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Chemical Modification of PVC and Its Surface Analysis by Means of XPS and Contact Angle Measurements

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Abstract : Poly(vinyl chloride) (PVC) is a highly versatile polymer with excellent balance of properties and numerous applications such as water pipes, packaging and polymer materials of importance in the biomedical sector. However, depending on the applications, it is necessary to modify PVC by mixing with a plasticizer; surface modification using plasma, surface grafting or flame treatment; or bulk chemical modification which affects the entire PVC chains at an extent that can be tuned by the polymer chemist. The targeted applications are improvement of chemical resistance, avoiding or limitation of migration of toxic plasticizers, improvement of antibacterial properties, or control of blood compatibility.

Keywords : poly(vinyl chloride), nucleophilic substitution, sulfonylcarbamates, XPS
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