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Use of new polymeric composites for preconcentration of trace Ag⁺ ions from the selected mushroom/vegetables by ultrasound-assisted cloud-point extraction coupled to microvolume UV-Vis spectrophotometry

By: Zengin, HB (Zengin, H. B.) [1]

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coefficient than 0.9825. The limits of detection, intra- and inter-day precision (as RSDs%) and recovery rates for six replicate determinations of Ag⁺ ions at levels of 25 and 100 µg L⁻¹ were 4.28/1.21 µg L⁻¹, 2.4-4.1% and 92-98% for the modified copolymers, respectively. The pre-concentration factor for Ag⁺ ion from pre-concentration of 35-mL sample was 70. A significant matrix effect was not observed for the triplicate measurements of 100 µg L⁻¹ Ag⁺ in the presence of various interfering species below their maximum concentrations allowed in this method, for Ag⁺ ions. The accuracy of the method was confirmed by analysis of the two certified samples. The method was successfully applied to determine low levels of Ag⁺ ions in mushroom and vegetable samples, and satisfactory recoveries were obtained in the range of 91-97% with lower RSD than 5.1% for the spiked samples.

Keywords

Author Keywords: Ultrasound-assisted-cloud point extraction; tris modification; copolymers; micro-volume UV-vis spectrophotometry; Ag⁺ ions; vegetables; mushrooms**Keywords Plus:** SOLID-PHASE EXTRACTION; ATOMIC-ABSORPTION-SPECTROMETRY; LIQUID-LIQUID MICROEXTRACTION; PLASMON RESONANCE PEAK; SILVER NANOPARTICLES; MAGNETIC NANOPARTICLES; WATER SAMPLES; SEPARATION; CADMIUM; COPPER

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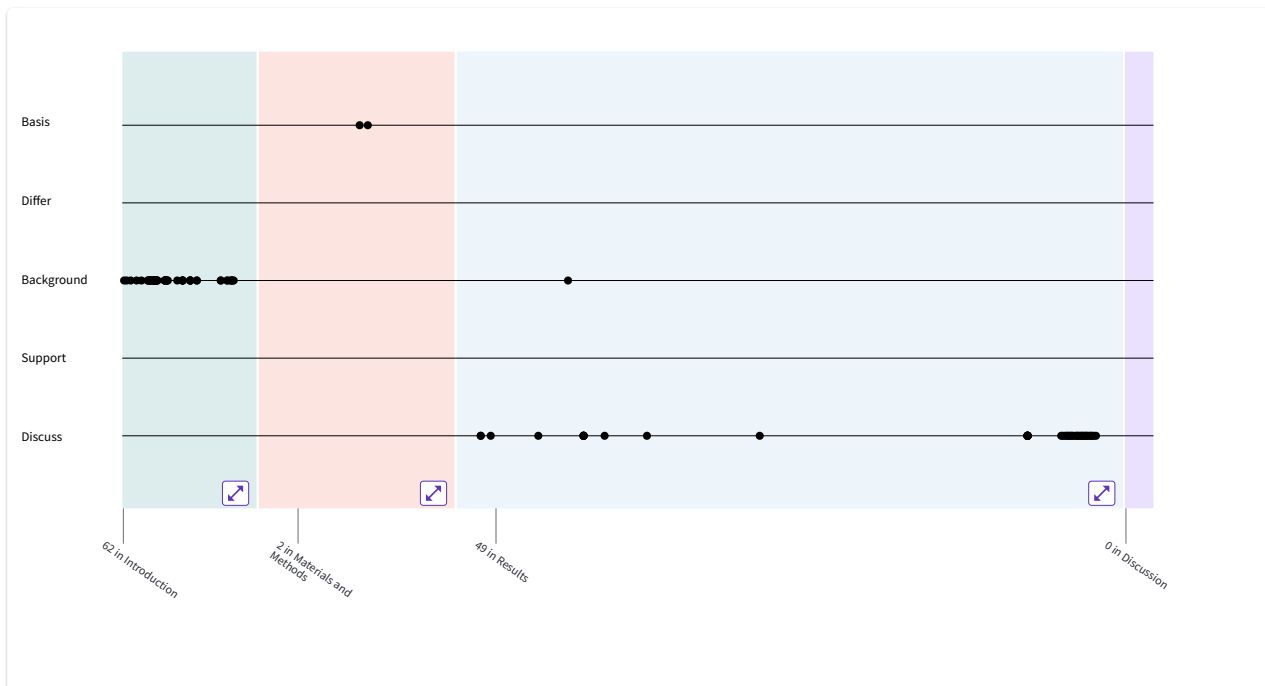
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