



**Supplementary Figure 1 – Microbial biomarkers discovery in persistently HPV positive women with normal cytology (B3) vs CIN3 diagnosed women (C2) by LEfSe analysis. (A)** Histogram of the LDA scores computed for features differentially abundant in each subgroup (C2 vs B3). Relative abundance counts of *Sneathia amnii* (B) which was found to be significantly overexpressed in C2, whereas *Lactobacillus helveticus* (C), *Lactobacillus suntoryeus* (D) and *Lactobacillus vaginalis* (E) were enriched in B3 (Welch's t-test). The threshold for the logarithmic LDA score was 2.0. Abbreviations: B3: subgroup of B, including persistently hr-HPV positive (over 6 years) women with normal cytology results; C2: subgroup of C, including CIN3 diagnosed women; LDA score: Linear discriminant analysis score. LEfSe: Linear discriminant analysis effect size.