

CHAPTER V

CONCLUSION

In the course of this research work, twenty-five selected plants was screen for their cytotoxicity activity against five cancer cell lines and their antioxidant activity by DPPH test. Their cytotoxicity activity and antioxidant activity are reported in Table 7 and 8, respectively. Due to their cytotoxicity activity, ethanol crude extract of *Croton oblongifolius* Roxb. was the most interesting activity thus this study decided to select *Croton oblongilolius* Roxb. for further study. The stem barks of *Croton oblongifolius* Roxb. from Amphur Vicheinburi Petchaboon Province were investigated for their chemical constituents and their biological activity.

The hexane crude extract was separated on silica gel column chromatography using hexane-ethyl acetate gradient system to obtain five compounds, two known diterpenoids: crotocebraneic acid(1) and neocrotocebraneic acid(2); three clerodane diterpenoids: compound which similar to kolavenol, (-)-hardwikiic acid(4) and (-)-20-benzyloxyhardwikiic acid(5). The ethyl acetate crude extract was separated on silica gel column chromatography using hexane-ethyl acetate gradient system, ethyl acetate and ethyl acetate-methanol gradient system to obtained one flavans: (+)-catechin(6). All isolated substances were summarized in Table 41.

The isolated compounds 2, 3 and 5 exhibited moderated cytotoxic activity against 6 cell lines while compound 1 exhibited cytotoxic activity against the breast carcinoma (BT474), hepato carcinoma (HEP-G2), gastric carcinoma (KATO-3). Compound 4 exhibited cytotoxic activity against the breast carcinoma (BT474), hepato carcinoma (HEP-G2), gastric carcinoma (KATO-3) and colon carcinoma (SW 620) *in vitro*.

Table 41 Isolated substances from the stem barks of *Croton oblongifolius* Roxb. from Amphur Vicheinburi Petchaboon Province.

Compound	Name of compound	% wt by fresh wt.
<u>1</u>	Crotocebraneic acid	6.14×10^{-2}
<u>2</u>	Neocrotocebraneic acid	0.93×10^{-2}
<u>3</u>	Compound which similar to Kolavenol	0.65×10^{-2}
<u>4</u>	(-)-Hardwikiic acid	2.38×10^{-2}
<u>5</u>	(-)-20- Benzyloxyhardwikiic acid	0.24×10^{-2}
<u>6</u>	(+)-Catechin	1.03×10^{-2}

Beside, The antioxidant assay of compound 1-6 by DPPH method was reported in term of IC_{50} (μ g) and is shown in Table 40. compound 6 showed high antioxidant activity with IC_{50} 0.036μ M while compound 1-5 showed very low antioxidant activity or inactive.

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