

SITI FUTIHATUL MAGFIROH NIM 21.03.3.1.1.00032. Pengaruh
Kepolaran Pelarut dan Metode Ekstraksi Terhadap Kandungan Senyawa
Fitokimia serta Aktivitas Antibakteri Buah Cabe Jamu. Dibawah bimbingan
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ABSTRAK

*Buah cabe jamu telah digunakan secara tradisional sebagai obat antibakteri, namun belum banyak penelitian yang menginvestigasi pengaruh kepolaran pelarut dan metode ekstraksi terhadap rendemen ekstrak dan aktivitas antibakteri. Penelitian ini dilakukan untuk menginvestigasi pengaruh kepolaran pelarut dan metode ekstraksi terhadap kandungan senyawa fitokimia dan aktivitas antibakteri buah cabe jamu. Penelitian ini menggunakan metode desain rancangan acak lengkap (RAL). Sampel cabe jamu diekstraksi menggunakan pelarut dengan kepolaran yang berbeda yaitu etanol, etil asetat dan n-heksan serta metode ekstraksi yang berbeda yaitu sokletasi dan maserasi. Rendemen ekstrak dilakukan pengujian skrining fitokimia secara kualitatif diantaranya yaitu alkaloid, flavonoid, fenol, steroid, tanin, saponin dan terpenoid. Pengujian fitokimia secara kuantitatif dilakukan untuk piperin, fenol dan flavonoid. Rendemen ekstrak juga dilakukan pengujian aktivitas antibakteri terhadap *Staphylococcus aureus* dan *Eschericia coli*. Hasil penelitian yang didapatkan rendemen terbaik dihasilkan dari metode ekstraksi sokletasi dengan pelarut etanol sebesar 22,22 gram. Kadar piperin tertinggi didapatkan dari metode sokletasi dengan pelarut etanol sebesar 33,62 ppm. Total fenol tertinggi sebesar 30,76 mg GAE/g yang didapatkan dari metode sokletasi dengan pelarut etanol. Kadar flavonoid tertinggi sebesar 25,97 mg QE/g yang didapatkan dari metode ekstraksi sokletasi dengan pelarut etanol. Zona hambatan pada bakteri *S.aureus* tertinggi pada metode maserasi dengan pelarut n-heksan sebesar 8,06 mm dan pada *E.coli* 7,09 mm yang didapatkan dari metode maserasi dengan pelarut etanol.*

Kata kunci: Antibakteri, Cabe jamu, Senyawa fitokimia.

SITI FUTIHATUL MAGFIROH NIM 21.03.3.1.1.00032. The Influence of Solvent Polarity and Extraction Method on the Phytochemical Compound Content and Antibacterial Activity of Javanese Chili Fruit. Under the guidances of **Dr. Enung Siti Nurhidayah** dan **Dr. Darimiyya Hidayati, S.TP., M.P.**

ABSTRACT

Javanese chili fruit has been used traditionally as an antibacterial drug, but not much research has investigated the effect of solvent polarity and extraction methods on extract yield and antibacterial activity. This research was conducted to investigate the effect of solvent polarity and extraction method on the content of phytochemical compounds and antibacterial activity of herbal chili fruit. This research used a completely randomized design. Javanese chili samples were extracted using solvents with different polarities, namely ethanol, ethyl acetate and n-hexane, as well as different extraction methods, namely soxhletation and maceration. The extract yield was subjected to qualitative phytochemical screening tests, including alkaloids, flavonoids, phenols, steroids, tannins, saponins and terpenoids. Quantitative phytochemical testing was carried out for piperine, phenols and flavonoids. The extract yield was also tested for antibacterial activity against Staphylococcus aureus and Eschericia coli. The research results obtained that the best yield was produced from the soxhletation extraction method with ethanol solvent of 22,22 %. The highest piperine content was obtained from the soxhletation method with ethanol solvent at 33,62 ppm. The highest total phenol was 30,76 mg GAE/g which was obtained from the soxhletation method with ethanol solvent. The highest flavonoid content was 25,97 mg QE/g which was obtained from the soxhletation extraction method with ethanol solvent. The zone of inhibition for S.aureus bacteria was highest in the maceration method with n-hexane solvent at 8.06 mm and for E.coli 7.09 mm which was obtained from the maceration method with ethanol solvent.

Key words: Antibacterial, Javanese chili, Phytochemical compounds.