Making electrocompetent cells:
1. Inoculate 500 ml LB medium with 2.5 ml of a fresh overnight culture of *E. coli* DH10B. Grow at 37 °C with shaking to an O.D. of 0.5 to 0.6.
2. Chill cells on ice for 15 minutes and transfer to a prechilled centrifuge bottle. Harvest by centrifugation (20 minutes, 5,000 x g, 2-4 °C). Resuspend pellet in 5 ml ice-cold water. Keep the cells cold during the entire procedure.
3. Wash twice with the original culture volume of ice-cold water. Centrifuge as above. Resuspend pellet by swirling in remaining liquid.
4a) If using the cells immediately, place suspension in a prechilled tube and centrifuge (10 minutes, 5,000 x g, 2-4 °C). Resuspend the cells in ice-cold water to a final concentration of approximately 2 x 10^11 cells/ml. Aliquote 40-300 µl cells into prechilled centrifuge tubes.
4b) If freezing the cells for later use, add 40 ml of ice-cold 10% glycerol, mix and centrifuge for 10 minutes, at 5,000 x g and 2-4 °C. Resuspend the cells in ice-cold 10% glycerol to a final concentration of approximately, 2 x 10^11 cells/ml. Aliquot 40-300 µl cells into prechilled centrifuge tubes. quick freeze on dry ice and store at –80 °C.

Electroporation of cells:
1. Add 1 µl DNA (10 pg in water) to tubes containing 40 µl electrocompetent cells. Homogenize by gently mixing with pipette several times.
2. Transfer mixture to a prechilled cuvette. Wipe moisture from the cuvette and insert the cuvette into the device.
3. Electroporation:
   - Mode: Prokaryotes "O"
   - Voltage (V): 1,660 V
   - Time constant (τ): 5 ms
4. Immediately add 1 ml SOC medium and transfer to a sterile culture tube with a pasteur pipette. Incubate 30-60 minutes with moderate shaking at 37 °C.
5. Plate on LB plates containing the appropriate selection chemical.

Expected results:
Transformation efficiency up to 4 x 10^9 transformants/µg of DNA.