



NEWS RELEASE

Malvern's GPC/SEC with triple detection delivers accurate characterization of complex biopolymers

18 September 2009: Malvern, UK: Recent work published by experts from Viscotek, a Malvern company, showcases the TDAmox gel permeation/size exclusion chromatography (GPC/SEC) system as an information-rich, time-efficient analytical solution for the comprehensive characterization of complex food ingredients and additives based on polysaccharides. The Viscotek TDAmox sets the benchmark for GPC/SEC, with a fully integrated triple detector array that includes a revolutionary low angle light scattering detector (LALS), four capillary differential viscometer and refractive index detector. The work by Dr Gerhard Heinzmann and Dr Bernd Tartsch is detailed in a paper "*Alginates, Chitosanes and Xanthans – Characterisation of Food Ingredients by GPC/SEC with Triple Detection*", published in *AgroFOOD Industry Hi-tech* (Vol 20 No. 4, 2009), and can be viewed at http://agro-food-industry.teknoscienze.com/pdf/Heinzmann_AF4_09.PDF

Using GPC/SEC, passing a sample through a series of carefully specified packed columns separates it on the basis of hydrodynamic size. Single or multiple detectors analyze the resulting fractions. The design and selection of the detectors dictates how much information can be gathered during each experiment. The TDAmox detector array provides absolute molecular weight without extrapolation or correction, molecular size, and intrinsic viscosity, as well as information on structure, conformation, aggregation and branching. Adding an additional UV/Vis detector, creates an integrated tetra detector array ideal for copolymer characterization.

The performance characteristics of a range of food ingredients depend on their molecular weight and structure. It is also possible that low molecular weight fractions in some ingredients may even be harmful to human health. It is important therefore to confirm that these have been removed. Many food ingredients have large molecular sizes, however, and this can present a challenge in accurately determining molecular weight distribution. The research detailed in the paper shows that the TDAmox can meet this analytical challenge and that it provides accurate and detailed information. For further details of the TDAmox and other Viscotek products visit www.viscotek.com

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Image, notes and contact details to follow...

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**High resolution image attached or available from Trish Appleton,
Kapler Communications trish@kapleronline.com Ref: MAL/JOB/1843**

CAPTION: The TDAmox from Viscotek, a Malvern company



About Malvern Instruments

Malvern Instruments provides a range of complementary materials characterization tools that deliver inter-related measurements reflecting the complexities of particulates and disperse systems, nanomaterials and macromolecules. Analytical instruments from Malvern are used in the characterization of a wide variety of materials, from industrial bulk powders to nanomaterials and delicate macromolecules. A broad portfolio of innovative technologies is combined with intelligent, user-friendly software. These systems deliver industrially relevant data enabling our customers to make the connection between micro (such as particle size) and macro (bulk) material properties (rheology) and chemical composition (chemical imaging).

Particle size, particle shape, zeta potential, molecular weight, chemical composition and rheological properties measurements are now joined by advanced chromatography solutions (GPC/SEC), extending Malvern's technologies for protein molecular weight, size and aggregation measurements, and synthetic polymer molecular weight and distribution. The company's laboratory, at-line, on-line and in-line solutions are proven in sectors as diverse as cement production and pharmaceutical drug discovery.

Headquartered in Malvern, UK, Malvern Instruments has subsidiary organizations in all major European markets, North America, China, Korea and Japan, a joint venture in India, a global distributor network and applications laboratories around the world. www.malvern.com

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