ISOLATION OF ANTIBACTERIAL AND ANTIOXIDATIVE COMPOUNDS FROM STEMS OF *Entada spiralis*

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ABSTRACT

ISOLATION OF ANTIBACTERIAL AND ANTIOXIDATIVE COMPOUNDS FROM STEMS OF *Entada spiralis*

The study was done to evaluate on the stem barks of *Entada spiralis* which belongs to Leguminoceae family that can be found abundantly in Asia. This genus of species well known comprises variety of medicinal potential for many uses. The first objective of this study is to isolate and determine the preliminary structure of antioxidative compounds from the stems of *E. spiralis* by chromatographic and two spectroscopy methods. The next phytochemical analysis which used 2,2-diphenyl-1-picrylhydrazyl (DPPH) spraying reagent on three extracts, petroleum ether (PE), dichloromethane (DCM) and ethyl acetate (EA) were also done in order to identify the antioxidative compounds existed. The isolated compounds were labelled as H1 and H3 being further analysed using FTIR, ^{1}H NMR and LCMS to predict all the possible structures. As for the result, H1 have potent in antioxidative property and H3 possess both antioxidative and antimicrobial properties showed in best extract which is EA extract. As for the second objective, the effectiveness of the extracts toward plant disease-caused microbes by inhibiting the growth of *Erwinia sp.* was also measured through agar overlay bioautography. From the basis of spectroscopic analysis, the antioxidative compound, H1 was suggested as 11-O-p-Coumarylnepeticin while antimicrobe compound, H3 suggested as Hordatine B. Based on these findings, *E. spiralis* is the best alternative plant that can be utilized globally as its bioactive compounds are expected to give major contribution as a remedies in medicinal field.