

**Table S1. Results for the association test between alpha diversity and genera from b**

		<b>type</b>	<b>coeff</b>	<b>se(coeff)</b>	<b>z</b>	<b>HR</b>	<b>p</b>
1							
2							
3							
4							
5							
6							
7	Cardiobacterium	genus	0.4093	0.1872	2.1865	1.5057	0.0288
8	Granulicatella	genus	0.0220	0.0106	2.0830	1.0223	0.0373
9	Veillonellaceae	genus	0.0073	0.0044	1.6458	1.0073	0.0998
10	Lautropia	genus	0.0039	0.0026	1.5202	1.0039	0.1285
11	Kingella	genus	0.0154	0.0106	1.4547	1.0155	0.1457
12	Rothia	genus	0.0014	0.0010	1.3594	1.0014	0.1740
13	Shannon	alpha	0.7136	0.5394	1.3231	2.0414	0.1858
14	Veillonella	genus	0.0012	0.0010	1.2556	1.0012	0.2092
15	Haemophilus	genus	-0.0010	0.0009	-1.1871	0.9990	0.2352
16	Oribacterium	genus	0.0716	0.0613	1.1667	1.0742	0.2433
17	Actinomyces	genus	0.0144	0.0130	1.1079	1.0145	0.2679
18	Spirochaetaceae	genus	0.0439	0.0479	0.9147	1.0448	0.3604
19	Chloroplast	genus	0.0018	0.0024	0.7598	1.0018	0.4474
20	Porphyromonadaceae	genus	0.0169	0.0240	0.7062	1.0171	0.4801
21	Corynebacterium	genus	0.0063	0.0095	0.6612	1.0063	0.5085
22	Leptotrichia	genus	0.0064	0.0110	0.5794	1.0064	0.5623
23	Abiotrophia	genus	0.0702	0.1225	0.5726	1.0727	0.5669
24	Streptococcus	genus	-0.0001	0.0003	-0.5608	0.9999	0.5749
25	Atopobium	genus	0.0149	0.0284	0.5230	1.0150	0.6010
26	Campylobacter	genus	0.0055	0.0106	0.5160	1.0055	0.6058
27	Mycoplasma	genus	-0.0080	0.0166	-0.4813	0.9920	0.6303
28	Gemella	genus	-0.0009	0.0030	-0.3186	0.9991	0.7500
29	Alloprevotella	genus	-0.0012	0.0038	-0.3083	0.9988	0.7578
30	Dialister	genus	0.0032	0.0120	0.2680	1.0032	0.7887
31	Prevotella	genus	-0.0006	0.0023	-0.2533	0.9994	0.8000
32	Peptostreptococcus	genus	0.0249	0.0998	0.2493	1.0252	0.8032
33	Fusobacterium	genus	-0.0001	0.0005	-0.2267	0.9999	0.8206
34	Bergeyella	genus	0.0086	0.0431	0.1996	1.0086	0.8418
35	Capnocytophaga	genus	0.0045	0.0250	0.1792	1.0045	0.8578
36	Neisseria	genus	-0.0004	0.0034	-0.1211	0.9996	0.9036
37	Lachnoanaerobaculum	genus	0.0279	0.2437	0.1147	1.0283	0.9087
38	Porphyromonas	genus	0.0019	0.0236	0.0815	1.0019	0.9351
39	Megasphaera	genus	0.0062	0.0853	0.0724	1.0062	0.9422
40	Tannerella	genus	0.0062	0.0872	0.0713	1.0062	0.9431
41	Staphylococcus	genus	0.0002	0.0032	0.0660	1.0002	0.9474
42	Selenomonas	genus	0.0124	0.2664	0.0467	1.0125	0.9627
43	Parvimonas	genus	-0.0004	0.0175	-0.0248	0.9996	0.9802
44	Prevotellaceae	genus	0.0000	0.0018	-0.0113	1.0000	0.9910
45							
46							
47							
48							
49							
50							
51							
52							
53							
54							
55							
56							
57							
58							
59							
60							

1  
2 **baseline samples and time to onset of severe oral mucositis**  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

**Table S2. Results for the association test between alpha diversity and genera f**

	type	coeff	se(coeff)	z	HR	p	
1							
2							
3							
4							
5							
6							
7	Streptococcus	genus	-0.0010	0.0004	-2.4610	0.9990	0.0139
8	Prevotella	genus	0.0080	0.0036	2.1834	1.0080	0.0290
9	Fusobacterium	genus	0.0023	0.0011	2.1132	1.0023	0.0346
10	Atopobium	genus	0.0765	0.0391	1.9555	1.0795	0.0505
11	Prevotellaceae	genus	0.0010	0.0006	1.7018	1.0010	0.0888
12	Oribacterium	genus	0.1628	0.1107	1.4707	1.1768	0.1414
13	Haemophilus	genus	0.0007	0.0005	1.4141	1.0007	0.1573
14	Spirochaetaceae	genus	0.0627	0.0476	1.3194	1.0647	0.1870
15	Cardiobacterium	genus	0.0203	0.0167	1.2126	1.0205	0.2253
16	Lachnoanaerobaculum	genus	0.0781	0.0688	1.1353	1.0812	0.2563
17	Shannon	alpha	0.8480	0.7948	1.0669	2.3349	0.2860
18	Dialister	genus	0.0205	0.0220	0.9330	1.0207	0.3508
19	Parvimonas	genus	0.0229	0.0328	0.6976	1.0231	0.4854
20	Abiotrophia	genus	-0.0224	0.0346	-0.6472	0.9779	0.5175
21	Veillonella	genus	0.0015	0.0024	0.6357	1.0015	0.5250
22	Granulicatella	genus	0.0055	0.0095	0.5778	1.0055	0.5634
23	Bergeyella	genus	0.0074	0.0134	0.5534	1.0075	0.5800
24	Rothia	genus	-0.0002	0.0004	-0.5439	0.9998	0.5865
25	Kingella	genus	0.0280	0.0598	0.4691	1.0284	0.6390
26	Corynebacterium	genus	0.0632	0.1506	0.4197	1.0652	0.6747
27	Capnocytophaga	genus	0.0009	0.0025	0.3717	1.0009	0.7101
28	Campylobacter	genus	0.0037	0.0107	0.3405	1.0037	0.7335
29	Actinomyces	genus	0.0042	0.0133	0.3181	1.0042	0.7504
30	Veillonellaceae	genus	0.0185	0.0683	0.2705	1.0186	0.7867
31	Chloroplast	genus	-0.0059	0.0328	-0.1801	0.9941	0.8571
32	Porphyromonas	genus	-0.0040	0.0225	-0.1789	0.9960	0.8580
33	Tannerella	genus	0.0071	0.0464	0.1531	1.0071	0.8783
34	Gemella	genus	-0.0002	0.0019	-0.0994	0.9998	0.9208
35	Staphylococcus	genus	-0.0002	0.0027	-0.0861	0.9998	0.9314
36	Leptotrichia	genus	-0.0001	0.0011	-0.0851	0.9999	0.9322
37	Peptostreptococcus	genus	0.0302	0.3855	0.0782	1.0306	0.9376
38	Alloprevotella	genus	-0.0008	0.0106	-0.0776	0.9992	0.9381
39	Selenomonas	genus	0.0202	0.3621	0.0558	1.0204	0.9555
40	Porphyromonadaceae	genus	0.0028	0.0705	0.0404	1.0029	0.9678
41	Megasphaera	genus	0.0030	0.0829	0.0368	1.0031	0.9707
42	Neisseria	genus	0.0000	0.0005	0.0355	1.0000	0.9717
43	Lautropia	genus	0.0000	0.0025	-0.0071	1.0000	0.9943
44	Mycoplasma	genus	0.0002	0.0487	0.0048	1.0002	0.9962
45							
46							
47							
48							
49							
50							
51							
52							
53							
54							
55							
56							
57							
58							
59							
60							

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

**from samples collected immediately prior to development of oral mucositis and**

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

**d time to onset of severe oral mucositis**

1 **Table S3. Results for the association test between alpha diversity and genera from samples collected immediately prior to development of severe oral mucositis and time to onset of severe oral mucositis**

	type	coeff	se(coeff)	z	HR	p
4	Megasphaera	0.2411	0.0629	3.8363	1.2727	0.0001
5	genus	0.2411	0.0629	3.8363	1.2727	0.0001
6	Cardiobacterium	0.1845	0.0847	2.1787	1.2026	0.0294
7	genus	0.1845	0.0847	2.1787	1.2026	0.0294
8	Atopobium	0.0525	0.0284	1.8473	1.0539	0.0647
9	genus	0.0525	0.0284	1.8473	1.0539	0.0647
10	Veillonellaceae	0.0500	0.0337	1.4836	1.0513	0.1379
11	genus	0.0500	0.0337	1.4836	1.0513	0.1379
12	Lautropia	0.0064	0.0045	1.4341	1.0064	0.1515
13	genus	0.0064	0.0045	1.4341	1.0064	0.1515
14	Prevotellaceae	0.0033	0.0024	1.3741	1.0033	0.1694
15	genus	0.0033	0.0024	1.3741	1.0033	0.1694
16	Fusobacterium	0.0023	0.0018	1.3126	1.0023	0.1893
17	genus	0.0023	0.0018	1.3126	1.0023	0.1893
18	Dialister	0.0116	0.0089	1.2994	1.0116	0.1938
19	genus	0.0116	0.0089	1.2994	1.0116	0.1938
20	Spirochaetaceae	0.0761	0.0747	1.0198	1.0791	0.3078
21	genus	0.0761	0.0747	1.0198	1.0791	0.3078
22	Campylobacter	0.0101	0.0110	0.9183	1.0102	0.3584
23	genus	0.0101	0.0110	0.9183	1.0102	0.3584
24	Lachnoanaerobaculum	0.2390	0.2681	0.8915	1.2700	0.3727
25	genus	0.2390	0.2681	0.8915	1.2700	0.3727
26	Veillonella	-0.0005	0.0008	-0.6304	0.9995	0.5284
27	genus	-0.0005	0.0008	-0.6304	0.9995	0.5284
28	Abiotrophia	-0.0379	0.0658	-0.5756	0.9629	0.5649
29	genus	-0.0379	0.0658	-0.5756	0.9629	0.5649
30	Shannon	0.5487	0.9799	0.5600	1.7310	0.5755
31	genus	0.5487	0.9799	0.5600	1.7310	0.5755
32	Capnocytophaga	0.0026	0.0046	0.5562	1.0026	0.5781
33	genus	0.0026	0.0046	0.5562	1.0026	0.5781
34	Chloroplast	-0.1046	0.2079	-0.5031	0.9007	0.6149
35	genus	-0.1046	0.2079	-0.5031	0.9007	0.6149
36	Streptococcus	-0.0002	0.0004	-0.4886	0.9998	0.6252
37	genus	-0.0002	0.0004	-0.4886	0.9998	0.6252
38	Gemella	0.0009	0.0018	0.4678	1.0009	0.6399
39	genus	0.0009	0.0018	0.4678	1.0009	0.6399
40	Neisseria	0.0010	0.0024	0.4139	1.0010	0.6789
41	genus	0.0010	0.0024	0.4139	1.0010	0.6789
42	Prevotella	-0.0025	0.0037	-0.3756	1.0014	0.7072
43	genus	-0.0025	0.0037	-0.3756	1.0014	0.7072
44	Granulicatella	0.0083	0.0245	0.3404	1.0084	0.7336
45	genus	0.0083	0.0245	0.3404	1.0084	0.7336
46	Alloprevotella	0.0646	0.2455	0.2631	1.0667	0.7925
47	genus	0.0646	0.2455	0.2631	1.0667	0.7925
48	Oribacterium	0.0867	0.3537	0.2450	1.0905	0.8065
49	genus	0.0867	0.3537	0.2450	1.0905	0.8065
50	Peptostreptococcus	0.0296	0.1279	0.2316	1.0301	0.8169
51	genus	0.0296	0.1279	0.2316	1.0301	0.8169
52	Selenomonas	0.0654	0.2847	0.2296	1.0675	0.8184
53	genus	0.0654	0.2847	0.2296	1.0675	0.8184
54	Tannerella	0.0064	0.0344	0.1864	1.0064	0.8521
55	genus	0.0064	0.0344	0.1864	1.0064	0.8521
56	Actinomyces	0.0376	0.2198	0.1710	1.0383	0.8642
57	genus	0.0376	0.2198	0.1710	1.0383	0.8642
58	Bergeyella	0.0061	0.0435	0.1402	1.0061	0.8885
59	genus	0.0061	0.0435	0.1402	1.0061	0.8885
60	Kingella	0.0079	0.0716	0.1102	1.0079	0.9123
61	genus	0.0079	0.0716	0.1102	1.0079	0.9123
62	Parvimonas	0.0042	0.0386	0.1077	1.0042	0.9142
63	genus	0.0042	0.0386	0.1077	1.0042	0.9142
64	Corynebacterium	-0.0177	0.1903	-0.0932	0.9824	0.9258
65	genus	-0.0177	0.1903	-0.0932	0.9824	0.9258
66	Porphyromonadaceae	-0.0061	0.0860	-0.0705	0.9940	0.9438
67	genus	-0.0061	0.0860	-0.0705	0.9940	0.9438
68	Haemophilus	0.0000	0.0002	-0.0587	1.0000	0.9532
69	genus	0.0000	0.0002	-0.0587	1.0000	0.9532
70	Rothia	-0.0002	0.0044	-0.0433	0.9998	0.9654
71	genus	-0.0002	0.0044	-0.0433	0.9998	0.9654
72	Staphylococcus	-0.0019	0.0545	-0.0351	0.9981	0.9720
73	genus	-0.0019	0.0545	-0.0351	0.9981	0.9720
74	Leptotrichia	-0.0006	0.0273	-0.0214	0.9994	0.9829
75	genus	-0.0006	0.0273	-0.0214	0.9994	0.9829
76	Mycoplasma	0.0002	0.0859	0.0022	1.0002	0.9982
77	genus	0.0002	0.0859	0.0022	1.0002	0.9982

36

37

38

39

40

41

42

43

44

45

46

**Table S4. Results for the association test between  $\beta$ -diversities and time to on:**

		<b>coeff</b>	<b>se(coeff)</b>	<b>z</b>	<b>p</b>
	<b>Bray-Curtis</b>	-1.6893	2.7442	-0.6156	0.5382
$\beta_{OM}$ -baseline	<b>UniFrac</b>	0.3858	2.1501	0.1794	0.8576
	<b>weighted UniFrac</b>	-1.9709	2.4771	-0.7957	0.4262
	<b>Bray-Curtis</b>	-0.3021	1.7828	-0.1694	0.8655
$\beta_{severe\_OM}$ -baseline	<b>UniFrac</b>	-1.2117	3.1887	-0.3800	0.7039
	<b>weighted UniFrac</b>	1.7545	3.2707	0.5364	0.5917

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

**set of severe oral mucositis**