

Supporting information

Membrane-protected molecularly imprinted polymer for the microextraction of indole-3-butyric acid in mung bean sprouts

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Table S1. Retention capacity and separation factor of IBA and its analogous on MIP and NIP

Table S2. The results of Orthogonal experiment L⁹(3⁴)

Figure S1. HPLC Chromatograms of IBA standard solutions $\lambda=281\text{nm}$; The concentration: range were (1, 2.5, 5, 10, 20, 50 mg/L); insert: calibration curve: $R^2=0.9999$, $y=836.5356x-5.8531$

Figure S2. HPLC Chromatograms of real samples were spiked within the range of 5~20 mg/L

Highlights:

- 1) Simultaneously extraction of combined with SPME and μSPE
- 2) General process of bulk polymerization
- 3) A novel process for plant auxins
- 4) The μSPE of low consumption, simplicity, rapidity, sample purification

Table S1. Retention factors(k), imprinting factors (IF) and selectivity factors (α) of IBA and its analogous on MIP and NIP

Analogous	k_{MIP}	k_{NIP}	IF	α
IBA	17.5	11.6	1.51	1.0
IPA	13.5	10.0	1.35	1.3
IAA	13.2	11.1	1.19	1.3
TA	0.5	0.6	0.83	35

IF= k_{MIP}/k_{NIP}

Table S2. The results of Orthogonal experiment $L^9(3^4)$

Trail	Column				$C/d_{desorption}(mg/L)$
	A	B	C	D	
1)	1*	1	1	1	0.49
2)	1	2#	2	2	1.49
3)	1	3*	3	3	0.15
4)	2	1	2	3	2.76
5)	2	2	3	1	0.50
6)	2	3	1	2	2.63
7)	3	1	3	2	0.27
8)	3	2	1	2	3.66
9)	3	3	2	1	3.28
K1	4.26	7.04	13.55	8.53	
K2	11.77	11.03	15.05	8.77	
K3	14.41	12.1	1.84	13.14	
k1	1.42	2.35	4.52	2.84	
k2	3.92	3.77	5.02	2.92	
k3	4.80	4.03	0.61	4.38	
R	10.15	5.00	1.50	4.61	
Best level	A ₃	B ₃	C ₂	D ₃	

*The extraction time was 40 min, rotate speed was 600 rpm, pH was 2.0, salt effect was 0%, #the extraction time was 60 min, rotate speed was 800 rpm, pH was 4.0, salt effect was 5%, *the extraction time was 80 min, rotate speed was 1000 rpm, pH was 6.0, salt effect was 10%

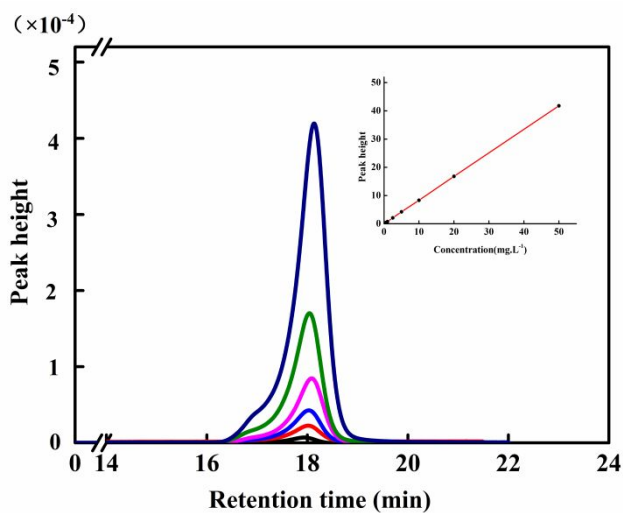


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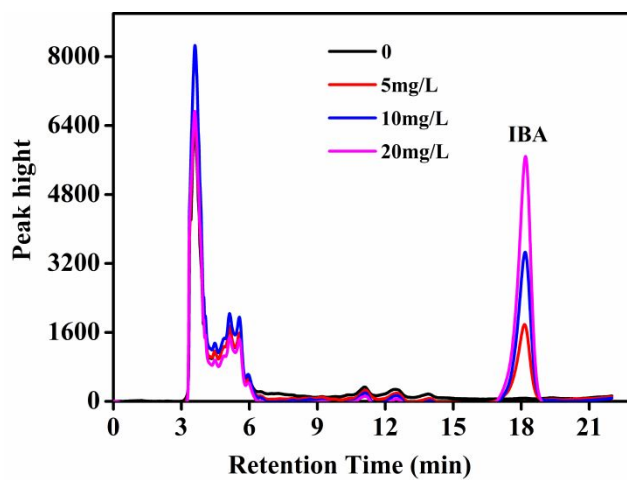


Figure S2. HPLC Chromatograms of real samples were spiked with 5, 10, 20 mg/L IBA