

CHAPTER V

CONCLUSION AND RECOMMENDATION

Clausena guillauminii Tanaka has been used as a folkloric medicine in Thailand. It has some activity as same as the several species of this genus. *Clausena dentata* M. Roem., *C. excavata* Burm.f., *C. harmandiana* Pierre, *C. heptaphylla* Wight., *C. indica* Oliv. *C. lansium* Skeels., *C. pentaphylla* DC. The chemical studies of several parts of there plant showed that there were two types of compound, carbazole alkaloids and coumarins. There were no reports of any phytochemical studies in *C. guillauminii* Tanaka. In our investigation, four coumarins and two carbazole alkaloids were isolated from the root bark. The new carbazole alkaloids was isolated and elucidated to be 7-methoxyheptaphylline. This new carbazole alkaloid is very interest compound for information of chemical constituents in *Clausena* species. The carbazole alkaloid and coumarin, which were isolated from this plant, are supported information concerning chemotaxonomic study. It is recommded to perform phytochemical studies of many plants belonging to this genus.

The methyl, methoxy and hydroxy substituents at C₃ and C₆ position is very commonly on carbazole nucleus. The compounds which have those substitution can be found in *Clausena*, *Murraya*, *Glycosmis* species (show in table 8, 9 and 10). Chakraborty and Das⁽⁵³⁾ suggested that the formation of the carbazole ring in plants precedes

C-methylation of the aromatic ring by electrophilic attack and the biosynthesis of these alkaloids (in particular, origin of the 3 or 6 C-methyl) involves the intermediacy of mevalonic acid. But the only C₇ position substituent of carbazole nuclei have not been reported all these genus. Therefore, the biosynthesis pathway is one of the points strongly recommended to study.