# Green Derivatization and Raman mapping of functionalized cellulosic substrates

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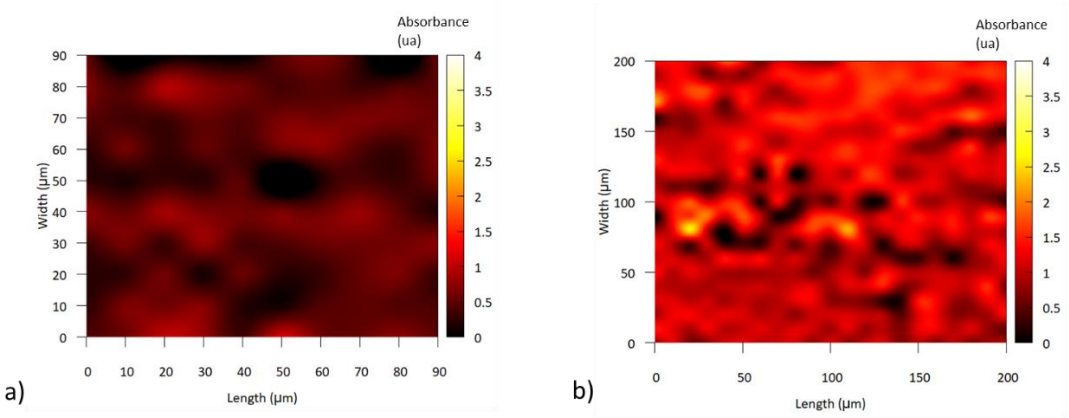
Cellulose is the most abundant organic polymer on Earth.[1] This inexpensive and biodegradable polysaccharide finds applications in many fields such as paper or textile industries. Thanks to the presence of numerous hydroxyl groups on cellulose backbones, diverse derivatization strategies have been exploited for more than one hundred years to enhance and/or confer new properties to cellulosic materials (hydrophobicity, oleophobicity, mechanical properties…).[2–4] However, most of these derivatization approaches rely on non-sustainable processes involving highly toxic reactants and organic solvents. Under the impetus of THE REACH regulation, which strongly recommends the replacement of hazardous reactants in industrial processes, efforts have been recently made to circumvent these drawbacks. Herein we propose a new method to promote and map the anchorage of functional groups on cellulosic substrates using Raman confocal micrograph.[5] Finally, we discuss the final properties of our samples and compare it with those submitted to conventional treatments.

**Figures 1**– Raman confocal micrograph of non-treated (a)) and functionalized (b)) cellulosic substrate




**References**

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