CHAPTER V

CONCLUSION

Morin, one of a number of flavonoids, acts as a broad-spectrum and non-toxic antioxidant. Unfortunately, it is rapidly oxidized in air, and its very low lipophilicity results in poor absorption. These disadvantages limit the clinical usefulness of morin. In order to develope the clinical usefulness, stability and absorption properties of morin must be improved.

In this study, three morin esters as prodrugs - (i) morin-3,5,7,2′,4′-pentaacetate; (ii) morin-3,7,2′,4′-tetrapalmitate and (iii) morin-3,5,7,2′,4′-pentanicotinate - can be synthesized.

Morin-3,5,7,2′,4′-pentaacetate was synthesized by acetylation of morin with acetic anhydride. The structure was confirmed by UV-Visible spectrum, IR spectrum, ^{1}H-NMR spectrum, ^{13}C-NMR spectrum and mass spectrum.

Morin-3,7,2′,4′-tetrapalmitate was synthesized by esterification of morin with palmitoyl chloride. The structure was confirmed by UV-Visible spectrum, IR spectrum, ^{1}H-NMR spectrum and mass spectrum.

Morin-3,5,7,2′,4′-pentanicotinate was synthesized by esterification of morin with nicotinoyl chloride that was prepared from reaction of nicotinic acid with thionyl chloride. The structure was confirmed by UV-Visible spectrum, IR spectrum, ^{1}H-NMR spectrum and mass spectrum.

These compounds are expected to be more suitable for development as antiaging, antiatherosclerosis, anti-inflammatory and anticancer drugs.

Stability and absorption properties of synthesized compounds are not tested in this study, so it is an interested topic to be investigated in the recently furture.