

Supplementary Material

Deep eutectic solvent based ultrasound assisted emulsification microextraction for preconcentration and voltametric determination of aflatoxin B1 in cereal samples

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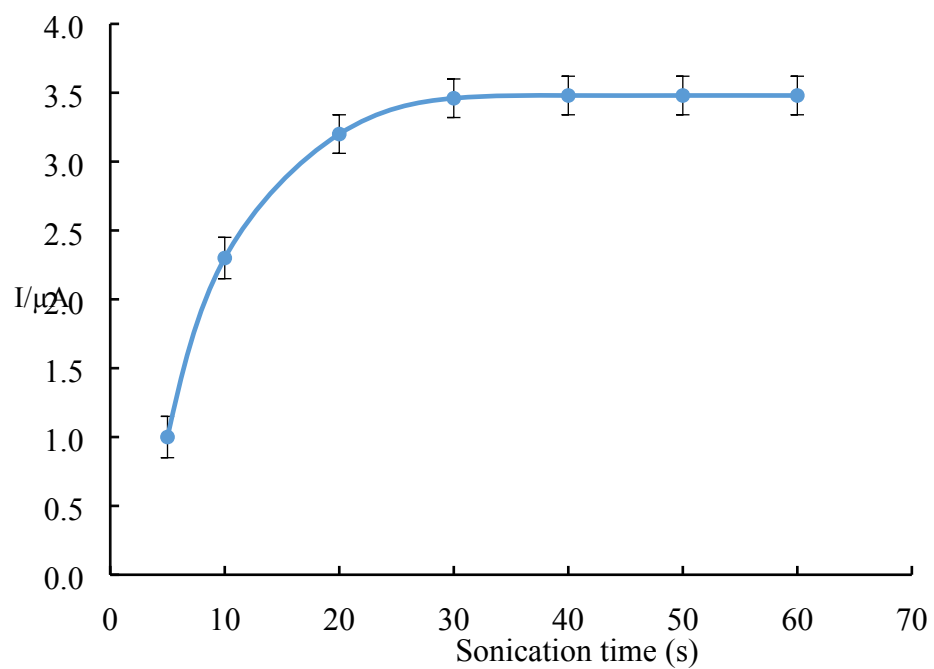


Fig. S1. Effect of sonication time. Conditions: AFB1: $20.0 \mu\text{g L}^{-1}$ AFB1 in ACN: buffer (pH: 7); sample volume: 6 mL; DES volume: $150\mu\text{L}$; equilibrium time: 1 min; centrifuging time: 10 min at 3500 rpm; DPV conditions: scan rate 50 mv/s; step potential: 0.007V; pulse potential: 0.03V; pulse time: 50s.

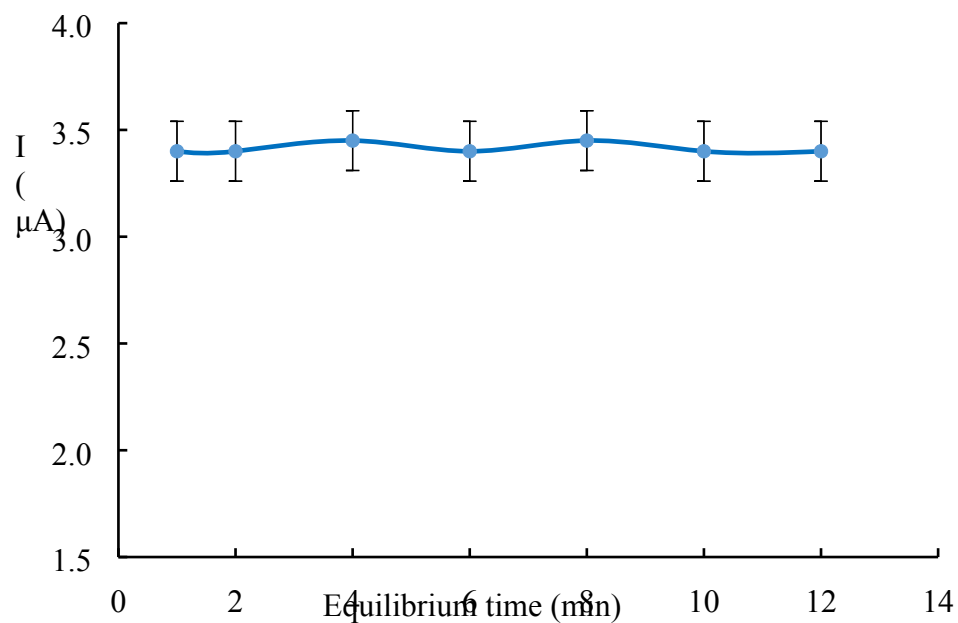


Fig. S2. Effect of equilibrium time on peak current. Conditions: AFB1: $20.0 \mu\text{g L}^{-1}$ in ACN:buffer (pH: 7); sample volume: 6 mL; DES volume: $150\mu\text{L}$; sonication time: 40 s; centrifuging time: 10 min at 3500 rpm; DPV conditions: scan rate 50 mv/s; step potential: 0.007V; pulse potential: 0.03V; pulse time: 50s.

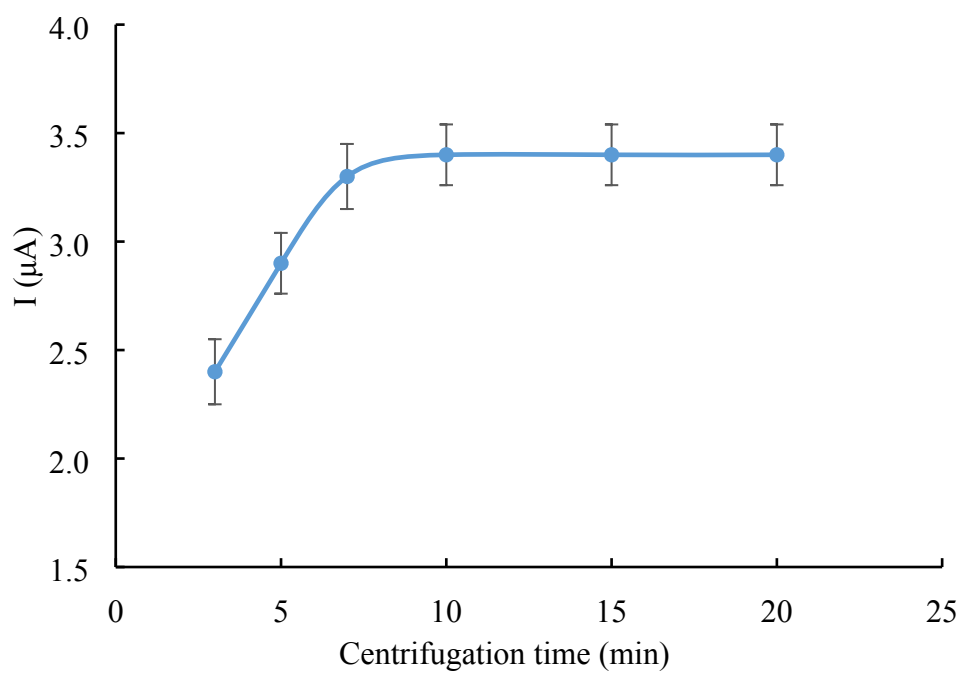


Fig. S3. Effect of centrifugation time on peak current. Conditions: AFB1: $20.0 \mu\text{g L}^{-1}$ in ACN: buffer (pH: 7); sample volume: 6 mL; DES volume: $150\mu\text{L}$; sonication time: 40 s, equilibrium time: 1 min; DPV conditions: scan rate 50 mV/s; step potential: 0.007V; pulse potential: 0.03V; pulse time: 50s.

Table S1 Physical properties of Ch-Cl DES

parameter	Data	Reference
HBA-HBD: ratio	ChCl-Urea: 1:2	
Molar masses	0.25974 kg mol ⁻¹	S1
Density	24gcm ⁻³ (45 °C)	S1
Freezing points, T _f /°C	12 °C	S1
Surface tension	52.02±0.05 mN/m (25.0 °C)	S1
Refractive index	1.504	S1
Potential window	0.8—1.6 V	This work

S1: A. P. Abbott, G. Capper, D. L. Davies, R. K. Rasheed and V. Tambyrajah, Novel solvent properties of choline chloride/urea mixtures, CHEM. COMMUN. , 2003, 70–71.
<http://www.rsc.org/suppdata/cc/b210714g/>

Table S2 Analytical features of the proposed method

parameters	Data
Regression equation	$I_{pc}^a = 0.111C^b + 1.114$
R ² (Correlation coefficient)	0.9970
Linear rang($\mu\text{g L}^{-1}$)	0.2-80
Limit of detection($\mu\text{g L}^{-1}$, 3Sb)	0.05
Intra-day RSD (5.0 $\mu\text{g L}^{-1}$, n = 5)	3.3%
Inter-day RSD (5.0 $\mu\text{g L}^{-1}$, n = 15)	4.1%
Enrichment factor	52