

## Poster - P08

### **SIMULTANEOUS MULTIPLE SPME FIBERS SAMPLING TO MAXIMIZE THE SAMPLE POTENTIAL**

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#### **Abstract**

In omics research setting, access to sample is usually a key factor of the experimental design. Here, we evaluate simultaneous multiple SPME fibers sampling. Using three fibers simultaneously, we generated three technical replicates from one biological sample. Each fiber was then analyzed by GC×GC-TOFMS in separated runs. The robustness of the procedure was tested on a 24-standards mixture, human whole stool matrix, and human whole stool samples from the National Institute of Standards and Technology (NIST). In addition, we studied three fiber storage conditions: storage at room temperature and at -20°C in HeadSpace (HS) vials, and storage in specially designed glass storage vials at -20°C. For the storage condition, the RSD mean value based on the area of 18 of the 24 standards is 38.4 % for the storage of fibers at room temperature and 19.8 % for the storage at -20°C, both in HS vials. The best RSD value is 10.0 % and it was obtain using the designed glass vials at -20°C. The cold temperature storage and the decrease of the vial volume allow decreasing the RSD mean value by a factor of two. The mean area values for two targeted fecal biomarkers on the Pegasus<sup>TM</sup> BT 4D are 100 times higher than the Pegasus<sup>TM</sup> 4D HRT. The former detects more than 11 times more compounds than the later. However, the high resolution of the Pegasus<sup>TM</sup> 4D HRT system offers stronger mass accuracy and enable a more robust compound identification.