



# BIOLOGY CENTRE ASCR

## Institute of Entomology

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### **Supervisor's Assessment of Trang Thanh Vu's Bachelor's Thesis "Expression and purification of adhesive recombinant proteins, sericin 2 and salivary gland secretion 3".**

The bachelor thesis of Trang Thanh is a part of the project on research of bioadhesives and silk proteins of our laboratory. We took part in an European COST program on bioadhesives, which included the expression and comparison of several recombinant adhesive proteins in bacteria in order to get them in pure form and compare their properties. Thanh choose sericin 2 produced by salivary glands of silkworm caterpillars and salivary gland secretion 3 protein produced by last instar *Drosophila* larvae. Both proteins contain repetitive sequences and represent strong natural adhesives in their natural form.

Both recombinant proteins turned out to be quite difficult to get from *E. coli* bacterial expression system and Thanh spend most of her time by optimizing the conditions for the production of both adhesives in sufficient quantity. At the end, she was also able to verify the isolated protein sequences using mass spectroscopy, and used the obtained proteins for preliminary tests of their ability to coat hydrophobic surfaces and serve as supports for the growth of adhesive cells *in vitro*.

Trang Thanh was quite diligent and always came well-prepared to perform her experiments. She learned a variety of molecular biology techniques including bacterial transformation, plasmid isolation, gel electrophoresis, protein affinity purification, concentration measurements, western blotting etc. She proved the ability to work independently and showed a lot of patience during her work.

Thanh is a very nice, communicative, and honest person, frequently showing a sense of humor. Her work is the result of honest effort and helps us in our project. Her research represents a good quality bachelor thesis and I recommend it for defense.

Michal Žurovec