

## CHAPTER V

### CONCLUSIONS

#### **The effective reduced phenolphthalein reagent**

The effective reduced phenolphthalein reagent composed of phenolphthalein 2.0 g, potassium hydroxide 20.0 g, zinc dust 20 g and distilled water 50 ml. The reaction time was 45 minutes. After the solution is cool down, the ethanol was added in the reagent with ratio 1:2. This reagent showed sensitivity at 95% of  $1:10^3$  to  $1:10^4$  blood dilutions or between 0.64-0.064 microgram hemoglobin. The precision and specificity of this reagent were 95% and 96 % respectively. The reagent can be kept in the refrigerator at temperature 4-8 °C for 1 year. This reagent can be used to detect blood in fresh blood and dry blood. There is no difference between fresh blood and gore. The comparison of the self-prepared reagent with the reagent from commercial kit in sensitivity, precision, and specificity, They showed no difference, in the sense of the statistics.

#### **Satisfaction survey of the new reagent test kit**

The reagent was prepared as test kit and distributed to the user in the assigned laboratory in hospital and primary health care unit together with the satisfaction's questionnaire. Most of them were satisfied with 94.1 % with the score in easy to use with clear result. The overall user satisfaction and 93.8 percent agreed that improving conditions for packaging strength.

#### **The contamination of blood on medical devices**

A total 108 health check points in community hospitals (n=34) and primary care units (n=74) in Pichit and Uttaradit Province. Blood contamination was detected in 54.6% on glucose meters (59/108). There were 56.8% from the primary care units, (42/74), and 50.0.% in the hospitals (17/34). The contamination area was found 30% on the side of the glucose meters and 20% each on meter storage area, back panel, and front panel. The blood contamination on hematology analyzer was 53% (8/15).

The area of blood contamination was on the keyboard touch screen 46.8% (7/15) then start switch, 26.7% (4/15) printer and front panel, 13.3(2/15). The blood contamination is regarded as a significant as a place for the pathogens infection, the prevention of the infection was to clean the meter after use at area that frequency found contaminated with the cleaning solution.