UNIVERZITA KARLOVA V PRAZE FARMACEUTICKÁ FAKULTA V HRADCI KRÁLOVÉ

Téma diplomové práce	**Antioxidant and antiradical activity of selected species of Division Bryophyta**
Jméno studenta, studentky	**Samar J. Nabbout**
Jméno oponenta	**Doc. RNDr. Lubomír Opletal, CSc.**

II. Posudek oponenta

The experimental diploma thesis of Samar Nabbout was worked up in two working compartments: in our Department of Pharmaceutical Botany and Ecology and in Division of Pharmaceutical Biology, Faculty of Pharmacy, University of Helsinki. The thesis involves 100 pages including 51 literature citations. It's attentively compiled, includes comparatively large quantity of experimental material and it's commonly structured. In the theoretical part the student is engaged in the introduction to the polyphenolic substances, mosses taxonomy, antioxidant and radical scavenging activity of the mosses and the analytical methods of polyphenols determination. The focal point of the thesis is formed by the experimental part, in which was used the approved methods for antioxidant activity determination, hydrolytic cleavage of polyphenols with the subsequent HPLC analysis. The detailed results of the antioxidant activity of the extracts and the analysis of free phenolic acids and the acids resulting from the hydrolysis (HPLC, GS/MS) of two species *Mnium marginatum* and *Leucobryum glaucum* (shortly were studied another 3 moss species) are documented in well-arranged tables and in addition by the graphic outputs from the instruments. The thiolysis gave the negative results, as it shows evidence of proanthocyanidins absence. The achieved results are summarized in short discussion, according to my opinion wholly sufficient, because the previous part – Results – is compiled very objectively and understandably. After this part follow Conclusion, Abstract and Literature cited.
The thesis is written by a well-arranged and instructive way, it shows evidence of interest and high assignment of student. There is a minimum of discrepancies (formula on p. 15 is not catechin), I didn't understand the division of terms proanthocyanidins and procyanidins (p. 15), there occur only small inaccuracies in writing of chemical names and the mistake, which is common for all students: disunity of literature cited data (even if it's written attentively).
Generally it can be summarized, that the thesis is on the high level, aside from the small inaccuracies there are no serious methodic and experimental inadequacies, and that's why I recommend it for acceptance and defense, because it meets all requirements, which are imposed on this type of graduation thesis. As a part of her work they was published two papers in former times, so I suggest to accept this thesis as a material for doctorate viva voce examination and after this examination conferment of degree PharmDr.
I kindly ask for answering:

1. What composition was the Pycnogenol, which was used as a second standard at thiolysis?
2. Are there any data about the quantitative content of phenolic acids in species of genus *Mnium* and *Leucobryum*?
3. Are they (were they) used any of mentioned species in traditional folk medicine and in which indications?
4. Are the mosses eminent for their secondary metabolites, in which consequence they could become interesting material for the future?

Navrhovaná klasifikace **excellent**

V Hradci Králové dne May, 21th, 2008

Podpis oponenta diplomové práce