

**Supplementary Table 4.** Cirrhosis enriched species presenting Linear discriminant analysis (LDA) compared cirrhosis+complications

Group Name	Species Name	Taxon rank	Taxonomy	LDA effect size	P-value	Mean Abundance Ratio (%)	
						Cirrhoiss groups	Cirrhoiss + Complications groups
Non-Varices	Bacteroides ovatus group	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Bacteroidaceae: Bacteroides	4.19129	0.03378	4.21008	1.11806
Non-Varices	Fusobacterium varium group	Species	Bacteria: Fusobacteria: Fusobacteria_ c: Fusobacteriales: Fusobacteriaceae: Fusobacterium	3.52017	0.02939	0.85617	0.25907
Non-Varices	Phascolarctobacterium succinatutens group	Species	Bacteria: Firmicutes: Negativicutes: Acidaminococcales: Acidaminococcaceae: Phascolarctobacterium	3.38296	0.04394	0.4995	0.46869
Non-Varices	Hungatella_uc	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Hungatella	3.32585	0.0182	0.5657	0.10398
Non-Varices	Flavonifractor plautii	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Ruminococcaceae: Pseudoflavonifractor	2.8838	0.04335	0.45614	0.32333
Non-Varices	Alistipes shahii	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Rikenellaceae: Alistipes	2.85868	0.04715	0.18334	0.08354
Non-Varices	Clostridium symbiosum	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Clostridium_g35	2.73976	0.03711	0.17252	0.04369
Non-Varices	Olsenella scatoligenes group	Species	Bacteria: Actinobacteria: Coriobacteriia: Coriobacteriales: Coriobacteriaceae: Olsenella	2.25068	0.00617	0.03075	0
Non-Varices	Robinsoniella peoriensis	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Robinsoniella	2.13799	0.00617	0.02788	0
Non-Varices	Lactobacillus saerimneri	Species	Bacteria: Firmicutes: Bacilli: Lactobacillales: Lactobacillaceae: Lactobacillus	2.07139	0.00617	0.019	0

Supplementary Table 4. Continued

Group Name	Species Name	Taxon rank	Taxonomy	LDA effect size	P-value	Mean Abundance Ratio (%)	
						Cirrhoiss groups	Cirrhoiss + Complications groups
Varices	Bacteroides ovatus group	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Bacteroidaceae: Bacteroides	4.1627	0.01925	4.21008	1.32839
Varices	Bacteroides_uc	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Bacteroidaceae: Bacteroides	3.50238	0.04564	0.82912	0.19588
Varices	Fusobacterium varium group	Species	Bacteria: Fusobacteria: Fusobacteria_ c: Fusobacteriales: Fusobacteriaceae: Fusobacterium	3.37476	0.04297	0.85617	0.39681
Varices	Clostridium clostridioforme group	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Clostridium_g24	3.25137	0.00759	0.58576	0.45332
Varices	Citrobacter bittornis group	Species	Bacteria: Proteobacteria: Gammaproteobacteria: Enterobacterales: Enterobacteriaceae: Citrobacter	2.86315	0.03973	0.15543	0.00024
Varices	Clostridium symbiosum	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Clostridium_g35	2.81311	0.0228	0.17252	0.04934
Varices	Emergencia timonensis	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Mogibacterium_f: Emergencia	2.68302	0.00067	0.07071	0
Varices	Clostridium asparagiforme group	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Clostridium_g24	2.58187	0.01424	0.07987	0.00584
Varices	Coprococcus comes group	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Coprococcus_g2	2.22427	0.00742	0.03777	0.00446
Varices	Anaerotignum lactatifermentans	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Anaerotignum	2.20199	0.00274	0.04641	0.02136

Supplementary Table 4. Continued

Group Name	Species Name	Taxon rank	Taxonomy	LDA effect size	P-value	Mean Abundance Ratio (%)	
						Cirrhoiss groups	Cirrhoiss + Complications groups
Varices	Parabacteroides_uc	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Porphyromonadaceae: Parabacteroides	2.19488	0.02621	0.06511	0.05426
Varices	Hafnia alvei group	Species	Bacteria: Proteobacteria: Gammaproteobacteria: Enterobacterales: Hafniaceae: Hafnia	2.15953	0.02528	0.03202	0.0007
Varices	Pantoea coffeiphila	Species	Bacteria: Proteobacteria: Gammaproteobacteria: Enterobacterales: Erwiniaceae: Pantoea	2.07097	0.03118	0.02809	0.00582
Non-Ascites	Bacteroides ovatus group	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Bacteroidaceae: Bacteroides	4.14316	0.04575	4.21008	1.28754
Non-Ascites	Fusobacterium varium group	Species	Bacteria: Fusobacteria: Fusobacteria_ c: Fusobacteriales: Fusobacteriaceae: Fusobacterium	3.46166	0.01335	0.85617	0.2171
Non-Ascites	Hungatella_uc	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Hungatella	3.41085	0.01818	0.5657	0.07602
Non-Ascites	Clostridium clostridioforme group	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Clostridium_g24	3.32593	0.02484	0.58576	0.38182
Non-Ascites	Dysgonomonas capnocytophagoides	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Porphyromonadaceae: Dysgonomonas	2.89873	0.02393	0.13036	0
Non-Ascites	Clostridium symbiosum	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Clostridium_g35	2.84905	0.02111	0.17252	0.03474
Ascites	Bacteroides ovatus group	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Bacteroidaceae: Bacteroides	4.17026	0.0182	4.21008	1.15935

Supplementary Table 4. Continued

Group Name	Species Name	Taxon rank	Taxonomy	LDA effect size	P-value	Mean Abundance Ratio (%)	
						Cirrhoiss groups	Cirrhoiss + Complications groups
Ascites	<i>Clostridium symbiosum</i>	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Clostridium_g35	2.69277	0.03811	0.17252	0.0533
Ascites	<i>Emergencia timonensis</i>	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Mogibacterium_f: Emergencia	2.55753	0.0101	0.07071	0.00105
Ascites	<i>Clostridium asparagiforme</i> group	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Clostridium_g24	2.54291	0.03617	0.07987	0.00869
Ascites	<i>Lactobacillus saerimneri</i>	Species	Bacteria: Firmicutes: Bacilli: Lactobacillales: Lactobacillaceae: Lactobacillus	2.0023	0.00443	0.019	0
Non-SBP	<i>Bacteroides ovatus</i> group	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Bacteroidaceae: Bacteroides	4.16573	0.04855	4.21008	1.30511
Non-SBP	<i>Fusobacterium varium</i> group	Species	Bacteria: Fusobacteria: Fusobacteria_c: Fusobacteriales: Fusobacteriaceae: Fusobacterium	3.54073	0.03909	0.85617	0.35145
Non-SBP	<i>Hungatella_uc</i>	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Hungatella	3.29762	0.01467	0.5657	0.07111
Non-SBP	<i>Clostridium clostridioforme</i> group	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Clostridium_g24	3.24009	0.03535	0.58576	0.40863
Non-SBP	<i>Citrobacter bitternis</i> group	Species	Bacteria: Proteobacteria: Gammaproteobacteria: Enterobacterales: Enterobacteriaceae: Citrobacter	2.87907	0.03811	0.15543	0.00029
SBP	<i>Bacteroides ovatus</i> group	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Bacteroidaceae: Bacteroides	4.19668	0.01127	4.21008	1.08227

Supplementary Table 4. Continued

Group Name	Species Name	Taxon rank	Taxonomy	LDA effect size	P-value	Mean Abundance Ratio (%)	
						Cirrhoiss groups	Cirrhoiss + Complications groups
SBP	Fusobacterium varium group	Species	Bacteria: Fusobacteria: Fusobacteria_ c: Fusobacteriales: Fusobacteriaceae: Fusobacterium	3.59287	0.0291	0.85617	0.27526
SBP	Phascolarctobacterium succinatutens group	Species	Bacteria: Firmicutes: Negativicutes: Acidaminococcales: Acidaminococcaceae: Phascolarctobacterium	3.38685	0.04479	0.4995	0.39254
SBP	Alistipes ihumii	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Rikenellaceae: Alistipes	2.71332	0.04404	0.09727	0.00065
SBP	Clostridium symbiosum	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Clostridium_g35	2.71033	0.01174	0.17252	0.02932
SBP	Emergencia timonensis	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Mogibacterium_f: Emergencia	2.55918	0.00067	0.07071	0
SBP	Clostridium asparagiforme group	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Clostridium_g24	2.50103	0.00664	0.07987	0.00503
SBP	Parabacteroides_uc	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Porphyromonadaceae: Parabacteroides	2.45842	0.00567	0.06511	0.01454
SBP	Coprococcus comes group	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Coprococcus_g2	2.21946	0.00729	0.03777	0.00481
SBP	Hafnia alvei group	Species	Bacteria: Proteobacteria: Gammaproteobacteria: Enterobacterales: Hafniaceae: Hafnia	2.15172	0.04555	0.03202	0.00083
SBP	Anaerotignum lactatifermentans	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Anaerotignum	2.15074	0.00004	0.04641	0.02915

**Supplementary Table 4.** Continued

Group Name	Species Name	Taxon rank	Taxonomy	LDA effect size	P-value	Mean Abundance Ratio (%)	
						Cirrhoiss groups	Cirrhoiss + Complications groups
SBP	Olsenella scatoligenes group	Species	Bacteria: Actinobacteria: Coriobacteriia: Coriobacteriales: Coriobacteriaceae: Olsenella	2.02887	0.01696	0.03075	0
Non-Encephalopathy	Bacteroides ovatus group	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Bacteroidaceae: Bacteroides	4.25145	0.03625	4.21008	0.46892
Non-Encephalopathy	Bacteroides_uc	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Bacteroidaceae: Bacteroides	3.62594	0.00849	0.82912	0.07974
Non-Encephalopathy	Fusobacterium varium group	Species	Bacteria: Fusobacteria: Fusobacteria_c: Fusobacteriales: Fusobacteriaceae: Fusobacterium	3.60805	0.00536	0.85617	0.01762
Non-Encephalopathy	Hungatella_uc	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Hungatella	3.44025	0.00946	0.5657	0.05074
Non-Encephalopathy	Flavonifractor plautii	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Ruminococcaceae: Pseudoflavonifractor	3.35082	0.00307	0.45614	0.11617
Non-Encephalopathy	Bifidobacterium breve	Species	Bacteria: Actinobacteria: Actinobacteria_c: Bifidobacteriales: Bifidobacteriaceae: Bifidobacterium	3.01217	0.00207	0.02594	0
Non-Encephalopathy	Clostridium symbiosum	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Clostridium_g35	2.92479	0.00516	0.17252	0.00353
Non-Encephalopathy	Alistipes ihumii	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Rikenellaceae: Alistipes	2.69856	0.01874	0.09727	0.04206
Non-Encephalopathy	Veillonella_uc	Species	Bacteria: Firmicutes: Negativicutes: Veillonellales: Veillonellaceae: Veillonella	2.48159	0.02265	0.04201	0.01681

Supplementary Table 4. Continued

Group Name	Species Name	Taxon rank	Taxonomy	LDA effect size	P-value	Mean Abundance Ratio (%)	
						Cirrhoiss groups	Cirrhoiss + Complications groups
Non-Encephalopathy	<i>Hungatella effluvii</i>	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: <i>Hungatella</i>	2.12974	0.0421	0.00512	0.00029
Encephalopathy	<i>Bacteroides ovatus</i> group	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Bacteroidaceae: <i>Bacteroides</i>	4.17286	0.0199	4.21008	1.15418
Encephalopathy	<i>Agathobacter rectalis</i>	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: <i>Agathobacter</i>	3.59294	0.03003	0.82087	0.00752
Encephalopathy	<i>Fusobacterium varium</i> group	Species	Bacteria: Fusobacteria: Fusobacteria_ c: Fusobacteriales: Fusobacteriaceae: <i>Fusobacterium</i>	3.54155	0.03749	0.85617	0.05897
Encephalopathy	<i>Citrobacter bitternis</i> group	Species	Bacteria: Proteobacteria: Gammaproteobacteria: Enterobacteriales: Enterobacteriaceae: <i>Citrobacter</i>	2.7552	0.01848	0.15543	0
Encephalopathy	<i>Dorea longicatena</i>	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: <i>Dorea</i>	2.48017	0.02661	0.09585	0.01996
Encephalopathy	<i>Emergencia timonensis</i>	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Mogibacterium_f: <i>Emergencia</i>	2.37132	0.01848	0.07071	0
Encephalopathy	<i>Coprococcus comes</i> group	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: <i>Coprococcus_g2</i>	2.27409	0.03251	0.03777	0.00678
Non-HRS	<i>Bacteroides ovatus</i> group	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Bacteroidaceae: <i>Bacteroides</i>	4.16927	0.02615	4.21008	1.10608
Non-HRS	<i>Fusobacterium varium</i> group	Species	Bacteria: Fusobacteria: Fusobacteria_ c: Fusobacteriales: Fusobacteriaceae: <i>Fusobacterium</i>	3.61127	0.01918	0.85617	0.25166

Supplementary Table 4. Continued

Group Name	Species Name	Taxon rank	Taxonomy	LDA effect size	P-value	Mean Abundance Ratio (%)	
						Cirrhoiss groups	Cirrhoiss + Complications groups
Non-HRS	<i>Alistipes putredinis</i>	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Rikenellaceae: <i>Alistipes</i>	3.53633	0.03189	0.62899	0.5976
Non-HRS	<i>Hungatella_uc</i>	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: <i>Hungatella</i>	3.32704	0.02447	0.5657	0.09851
Non-HRS	<i>Flavonifractor plautii</i>	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Ruminococcaceae: <i>Pseudoflavonifractor</i>	3.05372	0.04838	0.45614	0.32298
Non-HRS	<i>Clostridium symbiosum</i>	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: <i>Clostridium_g35</i>	2.74912	0.04462	0.17252	0.05499
Non-HRS	<i>Citrobacter bitternis</i> group	Species	Bacteria: Proteobacteria: Gammaproteobacteria: Enterobacteriales: Enterobacteriaceae: <i>Citrobacter</i>	2.66939	0.03959	0.15543	0.00033
Non-HRS	<i>Emergencia timonensis</i>	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: <i>Mogibacterium_f:</i> <i>Emergencia</i>	2.61702	0.03959	0.07071	0.00223
HRS	<i>Bacteroides ovatus</i> group	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Bacteroidaceae: <i>Bacteroides</i>	4.22295	0.02724	4.21008	1.45402
HRS	<i>Clostridium clostridioforme</i> group	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: <i>Clostridium_g24</i>	3.42192	0.00301	0.58576	0.10795
HRS	<i>Clostridium symbiosum</i>	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: <i>Clostridium_g35</i>	2.78842	0.01147	0.17252	0.02501
HRS	<i>Clostridium asparagiforme</i> group	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: <i>Clostridium_g24</i>	2.6762	0.0035	0.07987	0.003
HRS	<i>Dysgonomonas capnocytophagoideis</i>	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Porphyromonadaceae: <i>Dysgonomonas</i>	2.67459	0.04829	0.13036	0



Supplementary Table 4. Continued

Group Name	Species Name	Taxon rank	Taxonomy	LDA effect size	P-value	Mean Abundance Ratio (%)	
						Cirrhoiss groups	Cirrhoiss + Complications groups
HRS	<i>Emergencia timonensis</i>	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Mogibacterium_f: Emergencia	2.58162	0.00478	0.07071	0
HRS	<i>Parabacteroides_uc</i>	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Porphyromonadaceae: Parabacteroides	2.38382	0.0265	0.06511	0.0222
HRS	<i>Anaerotignum lactatifermentans</i>	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Anaerotignum	2.34221	0.00006	0.04641	0.02829
HRS	<i>Olsenella scatoligenes</i> group	Species	Bacteria: Actinobacteria: Coriobacteriia: Coriobacteriales: Coriobacteriaceae: Olsenella	2.24831	0.04829	0.03075	0
HRS	<i>Hafnia alvei</i> group	Species	Bacteria: Proteobacteria: Gammaproteobacteria: Enterobacterales: Hafniaceae: Hafnia	2.23004	0.04509	0.03202	0.00057
HRS	<i>Lactobacillus saerimneri</i>	Species	Bacteria: Firmicutes: Bacilli: Lactobacillales: Lactobacillaceae: Lactobacillus	2.08542	0.04829	0.019	0
Non-HCC	<i>Phytobacter diazotrophicus</i>	Species	Bacteria: Proteobacteria: Gammaproteobacteria: Enterobacterales: Enterobacteriaceae: Phytobacter	2.72414	0.01141	0.11423	0
Non-HCC	<i>Emergencia timonensis</i>	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Mogibacterium_f: Emergencia	2.6893	0.0055	0.07071	0.00004
Non-HCC	<i>Dorea longicatena</i>	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Dorea	2.53724	0.01208	0.09585	0.02726
Non-HCC	<i>Coprococcus comes</i> group	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Coprococcus_g2	2.35042	0.00698	0.03777	0.03451
HCC	<i>Bacteroides ovatus</i> group	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Bacteroidaceae: Bacteroides	4.22558	0.01253	4.21008	0.76961

Supplementary Table 4. Continued

Group Name	Species Name	Taxon rank	Taxonomy	LDA effect size	P-value	Mean Abundance Ratio (%)	
						Cirrhoiss groups	Cirrhoiss + Complications groups
HCC	Ruminococcus gnavus	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Ruminococcus_g5	3.91872	0.01309	1.60791	0.39445
HCC	Fusobacterium varium group	Species	Bacteria: Fusobacteria: Fusobacteria_ c: Fusobacteriales: Fusobacteriaceae: Fusobacterium	3.45554	0.00564	0.85617	0.28044
HCC	Phascolarctobacterium succinatutens group	Species	Bacteria: Firmicutes: Negativicutes: Acidaminococcales: Acidaminococcaceae: Phascolarctobacterium	3.37418	0.02353	0.4995	0.37213
HCC	Clostridium clostridioforme group	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Clostridium_g24	3.2714	0.00413	0.58576	0.12332
HCC	Hungatella_uc	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Hungatella	3.2589	0.0064	0.5657	0.23291
HCC	Flavonifractor plautii	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Ruminococcaceae: Pseudoflavonifractor	2.96475	0.03244	0.45614	0.44075
HCC	Clostridium symbiosum	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Clostridium_g35	2.87691	0.00405	0.17252	0.01496
HCC	Dysgonomonas capnocytophagoides	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Porphyromonadaceae: Dysgonomonas	2.77351	0.00912	0.13036	0
HCC	Parabacteroides_uc	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Porphyromonadaceae: Parabacteroides	2.26654	0.04016	0.06511	0.01963
HCC	Anaerotignum lactatifermentans	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Anaerotignum	2.23927	0.0013	0.04641	0.02153

Supplementary Table 4. Continued

Group Name	Species Name	Taxon rank	Taxonomy	LDA effect size	P-value	Mean Abundance Ratio (%)	
						Cirrhoiss groups	Cirrhoiss + Complications groups
HCC	Olsenella scatoligenes group	Species	Bacteria: Actinobacteria: Coriobacteriia: Coriobacteriales: Coriobacteriaceae: Olsenella	2.17201	0.00912	0.03075	0
HCC	Pantoea coffeiphila	Species	Bacteria: Proteobacteria: Gammaproteobacteria: Enterobacteriales: Erwiniaceae: Pantoea	2.0131	0.04438	0.02809	0.00976
Alive	Bacteroides ovatus group	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Bacteroidaceae: Bacteroides	4.17967	0.0267	4.21008	1.07599
Alive	Alistipes putredinis	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Rikenellaceae: Alistipes	3.50789	0.02271	0.62899	0.58737
Alive	Fusobacterium varium group	Species	Bacteria: Fusobacteria: Fusobacteria_c: Fusobacteriales: Fusobacteriaceae: Fusobacterium	3.40944	0.02153	0.85617	0.26271
Alive	Hungatella_uc	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Hungatella	3.31788	0.02478	0.5657	0.21399
Alive	Clostridium clostridioforme group	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Clostridium_g24	3.12801	0.02824	0.58576	0.35955
Alive	Clostridium symbiosum	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Clostridium_g35	2.78059	0.04844	0.17252	0.05561
Alive	Citrobacter bitternis group	Species	Bacteria: Proteobacteria: Gammaproteobacteria: Enterobacteriales: Enterobacteriaceae: Citrobacter	2.75913	0.03268	0.15543	0.00032
Alive	Emergencia timonensis	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Mogibacterium_f: Emergencia	2.702	0.01447	0.07071	0.00209

Supplementary Table 4. Continued

Group Name	Species Name	Taxon rank	Taxonomy	LDA effect size	P-value	Mean Abundance Ratio (%)	
						Cirrhoiss groups	Cirrhoiss + Complications groups
Alive	Olsenella scatoligenes group	Species	Bacteria: Actinobacteria: Coriobacteriia: Coriobacteriales: Coriobacteriaceae: Olsenella	2.07809	0.04342	0.03075	0.00017
Dead	Bacteroides ovatus group	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Bacteroidaceae: Bacteroides	4.23318	0.0258	4.21008	1.59192
Dead	Paraprevotella clara	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Prevotellaceae: Paraprevotella	2.85313	0.02534	0.18072	0.08248
Dead	Clostridium symbiosum	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Clostridium_g35	2.84044	0.00655	0.17252	0.01881
Dead	Clostridium asparagiforme group	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Clostridium_g24	2.68975	0.01386	0.07987	0.00375
Dead	Dorea longicatena	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Dorea	2.60659	0.03482	0.09585	0.02023
Dead	Anaerotignum lactatifermentans	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Anaerotignum	2.43784	0.00004	0.04641	0.03226
Dead	Parabacteroides_uc	Species	Bacteria: Bacteroidetes: Bacteroidia: Bacteroidales: Porphyromonadaceae: Parabacteroides	2.34012	0.02725	0.06511	0.02307
Dead	Coprococcus comes group	Species	Bacteria: Firmicutes: Clostridia: Clostridiales: Lachnospiraceae: Coprococcus_g2	2.32739	0.01507	0.03777	0.00568
Dead	Pantoea coffeiphila	Species	Bacteria: Proteobacteria: Gammaproteobacteria: Enterobacteriales: Erwiniaceae: Pantoea	2.04469	0.0222	0.02809	0.00378