



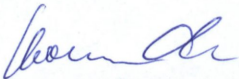
Supervisor's evaluation of PhD thesis "Biogenesis of Photosystem II in the Model Cyanobacterium *Synechocystis* sp. PCC 6803 – The Role of Selected Auxiliary Protein Factors and Subcellular Localisation" by Jana Knoppová

Photosystem II belongs to crucial photosynthetic membrane complexes of cyanobacteria and chloroplasts since it drives the light-induced photosynthetic electron transport chain using water as source of electrons. Presently we know a lot of details about its structure and function but there are still many open questions about biogenesis of this very complicated machinery. The presented PhD thesis of Jana Knoppová represents an important contribution to the knowledge about this process. The thesis is written in the form of a commented collection of four articles, three of them published in the period 2011-2015 and one is in revision in 2016. The included articles brought new, original data about the localization and function of protein assembly factors Psb27, YCF39 and CyanoP. All these factors were identified in specific assembly subcomplexes which are present in the cyanobacterial cells in quite low amounts and this emphasizes the unique character of the results. Moreover, very similar factors are also present in plants and therefore, the obtained results can to large extent be valid for plants. The article dealing with the localization of PSII assembly process clarifies the long standing controversy concerning the place where in cyanobacteria the D1 protein is synthesized and incorporated into PSII. Unlike previous unconvincing results, the new set of experiments in which Jana Knoppová participated, proved this place to be the thylakoid membrane and this was achieved using three independent approaches.

The thesis documents that Jana Knoppová is able to run sophisticated experiments and to evaluate the obtained results. She was working very carefully and independently with good experimental planning meaning that she did not run useless experiments and obtained results were of excellent quality, which is essential for their publishing in the high quality journals.

Concerning the formal aspects, Jana Knoppová proved that she is able to write reasonable scientific texts and has an excellent ability to avoid spelling errors and strictly follow formal rules of the texts. So, the thesis is written carefully in good English. Jana's scientific achievements clearly meet the criteria for the PhD degree as she is the first author of two papers and the co-author of other two, all published in journals with the total impact factor of above 25.

Třeboň, May 8th, 2016


Prof. Josef Komenda, DSc.