

Supporting Information for

**Hydroxychloroquine Platinum(IV) Conjugate Displaying Potent Antimetastatic Activities by Suppressing Autophagy to Improve the Tumor Microenvironment**

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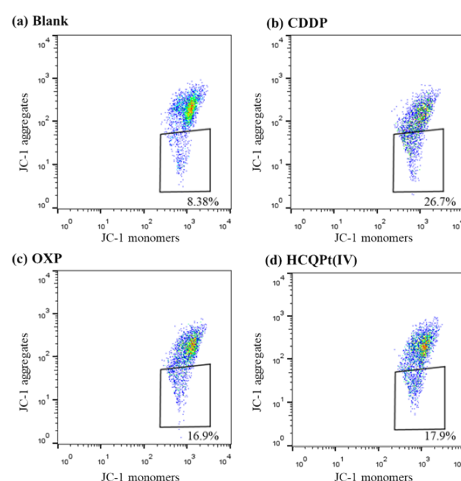
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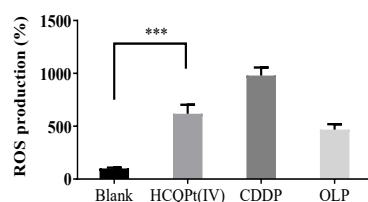
**Contents**

1. Supporting information for induction of mitochondria-mediated apoptosis .....	S2
2. Supporting information for antitumor activities <i>in vivo</i> .....	S2
3. Supporting information for metastasis inhibition <i>in vitro</i> .....	S3
4. <sup>1</sup> H-NMR, <sup>13</sup> C-NMR and MS spectra of platinum(IV) complexes HCQPt(IV).....	S4

## 1. Supporting information for induction of mitochondria-mediated apoptosis

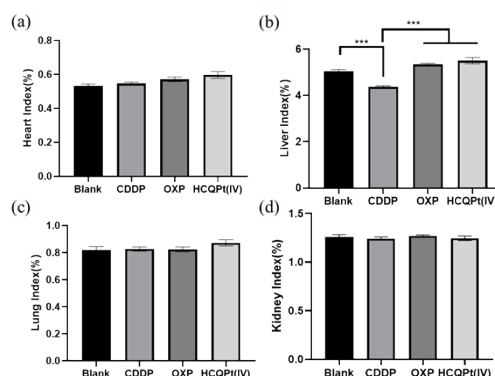


**Figure S1.** Mitochondrial membrane potential analyzed by flow cytometry. 4T1 cells were treated with and without platinum complexes (10  $\mu$ M) for 24 h at 37  $^{\circ}$ C and stained with JC-1. (a) Blank. (b) CDDP. (c) OXP. (d) HCQPt(IV).

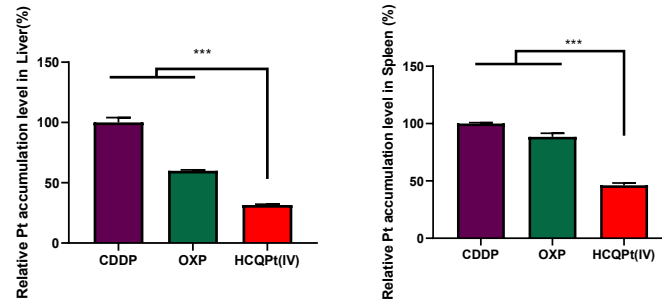


**Figure S2.** ROS production in 4T1 cells after treatment with and without CDDP, OXP and complex HCQPt(IV) (10  $\mu$ M) for 24 h at 37  $^{\circ}$ C. Cells were stained by DCFH-DA and analyzed by flow cytometry. \*\*\* $P < 0.001$ .

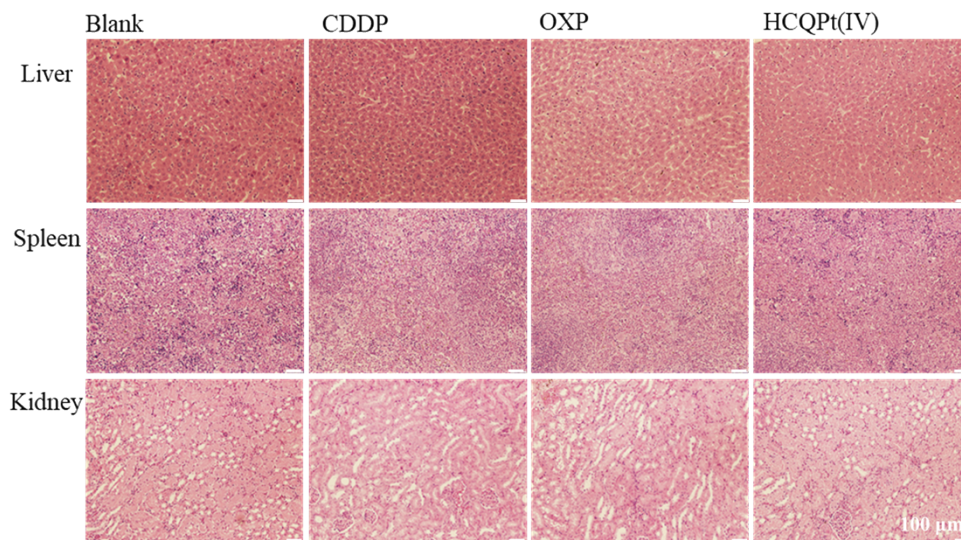
## 2. Supporting information for antitumor activities *in vivo*



**Figure S3.** The organ index (Heart, Liver, Lung, Kidney) of BALB/c mice from compound HCQPt(IV), CDDP and OXP treated groups in comparison with blank group ( $n = 6$ ). The tumor tissues were obtained from the antitumor experiments *in vivo*. Organ index = weight of organ/body weight  $\times$  100%. \*\*\* $P < 0.001$ .

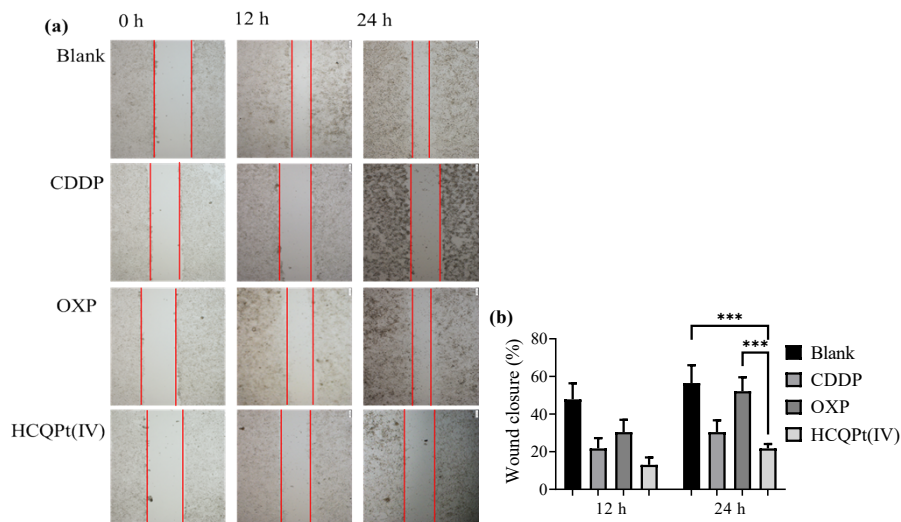


**Figure S4.** Platinum accumulation in liver and spleen of the mice treated by complex HCQPt(IV), CDDP and OXP. \*\*\* $P < 0.001$ .



**Figure S5.** The H&E staining of liver, spleen and kidney tissues from mice treated by complex HCQPt(IV), CDDP and OXP. The tissues were obtained from the antitumor experiments *in vivo*.

### 3. Supporting information for metastasis inhibition *in vitro*



**Figure S6.** Migration inhibition of complex HCQPt(IV), CDDP and OXP (5  $\mu\text{M}$ ) to 4T1 cells *in vitro*. The extent of wound healing was observed at 0 h, 12 h, and 24 h. (a) Representative images. (b) Analysis of wound closure. \*\*\* $P < 0.001$ .

#### 4. <sup>1</sup>H-NMR, <sup>13</sup>C-NMR and MS spectra of platinum(IV) complexes HCQPt(IV)

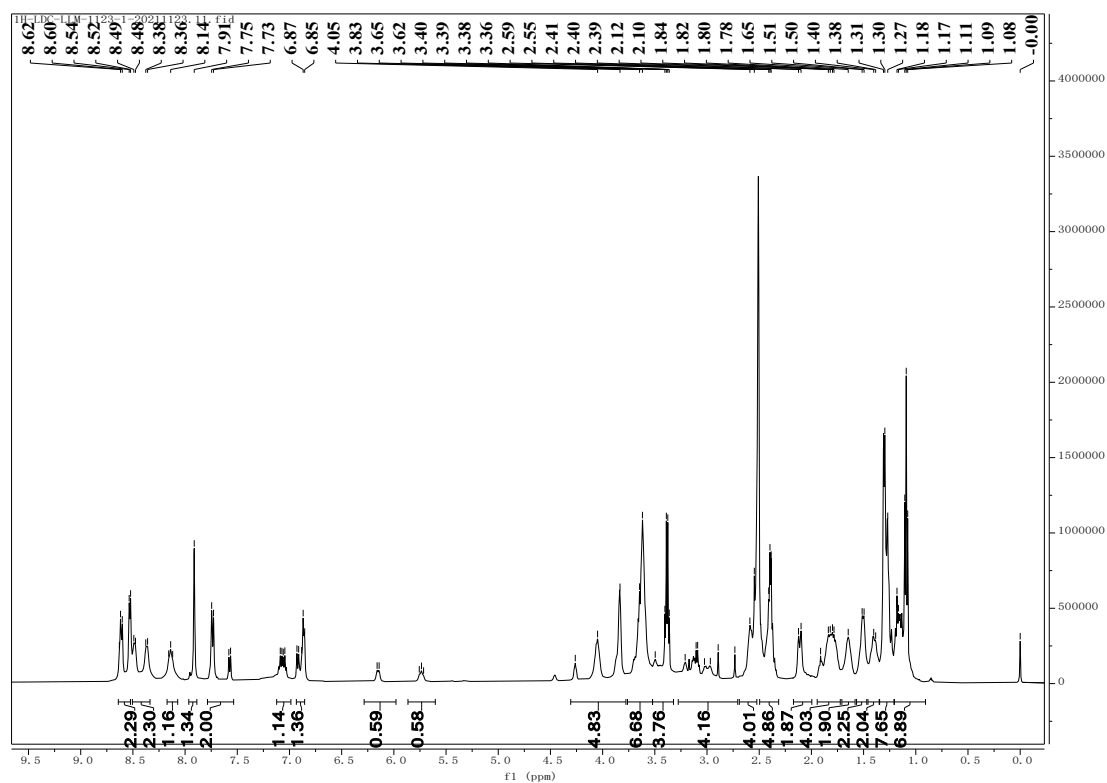


Figure S7. <sup>1</sup>H NMR spectrum of HCQPt(IV)

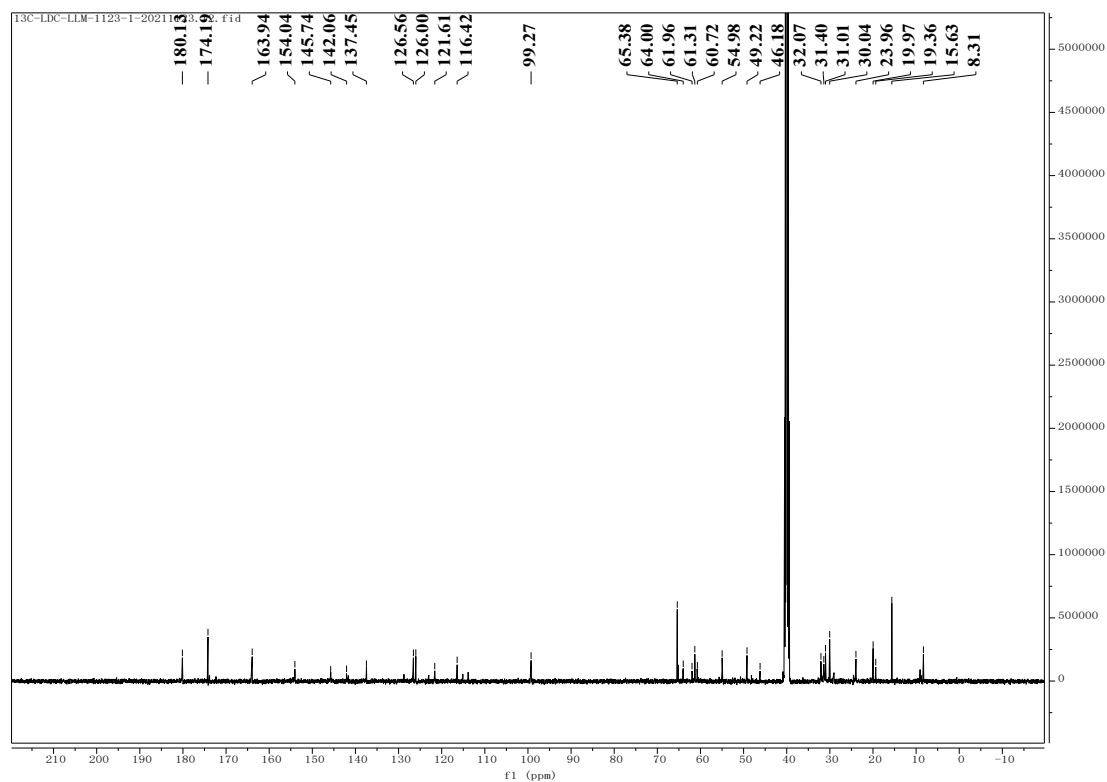
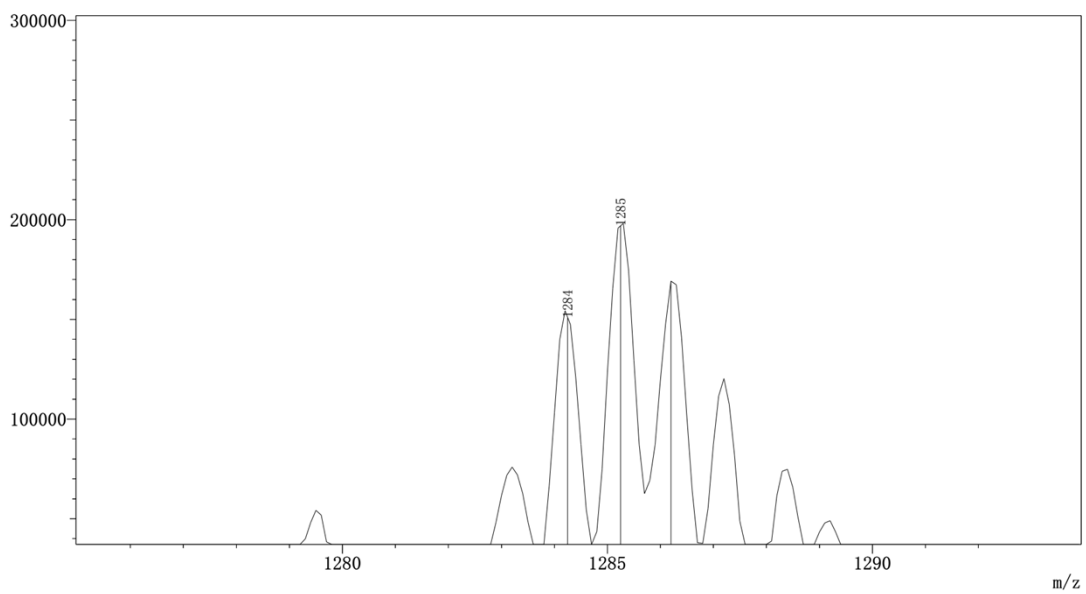
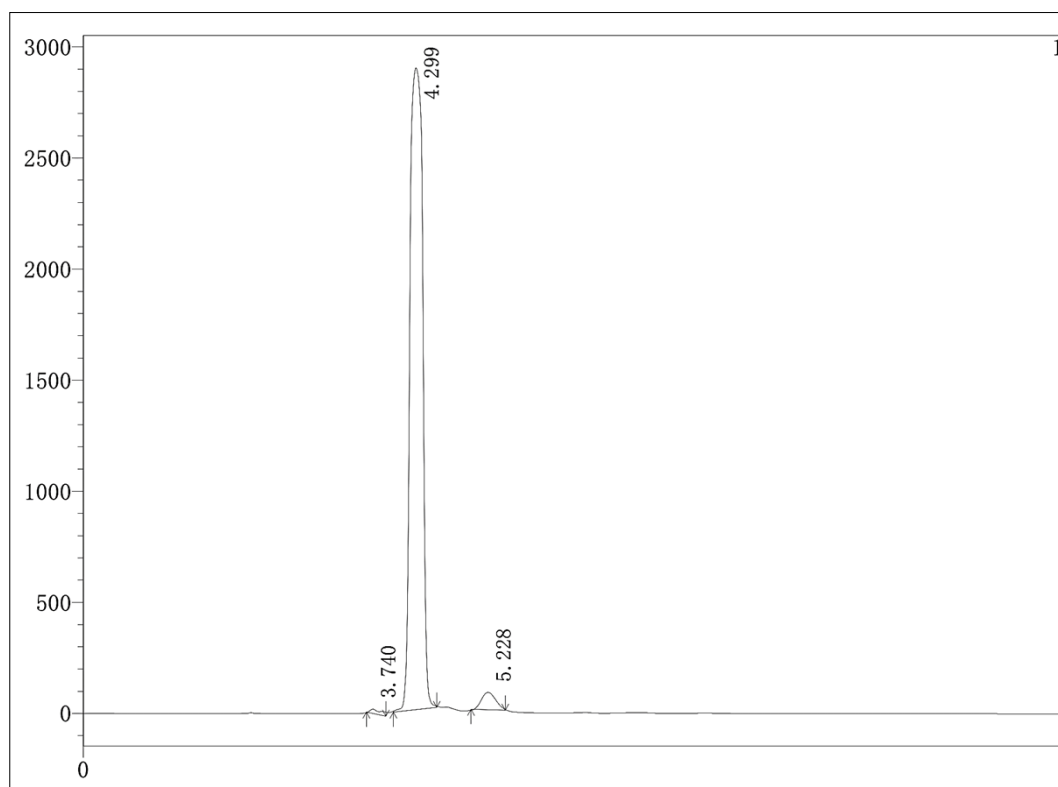


Figure S8. <sup>13</sup>C NMR spectrum of HCQPt(IV)



**Figure S9.** MS spectrum of HCQPt(IV)



**Figure S10.** HPLC spectrum of HCQPt(IV).