EuroSciCon

6th Edition of International Conference and Exhibition on

Organic Chemistry

August 16-17, 2018
Dublin, Ireland

Christopher Harris, J Org Inorg Chem 2018, Volume 4
DOI: 10.21767/2472-1123-C4-012

MULTIVARIATE ANALYSIS OF A NUCLEOPHILIC AROMATIC SUBSTITUTION BY REAL-TIME ON-LINE FLOW REACTION MONITORING USING MINIATURIZED MASS SPECTROMETRY

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The use of automated flow systems combined with on-line MS analysis enables rapid screening and efficient optimization for process development and is fully scalable from laboratory, pilot plant to manufacturing plant. This produces a massive saving in the time and materials required if compared to common approaches. To demonstrate this, we have investigated the optimization of the nucleophilic aromatic substitution of 2,4-difluoro-nitrobenzene with morpholine over a wide variety of stochiometric ratios, residence times and temperatures to demonstrate all the benefits of using on-line flow reaction monitoring.

Biography

Christopher Harris received his PhD in Chemistry from Nottingham University, UK studying the mass spectrometry and electrostatics of molecular cluster. He is an Application Specialist at Microsaic Systems PLC, developers of point-of-need mass spectrometers that serve a range of applications. His key application areas include reaction monitoring and mass directed purification. He is mainly interested in mass spectrometry.

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