

CHAPTER V

CONCLUSION AND RECOMMENDATION

The present work led to isolate three C28 - steroid compounds and a mixture of bioactive polyether compounds from the Thai marine sponge, *Biemna fortis* (Topsent).

Three C28 - steroid compounds, K068, K084 and K057, comprised one, two and three hydroxyl groups, respectively. They were identified as diene C28 -steroids. Compound K068 was identified as 22(*E*)-ergosta-5,22-dien-3 β -ol, Brassicasterol, which was one of thirteen steroidal compounds that had been found in *Biemna fortis* (Topsent). Compound K084 was identified as 22(*E*)-ergosta-7,22-dien-3,5-diol-6-one which was only found in *Lactarius hysginus* fruit body and compound K057 was identified as 22(*E*)-ergosta-7,22-dien-3,5,6-triol, Cerevisterol, which was found to be major compound in bryozoan. In present work, compounds K057 and K084 were completed proton assignments in structures.

The mixture of polyether compounds, F201, was isolated from the dichloromethane extract guided by cytotoxicity against tumor cell lines (P-388, A-549 and HT-29) and proton NMR signals. The structure elucidation was not yet complete. However, partial structures of the compounds were elucidated as *para* - substituted benzene and polyether fragments. It was suggested to be cyclic of long chain polyethers, some of which were probably inserted with *para* - substituted benzene.

Although, chemical constituents of *Biemna fortis* (Topsent) has been reported as steroid compounds. This research work showed the presence of the cytotoxic components, F201. They were very interesting in points of both possible new

compounds and their cytotoxic activity. However, the final structures need to be completed.