



REFERENCES

- Ahn, J., Choi, H., Lee, K., Nahm, J., and Cho, C. (2001). Novel mucoadhesive polymer prepared by template polymerization of acrylic acid in the presence of silk sericin. *Journal of Applied Polymer Science*, 80, 274-280.
- Becker, M.A., Willman, P., and Tuross, N.C. (1995). The U.S. first ladies gowns: A Biochemical study of silk preservation. *Journal of the American Institute for Conservation*, 34(2), 141-152.
- Eisele, F.L. and Tanner, D.J. (1991). Ion-assisted tropospheric OH measurements. *Journal of Geophysical Research*, 96(D5), 9295-9308.
- Hersh, T., Barkin, W., Fan, L., and Owen, D. (2000). Antioxidant free radical in cigarette filters. World Conference on tobacco OR Health Handout Symposium Session.
- Hoppe, U. and Engel, W. Cosmetic agents for hair. U.S.Patent 4,839,165, (1989).
- Ishikawa, H., Nagura, M., and Tsuchiya, Y. (1987). Fine structure and physical properties of blend film composed of silk sericin and poly(vinyl alcohol). *Sen'I Gakkaishi*, 43(6), 283-287.
- Jianfang, H. (2001). Hydroxyl Radical. Free Radical and Radiation Biology Program, 77:222.
- Kato, N., Sato, S., Yamada, H., Fuwa, N., and Nomura, M. (1998). Silk Protein, sericin, inhibits lipid peroxidation and tyrosinase activity. *Bioscience Biotechnology Biochemical*, 62(1), 145-147.
- Kenji, T., Hirohide, N., Naoko, S., Keiko, N., Jun, M., Kayoko, I., Yoshiki, Y., and Hiroaki, M. (1999). Active oxygen radical scavenging activity of the plant polysaccharide processed foodstuff BIO BRAN. Japan Functional Food Research Association.
- Kozo, T. Wound dressing material containing silk fibroin and sericin as main Component and method for preparing the same. U.S.Patent 6,175,053, (2001).
- Kunya, T., Jintana, B. and Timakazu, K. (2001). Minimum Inhibitory Concentration of Irradiated Silk Protein Powder for Bacterial Activity. *JAERI-Conferrence*, 2002-003, 105-109.

- McIlvaine, R.W. (1998). Air Filter Trends. *Filtration&Separation*. 130-133.
- Tsujimoto, K., Takagi, H., Takahashi, M., Yamada, H., and Nakamori, S. (2001). Cryoprotective effect of the serine-rich repetitive sequence in silk protein sericin. *Journal of Biochemical*, 129, 979-986.
- Yamada, H. and Nomura, M. Fibrous article for contact with skin. Japan Patent 10-001872A, (1998).
- Zhang, Y.Q. (2002). Applications of natural silk protein sericin in biomaterials. *Biotechnology Advances*, 20, 91-100.

APPENDIX A

Electron Spin Resonance Spectra

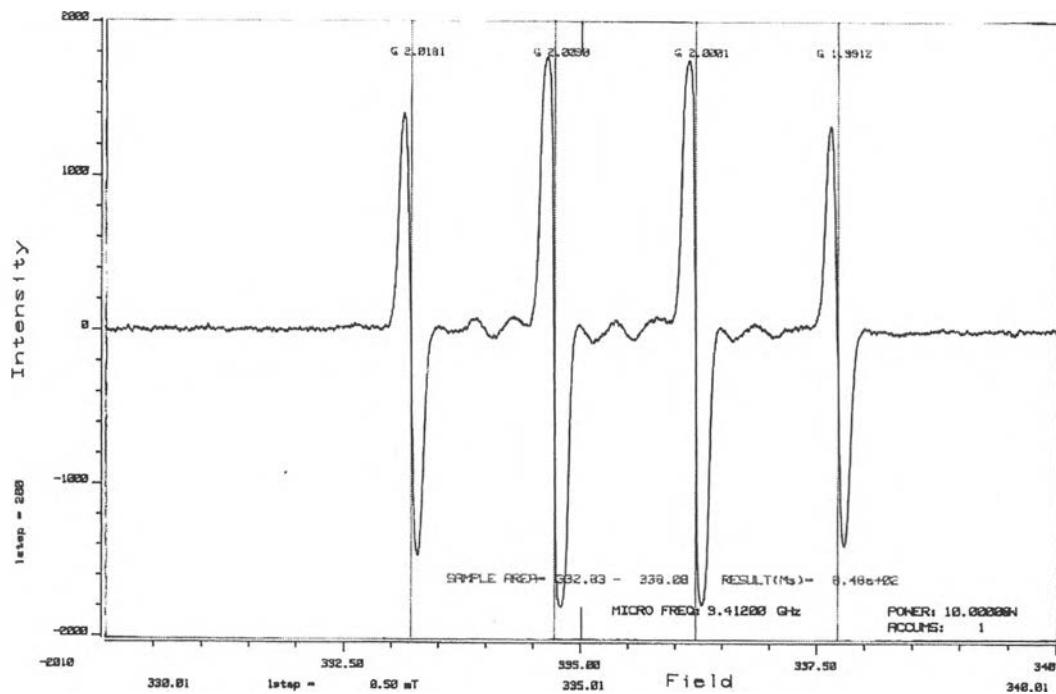


Figure A1 Electron Spin Resonance Spectra of standard solution of hydroxyl radical without sericin sample.

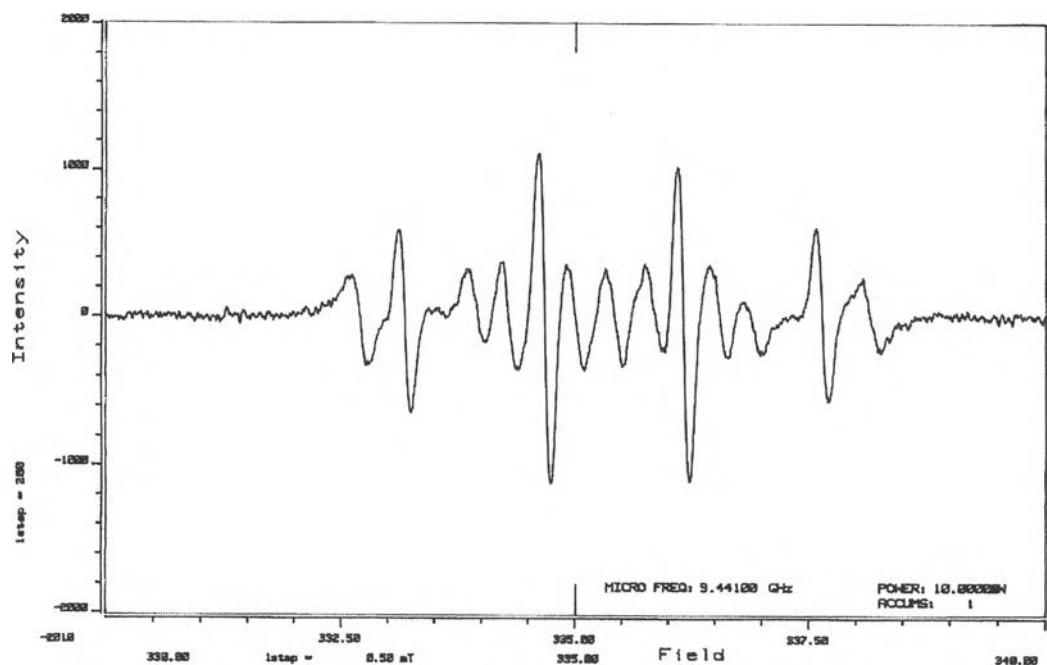


Figure A2 Electron Spin Resonance Spectra of 10% sericin Dok Bua.

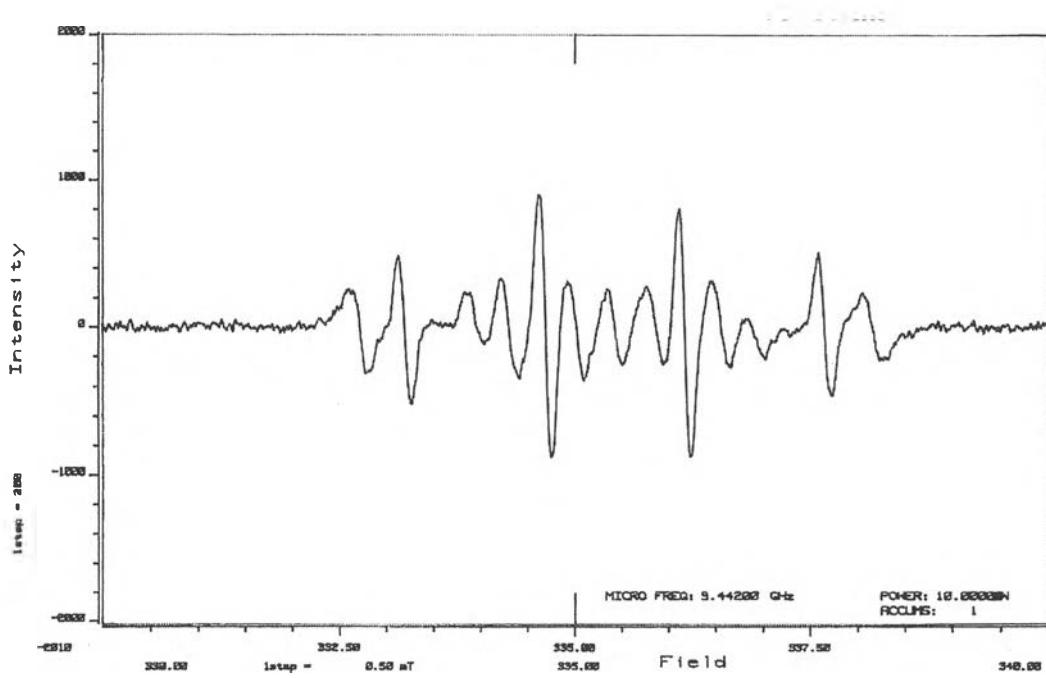


Figure A3 Electron Spin Resonance Spectra of 20% sericin Dok Bua.

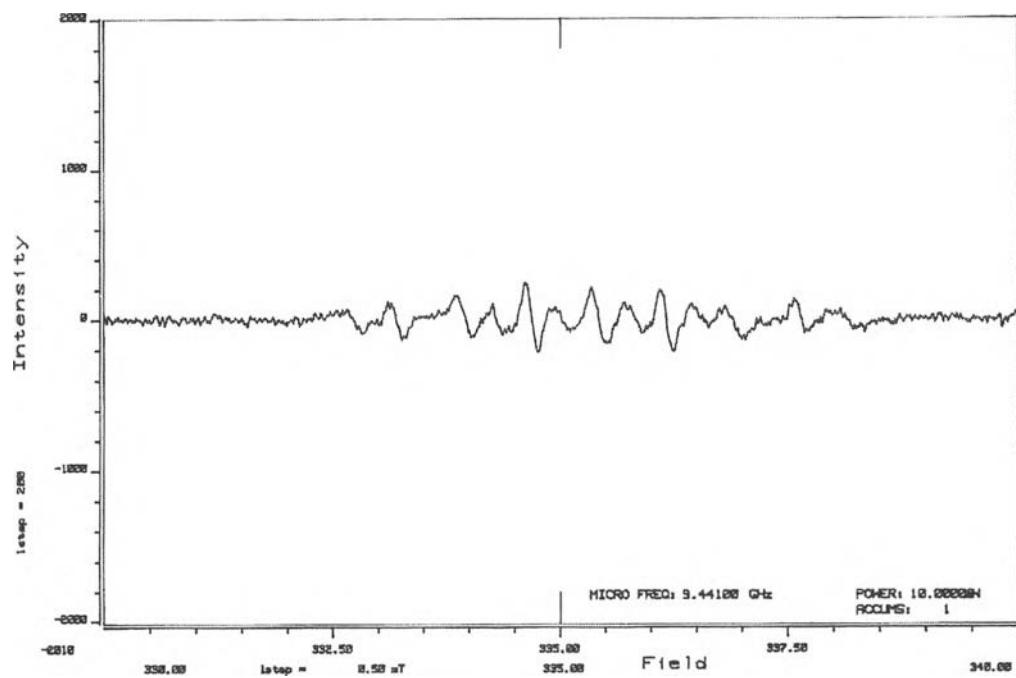


Figure A4 Electron Spin Resonance Spectra of 10% sericin Jul.

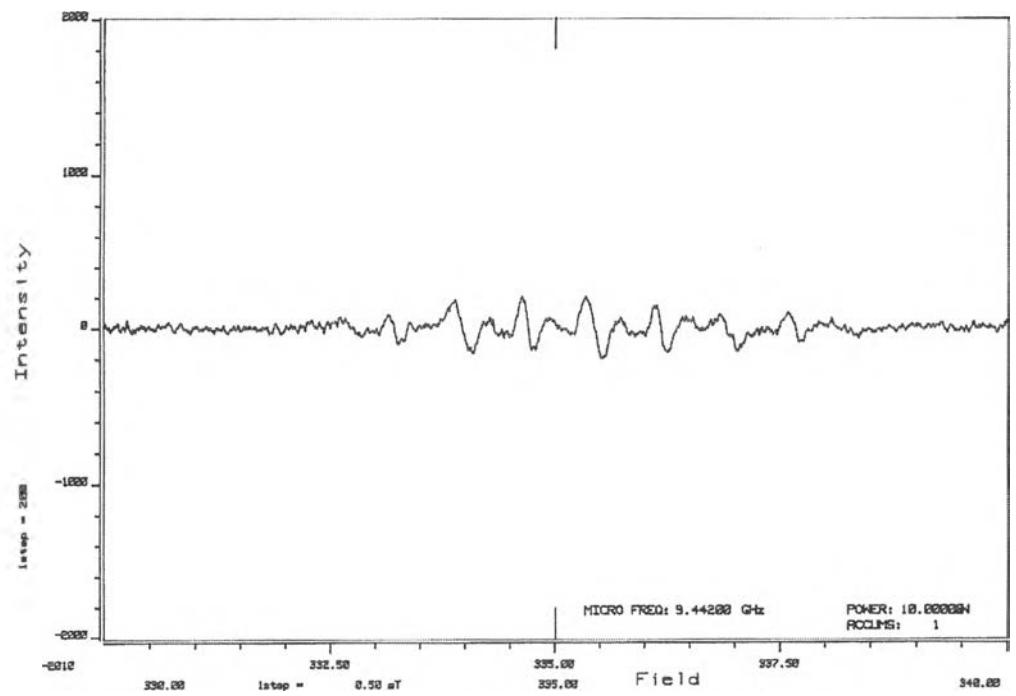


Figure A5 Electron Spin Resonance Spectra of 20% sericin Jul.

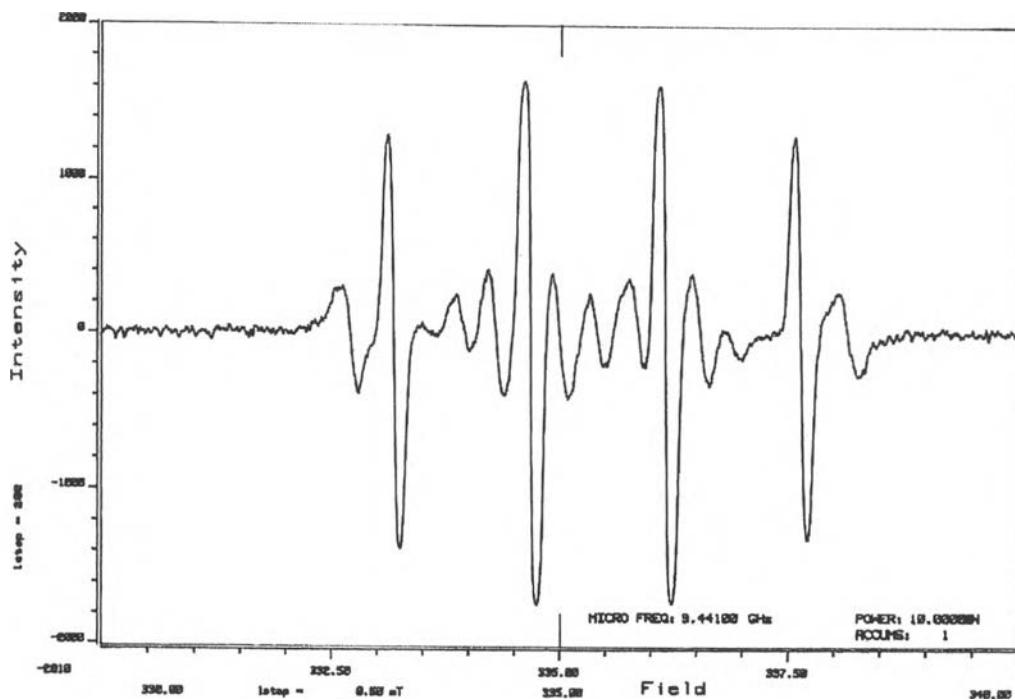


Figure A6 Electron Spin Resonance Spectra of 10% sericin Nang Noi.

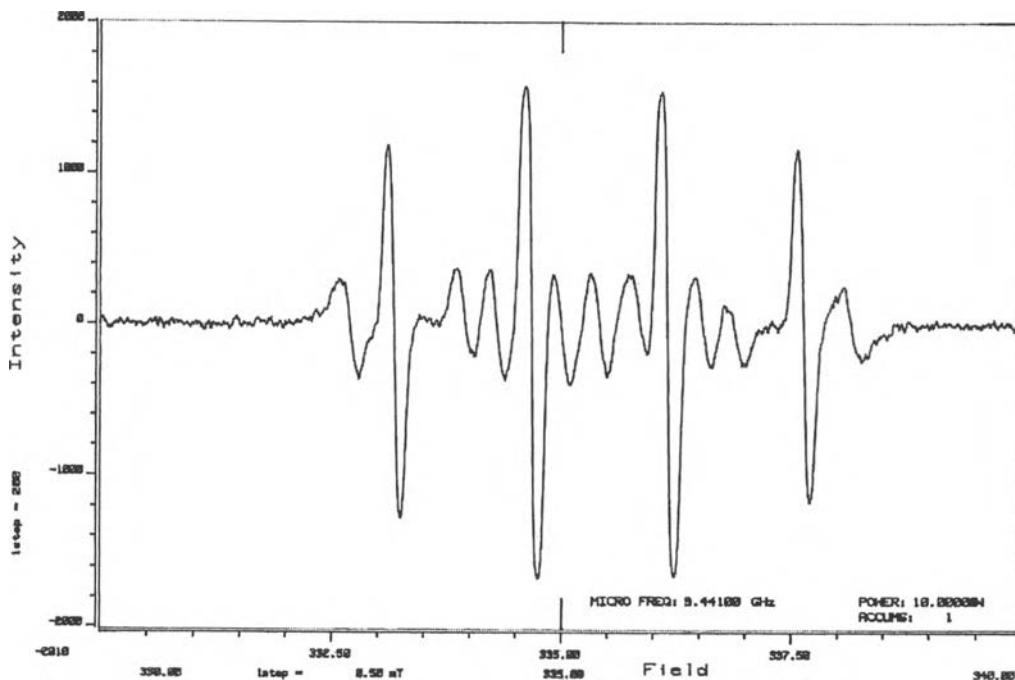


Figure A7 Electron Spin Resonance Spectra of 20% sericin Nang Noi.

APPENDIX B

Antibacterial Testing of Sericin

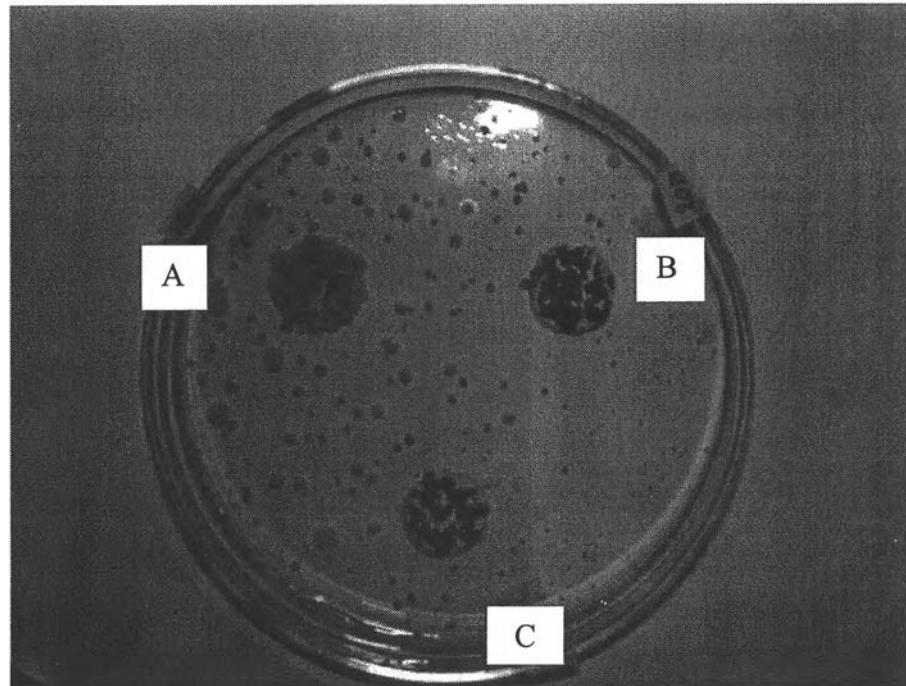


Figure B1 Antibacterial testing of sericin Dok Bua: (A) 20%, (B) 15%, and (C) 10%.

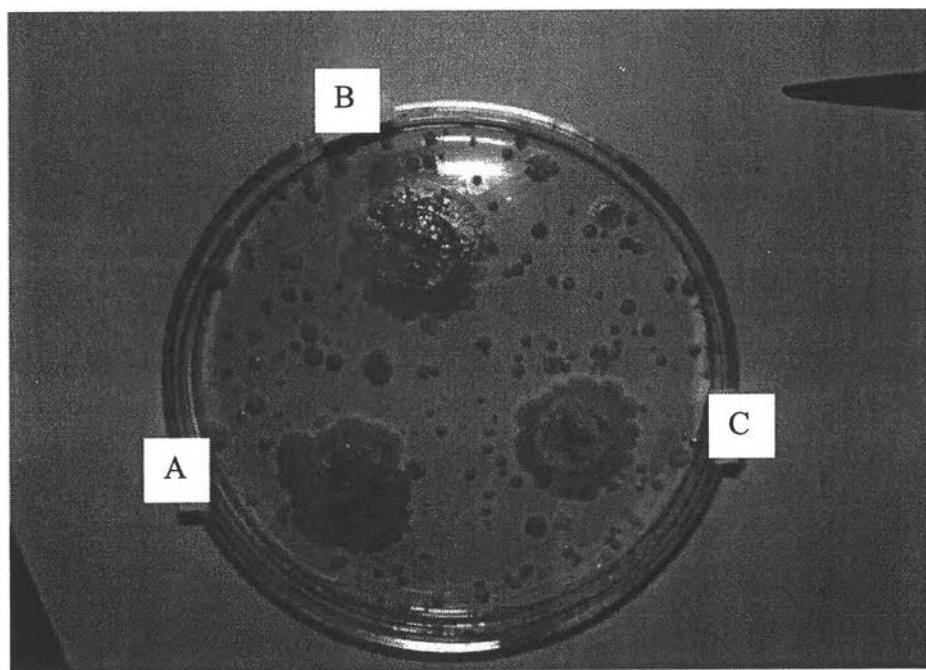


Figure B2 Antibacterial testing of sericin Jul: (A) 20%, (B) 15%, and (C) 10%.

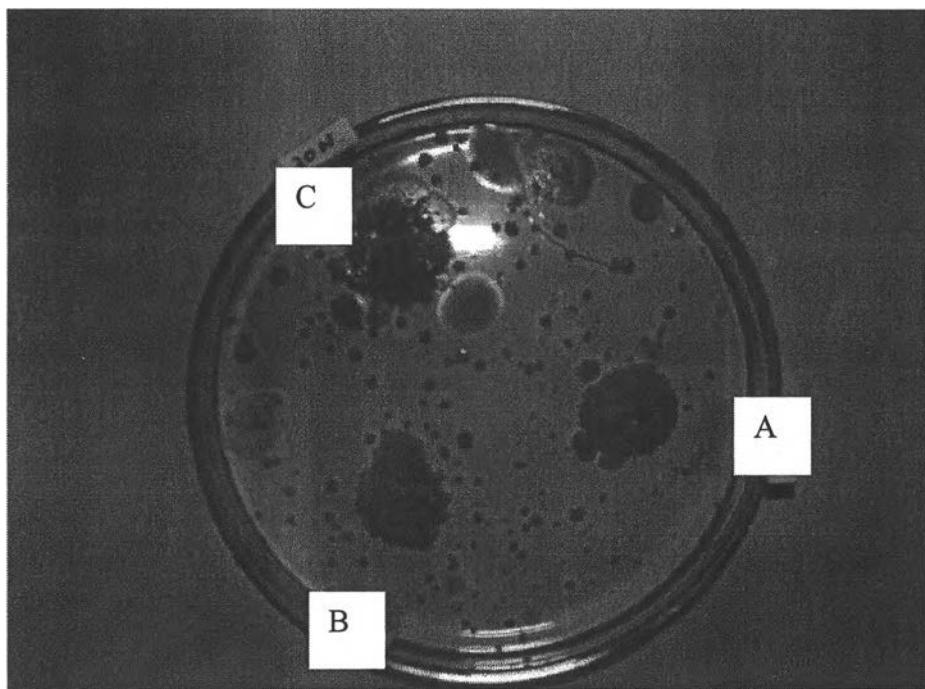


Figure B3 Antibacterial testing of sericin Nang Noi: (A) 20%, (B) 15% and (C) 10%.

APPENDIX C

Antifungus Testing of Sericin

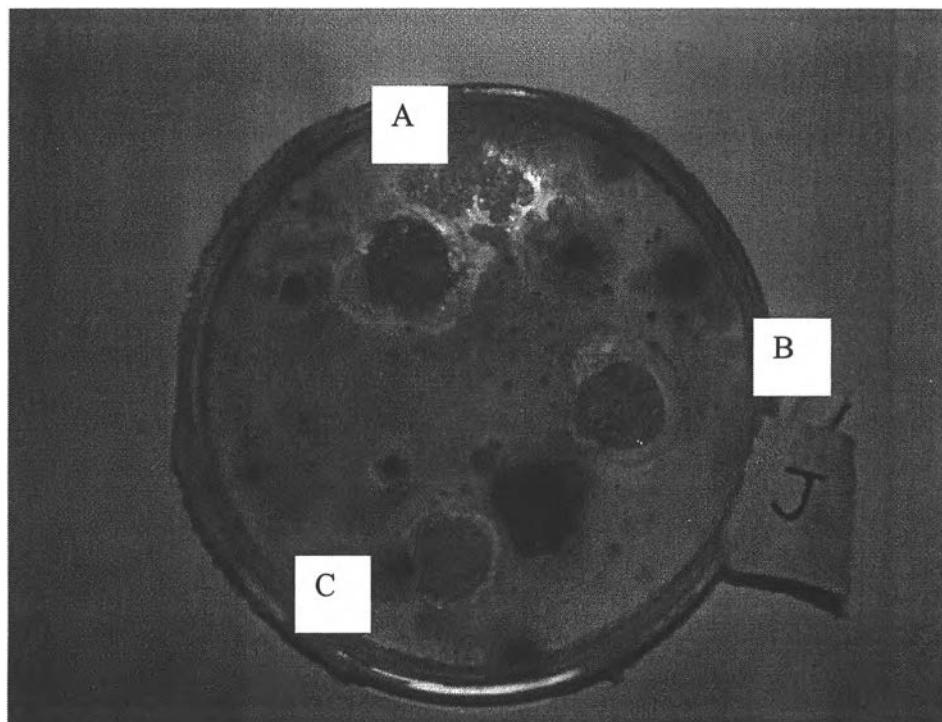


Figure C1 Antifungus testing of sericin Jul: (A) 20%, (B) 15%, and (C) 10%.

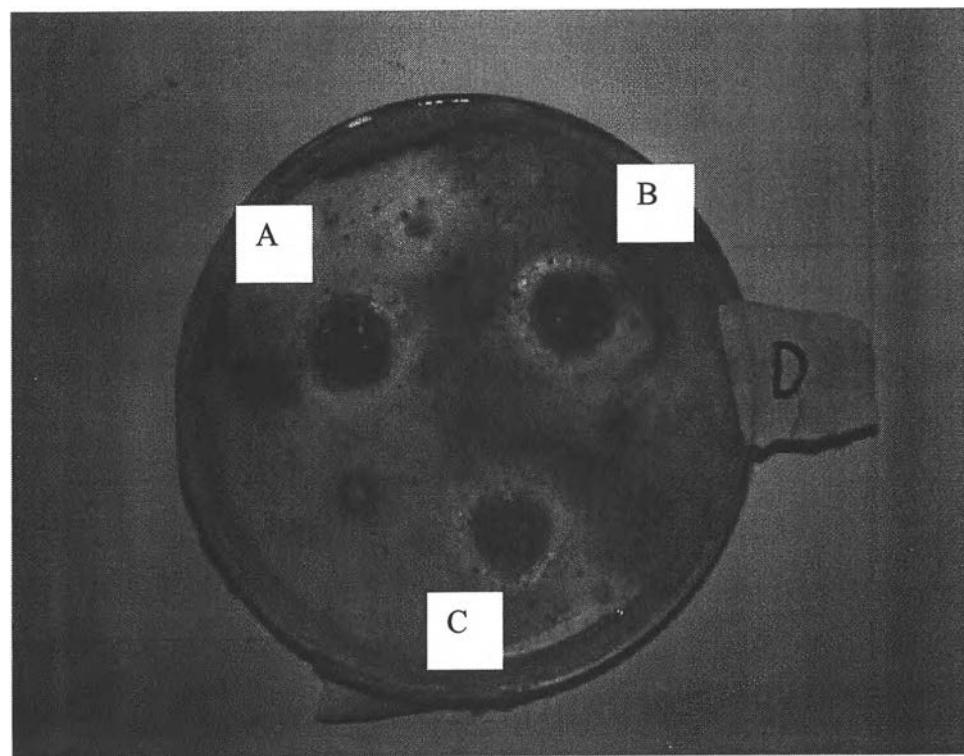


Figure C2 Antifungus testing of sericin Dok Bua: (A) 20%, (B) 15%, and (C) 10%.

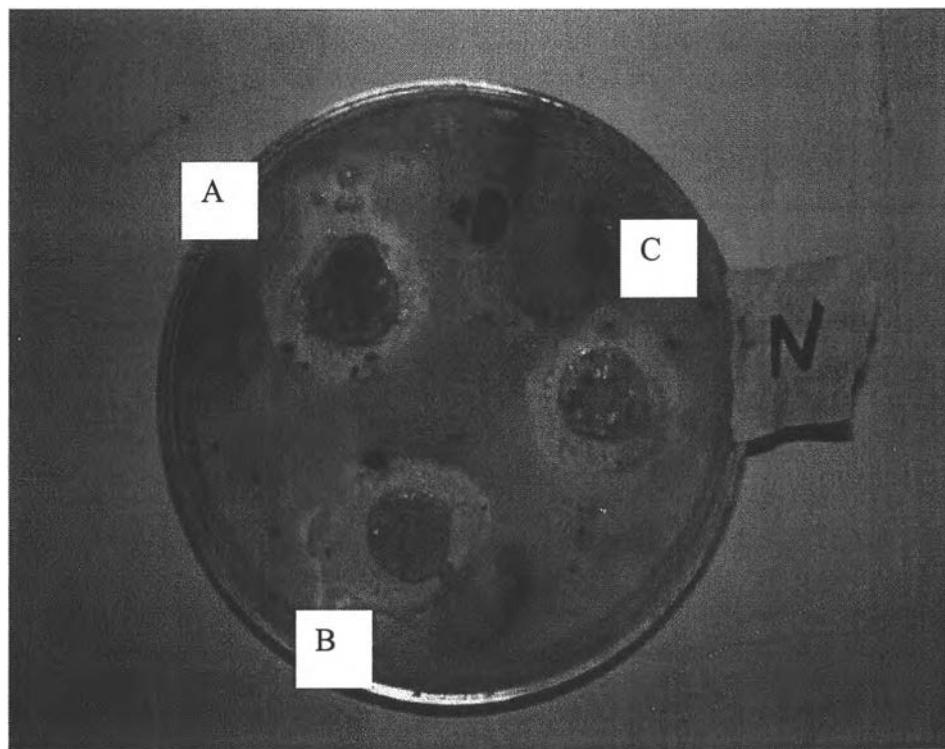


Figure C1 Antifungus testing of sericin Jul: (A) 20%, (B) 15%, and (C) 10%.

CURRICULUM VITAE

Name: Sara Sarovart

Date of Birth: 8 August 1979

Nationality: Thai

University Education:

1997-2000 Bachelor of Science Degree, Department of Chemistry,
Faculty of Science, Kasetsart University, Bangkok, Thailand.

