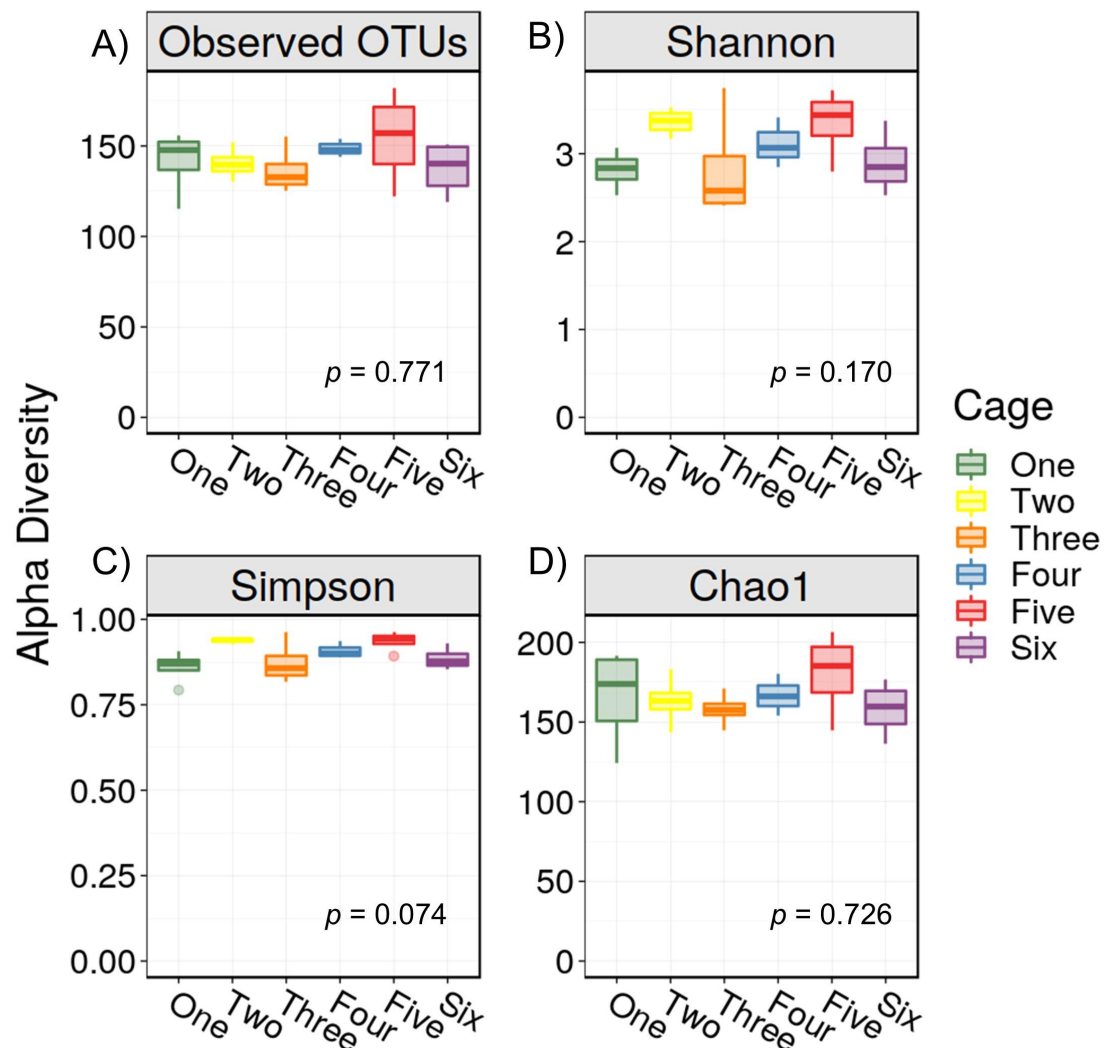


## Supplementary materials



**Figure S1.  $\alpha$ -diversity of the gut microbiota in groups of four mice per cage.** A) OTUs, B) Shannon index, C) Simpson index, and D) Chao1 index. There was no significant difference in the OTUs ( $p = 0.771$ , Mann-Whitney), Shannon Index ( $p = 0.170$ , Mann-Whitney), Simpson Index ( $p = 0.074$ , Mann-Whitney), and Chao1 ( $p = 0.726$ , Mann-Whitney) between grouped mice in different cages and/or between the HDM sensitization group (cages 4–6) and the PBS control group (cage 1, 2, 3), suggesting that the number of species, richness, and distribution were not different between groups and between different cages. The data is presented as mean  $\pm$  standard error. OTUs: operational taxonomic units; HDM: house dust mite; PBS: phosphate-buffered saline