

ABSTRACT

SYNTHESIS, CHARACTERIZATION, AND IN VITRO ANTICANCER ACTIVITY OF SOME ORGANOTIN(IV) 3-NITROBENZOATE COMPOUNDS AGAINST LEUKEMIA CELL L-1210

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In this research, the synthesis of dibutyltin(IV) di-3-nitrobenzoate, diphenyltin(IV) di-3-nitrobenzoate, and triphenyltin(IV) 3-nitrobenzoate were performed which produced the white solid of 87.10%, 84.06%, and 83.64%, respectively in the optimum reflux time of 4 hours. The result of IR spectrophotometer characterization showed that there were absorption of C=O for those compounds at 1591.89 cm^{-1} , 1705.36 cm^{-1} , and 1597.94 cm^{-1} which indicated that there was carbonil group from 3-nitrobenzoate acid.

The compounds synthesized as dibutyltin(IV) di-3-nitrobenzoate, diphenyltin(IV) di-3-nitrobenzoate, and triphenyltin(IV) 3-nitrobenzoate were also characterized using UV-Vis spectrophotometer in order to see the shift of their wavelength. The microanalysis data using microelemental analyzer showed that the compound synthesized were quite pure with the difference of microanalysis result and the theoretically calculation was in the range of 1-5%. In vitro activity test showed that the IC_{50} value of each compound synthesized were 20.59; 9.29; and 3.06, respectively, in which triphenyltin(IV) 3-nitrobenzoate showed the highest activity towards anti-cancer.