

PHYSICAL PROPERTIES AND ANTIMICROBIAL ACTIVITY OF CHITOSAN WITH MONOTERPENE PHENOLS

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In the recent years, development of environmental awareness and eco-friendly plastic utilization has gained importance instead of petroleum-based synthetic plastics. Chitosan is a natural polymer obtained from deacetylation of chitin in various quality grades. It is nontoxic, biodegradable, biofunctional and biocompatible with antimicrobial characteristics. The film-forming property of chitosan has found many applications in tissue engineering, drug delivery and packaging. Monoterpenes are one of the major components of essential oils, which are fragrant blends derived from plants. Many of the monoterpenes are found in the nutrients of humans as well. In this present study, the monoterpene phenols, carvacrol and thymol were used for preparation of chitosan composite films to expand its use. Composite films have been prepared by stirring aqueous solution of chitosan and carvacrol/thymol in different ratios in the presence of diluted acetic acid and ethanol. *In vitro* antimicrobial activity evaluation as well as water-vapor permeability, solubility in water, pH measurement and moisture content of the films formed was conducted for characterization.

Biography

Kurt O has completed her undergraduate education from the Gazi University followed by Postgraduate Studies at the Anadolu University in Chemical Engineering. She has been working on several scientific research projects for 2 years.

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