THE DEVELOPEMNT OF A NOVEL SOL GEL POLYMERIC NETWORK FOR THE MOLEUCLAR IMPRINTING OF ILLICIT DRUGS

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A common challenge for toxicologists is the sample preparation and drug extraction from various biological matrices. While solid phase extraction (SPE) is most commonly used, it suffers from generic selectivity. Recently, the molecular imprinting of a target analyte on a polymeric network has proven to be a more sensitive and selective approach. In this study, sol gel chemistry was looked at in order to create a sol gel polymeric network to be used in the molecular imprinting of illicit drugs. In order to utilize these advantages and create a polymer that has a strong network/backbone, as well as increased chemical stability, a new and optimal sol gel polymeric network was created by varying the molar ratio of the key ingredients. Preliminary data will be provided demonstrating the molecular imprinting capability of the novel sol gel material, as well as factors affecting gel solidification and network strength.