

**KOMPONEN KIMIA DAN AKTIVITAS BIOLOGI MINYAK ATSIRI DARI  
KULIT JERUK KEPROK (*Citrus reticulata*) YANG DIISOLASI DENGAN  
DISTILASI UAP AIR DAN MASERASI N-HEKSANA**

**Oleh**

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**ABSTRAK**

Jeruk keprok merupakan tanaman yang tumbuh hampir diseluruh wilayah Indonesia. Pemanfaatan jeruk keprok sebagian besar pada bagian daging buahnya, sedangkan kulitnya kurang mendapat perhatian. Padahal kulit jeruk keprok banyak mengandung minyak atsiri. Minyak atsiri kulit jeruk keprok dapat dihasilkan menggunakan metode isolasi, diantaranya distilasi uap air, dan maserasi. Minyak atsiri hasil isolasi baik dari metode distilasi uap air dan maserasi ditentukan komponen dan kandungan kimia serta aktivitas biologi yang meliputi antioksidan, antibakteri, dan larvasida. Rerata rendemen minyak atsiri hasil isolasi kulit jeruk keprok dengan metode distilasi uap air 1.1507%, sedangkan menggunakan metode maserasi sebanyak 1.636%. Komponen dan kandungan kimia dari minyak atsiri kulit jeruk keprok yang diidentifikasi menggunakan *GC-MS* pada metode distilasi uap air sebanyak 32 senyawa (81.21%) dan maserasi sebanyak 39 senyawa (71.81%). Aktivitas biologi dari minyak atsiri kulit jeruk keprok, meliputi aktivitas antioksidan yang diuji menggunakan metode DPPH nilai  $IC_{50}$  dari metode distilasi uap air 64.763ppm, sedangkan dengan metode maserasi nilainya 132.603ppm. Aktivitas antibakteri minyak atsiri kulit jeruk keprok ditentukan menggunakan metode difusi kertas cakram yang hasilnya, dengan metode distilasi uap air rata-rata tergolong kuat pada kedua bakteri sedangkan dari metode maserasi rata-rata sedang. Aktivitas larvasida dari minyak atsiri kulit jeruk keprok metode distilasi uap air memiliki nilai  $LC_{50}$  12.107ppm sedangkan dengan metode maserasi nilai  $LC_{50}$  45.751ppm, yang ditentukan menggunakan metode larvasida.

Kata kunci: Minyak atsiri, kulit jeruk keprok, distilasi uap air, maserasi, dan aktivitas biologi.

**CHEMICAL COMPONENTS AND BIOLOGICAL ACTIVITY ESSENTIAL OIL OF TANGERINE ORANGE PEEL (*Citrus reticulata*) ISOLATED BY STEAM DISTILLATION AND N-HEKSANA MACERATION**

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**ABSTRACT**

Tangerine is a plant that grows in almost all parts of Indonesia. Some people tend to use tangerine flesh rather than its peel which contains a lot of essential oil received less attention. Even though the peel of tangerines contains a lot of essential oils. Tangerine peel essential oil can be produced using isolation methods, including steam distillation, and maceration. The essential oils isolated from both the steam distillation and maceration methods were determined by their chemical components and content as well as their biological activities which included antioxidants, antibacterials, and larvicidal activity. The average yield of essential oils isolated from tangerine peels using the steam distillation method was 1.1507%, while using the maceration method was 1.636%. The chemical components and content of tangerine peel essential oil identified using GC-MS in the steam distillation method were 32 compounds (81.21%) and maceration were 39 compounds (71.81%). The biological activity of tangerine peel essential oil, including antioxidant activity, was tested using the DPPH method,  $IC_{50}$  value from steam distillation method was 64.763ppm, while the value for maceration method was 132.603ppm. The antibacterial activity of tangerine peel essential oil using the disc diffusion method, the results of which, with the steam distillation method, were on average strong on both bacterial, while the average for the maceration method was moderate. The larvicidal activity of tangerine peel essential oil with steam distillation method has an  $LC_{50}$  value of 12.107ppm while the  $LC_{50}$  value with the maceration method is 45.751ppm, which was determined using the larvicidal method.

**Keywords:** Essential oil, tangerine peel, steam distillation, maceration, and biological activity.