

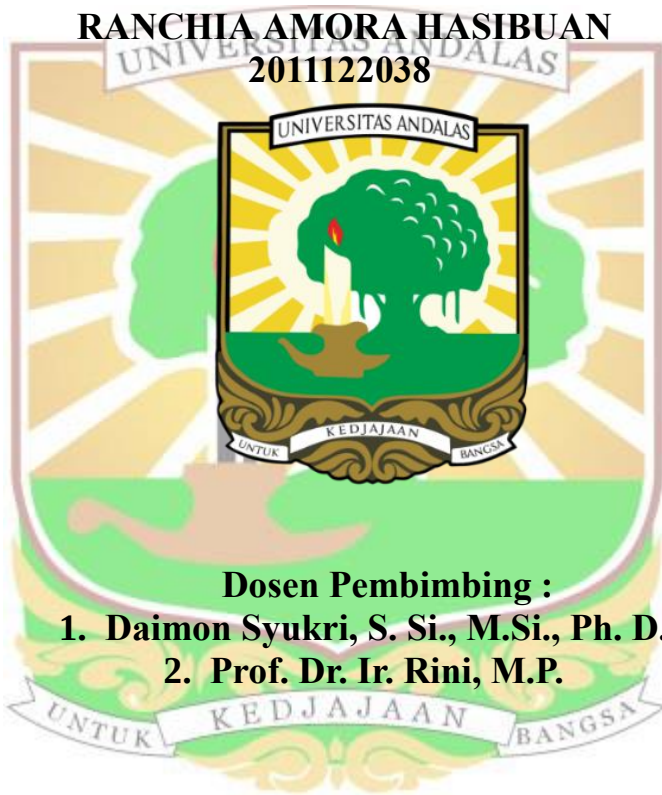
**PERBANDINGAN METODE MASERASI DAN
PRESSURIZED LIQUID EXTRACTION
TERHADAP KARAKTERISTIK OLEORESIN
JAHE (*Zingiber officinale*) DAN BIJI KETUMBAR
(*Coriandrum sativum*)**



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ABSTRAK

Penelitian ini bertujuan untuk mengetahui perbandingan karakteristik oleoresin jahe dan oleoresin biji ketumbar yang diperoleh dari hasil ekstraksi dengan metode maserasi dan *pressurized liquid extraction*. Parameter yang diamati meliputi rendemen, sifat fisik (warna, aroma, kekentalan), aktivitas antioksidan, kandungan total fenol, aktivitas antibakteri, analisis gugus fungsi menggunakan FTIR, serta identifikasi senyawa aktif dengan GC-MS. Hasil menunjukkan bahwa metode PLE (11,54 %) menghasilkan rendemen yang lebih tinggi dibandingkan maserasi (5,21 %) pada jahe sedangkan rendemen PLE (26,49 %) dan maserasi (15,71 %) pada ketumbar. Aktivitas antioksidan oleoresin jahe PLE dengan % inhibisi sebesar 90,12%, sedangkan ketumbar PLE 50,13 %. Total fenol tertinggi juga pada metode PLE sebesar 63,18 mg GAE/g pada jahe dan 27,74 mm GAE/g pada ketumbar. Aktivitas antibakteri tertinggi juga ditunjukkan oleh oleoresin jahe PLE terhadap *Staphylococcus aureus* dengan zona hambat sebesar 5,85 mm. Analisis GC-MS mengungkapkan bahwa oleoresin jahe PLE mengandung senyawa aktif seperti *shogaol* dan β -bisabolene, sementara oleoresin ketumbar didominasi oleh senyawa 9-octadecenoic acid, methyl ester dan ricinoleic acid. Sementara itu, analisis FTIR mengonfirmasi keberadaan gugus fungsi fenol, karbonil, dan hidroksil yang mendukung aktivitas biologis oleoresin.

Kata Kunci: oleoresin, jahe, ketumbar, maserasi, *pressurized liquid extraction*

Comparison of Maceration and Pressurized Liquid Extraction Methods on The Characteristics of Ginger (*Zingiber officinale*) and Coriander Seed (*Coriandrum sativum*) Oleoresin

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ABSTRACT

This study aims to compare the effects of maceration and Pressurized Liquid Extraction (PLE) methods on the characteristics of oleoresin from ginger (*Zingiber officinale*) and coriander seeds (*Coriandrum sativum*). Observed parameters included yield, physical properties (color, aroma, viscosity), antioxidant activity, total phenolic content, antibacterial activity, functional group analysis by FTIR, and compound profiling using GC-MS. The results showed that the PLE method (11.54%) produced a higher yield than maceration (5.21%) for ginger, while the yield for coriander was 26.49% with PLE and 15.71% with maceration. The antioxidant activity of ginger oleoresin extracted with PLE showed an inhibition percentage of 90.12%, whereas coriander PLE only reached 50.13%. The highest total phenolic content was also found in the PLE method, with 63.18 mg GAE/g for ginger and 27.74 mg GAE/g for coriander. The highest antibacterial activity was exhibited by ginger oleoresin from PLE against *Staphylococcus aureus* with an inhibition zone of 5.85 mm.. GC-MS analysis revealed bioactive compounds such as *shogaol*, β -*bisabolene*, and *retinal* in ginger, and *9-octadecenoic acid, methyl ester* and *ricinoleic acid* in coriander. Meanwhile, FTIR analysis confirmed the presence of phenolic, carbonyl, and hydroxyl functional groups, supporting the biological activity of the oleoresin. These findings indicate that the PLE method is more effective particularly in ginger oleoresin.

Key Word: Oleoresin, ginger, coriander, maceration, pressurized liquid extraction