CHAPTER V

CONCLUSION

From the HS-GC profiles of three fragrant-rice varieties (KDML 105, Kor Kho 15 and Pathum thani 1) kept under different storage durations (from 2, 4, 6, 8, 10 and 12 weeks). The peak-area patterns for all of the durations (of each variety) were not different. Some peak-area variables changed their quantity. However, the most of peak-area quantities were not changed.

The classification models for the three fragrant-rice varieties were harmonious with the rice properties in each variety of the classification models. The Kor Kho 15 and KDML 105 profile patterns were similar but showed a clearly different pattern to the Pathum thani 1 variety. The HS-GC profile patterns used 114 peak-area variables in the time range of 5-70 min. However, the main peak-area variables were only highly expressed in the first half of the profiles and the last half of profiles only has a low peak-area quantity values. The classification model from all of the peak-area profiles with SLDA showed the highest percent of correct classification and prediction. In contrast, the model from some particular periods of the peak-area profiles on the time range of 10-35 min with SLDA results were close to the results for all of the peak-area profiles under SLDA. From this study, the peak-area variables in the first 35 min are suitable for discrimination the varieties and would reduced investigation time by half. Nevertheless, the classification models are based on several factors including season, cultivation area, water quantity, storage duration, and sunlight [14, 23, 24, 27-34]. To improve the classification results, additional rice

varieties could be investigated as well as cultivation areas, different seasons, and longer storage durations (more than twelve weeks) for the same variety. Moreover, the mixed rice samples in the different proportions could be used to build other models in future work.