# Supplementary Data set

Title: SGLT-1-specific inhibition ameliorates renal failure and alters the gut microbial community in mice with adenine-induced renal failure

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Supplementary Figure 1
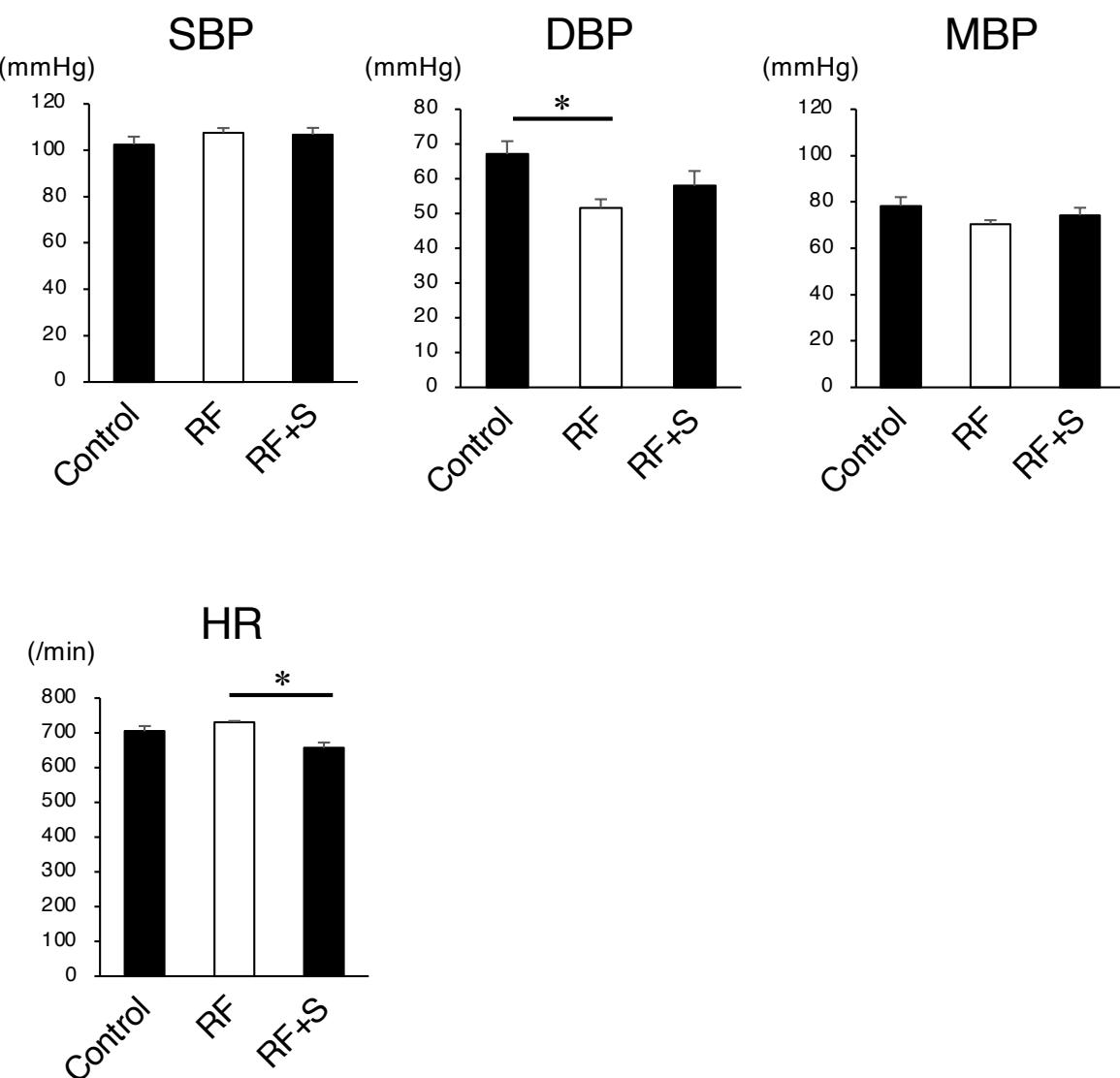
Blood pressure and heart rate were measured by MK-2000ST (Muromachi, Japan).
Control (n=6), RF: renal failure (n=6), RF + S: renal failure with SGL5213 treatment (n=6)
SBP: systolic blood pressure, DBP: diastolic blood pressure, MBP: mean blood pressure
HR: heart rate.

Data were shown by mean ± SEM.
*p<0.05, Ordinary one-way ANOVA followed by Dunnett's multiple comparison test vs RF.

Supplementary Figure 2
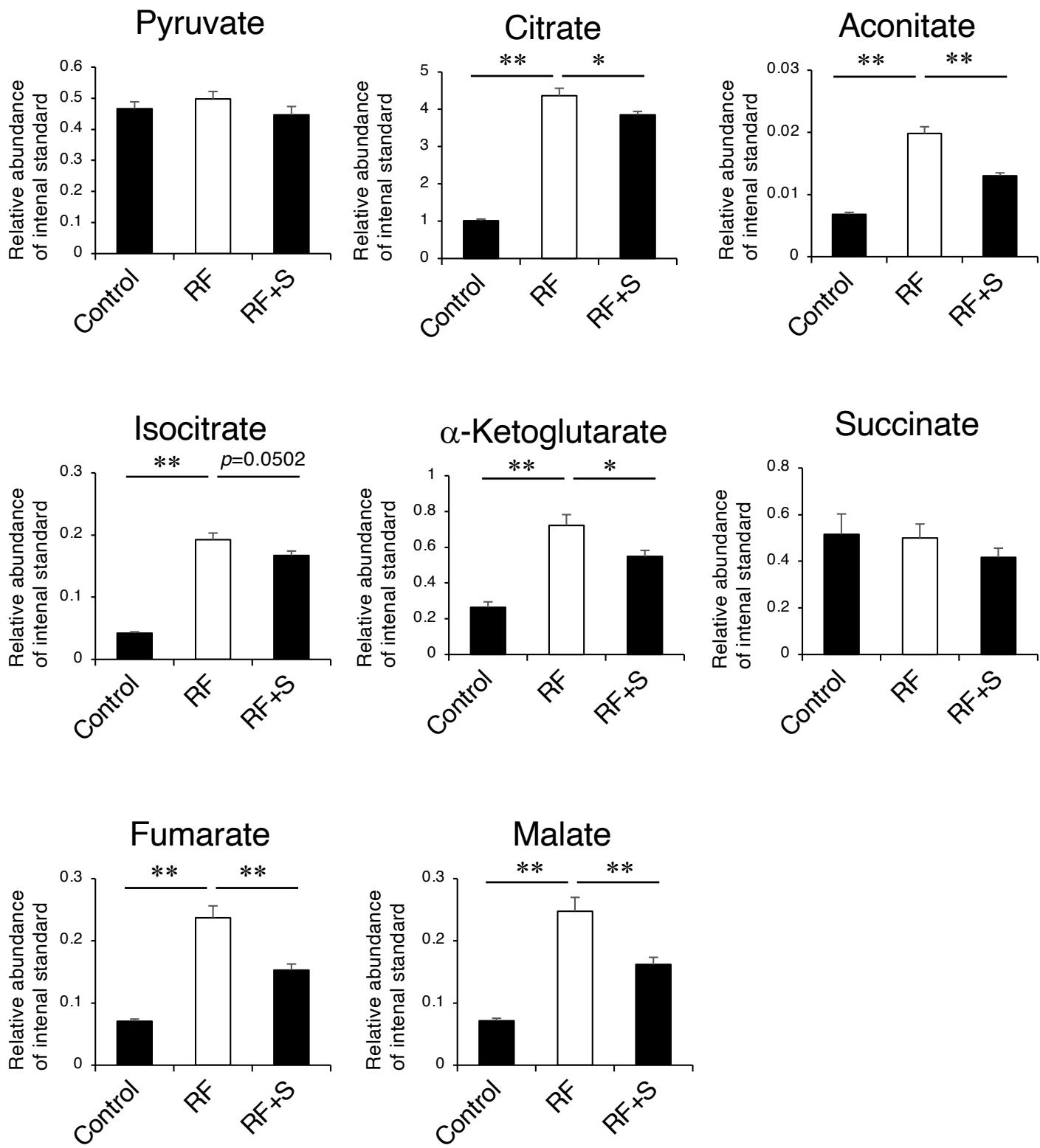
Internal standard: 2-Isopropylmalic acid-3TMS
Mean $\pm$ SEM. *p<0.05, **p<0.01 Ordinary one-way ANOVA followed by Dunnett's multiple comparison test vs RF.

Supplementary Figure 3

phylum

Firmicutes, Bacteroidetes, Verrucomicrobia, Actinobacteria, Cyanobacteria, Tenericutes, Other, Proteobacteria, F/B bar graphs comparing Nor+dH2O, RF+dH2O, and RF+SGLT1i groups.
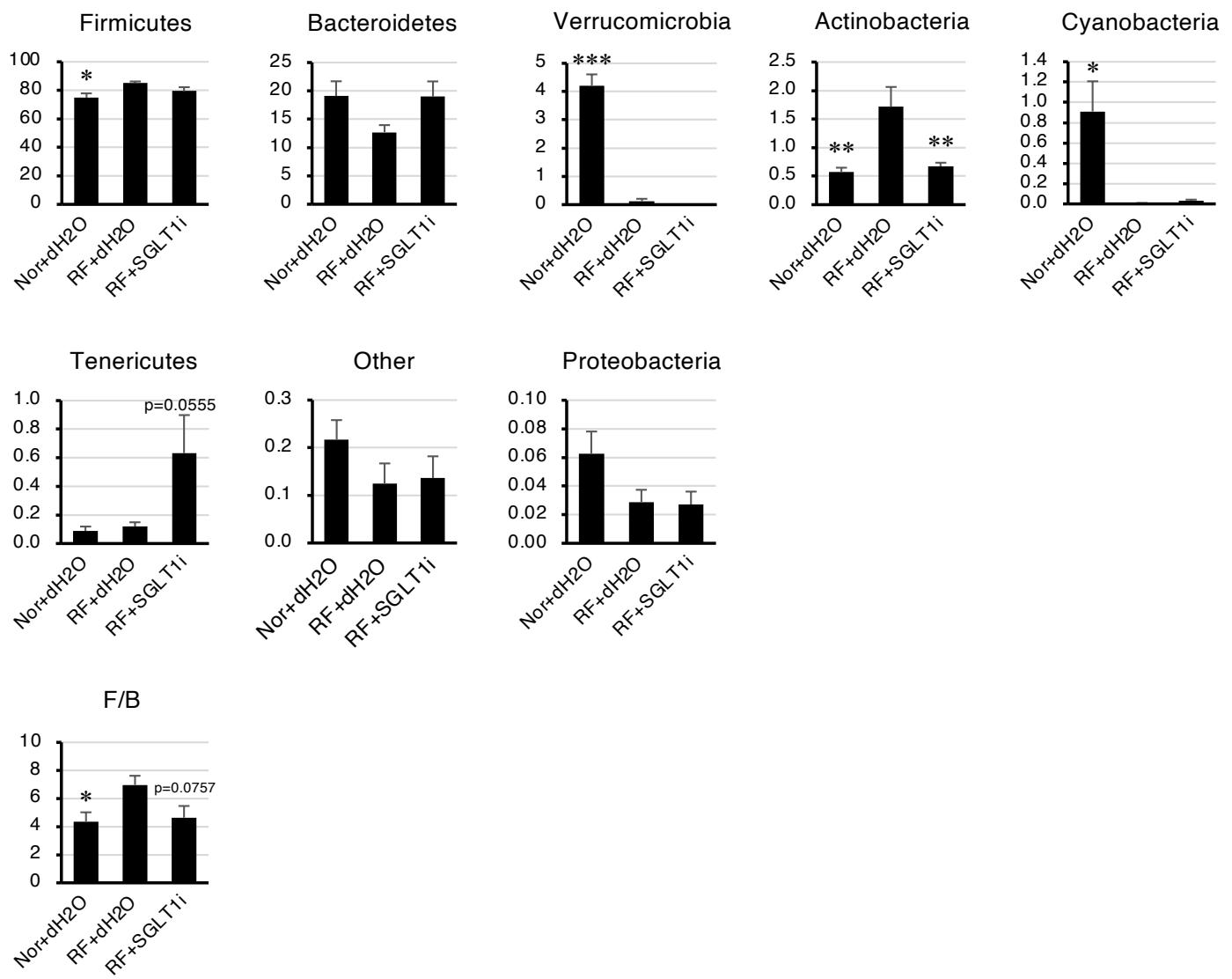
Supplementary Figure 4

class
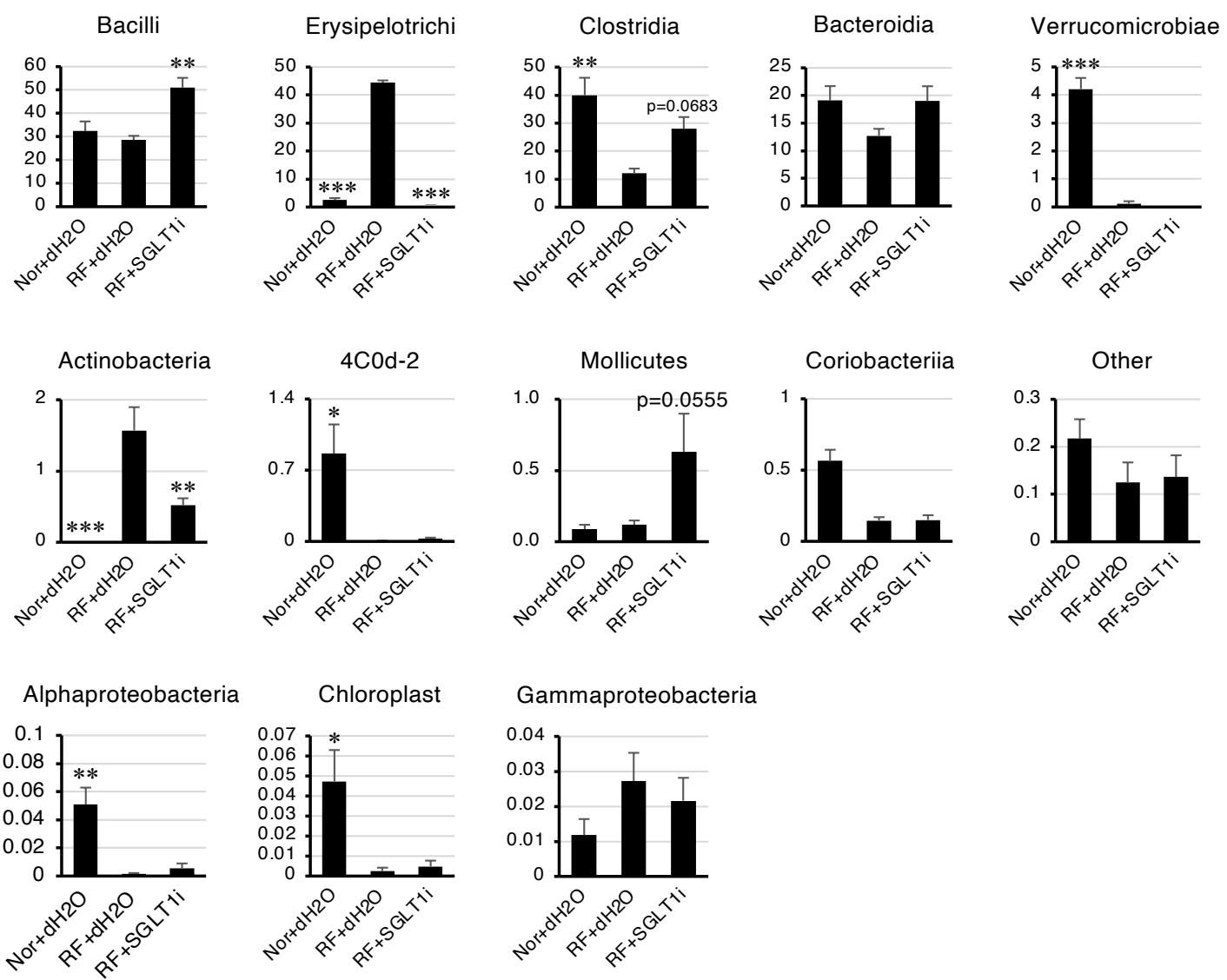
Supplementary Figure 5
order
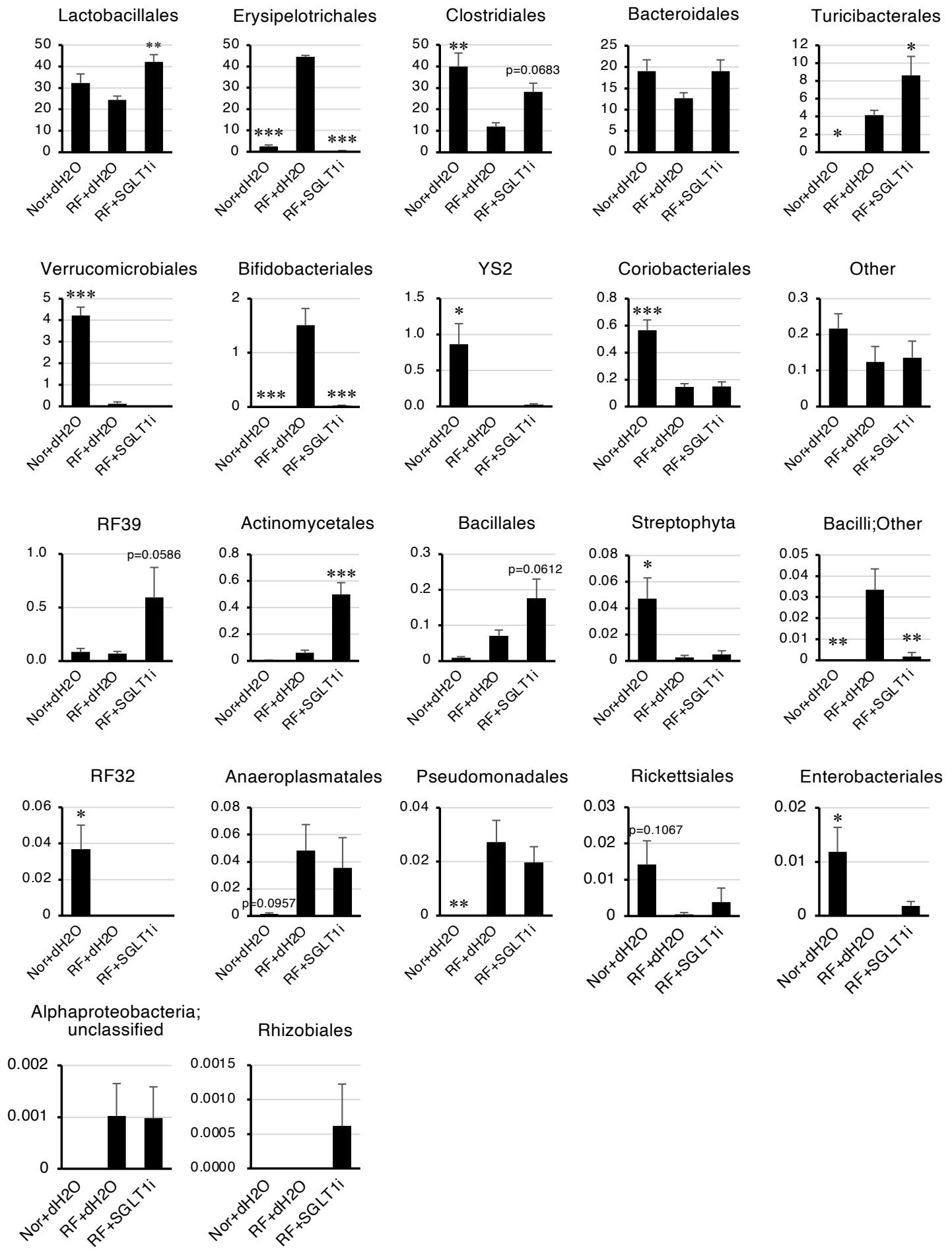
Supplementary Figure 6-1
family

Lactobacillaceae, Erysipelotrichaceae, Clostridiales; unclassified, Lachnospiraceae, S24-7, Turicibacteraceae, Clostridiaceae, Ruminococcaceae, Verrucomicrobiaceae, Bacteroidaceae, Rikenellaceae, Prevotellaceae, Bifidobacteriaceae, YS2;unclassified, Peptococcaceae, Coriobacteriaceae, RF39;unclassified, Corynebacteriaceae, Clostridiales; Other, Staphylococcaceae, Other, Aerococcaceae, Dehalobacteriaceae, Streptococcaceae, Streptophyta; unclassified

Supplementary Figure 6-2
family
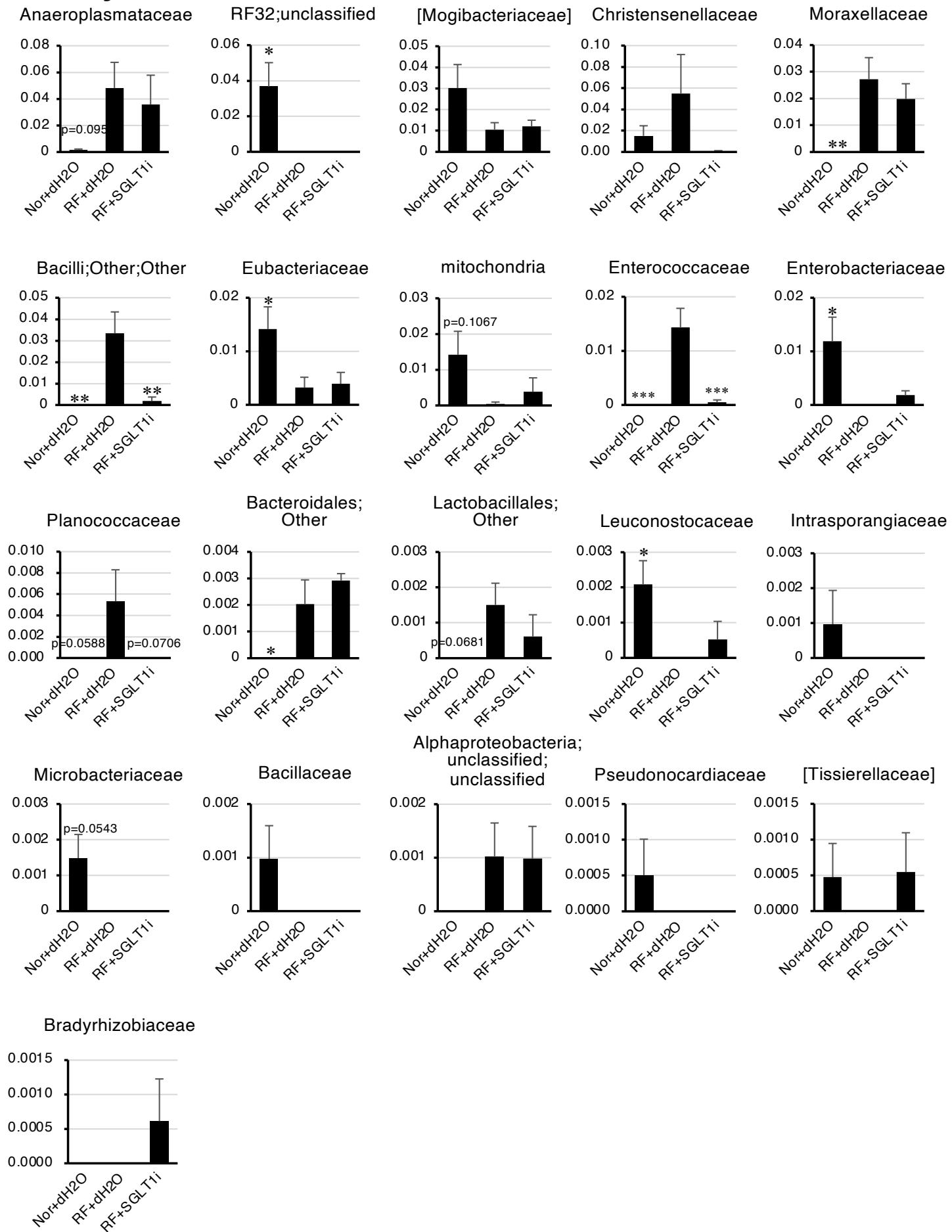
Supplementary Figure 7-1
genus
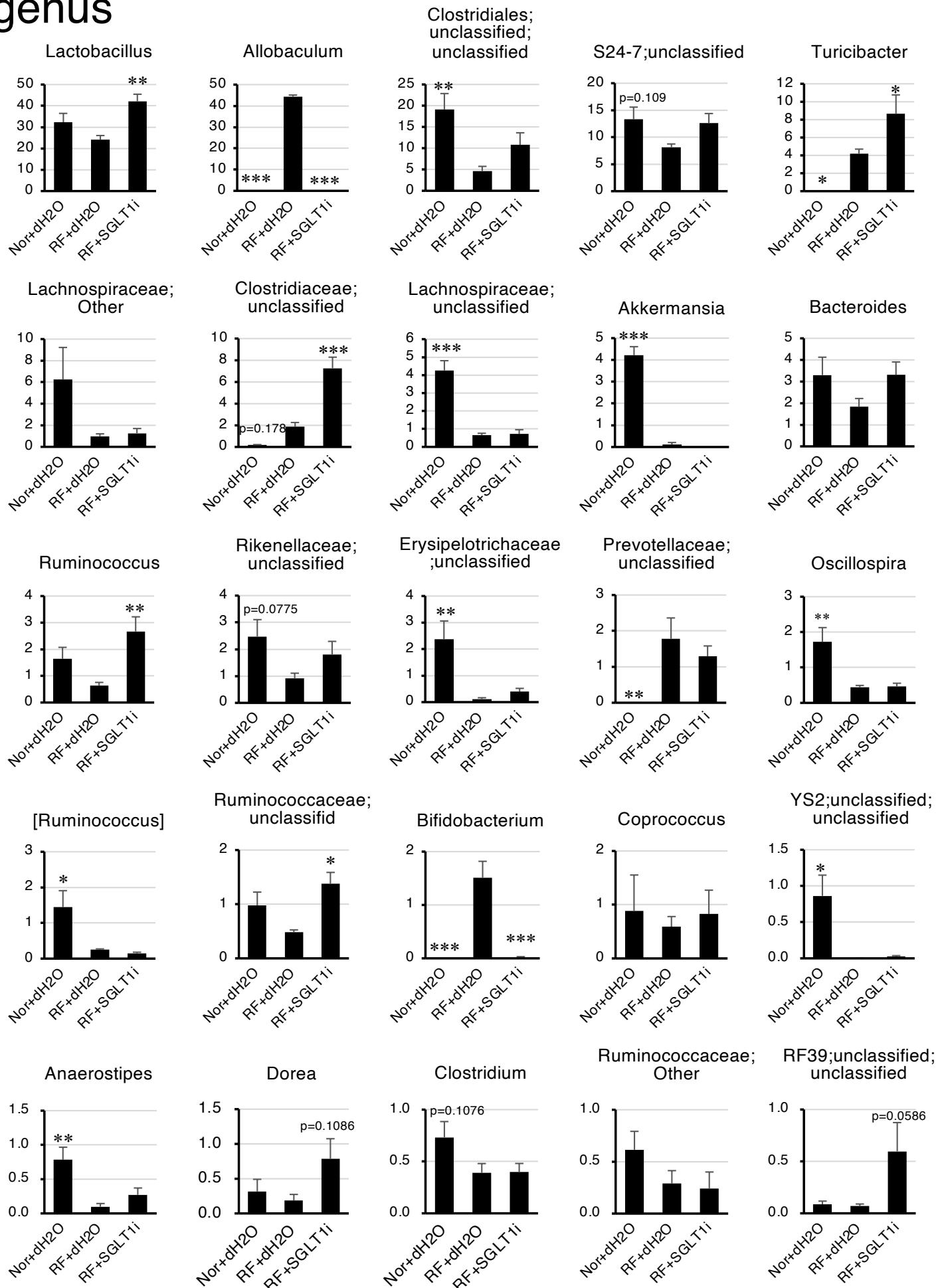
Supplementary Figure 7-2
genus
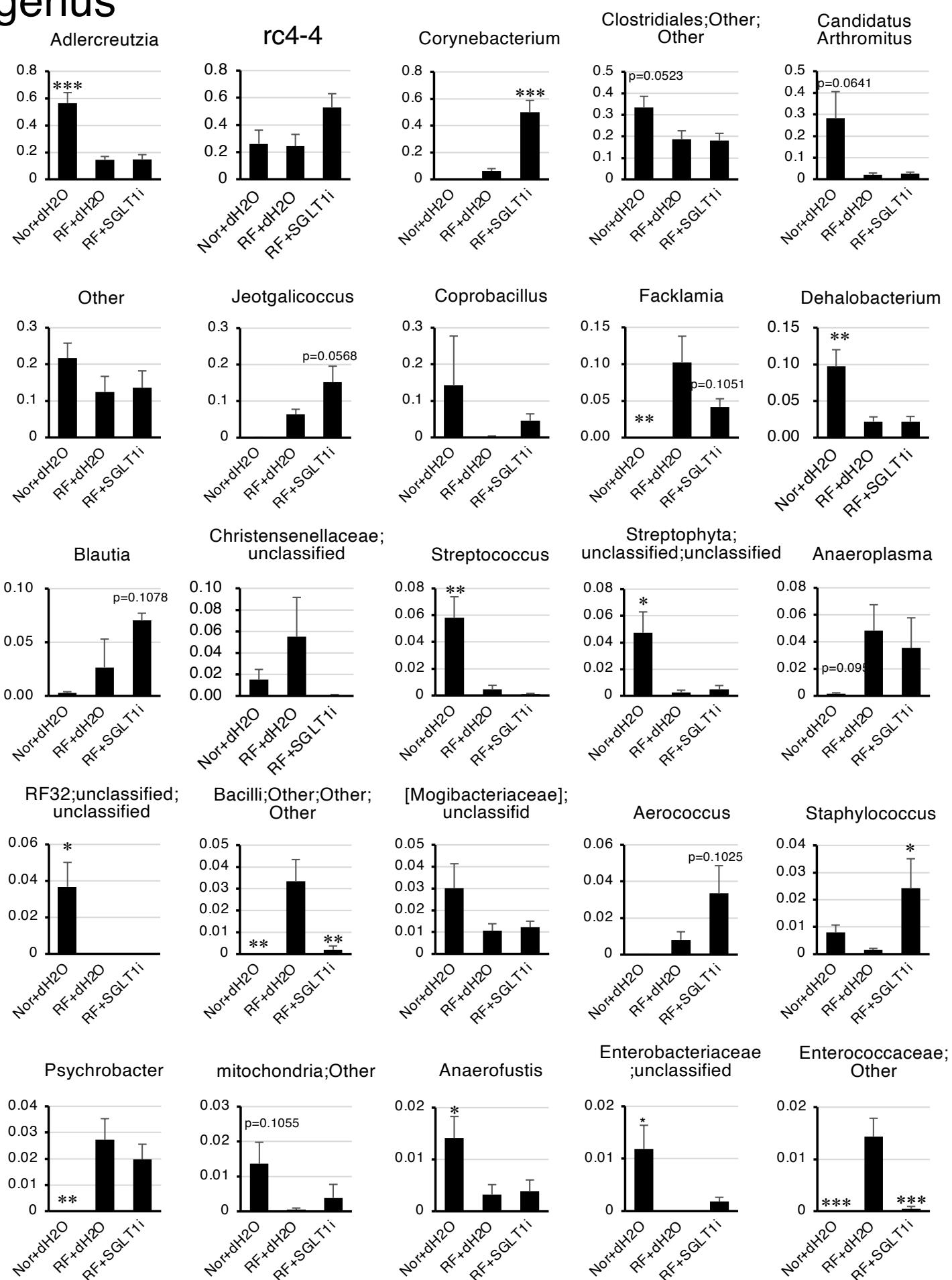
Supplementary Figure 7-3
genus

Sporosarcina (y-axis 0.000–0.010; p=0.0588, p=0.0706)

Peptococcaceae; unclassified (y-axis 0–0.005)

Bacteroidales; Other;Other (y-axis 0–0.004; * on Nor+dH2O)

Weissella (y-axis 0–0.003; * on Nor+dH2O)

Aerococcaceae; unclassified (y-axis 0–0.003; * on Nor+dH2O and RF+SGLT1i)

Clostridiaceae; Other (y-axis 0–0.003)

Lactobacillales; Other;Other (y-axis 0–0.003; p=0.0681)

Intrasporangiaceae ;Other (y-axis 0–0.003)

Alphaproteobacteria; unclassified;unclassified; unclassified (y-axis 0–0.002)

Zea (y-axis 0.0000–0.0015)

Lactococcus (y-axis 0.0000–0.0015)

Bradyrhizobiaceae; unclassified (y-axis 0.0000–0.0015)

Microbacteriaceae; unclassified (y-axis 0.0000–0.0015)

Bacillaceae; unclassified (y-axis 0.0000–0.0015)

Curtobacterium (y-axis 0.0000–0.0015)

Saccharomonospora (y-axis 0.0000–0.0015)

Roseburia (y-axis 0.0000–0.0015)

Anaerococcus (y-axis 0.0000–0.0015)

Microbacteriaceae; Other (y-axis 0.0000–0.0010)

Geobacillus (y-axis 0.0000–0.0010)

Tepidimicrobium (y-axis 0.0000–0.0010)

x-axis categories for all panels: Nor+dH2O, RF+dH2O, RF+SGLT1i

Supplementary Table 1

Taqman Gene Expression Assays

Ccl2	Mm00441242_m1
Emr1	Mm00802529_m1
Tgfb1	Mm01178820_m1
Col1a1	Mm00801666_g1
Acta2	Mm00725412_s1
Cd68	Mm03047343_m1

Supplementary Table 1
List of primers used in the PCR analysis. Primers were purchased from Applied Biosystems.
The sequences of the primers and probes are certificated by the company, but not open by
company policy.