

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20

**Supplementary Material**

**An improved dual-stage protocol to pre-concentrate mercury from airborne particles for precise isotopic measurement**

Qiang Huang,<sup>a</sup> YuLong Liu,<sup>a,b</sup> JiuBin Chen,<sup>\*a</sup> XinBin Feng,<sup>a</sup> WeiLin Huang,<sup>c</sup>  
ShengLiu Yuan,<sup>a,b</sup> HongMing Cai<sup>a,b</sup> and XueWu Fu<sup>a</sup>

<sup>a</sup>*State Key Laboratory of Environmental Geochemistry, Institute of Geochemistry, Chinese Academy of Sciences, Guiyang 550002, China*

<sup>b</sup>*University of Chinese Academy of Sciences, Beijing 100049, China*

<sup>c</sup>*Department of Environmental Sciences, Rutgers, The State University of New Jersey, New Brunswick, NJ 08901, USA*

\*Corresponding author: chenjiubin@vip.gyig.ac.cn;

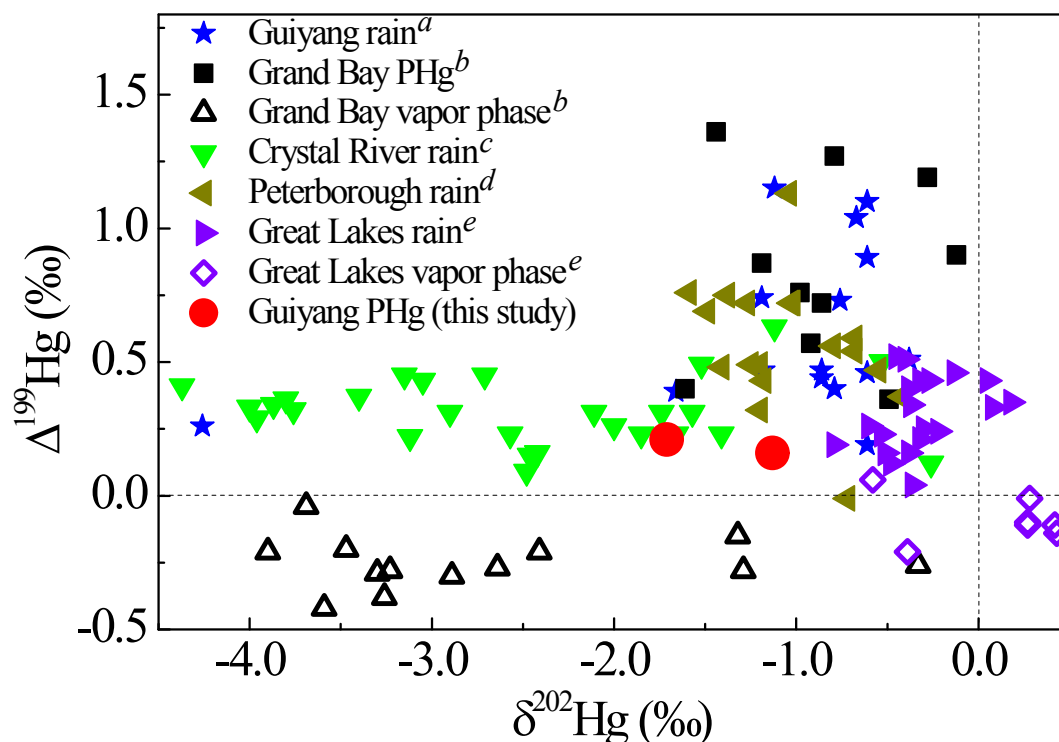
Fax: +86 851 5892669; Tel.: +86 851 5892669

This supplementary material contains 2 parts.

**Fig. S1 -----Page S2**

**References -----Page S2**

21 **Fig. S1.**  $\delta^{202}\text{Hg}$  (‰) versus  $\Delta^{199}\text{Hg}$  (‰) measured in rain and atmospheric particulate  
 22 samples. Data from <sup>a</sup>Wang et al. (accepted), <sup>b</sup>Rolison et al. (2013), <sup>c</sup>Sherman et al.  
 23 (2012), <sup>d</sup>Chen et al. (2012) and <sup>e</sup>Gratz et al. (2010) were given for comparison.



24

25

26 **References:**

27 Chen, J.B., Hintelmann, H., Feng, X.B., Dimock, B., 2012. Unusual fractionation of  
 28 both odd and even mercury isotopes in precipitation from Peterborough, ON,  
 29 Canada. *Geochim Cosmochim Acta* 90, 33-46.  
 30 Gratz, L.E., Keeler, G.J., Blum, J.D., Sherman, L.S., 2010. Isotopic composition and  
 31 fractionation of mercury in Great Lakes precipitation and ambient air. *Environ Sci*  
 32 *Technol* 44, 7764-7770.  
 33 Rolison, J.M., Landing, W.M., Luke, W., Cohen, M., Salters, V.J.M., 2013. Isotopic  
 34 composition of species-specific atmospheric Hg in a coastal environment. *Chem*  
 35 *Geol* 336, 37-49.  
 36 Sherman, L.S., Blum, J.D., Keeler, G.J., Demers, J.D., Dvonch, J.T., 2012.  
 37 Investigation of local mercury deposition from a coal-fired power plant using  
 38 mercury isotopes. *Environ Sci Technol* 46, 382-390.  
 39 Wang, Z.H., Chen, J.B., Feng, X.B., Hintelmann, H., Yuan, S.L., Cai, H.M., Huang,  
 40 Q., accepted. Mass-dependent and mass-independent fractionations of mercury  
 41 isotopes in precipitation from Guiyang, SW China. *Comptes rendus Geoscience*.