

Supporting Information

For

**Self-rotating Stir Mesh Screen Sorptive Extraction for analyzing Chlorpyrifos by Ion
Mobility Spectrometry**

Mansoure Kermani, Mohammad T. Jafari*, Mohammad Saraji

Department of Chemistry, Isfahan University of Technology, Isfahan 84156-83111, Iran

*Corresponding author: Tel.: +98-313-391-2351, Fax: +98-313-391-2350
E-mail: jafari@cc.iut.ac.ir.

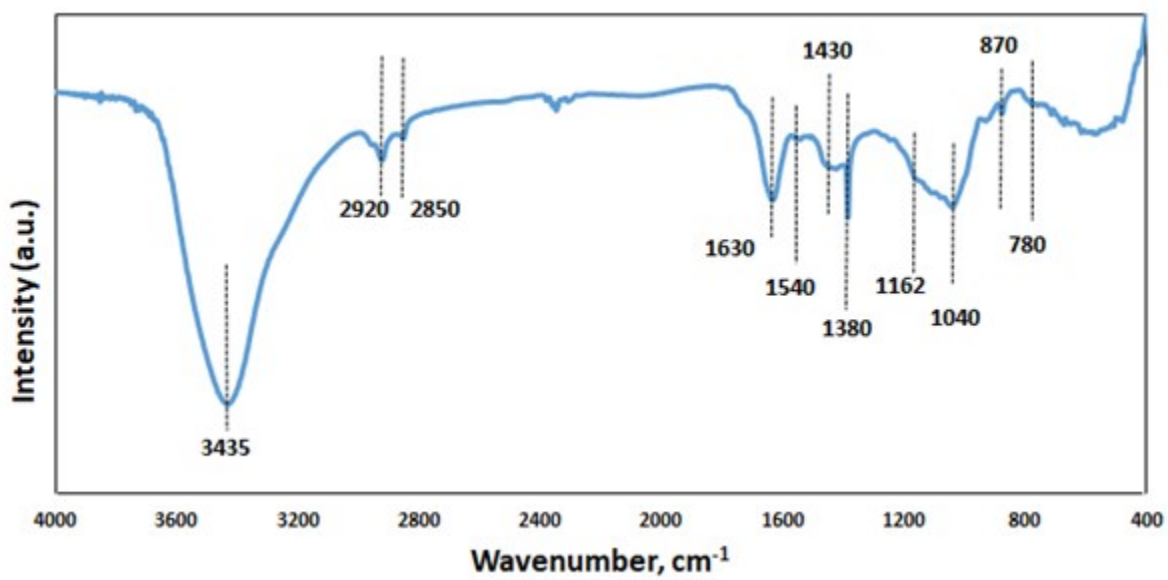


Figure S-1: FT-IR spectrum of the polypyrrole.

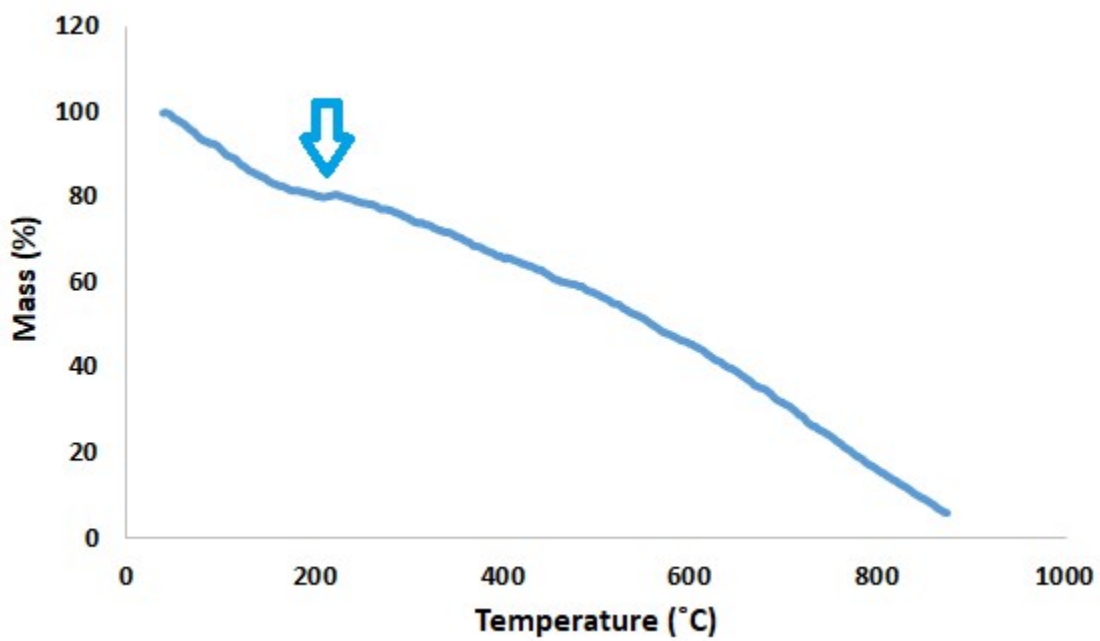


Figure S-2: TGA curve of the polypyrrole, where as a major mass loss occurred at area around 200 °C (marked by the blue down arrow).

Table S-1: Variables, their levels and symbols which were selected for the CCD in electrodeposition step

Variable	Symbol	Levels				
		$-\alpha$	-1	0	$+1$	$+\alpha$
Pyrrole concentration (mol L ⁻¹)	P	0.02	0.05	0.11	0.17	0.2
Oxalic acid concentration (mol L ⁻¹)	O	0.15	0.32	0.82	1.3	1.5
Electropolymerization time (s)	t_p	600	1040	2100	3160	3600

Table S-2: Variables, their levels and symbols which were selected for the CCD in extraction step

Variable	Symbol	Levels				
		$-a$	-1	0	$+1$	$+a$
Time of extraction (min)	t_e	10	17	27	38	45
Temperature of extraction ($^{\circ}\text{C}$)	T	25	35	50	65	75
Stirring rate (rpm)	R	200	400	700	1000	1200
Salt concentration (g mL^{-1})	S	0	0.04	0.1	0.16	0.2

Table S-3: Analytical parameters of the proposed method obtained for pure water samples spiked with chlorpyrifos.

LDR ^a ($\mu\text{g L}^{-1}$)	R ² ^b	LOD ^c ($\mu\text{g L}^{-1}$)	LOQ ^d ($\mu\text{g L}^{-1}$)	Repeatability (%) ^e				Mesh-to-mesh reproducibility ^e (%)
				Intra-day ^f		Inter-day ^f		
				0.5	10	0.5	10	
0.1-20	0.9984	0.035	0.1	3	2	7	8	4

^a Linear dynamic range.

^b Correlation coefficient

^c Limit of detection.

^d Limit of quantification.

^e Relative standard deviation.

^f Intra-day and inter-day precision were calculated by analyzing pure water samples spiked at 0.5 and 10 $\mu\text{g L}^{-1}$ within one day (n=3) and over a period of three days, respectively.