

Electronic supplementary information for

Ultra-sensitive speciation analysis of inorganic platinum-chloride complexes in platinum-based drugs

by HPLC-ICP-MS

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Figure captions

Figure. S-1 Schematic diagram of experimental setup of HPLC-ICP-MS.

Figure S-2 Chromatograms of the separation using different columns.

Figure S-3 Effect of storage time on K_2PtCl_6 and K_2PtCl_4 (n = 3).

Table titles

Table S-1 Information of target analytes.

Table S-2 Samples information.

Table S-3 Operational sequence of the measurement procedure for Pt species by the automated matrix removal device.

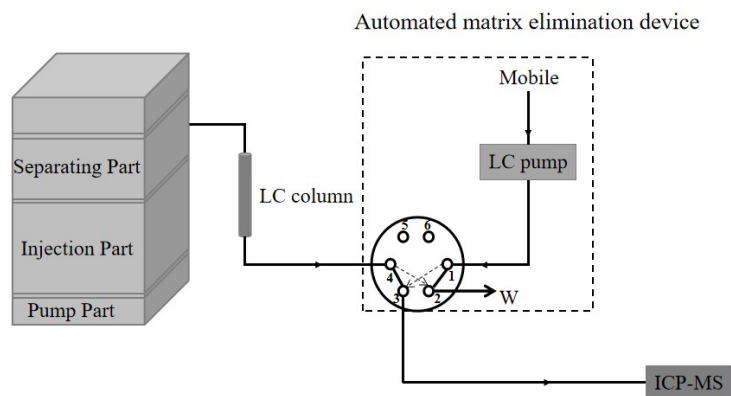


Fig. S-1 Schematic diagram of experimental setup of HPLC-ICP-MS. Mobile: 2mmol L⁻¹ HCl, W: waste.

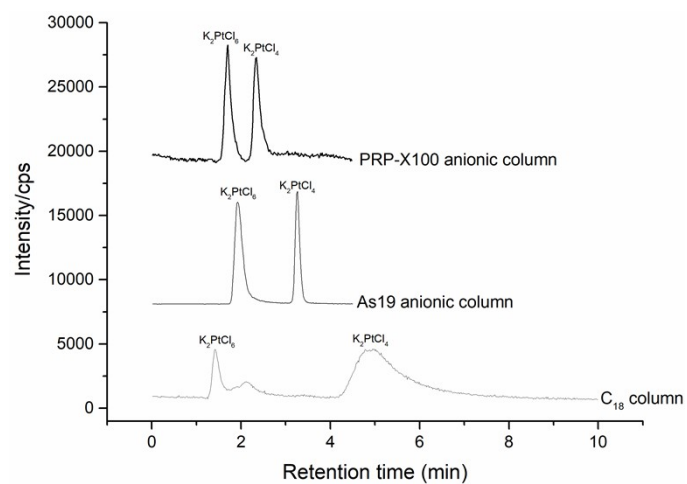


Fig. S-2 Chromatograms of the separation using different columns. Here, $10 \mu\text{g L}^{-1}$ K_2PtCl_6 and K_2PtCl_4 were introduced. The mobile phase for all three columns: 2mmol L^{-1} HCl. Other operational conditions were performed as Table 1.

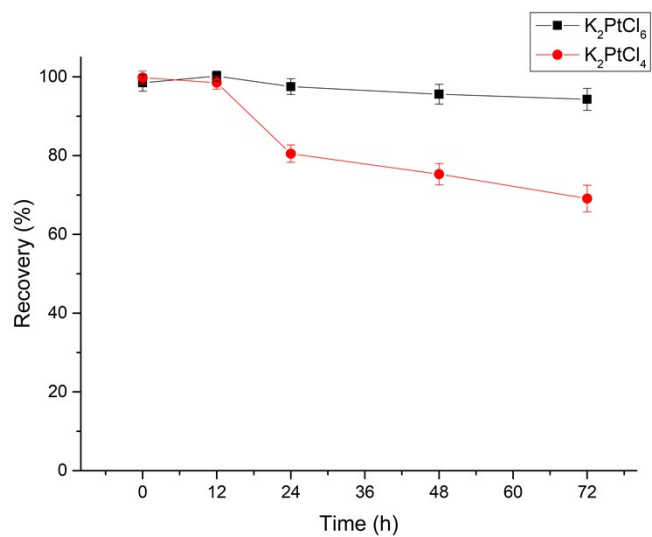


Fig. S-3 Effect of storage time on K_2PtCl_6 and K_2PtCl_4 (n=3).

Table S-1 Information of target analytes.

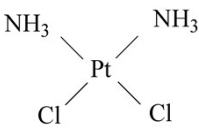
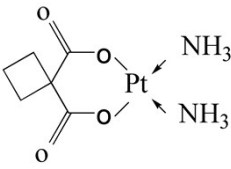
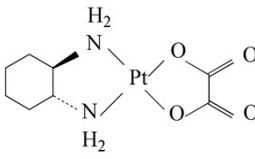
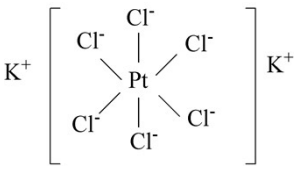
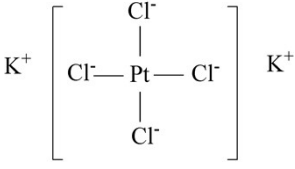
Analyte name	CAS#	Formula	Structure
Cisplatin	15663-27-1	$\text{Pt}(\text{NH}_3)_2\text{Cl}_2$	
Carboplatin	41575-94-4	$[\text{C}_4\text{H}_6(\text{CO}_2)_2]\text{Pt}(\text{NH}_3)_2$	
Oxaliplatin	61825-94-3	$\text{C}_8\text{H}_{14}\text{N}_2\text{O}_4\text{Pt}$	
Potassium hexachloroplatinate	16921-30-5	K_2PtCl_6	
Potassium chloroplatinate	10025-99-7	K_2PtCl_4	

Table S-2 Samples information.

	Sample name	type	Specification	URL
1	Carboplatin	liquid	10 mg mL ⁻¹	http://ypk.39.net/847226/manual
2	Cisplatin	liquid	5 mg mL ⁻¹	https://www.315jiage.cn/mn155928.aspx
3	Oxaliplatin	liquid	1mg mL ⁻¹	http://ypk.39.net/862484/manual?ivk_sa=1024320u
4	Cisplatin	solid	20 mg	https://www.315jiage.cn/mn106604.aspx
5	Carboplatin	solid	100 mg	http://www.haoranbio.com/ProductDetails-652770.aspx
6	Oxaliplatin	solid	100 mg	https://yy.hrhnyy.cn/_shop/product-befa7b632a81ca66.shtml?skuId=6tyxludo9lejzlua

Table S-3 Operational sequence of the measurement procedure for Pt species by the automated matrix removal device.

Operation time (min)	Mode	Switch valve position
0-0.2	A	4→3 1→2
0.2-1	B	4→2 1→3
1-3	A	4→3 1→2
3-5	B	4→2 1→3