CHAPTER V
CONCLUSION

Preparation of porous supporting fabric-embedded bacterial cellulose composites for wound dressing application was successful developed. The strength of BC composites could be improved both in wet and dry state, giving the benefit on reducing the damage from tearing in large scale production. The production yields of BC composites increased, compared with pure BC cultivated at the same production time The water vapor transmission rates of BC composites were not different from that of pure BC, but the BC composites can be produced in a shorted production time and lower production cost. Water absorption capacity of BC composites decreased but it not loss absorption ability.

Hydrophilicity and surface roughness of fabrics were improved by DBD plasma treatment. could lead to the increasing of the number of cell attachment of bacterial cells on the fabrics.

Moreover. DBD plasma treatment of the fabrics before cultivation. could reduce the strength of BC composites in wet state but not reduce the strength in dried state compared with BC composites containing non DBD plasma treated fabrics. In addition. DBD plasma treatment of the fabrics before cultivation, could enhance the production yields of BC and decreased water absorption capacity and water vapor transmission rate of BC composites. compared with BC composites non DBD plasma treated fabrics. Then. DBD plasma treatment may be used in the production of wound dressing materials.

From the in vivo and the in vitro experiment. it could be suggested that pure BC and BC/composites have a good potential in wound healing. BC/Cotton is appropriate wound dressing materials.