CHAPTER 4

CONCLUSIONS

Dried HCP was macerated in ethanol and the extraction was removed of solvent under vacuum condition. The extraction of HC was viscous sticky, green-blackish and the yield of extraction was 5.85%. The crude HCE was identified with chromatographic technique and transform to HCEP by method of adsorption with corn starch or Prosolv®. Standardization of the extract with chromatographic methods using flavonoid standards as markers allowed the preparation of uniformed, consistent and reproducible HCE tablets. Preparation of the plant extract also eliminated microbial contamination from the raw materials. The chromatographic investigations were shown that rutin and quercetin were able to be marker of this study also there were 1.709% and 0.0751% in HCE respectively. R^2 of rutin and quercetin standard curves were 0.9997 and 0.9995. The precision test presented % recovery of 98.93±1.21 to 103.52±1.90% and 99.62±0.53 to 103.07±1.20%, while the accuracy test showed %RSD of 0.53-1.83% and 0.41-1.63 for rutin and quercetin, respectively. Formulation of physically- and chemically-stable *H. cordata* extract tablets was accomplished. The HCE tablets made of HCE:Prosolv® 1:4 contained active ingredients equivalent to approximately 2 and 4 folds of the HCP capsule and Natureplex® capsule, respectively. Selection of an appropriate adsorbent, in this case Prosovl®, aided the conversion of viscous, sticky plant extract into low moisture, compressible powder. The HCEP was formulated to bulk with suitable excipients, so

the hardness, friability and disintegration time were the selective criterions. The HCEP showed good appearance which their flow property could be improved by mixing with proper excipients that present as decreasing repose angle. With the addition of other suitable pharmaceutical excipients, powder with good flowability and compressibility was obtained for manufacturing of HCE tablets with good appearances and disintegration. The optimized formulation was applied to tablets with quality controls of HCEP, bulk and tablets. For quality control for moisture contents, bulk was less than HCEP and all were not over 6%. The tablets form both hydraulic press and single stroke tabletting machine were satisfied quality controls in weight variation, hardness, friability and disintegration time. In case of stability tests, tablets at RT and 45ºC storages were agreed with tablet requirements although the conditions of storage were effect to difference of testing values. The TLC fingerprints were full of major component bands that compare to HCE at the differential conditions and time. The prepared tablets showed good stability at both RT and at 45°C conditions over the period of 3 months. HCE tablets can be used as a food supplement to replace the traditional powder capsules. The process and techniques from this study can also be employed in the development of other medicinal plant extract tablets.