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Screening of Stationary Phase Selectivities for Global Lipid Profiling by Ultrahigh Performance Supercritical Fluid Chromatography

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Highlights

- Seven columns were screened in UHPSFC
- Different levels of within and between lipid classes resolution was obtained.
- An UHPSFC method for global lipid profiling was developed.
- Lipids and major lipid classes were resolved in less than 11 min.

ABSTRACT

The performance of seven sub-2-µm particle packed columns (2-picolylamine, 2-PIC; charged surface hybrid fluoro-phenyl, CSH-FP; high strength silica C18 SB, HSS-C_{18}; diethylamine, DEA; 1-aminoanthracene, 1-AA; high density diol and ethylene bridged hybrid; BEH) was examined for lipid separation in ultra-high performance supercritical fluid chromatography (UHPSFC) coupled to quadrupole time-of-flight mass spectrometry. Based on the results of the column screening a method for profiling of multiple lipid species from the major lipid classes was developed.

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