

Electronic Supporting information files for

Separation and determination of aflatoxins B₁, B₂, G₁ and G₂ in pistachio samples based on the magnetic solid phase extraction followed by high performance liquid chromatography with fluorescence detection

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1) 2.2. Instrumentation (the bromination of AFB₁ and AFG₁ in Kobra cell)

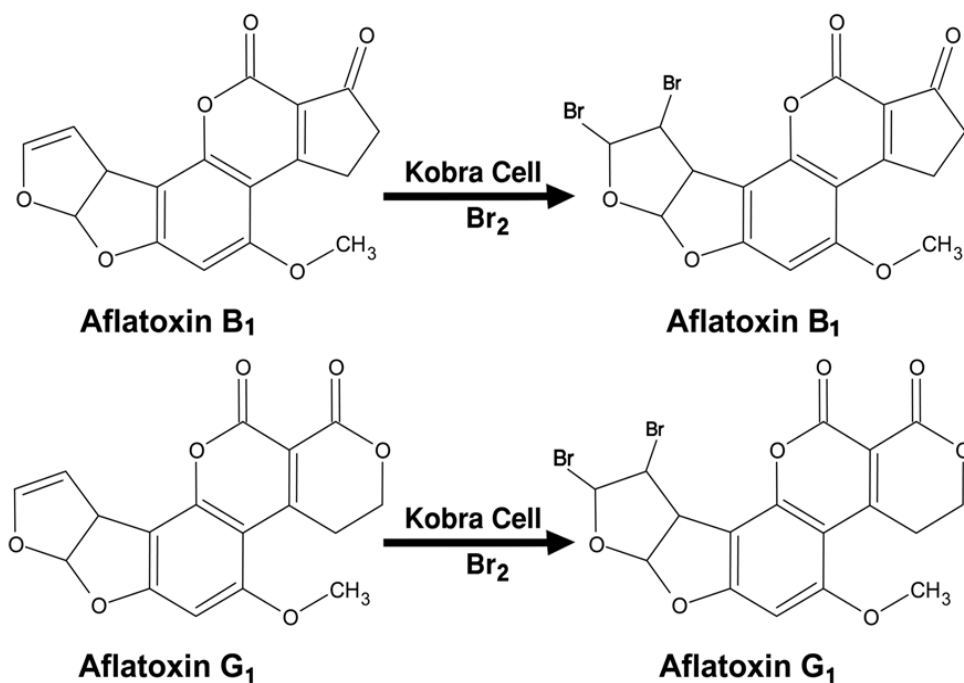


Fig. S1. Schematic illustration of the mechanism for the bromination of AFB₁ and AFG₁ in Kobra cell.

2) 3.2.2. Effect of sample volume

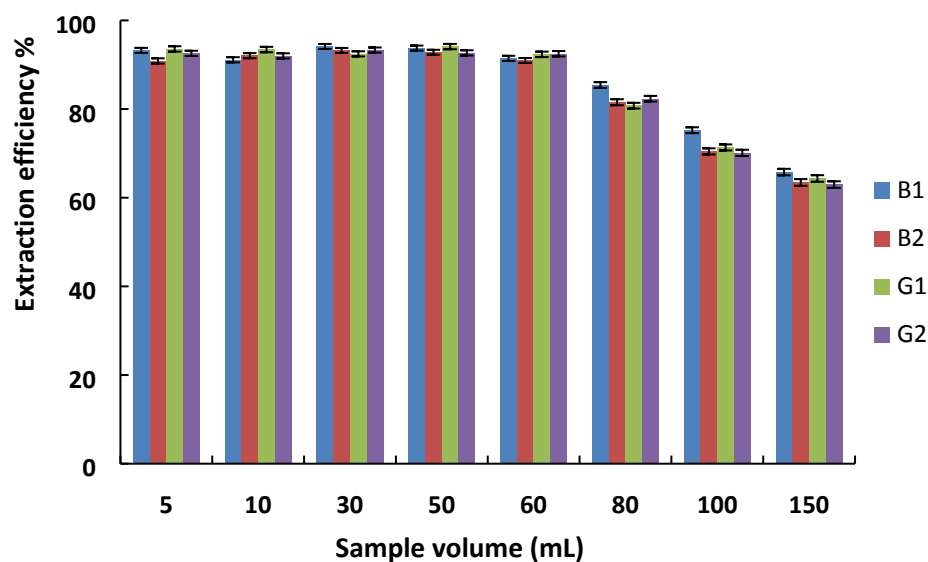


Fig. S2. Effect of sample volume on the extraction efficiency. Conditions: Concentration of AFs, $1.2 \mu\text{g L}^{-1}$ of AFB₁ and AFG₁ and $0.24 \mu\text{g L}^{-1}$ of AFB₂ and AFG₂; pH, 7.4; adsorbent amount, 130 mg; adsorption time, 10 min; desorption time, 10 min; desorption solvent type and volume, 2 ml of Me₂CO/MeCN/CH₂Cl₂ (1:1:2); reconstituting solvent volume (mobile phase), 300 μL ; HPLC conditions as described in Section 2.2. Error bars represent the standard deviation of the mean recovery for three replicates.

3) 3.2.3. The MMNPs amount

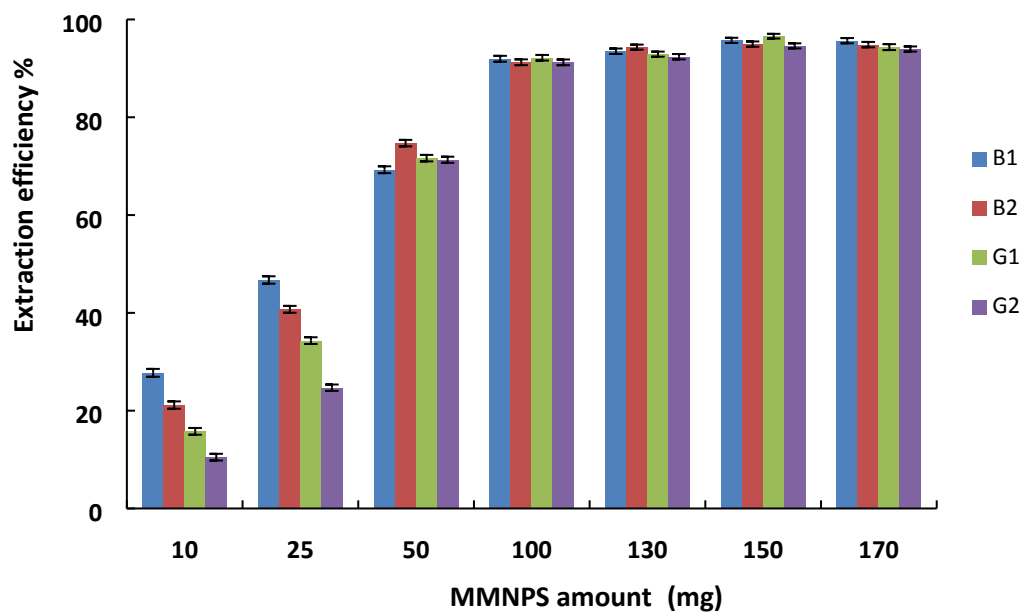


Fig. S3. Effect of MMNPs amount on the extraction efficiency. Conditions: Concentration of AFs, $1.2 \mu\text{g L}^{-1}$ of AFB₁ and AFG₁ and $0.24 \mu\text{g L}^{-1}$ of AFB₂ and AFG₂; pH, 7.4; sample volume, 50 mL; adsorption time, 10 min; desorption time, 10 min; desorption solvent type and volume, 2 mL of Me₂CO/MeCN/CH₂Cl₂ (1:1:2); reconstituting solvent volume (mobile phase), 300 μL ; HPLC conditions as described in Section 2.2. Error bars represent the standard deviation of the mean recovery for three replicates.

4) 3.2.4. Effect of adsorption time

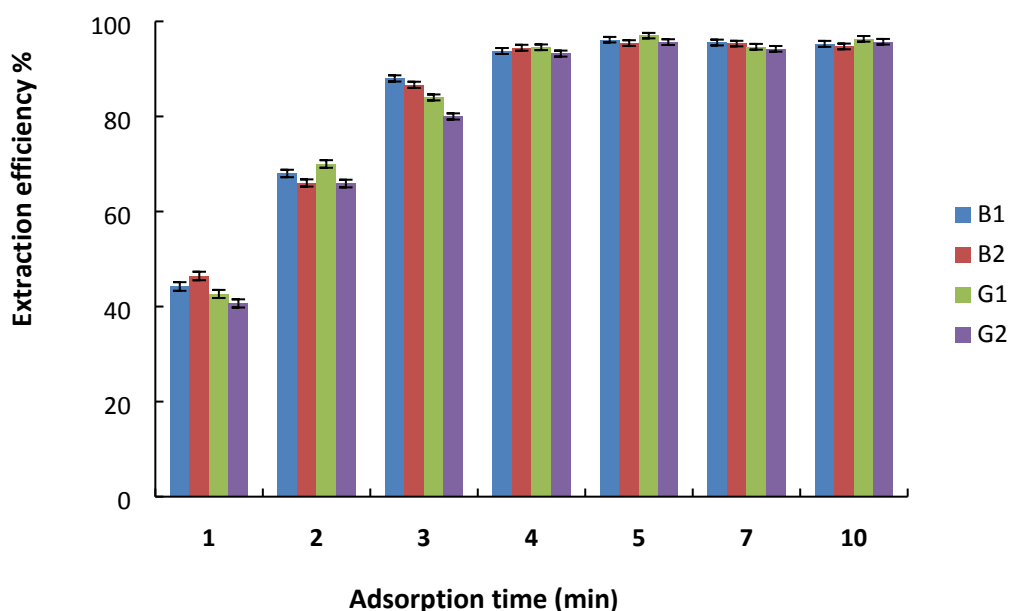


Fig. S4. Effect of adsorption time on the extraction efficiency. Conditions: Concentration of AFs, $1.2 \mu\text{g L}^{-1}$ of AFB_1 and AFG_1 and $0.24 \mu\text{g L}^{-1}$ of AFB_2 and AFG_2 ; pH, 7.4; adsorbent amount, 150 mg; sample volume, 50 mL; desorption time, 10 min; desorption solvent type and volume, 2 ml of $\text{Me}_2\text{CO}/\text{MeCN}/\text{CH}_2\text{Cl}_2$ (1:1:2); reconstituting solvent volume (mobile phase), 300 μl ; HPLC conditions as described in Section 2.2. Error bars represent the standard deviation of the mean recovery for three replicates.

5) 3.2.5. Desorption conditions, effect of desorption solvent volume

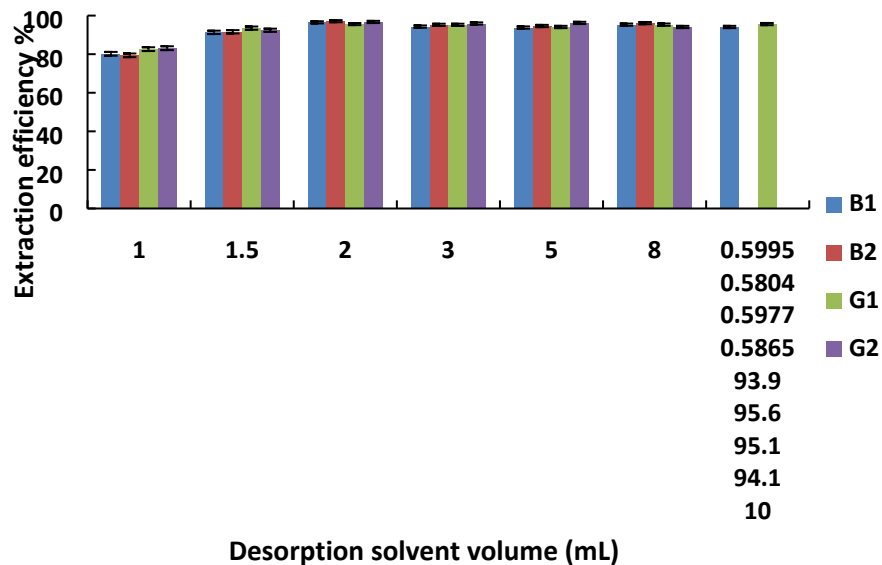


Fig. S5. Effect of desorption solvent volume on the extraction efficiency. conditions: Concentration of AFBs, $1.2 \mu\text{g L}^{-1}$ of AFB₁ and AFG₁ and $0.24 \mu\text{g L}^{-1}$ of AFB₂ and AFG₂; pH, 7.4; sample volume, 50 mL; adsorbent amount, 150 mg; adsorption time, 5 min; desorption time, 10 min; desorption solvent type, Me₂CO/MeCN/CH₂Cl₂ (1:1:2); reconstituting solvent volume (mobile phase), 300 μl ; HPLC conditions as described in Section 2.2. Error bars represent the standard deviation of the mean recovery for three replicates.

6) 3.2.5. Desorption conditions, effect of desorption time

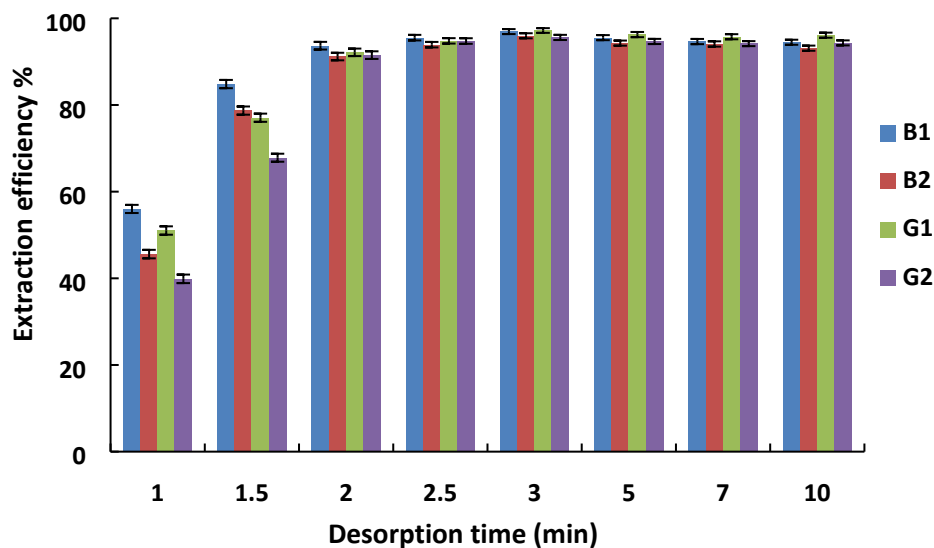


Fig. S6. Effect of desorption time on the extraction efficiency. conditions: Concentration of AFs, $1.2 \mu\text{g L}^{-1}$ of AFB₁ and AFG₁ and $0.24 \mu\text{g L}^{-1}$ of AFB₂ and AFG₂; pH, 7.4; sample volume, 50 mL; adsorbent amount, 150 mg; adsorption time, 5 min; desorption solvent type and volume, 2 ml of Me₂CO/MeCN/CH₂Cl₂ (1:1:2); reconstituting solvent volume (mobile phase), 300 μl ; HPLC conditions as described in Section 2.2. Error bars represent the standard deviation of the mean recovery for three replicates.