Electronic Supplementary information for

Determination of arsenic in biological samples by slurry sampling hydride generation atomic fluorescence spectrometry using *in-situ* dielectric barrier discharge trap

Meitong Liu,‡[a,b] Tengpeng Liu,‡[a] Jixin Liu,*[a] Xuefei Mao,*[a] Xing Na,[c] Lan Ding,[b] Guoying Chen[d] and Yongzhong Qian[a]

[a] *Institute of Quality Standard and Testing Technology for Agro-products, Chinese Academy of Agricultural Sciences, and Key Laboratory of Agro-food Safety and Quality, Ministry of Agriculture and Rural Affairs, Beijing 100081, China*

[b] *College of Chemistry, Jilin University, Changchun 130012, China*

[c] *Beijing Ability Technique Company, Limited, Beijing 100081, China*

[d] *Eastern Regional Research Center, Agricultural Research Service, U.S. Department of Agriculture, 600 East Mermaid Lane, Wyndmoor, Pennsylvania 19038, United States*

‡These authors contributed equally.

Corresponding authors: Tel: +86-10-82106563, Fax: +86-10-82106566.

E-mail address: ljx2117@gmail.com (J. X. Liu); mxf08@163.com or maoxuefei@caas.cn (X. F. Mao)

Supplementary data

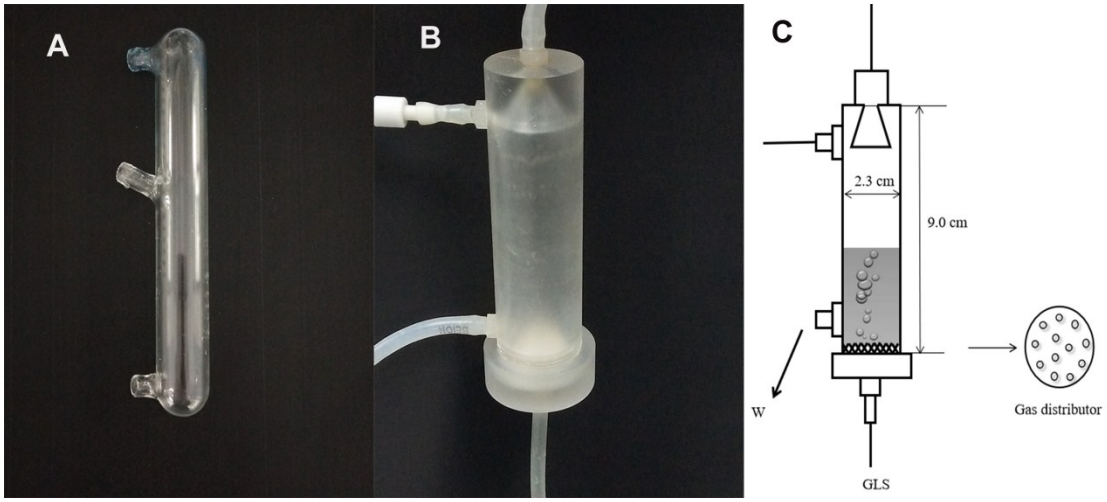

Figure S-1 The pictures of two different GLS apparatuses. Panel A shows the original GLS for the AFS-9130 instrument named GLS-A; Panel B shows the GLS used in this work named GLS-B; Panel C shows the detail structure diagram of GLS-B.

To investigate the effect of different ultrasonic times on arsenic intensity by SLS-HG-*in situ* DBD-AFS, 0.8 g *scenedesmus obliquus* samples were diluted to 20 mL with 5% HCl (v:v) in 50 mL centrifuge tube, and then disrupted for 2 min using a high speed tissue disperser to form a mixture sample, respectively. After an ultrasound water bath at 25 °C for different times, a 2 mL slurry was introduced into the SLS-HG system as manual shaking to keep suspension for the next measurement. The results are shown in Fig.S-2. With the increase of ultrasonic time from 1 to 10 min, the arsenic intensity went up obviously; and the plateau appeared from 10 to 20 min. So, 10 min was chosen as the optimal ultrasonic time for the next experiment.

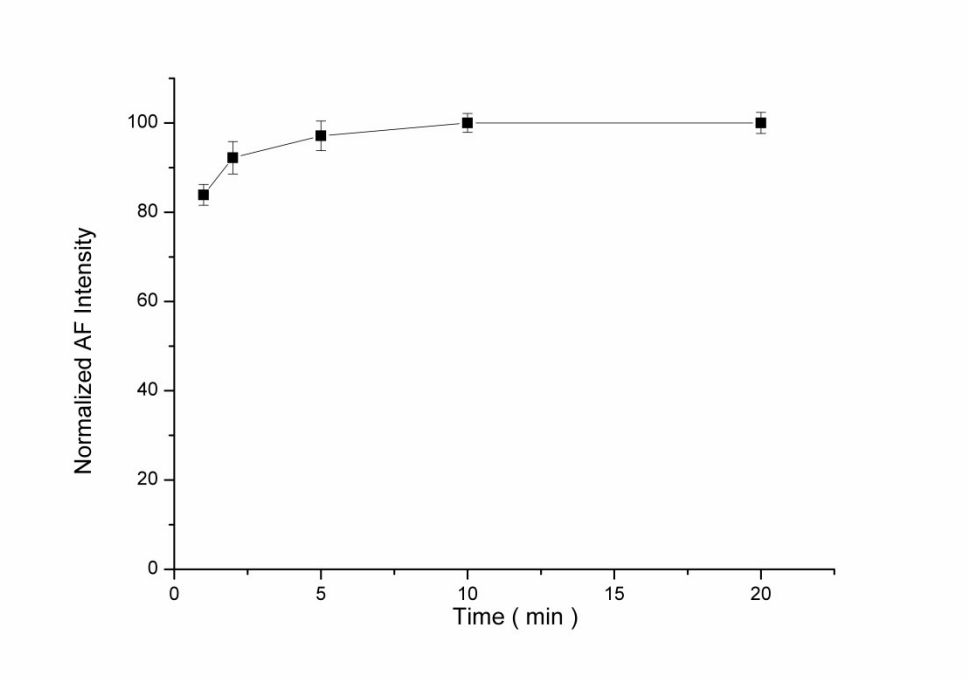

Figure S-2. Effect of different ultrasonic times on detecting arsenic by SLS-HG-*in situ* DBD-AFS. The AF intensity at 10 min is set as 100, and the others are normalized.