

## ABSTRAK

Benzoilasi senyawa sefradin monohidrat dilakukan melalui reaksi asilasi gugus amina primer rantai samping sefradin monohidrat dengan benzoil klorida pada suhu rendah (5-10°C), pH 5,0-6,0, dan tanpa katalis. Senyawa hasil benzoilasi (N-benzoilsefradin) berupa serbuk hablur berwarna putih sampai kuning muda sebanyak 81,52%. Pemeriksaan pendahuluan dilakukan dengan Kromatografi Lapis Tipis (KLT) dengan fase diam silika gel F<sub>254</sub>, empat jenis fase gerak dan penampak noda lampu UV  $\lambda$  254 nm. Senyawa hasil benzoilasi memberikan warna noda ungu dan harga R<sub>f</sub> yang berbeda dengan senyawa asal. Harga rata-rata titik leleh senyawa hasil benzoilasi (204,33°C) lebih tinggi daripada senyawa asal (199,67°C). Hasil spektroskopi ultraviolet menunjukkan senyawa hasil benzoilasi mempunyai puncak pada  $\lambda_{maks}$  225,4 nm dan senyawa asal pada 262,4 nm. Pada hasil spektroskopi inframerah dan <sup>1</sup>H RMI, kedua senyawa menunjukkan pola spektrum yang berbeda. Seluruh hasil pemeriksaan ini membuktikan bahwa proses benzoilasi sefradin monohidrat telah terjadi, dan terbentuk senyawa baru N-benzoil sefradin.

Kata kunci: sefradin monohidrat, N-benzoil sefradin, asilasi.

## ABSTRACT

The acylation process between primary side chain of cephradine monohydrate and benzoyl chloride, which occurred at low temperature (5-10°C), pH between 5,0-6,0, and without catalysis, has produced in the final product N-benzoylcephradine (81,52%). The resulted product is a yellowish white crystalline powder with a distinguish odor. There are few processes that are used to examine the resulted product, include: Thin Layer Chromatography (TLC), Melting Point Examination, Ultra Violet, Infra Red, and Nuclear Magnetic Resonance (NMR) Spectroscopy. In TLC process, silica gel F<sub>254</sub> is used as stationery phase and Petroleum ether, methanol, ethanol, and chloroform are used as mobile phase. Using UV  $\lambda$  254 nm lamps, the N-benzoylcephradine gives different R<sub>f</sub> value from cephradine monohydrate. The average value of resulted product melting point (204,33°C) is higher than cephradine monohydrate (199,67°C). UV examination shows different maximum wavelength between the resulted product and cephradine monohydrate. Using Infra Red and NMR processes, both N-benzoylcephradine and cephradine monohydrate show different spectra. In conclusion, all of the above examinations prove that the benzoylation process of cephradine monohydrate to form N-benzoylcephradine has been occurred successfully.

Keyword: cephradine monohydrate, N-benzoylcephradine, acylation.