

Adsorption of dyes by ionic-liquid doped polymer membrane

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Water pollution by emerging contaminants such as dyes, pesticides, and pharmaceuticals is a pressing global environmental challenge. Dyes pose a serious threat to humans and to the ecosystem due to its accumulation in water sources which can lead to chronic health problems and endanger aquatic life. It is therefore crucial to properly remove them from water.

In this context, this study focuses on the preparation of polymeric membranes doped with non-conventional solvents like ionic liquids (ILs), with the aim of effectively removing dyes from wastewater^[1].

The membranes were prepared using a biodegradable polymer such as poly(3-hydroxybutyrate), (PHB), and hydrophobic ILs (Figure 1).

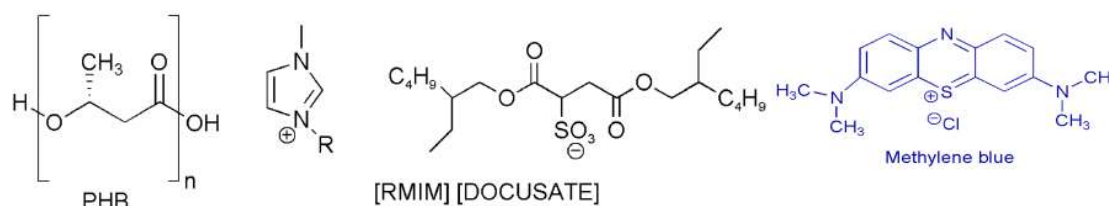


Figure 1

We studied the effect of various parameters such as the initial concentration of dyes, sorbent dosage, contact time, pH, ionic strength, swelling and temperature^[2].

The results obtained demonstrated an high removal efficiency for various dyes, with values mostly higher than 90%. The recyclability of the membranes was also studied.

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