APh 162 Molecular Biology I

1. Discuss the results of your digestion gel.
   1. What size fragments do you expect from your digestion for the backbone plasmid?
   2. Include a picture of the gel labeled with the approximate size of each band, estimated using the ladders.
   3. Are you missing any bands? Where might they be?
   4. If your gel does not match your expected results, discuss why not.
2. Based on your gel, find the migration distance as a function of size.
3. The λ-phage genome is 48,502bp.
   1. If the sequence was totally random, how many HindIII (5A’AGCTT3) and EcoRI (5G’AATTC3) sites would you expect? How many are there in reality?
   2. Given the actual restriction sites for EcoRI and HindIII, calculate the expected segment lengths of the DNA ladder.
   3. See the restriction site map on the class website for the λ-phage genome.