

# Identifikasi Golongan Senyawa Antibakteri Ekstrak N-Heksana dan Minyak Atsiri Kulit Kayu *Cryptocarya masoyi* (Oken) Kosterm. dengan KLT Bioautografi = Identification of Antibacterial Compounds Group N-Hexane Extract and Essential Oil from *Cryptocarya masoyi* (Oken) Kosterm. Bark with TLC Bioautography

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## Abstrak

Resistensi antibiotik terus mengalami peningkatan dan menjadi permasalahan kesehatan. Hal ini memicu perkembangan dan penemuan antibakteri baru, salah satunya berasal dari tanaman. Secara tradisional, kulit kayu masoyi digunakan untuk mengobati penyakit seperti diare, tuberkulosis, pneumonia, dan bronkitis. Tujuan penelitian ini untuk mengidentifikasi golongan senyawa antibakteri dari ekstrak n-heksana dan minyak atsiri kulit kayu masoyi terhadap bakteri patogen *S. aureus*, *S. epidermidis*, *K. pneumoniae*, *S. marcescens*, dan *P. aeruginosa* serta melakukan karakterisasi minyak atsiri berdasarkan indeks bias dan berat jenis. Penelitian ini mengacu pada penelitian sebelumnya bahwa ekstrak n-heksana kulit kayu masoyi menunjukkan potensi lemah hingga kuat (1,05-10,33 mm) berdasarkan uji difusi cakram kertas terhadap bakteri *S. aureus*, *S. epidermidis*, dan *P. aeruginosa*. Sedangkan minyak atsiri kulit kayu masoyi menunjukkan potensi lemah terhadap *K. pneumoniae* serta kuat terhadap *S. marcescens* dan *S. epidermidis*. Perolehan nilai indeks bias dan bobot jenis minyak atsiri kulit kayu masoyi masing-masing sebesar 1,467 dan 0,975 g/mL. Pada penelitian ini, dilakukan konfirmasi aktivitas antibakteri terlebih dahulu dengan metode difusi cakram kertas dan terkonfirmasi ekstrak serta minyak atsiri memiliki aktivitas antibakteri. Identifikasi golongan senyawa antibakteri dilakukan menggunakan uji KLT bioautografi kontak. Pada uji KLT bioautografi diperoleh spot-spot yang menghasilkan zona bening dan diduga dari golongan senyawa terpenoid. Hal ini membuktikan bahwa golongan terpenoid memiliki aktivitas penghambatan terhadap bakteri *S. aureus*, *S. epidermidis*, *K. pneumoniae*, *S. marcescens*, dan *P. aeruginosa*.

.....Antibiotic resistance continues to increase and become a health problem. This triggers the development and discovery of new antibacterial, one of which is derived from plants. Traditionally, masoyi bark is used to treat ailments such as tuberculosis, diarrhea, pneumonia, and bronchitis. This research aims to identify a class of antibacterial compounds from n-hexane extract and essential oil from masoyi bark against pathogenic bacteria such as *S. aureus*, *S. epidermidis*, *K. pneumoniae*, *S. marcescens*, and *P. aeruginosa* while also characterizing essential oil through refractive index and density. Base on the previous research, n-hexane extract showed weak to strong potency (1,05- 10,33 mm) based on paper disc diffusion method against *S. aureus*, *S. epidermidis*, dan *P. aeruginosa*. Meanwhile, the essential oil of masoyi bark showed weak potency against *K. pneumoniae* and strong potency against *S. marcescens* and *S. epidermidis*. The measured refractive index of essential oil was 1,467 and the density was 0,975 g/mL. In this research, confirmation of antibacterial activity was carried out using paper disc diffusion method, and it was confirmed that extract and essential oil of masoyi bark had antibacterial activity. Identification of a class of antibacterial compounds was carried out using contact TLC bioautography assay. Spots were obtained that produced clear zones and were suspected to be the terpenoid compound group. Spots identified as terpenoid compounds showed the presence of an inhibitory zone against *S. aureus*, *S. epidermidis*, *K. pneumoniae*, *S.*

marcescens, and *P. aeruginosa* bacteria.