

**ABSTRACT**

**SYNTHESIS, CHARACTERIZATION AND PRELIMINARY  
ANTICANCER ACTIVITY TEST OF SOME  
ORGANOTIN(IV) 4-NITROBENZOATES  
AGAINST LEUKEMIA CELLS L-1210**

**By**

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In this study, it was performed the synthesis of dibutyltin(IV) di-4-nitrobenzoate, diphenyltin(IV) di-4-nitrobenzoate and triphenyltin(IV) 4-nitrobenzoate compounds through two-step reactions. The first step was the formation of the organotin(IV) hydroxide or oxide by reacting the organotin(IV) chloride and NaOH, then reacting the organotin(IV) hydroxide or oxide with 4-nitrobenzoic acid to produce the final compound. The results of synthesis were in the form of white solid with percent yield for dibutyltin(IV) di-4-nitrobenzoate, diphenyltin(IV) di-4-nitrobenzoate and triphenyltin(IV) 4-nitrobenzoate of 87.27; 88.33, and 86.53%, respectively with optimum reflux time of 4 hours.

The initial compounds and the compounds synthesized were characterized using *IR* and *UV* spectrophotometer to identify the functional group and  $\lambda_{\max}$  contained in the compound. Furthermore, microelemental analysis was also done using the microelemental analyzer to compounds synthesized. Based on the data from microanalysis, the compounds obtained were quite pure as the differences in data obtained compared to the theoretical calculations of in the range of 1-5%. The  $IC_{50}$  values obtained from preliminary anticancer activity against leukemia cells L-1210 for dibutyltin(IV) di-4-nitrobenzoate, diphenyltin(IV) di-4-nitrobenzoate and triphenyltin(IV) 4-nitrobenzoate were 18.8; 8.8, and 2.27  $\mu\text{g/mL}$ , respectively.