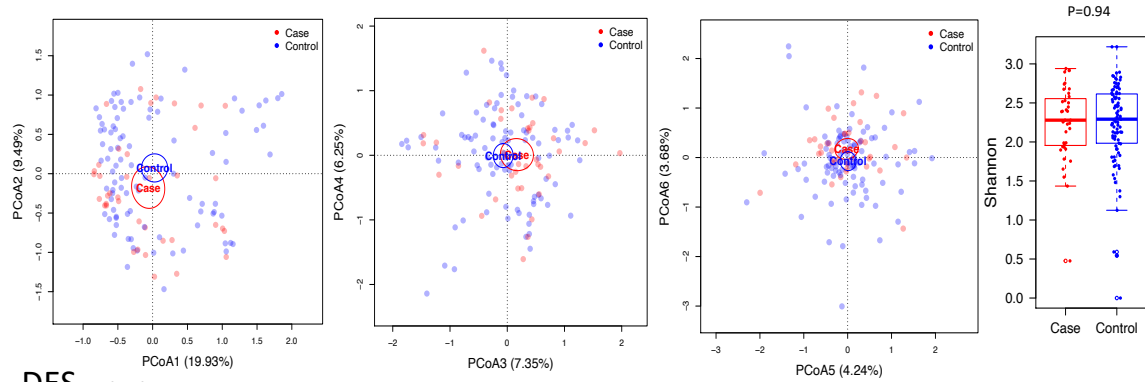


Fig. S1. Selection criteria for the current analysis.

## ASC

Case\_Ctrl R2 = 0.01159 P= 0.09



## DES

Case\_Ctrl R2 = 0.0147 P= 0.031

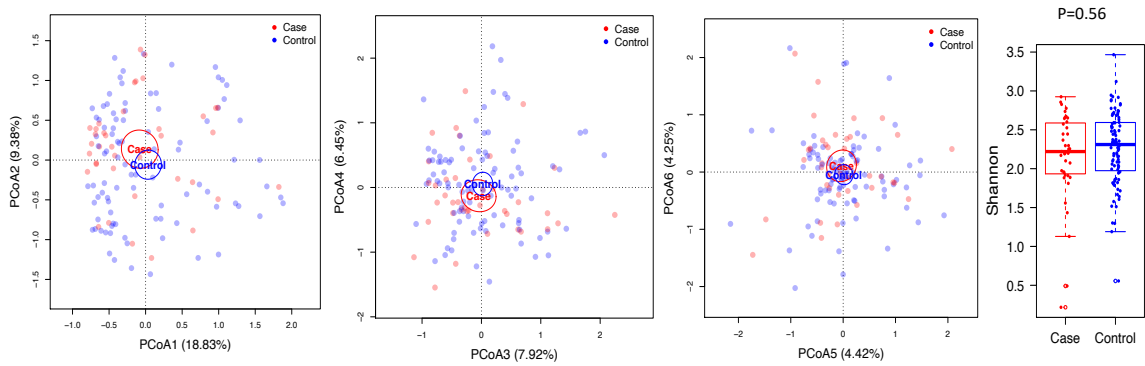


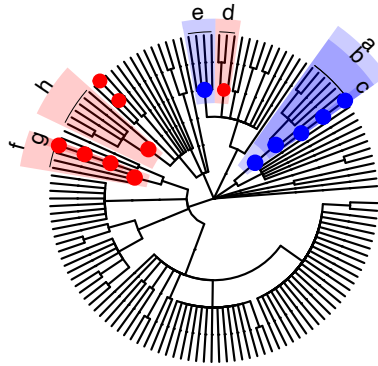
Fig. S2. PCoA plots and alpha-diversity of the ascending (ASC) and descending (DES) colon microbiomes of study participants without antibiotics intake (n=132: 39 cases and 93 controls). The ellipses in PCoA plots indicate 95% confidence limits. The boxplots showed the median, 25th and 75th percentile.

group

- Case
- Control

abundance

- <0.01%
- 0.01–0.05%
- 0.05–0.5%
- 0.5–5%
- >5%



Model1

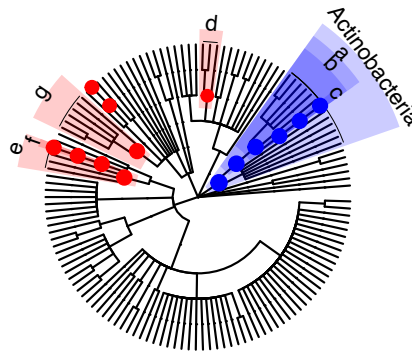
- a Coriobacteria
- b Coriobacteriales
- c Coriobacteriaceae
- d Marinifilaceae
- e Prevotellaceae
- f Lactobacillales
- g Streptococcaceae
- h Betaproteobacteriales

group

- Case
- Control

abundance

- <0.01%
- 0.01–0.05%
- 0.05–0.5%
- 0.5–5%
- >5%



Model2

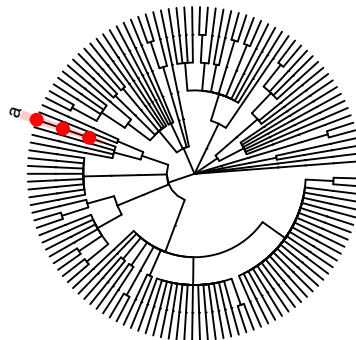
- a Coriobacteria
- b Coriobacteriales
- c Coriobacteriaceae
- d Marinifilaceae
- e Lactobacillales
- f Streptococcaceae
- g Betaproteobacteriales

group

- Case

abundance

- <0.01%
- 0.01–0.05%
- 0.05–0.5%
- 0.5–5%
- >5%



Model3

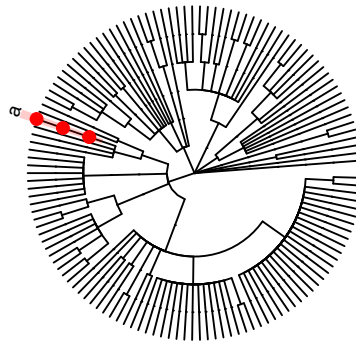
- a Streptococcaceae

group

- Case

abundance

- <0.01%
- 0.01–0.05%
- 0.05–0.5%
- 0.5–5%
- >5%



Model4

- a Streptococcaceae

Fig. S3. Significant differential taxa in the descending (DES) colon microbiome between microscopic colitis cases and controls that did not use antibiotics. Model 1 is adjusted for batch, education and PPI use. Model 2 is additionally adjusted for sex. Model 3 is adjusted for age along with the covariates in model 2. Model 4 is adjusted for BMI along with the covariates in model 3. The branches of significant taxa from phylum to family level were highlighted and labeled. The node sizes are proportional to the overall relative abundance of the taxa.

Table S1. The significant associations between individual taxa and case/control adjusted for covariates (see the 4 models in methods) in each of the stratified levels of liquid stools (0-2, 3, 4-5, >6) in the ascending (ASC) and descending (DES) colon microbiome. Insignificant results are not shown.

a.

	ASC, Liquid stools: 0-2							
	model 1				model 2			
	Stats	P	FDR	Enriched in	Stats	P	FDR	Enriched in
g_Eggerthella-- s_uncultured bacterium	-3.88	3.54E-04	0.087	Case	-4.04	2.23E-04	0.073	Case
f_Marinifilaceae	Insignificant				-3.36	1.68E-03	0.092	Case
f_Muribaculaceae	Insignificant				-3.35	1.69E-03	0.092	Case
f_Christensenellaceae	-3.51	1.07E-03	0.087	Case	-3.48	1.19E-03	0.092	Case
g_Christensenellaceae_R-7_group	-3.58	8.57E-04	0.087	Case	-3.55	9.52E-04	0.092	Case
g_Akkermansia--unclassified	-3.54	9.65E-04	0.087	Case	-3.68	6.53E-04	0.092	Case

b.

	ASC, Liquid stools: 3							
	model 1				model 2			
	Stats	P	FDR	Enriched in	Stats	P	FDR	Enriched in
g_Ruminococcaceae_UCG-002	Insignificant				Insignificant			
g_Ruminococcaceae_UCG-002-- unclassified	Insignificant				Insignificant			
g_Ruminococcaceae_UCG-003	-4.41	2.22E-04	0.036	Case	-4.03	6.01E-04	0.096	Case
g_Ruminococcaceae_UCG-003-- unclassified	-4.41	2.22E-04	0.036	Case	-4.03	6.01E-04	0.096	Case
o_Betaproteobacteriales	Insignificant				Insignificant			
f_Burkholderiaceae	Insignificant				Insignificant			
	model 4							
	Stats	P	FDR	Enriched in				
g_Ruminococcaceae_UCG-002	-3.97	9.92E-04	0.065	Case				
g_Ruminococcaceae_UCG-002-- unclassified	-3.97	9.92E-04	0.065	Case				
g_Ruminococcaceae_UCG-003	-4.55	2.83E-04	0.045	Case				
g_Ruminococcaceae_UCG-003-- unclassified	-4.55	2.83E-04	0.045	Case				
o_Betaproteobacteriales	-3.96	1.02E-03	0.065	Case				

f__Burkholderiaceae	-3.85	1.28E-03	0.068	Case				
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c.

DES, Liquid stools: 0-2									
	model 1					model 2			
	Stats	P	FDR	Enriched in	Stats	P	FDR	Enriched in	
f__Marinifilaceae	Insignificant				-	2.09E-03	0.080	Case	
	3.28								
g__Odoribacter--unclassified	Insignificant				-	1.66E-03	0.072	Case	
	3.36								
f__Muribaculaceae	Insignificant				-	2.88E-03	0.098	Case	
	3.17								
c__Deltaproteobacteria	Insignificant				-	9.69E-04	0.049	Case	
	3.55								
o__Desulfovibrionales	Insignificant				-	8.27E-04	0.049	Case	
	3.60								
f__Desulfovibrionaceae	Insignificant				-	8.27E-04	0.049	Case	
	3.60								
g__Bilophila	-	4.83E-04	0.060	Case	-	2.37E-04	0.036	Case	
	3.78				4.02				
g__Bilophila--unclassified	-	5.28E-04	0.060	Case	-	3.55E-04	0.036	Case	
	3.75				3.89				
g__Akkermansia--unclassified	-	5.92E-04	0.060	Case	-	3.53E-04	0.036	Case	
	3.71				3.89				
model 4									
	Stats	P	FDR	Enriched in					
f__Marinifilaceae	Insignificant								
g__Odoribacter--unclassified	Insignificant								
f__Muribaculaceae	Insignificant								
c__Deltaproteobacteria	-	1.84E-03	0.096	Case					
	3.36								
o__Desulfovibrionales	-	1.41E-03	0.096	Case					
	3.46								
f__Desulfovibrionaceae	-	1.41E-03	0.096	Case					
	3.46								
g__Bilophila	-	4.55E-04	0.096	Case					
	3.86								
g__Bilophila--unclassified	-	1.85E-03	0.096	Case					
	3.36								
g__Akkermansia--unclassified	-	1.89E-03	0.096	Case					
	3.35								

d.

DES, Liquid stools: 3									
	model 1					model 2			
	Stats	P	FDR	Enriched in	Stats	P	FDR	Enriched in	
g__Roseburia	-	1.88E-03	0.085	Case	Insignificant				
	3.53								
g__Roseburia--unclassified	-	1.88E-03	0.085	Case	Insignificant				
	3.53								
g__Ruminococcaceae_UCG-003	-	1.62E-03	0.085	Case	Insignificant				
	3.59								
g__Ruminococcaceae_UCG-003--unclassified	-	1.62E-03	0.085	Case	Insignificant				
	3.59								
o__Betaproteobacteriales	-	1.66E-05	0.005	Case	-	5.23E-05	0.016	Case	
	5.48				5.06				
f__Burkholderiaceae	-	3.63E-05	0.005	Case	-	1.05E-04	0.016	Case	
	5.15				4.76				

g__Sutterella	- 3.45	2.29E-03	0.085	Case	Insignificant			
g__Sutterella--unclassified	- 3.50	2.00E-03	0.085	Case	Insignificant			
DES, Liquid stools: 3								
model 3					model 4			
	Stats	P	FDR	Enriched in	Stats	P	FDR	Enriched in
g__Roseburia	Insignificant				Insignificant			
g__Roseburia--unclassified	Insignificant				Insignificant			
g__Ruminococcaceae_UCG-003	Insignificant				Insignificant			
g__Ruminococcaceae_UCG-003--unclassified	Insignificant				Insignificant			
o__Betaproteobacteriales	- 5.13	5.92E-05	0.015	Case	- 6.23	9.21E-06	0.003	Case
f__Burkholderiaceae	- 4.90	9.89E-05	0.015	Case	- 5.83	2.01E-05	0.003	Case
g__Sutterella	Insignificant				Insignificant			
g__Sutterella--unclassified	Insignificant				Insignificant			