ABSTRACT

SYNTHESIS AND CHARACTHERISATION PRELIMINARY SCREENING ANTICANCER ACTIVITY OF SOME ORGANOTIN(IV) 3-HYDROXYBENZOATE COMPOUNDS AGAINST LEUKEMIA L-1210

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In this research, synthesis, characterization and preliminary screening anticancer activity of some organotin(IV) 3-hydroxybenzoate compounds against leukemia L-1210 have been performed. The synthesis of organotin(IV) 3-hydroxybenzoates were commenced by the synthesis of dibutyltin (IV) oxide, diphenyltin(IV) dihidroxides and triphenyltin(IV) hydroxide using the starting materials of dibutyltin(IV) dichlorides, diphenyltin(IV) dichlorides and triphenyltin(IV) chloride, respectively which were reacted with NaOH in methanol. These three compounds were then reacted with ligand of 3-hydroxybenzoic acid to produce dibutyltin(IV) di-3-hydroxybenzoate, diphenyltin(IV) di-3-hydroxybenzoate and triphenyltin(IV) 3-hydroxybenzoate with percentage yield of 96.29; 92.66 and 81.24%, respectively, in reflux time of 4 hours. All compounds were then characterized by infra red, ultraviolet spectroscopy, and elemental analysis with microelemental analyzer. The preliminary screening anticancer activity against leukemia cell L-1210 was then performed. The IC_{50} values for the three compounds, dibutyltin(IV) di-3-hydroxybenzoate, diphenyltin(IV) di-3-hydroxybenzoate and triphenyltin(IV) 3-hydroxybenzoate were 22.11; 10.26 and 3.10 µg/mL, respectively. Based on these data, the compound which might be potential as anticancer drugs is triphenyltin(IV) 3-hydroxybenzoate which showed an IC_{50} values smaller compared to those of triphenyltin(IV) salicylate and triphenyltin(IV) benzoate previously reported.