

Mentor's assessment for bachelor endeavour of Konstantin Kaltenböck.

Konstantin started working in the lab a long time ago. I do not remember the exact day, but it was definitely earlier than many other undergrad students from the Biological Chemistry program. Konstantin came with a very specific motivation to learn and participate in some CRISPR/CAS genetic experiments. From the early start, Konstantin was extremely motivated, excited, and eager to learn new things, and was very ambitious. So, he quickly acquired some techniques and demanded more. The project he was working on would take, if done by one person, about one year and a few months, which is something quite impossible with the setup of the Biological Chemistry program's schedule. Thus, we tweaked the experiments, so Konstantin could experience all steps of the entire process in a bit shorter amount of time. Konstantin performed *in silico* analysis, we planned where to design the gRNAs and he cloned proper gRNA-expressing plasmid. However, instead of waiting for his transgenic fly, Konstantin immediately could use a different fly strain but with a different gRNA. So, it was not as exciting as experiencing asking what "his" gRNA would do, but technically we covered the entire process.

The fly work was supervised by Samarjeet Singh, a colleague in our lab. I think, it was beneficial to both of them. Samarjeet learned how to supervise someone and appreciated himself that plan changes at the last minute are not necessarily good. For example, you must prepare flies during one weekend to make sure they emerge on Tuesday 10 days later, when a meeting with a student and follow up experiments will happen. If Konstantin then realizes one day before he cannot make it, well, you can perhaps appreciate the change in plans, but you cannot convince those flies to wait two more days. Anyway, they managed somehow, and not only did Konstantin experienced gRNA editing in flies, but he could also see how that mutation impacted the behaviour of fly.

Writing. Writing is not easy. However, the main problem with Konstantin was somewhere else. When I say a problem, I mean a real one. Half a year of silence is way too much. Then, unrealistically late before the submission, a first page appeared. Obviously, the submission was postponed. Here was it again. Silence for months, repeated reminders from the mentor. In one of them, dated March 8th, I wrote:

"... From the first glimpse, however, I am very sure you have to speed up!!!! And I really am afraid that your pace and commitment to writing a thesis are insufficient at all.

2020- December 1st: you had 3.5 pages (1142 words)

2021- March 8th: you have 4.25 pages (1280 words), which corresponds to the addition of 1.4 word per day. You must be joking! "

So, instead of easy and convenient writing during the lockdown, we both experienced rather hectic time. And don't take me wrong; if I get a draft, I can usually squeeze in an hour into my agenda within the same day and send the feedback to the student. I believe it is especially good for the student, as he or she can immediately work on the same part when it is still fresh. But, it is a bit less convenient when you are finishing a grant proposal. Anyway, Konstantin finished his writing. Here, I must highlight that he writes very well, indeed. His English level is very good, better than the level of many PhD students. So, I had to correct mostly technical terms and similar mistakes, but the text itself was reasonably good. All credit to Konstantin.

Presentation. I must admit, I expected Konstantin would contact me with some presentation draft. We usually have a few rounds of mock presentation with the student in the lab before the defence. He did not. So, if the presentation is great, good for him. If not, well, it could easily be fixed, had he tried.

Altogether, I would say that Konstantin is a talented student, who needs to organize himself a bit better. And if he eradicates the procrastination, it will really be good. The bachelor thesis is in general reasonably good, so I am recommending it for defence.

June 14th České Budějovice

David Doležel, mentor

