

CHAPTER IV

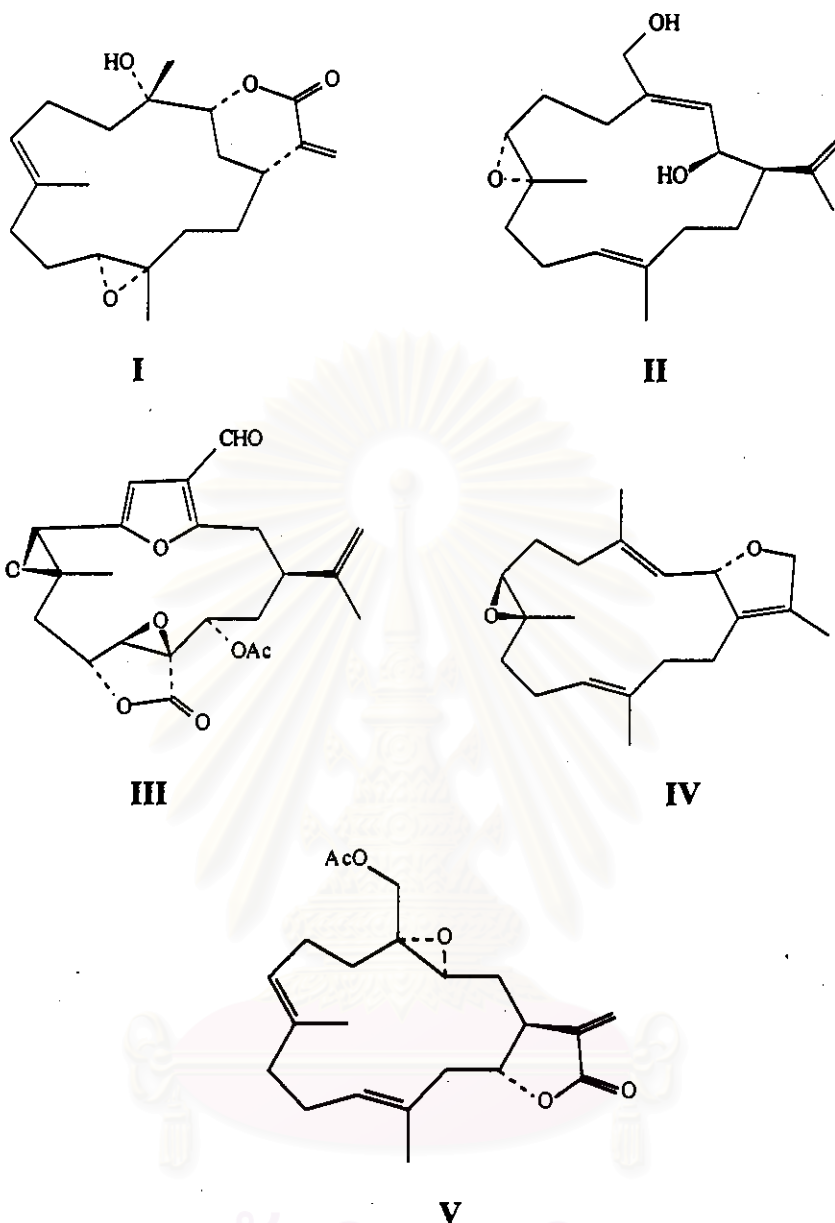
CONCLUSION

Organic extracts from the stem bark of *Croton oblongifolius* Roxb., which is a plant in the genus *Croton* and belongs to the family Euphorbiaceae, was separated by column chromatography to yield three pure compounds and two mixtures as follows :

1. Compound 1 was crotoembraneic acid, a 14-membered diterpenoid carboxylic acid which was a new compound.
2. Compound 2 was hardwickiic acid.
3. Mixture 3 was a mixture of steroids (campesterol, stigmasterol and β -sitosterol).
4. Mixture 4 was a mixture of steroid glycosides (Campesteryl-3-O- β -D-glucopyranoside, Stigmasteryl-3-O- β -D-glucopyranoside and β -Sitosteryl-3-O- β -D-glucopyranoside).
5. Compound 5 was potassium chloride.

From the literature [24], cembranoids have attracted a great deal of interest from both synthetic chemists and biologists, largely as a result of their unusual structures and their diverse range of biological properties such as sinularin I can be used as an antineoplastic. Asperdiol II is active against tumor cells and lophotoxin III is a neuromuscular toxin. Finally, 16-deoxysarcophine IV has been found to possess interesting calcium antagonistic activity and lobaride V shows ichthyotoxic properties.

The crotoembraneic acid probably possesses some bioactivities. A preliminary bioactivity test showed that crotoembraneic acid can inhibit cancer cells. It is very interesting in terms of medicinal value to develop this compound to be an anticancer drug.



Moreover, this research gives complete ^{13}C -NMR chemical shift assignment and two dimensional NMR spectroscopy of hardwickiic acid which is previously not available in the literature.

Finally, the aim of this research has been realized in terms of providing further chemotaxonomic data of plants in genus *Croton*. In addition, we have demonstrated that there was another class of new cembranoid diterpene in *Croton* sp. which possesses interesting bioactivities.