Gel Electrophoresis

Guide for visualizing PCR products, and for preparations to gel extractions and DNA purification.

Gel Electrophoresis

PCR products are first run on agarose gels using gel electrophoresis where after they the DNA is extracted using DNA gel extraction.

Creating the gel

- Use 1.0 % agarose from common stock to pour gels. If unavailable or another percentage is desired use 1.0 g Agarose per 100 mL 1x TAE for 1.0 %. Mix and heat in microwave till all agarose powder is dissolved.
- Pour liquid gel into mold and wait ~15 min for it to solidify, longer if using a lower agarose concentration.

Running the gel

- Use a DNA ladder in first lane (max. 5 µL).
- Mix 6x loading dye in 1:5 ratio with each sample (e.g. 5 µL sample with 1 µL 6x loading dye) and insert in well.
- For ~1.5 kb PCR product 20 min at 100 V is sufficient. Lower voltage = slower run time. Larger PCR product: higher run time for better separation.

Visualizing the gel

- The gel can be visualized in the UV machine next to the door.
- Unless you are making a gel extraction, make sure to remove it from the tray, as the tray lowers the quality of the picture.
- Save the picture, print and glue it into the lab book.