CHAPTER V

CONCLUSION

In this research work, the stem barks of *C. oblongifolius* Roxb. were extracted with hexane, ethyl acetate and methanol. The preliminary ^{1}H and ^{13}C NMR investigation and cytotoxicity test of hexane crude extract were guided to the detail study of the chemical constituents and cytotoxic activity of this crude extract. Using chromatographic separation and recrystallization techniques, 6 compounds were isolated. They were shown below and in Table 24.

Compound 1 : Trachyloban-19-oic-acid (Trachylobane diterpene)

Compound 2 : Poilaneic acid (Cembrane diterpene)

Mixture 3 : Stigmasterol and β-sitosterol

Compound 4 : 12(E),14-labdadiene-7,8-diol (Labdane diterpene)

Compound 5 : 6-acetoxy-12(E),14-labdadiene-7,8-diol (Labdane diterpene)

Compound 6 : 12(E),14-labdadiene-6,7,8-triol (Labdane diterpene)

Compound 4a was obtained from the acetylation of compound 4, which was assigned as 7-acetoxy-12 (E), 14-labdadiene-8-ol.

The ethyl acetate crude extract gave similar component as in the hexane crude extract including compound 4 and compound 6.

Table 24 Isolated compounds from the stem barks of *C.oblongifolius*

Compound	Name	Weight(g)	%wt by wt
1	Trachyloban-19-oic-acid	0.122	0.003
2	Poilaneic acid	0.088	1.35×10^{-3}
3	Stigmasterol and β-sitosterol	0.170	2.62×10^{-3}
4	12(E),14-labdadiene-7,8-diol	1.71	0.026
5	6-acetoxy-12(E),14-labdadiene-7,8-diol	0.055	8.46×10^{-4}
6	12(E),14-labdadiene-6,7,8-triol	0.982	0.015

Compound 4a 7-acetoxy-12(E),14-labdadiene-8-ol 0.155 g 77.5%yield

Each compound was subjected to the cytotoxic activity test against 6 tumor cell lines using Doxorubicin as a positive control. It revealed that compounds 4 and compound 6 showed strong cytotoxic activity against all cell lines. In addition, compound 5 and compound 4a showed moderate activity against Hep-G2 (hepatoma), SW 620 (colon), Chago (lung) and Kato-3 (gastric) cancer cell lines. However compound 1 and compound 2 only showed weak cytotoxic activity against Hep-G2 (hepatoma) and SW 620 (colon) cancer cell lines.

Suggestion for further work

The IC_{50} of active compounds should be investigated.