

CHAPTER V

CONCLUSION AND SUGGESTION

5.1 Conclusion

1. Roselle concentration, sucrose concentration, initial SCOBY mass gave positive effect to the SCOBY growth and phenolic compound profile in roselle-based kombucha.
2. The media composition of roselle-based kombucha fermentation to maximize SCOBY growth and phenolic compound profile are 2% roselle concentration, 12% sucrose concentration, and 25 g initial SCOBY mass.
3. Roselle-based kombucha is dominated by chlorogenic acid, protocatechuic acid, rutin, quercetin-3-glucose, and caffeic acid. Those compounds has successfully identified and quantified in sample.
4. Roselle-based kombucha has good antioxidant activity during 14 days storage at room temperature with IC_{50} value evaluated with DPPH ($9.59 \pm 0.15 \text{ mg L}^{-1}$), ABTS ($7.60 \pm 0.03 \text{ mg L}^{-1}$), and FRAP ($9.84 \pm 0.12 \text{ mg L}^{-1}$).

5.2 Suggestion

Based on the result of the study, it can be suggested to do further research related to the bioconversion mechanisms of phenolic compounds during roselle-based kombucha fermentation to further enhance its functionality and health benefits, checking antioxidant activity before fermentation and during the fermentation period, and conducting microbial tests.