

Chonchawan Jankam 2014: Phytochemical Analyses of *Acmella ciliata* Cass. (Family Asteraceae) and Its Active Constituents Against Malaria. Master of Science (Botany), Major Field: Botany, Department of Botany. Thesis Advisor: Associate Professor Srunya Vajrodaya, Dr.rer.nat. 79 pages.

Phytochemical study of the lipophilic extracts from three plant parts of *Acmella ciliata* Cass. (Pak Kard Hua Wan); leaves, inflorescence and underground part had been done during June 2009 – July 2012. Thin Layer Chromatography (TLC) screening test were shown that lipophilic extract of leaves, inflorescence and underground part contained terpenoids, steroids and triterpenoids while coumarins were only detected in underground part extract. However, the pattern of TLC profiles were similar in three plant parts (leaves, inflorescence and underground part), but they were rather different when analysed by HPLC and specific test. By means of chromatographic technique, the pure compounds were isolated from underground part extract and purified by recrystallization. The crystals were colorless needles which were identified as mixture of stigmasterol and β -sitosterol by comparing spectroscopic data (UV, FT-IR, MS, ^1H and ^{13}C NMR) with the former documents.

Both extracts from inflorescence and underground part exhibited the most active antimalarial activity against *Plasmodium falciparum* to chloroquine sensitive strain 3D7 and resistant strain K1. However, the underground part showed more active antimalarial activity against both chloroquine sensitive and resistant strain of *Plasmodium falciparum* than the inflorescence extract.

Student's signature

Thesis Advisor's signature