UNIVERZITA KARLOVA V PRAZE FARMACEUTICKÁ FAKULTA V HRADCI KRÁLOVÉ

Téma diplomové práce	**Synthesis of Model Water-Soluble Azaphtalocyanine Fluorescence Quencher**
Jméno studenta, studentky	**Ljiljana Subara**
Jméno oponenta	**doc. RNDr. Veronika Opletalová, Ph.D.**

II. Posudek oponenta

Diploma thesis of Ljiljana Subara is a valuable contribution to the studies concerning azaphtalocyanines. The thesis has 49 pages with 27 references. Theoretical part is mainly based on the book Principles of Fluorescence Spectroscopy, and it is written concisely with minimum of mistakes. Some errors that should be mentioned and discussed occur in methodology and experimental part, e. g.

- dioxan should be written dioxane (p. 28, 31)
- better designation for alcoholates is alkoxides (p. 30)
- what is the correct name for *N*,*N*,*N´*,*N´*- tetraethyldiethelynetriamine (p. 31 and 38)
- bars (not apostrophies) should be used in chemical names
- 15 g of diaminomaleonitrile is not 89 mmol and 2.9 g is not 95% of the theoretical yield (p. 33); similarly on page 34, 22 g of the starting nitrile does not correspond to 173 mmol and 7.9 g of the product is not 30% of the theoretical yield; mistakes in calculations occur also on 36 and 38
- p. 35 – the pressure should be given in Pascals, not in bars
- p. 36 and 38 – the substituents in the name of the starting compound should be in an alphabetical order
- not only parentheses, but also square and curly brackets should be used in chemical names of the products **12** (p. 36), **13** (p. 38 and 40)
- concentration of HCl and NaOH solutions used for pH adjustments and washing reactions mixtures should be given (p. 35, 36, 38 and 40)
- the term *N-substituted pyrazinedicarbonitriles* is misleading since it can also mean pyrazinedicarbonitriles substituted on pyrazine nitrogens

In References:

- titles of the papers should be uniformly written (sometimes first letter of words are upper case, sometimes not)
- in ref. 9 the name of the author should be given with initials only
- in ref. 13 the title of the book should be written in Italics

I recommend the diploma thesis for defense and I have a few additional questions:

1. Could you explain what “dark quencher studies” means (p. 8)?
2. Did you synthesize 5-chloro-6-methyl-2,3-dicarbonitrile (**11**) by yourself or did you get it from another source?
3. How have you found the online information sources that are cited in your diploma thesis?

Navrhovaná klasifikace **excellent**

V Hradci Králové dne 1. 6. 2010

Podpis oponenta diplomové práce