CHAPTER V
CONCLUSIONS

In this works, the surface modification of PP-film was operated via DBD plasma in air. The results show that the hydrophilicity of treated-PP film was increased due to the incorporation of oxygen-containing polar groups, including C-O, C=O and O-C=O. However, the mechanical properties of treated-PP film was not changed because PP film was modified only the uppermost of surfaces. Therefore, the DBD plasma technique was a suitable process to enhance the coating capability of the film surfaces, whereas the bulk properties were remain. After that the plasma-treated PP film was further immersed in zinc nitrate solution before being converted to zinc oxide particles by reacting with NaOH. The saturated amount of ZnO deposited on treated-PP film was determined. It was found that the ZnO deposited on treated-PP film performed strong antibacterial against both *E.coli* (Gram negative) and *S.aureus* (Gram positive) when it was illuminated with UV light for 3 h. As a result, the ZnO deposited treated-PP film can be used as the antibacterial packaging in order to keep the quality of food products.