

CHAPTER V

CONCLUSION

Six isoquinoline quinones were isolated from a Thai sponge, *Reniera* sp., collected from Si-Chang Island. Among these isolated compounds, four of which, compounds A-025, A-051, A-056, and A-082, are identified as the known compounds, renierone [17], 1,6-dimethyl-7-methoxy-5,8-dihydroisoquinoline-5,8-dione [21], *N*-formyl-1,2-dihydrorenierone [19], and mimosamycin [16], respectively. Two new compounds, A-073 and A-129, are *N*-(3"*E*-buten-2"-on-4"-yl)-1,2-dihydrorenierone [47] and renierine B [55], respectively.

The isolated monomeric isoquinoline quinones, A-025, A-051, A-056, A-073, and A-082, show antimicrobial activity against gram-positive bacteria used in this work, *Staphylococcus aureus* and *Bacillus subtilis*, at the concentration of 0.1 mg/disc. Among these compounds, A-051 and A-082 are the most active. These two compounds are also slightly to moderately active against *Candida albicans*. The dimeric compound, A-129, is not active against all microorganisms used at the concentration of 0.1 mg/disc.

In the TLC patterns of other fractions obtained in this work, there are a number of constituents which should be isolated and studied. Using more carefully isolation procedures may provide other interesting isoquinoline quinones. The further isolation will also provide more information about the activity of the isoquinoline quinones. While the monomeric isoquinoline quinones isolated in this work are active in the antimicrobial assay, the dimer is not. It has been proposed that the loss of the activity is the result of the alkyl substitution at position 21. Nevertheless, this suggestion needs more confirmations from the study on other compounds with the structures close to compound A-129. The other activities such as toxicity against tumor cell lines or ichthyotoxicity are also recommended to be studied. These will lead to the study on the mechanisms of actions and the structure-activity relationship of compounds in this class.

This work is one of the first reports about the bioactive constituents from Thai sponges. However, there are a great number of Thai marine organisms which have not been chemically studied, yet. The study can reveal the interesting views of the marine organisms and also may lead to the discovery in any compounds which are important in the field of medicines, pharmaceuticals, and others.



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