Plasmid Lab
Report guidelines

Formatting
Font: Arial
Font size: 12
Paragraphs: Justified and spaced between lines: 1,15 (how to justify text: https://support.microsoft.com/en-us/office/align-or-justify-text-b9096ed4-7323-4ff3-921a-1ba7ba31faf1)
Max 3 pages including images; excluding cover page and references;
Important note: If longer than 3 pages, the corrector in charge can refuse to correct the report
Headings (main sections) bold with same font and size
Subheading italic bold
Cover must have the title of the laboratory, course code, group number and your names
Reports must have the following main sections (page numbers are only suggestive):
Page 1: Introduction

- Succinct background and aim of cloning techniques
- Examples for applications in diagnostic and treatment
- Description of the transformation process, including plasmids, competent cells, heat-shock and growth medium
- Introduction to blue-white screening
- Importance of antibiotic resistance markers in cloning techniques
- Brief overview of enzyme digestion, gel electrophoresis and the role of a DNA dye

Page 2: Materials and Methods - Describe experiments – copy/paste of lab protocol is **not** accepted, describe the methods including **key** steps and materials:

- Write in past tense
- Mention transformation and colony picking and the composition of the LB-agar plates and LB liquid medium
- Mention the steps for plasmid preparation and the buffers used including their main ingredients and purposes
- Describe the volumes used in the BamHI reaction mix and which samples it was applied to and not (the undigested controls)
- Conditions for the gel electrophoresis, mention the agarose percentage, loaded sample and size marker volumes, voltage, time of running and imaging

Page 2: Results - The group's gel photo **and** the expected gel picture provided. The photo should be labelled with the corresponding samples and the important bands in the size marker. Include a reference picture of the size marker

Page 3: Discussion

- Description of transformation results and how clear/unclear the colour of the bacterial colonies were
- Mention overnight culture growth and if all picked colonies grew in the liquid LB with ampicillin
- Discuss possible sources of error and mention any deviations to the original protocol, by mistake or intentionally, that might have occurred and affected the transformation and overnight culture results
- Debate whether the plasmid DNA isolation and the following restriction enzyme digestion were successful and what part of your results prove that
- Compare the bands in each sample from the gel result, with the expected one, mention approximate band sizes and difference in plasmid conformation and how that affects the DNA migration
- Finally, write a general conclusion to your experiment: are the results conclusive or not? Should the experiment be repeated? If so, what needs to be done differently?

References – Literature provided throughout the course, scientific books, and peer reviewed articles. Wikipedia and general internet web pages will not be counted as references.