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Recent advances and application of SFC-MS in small molecules drug discovery

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Abstract

The Structure Guided Chemistry Department has implemented innovative technologies to design, synthesize and purify target focused compound libraries with the mission of enabling discovery of novel druglike leads. Compound purification and the subsequent structure validation are critical steps for successful lead identification nad lead optimization campaigns. Supercritical fluid chromatography-mass spectrometry (SFC-MS) technology has gained wide acceptance for achiral purification in drug discovery research. The emerging instrumentation, techniques and processes for analytical and preparative SFC-MS will be discussed. Comparative studies for the application of HPLC and SFC techniques in a high throughput environment will also be presented.

Biography

Dr. Rosse has been involved in drug discovery research and development for more than 15 years. He is currently Associate Director, Structure Guided Chemistry, at Dart Neuroscience and also serves as Adjunct Associate Professor at Drexel University as well as Adjunct Professor in Medicinal Chemistry at the Pennsylvania Drug Discovery Institute. Prior he functioned in leadership and scientific positions in medicinal chemistry with Cephalon, Sanofi and F. Hoffman-La Roche. During his industrial tenure, he led multidisciplinary teams and invented multiple pre-clinical candidates and compound lead series spanning a wide range of therapeutic indications. These include CNS (cognition, schizophrenia, alzheimer's disease), Inflammation, Metabolism, Oncology, Cardiovascular disease and Antibacterial agents. Dr. Rossé's career is also characterized by implementation of innovative high throughput technology platforms in the area of small molecules and peptides drug discovery, analytical chemistry and data management that increased productivity and accelerated the drug discovery process. Dr. Rosse is a distinguished speaker at business meetings in US and Europe and has authored 40+ patents and publications. He received the Ph.D. degree in chemistry from the University of Basel in Switzerland and postdoctoral training at Stanford University.