

## ABSTRAK

### Sintesis Senyawa Benzoilurea dari Benzoil Klorida dan Urea dengan metode *Hot Plate*

Untuk mengembangkan senyawa baru yang bekerja pada sistem saraf pusat, telah dilakukan sintesis Benzoilurea melalui reaksi asilasi antara benzoil klorida dan urea dengan menggunakan pelarut tetrahidrofur dengan metode *hot plate*. Struktur kimia senyawa benzoilurea yaitu suatu ureida asiklik yang memiliki struktur serupa dengan barbiturat. Pada lama pemanasan yang dilakukan yaitu 2, 3, 4 jam pada suhu 110°C diperoleh persentase hasil sebesar 46,87%, 49,17%, dan 60,94%. Hasil sintesis benzoilurea dengan persentase terbesar diberikan pada lama pemanasan 4 jam. Kemurnian hasil sintesis ditunjukkan dengan adanya noda tunggal pada Kromatografi Lapis Tipis (KLT) dan jarak lebur yang sempit. Berdasarkan hasil analisis struktur dengan spektrofotometer ultraviolet (UV), spektrofotometer inframerah (IR), dan spektrometer <sup>1</sup>H-RMI, terbentuk senyawa hasil sintesis benzoilurea sesuai yang diharapkan.

Kata Kunci: benzoilurea, sintesis, lama pemanasan.

### The synthesis of Benzoylurea from Benzoyl Chloride and Urea by Using Hot Plate Method

To develop new compounds acting on central nervous system, this research has been done the synthesis of Benzoylurea compound by acylating the benzoyl chloride and urea by using tetrahydrofuran as solvent with hot plate method. The chemical structure of benzoylurea is a acyclic ureide which has the same structure with derivatives of barbiturate. The duration of heating are 2, 3, and 4 hours at temperature 110°C with the percentage yields are 46,87%, 49,17%, and 60,94%. The highest percentage yield of benzoylurea is given at 4 hours. The purity test of the synthesis product is shown by the single spot on the Thin Layer Chromatogram (TLC) and narrow range of melting point. Based on the identification structure with ultraviolet spectrophotometry (UV) and infrared spectrophotometry (IR), and <sup>1</sup>H-NMR spectrometry, it was concluded that the structure of the synthesis product was in accordance to the prediction.

Key Word: benzoylurea, synthesis, duration of heating.