

1 Table S1

2 Design matrix and response values obtained from the factorial design development to  
3 assess the extraction percentage with deionized water for the root of *T. zygis* by MAE.

Run number	Levels			Total As extracted (%) <sup>a</sup>
	Temperature	Time	Extraction steps	
1	0	0	0	13.4
2	-	+	+	13.7
3	+	-	-	21.2
4	0	0	0	16.6
5	+	-	+	27.3
6	-	-	-	14.0
7	-	-	+	13.3
8	+	+	-	19.0
9	0	0	0	13.0
10	-	+	-	8.90
11	+	+	+	31.4
12	0	0	0	15.4

4 <sup>a</sup>Calculated as the ratio between the total As extracted concentration and the total As  
5 in digested samples ((164 ± 3) µg g<sup>-1</sup>).<sup>22</sup>

6 Table S2

7 Analysis of variance (ANOVA) of the results obtained for the extraction recovery with  
8 deionized water by MAE, corresponding to the root of *T. zygis*, obtained for the Box-  
9 Behnken design.

<b>Source</b>	<b>Sum of squares</b>	<b>DF<sup>a</sup></b>	<b>Mean square</b>	<b>F value</b>	<b>p-value</b>
<b>A</b>	297.68	1	297.68	163.30	<b>0.0000</b>
<b>B</b>	4.06125	1	4.06125	2.23	0.1861
<b>C</b>	90.4513	1	90.4513	49.62	<b>0.0004</b>
<b>AA</b>	24.01	1	24.01	13.17	<b>0.0110</b>
<b>AB</b>	7.0225	1	7.0225	3.85	0.0973
<b>AC</b>	19.8025	1	19.8025	10.86	<b>0.0165</b>
<b>BB</b>	3.8025	1	3.8025	2.09	0.1988
<b>BC</b>	1.0	1	1.0	0.55	0.4869
<b>CC</b>	9.3025	1	9.3025	5.10	0.0646
<b>Total error</b>	10.9375	6	1.82292		
<b>Total</b>	468.07	15			

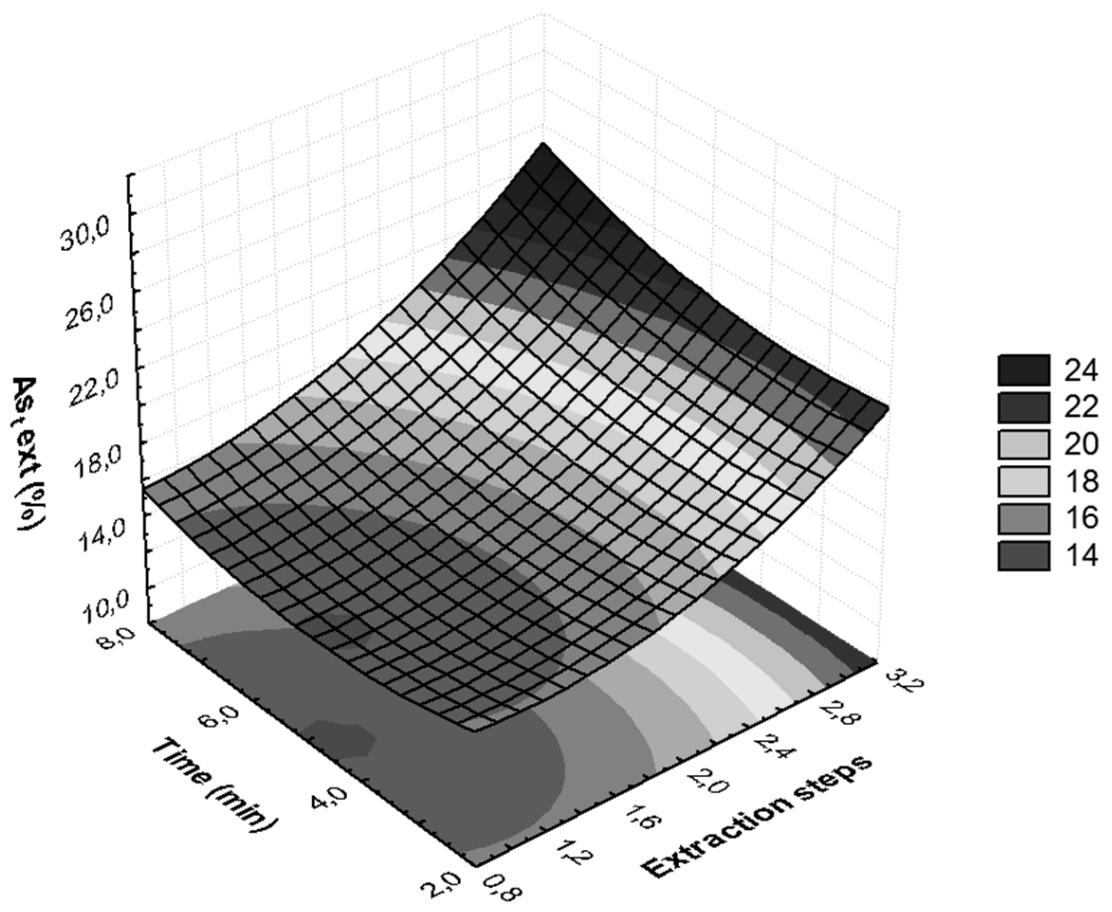
10 <sup>a</sup> DF = Degrees of freedom

11 Figure S1

12 Response surfaces estimated from Box-Behnken design for total arsenic extraction

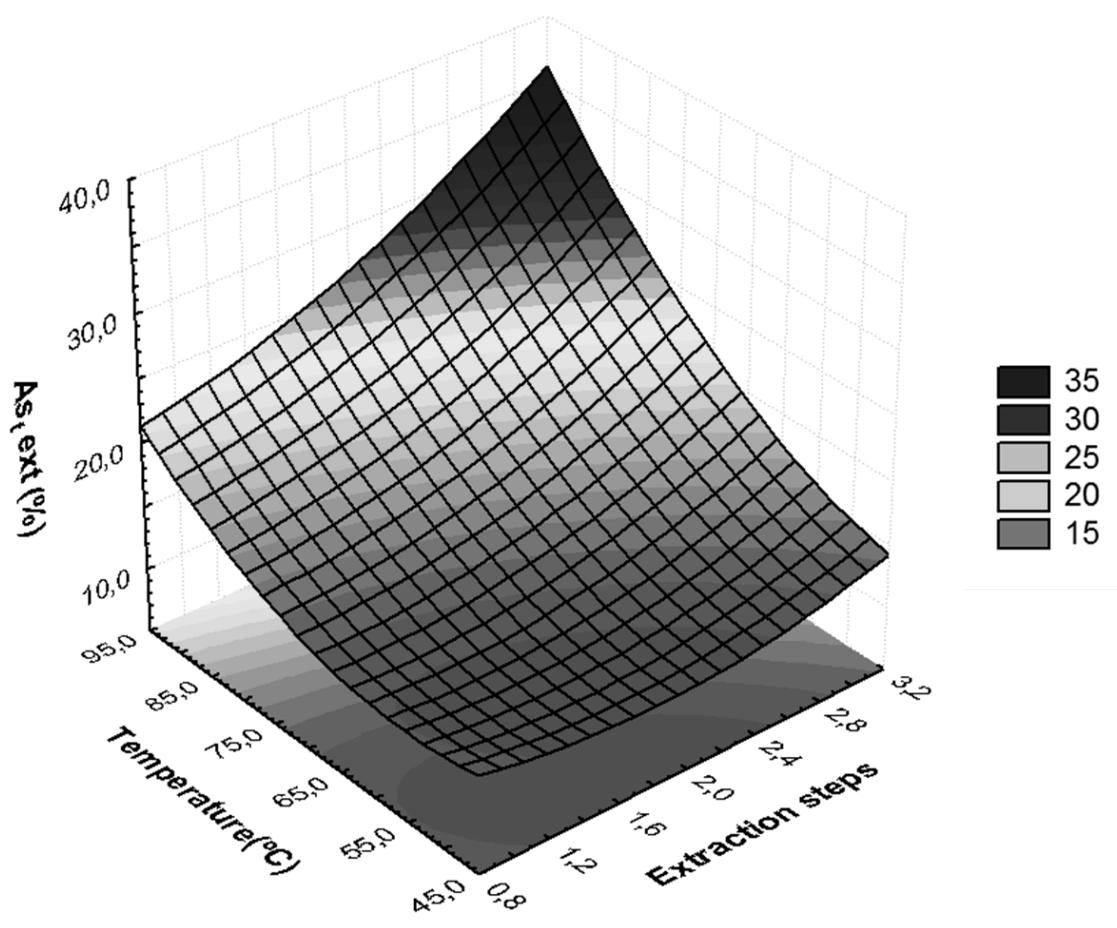
13 recovery (%) by MAE method on the root of *T. zygis*, when the temperature (A), time

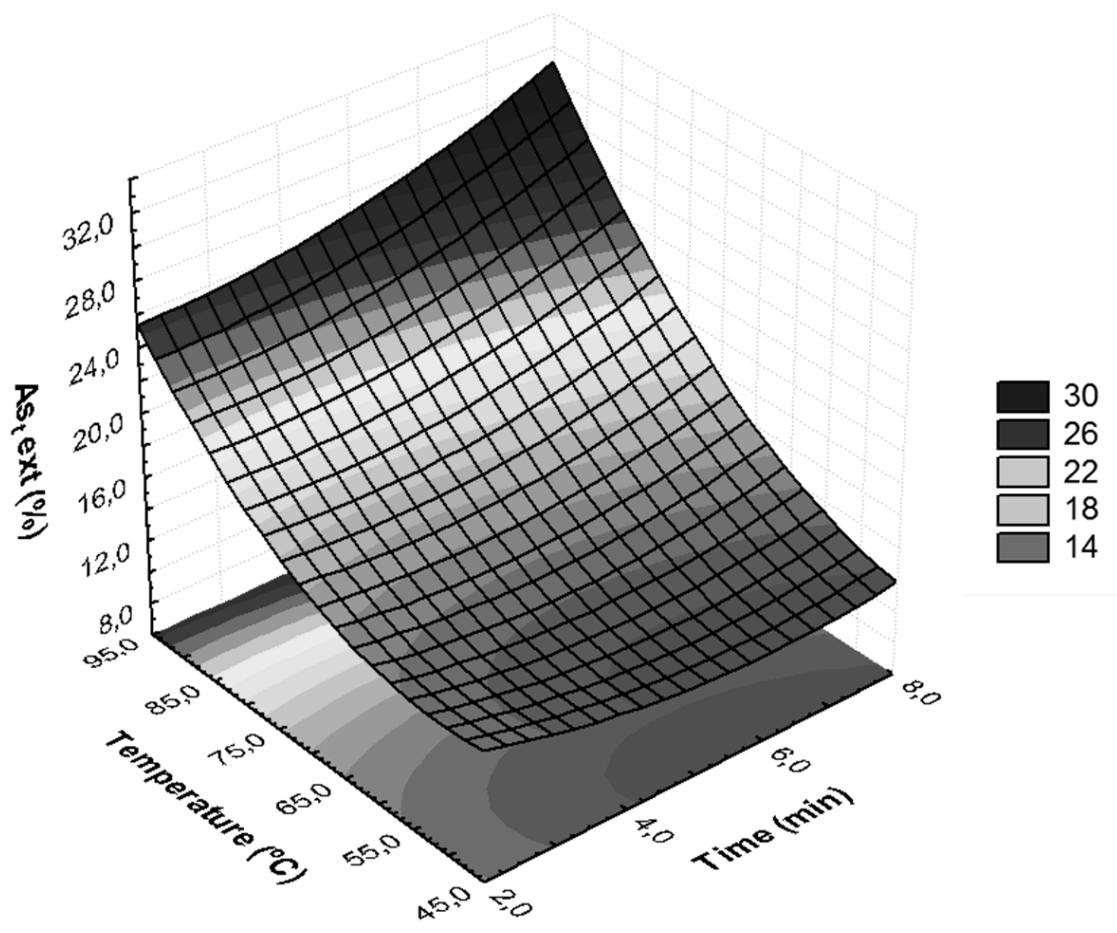
14 (B) and extraction steps (C) are constant at optimum value.



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Figure S1A





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Figure S1C