 6.4$	$0.089\pm0.004$	$+31 \pm 1.4$

Table.S1. The effect of N/P ratio on particle size and zeta potential of polymer/miRNA complexes.