

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 (%) ^a
	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 ^aCalculated as the ratio between the total As extracted concentration and the total As
5 in digested samples ((164 ± 3) µg g⁻¹).²²

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.

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

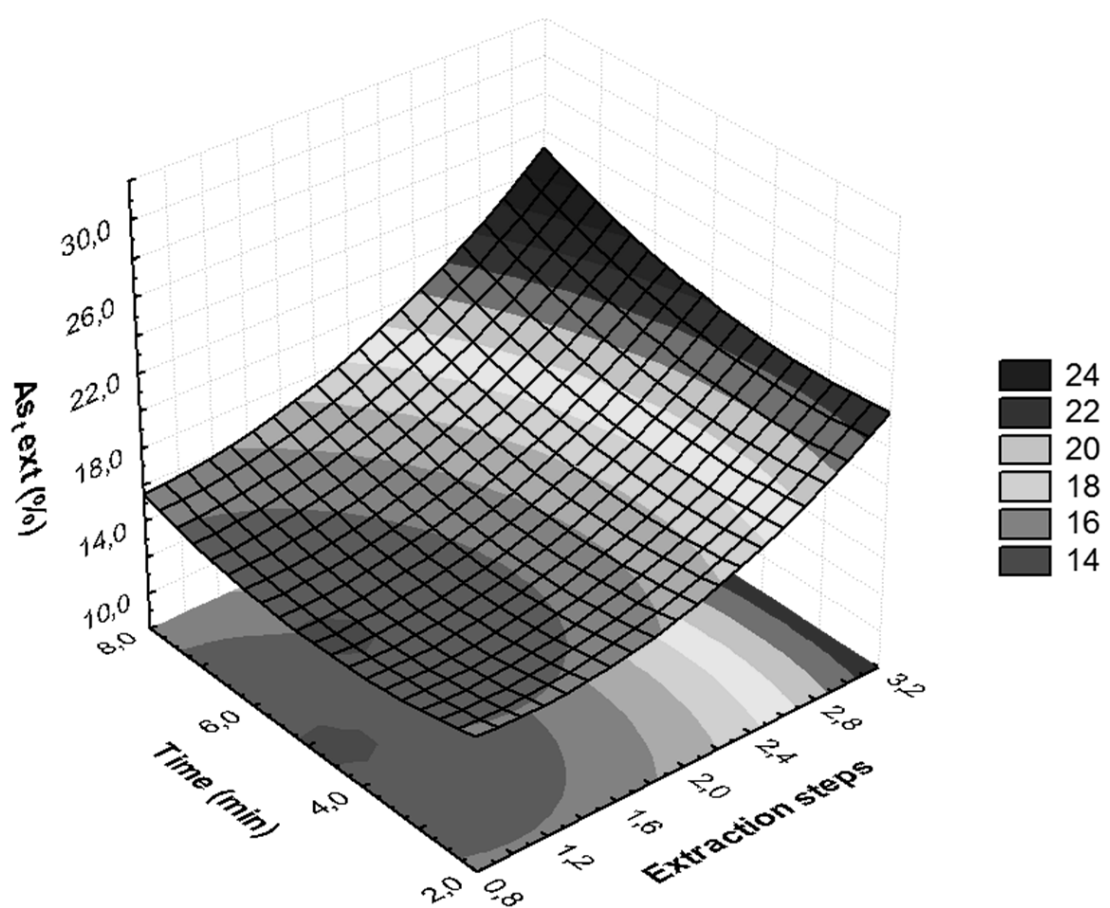
10 ^a DF = Degrees of freedom

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

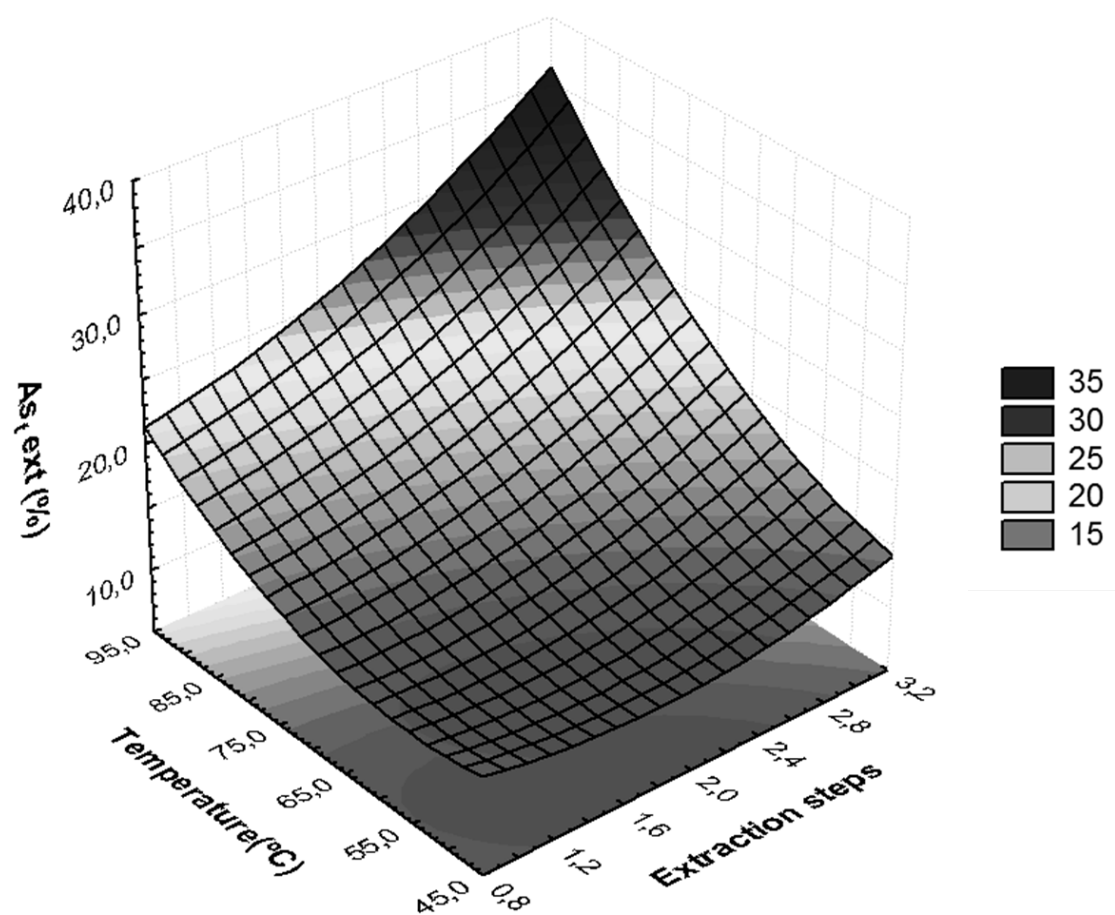
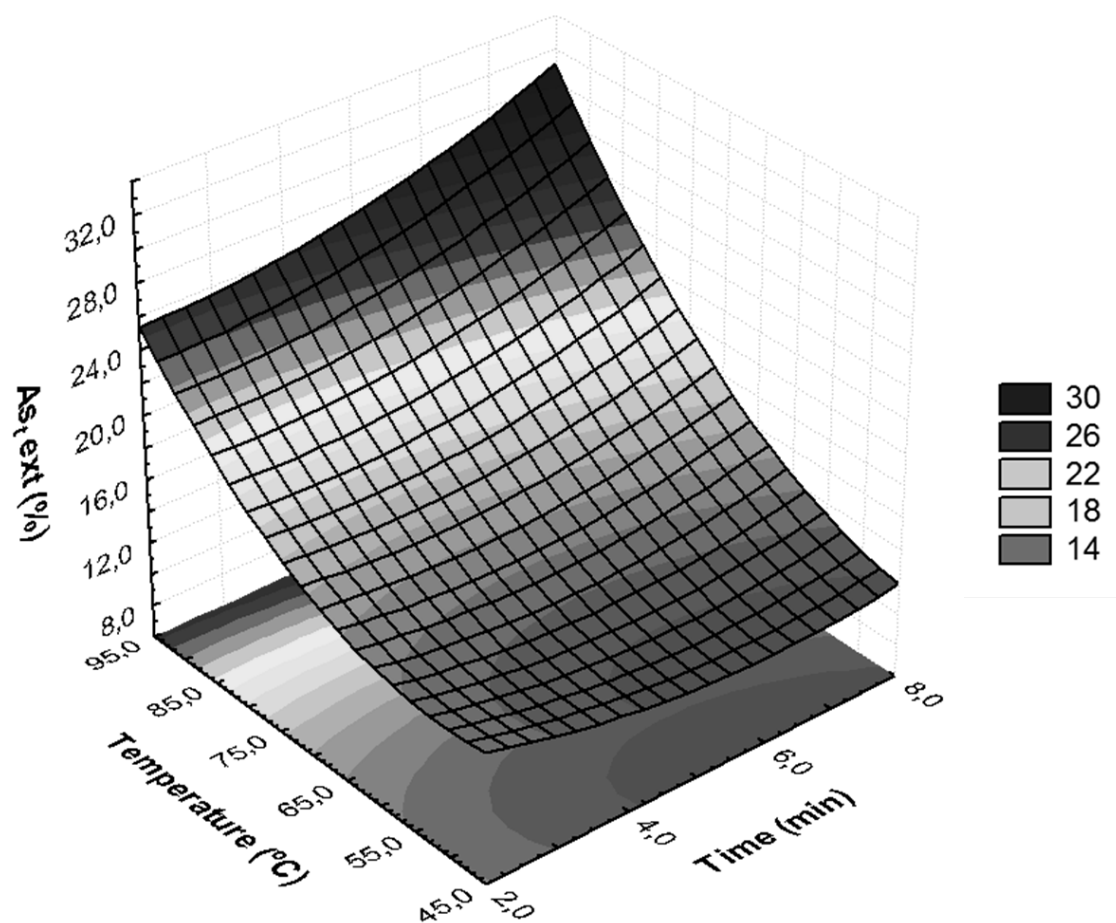


Figure S1B



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Figure S1C