Electronic Supplementary Material (ESI) for RSC Advances

Supporting Information

Electrospun Amino-Functionalized PDMS as a Novel SPME Sorbent for the Speciation of Inorganic and Organometallic Arsenic Species

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Table S1. Operation conditions for HPLC-ICPMS

HPLC		Agilent 1200	
Analytical column		PRP-X100 (250 mm x 4.1 mm, 10 µm)	
Mobile phase		10.0 mM and 30.0 mM $(NH_4)_2CO_3$ solutions, pH=8.50	
Flow rate		1.0 mL min^{-1}	
Column temperature		25 ºC	
Sample loop		100 µL	
ICP-MS		Agilent 7500ce	
Rf power output	1550 W	Interface	Ni sampler cone (1 mm)
Frequency	27 MHz		Ni skimmer cone (0.4 mm)
Plasma gas flow rate	15 $Lmin^{-1}$	Spray chamber temp.	2 ºC
Carrier gas flow rate	0.85 $Lmin^{-1}$	Nebulizer	Concentric
Collision gas flow rate	4.5 $mLmin^{-1}$	Dwell time	100 ms
Octopole reaction system	+	Detected isotope	^{75}As
Collision gas	He	Integration mode	Peak area

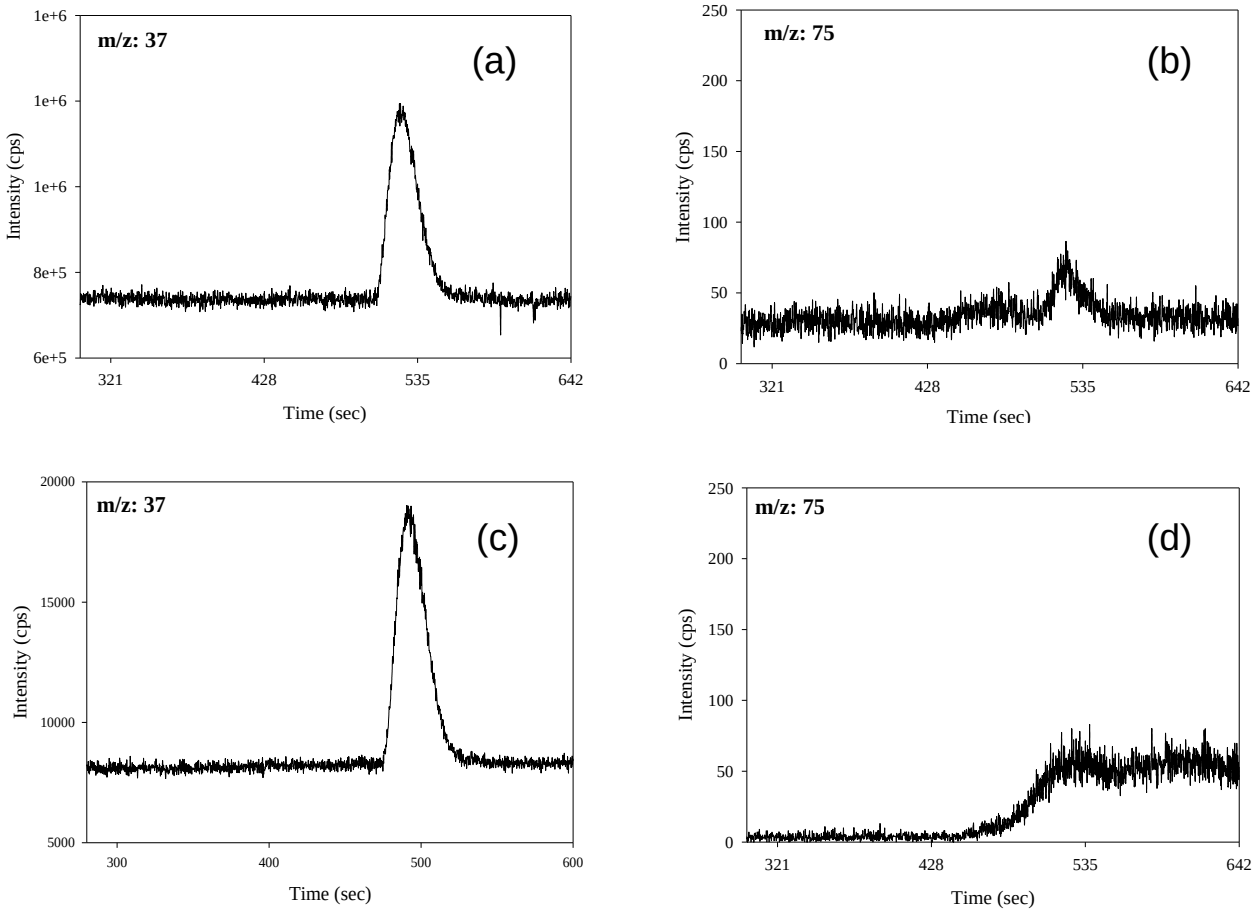
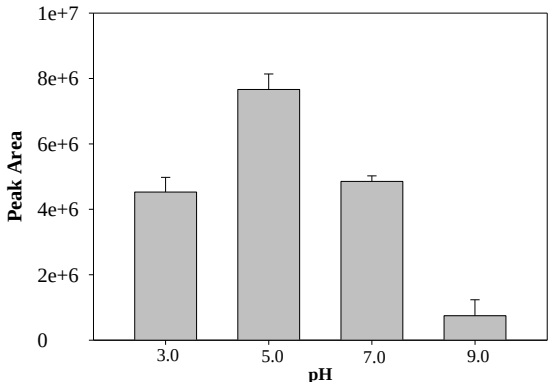


Figure S1. Chromatograms obtained after injection of 0.010 M NaCl to HPLC-ICPMS. (a) and (b) no He in the octopole collision cell, (c) and (d) in the presence of He in the octopole collision cell.



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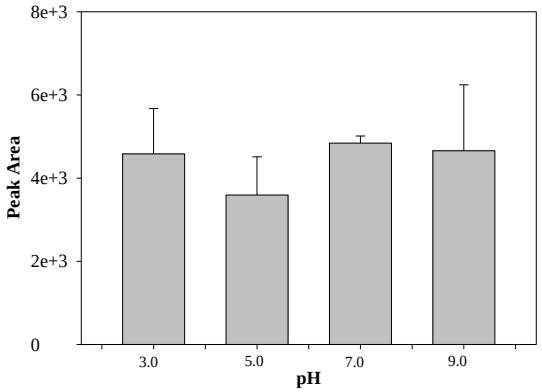

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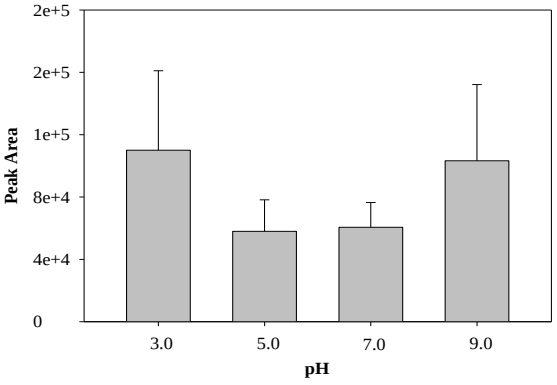

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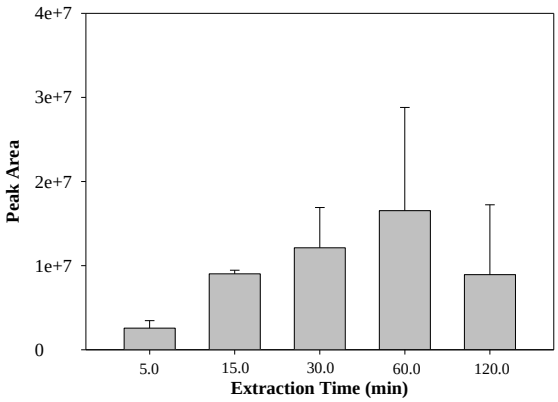
Figure S2. Effect of solution pH on extraction of arsenic species (Extraction conditions; arsenic concentration: 10.0 µg L^{-1}, solution volume: 15.0 mL, stirring speed: 700 rpm, extraction time: 60 min, temperature: 25 ºC. Desorption conditions; desorption solution: 150 µL 50.0 mM KH_2PO_4, desorption time 20 min)



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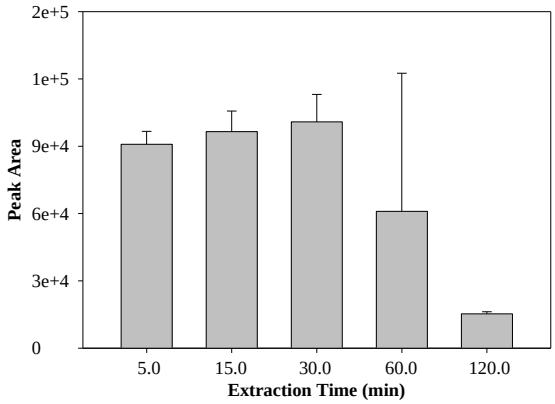

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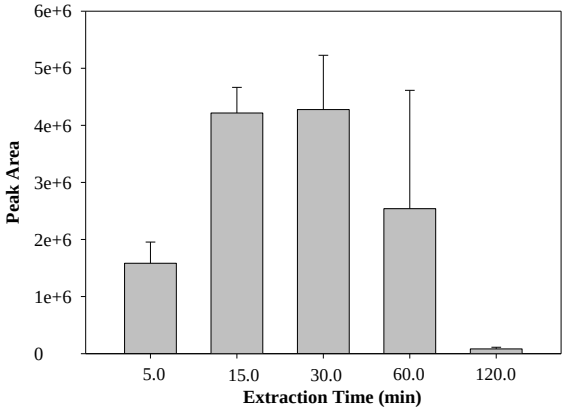

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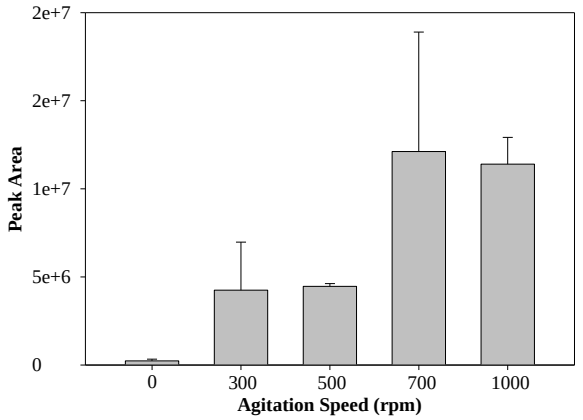
Figure S3. Effect of agitation time on extraction of arsenic species (Extraction conditions: arsenic concentration: 10.0 µg L^{-1}, solution pH: 5.0, solution volume: 15 mL, stirring speed: 700 rpm. Desorption conditions; desorption solution: 150 µL 50.0 mM KH_2PO_4, desorption time: 20 min)



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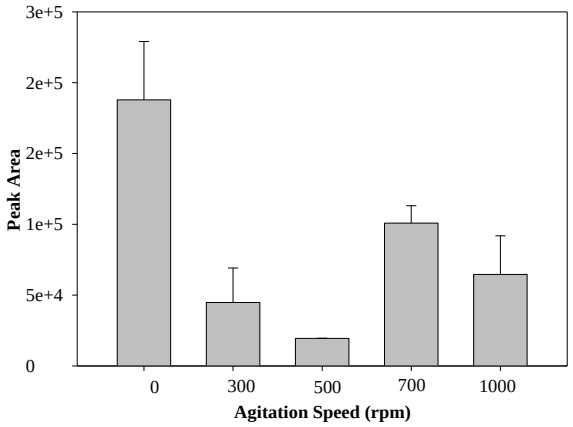

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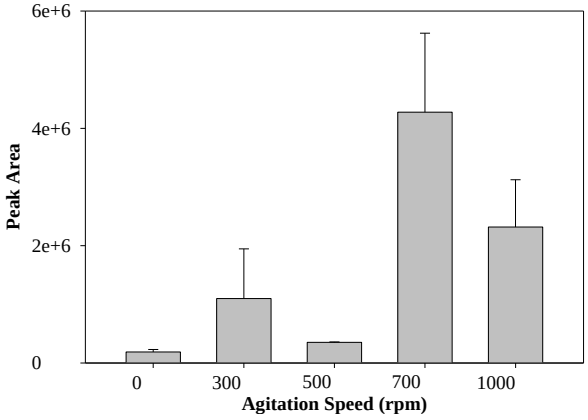

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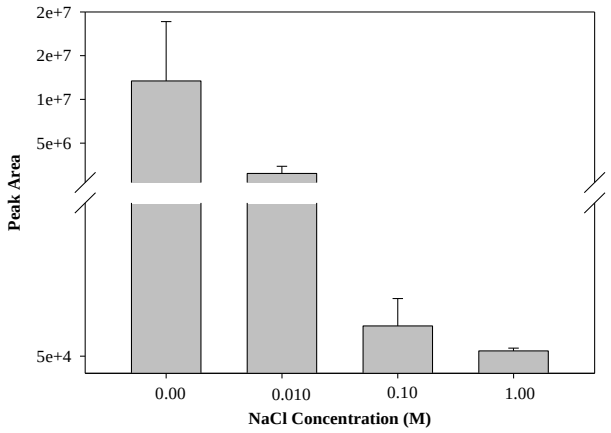
Figure S4. Effect of agitation speed on extraction of arsenic species (Extraction conditions; extraction time: 30 min, arsenic concentration: 10.0 µg L^{-1}, solution pH: 5.0, solution volume: 15 mL. Desorption conditions; desorption solution: 150 µL 50.0 mM KH_2PO_4, desorption time: 20 min)



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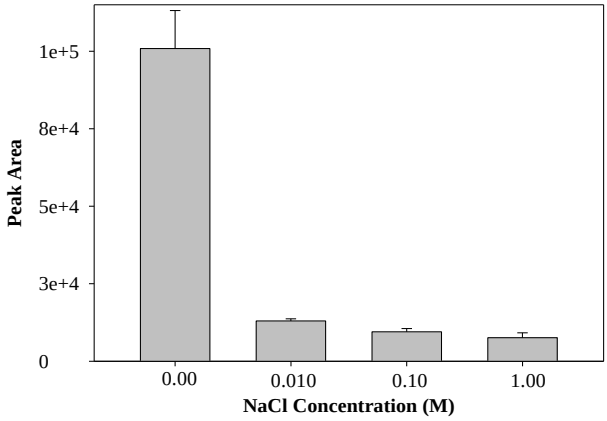

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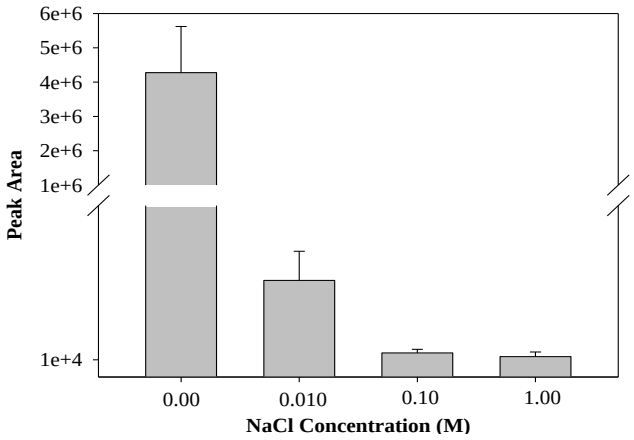

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Figure S5. Effect of NaCl concentration on extraction of arsenic species (Extraction conditions; extraction time: 30 min, arsenic concentration: 10.0 µg L^{-1}, solution pH: 5.0, stirring speed: 700 rpm, solution volume: 15 mL. Desorption conditions; desorption solution: 150 µL 50.0 mM KH_2PO_4, desorption time: 20 min)

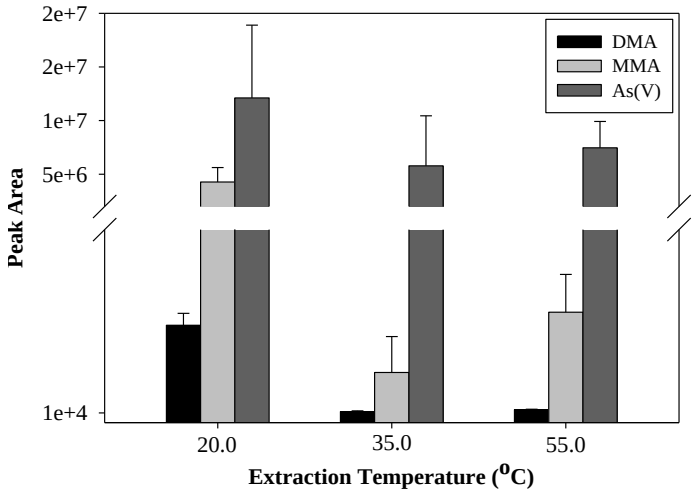

Figure S6. Effect of solution temperature on extraction of the arsenic species. (Extraction conditions; extraction time: 30 min, arsenic concentration: 10.0 µg L^{-1}, solution pH: 5.0, stirring speed: 700 rpm, solution volume: 15 mL. Desorption conditions; desorption solution: 150 µL 50.0 mM KH_2PO_4, desorption time: 20 min)