SYNTHESIS OF NOVEL 3,4-Diallyloxy Substitued Poly(thienylene vinylene) Polymers

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Since the initial discovery of organic conducting polymers, very diverse applications of these materials have emerged owing to their remarkable electronic and photonic properties. Polythiophene and its derivatives are one of the important part of conducting polymer chemistry. Substituing 3 and 4 positions of thiophene with long wavelength light absorbing chromophoric groups changes the UV absorption and luminescence properties of the resulting polythiophene.

Poly-(thienylene vinylene) (PTV) has already proven to be an interesting conjugated polymer with a high conductivity. Furthermore, an advantage of PTV and its derivatives is their high absorption in the visible range of the spectrum, making them excellent candidates for photovoltaic applications.

\[ \text{MeOOC} \quad \text{COOMe} \]

In this work, we have synthesized 3,4 diallyloxy substituted thiophene derivatives and polymerized by thiocarbamate route. Resulting polymer’s electronic properties are studied.