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# INVESTIGATION OF THE IMPACT OF EXPERIMENTAL PARAMETERS ON SFC MS SIGNAL INTENSITY

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In the past decade, supercritical fluid chromatography (SFC) has experienced a steady growth in acceptance, particularly in pharmaceutical and chemical laboratories. Compared to HPLC, SFC offers better selectivity and shorter analysis time due to the low viscosity and high diffusivity inherent to supercritical fluids. As the general analytical philosophy gradually shifts from enhancing capacity and efficiency to generating high-quality and more informative data within a minimal time frame, SFC MS readily lends itself as an attractive complement to RPLC MS, mainly due to the combination of the high speed and unique selectivity of SFC and the intrinsic universality, sensitivity, and specificity of MS.

While much has been accomplished in LC MS, in both understanding its fundamentals as well as the practices, their counterparts in SFC MS remain limited in scope. We report herein our systematic investigation of the impact of some common experimental parameters, including temperature, flow rate, and modifier percentage, on signal intensity in SFC ESI and APCI MS. The commonality with LC MS and some unique detector behavior will be discussed. We hope that the observations from our study can stimulate more fundamental research activities in this area; and contribute, albeit small, to a better understanding of this emerging hyphenated technique.