

Extraction of Tanshinones by using Molecular Imprinted Ionic Liquid-Based Silica as the Sorbent of Solid-Phase Extraction

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New ionic liquid was synthesized and modified the surface of silica. A template was added in order to modify the spatial structures of ionic liquid groups. The selectivity of the obtained ionic liquid-based silica was successfully used as a special sorbent in the solid-phase extraction process to isolate cryptotanshinone, tanshinone I and tanshinone IIA from *Salvia Miltiorrhiza* Bunge. Several washing and elution solvents with different polarities were evaluated. The ionic liquid-based silica cartridge exhibited a higher selectivity than traditional silica and C18 cartridges. A quantitative analysis was conducted by high-performance liquid chromatography with a C18 column and methanol/water (75:25, v/v, containing 0.5% acetic acid) as the mobile phase. A good linearity was obtained from 0.5×10^{-4} to 0.1 mg/mL ($r^2 > 0.99$) with relative standard deviations that were less than 4.6%.