PRELIMINARY SCREENING OF ALKALOID BY USING THIN LAYER CHROMATOGRAPHY (TLC) ANALYSIS FROM SEDIMENT OF *Manihot esculenta* (TAPIOCA)

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ABSTRACT

PRELIMINARY SCREENING OF ALKALOID BY USING THIN LAYER CHROMATOGRAPHY (TLC) ANALYSIS FROM SEDIMENT OF *Manihot esculenta* (TAPIOCA)

Manihot esculenta or commonly known as tapioca is widely distributed around northern Brazil and it isthe third largest source of carbohydrates in the tropics. It is indigenous to Brazil and is cultivated in most tropical parts of the Americas. After the arrival of the Spanish and Portuguese, the crop spread all over the tropical world especially in Africa, where it is now an important everyday staple and provide up to half of all calories consumed. The sediment of the tapioca always treated as the waste material from local factory in Jelai. In additional, this research will help people especially in rural area to produce new potential product in future from this sample such as snack because of its benefit for maintenance good health with the low cost of production. Moreover, it is also helps in reduce the potential of environment pollution due to abundance of this sediment. Thus, this study was aimed to detect the presence of alkaloid from sediment of *Manihot esculenta* that has been collected from local factory located in Jelai, Negeri Sembilan. The sample was collected, dried and extract by using 1:4 (Chlorofrom:Hexane) ratios. After that, they were sonicated by using sonicator for 15 minutes and centrifuged for 10 minutes with 6000 rpm at 4 ºC. TLC method was used to run this sample with various ratios of chloroform and haxane which were 1:4, 4:1, 2:3, and 3:2. Difference concentration of tapioca was used 0.375mg/ml, 0.75mg/ml, 1.5mg/ml, 3mg/ml, 4.5mg/ml, 6mg/ml, 7.5mg/ml and 9mg/ml. Therefore, the best ratio showed was 1:4 ratio with 9mg/ml concentration was the best concentration after has been sprayed with vanillin reagent that expressed the clear band on the TLC plate. Beside, 8 unknown compound of alkaloid has been detected as well from 1:4 and 2:3 ratio. Unknown A, B, C, D, E, F, G, H, and I with Rf value of 0.15, 0.45, 0.78, 0.85, 0.08, 0.40, 0.53, 0.23 and 0.75 respectively. Last but not least, the results of this research investigation provide benefits for scientist and researcher for the identification of alkaloid and its concentration study in future by using for High Performance Liquid Chromatography (HPLC) analysis.