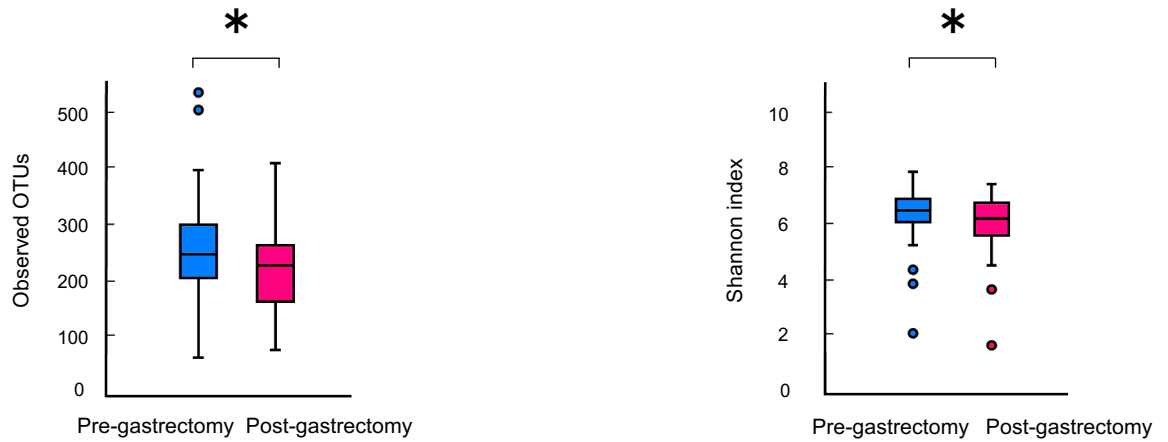


## **Supplementary Information**

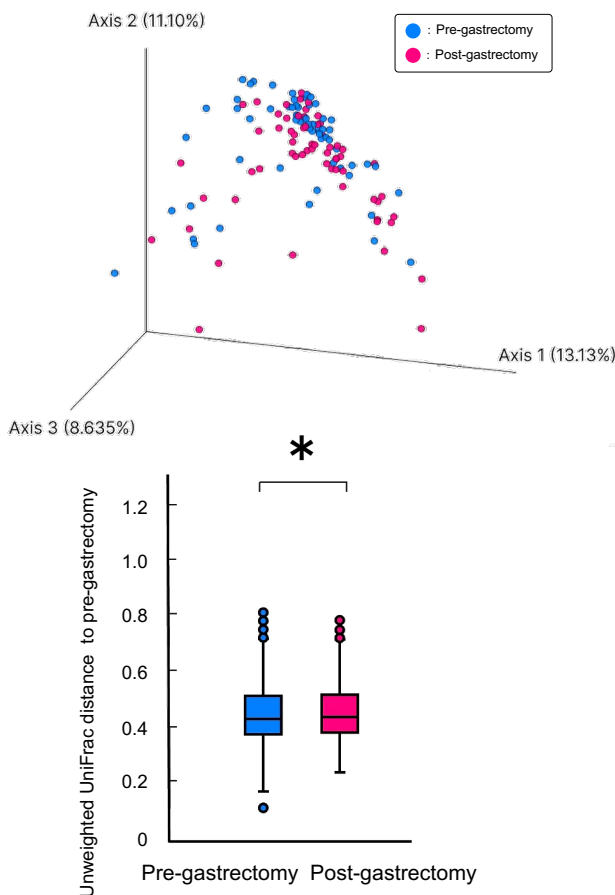
### **Changes in salivary microbiota due to gastric cancer resection and its relation to gastric fluid microbiota**

Eri Komori, Nahoko Kato-Kogoe, Yoshiro Imai, Shoichi Sakaguchi, Kohei Taniguchi, Michi Omori, Mayu Ohmichi, Shota Nakamura, Takashi Nakano, Sang-Woong Lee, and Takaaki Ueno

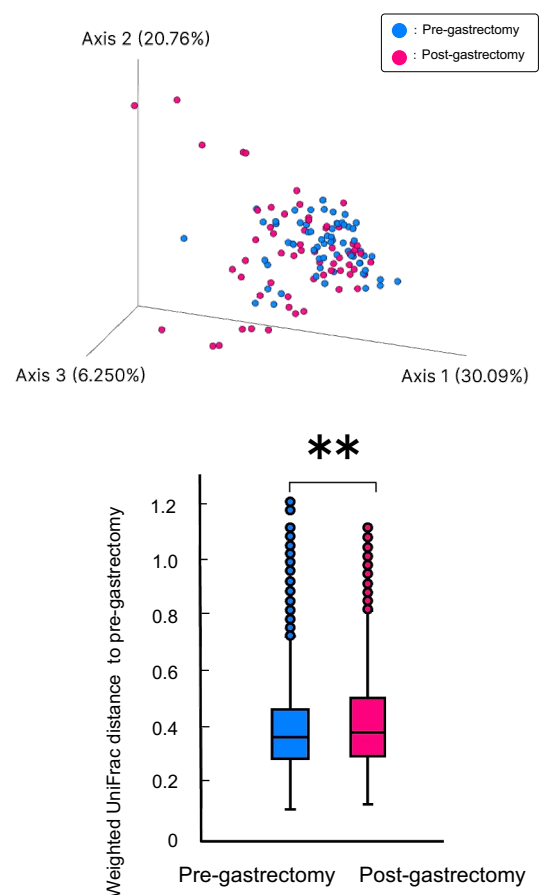
## a Alpha-diversity



## b Unweighted UniFrac distance



## c Weighted UniFrac distance



**Fig. S1. Alpha and beta diversity of gastric microbiota at the time of pre- and post-gastrectomy.**

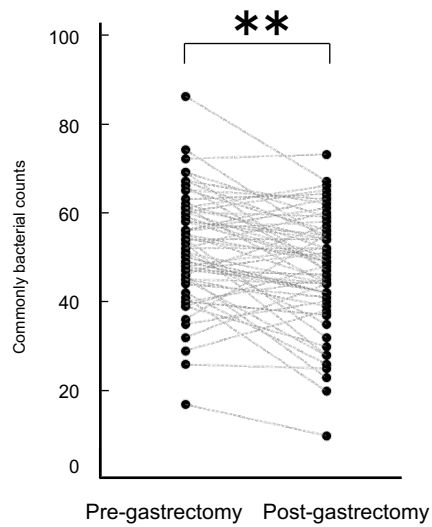
(a) Alpha diversity, observed operational taxonomic unit (OTU) index, and Shannon index of 63 patients at the time point of post-gastrectomy (pink) compared to pre-gastrectomy (light blue). \*,  $p < 0.05$ . Comparisons between groups were performed using Kruskal -Wallis test.

(b) Beta diversity; Unweighted UniFrac distances.

(c) Beta diversity; Weighted UniFrac distances.

Principal coordinate analysis (PCoA) plots of samples from 63 patients at the time points pre-gastrectomy (light blue) and post-gastrectomy (pink). Box plots represent UniFrac distances at the time points post-gastrectomy (pink columns) and pre-gastrectomy (light blue columns).

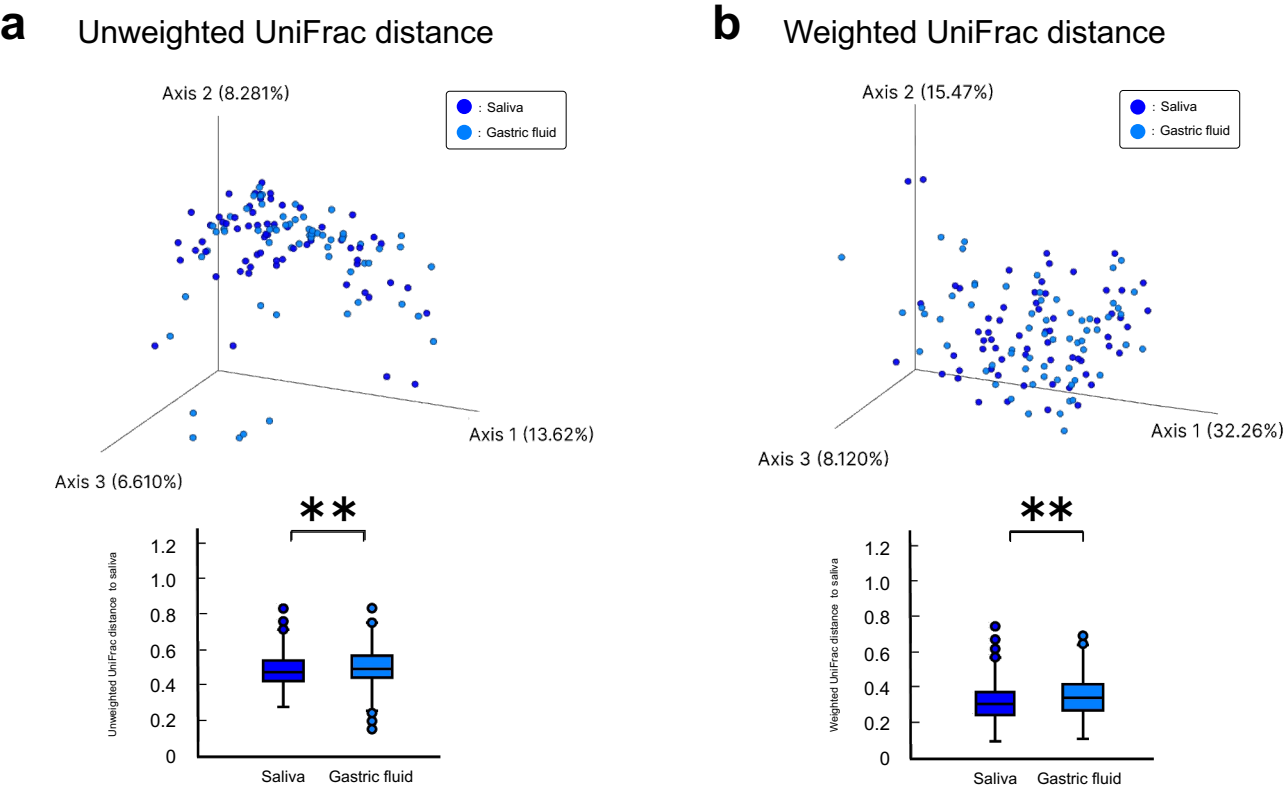
\*,  $p < 0.05$ . \*\*,  $p < 0.01$ . Comparisons between groups were performed using PERMANOVA, 999 permutations.



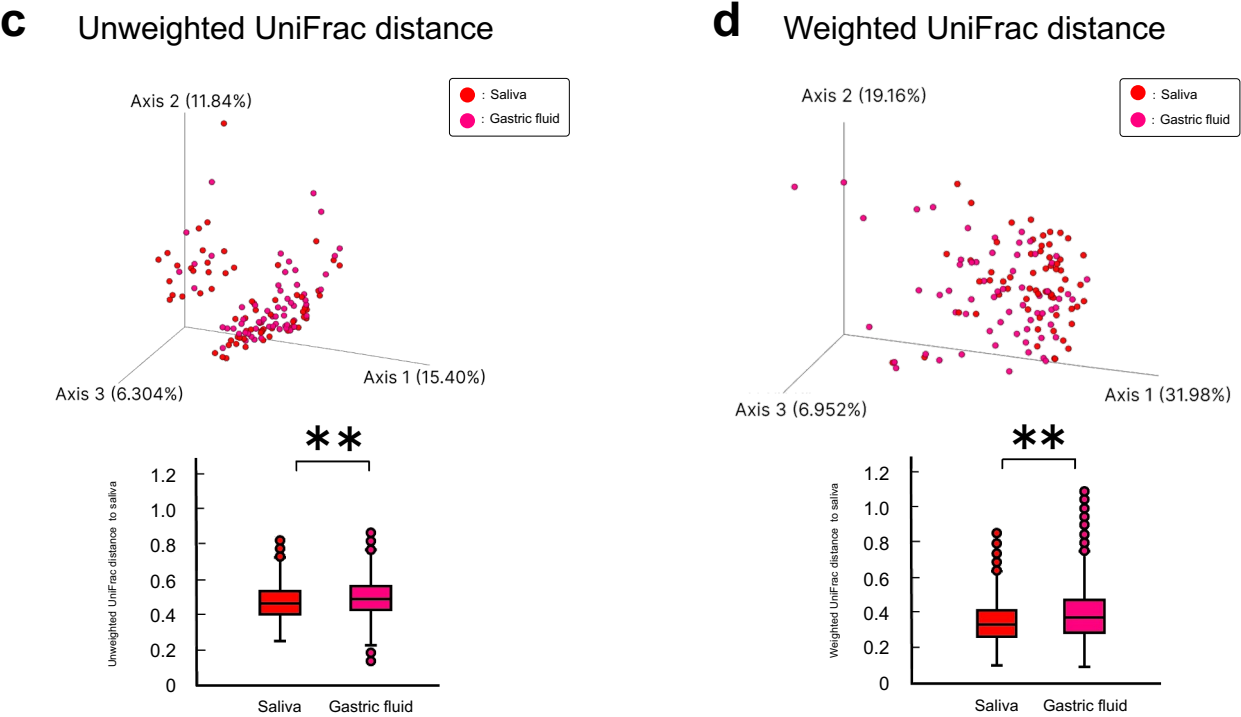
**Fig. S2. Change of the number of bacterial species commonly present in the saliva and the gastric fluid.**

The number of bacterial species commonly present in the saliva and the gastric fluid at the time of pre- and post-gastrectomy in the same individual are shown. \*\*,  $p < 0.01$ . Comparisons between the pre- and post-gastrectomy groups were performed using Wilcoxon signed-rank sum test.

Pre-gastrectomy

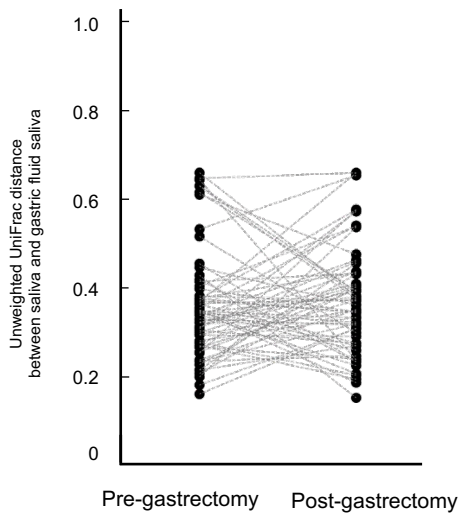


Post-gastrectomy

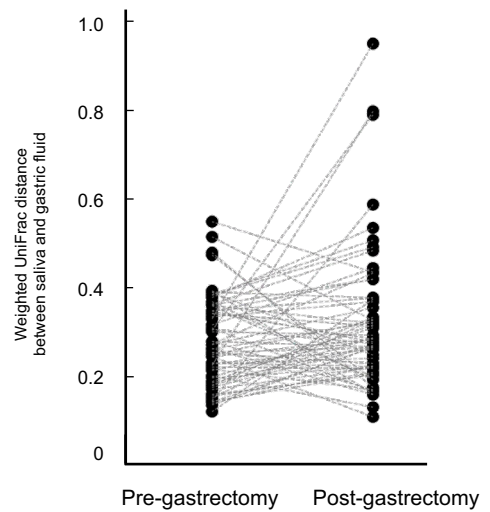


**Fig. S3. Beta diversity of saliva and gastric fluid microbiota.** Unweighted UniFrac distances and Weighted UniFrac distances of saliva and gastric fluid at the time point of pre-gastrectomy (**a** and **b**) and post-gastrectomy (**c** and **d**) are shown. Principal coordinate analysis (PCoA) plots of samples from 63 patients at the time point of pre-gastrectomy (saliva; blue, and gastric fluid; light blue) and post-gastrectomy (saliva; red, and gastric fluid; pink). Box plots represent UniFrac distances saliva from gastric fluid. \*\*,  $p < 0.01$ . Comparisons between groups were performed using PERMANOVA, 999 permutations.

**a** Unweighted UniFrac distance



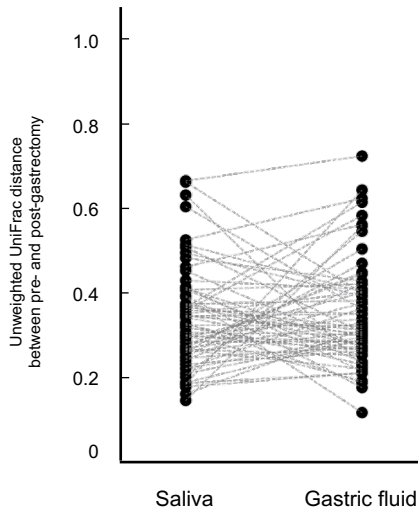
**b** Weighted UniFrac distance



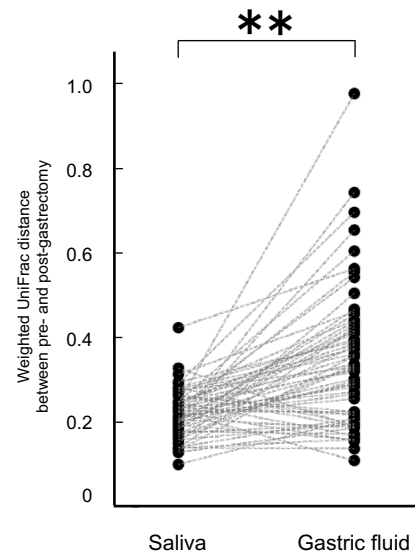
**Fig. S4. The differences between saliva and gastric fluid microbiota at the time of pre- and post-gastrectomy.**

Unweighted UniFrac distances (**a**) and Weighted UniFrac distances (**b**) between saliva and gastric fluid in the same individual are shown. Comparisons between the pre- and post-gastrectomy groups were performed using Wilcoxon signed-rank sum test and no significant difference.

**a** Unweighted UniFrac distance

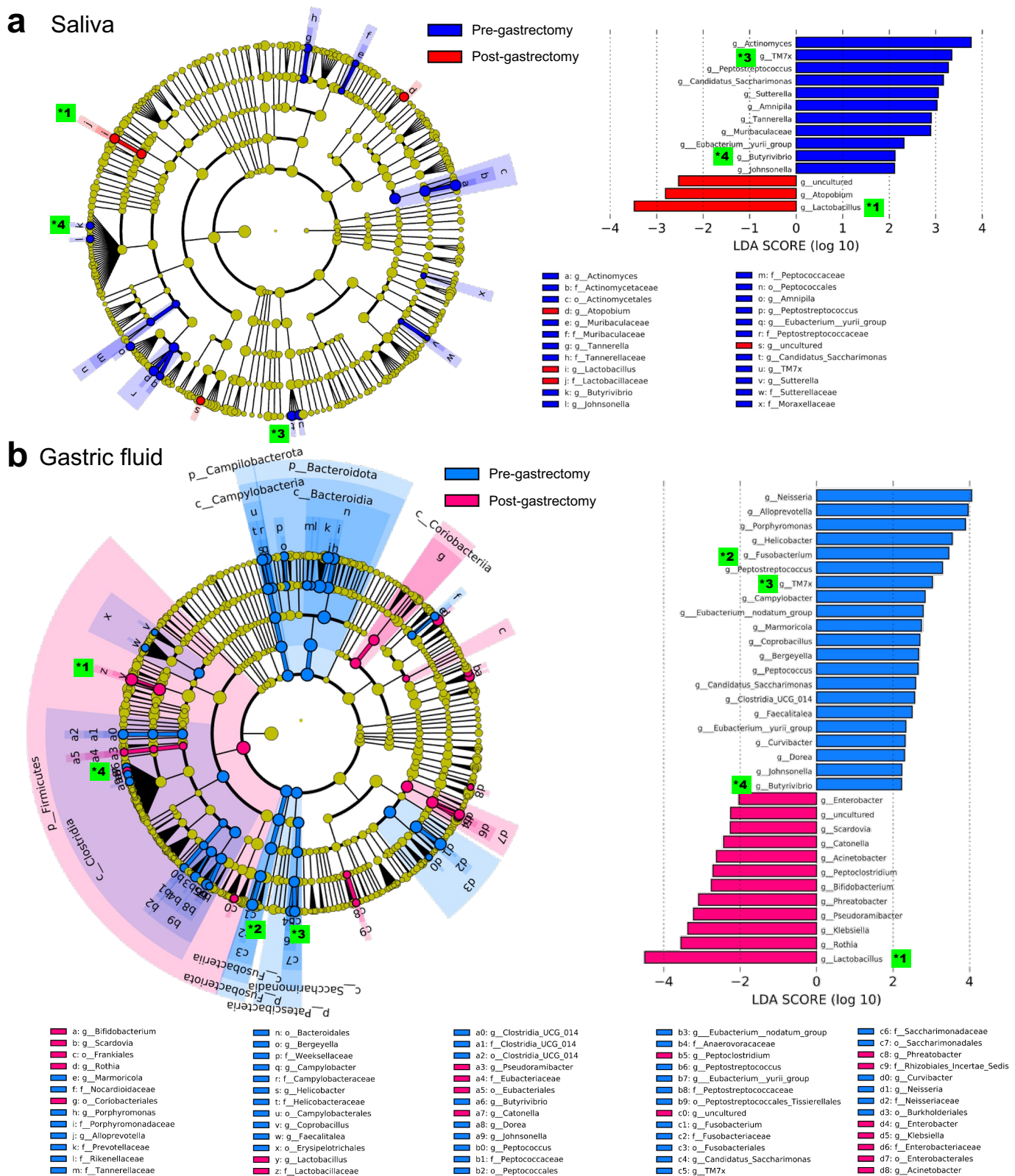


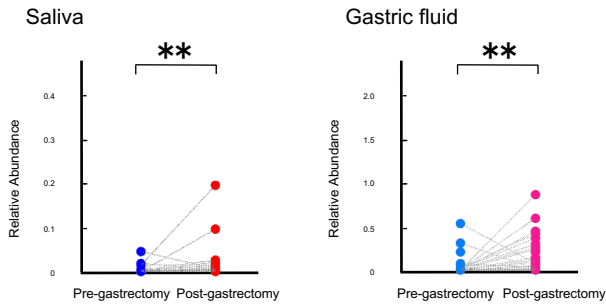
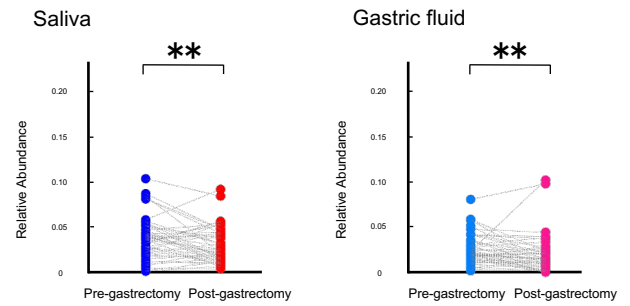
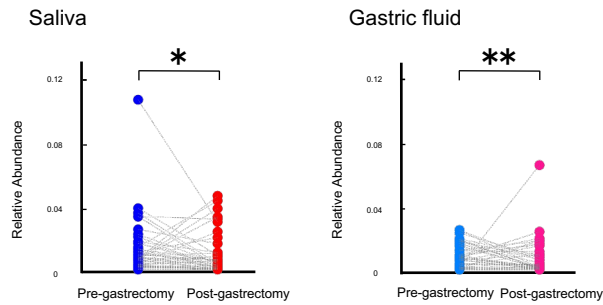
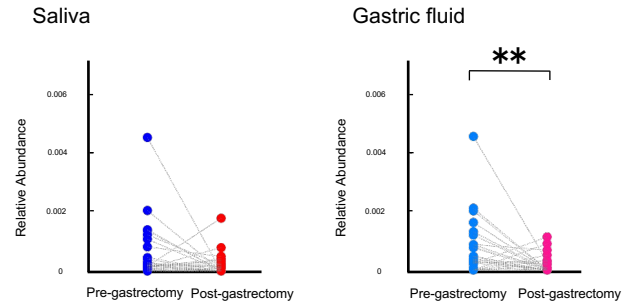
**b** Weighted UniFrac distance



**Fig. S5. The change in microbial structure pre- and post-gastrectomy.**

Unweighted UniFrac distances (a) and Weighted UniFrac distances (b) between pre- and post-gastrectomy in the same individual are shown. \*\*,  $p < 0.01$ . Comparisons between the saliva and gastric fluid groups were performed using Wilcoxon signed-rank sum test.



**a****\*1** *g\_Lactobacillus***b****\*2** *g\_Fusobacterium***c****\*3** *g\_TMx***d****\*4** *g\_Butyrvibrio*

**Fig. S7. Changes in the relative abundance of salivary and gastric bacteria with the exclusion of 13 current smokers from the results in Figure 4.**

Relative abundance of salivary and gastric bacteria at the time points pre- and post-gastrectomy in pairs of the same individual. (a) *Lactobacillus*, (b) *Fusobacterium*, (c) *TM7x*, and (d) *Butyrivibrio*.

\*\*,  $p < 0.01$ ; \*,  $p < 0.05$ . Comparisons between the groups were performed using the Wilcoxon signed-rank sum test.