International Expo and Conference on
Analytrix & HPLC

OMICS Group Conferences
Accelerating Scientific Discovery

October 22-24, 2012   DoubleTree by Hilton Chicago-North Shore, USA

Application of novel fused-core particle column in 2D RP/RP MS analysis of biological samples. Impact of extra-column volume

Eduard Rogatsky
Albert Einstein College of Medicine, USA

Due to the considerably thinner porous layer stationary phase in fused-core particle columns, total column loading capacity is also considerably smaller when compared to standard fully porous particle columns. As a result, fused-core particle columns are more susceptible to sample overload and binding competition, which may occur when complex biological samples are used for analysis. These undesirable effects may impact peak shape, assay reproducibility, column performance and/or lifetime. We overcome these intrinsic limitations of fused core material by the development of a 2D RP-RP platform utilizing a fully porous C18 column in the first dimension and a fused-core C18 column in the second. Such a column switching 2D design eliminates typical drawbacks of fused-core columns, and maximizes their advantages in LC/MS analysis of complex biological samples. The main limitation factor of the Fused-Core material – low loading capacity was overcome by using 2D chromatography. We emphasize the importance of reducing post-column (extra column) volume.

Biography

Eduard Rogatsky completed his M.Sc in physical chemistry from Belarus State University, PhD in bioanalytical chemistry from Bar-Ilan University (Israel) in 1999, and postdoctoral studies at Albert Einstein College of Medicine, NY. He joined the faculty there in 2001, and is currently a Senior Associate Scientist and Director of Mass Spectrometry in the Biomarker Analytical Resource Core Laboratory, Einstein-Montefiore Institute for Clinical and Translational Research, Bronx, NY, USA

He has published more than 20 papers in peer reviewed journals and has presented more than 50 conference abstracts. He currently serves on the editorial board of the Journal of Chromatography & Separation Techniques and is a regular reviewer for many bioanalytical journals.

eduard.rogatsky@einstein.yu.edu