NON-TARGETED METHODS: ADVANCES AND CHALLENGES AHEAD

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Food fraud costs the global food industry several billion dollars every year, negatively impacts public confidence in food producers and regulators, and can result in unfortunate public health consequences. Non-targeted methods have gained recent interest due to their potential to detect new unexpected adulterants and deter adulteration in general from entering supply chains. A multinational collaborative team led by a US Pharmacopeia expert panel is researching and developing a tool-box of non-targeted analytical methods and supporting reference materials for detecting adulteration in milk ingredients. This presentation will give an update on the outcomes to date of this collaborative effort, including studies conducted to evaluate and develop NIR, Raman, NMR, MALDI–TOF–MS, UPLC and wet-chemistry technologies. An update will be provided on a USP Guidance being developed on how to develop and validate non-targeted methods, as well as a discussion on the importance of reference materials to support non-targeted methods. Lastly the presentation will highlight the challenges ahead to advance the development and widespread utility of non-targeted methods.