

ABSTRACT**Synthesis of *N*-(Phenylcarbamoyl)Acetamide and Its Cytotoxic Activity Using Brine Shrimp Lethality Test****Silvi Aulia Wilda**

Many of cancer drugs have been developed in the world. One of them is a urea derivative. To develop the new drug of urea group, preparation of *N*-(phenylcarbamoyl)acetamide has been done. The purpose of this study is to synthesis *N*-(phenylcarbamoyl)acetamide and determined its cytotoxic activity. *N*-(phenylkarbamoil)acetamide can be synthesized by reacting phenylurea with acetyl chloride through Schotten-Baumann acylation reaction principle. The product was analyzed using melting point test and thin layer chromatography. The structure of the compound was confirmed using IR and ¹H-NMR spectroscopy.

The synthesis product has melting point 116-118⁰C and the structure has confirm as *N*-(phenylcarbamoyl)acetamide in 57% yield. The compound show cytotoxic activity represented by LC₅₀= 178,10 ppm, higher than hydroxyurea which has LC₅₀ = 344,32 ppm.

It concluded that the *N*-(phenylcarbamoyl)acetamide synthesized from phenylurea and acetyl chloride and the compound has cytotoxic activity higher than hydroxyurea.

Keywords: *N*-(phenylcarbamoyl)acetamide, synthesis, cytotoxic activity.