

# # C 626972 : MAJOR BIOTECHNOLOGY

KEY WORD: AZADIRACHTIN/AZADIRACHTA INDICA/LIPASES

UMAKORN ARPORNATTANAPONG : EXTRACTION OF AZADIRACHTIN FROM NEEM SEEDS AND REACTION WITH LIPASES. THESIS ADVISOR : ASSIS.PROF.AMORN PETSOM, Ph.D. 123 pp. ISBN 974-635-403-5

Dried and ground neem seeds were extracted by two methods. The first one was extracted with soxhlet by hexane. The residue left after hexane extraction was reextracted by methanol. The impurity in the crude extract of methanol was eliminated by various kinds of solvents in separatory funnel before washing the crude extract by ethylacetate-hexane. The crude ethylacetate-hexane was chromatographed on a silica gel column packed in toluene. The eluent was changed stepwise from 2% to 9% methanol in toluene, respectively. Two pure components were obtained by HPLC. The second method was extracted by co-extraction solvents, hexane and ethanol. The impurity in the crude extract was eliminated by the same method as the first one. The crude extract was chromatographed on sephadex column packed in 50% methanol-chloroform. Two pure components were obtained by HPLC. The structures of those four components obtained by both methods were established on the basis of physical, chemical properties, NMR. and MS. Both methods obtained Azadirachtin A, but the second extraction was easier, quicker, and the Azadirachtin A obtained was a little purier than Azadirachtin A obtained by the first method.

Reaction of a kind of Azadirachtin with Rhizopus or Candida lipase was studied and carried out by incubating at 37 celsius and various period of time. Result of experiments could not indicate whether the reaction was successful or not since solution with no enzyme (control) did change like solution with enzyme.

ภาควิชา.....

ลายมือชื่อนิสิต.....

สาขาวิชา.....เทคโนโลยีทางชีวภาพ.....

ลายมือชื่ออาจารย์ที่ปรึกษา.....

ปีการศึกษา.....2539.....

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