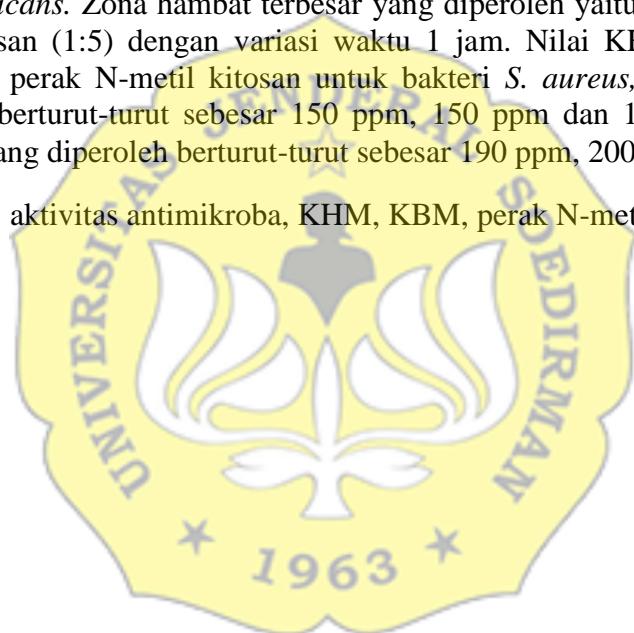


ABSTRAK

Perak diketahui memiliki potensi sebagai senyawa antimikroba. N-metil kitosan merupakan salah satu turunan kitosan yang memiliki aktivitas antimikroba yang lebih baik dibandingkan kitosan. Penelitian ini dilakukan sintesis perak N-metil kitosan dengan berbagai variasi perbandingan mol antara N-metil kitosan dengan AgNO_3 yang ditambahkan serta dilakukan variasi waktu sintesis. Perak N-metil kitosan dikarakterisasi dan diuji aktivitasnya dengan metode difusi dan *total plate count*. Berdasarkan hasil karakterisasi, spektra IR perak N-metil kitosan menunjukkan terjadi perubahan intensitas. Variasi sintesis perak N-metil kitosan kemudian diuji aktivitas antimikroba terhadap bakteri *S. aureus*, dan *E. coli* serta jamur *C. albicans*. Zona hambat terbesar yang diperoleh yaitu pada sampel perak N-metil kitosan (1:5) dengan variasi waktu 1 jam. Nilai KHM yang diperoleh pada sampel perak N-metil kitosan untuk bakteri *S. aureus*, *E. coli* dan jamur *C. albicans* berturut-turut sebesar 150 ppm, 150 ppm dan 100 ppm sedangkan nilai KBM yang diperoleh berturut-turut sebesar 190 ppm, 200 ppm dan 140 ppm.

Kata kunci : aktivitas antimikroba, KHM, KBM, perak N-metil kitosan, sintesis.



ABSTRACT

Silver is known to have potential as an antimicrobial compound. N-methyl chitosan is one of chitosan derivatives which has better antimicrobial activity than chitosan. This research was synthesized silver N-methyl chitosan with various variations of mole ratio between N-methyl chitosan & AgNO₃ added and variations in synthesis time. Silver N-methyl chitosan was characterized and tested for its activity by diffusion method and total plate count. Based on the results of characterization, IR silver spectra of N-methyl chitosan showed a change in intensity. The synthesis of silver N-methyl chitosan was then tested for antimicrobial activity against S. aureus, and E. coli and C. albicans. The biggest inhibition zone obtained is in the sample silver N-methyl chitosan (1: 5) with a time variation of 1 hour. MIC values obtained for S. aureus, E.coli and C. albicans were 150 ppm, 150 ppm and 100 ppm respectively. Whereas the MBC values obtained for S. aureus and E. coli were 190 ppm were 200 ppm and MFC value obtained for C. albicans were 140 ppm.

Keywords : antimicrobial activity, MIC, MBC, MFC, silver N-methyl chitosan, synthesis.

