ABSTRACT

SINTHESIS, CHARACTHERIZATION, AND PRELIMINARY SCREENING ANTICANCER ACTIVITY OF SOME ORGANOTIN(IV) 2-NITROBENZOATE COMPOUNDS AGAINSTS LEUKEMIA L-1210

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Syntheses of dibutyltin(IV) di-2-nitrobenzoate, diphenyltin(IV) di-2-nitrobenzoate and triphenyltin(IV) 2-nitrobenzoate compounds with starting materials of dibutyltin(IV) dichloride, diphenyltin(IV) dichloride, triphenyltin(IV) chloride, and 2-nitrobenzoic acid have been performed. The time variation used were 3, 4, and 5 hours, where the highest percentage yield were 84.22% for dibutyltin(IV) di-2-nitrobenzoate, 81.89% for diphenyltin(IV) di-2-nitrobenzoate, and 85.67% for triphenyltin(IV) 2-nitrobenzoate at the optimum reflux time of four (4) hours. Each compound with the highest percent yield was characterized using IR spectrophotometer, UV-Vis spectrophotometer, and microelemental analyzer, and the results of characterization showed that the compounds synthesized were quite pure. The preliminary screening of anticancer activity against leukemia L-1210 cells was performed and the IC₅₀ values obtained for dibutyltin(IV) di-2-nitrobenzoate, diphenyltin(IV) di-2-nitrobenzoate and triphenyltin(IV) 2-nitrobenzoate were 24.66 mg/mL, 9.87 mg/mL, 3.52 mg/mL, respectively.