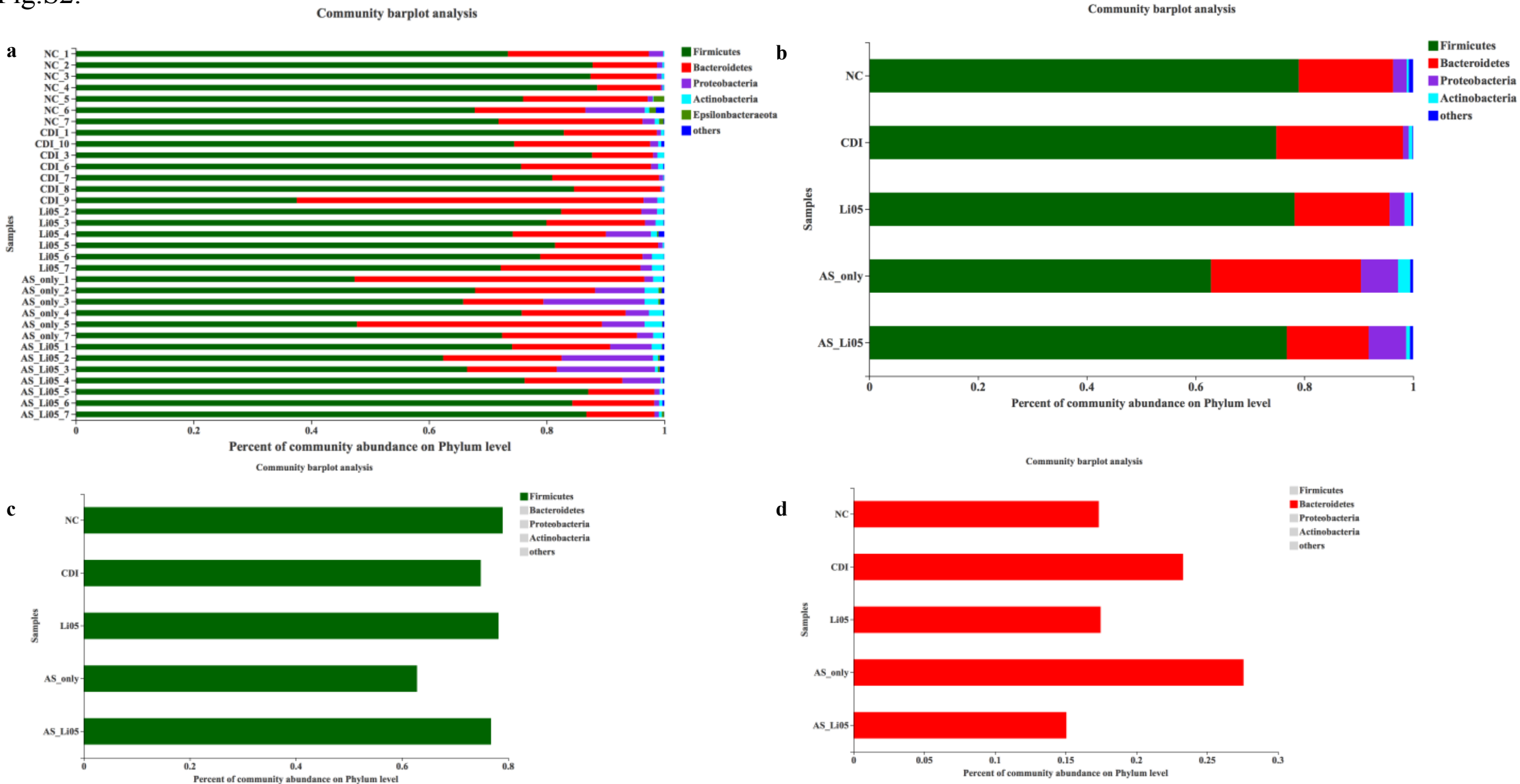


Fig. S1. Diameters of microgels. a. Diameters of wet microgels by optical microscope. b. Diameters of dry microgels by SEM.

Fig.S2.



**Fig. S2. Relative taxa abundance on phylum level. Different color indicated different phylum. a. Community barplot analysis of all samples. b. Mean values of five groups. c. Percentage of *Firmicutes* in five groups. d. Percentage of *Bacteroidetes* in five groups.**

Fig.S3.

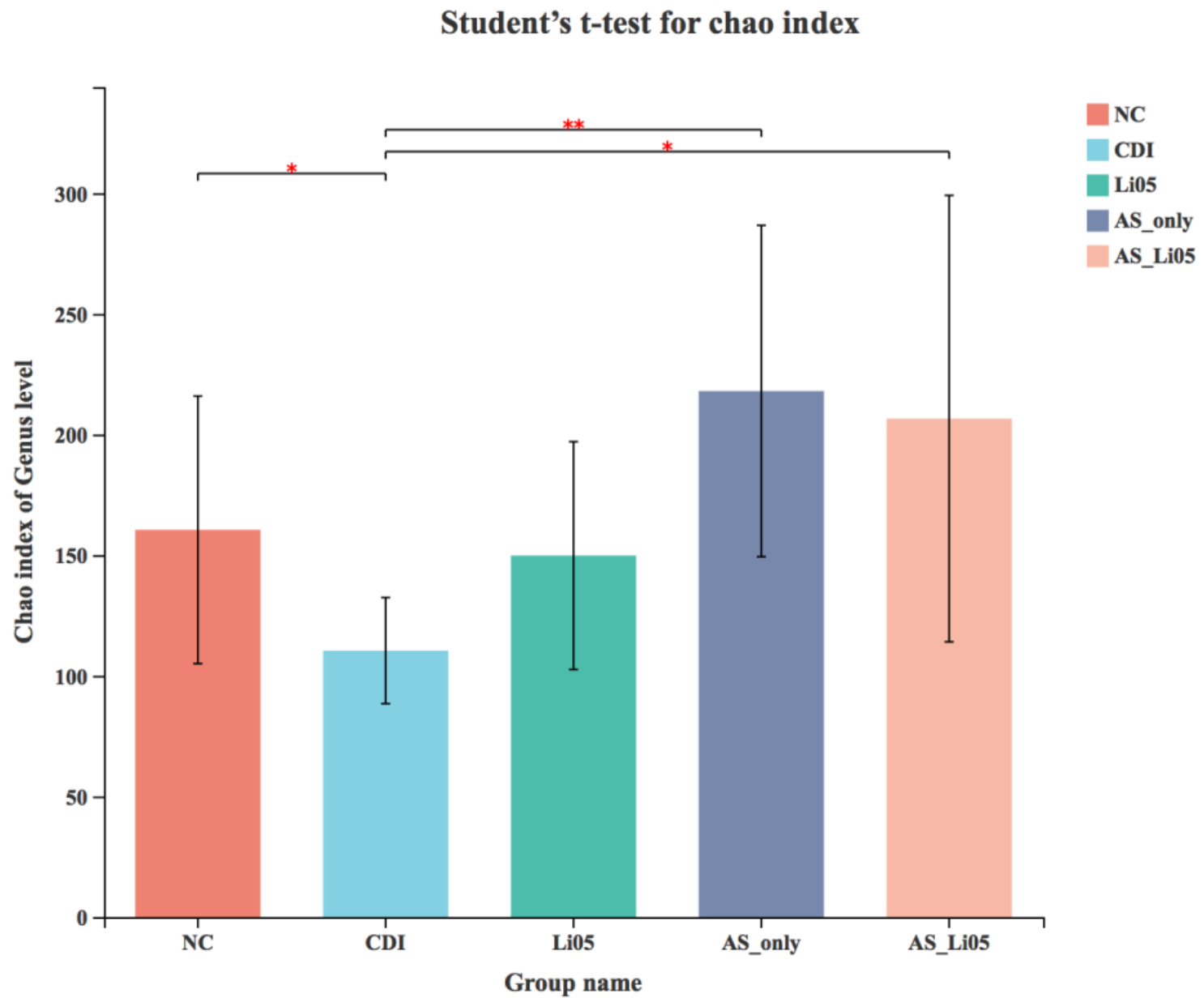


Fig. S3. Mean chao index of genus level. \* $p < 0.05$ , \*\* $p < 0.01$ .