# Magnetic sulfur-doped porous carbon for preconcentration of trace mercury in environmental water prior to ICP-MS detection

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## Supplemental Materials



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**Fig. S8** Effect of the reuse times on the recovery of $Hg^{2+}$ (0.5 ng $mL^{-1}$); Amount of MSPC: 10 mg; Sample volume: 50 mL; Adsorption time: 5 min; Desorption solvent: 0.08% (m/v) $Na_2S$; Desorption volume: 0.5 mL.

**Table S1**

| ICP-MS plasma | |
|---|---|
| Rf power | 1250 W |
| Plasma gas (Ar) flow rate | 14 L $min^{-1}$ |
| Auxiliary gas (Ar) flow rate | 0.88 L $min^{-1}$ |
| Carrier gas (Ar) flow rate | 1.08 L $min^{-1}$ |
| Sampling depth | 7.0 mm |
| Sampler/skimmer diameter orifice | Nickel 1.0 mm/0.4 mm |
| Scanning mode | Peak-hopping |
| Integration time | 100 ms |
| Points per spectral peak | 3 |
| Isotopes | $^{202}Hg$ |

## Table S2

| Element | Certified (μg $L^{-1}$) | Determined (μg $L^{-1}$) | t test[a] |
|---|---|---|---|
| Hg | 8.31±0.66 | 8.03±0.41 | 1.53 |

[a] $t_{0.05,4}$=2.78.

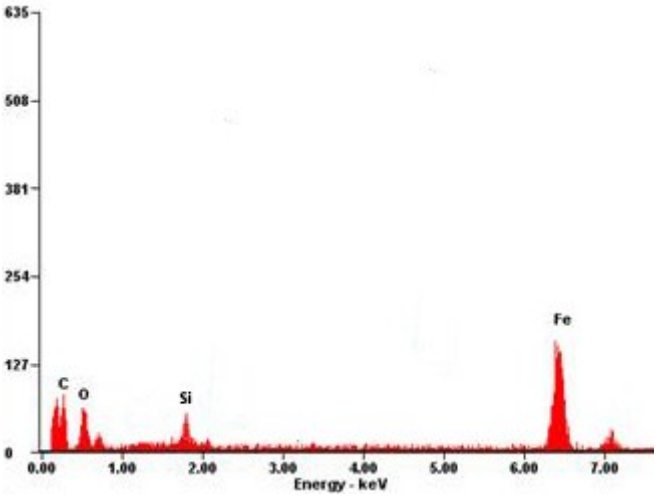
635
508
381
254
127
0
C
O
Si
Fe
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
Energy - keV

**Fig. S1**

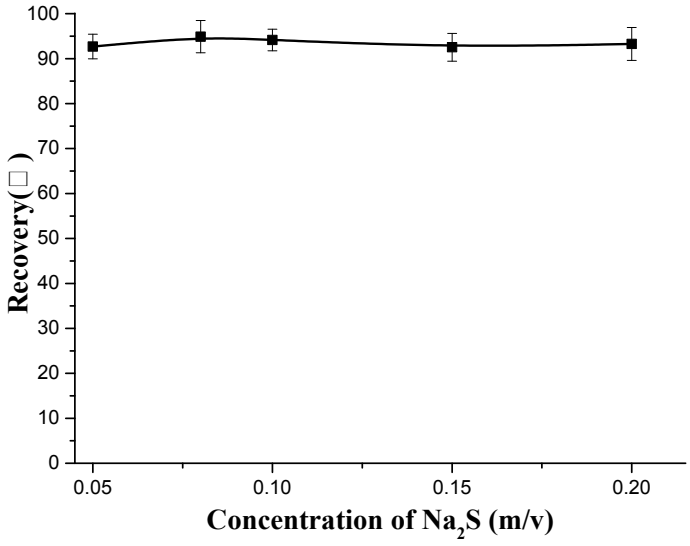
Recovery( □ )
100
90
80
70
60
50
40
30
20
10
0
0.05
0.10
0.15
0.20
Concentration of Na2S (m/v)

**Fig. S2**

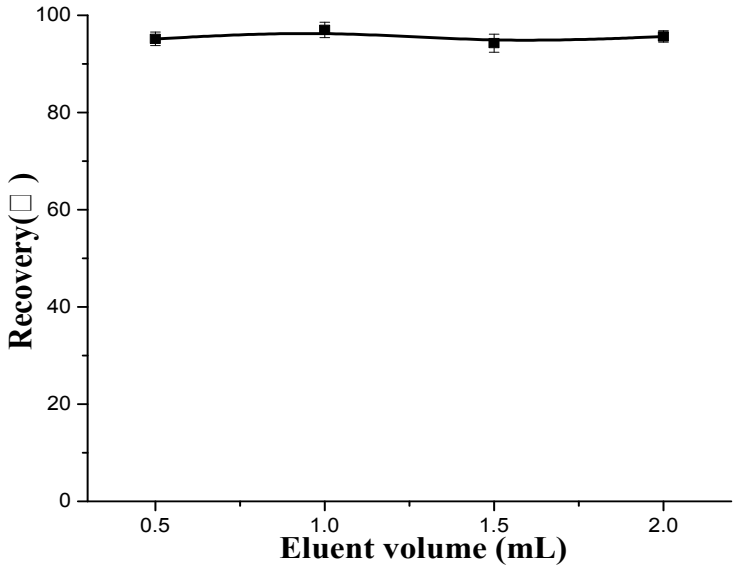


**Fig. S3**

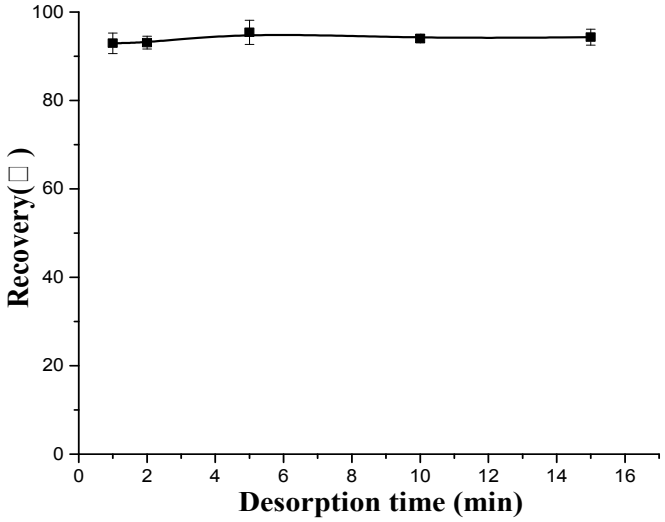
Recovery( □ )
Desorption time (min)
0
20
40
60
80
100
0
2
4
6
8
10
12
14
16

**Fig. S4**

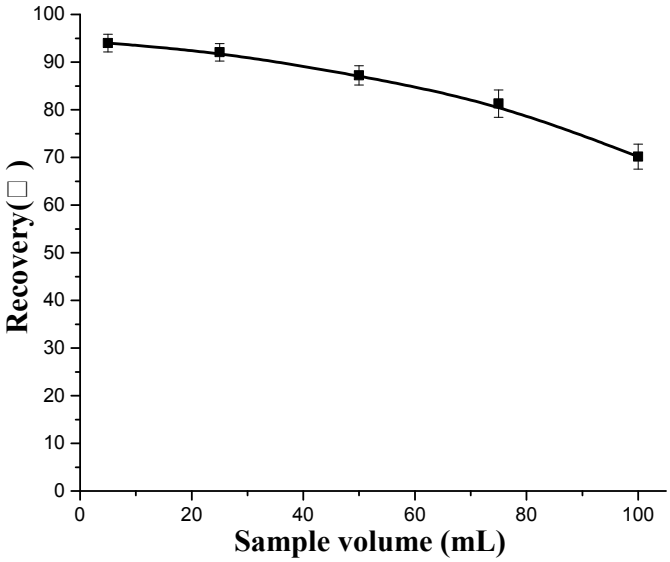
Recovery( □ )
Sample volume (mL)
0
10
20
30
40
50
60
70
80
90
100
0
20
40
60
80
100

**Fig. S5**

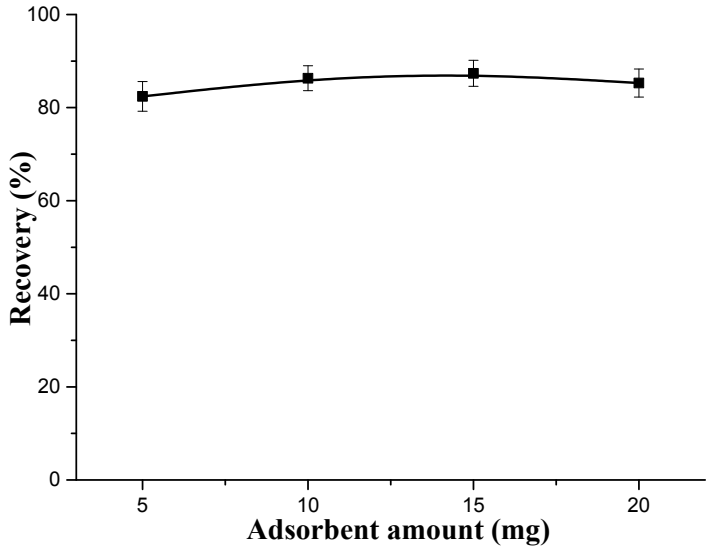


**Fig. S6**

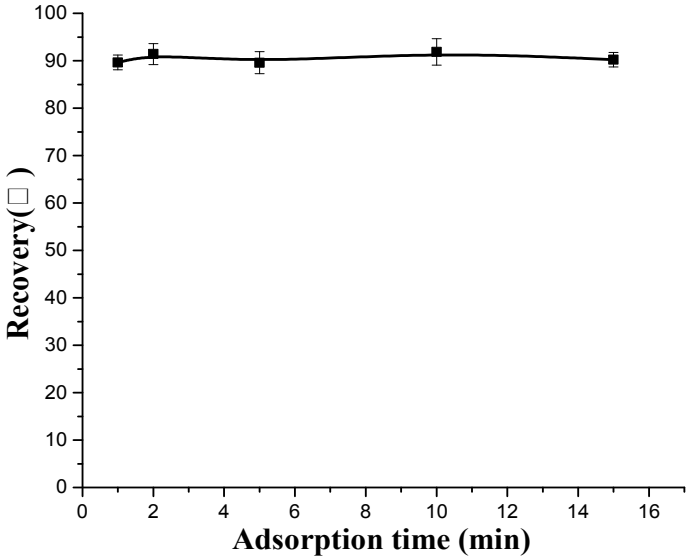
Recovery(□ )
Adsorption time (min)
0
10
20
30
40
50
60
70
80
90
100
0
2
4
6
8
10
12
14
16

**Fig. S7**

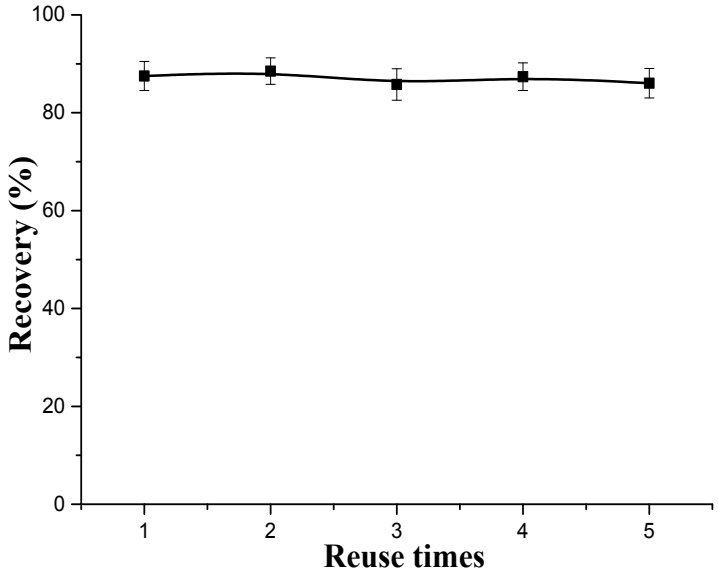


**Fig. S8**