

## ABSTRACT

### **SYNTHESIS OF *N*-(PHENYL CARBAMOYL)PROPIONAMIDE AND ITS CYTOTOXIC ACTIVITY TEST USING BRINE SHRIMP LETHALITY TEST (BST)**

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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*-(phenylcarbamoil)propionamide has been done. The purpose of this study is to synthesis *N*-(phenylcarbamoil)propionamide and determined its cytotoxic activity. *N*-(fenilkarbamoil) propionamida can be synthesized by reacting phenylurea with propionyl chloride through Schotten-Baumann acylation reaction principle. The product was analyzed by using melting point test and thin layer chromatography. The structure of the compound was confirmed by using IR and <sup>1</sup>H-NMR spectroscopy.

The synthesis product has melting point 115-117<sup>0</sup>C and the structure has confirm as *N*-(phenylcarbamoil)propionamide in 46% yield. The compound show cytotoxic activity represented by LC<sub>50</sub>= 226 ppm, higher than hydroxyurea which has LC<sub>50</sub> = 268 ppm.

It concluded that the *N*-(phenylcarbamoil)propionamide synthesized from phenylurea and propionyl chloride and the compound has cytotoxic activity higher than hydroxyurea.

**Keywords:** *N*-(phenylcarbamoil)propionamide, synthesis, cytotoxic activity.