CHAPTER IV

CONCLUSION

In summary , the chemical constituents of the roots of *Asparagus racemosus* Willd. have been investigated . A bioassay of the methanol crude extract and the major product , Asparagamine A have been carried out.

There mixtures and six compounds were isolated and determined to be :

Mixture 1 , a mixture of ten saturated long chain hydrocarbons.

Mixture 2 , a mixture of long chain esters.

Mixture 3 , a mixture of eight long chain acids.

Compound 4 , stigmasterol.

Compound 5 , 4,5-dihydro-1,7-dimethoxy-8-methyl-9,10-dihydrophenanthrene

Compound 6 , 6-hydroxy-2-(3$^{/}$-hydroxy-5-methoxy-2$^{/}$,4$^{/}$-dimethyl phenyl) benzofuran

Compound 7 , Asparagamine A.

Compound 8 , stigmasteryl-3-O-β-D-glucopyranoside

Compound 9 , 3-O-[α-L-rhamnopyranosyl-(1→2)-O-β-D-Glucopyranosyl] sarsasapogenin .

A computerized literature search indicated that this is the first report of Compound **5** , 4,5-dihydro-1,7-dimethoxy-8-methyl-9,10-dihydro-phenanthrene and Compound **6** , 6-hydroxy-2-(3$^{/}$-hydroxy-5$^{/}$-methoxy-2$^{/}$,4$^{/}$-dimethyl phenyl) benzofuran.

All substances isolated from the roots of *A. racemosus* Willd. are summarized in table 29.

Table 29 All substances isolated from the roots of *A. racemosus* Willd.

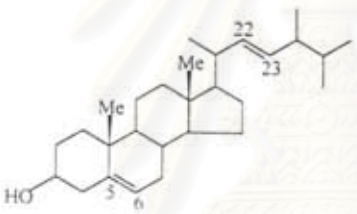
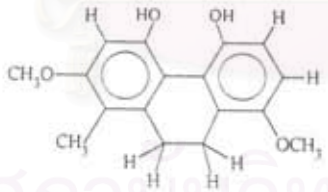
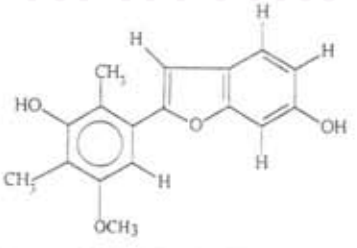
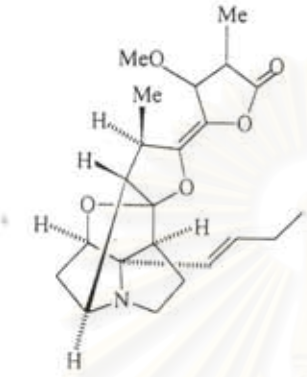
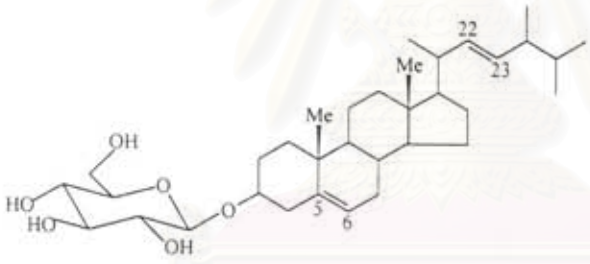
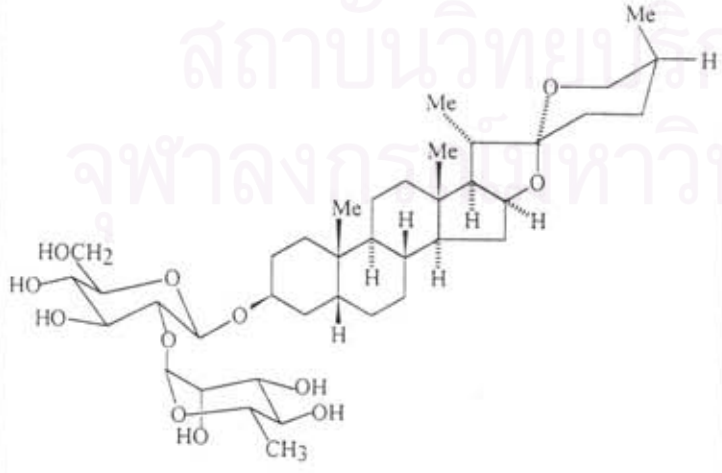
Substance	Weight (mg)	% wt by wt of dried roots
a mixture of long chain hydrocarbons (Mixture 1)	66.5	5.12×10^{-3}
a mixture of long chain esters (Mixture 2)	105.6	8.12×10^{-3}
a mixture of long chain acids (Mixture 3)	140.4	1.08×10^{-2}
stigmasterol (Compound 4) 	1,320	1.02×10^{-1}
4,5-dihydro-1,7-dimethoxy-8-methyl- 9,10-dihydrophenanthrene (Compound 5) 	152.6	1.17×10^{-2}
6-hydroxy-2-(3′-hydroxy-5-methoxy-2′,4′-dimethyl phenyl) benzofuran (Compound 6) 	146.8	1.13×10^{-2}

Table 29 (cont.)

Substance	Weight (mg)	% wt by wt of dried roots
Asparagamine A. (Compound 7) 	3 ,562.3	2.74×10^{-1}
stigmasteryl-3-O-β-D-glucopyranoside (Compound 8) 	108.2	8.32×10^{-3}
3-O-[α-L-rhamnopyranosyl-(1→2)-O-β-D-gluco-pyranosyl] sarsasapogenin . (Compound 9) 	37.6	2.89×10^{-3}

For bioassay results , the methanol crude extract of the roots of *A. racemosus* showed inhibitory effects for Human Carcinoma of Stomach , Human Leukemia (HL-60) and Human Mammary Cancer at $IC_{50} \geq 1$ μg/ml.

More importantly , Asparagamine A. , the major component of this plant , was shown to have an anti-oxytocin activity , *in vivo* , in pregnant rats with doses of 10 mg / 0.2 ml / rat.