# CHAPTER 6
# RECOMMENDATIONS FOR FUTURE STUDIES

In this study, surface water was the source of samples used in the experiment. Based on literature review, groundwater usually has lower DOC concentration and its DOC is more biorefractory than surface water. Therefore, a similar study on groundwater is recommended. Higher doses of $H_2O_2$ should be explored because they may further increase AOC production. To account for the rate of reaction (kinetics), lower doses of $Fe^{2+}$ should be examined and the experiment should be set up in a way that more samples can be taken from the reactor during the few minutes of reaction. For the effect of pH, the study should be extended to cover a neutral range although it might offer lower AOC production efficiency. That is because neutral pH is a common pH for natural water. In addition, the pH adjustment will make the process more complex.

Besides Fenton's reagent, there are several AOPs, which have similar or even higher oxidation potentials such as UV-enhanced Fenton's reagent and Fenton's using zero-valent iron. Their effects on AOC production should be studied and compared with traditional Fenton's reagent.