Agarose gel electrophoresis

Agarose gel electrophoresis is a technique to separate nucleic acid fragments of different lengths and was performed as a quality control of used DNA or RNA fragments.

1. Measure the appropriate amount of agarose powder for the desired agarose concentration (commonly used concentrations are 0.5 % - 2% (w/v))
2. Mix agarose powder with 1xTAE in a microwavable flask.
3. Microwave for 1-3 minutes until the agarose is completely dissolved.
4. Let agarose solution cool down to about 50 °C (about when you can comfortably keep your hand on the flask).
5. Add GelRed (1000x) to a final concentration of 1x.
6. Pour the agarose into a gel tray with the well comb in place. Wait until the gel is fully polymerized.
7. Add loading buffer to each of your DNA samples.
8. Once solidified, place the agarose gel into the gel box (electrophoresis unit). Fill gel box with 1xTAE until the gel is covered.
9. Load a molecular weight ladder and your samples into the wells of the gel.
10. Run the gel 90 V for 45 minutes (until the dye line is approximately 75-80% of the way down the gel).
11. Visualize your DNA fragments with UV light.