Electronic Supplementary Material (ESI) for Materials Advances.
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Supplementary information

Poly(lactic-co-glycolic acid) encapsulated platinum nanoparticles for cancer treatment

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Supplementary Methods

IC50 calculation: When calculating IC50 concentrations for drug response, a linear fit cannot be used because this curve is usually hyperbolic. To obtain the IC50 concentration one strategy is the transformation of the drug concentration to a logarithmic scale. By using a logarithmic scale, the values where the response changes rapidly are expanded and can be fitted with a linear regression. The linear fit is then characterized by an equation and the value of R^2 will give how accurate the fit is to the data. That way the IC50 can be obtained from the linear fit on the log scale. [1]

1. J. Feher, General Principles of Endocrinology. *Quant Hum Physiol* **2017**;853–69.

Supplementary Figures

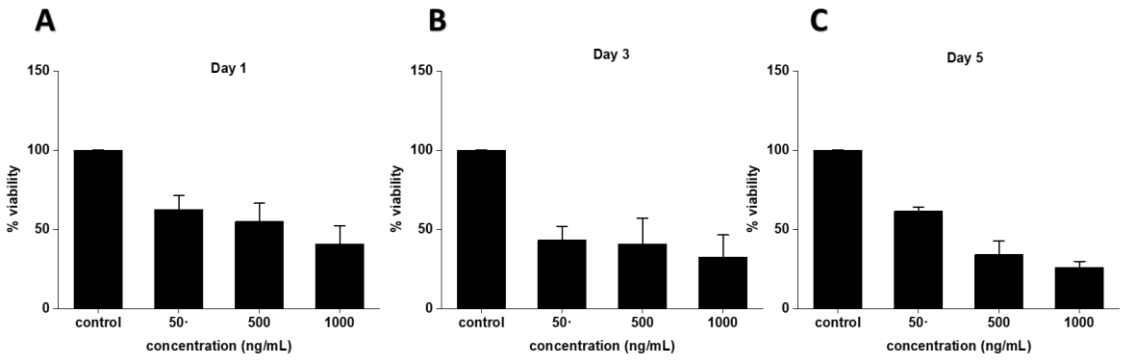

Figure S1. Cell viability for cisplatin against TNBC with low concentrations for 1 (A), 3 (B), and 5 (C) days.

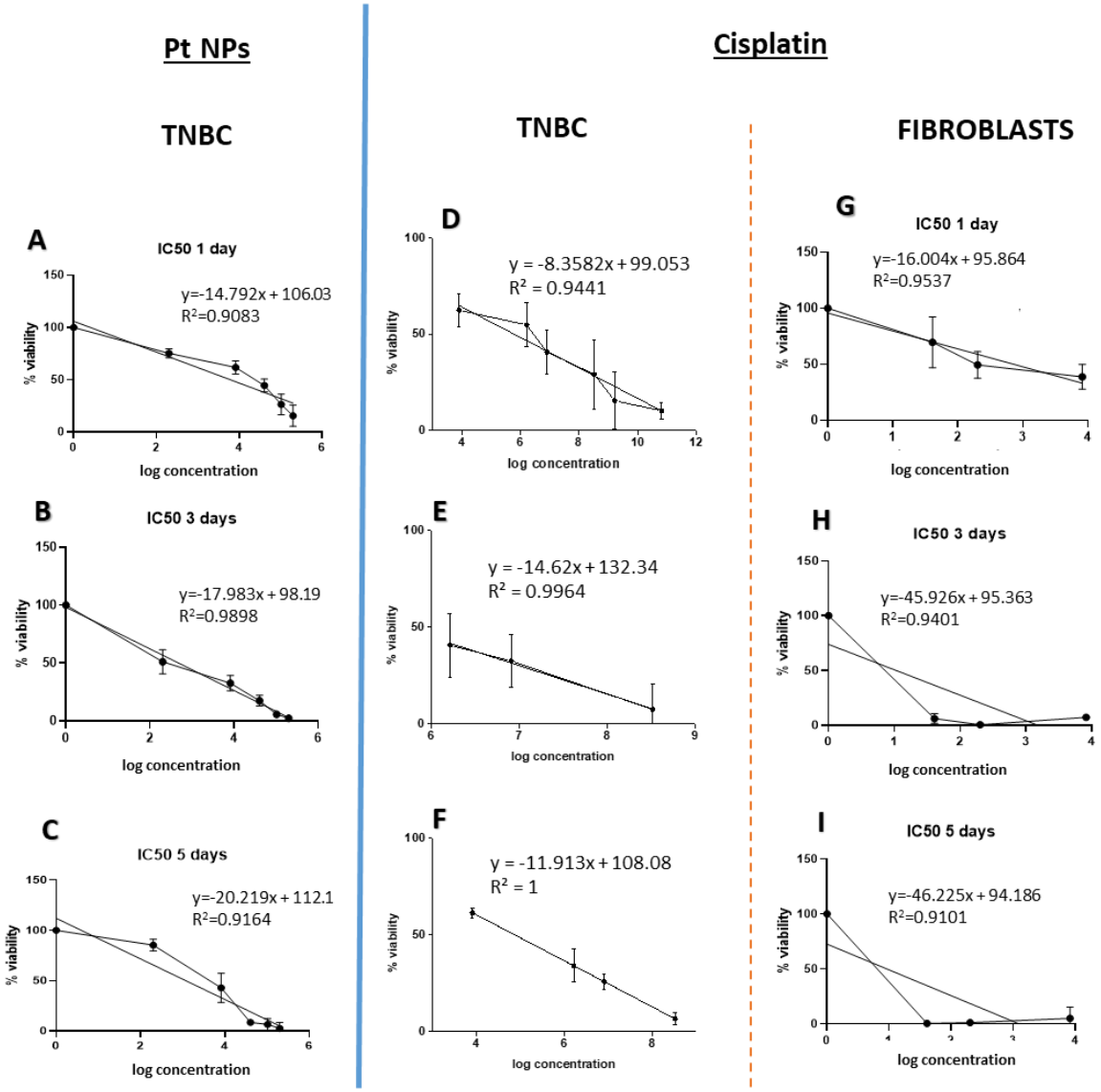

Figure S2. IC50 regression line calculation for PtNPs against TNBC for (A) 1 day (B) 3 days and (C) 5 days of treatment. IC50 regression line calculation for cisplatin against TNBC for (D) 1 day (E) 3 days and (F) 5 days of treatment, and against fibroblasts for (G) 1 day (H) 3 days and (I) 5 days of treatment.

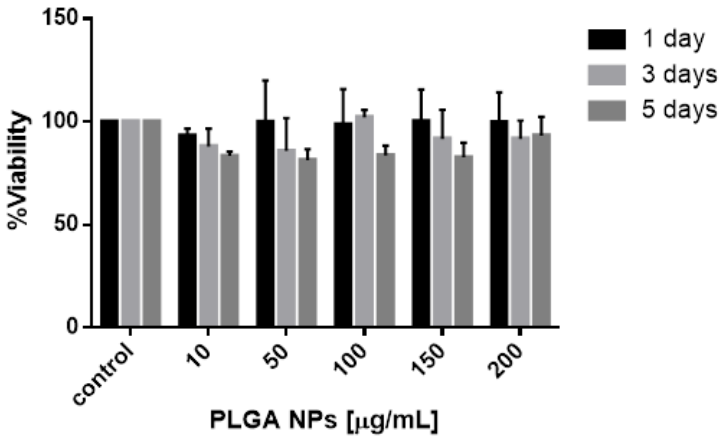

Figure S3. PLGA toxicity against fibroblasts. Statistical analysis (ANOVA test with post-hoc Tukey test) showed no significant differences between the control group and the use of PLGA particles.

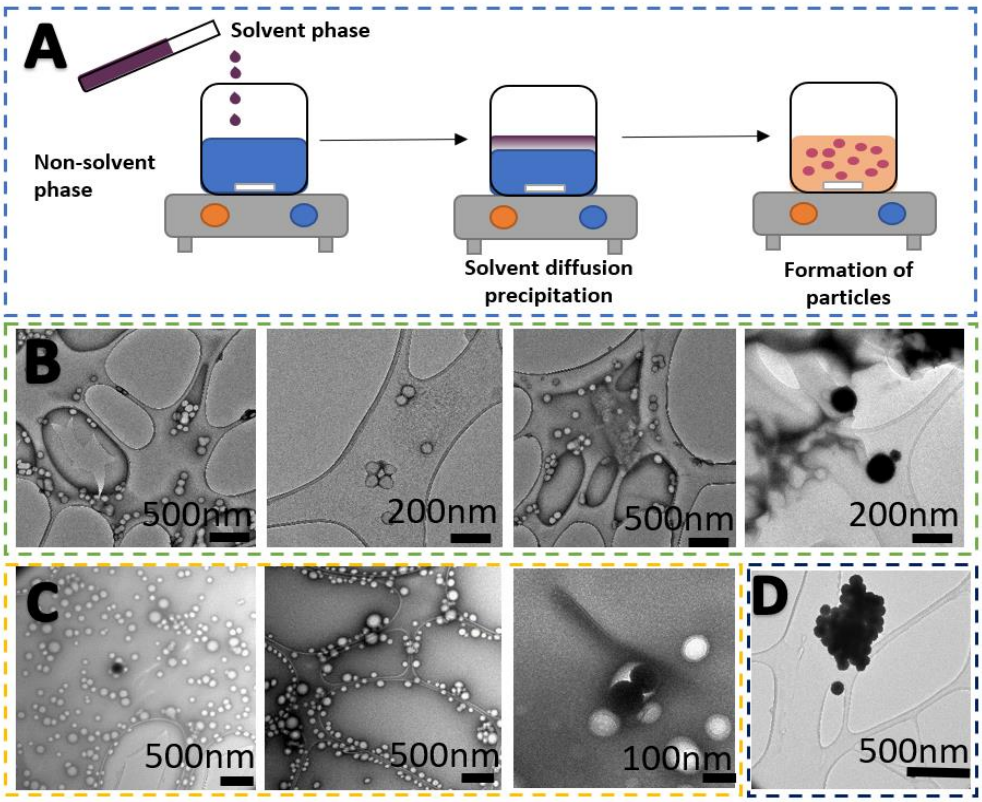

Figure S4. Nanoprecipitation encapsulation of PtNPs with PLGA particles. (A) Schematic illustration of nanoprecipitation process to form particles. TEM images of nanoprecipitation encapsulation of PtNPs with PLGA particles (B) acetone as organic

solvent, (C) acetonitrile as organic solvent. (D) PtNPs aggregation with acetonitrile. PtNPs aggregate in organic solvent, therefore encapsulation was not achieved.

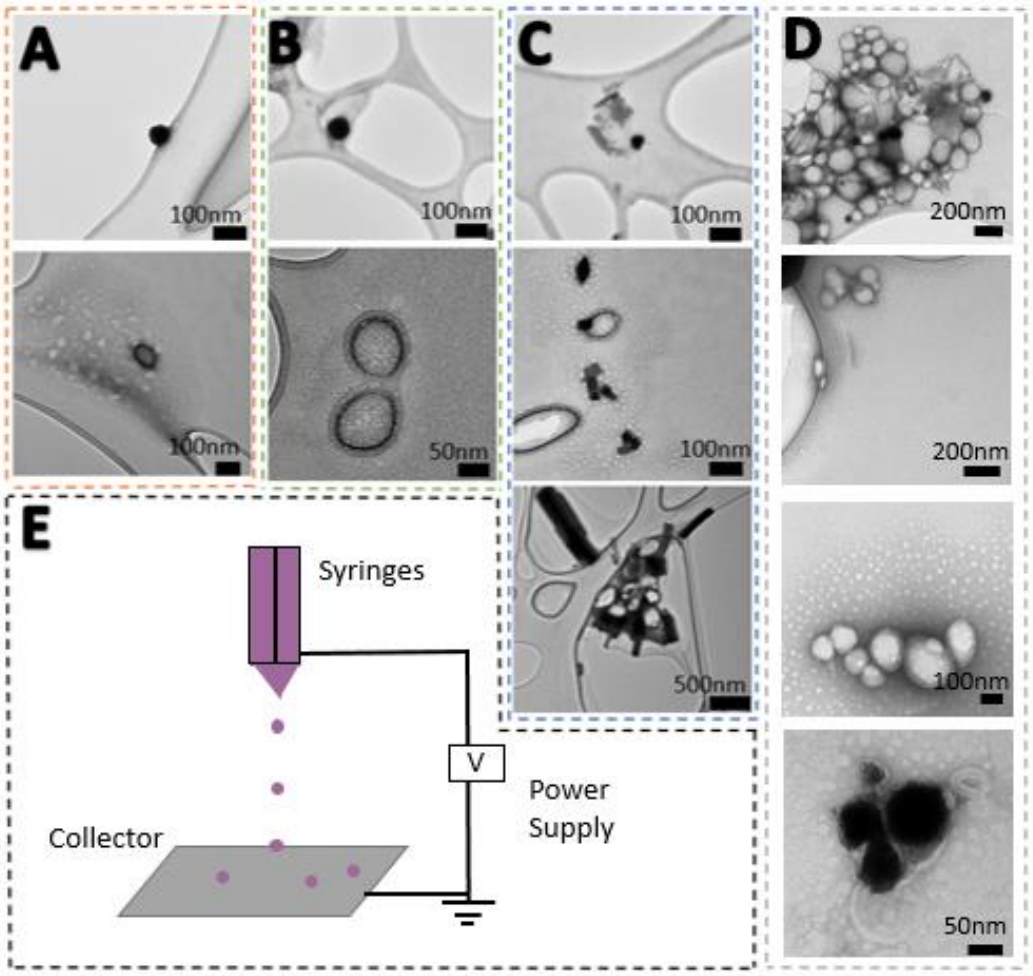

Figure S5. Results from electrohydrodynamic (EHD) co-jetting of PtNPs and PLGA. TEM images of EHD results with different concentrations of CTab. (A) 0.01 mg mL-1 CTab, (B) 0.03 mg mL-1 CTab (C) 0.04 mg mL-1 CTab, (D) 0.05 mg mL-1 CTab. (E) Schematic illustration of EHD process to form particles. TEM images show no encapsulation of PtNPs within PLGA.

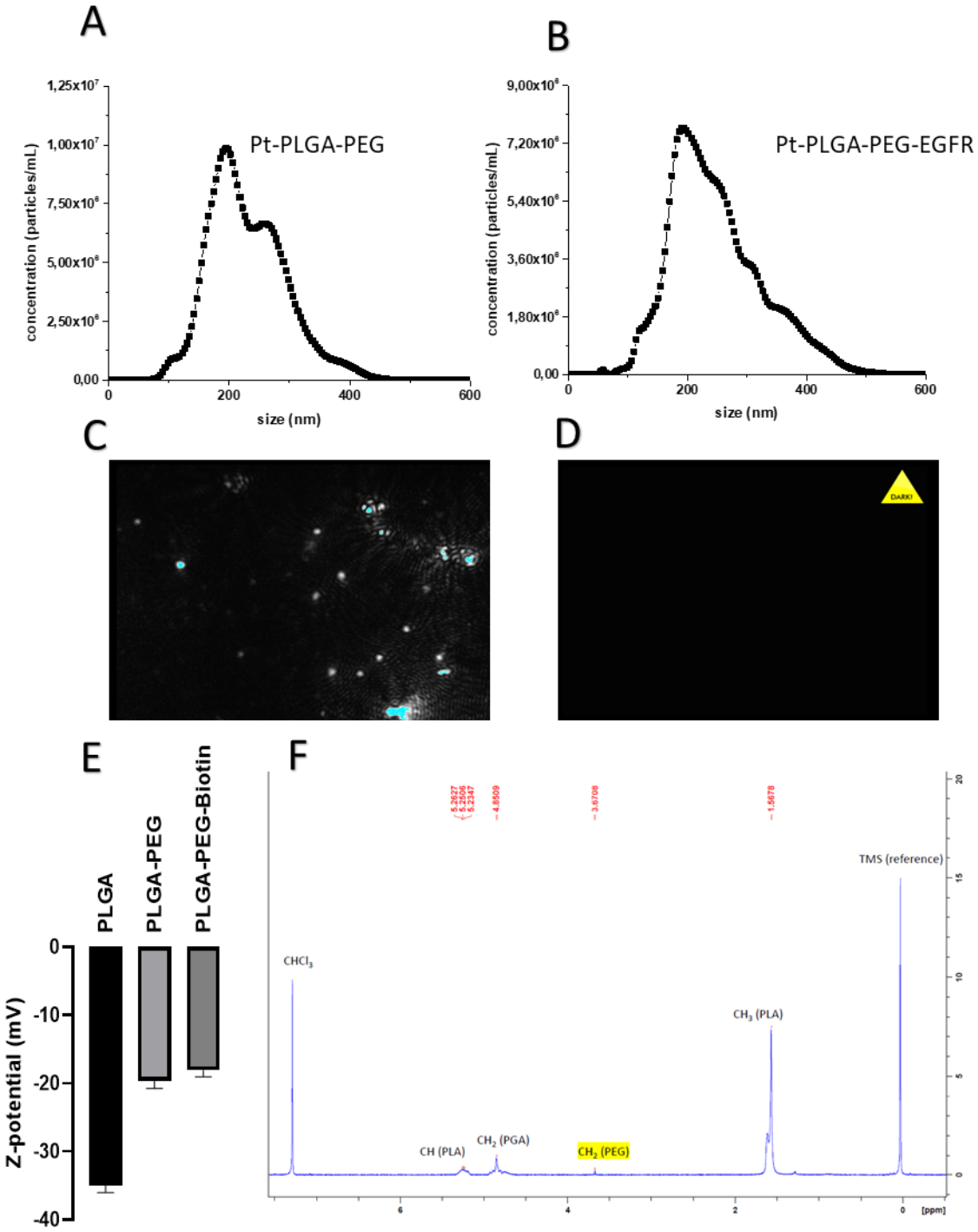

Figure S6. A) Size distribution of Pt-PLGA-PEG particles analyzed with NTA B) Size distribution of Pt-PLGA-PEG-EGFR particles analyzed with NTA C) NTA image of fluorescently labeled particles by a secondary antibody using a 488nm laser D) NTA image of particles not fluorescently labeled with a secondary antibody E) zeta potential of PLGA particles and PEGylated particles F) NMR spectrum of PEGylated particles.

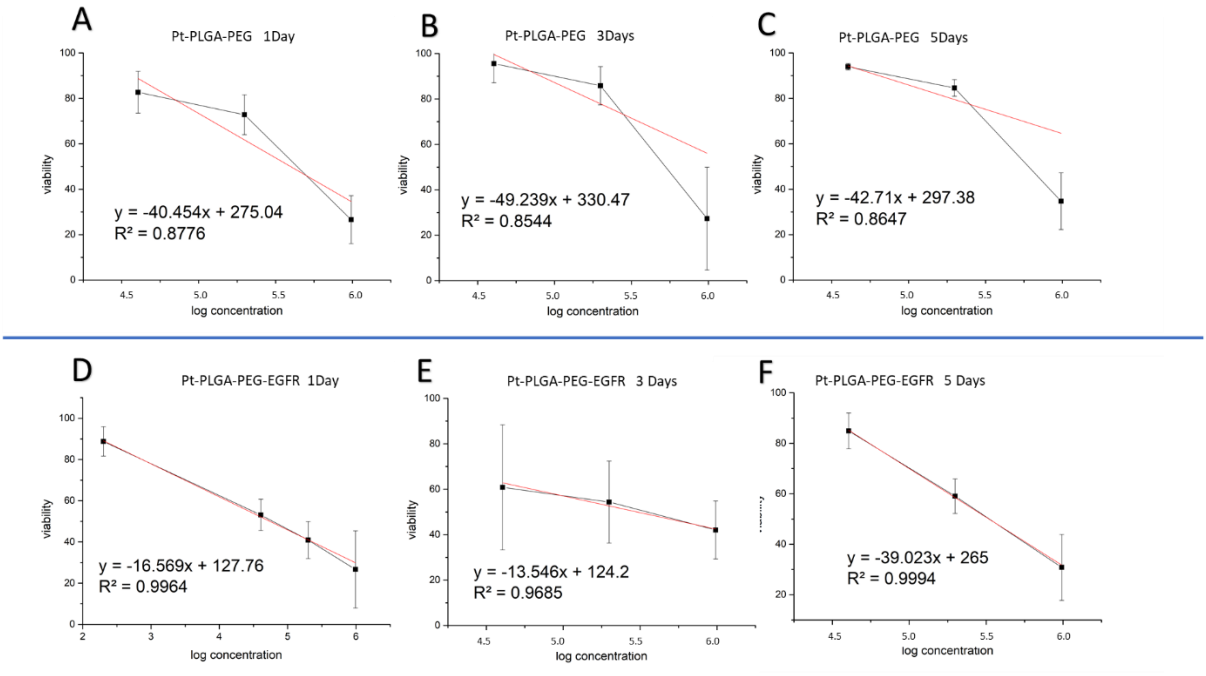

Figure S7. IC50 regression line calculation for Pt-PLGA-PEG particles against TNBC for (A) 1 day (B) 3 days and (C) 5 days of treatment. IC50 regression line calculation for Pt-PLGA-PEG-EGFR particles against TNBC for (D) 1 day (E) 3 days and (F) 5 days of treatment.