

**SINTESIS DAN KARAKTERISASI 1,3,7-TRIHIDROKSI XANTON
SERTA UJI IN VITRO ANTIPLASMODIUM TERHADAP *PLASMODIUM
FALCIPARUM* GALUR FCR3**

INTISARI

YAYAH SITI CHOERiyAH

No. Mahasiswa : 15612180

Sintesis senyawa obat antimalaria yaitu senyawa 1,3,7-Trihidroksi Xanton dan uji in vitro antiplasmodium terhadap *Plasmodium falciparum* galur FCR3 telah dilakukan. Senyawa target disintesis dengan asam 2,5-Dihidroksi Benzoat dan 1,3,5-Trihidroksi Benzen dengan reagen Eaton pada suhu 80 °C selama 30 menit melalui reaksi asilasi-dehidrasi Friedel-Craft. Hasil sintesis dimurnikan dengan Kromatografi Kolom dan Kromatografi Lapis Tipis Preparatif kemudian dianalisis menggunakan instrumen H-NMR JEOL 500 Hz dan FTIR Thermo Nicolet Avatar 360. Senyawa 1,3,7-Trihidroksi Xanton yang dihasilkan memiliki persen hasil sebesar 17,2%. Hasil uji aktivitas antiplasmodium terhadap *Plasmodium falciparum* galur FCR3 dari senyawa 1,3,7-Trihidroksi Xanton menunjukkan nilai IC₅₀ 6,928 µg/mL, sedangkan nilai IC₅₀ dari klorokuin sebesar 1,114 × 10⁻³ µg/mL. Hasil ini menunjukkan senyawa 1,3,7-Trihidroksi Xanton menunjukkan aktivitas antimalaria yang lemah.

Kata Kunci : Xanton, Sintesis, Antiplasmodium.

**SYNTHESIS AND CHARACTERIZATION OF 1,3,7-TRIHYDROXY
XANTHONE AND INVITRO ANTIPLASMODIUM ON *PLASMODIUM
FALCIPARUM* STRAIN FCR3**

ABSTRACT

YAYAH SITI CHOERiyAH

Student Number : 15612180

Synthesis of antimalaria drug compounds 1,3,7-Trihydroxy Xanthone compounds and in vitro antiplasmodium test against *Plasmodium falciparum* strain FCR3 has been carried out. The target compound was synthesized with 2,5-Dihydroxy Benzoic acid and 1,3,5-Trihydroxy Benzen with an Eaton reagent at 80 °C for 30 minutes through the Friedel-Craft asylation-dehydration reaction. The results of the synthesis were purified by Column Chromatography and Preparative Thin Layer Chromatography and then analyzed using H-NMR instrument JEOL 500 Hz and FTIR Thermo Nicolet Avatar 360. Compounds 1,3,7-Trihydroxy Xantone produced 17,2% yield. The results of antiplasmodium activity test against *Plasmodium falciparum* strain FCR3 from the composition 1,3,7-Trihydroxy Xanthone showed IC₅₀ value 6,928 µg / mL, while IC₅₀ value of chloroquine was $1,114 \times 10^{-3}$ µg / mL. These results indicate variations 1,3,7-Trihydroxy Xanthone show antimalarial activity is weak.

Keyword : *Xanthone, Synthesis, Antiplasmodium.*