

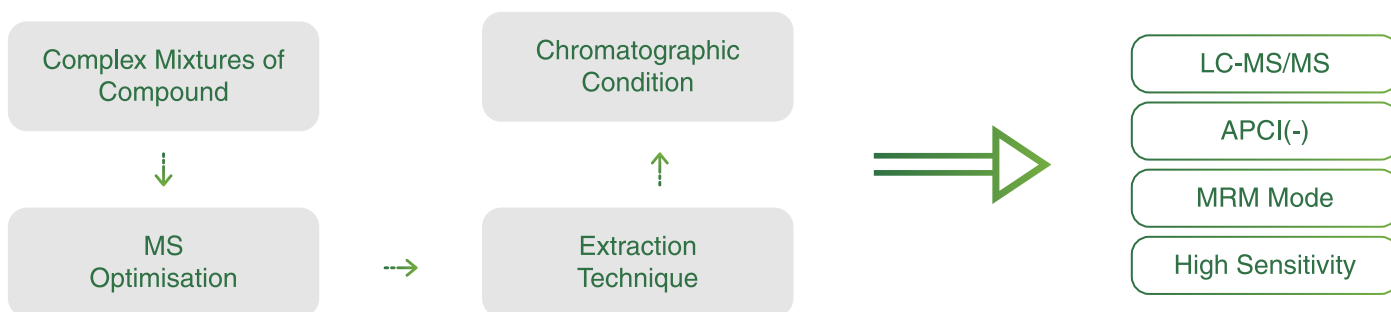
The system was employed, as Liquid Chromatography (LC) is appropriate for thermally sensitive CPs and an APCI source in negative-ion mode enhances analyte detection efficiency, while MRM expands specificity by targeting ion transitions, permitting accurate quantification of analyte in crucial matrices, supportive reliable risk assessment and regulatory monitoring.

Research Workflow

The workflow included MS optimization, chromatographic separation, sample extraction technique, development, and validation phase. The analytical method parameters such as matrix effects (ME), recovery (%), and precision (% RSD), were evaluated to ensure obtaining constant results.

LC-MS/MS Analytical Strategy for Chlorinated Paraffins (CPs)

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Key Findings of Analytical Method Validation

The method showed excellent linearity (≥ 0.99), precision ($\leq 20\%$), and accuracy (70 to 120%). Recovery (%) confirmed reliable quantification without significant matrix interference demonstrated accurate (% recovery) and precise (% RSD).

Conclusion

The validated LC-APCI-MS/MS method provides a sensitive and reliable approach for CPs analysis in diet matrix. It meets international standards and supports environmental monitoring and food safety assessments.

References

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