* 1. Characterize the difference in the initial communities of NOD-/- and NOD+/+ mice using data from littermates and co-housed mice
  2. Characterize the NOD-/- animals after going through the AOM/DSS model using microbiome data, tumor counts, and host factors
  3. Characterize the difference between how NOD-/- and NOD+/+ mice respond to the AOM/DSS model
  4. Characterize the effects of antibiotic perturbations on the NOD-/- animals’ response to the AOM/DSS model using tumor count and microbiome data.