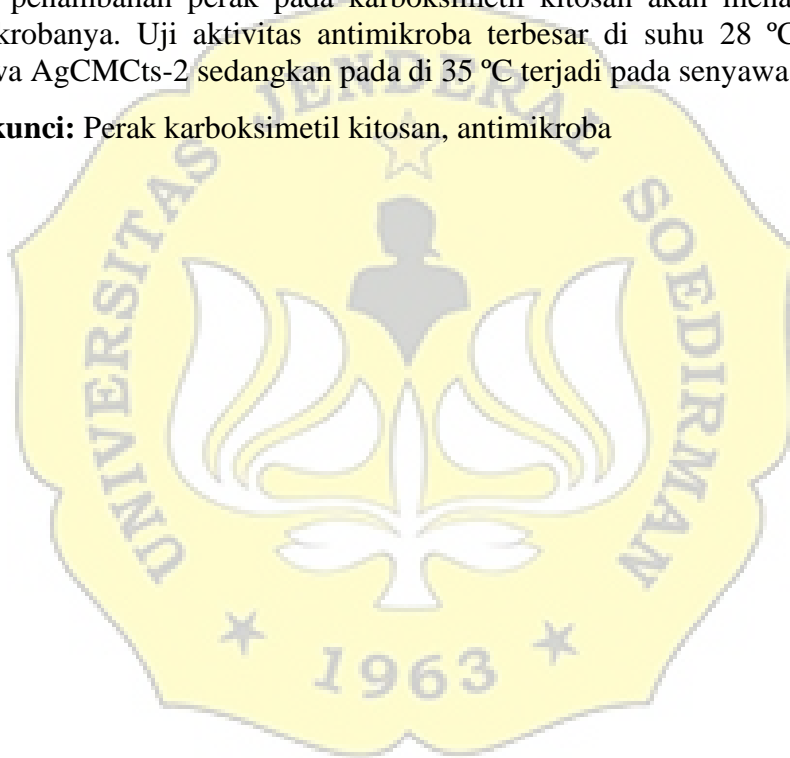


ABSTRAK

Perak dikenal dengan kemampuan antimikrobanya. Reaksi kitosan dan karboksimetil kitosan (CMCts) yang mengandung perak nitrat memiliki (AgNO_3) aktivitas antimikroba yang lebih besar dibandingkan kitosan dan CMCts. Senyawa tersebut diperoleh dengan mereaksikan CMCts dengan AgNO_3 dengan menggunakan reduktor NaBH_4 dengan variasi suhu dan penambahan volume yang berbeda. Hasil sintesis kemudian dikarakterisasi menggunakan Spektrofotometri UV-Vis, FTIR, SEM serta PSA dan diuji aktivitas antimikroba. Tujuan penelitian ini yaitu untuk mengetahui pengaruh dari suhu serta penambahan perak pada karakteristik AgCMCts dan mengetahui aktivitas antimikrobanya. Hasil di dapat bahwa penambahan perak pada karboksimetil kitosan akan menaikkan aktivitas antimikrobanya. Uji aktivitas antimikroba terbesar di suhu $28\text{ }^\circ\text{C}$ terjadi pada senyawa AgCMCts-2 sedangkan pada di $35\text{ }^\circ\text{C}$ terjadi pada senyawa AgCMCts-6.

Kata kunci: Perak karboksimetil kitosan, antimikroba



ABSTRACT

Silver is known for its antimicrobial properties. The reaction of chitosan and carboxymethyl chitosan (CMCts) containing silver nitrate has (AgNO_3) greater antimicrobial activity than chitosan and CMCts. These compounds were obtained by reacting CMCts with AgNO_3 using NaBH_4 as a reducing agent with different temperature variations and addition of different volumes. The results of the synthesis were then characterized using UV-Vis Spectrophotometry, FTIR, SEM and PSA and tested for antimicrobial activity. The purpose of this study was to determine the effect of temperature and the addition of silver on the characteristics of AgCMCts and to determine their antimicrobial activity. The results showed that the addition of silver to carboxymethyl chitosan would increase its antimicrobial activity. The greatest antimicrobial activity test at 28 °C occurred in the compound AgCMCts-2 while at 35 °C it occurred at the compound AgCMCts-6.

Keywords: Silver carboxymethyl chitosan, antimicrobial

