

**Simultaneous determination of lead and copper in
Polygonatum kingianum by ICP OES combined with natural
deep eutectic solvent-based magnetic dispersive micro solid
phase extraction**

Rui Zhang^a, Xiaofang Yang^a, Daichun He^a, Ya Liu^a, Yunlong Zhu^a, Zhengui Li^b, Yong
Liu^a, Qingwen Deng^a, Shengchun Yang^{a*}, XiaodongWen^{a*}

a College of Pharmacy, Dali University, Dali, Yunnan 671000, China

b Analytical & Testing Center, Dali University, Dali, Yunnan 671000, China

*Corresponding authors. Tel: 86-872-2218 886; E-mail: wenxiaodong@dali.edu.cn
(X.D. Wen), yangshengchun@dali.edu.cn (S.C. Yang).

Table S1 Optimal instrumental parameters for ICP OES

Parameter	Optimal condition
ICP RF power (W)	1300
Plasma gas flow rate (Ar) (L min ⁻¹)	15
Auxiliary gas flow rate (Ar) (L min ⁻¹)	0.2
Atomizer gas flow rate (Ar) (L min ⁻¹)	0.55
Pump injection volume (mL min ⁻¹)	1.5
Reading delay time (s)	40
Replicate	3
Pb analysis line (nm)	220.35
Cu analysis line (nm)	327.39

Table S2 Microwave digestion program

Step	Temperature (°C)	Rising temperature time (min)	Retention time (min)	Power (W)
1	120	12	22	1500
2	180	6	45	1500
