

ABSTRACT

Optimum ratio of the encapsulation of cinnamon (*Cinnamomum burmannii*) essential oil with hydroxypropyl beta cyclodextrin to enhance its antibacterial activity against *Staphylococcus aureus* is a study to find the HP β CD:CEO ratio that gives high Encapsulation Efficiency and to examine the antibacterial activity of HP β CD:CEO against *Staphylococcus aureus*. The encapsulation of CEO with HP β CD is conducted in 1:1, 1:10, 1:20, 1:30 mol ratio continued by freeze-dry method. Encapsulation of CEO with HP β CD in 1:30 ratio gives highest encapsulation efficiency, that is 85.46%, when compared to other CEO:HP β CD mol ratios. The antibacterial activity of encapsulated CEO was examined using Kirby-Bauer Disc test with three different concentration per paper disc, i.e. 4 mg, 2 mg and 1 mg. The inhibition zone diameter of encapsulated CEO in 1:30 ratio is always bigger than those in 1:1, 1:10 and 1:20 ratio, regardless the concentration of encapsulated CEO per paper disc. The inhibition zone diameter of encapsulated CEO-HP β CD (1:30) with 2 mg per paper disc on *S. aureus* lawn were significantly higher compare to that of pure CEO (positive control).