Supporting Information

Determination of Os and other Platinum Group Elements in Active Pharmaceutical Ingredients by ICP-MS

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Table S1. Studies published in the last decade on the determination of Os in pharmaceutical products.

Sample preparation method	Determination Technique	Os Recovery (%)	Ref.
MIC using 400-700 mg of sample and 20% HNO_3 as absorbing solution.	ICP-MS	> 200	Nam *et al.*, 2011[1]
Dissolution of 250 mg of sample in 0.009 mmol L^{-1} $KBrO_3$ in 1% HNO_3 and 1% HCl. **MAWD** using 250 mg of sample and aqua regia as digestion solution.	ICP-MS	80-100 600-700	Van Hoecke *et al.*, 2012[2]
HPA digestion using 100 mg of sample and concentrated HNO_3 as digestion solution. Stabilizing solution composed of acetic acid (0.5%) containing thiourea (0.01 mol L^{-1}) and ascorbic acid (0.1 g L^{-1}).	ICP-MS	74-89	Venzago *et al.*, 2013[3]
MAWD using 450 mg of sample and reverse aqua regia as digestion solution.	ICP-OES	162	Støving *et al.*, 2013[4]
MAWD using 100 mg of sample and concentrated HNO_3 as digestion solution. Stabilizing solution composed of thiourea (concentration not informed).	SF-ICP-MS e ICP-MS	102-128	Fischer *et al.*, 2014[5]
MAWD-SRC using 500 mg of sample and reverse aqua regia as digestion solution.	ICP-MS	> 160	Muller *et al.*, 2015[6]
MAWD using 400 mg of sample and a mixture of HNO_3+HCl (1+1) as digestion solution.	ICP-MS	Poor	Wollein *et al.*, 2015[7]
Dissolution of 10 mg of sample in a solution composed of 5% HCl, 0.1% acetic acid, 0.076% thiourea and 0.01% ascorbic acid.	ICP-MS	94-97	Chahrour *et al.*, 2017[8]
MAWD using 200 mg of sample and a mixture of HNO_3 (7 mL), H_2O_2 (1 mL) and HCl (3 mL) as digestion solution.	USN-ICP-OES	233-281	Menoutis *et al.*, 2018[9]
MAWD-SRC using 500 mg of sample and 2 mol L^{-1} HNO_3 as digestion solution.	ICP-OES and ICP-MS	< 60	Pinheiro *et al.*, 2019[10]
MAWD using 0.064 - 0.230 mg of sample and aqua regia as digestion solution. Stabilizing solution composed of 0.01 mol L^{-1} thiourea.	ICP-MS	79-92	Gu *et al.*, 2021[11]
MAWD using 500 mg of sample and 6 mL of HNO_3+HCl 1+1 as digestion solution. Stabilizing solution composed of 85 mmol L^{-1} acetic acid, 10 mmol L^{-1} thiourea and 0.6 mmol L^{-1} ascorbic acid.	ICP-MS	96-103	This study

MIC: Microwave-induced combustion; MAWD: microwave-assisted wet digestion; HPA: high pressure asher; MAWD-SRC: MAWD with single reaction chamber.

Table S2. Operational conditions for PGEs determination by ICP-OES and ICP-MS.

Parameter		**ICP-OES**	**ICP-MS**
RF Power, W		1400	1300
Plasma gas flow rate, L min^{-1}		15.0	15
Auxiliary gas flow rate, L min^{-1}		0.2	1.2
Nebulizer gas flow rate, L min^{-1}		0.7	1.02
Spray chamber		Cyclonic	Cyclonic
Nebulizer		Gencone	Concentric
Observation view		Axial	-
Sampler and skimmer cones		-	Pt
Element		Wavelength (nm)	Isotope (*m/z*)
	Os	-	192
	Ir	-	193
	Pd	-	105
	Pt	-	195
	Rh	-	103
	Ru	-	101
	C	193.030	-
	Y	371.029	-

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