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**Melamine-based porous organic polymers inline solid phase extraction coupled
with high performance liquid chromatography for the analysis of
phytohormones in juice samples**

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Highlights

- mPMF was synthesized as high efficient solid phase extraction (SPE) adsorbent for phytohormones.
- A method of inline mPME-SPE-HPLC-UV was proposed for analysis of five phytohormones in juice.
- It is simple, selective, reliable and potential for analysis of phytohormones in fruits.
- Inline analysis avoids sample pollution and sample loss, and provides a sample throughput of 5/h.

Abstract

A melamine-based porous organic polymer (mPMF) was synthesized as solid phase extraction (SPE) adsorbent for inline SPE-high performance liquid chromatography (HPLC)-ultraviolet detector (UV) analysis of five phytohormones. Melamine contributed to the rich π -electron and N-containing triazine structure for mPMF, which could form π - π interaction and intermolecular hydrogen bond with -COOH containing phytohormones. The synthesized mPMF adsorbent shows extremely high extraction efficiency for five target analytes (>80%) including salicylic acid, indole-3-acetic acid, abscisic acid, 2,4-dichlorophenoxyacetic acid and 1-naphthalene acetic acid. The factors affecting extraction of the target phytohormones were investigated and the optimized experimental conditions were established. The linear range was

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