

## CHAPTER IV

### CONCLUSION

In this research, the stems of *Piper ribesoides* Wall.. Which was the plant in the Piperaceae, were investigated for their chemical constituents because of their utilization as tribal medicine. From the stem of *Piper ribesoides* Wall., seven chemical constituents were obtained from chloroform and hexane extracts which were separated by using quick column chromatography, they are:

**A**, a yellow needle(equivalent to 0.037% wt. by wt. of crude hexane extract) was methyl piperate( $C_{13}H_{12}O_4$ ), m.p. 147-149°C,  $R_f = 0.53$ (silica gel/hexane:chloroform = 1:1)

**B**, a white amorphous solid(equivalent to 1.50% wt. by wt. of crude hexane extract) was derivative of eupomatene ( $C_{20}H_{20}O_4$ ), m.p. 102-105°C,  $R_f = 0.58$ (silica gel/chloroform)

**C**, a white needle(equivalent to 1.50% wt. by wt. of crude hexane extract) was eupomatene( $C_{20}H_{18}O_4$ ), m.p. 146-148°C,  $R_f = 0.60$ (silica gel/chloroform)

**D**, a white needle(equivalent to 1.00% wt. by wt. of crude chloroform extract) was (-)-borneol p-hydroxycinnamate( $C_{19}H_{24}O_3$ ), m.p. 153-154°C,  $R_f = 0.09$ (silica gel/ hexane:chloroform = 1:3)

**E**, a yellow needle(equivalent to 1.00% wt. by wt. of crude hexane extract) was heteropeucenin-8-methylether( $C_{16}H_{18}O_4$ ), m.p. 102-105°C,  $R_f = 0.40$  (silica gel/chloroform)

**F**, a white solid (equivalent to 0.06% wt. by wt. of crude chloroform extract) was crotepoxide ( $C_{18}H_{18}O_8$ ), m.p. 149-150°C,  $R_f = 0.85$  (silica gel/hexane:chloroform = 1:9)

**G**, a white needle (equivalent to 1.12% wt. by wt. of crude chloroform extract) was N-isobutyl-13-(3,4-methylenedioxyphenyl) trideca-2,4-trinamide ( $C_{24}H_{33}O_3N$ ), m.p. 116-117°C.  $R_f = 0.60$  (silica gel/hexane:chloroform = 1:9)