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life science and diagnostics

New publication using Attana technology towards environmentally friendly and financially viable methods to create functional materials

The team of Prof. Ian Nicholls at the Linnaeus University has in a new publication in [Applied Polymer Materials](#) demonstrated a concept of creating functional materials on surfaces with highly controlled properties. Traditionally classical organic chemistry has been used, including toxic and non-environmentally friendly chemical solvents. By using "NonIonic Deep Eutectic Solvents" (ni-DESs) a new type of natural chemical based solvents, e.g. one found in urine another related to a vinegar derivative, Nicholls has with Attana technology demonstrated that functional properties can be controlled and fine-tuned with the ni-DES method. Attana's high sensitivity and linearity has been essential to measure these functional properties.

The increasing demand for environmentally friendly functional materials with enhanced performance or for new applications is driving the search for new methods and chemicals. Adding on the need to consider financial aspects over the entire life span of products is both scientifically and industrially challenging. The use of chemicals obtained from nature that can be used to develop functional materials with superior properties to the current standard methods is demonstrated in this publication.

The ability to control porosity in materials is of high importance for several industrial process, such as purification, catalysis, and sensors. Attana technology is applied to determine the impact of the functional porosity by kinetic interaction analysis. Process important parameters such as total absorbances, adsorption- and dissociation rates can be measured. The high stability, reproducibility, and dynamic range of Attana QCM-technology has been fundamental for characterizing the produced materials and for demonstrating how porosity can be controlled and optimized.

