



Novel scan and analyses modes using PASEF on the Bruker timsTOF

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The timsTOF combines a state-of-the-art quadrupole-Time of flight set up with a unique trapped ion mobility analysis device in the front. In collaboration with Bruker we have developed new capabilities on the basis of the timsTOF principle, including the parallel acquisition – serial fragmentation technology. PASEF can be performed in dda, dia and targeted formats, in each case leading to more than an order of magnitude improvement in acquisition speed without loss of sensitivity. In this talk, I will describe recent advances in scan modes and applications to the analysis of post-translational modifications, as well as the AlphaPept software suite that allows robust, rapid, and novel analyses modes for timsTOF data.

Combined with the Evosep chromatography system operating at very low flow rates, we now achieve single cell sensitivity as I will demonstrate on the example of drug treated single cell populations.