Electronic Supplementary Information

Coordination self-assembly platinum-bisphosphonate polymer-metal complex nanoparticles for cisplatin delivery and effective cancer therapy

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Supplementary caption

Fig. S1. ESI-MS spectra of $Pt(NH_3)_2(OSO_3)$ (OH_2).

Fig. S2. Cell viability determined by MTT. Effect of ALN-PEG_{2k}-ALN, ALN-ASA_{C8}-PEG_{2k}-ASA_{C8}-ALN and ASA_{C18}-PEG_{2k}-ALN on the viability of HeLa cells for 48 h (A), A549 cells for 48 h (B), MCF-7 cells for 48 h (C), HeLa cells for 72 h (D), A549 cells for 72 h (E), MCF-7 cells for 72 h (F). Data were expressed as mean ± standard deviation (SD).

Fig. S3. Plot of I_{336}/I_{333} (from pyrene excitation spectra) vs log C for concentration C of (A) ALN-ASA_{C8}-PEG_{2k}-ASA_{C8}-ALN, (B) ALN-PEG_{2k}-ASA_{C18}. Pyrene was used as molecular probe ([Pyrene] = 6×10^{-7} M).

1. Materials and Methods

1.1 Determination of critical micelle concentration of the polymer carriers

The critical micelle concentration (CMC) of polymer carriers ALN-ASA_{C8}-PEG_{2k}-ASA_{C8}-ALN and ASA_{C18}-PEG_{2k}-ALN were determined using pyrene as fluorescence probe. An aliquot of 200 μL pyrene (6×10^{-6} mol/L in acetone) was add to 2 ml EP tube and evaporated to dryness. Different concentrations of ALN-ASA_{C8}-PEG_{2k}-ASA_{C8}-ALN and ASA_{C18}-PEG_{2k}-ALN solutions were added into the EP tube and the concentration of pyrene in each EP tube was maintained at 6×10^{-7} mol/L. All the sample were incubated at 37 °C overnight under stirring. Steady-state fluorescence spectra were measured by PTI QuantaMaster™ 4CW. The emission wavelength was set at 390 nm, and the pyrene ex at 300-360 nm were recorded. The curve of *I*336/*I*333 against the logarithm of ALN-ASA_{C8}-PEG_{2k}-ASA_{C8}-ALN and ASA_{C18}-PEG_{2k}-ALN was plotted. CMC was indicated by the inflection in the curve.

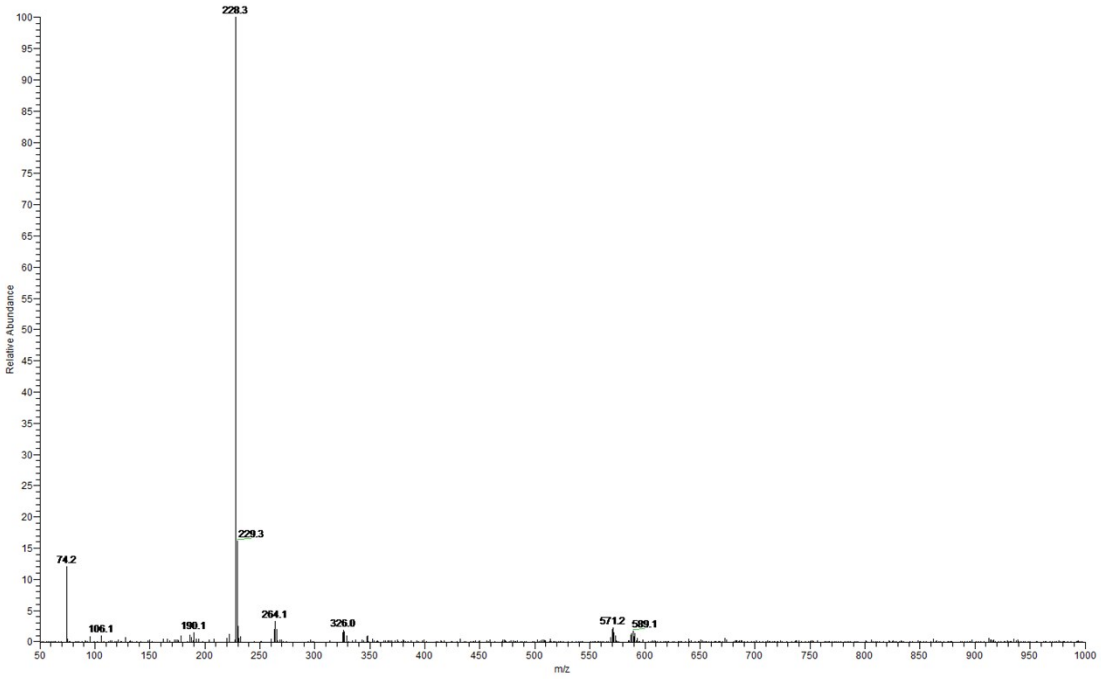

Fig. S1. ESI-MS spectra of $Pt(NH_3)_2(OSO_3)(OH_2)$.

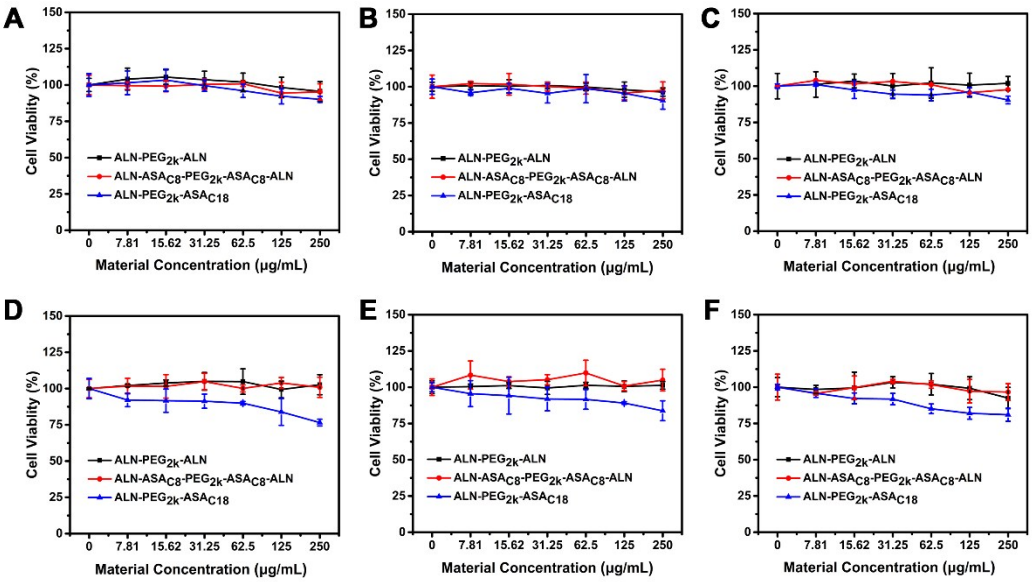

Fig. S2. Cell viability determined by MTT assay. Effect of ALN-PEG_{2k}-ALN, ALN-ASA_{C8}-PEG_{2k}-ASA_{C8}-ALN and ASA_{C18}-PEG_{2k}-ALN on the viability of HeLa cells for 48 h (A), A549 cells for 48 h (B), MCF-7 cells for 48 h (C), HeLa cells for 72 h (D), A549 cells for 72 h (E), MCF-7 cells for 72 h (F). Data were expressed as mean ± standard deviation (SD).

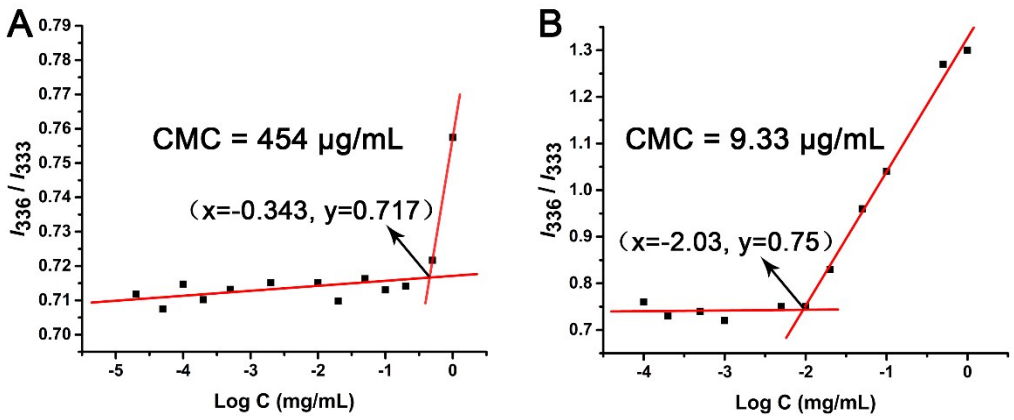

Fig. S3. Plot of I_{336}/I_{333} (from pyrene excitation spectra) vs log C for concentration C of (A) ALN-ASA_{C8}-PEG_{2k}-ASA_{C8}-ALN, (B) ALN-PEG_{2k}-ASA_{C18}. Pyrene was used as molecular probe ([Pyrene] = 6×10^{-7} M).