

HTpSPE and pesticide residue analysis in tea

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High-throughput planar solid phase extraction (HTpSPE) was recently introduced as new clean-up concept in residue analysis of pesticides in plant samples [1]. As compared to dispersive SPE procedures, pSPE resulted in LC/MS chromatograms nearly free of matrix compounds, thus free of interferences.

As rather challenging matrices, QuEChERS extracts of tea samples were next chosen. Besides chlorophylls and polyphenols, high amount of caffeine is co-extracted resulting in strong matrix effects both in LC/MS and GC/MS. Therefore, the former HTpSPE procedure was adopted to tea samples, resulting in absolutely colorless extracts free of caffeine. After HTpSPE, spiked tea extracts showed nearly the same total ion chromatograms as a pesticide solvent standard. Identical results were obtained for both black and green tea samples.

[1] Oellig, C., Schwack, W., J. Chromatogr. A (2011), in press