

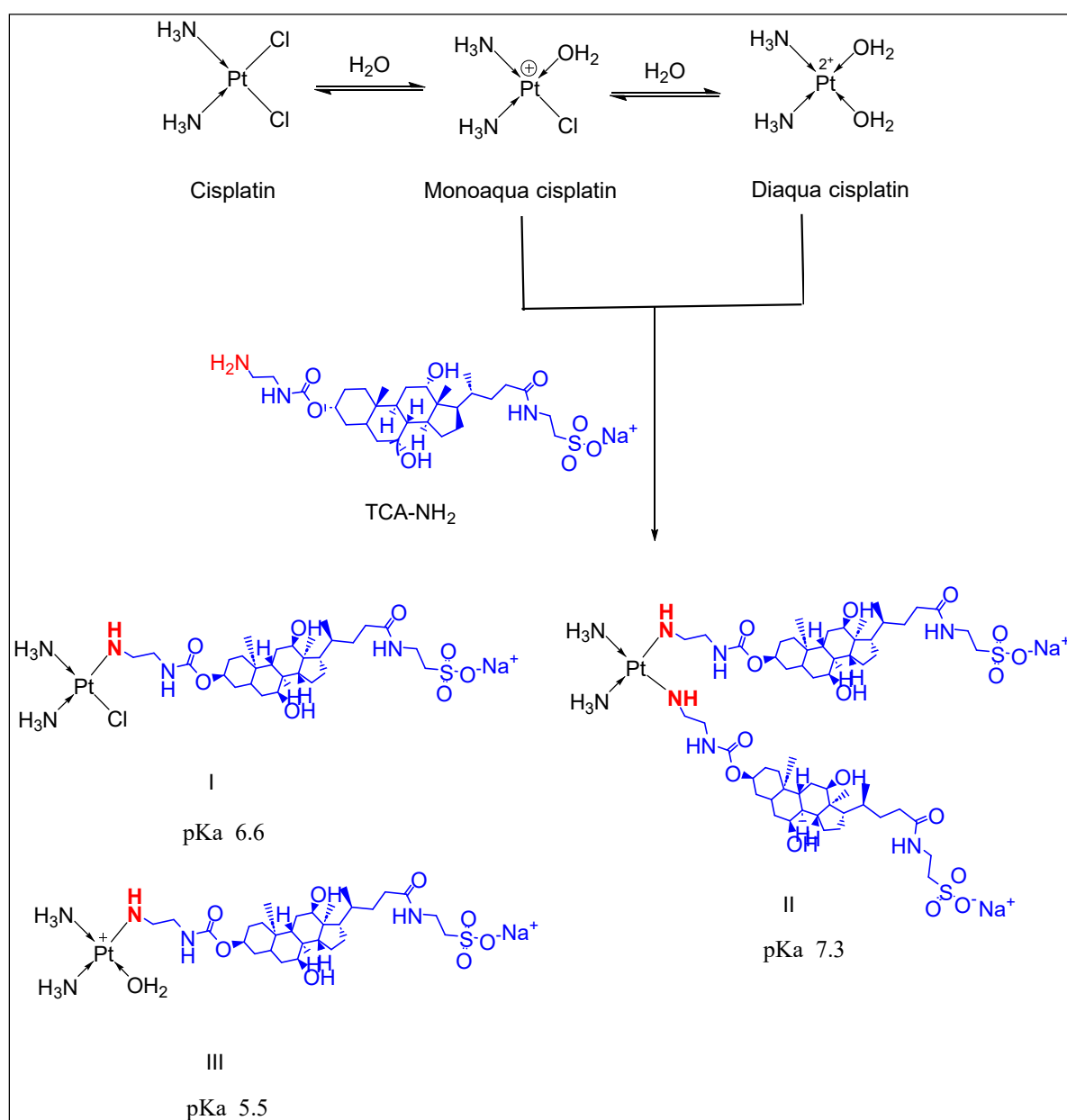
## Supporting Information

# Oral prodrug loaded liposome delivery for the treatment of lung cancer

### Characterization of TCA-Cisplatin prodrug

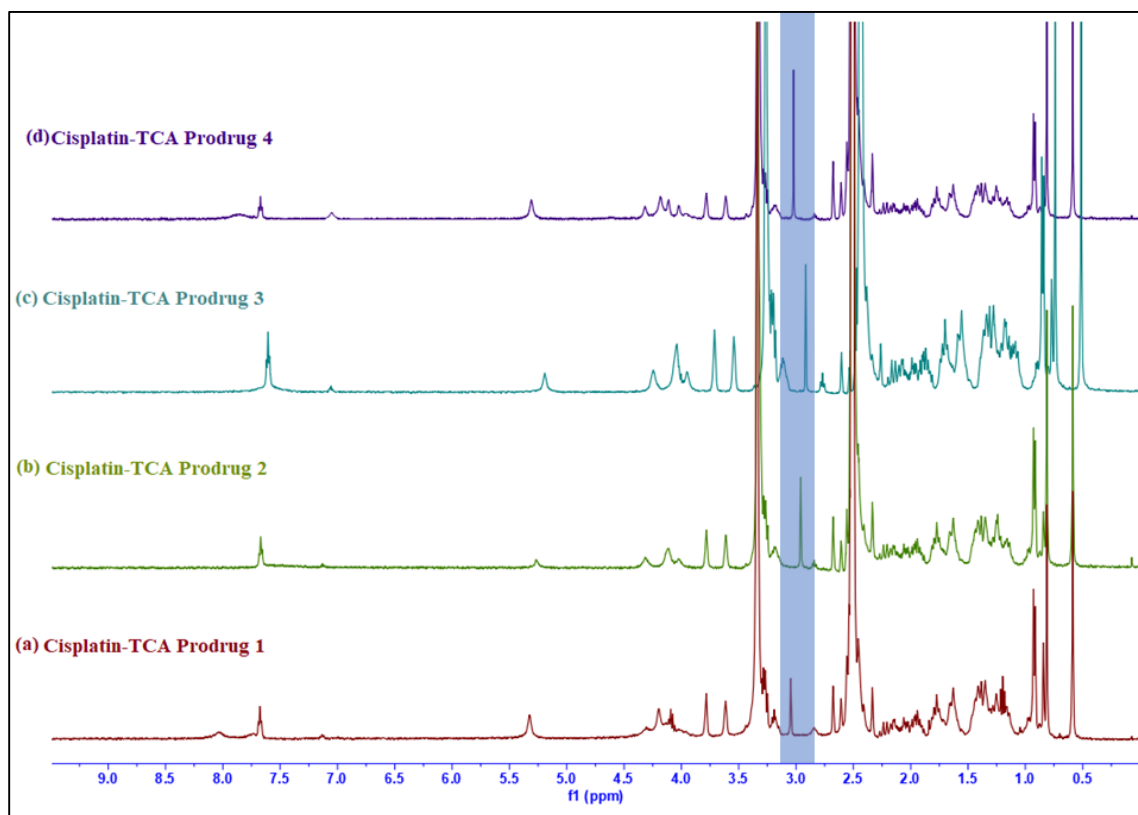
#### Acid dissociation constant determination

The method to determine pKa was titration with known standard base (0.5 M) NaOH and the pKa discloses the binding number of TCA-NH<sub>2</sub> with cisplatin

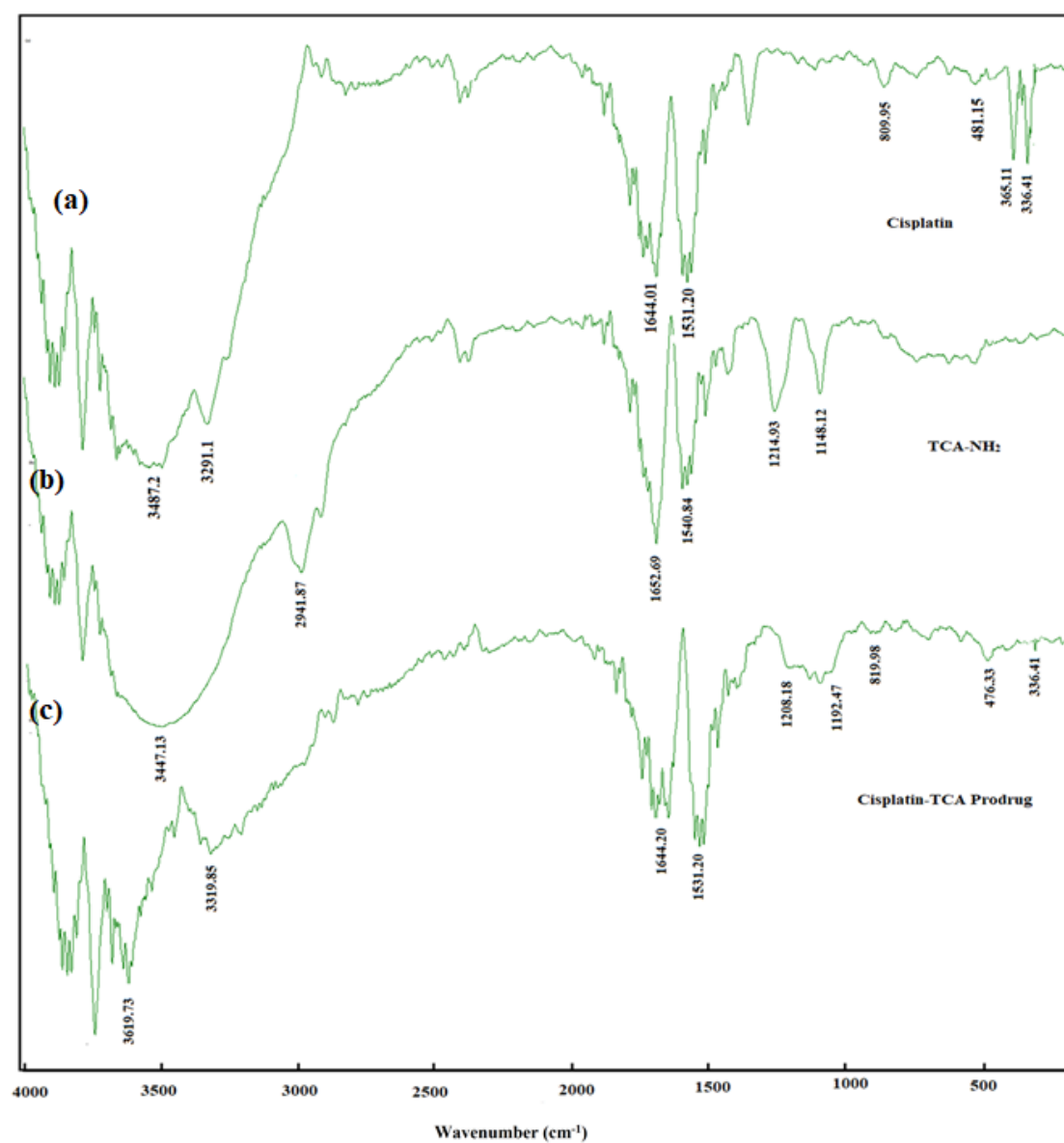


**Scheme S1:** Acid dissociation constant (pKa) for TCA-Cisplatin complexes

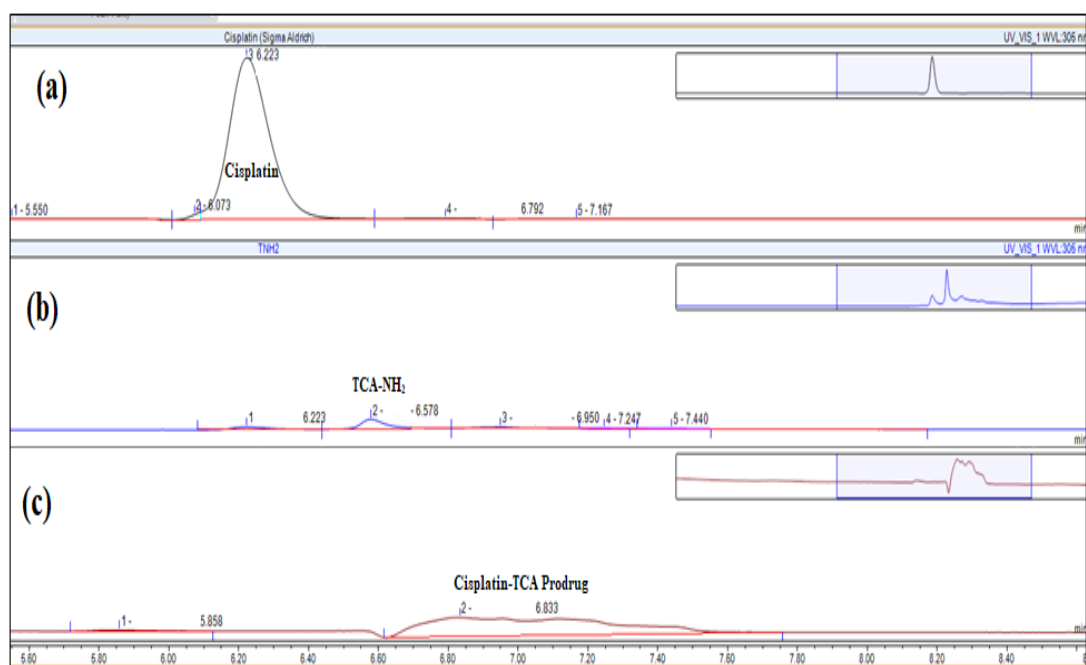
## Compare of different ratio of TCA-NH<sub>2</sub>



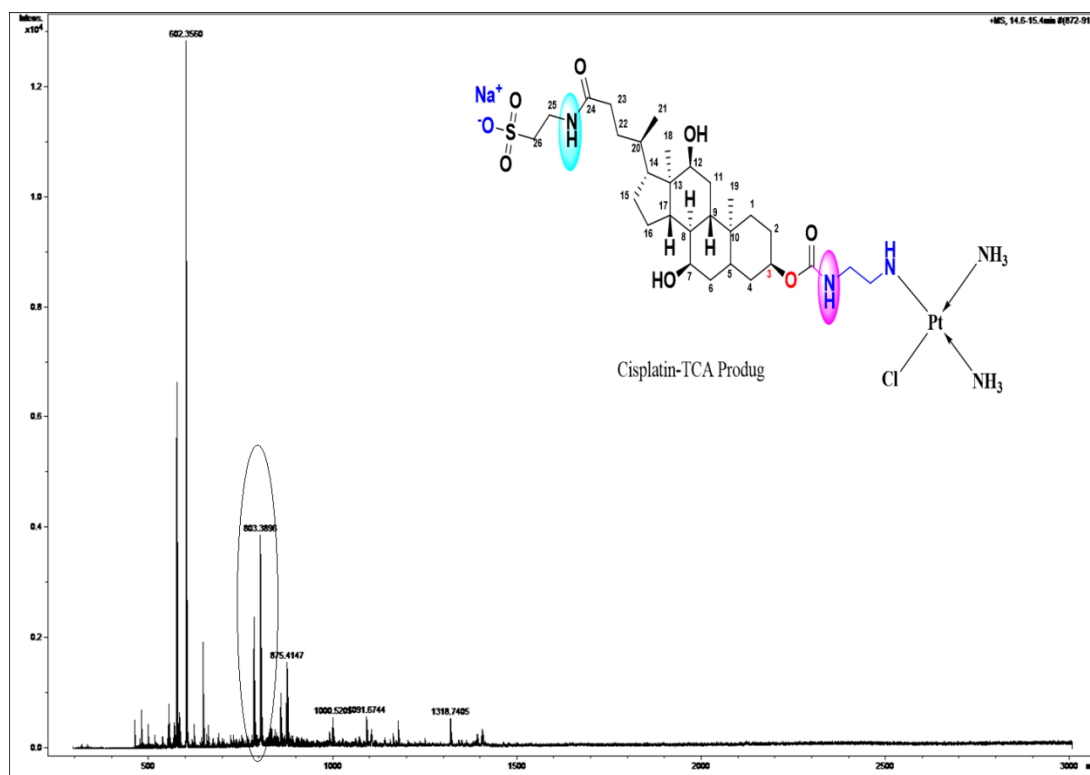
**Figure S1:** <sup>1</sup>H NMR (400 MHz, DMSO-*d*<sub>6</sub>) analysis of different ratio Cisplatin-TCA prodrug  
(a) Cisplatin-TCA prodrug-1 (b) Cisplatin-TCA prodrug-2 (c) Cisplatin-TCA prodrug-3 (d)  
Cisplatin-TCA prodrug-4



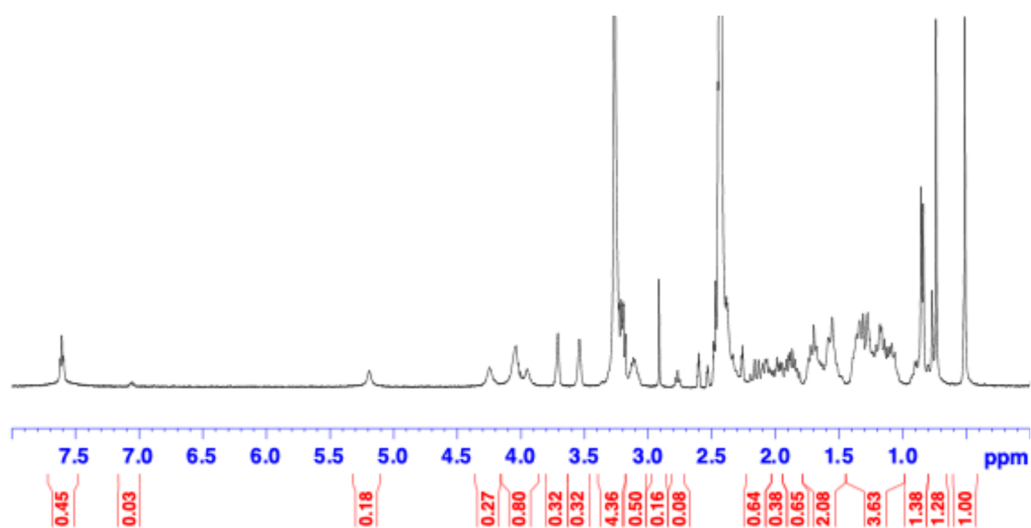
**Figure S2.** Fourier-transform infrared (FTIR) spectrum of (a) Cisplatin (b) TCA-NH<sub>2</sub> (c) Cisplatin-TCA prodrug.



**Figure S3:** HPLC data for (a) Cisplatin (b) TCA-NH<sub>2</sub> (c) Cisplatin-TCA prodrug



**Figure S4:** Mass Spectroscopic data of Cisplatin-TCA prodrug.



**Figure S5:**  $^1\text{H}$ NMR (400 MHz,  $\text{DMSO-d}_6$ ) integration of Cisplatin-TCA prodrug.