|  |  |  |
| --- | --- | --- |
| ICPMS parameters | RF power (W) | 1550.0 |
|  | Carrier gas flow rate (L min-1) | 0.9 |
|  | Plasma gas flow rate (L min-1) | 14.0 |
|  | Oxygen gas flow rate (L min-1) | 0.1 |
|  | Ions monitered  | 47PO+ 48SO+ |
|  | RF matching (V) | 1.7 |
|  | Smpl Depth (mm) | 8.0 |
|  | Smpl Period (s) | 0.6 |
| RP Chromatographic parameters | Column | Agilent Extend C-18, 4.6 x 250 mm 5 um |
|  | Mobile phases | A, 25mM ammonium acetate in acetonitrile/water (3/97, *v/v*) mixture |
|  |  | B, 25mM ammonium acetate in acetonitrile/water (90/10,*v/v*) mixture |
|  | Flow rate (mL min-1) | 1.0 |
|  | Gradient  | 0-7 min, 0% B; 7-22 min,0- 100% B; 22-24 min, 100% B; 24-26 min, 100-0% B |
|  | Injection volume (uL) | 5 |
| SEC chromatographic parameters | Column | TSK-Gel G3000SW (7.5mm x 300mm, 10um) |
|  | Mobile phase | 50mM amomounium acetate in methanol/water (0.5/99.5, *v/v*) mixture |
|  | Flow rate (mL min-1) | 0.5 |
|  | Injection volume (uL) | 50 |
| HPLC-Chip-ESI-ITMS parameters | Column | Large Capacity Chip II Zorbax 300SB-C18 (150mm x 75um, 5um) |
|  | Flow rate (uL min-1) | 3 for capillary flow pump; 0.3 for nano flow pump |
|  | Mobile phases | A, 0.1% formic acid in water; B, 0.1 % formic acidin acetonitrile/water (90/10, v/v) mixture |
|  | Gradient |  |
|  | Nano spray needle voltage (V) | 1850 |
|  | Injection volume (uL) | 2 |
|  | Drying temperature (°C) | 300.0 |
|  | Drying gas (L min-1 N2) | 3.0 |
|  | mass range  | 100-2200 m/z |

**Table 1. Operating conditions for ICPMS/MS, SEC and HPLC-CHIP-ESI-ITMS**