CHAPTER 4

CONCLUSION

The primary investigation for free radical scavenging activity, the extract of the barks of *Carallia brachiata* Merr. showed significant activity. This plant was selected for chemical constituent studies. Dichloromethane and ethyl acetate crude extracts of the bark of *Carallia brachiata* were investigated on the chemical constituents and afforded three mixtures and three compounds. The chemical structures were characterized by means of spectroscopic studied and physical properties. All the isolated compounds are summarized as follows

1. Mixture of long chain aliphatic ester
2. Mixture of stigmasterol and β-sitosterol
3. Mixture of five alkyl *trans*-ferulate
4. *p*-hydroxybenzoic acid
5. Afzelechin-(4→8, 2→0→7)-epiafzelechin
6. Afzelechin-(4→6, 2→0→7)-afzelechin-(4→8, 2→0→7)-afzelechin (new compound)

The chemical investigation of the barks of *C. brachiata* as described in this study was firstly reported. The isolation and characterization of compounds were early reported in this plant. Compound **3** was a new compound.

The biological activities test indicated that mixture **3**, compound **2** and **3** showed significant activity on DPPH with IC_{50} 134.96, 98.86 and 83.49 μg/ml, respectively. Compound **2** and **3** were exhibited strong activities on Superoxide dismutase and Xanthine oxidase inhibition with IC_{50} < 10 ppm. Moreover compound **2** and **3** showed antioxidant activity on Ferric thiocyanate assay. However, they are inactive with cytotoxicity against KB cell lines (IC_{50} > 100 ppm).

Propasal for the Future Work

Compound **2** and **3** showed attractive results on scavenging activities. The absoluted stereochemistry of them could not be confirmed by NMR data. Therefore the interesting future work are assignment the absolute stereochemistry of them, especially compound **3** which is the new compound. In general method for complete assignment of absolute stereochemistry, circular dichloism measurement will be used.