Electronic Supporting information files for

Separation and determination of aflatoxins B$_1$, B$_2$, G$_1$ and G$_2$ 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 AFB$_1$ and AFG$_1$ in Kobra cell)

*Fig. S1.* Schematic illustration of the mechanism for the bromination of AFB$_1$ and AFG$_1$ in Kobra cell.
2) 3.2.2. Effect of sample volume

![Bar chart showing the effect of sample volume on extraction efficiency.](chart)

**Fig. S2.** Effect of sample volume on the extraction efficiency. Conditions: Concentration of AFs, 1.2 µg L⁻¹ of AFB₁ and AFG₁ and 0.24 µg 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 µg L\(^{-1}\) of AFB\(_1\) and AFG\(_1\) and 0.24 µg L\(^{-1}\) of AFB\(_2\) and AFG\(_2\); pH, 7.4; sample volume, 50 mL; adsorption time, 10 min; desorption time, 10 min; desorption solvent type and volume, 2 ml of Me\(_2\)CO/MeCN/CH\(_2\)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.
4) 3.2.4. Effect of adsorption time

![Bar chart showing the effect of adsorption time on extraction efficiency.](image)

**Fig. S4.** Effect of adsorption time on the extraction efficiency. Conditions: Concentration of AFs, 1.2 µg L⁻¹ of AFB₁ and AFG₁ and 0.24 µg L⁻¹ of AFB₂ and AFG₂; pH, 7.4; adsorbent amount, 150 mg; sample volume, 50 mL; 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.
5) 3.2.5. Desorption conditions, effect of desorption solvent volume

![Graph showing extraction efficiency vs. desorption solvent volume]

**Fig. S5.** Effect of desorption solvent volume on the extraction efficiency. Conditions: Concentration of AFs, 1.2 µg L\(^{-1}\) of AFB\(_1\) and AFG\(_1\) and 0.24 µg L\(^{-1}\) of AFB\(_2\) and AFG\(_2\); pH, 7.4; sample volume, 50 mL; adsorbent amount, 150 mg; adsorption time, 5 min; desorption time, 10 min; desorption solvent type, Me\(_2\)CO/MeCN/CH\(_2\)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.
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 µg L$^{-1}$ of AFB$_1$ and AFG$_1$ and 0.24 µg L$^{-1}$ of AFB$_2$ and AFG$_2$; pH, 7.4; sample volume, 50 mL; adsorbent amount, 150 mg; adsorption time, 5 min; desorption solvent type and volume, 2 ml of Me$_2$CO/MeCN/CH$_2$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.