

## **Multifunctional Polyplex Micelles for Efficient MicroRNA Delivery and Accelerated Osteogenesis**

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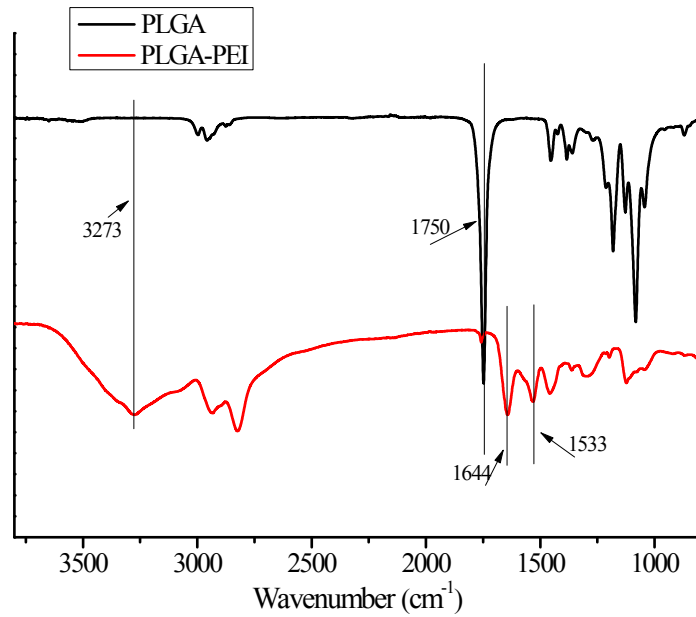
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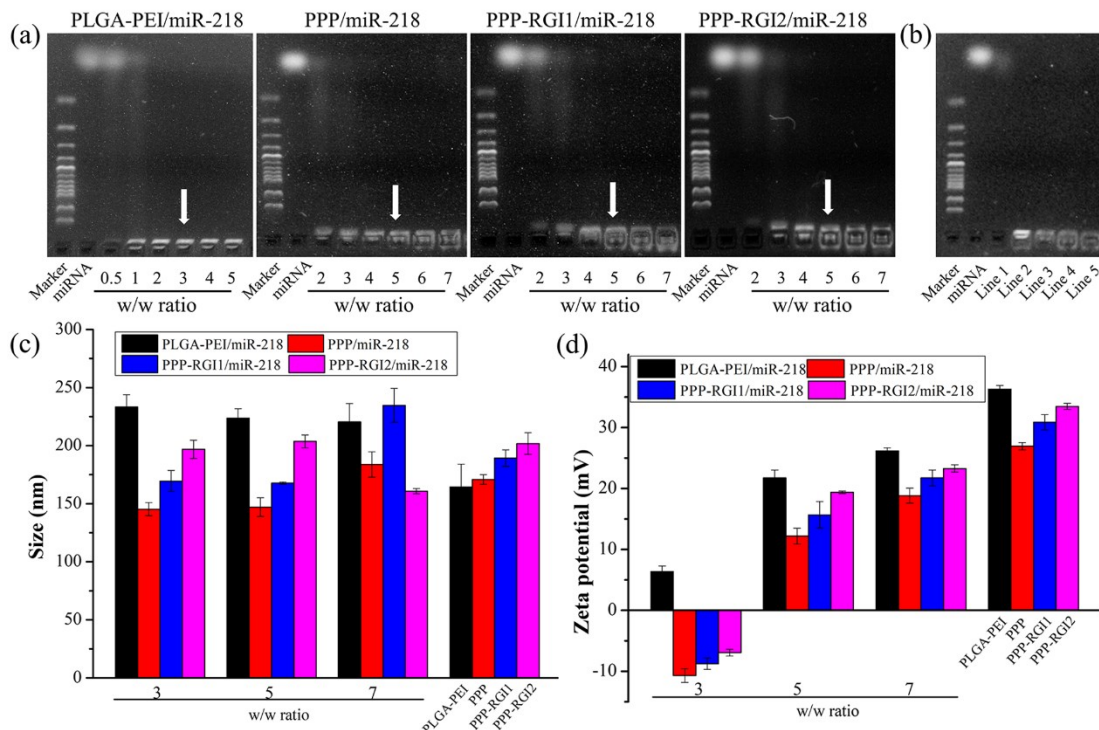
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**Table S1.** Primer sequences for qRT-PCR.

Gene	Primer sequence
miR-218	UUGUGCUUGAUCUAACCAUGU
ALP	F: ACTGCGCTCCTTAGGGCT R: GGCAGCGTCAGATGTTAATTG
RUNX2	F: AGTGCTCTAACCACAGTCCATGCA R: TACAAACCATAACCCAAGTACCTGTTT
Col1	F: GATGGTGCATCACTCAATGG R: TATGCGCACTTCAAAAACCA
OCN	F: GGTAGTGAACAGACTCCGGC R: CAAGCAGGGTTAAGCTCACA
DKK2	F: TCAGTCAGCCAACCGATCTG R: TCTCTGTGGCATCGTTTCTTTT
SFRP2	F: CCCCTGTCTGTCTCGACGA R: CTTACACACCTTGGGAGCTT
SOST	F: AGCCTTCAGGAATGATGCCAC R: CTTTGGCGTCATAGGGATGGT
PCNA	F: TTTCACAAAAGCCACTCCACTG R: CTTTAAGTGTCCCATGTCAGCAAT
GAPDH	F: TTGATGGCAACAATCTCCAC R: CGTCCCGTAGACAAAATGGT

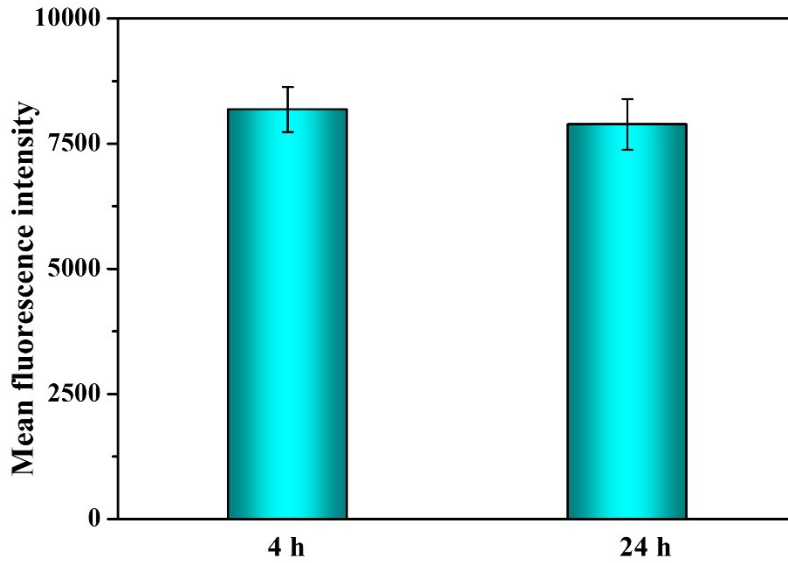


**Fig. S1** FT-IR spectra of synthesized PLGA copolymers and PLGA-PEI triblock copolymer.

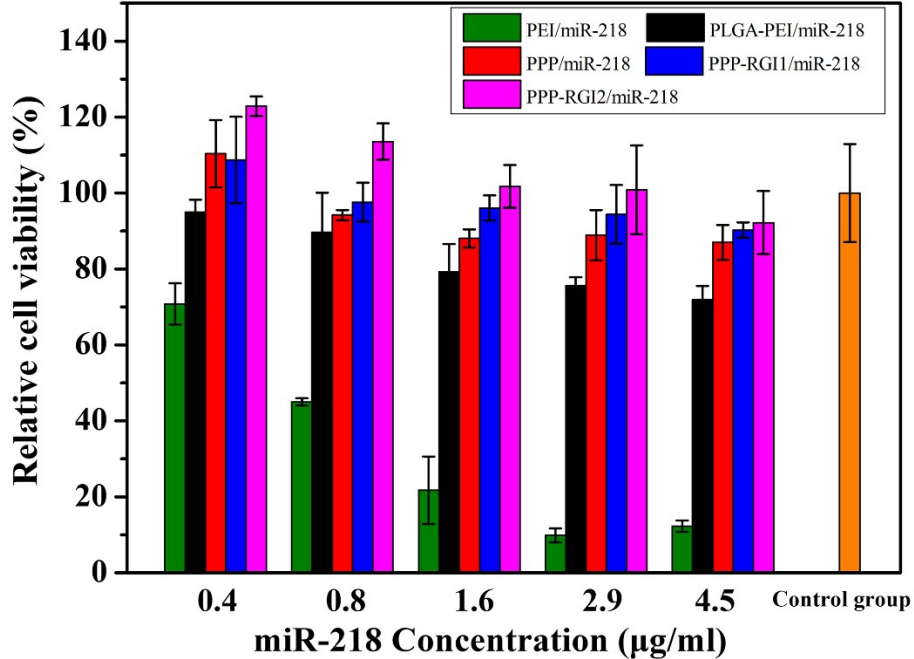


**Fig. S2** (a) miR-218 condensation ability of various complexes. (b) Agarose gel electrophoresis for the assessment of miRNA stabilization against RNase degradation after incubation for 4 h. Line 1: miR-218 only as negative control, Line 2: PLGA-PEI/miR-218, Line 3: PPP/miR-218, Line 4: PPP-RG11/miR-218, Line 5: PPP-RG12/miR-218.

Line 4: PPP-RGI1/miR-218, and Line 5: PPP-RGI2/miR-218. (c, d) Sizes and zeta potentials of micelles/miR-218 complexes at various w/w ratios.



**Fig. S3** Mean fluorescence intensity of PPP-RGI2/miR-218 treated group after cultured for 4 h and 24 h.



**Fig. S4** Relative cell viability of BMSCs at different miR-218 concentration after treated for three days. DNA concentration ranging from 0.4 to 4.5 µg/mL at w/w ratio of 5.