Isolation, identification, and characterization of 1,2-benezenedicarboxylic acid, bis(2-methylpropyl) ester and 1,2-benezenedicarboxylic acid, bis(2-ethyl hexyl) ester compounds from n-hexane/chloroform partition fraction of the leave extract of Spondias Mombin and their Cytotoxicity against Artemia Salina

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The attempt to obtain pure anti-cancer and anti-inflammatory chemical constituents from the leave extract of Spondias monbin provoked further purification of some fractions (CCH-J). The aim and objectives of this research are to further purify the (CCH-J) fractions using column chromatography. The CCH-J (0.7142 g) was subjected to column chromatography silica gel mesh 0.015-0.04mm to obtain coded Ps (P50, P52, P57, P58, P59, P60, and P63). The obtained PS fractions where subjected to toxicity test against Artemia saline. The TLC, GC-MS, 1H and 13C NMR were used to determine their levels of purity. The P57 did not show any activity while the bio-toxicity of P50, P52, P58, P59, and P63 revealed that P50 had poor activities against A. Salina compared to others. The LD50 of P50, P52, P58, P59, P60, and P63 were 476.40±138.17, 84.81±1.97, 7.14±1.92, 4.15±0.21, and 23.97±9.82 and 15.52±1.22 µg/ml respectively. In addition, the TLC of one spot each of GC- MS and NMR spectral analysis of P59 and P63 showed pure compounds with LD50 of 4.15±0.21 and 15.52±1.22 µg/ml respectively. Furthermore, the GC- MS, 1H and 13C NMR spectral analysis of P59 revealed the compound was 1,2-benezenedicarboxylic acid bis(2-methylpropyl) ester while P63 was 1,2-benezenedicarboxylic acid bis(ethyl hexyl) ester. Some aromatic derivatives, epoxy, and ester present in these P59 and P63 are functional group often found in most drugs for treatment and management of inflammation and cancer.

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