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Poly (methacrylic acid-co-diethenyl-benzene) monolithic microextraction column and its application to simultaneous enrichment and analysis of mycotoxins

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Abstract

A poly (methacrylic acid-co-divinyl-benzene) [poly (MAA-co-DVB)] monolithic column was specially prepared according to the chemical structures of the three mycotoxins of aflatoxin B1, zearalenone and sterigmatocystin, and used for in-tube solid-phase microextraction (in-tube SPME) of the selected mycotoxins. The poly (MAA-co-DVB) monolithic column was characterized in detail, and exhibited effective hydrophobic, π-π, and hydrogen bonding interactions towards the target analytes. By coupling the poly (MAA-co-DVB) monolithic column-based in-tube SPME with high-performance liquid chromatography, a simple, sensitive and matrix