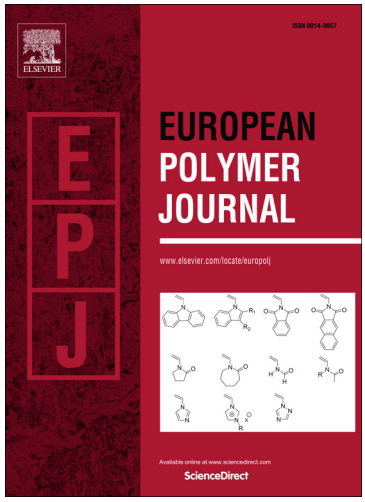
# Accepted Manuscript

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# Aromatic Biobased Polymer Latex from Cardanol

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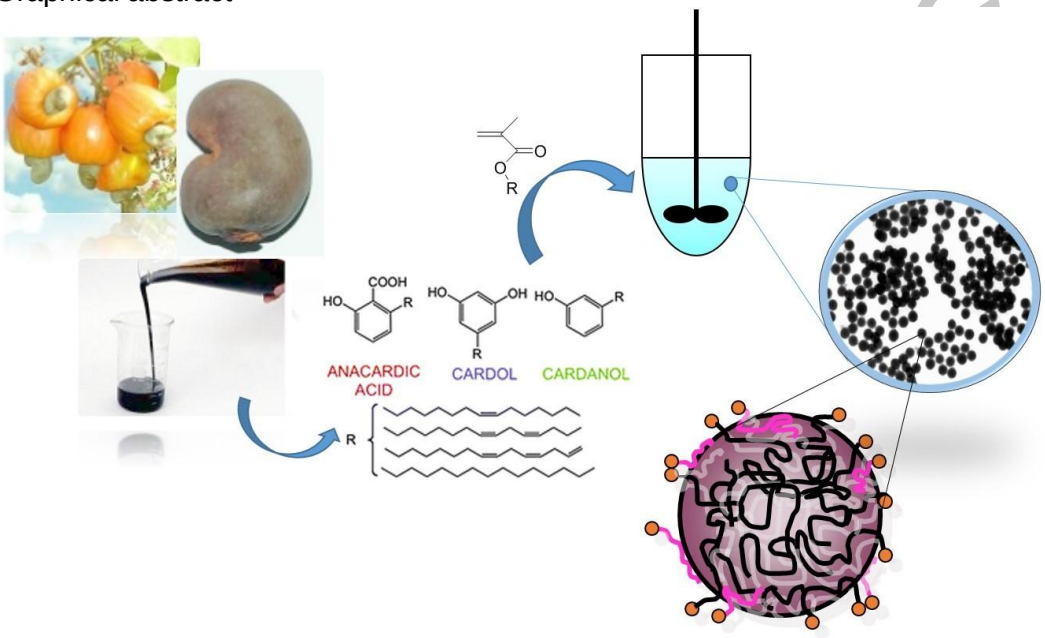
Graphical abstract




**Highlights**

- Methacrylated cardanol (CAMA) monomer synthesis
- CAMA radical polymerization in water emulsion
- Synthesis of stable aromatic biobased latex
- Film formation and photo-crosslinking by UV thiol-ene

## Abstract

We present for the first time the aqueous emulsion radical polymerization of cardanol derived methacrylic monomer (CAMA) in order to pave the way for the replacement of styrene. This monomer was synthesized in two-step routes by epoxidation of cardanol prior to methacrylation. Polymerization of CAMA was studied both in toluene solution and in aqueous emulsion. Radical aqueous emulsion homo- and co-polymerization of CAMA with methyl methacrylate (MMA) were performed with sodium dodecyl sulfate as surfactant. Stable latexes were obtained with particle size between 25-75nm. CAMA and MMA conversions were monitored versus time. Influence of radical initiator