

Critical review of the thesis of Daniel Gstottenmayr 'DNA separation by capillary electrophoresis: a literature overview'.

In his Bc. thesis Daniel describes the principles of DNA separation by capillary electrophoresis and the application of this method in molecular biology. It is a text that could potentially be useful as a study material for fellow Bc. students but there are some inaccuracies, wrong formulations and occasionally typos that need to be corrected in order to make the text more understandable and comprehensive.

- ☒ Chapter 2 about the central dogma in molecular biology and the structure of DNA could easily be omitted or compressed into one paragraph as it contains secondary school information known to all of the potential readers of his thesis and does not contain any link to later chapters about capillary electrophoresis.
- ☒ The legend to many of the pictures could be more complex and self-explanatory, not just a title itself (mainly fig. 3.2, 3.3, 3.1, 4.1).
- ☒ Introduction: '...polymorphisms occur in at least 1% of the population whereas DNA mutations occur in less than 1%....' A citation is missing for this source of information.
- ☒ Chapter 3.3, second paragraph: '... sieving media for DNA separations can consist of physical or mechanical gels as well as solutions of linear polymer...'. I am sure Daniel meant 'physical or CHEMICAL gels or solutions of linear polymers' as stated correctly later on page 15.
- ☒ Chapter 3.3, first paragraph: '...DNA or SDS-denatured proteins are separated according to their differencies in size...' As stated properly later in the chapter, it is the molecular mass rather than size.
- ☒ As figures 4.3 and 4.4 have the same name and deal with the same topic, they could be combined into A and B parts of the same figure.
- ☒ Minor point: To my opinion highlighting paragraphs by indents would make the text better structured.

Why did Daniel choose this topic for his thesis? Will he use this method in his research during the master studies? In any case, as his Bc. thesis consist only of a literature overview, it might have been a good idea to visit a lab where capillary electrophoresis is used and be involved in a short miniproject or at least to see on Daniel's own eyes how the machines operate. Did he thought about such an option?

I recommend this bachelor thesis for passing.

RNDr. Alena Krejci, Ph.D.

