Surface Modified Glass as a Substrate for STAMPing

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Science is progressing towards understanding the composition and properties of very complex mixtures in ever increasing detail and preferably speed. To fully characterize such mixtures extremely high separation powers are required. The STAMP (Separation Technology for A Million Peaks) project, funded by the European Research Council (ERC), is aimed at obtaining a peak capacity of one million by developing spatial three-dimensional liquid chromatography separations. One of the challenges within the project is the development of (imaging) detection principles for first, spatial two-dimensional liquid chromatography, and in a later stage, spatial three-dimensional liquid chromatography separations.

Since an interface between the spatial separations devices and existing detection techniques is lacking, an offline-method is proposed by STAMPing the effluent from the device on a surface modified glass substrate [1,2]. The surface modification allows the deposition of solvents common in liquid chromatography and prevents the merging of droplets.

Furthermore, the glass substrate was analyzed by confocal laser microscopy and its effect on different solvents was analyzed by contact angle measurements [3].

References
