

Supplementary Table 1. Lipid profiles at 4 years

Variable	N	Trajectory 1 N = 1461	Trajectory 2 N = 4471	Trajectory 3 N = 961	p-value ²
TC		688 4.30 (3.70, 4.80)	4.40 (3.90, 4.90)	4.35 (3.90, 5.00)	0.11
TG		689 0.70 (0.60, 1.00)	0.80 (0.60, 1.00)	0.70 (0.60, 0.90)	0.5
HDLC		689 1.35 (1.22, 1.52)	1.41 (1.24, 1.57)	1.32 (1.20, 1.55)	0.033
LDLC		689 2.10 (1.70, 2.40)	2.20 (1.80, 2.60)	2.22 (1.90, 2.60)	0.05
UA		689 252 (221, 293)	259 (219, 298)	259 (231, 294)	0.7

¹Median (Q1, Q3)

²Kruskal-Wallis rank sum test

Supplementary Table 2. Statistical results from the multivariate a

term	estimate	conf.low	conf.high	p.value
feeding_type_28daysexclusive formula fed	0.618547	0.271448	1.409481	0.252961659
feeding_type_28daysmixed feeding	0.824222	0.629452	1.079261	0.159894751
feeding_types_6_monthsexclusive_formula	0.887307	0.605526	1.300215	0.539672353
feeding_types_6_monthsmixed feeding	0.921777	0.689447	1.232397	0.582516611
delivery_modeCaesarean section	1.412332	1.104118	1.806583	0.005987261
gestational_week_delivery	1.165792	1.065371	1.275679	0.000844489
TG	1.148637	0.923167	1.429174	0.213898317
height_mo	1.032268	1.010885	1.054104	0.002943133
feeding_type_28daysexclusive formula fed	1.244145	0.550344	2.812603	0.599642967
feeding_type_28daysmixed feeding	1.108987	0.80188	1.53371	0.531769202
feeding_types_6_monthsexclusive_formula	0.88559	0.554031	1.41557	0.611648265
feeding_types_6_monthsmixed_feeding	1.328701	0.94617	1.865886	0.100890262
delivery_modeCaesarean section	0.872039	0.647111	1.175149	0.368340166
gestational_week_delivery	0.833778	0.769067	0.903935	1.03E-05
TG	0.821858	0.611993	1.10369	0.192186102
height mo	0.991456	0.970509	1.012854	0.430916241

association analyses

comparision

Trajectory 1 vs. Trajectory 2

Trajectory 1 vs. Trajectory 2

Trajectory 1 vs. Trajectory 2

Trajectory 1 vs. Trajectory 2

Trajectory 1 vs. Trajectory 2

Trajectory 1 vs. Trajectory 2

Trajectory 1 vs. Trajectory 2

Trajectory 1 vs. Trajectory 2

Trajectory 3 vs. Trajectory 2

Trajectory 3 vs. Trajectory 2

Trajectory 3 vs. Trajectory 2

Trajectory 3 vs. Trajectory 2

Trajectory 3 vs. Trajectory 2

Trajectory 3 vs. Trajectory 2

Trajectory 3 vs. Trajectory 2

Trajectory 3 vs. Trajectory 2

Supplementary Table 3. Microbiome composition associated with phenotypes in mother

visittype	q	Significance	phenotypes
MG1	0.008532468	p.adjust <0.01	Trajectory
MG1	0.008532468	p.adjust <0.01	Weight at first prenatal visit
MG1	0.008532468	p.adjust <0.01	TG
MG1	0.022655172	p.adjust <0.05	HDLC
MG1	0.008532468	p.adjust <0.01	UA
MG1	0.008532468	p.adjust <0.01	Education level of mother
MG1	0.008532468	p.adjust <0.01	History of maternal hypothyroidism
MG1	0.008532468	p.adjust <0.01	Prepregnancy weight
MG1	0.008532468	p.adjust <0.01	Weight before delivery
MG1	0.048503356	p.adjust <0.05	Coffee drinking frequency before pregnancy
MG1	0.008532468	p.adjust <0.01	GDM
MG1	0.008532468	p.adjust <0.01	Prepregnancy BMI
MG1	0.008532468	p.adjust <0.01	Prepregnancy BMI
MG1	0.008532468	p.adjust <0.01	Age of mother
MG2	0.008532468	p.adjust <0.01	Weight at first prenatal visit
MG2	0.008532468	p.adjust <0.01	TG
MG2	0.017756757	p.adjust <0.05	HDLC
MG2	0.008532468	p.adjust <0.01	UA
MG2	0.008532468	p.adjust <0.01	Education level of mother
MG2	0.008532468	p.adjust <0.01	History of maternal hypothyroidism
MG2	0.008532468	p.adjust <0.01	Prepregnancy weight
MG2	0.008532468	p.adjust <0.01	Weight before delivery
MG2	0.061981132	p.adjust <0.1	Coffee drinking frequency before pregnancy
MG2	0.008532468	p.adjust <0.01	GDM
MG2	0.008532468	p.adjust <0.01	Prepregnancy BMI
MG2	0.008532468	p.adjust <0.01	Prepregnancy BMI
MG2	0.008532468	p.adjust <0.01	Age of mother
MG2	0.013272727	p.adjust <0.05	Trajectory
MG3	0.008532468	p.adjust <0.01	TG
MG3	0.013272727	p.adjust <0.05	HDLC
MG3	0.008532468	p.adjust <0.01	UA
MG3	0.008532468	p.adjust <0.01	Education level of mother
MG3	0.013272727	p.adjust <0.05	History of maternal hypothyroidism
MG3	0.008532468	p.adjust <0.01	Prepregnancy weight
MG3	0.008532468	p.adjust <0.01	Weight before delivery
MG3	0.008532468	p.adjust <0.01	Weight at first prenatal visit
MG3	0.177417722	Not significant	Coffee drinking frequency before pregnancy
MG3	0.008532468	p.adjust <0.01	GDM
MG3	0.008532468	p.adjust <0.01	Prepregnancy BMI
MG3	0.008532468	p.adjust <0.01	Prepregnancy BMI
MG3	0.008532468	p.adjust <0.01	Age of mother
MG3	0.013272727	p.adjust <0.05	Trajectory

Supplementary Table 4. Microbiome composition associated with phenotypes in offspring

visittype	q	Significance	phenotypes
BM1.5	0.002263158	p.adjust <0.01	Preterm
BM1.5	0.003909091	p.adjust <0.01	GDM
BM1.5	0.002263158	p.adjust <0.01	Prepregnancy BMI
BM1.5	0.002263158	p.adjust <0.01	Prepregnancy BMI
BM1.5	0.002263158	p.adjust <0.01	Age of mother
BM1.5	0.002263158	p.adjust <0.01	Age of father
BM1.5	0.008269231	p.adjust <0.01	Gender
BM1.5	0.002263158	p.adjust <0.01	Feeding type
BM1.5	0.061242424	p.adjust <0.1	Trajectory
BM1.5	0.002263158	p.adjust <0.01	TG
BM1.5	0.101842105	Not significant	HDLC
BM1.5	0.002263158	p.adjust <0.01	Education level of mother
BM1.5	0.0258	p.adjust <0.05	Education level of father
BM1.5	0.002263158	p.adjust <0.01	Delivery mode
BM1.5	0.003909091	p.adjust <0.01	AST
BM1.5	0.005608696	p.adjust <0.01	BUN
BM6	0.4343	Not significant	AST
BM6	0.84	Not significant	BUN
BM6	0.130433333	Not significant	TG
BM6	0.0043	p.adjust <0.01	HDLC
BM6	0.0043	p.adjust <0.01	Education level of mother
BM6	0.037941176	p.adjust <0.05	Education level of father
BM6	0.0043	p.adjust <0.01	Delivery mode
BM6	0.0043	p.adjust <0.01	Preterm
BM6	0.090961538	p.adjust <0.1	GDM
BM6	0.0043	p.adjust <0.01	Prepregnancy BMI
BM6	0.0043	p.adjust <0.01	Prepregnancy BMI
BM6	0.0043	p.adjust <0.01	Age of mother
BM6	0.0043	p.adjust <0.01	Age of father
BM6	0.163677419	Not significant	Gender
BM6	0.0043	p.adjust <0.01	Feeding type
BM6	0.090961538	p.adjust <0.1	Trajectory
BM12	0.96	Not significant	AST
BM12	0.856853659	Not significant	BUN
BM12	0.207411765	Not significant	TG
BM12	0.547272727	Not significant	HDLC
BM12	0.004777778	p.adjust <0.01	Education level of mother
BM12	0.004777778	p.adjust <0.01	Prepregnancy BMI
BM12	0.004777778	p.adjust <0.01	Age of mother
BM12	0.004777778	p.adjust <0.01	Age of father
BM12	0.616333333	Not significant	Gender
BM12	0.004777778	p.adjust <0.01	Feeding type
BM12	0.0645	p.adjust <0.1	Trajectory
BM12	0.031272727	p.adjust <0.05	Education level of father
BM12	0.004777778	p.adjust <0.01	Delivery mode
BM12	0.223958333	Not significant	Preterm
BM12	0.616333333	Not significant	GDM
BM12	0.004777778	p.adjust <0.01	Prepregnancy BMI
BM24	0.90404878	Not significant	Feeding type
BM24	0.72025	Not significant	Trajectory
BM24	0.391777778	Not significant	AST
BM24	0.641513514	Not significant	BUN
BM24	0.445766667	Not significant	TG
BM24	0.641513514	Not significant	HDLC
BM24	0.066888889	p.adjust <0.1	Education level of mother
BM24	0.049142857	p.adjust <0.05	Education level of father

BM24	0.014333333	p.adjust <0.05	Delivery mode
BM24	0.288714286	Not significant	Preterm
BM24	0.445766667	Not significant	GDM
BM24	0.0086	p.adjust <0.01	Prepregnancy BMI
BM24	0.0086	p.adjust <0.01	Prepregnancy BMI
BM24	0.255470588	Not significant	Age of mother
BM24	0.255470588	Not significant	Age of father
BM24	0.583757576	Not significant	Gender
BM36	0.823972973	Not significant	AST
BM36	0.852282051	Not significant	BUN
BM36	0.441466667	Not significant	TG
BM36	0.473	Not significant	HDLC
BM36	0.441466667	Not significant	Education level of mother
BM36	0.1935	Not significant	Education level of father
BM36	0.5031	Not significant	Delivery mode
BM36	0.823972973	Not significant	Preterm
BM36	0.5031	Not significant	GDM
BM36	0.358333333	Not significant	Prepregnancy BMI
BM36	0.370875	Not significant	Prepregnancy BMI
BM36	0.971170732	Not significant	Age of mother
BM36	0.5031	Not significant	Age of father
BM36	0.632516129	Not significant	Gender
BM36	0.5031	Not significant	Feeding type
BM36	0.801823529	Not significant	Trajectory

Supplementary Table 5. MaAsLin2 statistical comparison for mothers at the genus level

feature	metadata	value	coef	stderr	N	N.not.0	pval	qval
GGB9712	comparsioi	traj1	-0.80716	0.218449	6082	1262	0.000226	0.00249
Coprobact	comparsioi	traj1	-1.17062	0.342597	6082	3327	0.000646	0.005603
GGB5188	comparsioi	traj1	-0.83817	0.256676	6082	1717	0.00111	0.008708
Firmicutes	comparsioi	traj1	-0.7173	0.232139	6082	4917	0.002028	0.013736
GGB3746	comparsioi	traj1	0.839603	0.276691	6082	4992	0.00244	0.015691
GGB9593	comparsioi	traj1	-0.61501	0.204746	6082	1237	0.002698	0.016988
GGB9747	comparsioi	traj1	-0.80147	0.287805	6082	1473	0.005405	0.028593
Odoribacte	comparsioi	traj1	-0.76296	0.277212	6082	4969	0.00597	0.030325
GGB9760	comparsioi	traj1	-0.79318	0.288661	6082	3703	0.006052	0.030394
Flavonifra	comparsioi	traj1	0.32514	0.119941	6082	5959	0.006766	0.032876
GGB6518	comparsioi	traj1	-0.51391	0.196605	6082	850	0.009016	0.040914
Clostridiur	comparsioi	traj1	0.128891	0.050305	6082	6081	0.010472	0.045893
GGB3346	comparsioi	traj1	-0.6132	0.240435	6082	1728	0.010832	0.046782
GGB1349	comparsioi	traj1	-0.55199	0.221193	6082	1186	0.012655	0.053114
GGB9634	comparsioi	traj1	-0.62177	0.255322	6082	1490	0.014965	0.059198
GGB3175	comparsioi	traj1	-0.57988	0.244623	6082	1547	0.017854	0.067921
Bacteroid	comparsioi	traj1	0.171813	0.073518	6082	6081	0.019531	0.072152
Coprococc	comparsioi	traj1	-0.41982	0.18947	6082	5534	0.026817	0.092005
Erysipelat	comparsioi	traj1	0.475837	0.215221	6082	2501	0.02715	0.092005
GGB9345	comparsioi	traj1	-0.56162	0.258577	6082	1536	0.029971	0.09887
GGB9713	comparsioi	traj1	-0.73318	0.337915	6082	2842	0.030141	0.098946
Fusicatenil	comparsioi	traj1	-0.22906	0.105922	6082	5932	0.030694	0.099783
GGB9712	comparsioi	traj2	0.508398	0.190104	6082	1262	0.007547	0.037482
Odoribacte	comparsioi	traj2	0.598954	0.240952	6082	4969	0.013004	0.055626
GGB3746	comparsioi	traj2	-0.58152	0.240667	6082	4992	0.015765	0.063487
Firmicutes	comparsioi	traj2	0.483954	0.201905	6082	4917	0.01662	0.066332
Clostridiur	comparsioi	traj2	-0.09932	0.043739	6082	6081	0.023267	0.084557
GGB5188	comparsioi	traj3	1.023837	0.318971	6082	1717	0.001348	0.010303
Eggerthell	comparsioi	traj3	-0.86509	0.282252	6082	3827	0.002205	0.01482
GGB3619	comparsioi	traj3	0.837737	0.348297	6082	2311	0.016249	0.066028
Bifidobact	comparsioi	traj3	-0.33583	0.139799	6082	6020	0.016383	0.066272
Lachnospir	comparsioi	traj3	0.72054	0.312314	6082	5546	0.021146	0.08079
GGB1349	comparsioi	traj3	0.62629	0.274954	6082	1186	0.022839	0.084373
GGB9595	comparsioi	traj3	0.631208	0.278583	6082	1035	0.023567	0.086703

Supplementary Table 6. MaAsLin2 statistical comparison for mothers at the species |

feature	metadata value	coef	stderr	N	N.not.0
GGB9712_SGB15244	comparsioi traj1	-0.80771	0.218632	6082	1262
Lacrimispora celerecrescens	comparsioi traj1	-1.02397	0.294272	6082	3335
Bacteroides_eggerthii	comparsioi traj1	-1.25275	0.374452	6082	3610
Clostridium sp AT4	comparsioi traj1	1.071585	0.326131	6082	2509
Eubacterium ramulus	comparsioi traj1	-0.62304	0.190874	6082	5194
GGB51884_SGB49168	comparsioi traj1	-0.83882	0.256888	6082	1717
Firmicutes bacterium AF16_15	comparsioi traj1	-0.71825	0.2323	6082	4917
GGB3746_SGB5089	comparsioi traj1	0.838816	0.276502	6082	4992
GGB9593_SGB15015	comparsioi traj1	-0.61547	0.204792	6082	1237
Clostridiaceae bacterium Marseille Q5	comparsioi traj1	0.745102	0.254611	6082	2020
Butyricimonas_faecalis	comparsioi traj1	-0.75329	0.265406	6082	826
GGB9747_SGB15356	comparsioi traj1	-0.80134	0.287669	6082	1473
Odoribacter splanchnicus	comparsioi traj1	-0.76384	0.27741	6082	4969
Clostridiales bacterium KLE1615	comparsioi traj1	-0.44121	0.161632	6082	5717
Flavonifractor_plautii	comparsioi traj1	0.324221	0.120162	6082	5959
GGB6518_SGB9205	comparsioi traj1	-0.51431	0.196702	6082	850
GGB33469_SGB15236	comparsioi traj1	-0.61354	0.240503	6082	1728
Coprobacter_fastidiosus	comparsioi traj1	-0.86864	0.340497	6082	2568
Clostridium sp AF27_2AA	comparsioi traj1	0.731474	0.28735	6082	3512
Parabacteroides_johnsonii	comparsioi traj1	-0.6948	0.273354	6082	1212
Bacteroides_thetaiotaomicron	comparsioi traj1	0.372032	0.146317	6082	5930
GGB13493_SGB15238	comparsioi traj1	-0.55241	0.221295	6082	1186
Blautia_glucerasea	comparsioi traj1	-0.48447	0.197911	6082	4776
GGB9708_SGB15233	comparsioi traj1	-0.60603	0.247594	6082	1266
GGB9634_SGB15093	comparsioi traj1	-0.62041	0.254882	6082	1490
GGB3175_SGB4191	comparsioi traj1	-0.57853	0.244259	6082	1547
Coprobacter_secundus	comparsioi traj1	-0.5778	0.244017	6082	2015
Clostridium sp AF36_4	comparsioi traj1	-0.70375	0.305945	6082	2917
Bacteroides salyersiae	comparsioi traj1	-0.81061	0.352414	6082	3077
Clostridium_sp_AM49_4BH	comparsioi traj1	-0.71306	0.310613	6082	2855
Coprococcus comes	comparsioi traj2	0.448228	0.156982	6082	4951
Clostridiales bacterium KLE1615	comparsioi traj2	0.400137	0.14045	6082	5717
Bifidobacterium_pseudocatenulatum	comparsioi traj2	0.694361	0.251582	6082	4571
GGB9712_SGB15244	comparsioi traj2	0.508741	0.190263	6082	1262
Ruminococcus torques	comparsioi traj2	0.312754	0.118644	6082	5805
Anaerobutyricum_soehngenii	comparsioi traj2	0.524841	0.209225	6082	4234
Odoribacter splanchnicus	comparsioi traj2	0.600293	0.241123	6082	4969
GGB3746_SGB5089	comparsioi traj2	-0.58036	0.240503	6082	4992
Firmicutes bacterium_AF16_15	comparsioi traj2	0.48488	0.202045	6082	4917
Bacteroides faecis	comparsioi traj2	-0.72127	0.304179	6082	2405
Bacteroides uniformis	comparsioi traj2	-0.29663	0.129714	6082	6006
Ruminococcus_SGB4421	comparsioi traj2	0.566691	0.24969	6082	1740
Bifidobacterium pseudocatenulatum	comparsioi traj3	-1.21387	0.359536	6082	4571
GGB51884_SGB49168	comparsioi traj3	1.024398	0.319235	6082	1717
Eggerthella_lenta	comparsioi traj3	-0.86634	0.282477	6082	3827
Clostridium sp AT4	comparsioi traj3	-1.12611	0.405568	6082	2509
Gemmiger_SGB15295	comparsioi traj3	0.917969	0.3335	6082	1699
Phocaeicola_coprocola	comparsioi traj3	1.496824	0.566643	6082	3133
Clostridiaceae unclassified_SGB4771	comparsioi traj3	0.774507	0.305599	6082	3330
Clostridiaceae bacterium Marseille Q5	comparsioi traj3	-0.79928	0.316622	6082	2020
GGB3619_SGB4894	comparsioi traj3	0.837855	0.34842	6082	2311
Eubacterium_SGB6276	comparsioi traj3	0.98669	0.417297	6082	1734
Blautia_stercoris	comparsioi traj3	-0.79579	0.337071	6082	3240
GGB13493_SGB15238	comparsioi traj3	0.626867	0.275081	6082	1186
GGB9595_SGB15019	comparsioi traj3	0.631371	0.27876	6082	1035

level

pval	qval
0.000226	0.002848
0.000512	0.005284
0.000836	0.007661
0.001034	0.008886
0.001116	0.009341
0.001111	0.009341
0.002015	0.014712
0.002446	0.017173
0.002685	0.01838
0.003466	0.022165
0.00458	0.027751
0.005391	0.030779
0.005948	0.033042
0.006393	0.034811
0.007028	0.037771
0.008995	0.045389
0.010811	0.052157
0.01081	0.052157
0.010981	0.052619
0.011101	0.052619
0.011073	0.052619
0.012628	0.058039
0.01445	0.062518
0.01446	0.062518
0.015013	0.064507
0.01795	0.072189
0.017982	0.072189
0.021533	0.082454
0.021538	0.082454
0.021794	0.083241
0.004342	0.027135
0.004429	0.027353
0.005831	0.033095
0.007556	0.041284
0.008449	0.044828
0.0122	0.057458
0.012867	0.059606
0.015902	0.067976
0.016489	0.070119
0.017821	0.073767
0.022308	0.087638
0.023335	0.090382
0.000748	0.007179
0.001353	0.011103
0.00219	0.015991
0.005542	0.031883
0.005965	0.033937
0.008314	0.044396
0.011337	0.054645
0.011663	0.055595
0.016271	0.069733
0.018147	0.075266
0.018322	0.075577
0.022777	0.089056
0.023619	0.091698

Supplementary Table 7. MaAsLin2 statistical comparison for offspring at the species level

feature	metadata	value	coef	stderr	N	N.not.0	pval	qval
Anaerostip	comparsioi	traj1	0.50616	0.149416	7647	1769	0.00071	0.004161
Veillonella	comparsioi	traj1	-0.59764	0.182797	7647	6221	0.001084	0.00595
Lachnospir	comparsioi	traj1	0.417492	0.135943	7647	963	0.002142	0.010965
Campyloba	comparsioi	traj1	-0.38455	0.133654	7647	2405	0.004026	0.018423
Haemophil	comparsioi	traj1	-0.48068	0.170788	7647	5895	0.004901	0.021298
Bacteroid	comparsioi	traj1	0.641213	0.23446	7647	4261	0.006259	0.025892
Parabacter	comparsioi	traj1	0.645449	0.249479	7647	2830	0.009699	0.03804
Rutheniba	comparsioi	traj1	0.484707	0.188711	7647	2297	0.010237	0.039635
Rothia_mu	comparsioi	traj1	-0.42599	0.169403	7647	4710	0.011939	0.04479
Bifidobact	comparsioi	traj1	-0.63358	0.257107	7647	3852	0.013757	0.050054
Coprobacil	comparsioi	traj1	0.352772	0.15349	7647	1942	0.021576	0.074445
Streptococ	comparsioi	traj1	-0.26852	0.116938	7647	7205	0.021693	0.074445
Enteroclos	comparsioi	traj1	0.31492	0.139777	7647	1400	0.024293	0.082433
Dorea_lon	comparsioi	traj1	-0.30474	0.138021	7647	1182	0.027286	0.089568
Erysipelat	comparsioi	traj1	-0.47861	0.216767	7647	4390	0.027284	0.089568
Veillonella	comparsioi	traj1	-0.41766	0.190071	7647	6177	0.028029	0.09151
Bacteroid	comparsioi	traj1	0.471309	0.218521	7647	2220	0.031059	0.099784
Parabacter	comparsioi	traj2	-0.82395	0.215083	7647	2830	0.000129	0.000906
Enteroclos	comparsioi	traj2	-0.43821	0.120504	7647	1400	0.000279	0.00179
Bacteroid	comparsioi	traj2	-0.63153	0.202228	7647	4261	0.001799	0.009369
Bacteroid	comparsioi	traj2	-0.53776	0.188462	7647	2220	0.00434	0.019415
Rutheniba	comparsioi	traj2	-0.36235	0.16282	7647	2297	0.026086	0.091962
Phocaeicol	comparsioi	traj3	-0.80226	0.259093	7647	3209	0.001968	0.010335
GGB7973	comparsioi	traj3	0.441364	0.151029	7647	995	0.003486	0.016755
Parabacter	comparsioi	traj3	0.558735	0.211505	7647	1112	0.00827	0.033979
Dorea_for	comparsioi	traj3	0.47231	0.17919	7647	1221	0.008415	0.03434
Bacteroid	comparsioi	traj3	-0.83097	0.317386	7647	3256	0.008862	0.035685
Anaerostip	comparsioi	traj3	-0.46566	0.182411	7647	1769	0.010709	0.042002
Enteroclos	comparsioi	traj3	0.407884	0.170566	7647	1400	0.016816	0.060457
Streptococ	comparsioi	traj3	0.337601	0.1427	7647	7205	0.018021	0.064407
Parabacter	comparsioi	traj3	0.687537	0.304487	7647	2830	0.02398	0.083239
Collinsella	comparsioi	traj3	0.555109	0.250876	7647	2167	0.026956	0.091985

Supplementary Table 8. Transmission statistical con

Comparison	odds_ratio	ci_lower	ci_upper	p_value	Focal_Trai	Others_Tra
Trajectory 1 vs non-1	0.304223	0.094507	0.759854	0.004734	5	56
Trajectory 1 vs non-1	0.613952	0.385758	0.945771	0.022311	27	148
Trajectory 1 vs non-1	0.751283	0.394893	1.343283	0.351505	15	69
Trajectory 1 vs non-1	0.756299	0.594929	0.957807	0.018942	127	537
Trajectory 1 vs non-1	0.762419	0.417838	1.318713	0.374354	17	77
Trajectory 1 vs non-1	0.76726	0.518268	1.113114	0.162783	39	173
Trajectory 1 vs non-1	0.768207	0.412493	1.351097	0.431216	16	72
Trajectory 1 vs non-1	0.805536	0.400211	1.50896	0.557668	13	56
Trajectory 1 vs non-1	0.826126	0.523025	1.2686	0.414691	29	121
Trajectory 1 vs non-1	0.876163	0.620276	1.220663	0.468835	52	204
Trajectory 1 vs non-1	0.929289	0.49426	1.654923	0.888626	16	60
Trajectory 1 vs non-1	0.930267	0.661549	1.29131	0.687548	54	201
Trajectory 1 vs non-1	0.966286	0.533287	1.670834	1	18	65
Trajectory 1 vs non-1	0.974155	0.738652	1.276255	0.893211	88	314
Trajectory 1 vs non-1	1.015092	0.558737	1.761409	1	18	62
Trajectory 1 vs non-1	1.065547	0.535658	1.995494	0.874715	14	46
Trajectory 1 vs non-1	1.078722	0.731266	1.564845	0.706301	42	137
Trajectory 1 vs non-1	1.137318	0.661095	1.889493	0.60467	22	68
Trajectory 1 vs non-1	1.140927	0.90797	1.430866	0.254196	160	513
Trajectory 1 vs non-1	1.16208	0.725573	1.815129	0.492692	29	88
Trajectory 1 vs non-1	1.23865	0.818945	1.840433	0.302362	38	109
Trajectory 1 vs non-1	1.311326	0.682344	2.404304	0.343996	16	43
Trajectory 1 vs non-1	1.324187	0.89857	1.923269	0.140106	44	119
Trajectory 1 vs non-1	1.328033	0.784076	2.184317	0.24022	24	64
Trajectory 1 vs non-1	1.387669	0.77455	2.400002	0.244288	20	51
Trajectory 1 vs non-1	1.47171	0.741191	2.78718	0.23183	15	36
Trajectory 1 vs non-1	1.582542	1.098634	2.25532	0.012293	52	120
Trajectory 1 vs non-1	1.661739	0.929304	2.885067	0.069756	21	45
Trajectory 1 vs non-1	1.710945	0.981148	2.907108	0.041894	23	48
Trajectory 1 vs non-1	2.221503	1.342977	3.622327	0.001296	30	49
Trajectory 2 vs non-2	0.456119	0.282025	0.735022	0.000691	37	42
Trajectory 2 vs non-2	0.547696	0.301328	0.997409	0.036972	26	25
Trajectory 2 vs non-2	0.708004	0.5053	0.995916	0.039589	94	69
Trajectory 2 vs non-2	0.715136	0.501848	1.023683	0.058838	85	62
Trajectory 2 vs non-2	0.756527	0.509039	1.131838	0.161629	69	48
Trajectory 2 vs non-2	0.766192	0.452667	1.31397	0.295937	39	27
Trajectory 2 vs non-2	0.815948	0.490327	1.377324	0.447022	43	28
Trajectory 2 vs non-2	0.818763	0.671629	0.998713	0.046484	418	255
Trajectory 2 vs non-2	0.85702	0.491241	1.524248	0.583515	37	23
Trajectory 2 vs non-2	0.870416	0.623453	1.222508	0.403373	107	65
Trajectory 2 vs non-2	0.940014	0.557138	1.617956	0.79833	44	25
Trajectory 2 vs non-2	0.977938	0.682438	1.41386	0.92905	97	53
Trajectory 2 vs non-2	0.983427	0.61727	1.592797	1	57	31
Trajectory 2 vs non-2	1.021466	0.750541	1.398975	0.93926	139	73
Trajectory 2 vs non-2	1.049984	0.622862	1.81213	0.899637	47	24
Trajectory 2 vs non-2	1.11649	0.679819	1.875784	0.719995	54	26
Trajectory 2 vs non-2	1.128648	0.805662	1.59544	0.510936	121	58
Trajectory 2 vs non-2	1.166337	0.698872	1.997208	0.623803	52	24
Trajectory 2 vs non-2	1.27296	1.000365	1.625932	0.046326	279	123
Trajectory 2 vs non-2	1.3339	0.824328	2.214989	0.257843	64	26
Trajectory 2 vs non-2	1.362956	1.111506	1.674177	0.002323	463	201
Trajectory 2 vs non-2	1.389108	1.033487	1.881745	0.02892	182	73
Trajectory 2 vs non-2	1.397996	1.040331	1.893424	0.024396	183	73
Trajectory 2 vs non-2	1.44935	0.88432	2.447128	0.137619	64	24
Trajectory 2 vs non-2	1.453317	0.79495	2.78594	0.266815	43	16
Trajectory 2 vs non-2	1.5078	0.903189	2.603015	0.125556	61	22

Trajectory 2 vs non-2	1.71588	1.190135	2.514859	0.002708	132	43
Trajectory 2 vs non-2	1.911627	1.150902	3.30163	0.010361	73	21
Trajectory 2 vs non-2	2.013788	1.169642	3.635616	0.009614	66	18
Trajectory 2 vs non-2	2.48969	1.268742	5.340118	0.004078	50	11
Trajectory 3 vs non-3	0	0	0.435548	0.000496	0	59
Trajectory 3 vs non-3	0.24767	0.049657	0.759514	0.006715	3	81
Trajectory 3 vs non-3	0.296776	0.078465	0.79743	0.009957	4	90
Trajectory 3 vs non-3	0.311333	0.082229	0.837854	0.013882	4	86
Trajectory 3 vs non-3	0.340354	0.089734	0.918809	0.026991	4	79
Trajectory 3 vs non-3	0.40421	0.106078	1.098656	0.098013	4	67
Trajectory 3 vs non-3	0.51529	0.160392	1.28244	0.200436	5	66
Trajectory 3 vs non-3	0.521548	0.302274	0.853689	0.006276	19	236
Trajectory 3 vs non-3	0.542803	0.278169	0.975224	0.040216	13	159
Trajectory 3 vs non-3	0.584319	0.347473	0.938077	0.020449	21	235
Trajectory 3 vs non-3	0.58729	0.226225	1.286537	0.247929	7	81
Trajectory 3 vs non-3	0.605603	0.403466	0.887074	0.0071	35	367
Trajectory 3 vs non-3	0.658299	0.360888	1.126785	0.126269	16	163
Trajectory 3 vs non-3	0.676572	0.3707	1.158901	0.188497	16	159
Trajectory 3 vs non-3	0.682761	0.281455	1.434989	0.410284	8	80
Trajectory 3 vs non-3	0.685361	0.239355	1.604748	0.455079	6	60
Trajectory 3 vs non-3	0.749875	0.261008	1.764756	0.694264	6	55
Trajectory 3 vs non-3	0.762263	0.313119	1.610274	0.605786	8	72
Trajectory 3 vs non-3	0.809026	0.331617	1.714156	0.724594	8	68
Trajectory 3 vs non-3	0.813929	0.60071	1.0946	0.173502	74	590
Trajectory 3 vs non-3	1.223537	0.919382	1.622319	0.153441	95	578
Trajectory 3 vs non-3	1.230753	0.525823	2.566073	0.553307	9	51
Trajectory 3 vs non-3	1.252824	0.6075	2.379354	0.487949	12	67
Trajectory 3 vs non-3	1.283239	0.784626	2.027866	0.2686	25	138
Trajectory 3 vs non-3	1.353332	0.817805	2.161062	0.200539	24	126
Trajectory 3 vs non-3	1.371167	0.776718	2.309101	0.249087	19	98
Trajectory 3 vs non-3	1.373977	0.898004	2.054328	0.124717	34	178
Trajectory 3 vs non-3	1.388907	0.838608	2.220123	0.156681	24	123
Trajectory 3 vs non-3	1.481305	0.712632	2.84362	0.264816	12	57
Trajectory 3 vs non-3	1.717927	0.757116	3.545304	0.133819	10	41

comparisons between trajectories

Focal_Not	Others_No species	nan visit	visit	p.adj	contrast
436	1485	Bifidobact	overall	0.007102	Trajectory 1 vs non-1
414	1393	Bacteroides	overall	0.033466	Trajectory 1 vs non-1
426	1472	Bacteroides	overall	0.351505	Trajectory 1 vs non-1
314	1004	Phocaeicol	overall	0.028413	Trajectory 1 vs non-1
424	1464	Parasuttere	overall	0.374354	Trajectory 1 vs non-1
402	1368	Parabacter	overall	0.244175	Trajectory 1 vs non-1
425	1469	Escherichi	overall	0.431216	Trajectory 1 vs non-1
428	1485	Parasuttere	overall	0.79833	Trajectory 1 vs non-1
412	1420	Megamonas	overall	0.622037	Trajectory 1 vs non-1
389	1337	Phocaeicol	overall	0.468835	Trajectory 1 vs non-1
425	1481	Phocaeicol	overall	0.888626	Trajectory 1 vs non-1
387	1340	Bifidobact	overall	0.687548	Trajectory 1 vs non-1
423	1476	Bacteroides	overall	1	Trajectory 1 vs non-1
353	1227	Bacteroides	overall	0.893211	Trajectory 1 vs non-1
423	1479	Flavonifrax	overall	1	Trajectory 1 vs non-1
427	1495	Odoribacte	overall	0.874715	Trajectory 1 vs non-1
399	1404	Bifidobact	overall	0.706301	Trajectory 1 vs non-1
419	1473	Phocaeicol	overall	0.60467	Trajectory 1 vs non-1
281	1028	Parabacter	overall	0.254196	Trajectory 1 vs non-1
412	1453	Bacteroides	overall	0.492692	Trajectory 1 vs non-1
403	1432	Phascolar	overall	0.302362	Trajectory 1 vs non-1
425	1498	Mesosuttere	overall	0.343996	Trajectory 1 vs non-1
397	1422	Bilophila v	overall	0.210159	Trajectory 1 vs non-1
417	1477	Bifidobact	overall	0.371893	Trajectory 1 vs non-1
421	1490	Bacteroides	overall	0.366432	Trajectory 1 vs non-1
426	1505	Paraprevot	overall	0.23183	Trajectory 1 vs non-1
389	1421	Sutterella v	overall	0.03688	Trajectory 1 vs non-1
420	1496	Alistipes o	overall	0.209268	Trajectory 1 vs non-1
418	1493	Bacteroides	overall	0.125682	Trajectory 1 vs non-1
411	1492	Alistipes p	overall	0.001944	Trajectory 1 vs non-1
1254	649	Alistipes p	overall	0.001944	Trajectory 2 vs non-2
1265	666	Paraprevot	overall	0.110915	Trajectory 2 vs non-2
1197	622	Bilophila v	overall	0.118768	Trajectory 2 vs non-2
1206	629	Phascolar	overall	0.176513	Trajectory 2 vs non-2
1222	643	Bacteroides	overall	0.37363	Trajectory 2 vs non-2
1252	664	Alistipes o	overall	0.443905	Trajectory 2 vs non-2
1248	663	Bacteroides	overall	0.447022	Trajectory 2 vs non-2
873	436	Parabacter	overall	0.139452	Trajectory 2 vs non-2
1254	668	Odoribacte	overall	0.874715	Trajectory 2 vs non-2
1184	626	Sutterella v	overall	0.403373	Trajectory 2 vs non-2
1247	666	Parasuttere	overall	0.79833	Trajectory 2 vs non-2
1194	638	Megamonas	overall	0.92905	Trajectory 2 vs non-2
1234	660	Bifidobact	overall	1	Trajectory 2 vs non-2
1152	618	Parabacter	overall	0.93926	Trajectory 2 vs non-2
1244	667	Bacteroides	overall	0.899637	Trajectory 2 vs non-2
1237	665	Flavonifrax	overall	1	Trajectory 2 vs non-2
1170	633	Bifidobact	overall	0.706301	Trajectory 2 vs non-2
1239	667	Phocaeicol	overall	0.888626	Trajectory 2 vs non-2
1012	568	Bacteroides	overall	0.069489	Trajectory 2 vs non-2
1227	665	Phocaeicol	overall	0.386764	Trajectory 2 vs non-2
828	490	Phocaeicol	overall	0.006968	Trajectory 2 vs non-2
1109	618	Bifidobact	overall	0.04338	Trajectory 2 vs non-2
1108	618	Phocaeicol	overall	0.036595	Trajectory 2 vs non-2
1227	667	Escherichi	overall	0.412858	Trajectory 2 vs non-2
1248	675	Mesosuttere	overall	0.343996	Trajectory 2 vs non-2
1230	669	Bacteroides	overall	0.188333	Trajectory 2 vs non-2

1159	648 Bacteroides overall	0.008123 Trajectory 2 vs non-2
1218	670 Parasutterella overall	0.015541 Trajectory 2 vs non-2
1225	673 Bacteroides overall	0.014421 Trajectory 2 vs non-2
1241	680 Bifidobacterium overall	0.007102 Trajectory 2 vs non-2
250	1673 Mesosutterella overall	0.001488 Trajectory 3 vs non-3
247	1651 Bacteroides overall	0.014421 Trajectory 3 vs non-3
246	1642 Parasutterella overall	0.015541 Trajectory 3 vs non-3
246	1646 Phocaeicola overall	0.041645 Trajectory 3 vs non-3
246	1653 Bacteroides overall	0.080973 Trajectory 3 vs non-3
246	1665 Bacteroides overall	0.294039 Trajectory 3 vs non-3
245	1666 Bacteroides overall	0.300655 Trajectory 3 vs non-3
231	1496 Bifidobacterium overall	0.018829 Trajectory 3 vs non-3
237	1573 Sutterella overall	0.060325 Trajectory 3 vs non-3
229	1497 Phocaeicola overall	0.036595 Trajectory 3 vs non-3
243	1651 Bifidobacterium overall	0.371893 Trajectory 3 vs non-3
215	1365 Bacteroides overall	0.0213 Trajectory 3 vs non-3
234	1569 Bifidobacterium overall	0.378808 Trajectory 3 vs non-3
234	1573 Bacteroides overall	0.188497 Trajectory 3 vs non-3
242	1652 Escherichia overall	0.431216 Trajectory 3 vs non-3
244	1672 Alistipes overall	0.455079 Trajectory 3 vs non-3
244	1677 Bifidobacterium overall	0.694264 Trajectory 3 vs non-3
242	1660 Flavonifractor overall	1 Trajectory 3 vs non-3
242	1664 Phocaeicola overall	0.888626 Trajectory 3 vs non-3
176	1142 Phocaeicola overall	0.173502 Trajectory 3 vs non-3
155	1154 Parabacterium overall	0.230161 Trajectory 3 vs non-3
241	1681 Odoribacterium overall	0.874715 Trajectory 3 vs non-3
238	1665 Alistipes overall	0.487949 Trajectory 3 vs non-3
225	1594 Bilophila overall	0.2686 Trajectory 3 vs non-3
226	1606 Megamonas overall	0.601618 Trajectory 3 vs non-3
231	1634 Bacteroides overall	0.37363 Trajectory 3 vs non-3
216	1554 Parabacterium overall	0.244175 Trajectory 3 vs non-3
226	1609 Phascolarctia overall	0.235022 Trajectory 3 vs non-3
238	1675 Parasutterella overall	0.794449 Trajectory 3 vs non-3
240	1691 Paraprevotella overall	0.200728 Trajectory 3 vs non-3

Supplementary Table 9. Persistence statistical

Comparison	odds_ratio	ci_lower	ci_upper	p_value	Focal_Trai	Others_Tra
Trajectory 1 vs non-1	Inf	1.511	Inf	0.00991	3	0
Trajectory 2 vs non-2	0	0	1.263624	0.040358	0	3
Trajectory 3 vs non-3	0	0	16.49926	1	0	3
Trajectory 1 vs non-1	1.310183	0.302574	4.452415	0.752395	4	11
Trajectory 2 vs non-2	1.473255	0.434291	6.370191	0.596292	11	4
Trajectory 3 vs non-3	0	0	1.853578	0.242586	0	15
Trajectory 1 vs non-1	1.859152	0.622586	5.063939	0.183814	7	13
Trajectory 2 vs non-2	0.794551	0.296363	2.256706	0.640026	12	8
Trajectory 3 vs non-3	0.379855	0.009089	2.419838	0.498479	1	19
Trajectory 1 vs non-1	0.571901	0.012406	4.732541	1	1	6
Trajectory 2 vs non-2	0.718741	0.121201	4.920335	0.701385	4	3
Trajectory 3 vs non-3	2.810918	0.266304	17.28069	0.214608	2	5
Trajectory 1 vs non-1	0.728692	0.015369	6.538219	1	1	5
Trajectory 2 vs non-2	0.52192	0.06968	3.90834	0.419241	3	3
Trajectory 3 vs non-3	3.418822	0.307661	24.00664	0.173262	2	4
Trajectory 1 vs non-1	3.6524	1.274789	10.46576	0.007379	9	9
Trajectory 2 vs non-2	0.336256	0.109956	0.955355	0.024517	7	11
Trajectory 3 vs non-3	0.830938	0.092111	3.570375	1	2	16
Trajectory 1 vs non-1	1.647938	0.685449	3.701283	0.196187	10	21
Trajectory 2 vs non-2	0.559494	0.256616	1.2264	0.126567	16	15
Trajectory 3 vs non-3	1.411766	0.41769	3.804949	0.411572	5	26
Trajectory 1 vs non-1	3.455357	0.640904	18.62783	0.082185	4	4
Trajectory 2 vs non-2	0.322376	0.049917	1.662569	0.137628	3	5
Trajectory 3 vs non-3	0.999422	0.022087	7.832497	1	1	7
Trajectory 1 vs non-1	1.303591	0.934468	1.800739	0.107892	61	177
Trajectory 2 vs non-2	1.06049	0.788149	1.435444	0.714875	159	79
Trajectory 3 vs non-3	0.519871	0.296106	0.863149	0.009003	18	220
Trajectory 1 vs non-1	0.962556	0.605655	1.489179	0.91459	29	108
Trajectory 2 vs non-2	0.835091	0.575987	1.219443	0.351083	84	53
Trajectory 3 vs non-3	1.460455	0.877907	2.346952	0.113427	24	113
Trajectory 1 vs non-1	1.053001	0.248401	3.439068	1	4	13
Trajectory 2 vs non-2	0.973834	0.327809	3.226916	1	11	6
Trajectory 3 vs non-3	0.970561	0.106801	4.2303	1	2	15
Trajectory 1 vs non-1	0.99798	0.754397	1.311291	1	86	296
Trajectory 2 vs non-2	1.042068	0.819338	1.329265	0.765519	251	131
Trajectory 3 vs non-3	0.919628	0.636492	1.306607	0.667772	45	337
Trajectory 1 vs non-1	Inf	0.093495	Inf	0.215225	1	0
Trajectory 2 vs non-2	0	0	20.39457	0.343373	0	1
Trajectory 3 vs non-3	0	0	264.242	1	0	1
Trajectory 1 vs non-1	14.48832	1.428548	712.4805	0.009169	4	1
Trajectory 2 vs non-2	0.132972	0.0027	1.347437	0.052787	1	4
Trajectory 3 vs non-3	0	0	7.284593	1	0	5
Trajectory 1 vs non-1	1.14043	0.021659	14.25563	1	1	3
Trajectory 2 vs non-2	1.595473	0.127726	83.91585	1	3	1
Trajectory 3 vs non-3	0	0	11.07003	1	0	4
Trajectory 1 vs non-1	3.438866	0.043748	269.7404	0.400108	1	1
Trajectory 2 vs non-2	0.539397	0.006872	42.38914	1	1	1
Trajectory 3 vs non-3	0	0	37.29985	1	0	2
Trajectory 1 vs non-1	1.107637	0.482428	2.326495	0.711493	10	33
Trajectory 2 vs non-2	1.085247	0.550517	2.239976	0.872031	29	14
Trajectory 3 vs non-3	0.692654	0.178144	1.946246	0.645624	4	39
Trajectory 1 vs non-1	7.339789	2.269662	27.53534	0.000223	10	5
Trajectory 2 vs non-2	0.191718	0.044338	0.650378	0.00418	4	11
Trajectory 3 vs non-3	0.473515	0.011152	3.139506	0.708419	1	14
Trajectory 1 vs non-1	0	0	18.22573	1	0	2
Trajectory 2 vs non-2	0.531081	0.006763	41.75304	1	1	1

Trajectory 3 vs non-3	7.298342	0.092694	572.0251	0.226992	1	1
Trajectory 1 vs non-1	0.929367	0.493881	1.656944	0.888447	16	59
Trajectory 2 vs non-2	0.957741	0.579609	1.612095	0.901949	48	27
Trajectory 3 vs non-3	1.211689	0.567838	2.358751	0.591946	11	64
Trajectory 1 vs non-1	3.284686	1.172015	9.064918	0.011378	9	10
Trajectory 2 vs non-2	0.384588	0.133548	1.055944	0.049851	8	11
Trajectory 3 vs non-3	0.781574	0.087039	3.326374	1	2	17
Trajectory 1 vs non-1	1.141738	0.26655	3.800149	0.767948	4	12
Trajectory 2 vs non-2	1.170824	0.372473	4.323069	1	11	5
Trajectory 3 vs non-3	0.482653	0.011399	3.1755	0.709586	1	15
Trajectory 1 vs non-1	0	0	18.30715	1	0	2
Trajectory 2 vs non-2	Inf	0.101334	Inf	0.544483	2	0
Trajectory 3 vs non-3	0	0	37.29985	1	0	2
Trajectory 1 vs non-1	1.460533	0.138557	8.962634	0.647701	2	5
Trajectory 2 vs non-2	0.390893	0.057062	2.318351	0.240966	3	4
Trajectory 3 vs non-3	2.734084	0.25894	16.8154	0.222945	2	5
Trajectory 1 vs non-1	7.210861	0.374489	425.1283	0.121315	2	1
Trajectory 2 vs non-2	0.266689	0.00452	5.132402	0.279195	1	2
Trajectory 3 vs non-3	0	0	16.14781	1	0	3
Trajectory 1 vs non-1	3.977243	1.252432	12.96063	0.00888	8	7
Trajectory 2 vs non-2	0.267124	0.071335	0.861915	0.013792	5	10
Trajectory 3 vs non-3	1.076906	0.117287	4.800356	1	2	13
Trajectory 1 vs non-1	0	0	2.134674	0.21415	0	8
Trajectory 2 vs non-2	3.674211	0.470366	165.8305	0.276671	7	1
Trajectory 3 vs non-3	0.97181	0.021471	7.619872	1	1	7
Trajectory 1 vs non-1	Inf	2.277595	Inf	0.002555	4	0
Trajectory 2 vs non-2	0	0	0.815551	0.015004	0	4
Trajectory 3 vs non-3	0	0	10.62398	1	0	4
Trajectory 1 vs non-1	4.168441	1.311777	13.5951	0.007075	8	7
Trajectory 2 vs non-2	0.264242	0.070527	0.852863	0.013236	5	10
Trajectory 3 vs non-3	1.024539	0.111557	4.56963	1	2	13
Trajectory 1 vs non-1	1.431333	0.392054	4.405271	0.558549	5	12
Trajectory 2 vs non-2	0.756659	0.25815	2.357348	0.61198	10	7
Trajectory 3 vs non-3	0.970561	0.106801	4.2303	1	2	15
Trajectory 1 vs non-1	6.890074	0.357921	406.1788	0.129384	2	1
Trajectory 2 vs non-2	0	0	1.304102	0.042931	0	3
Trajectory 3 vs non-3	3.504459	0.059225	67.65205	0.330368	1	2
Trajectory 1 vs non-1	Inf	0.685618	Inf	0.046229	2	0
Trajectory 2 vs non-2	0	0	2.783021	0.117782	0	2
Trajectory 3 vs non-3	0	0	36.27637	1	0	2
Trajectory 1 vs non-1	10.4172	1.85479	105.9524	0.002344	6	2
Trajectory 2 vs non-2	0.178751	0.017618	1.003068	0.025256	2	6
Trajectory 3 vs non-3	0	0	4.106491	0.606511	0	8
Trajectory 1 vs non-1	1.465293	0.462613	4.029463	0.425624	6	15
Trajectory 2 vs non-2	0.57146	0.218987	1.510026	0.247089	11	10
Trajectory 3 vs non-3	1.610747	0.390882	4.997184	0.333337	4	17
Trajectory 1 vs non-1	0.596247	0.111909	2.05759	0.5951	3	18
Trajectory 2 vs non-2	0.583948	0.223774	1.54302	0.25052	11	10
Trajectory 3 vs non-3	3.396679	1.147603	9.106543	0.013606	7	14
Trajectory 1 vs non-1	1.224792	0.342614	3.632862	0.782017	5	14
Trajectory 2 vs non-2	0.727615	0.264555	2.098297	0.478043	11	8
Trajectory 3 vs non-3	1.371369	0.253474	4.861785	0.492928	3	16
Trajectory 1 vs non-1	1.148007	0.442616	2.664483	0.674922	8	24
Trajectory 2 vs non-2	0.606484	0.28295	1.313172	0.190453	17	15
Trajectory 3 vs non-3	1.985901	0.71733	4.788892	0.108368	7	25
Trajectory 1 vs non-1	3.698081	1.201254	11.38332	0.010743	8	8
Trajectory 2 vs non-2	0.403458	0.127041	1.224031	0.10866	7	9
Trajectory 3 vs non-3	0.451362	0.010676	2.960355	0.709818	1	15

Trajectory 1 vs non-1	2.586232	0.643559	9.524745	0.149673	5	7
Trajectory 2 vs non-2	0.746579	0.203024	2.99577	0.762192	7	5
Trajectory 3 vs non-3	0	0	2.396452	0.384579	0	12
Trajectory 1 vs non-1	1.14043	0.021659	14.25563	1	1	3
Trajectory 2 vs non-2	1.595473	0.127726	83.91585	1	3	1
Trajectory 3 vs non-3	0	0	11.07003	1	0	4
Trajectory 1 vs non-1	1.953511	0.930074	3.944782	0.052469	14	25
Trajectory 2 vs non-2	0.771716	0.387343	1.574327	0.498019	23	16
Trajectory 3 vs non-3	0.373234	0.043315	1.462727	0.220481	2	37
Trajectory 1 vs non-1	Inf	0.093495	Inf	0.215225	1	0
Trajectory 2 vs non-2	0	0	20.39457	0.343373	0	1
Trajectory 3 vs non-3	0	0	264.242	1	0	1
Trajectory 1 vs non-1	0	0	5.185861	0.580157	0	4
Trajectory 2 vs non-2	0.176461	0.003359	2.204175	0.123301	1	3
Trajectory 3 vs non-3	22.11788	1.764772	1158.054	0.006317	3	1
Trajectory 1 vs non-1	Inf	0.646018	Inf	0.050724	2	0
Trajectory 2 vs non-2	0	0	2.871415	0.122721	0	2
Trajectory 3 vs non-3	0	0	37.29985	1	0	2
Trajectory 1 vs non-1	0	0	5.528326	0.583412	0	4
Trajectory 2 vs non-2	1.569877	0.125754	82.53138	1	3	1
Trajectory 3 vs non-3	2.271887	0.043119	28.42991	0.422491	1	3
Trajectory 1 vs non-1	1.198705	0.022779	14.97371	1	1	3
Trajectory 2 vs non-2	0.177558	0.003382	2.216546	0.124527	1	3
Trajectory 3 vs non-3	6.694869	0.483098	92.87655	0.085166	2	2
Trajectory 1 vs non-1	0	0	133.1142	1	0	1
Trajectory 2 vs non-2	Inf	0.01364	Inf	1	1	0
Trajectory 3 vs non-3	0	0	282.7326	1	0	1
Trajectory 1 vs non-1	0	0	5.208888	0.580515	0	4
Trajectory 2 vs non-2	0.179389	0.003417	2.238947	0.12671	1	3
Trajectory 3 vs non-3	21.17079	1.69235	1107.275	0.007023	3	1
Trajectory 1 vs non-1	0.844367	0.205519	2.608981	1	4	17
Trajectory 2 vs non-2	0.481481	0.182204	1.256505	0.107006	10	11
Trajectory 3 vs non-3	3.396679	1.147603	9.106543	0.013606	7	14
Trajectory 1 vs non-1	0.452893	0.050002	1.963217	0.388875	2	15
Trajectory 2 vs non-2	1.736466	0.532775	7.350961	0.445155	13	4
Trajectory 3 vs non-3	0.970561	0.106801	4.2303	1	2	15
Trajectory 1 vs non-1	0.858809	0.017399	8.705115	1	1	4
Trajectory 2 vs non-2	0.358933	0.029909	3.141188	0.350966	2	3
Trajectory 3 vs non-3	4.687995	0.389739	41.08996	0.120621	2	3
Trajectory 1 vs non-1	0.606871	0.013161	5.024752	1	1	6
Trajectory 2 vs non-2	3.14682	0.380505	144.9587	0.433423	6	1
Trajectory 3 vs non-3	0	0	4.731009	0.605206	0	7
Trajectory 1 vs non-1	1.027249	0.103717	5.423232	1	2	7
Trajectory 2 vs non-2	0.265437	0.042816	1.248004	0.072868	3	6
Trajectory 3 vs non-3	5.392614	1.062165	25.24518	0.020922	4	5
Trajectory 1 vs non-1	0	0	2.905001	0.347225	0	6
Trajectory 2 vs non-2	0.264343	0.023866	1.851966	0.190816	2	4
Trajectory 3 vs non-3	14.82858	2.107321	164.9481	0.002536	4	2
Trajectory 1 vs non-1	0.571901	0.012406	4.732541	1	1	6
Trajectory 2 vs non-2	1.350156	0.220347	14.21574	1	5	2
Trajectory 3 vs non-3	1.166558	0.025263	9.677221	1	1	6
Trajectory 1 vs non-1	Inf	0.087699	Inf	0.226232	1	0
Trajectory 2 vs non-2	0	0	20.72271	0.346981	0	1
Trajectory 3 vs non-3	0	0	282.7326	1	0	1
Trajectory 1 vs non-1	0	0	18.30715	1	0	2
Trajectory 2 vs non-2	0	0	2.871415	0.122721	0	2
Trajectory 3 vs non-3	Inf	1.316652	Inf	0.015586	2	0
Trajectory 1 vs non-1	3.372154	1.273636	8.819328	0.006756	10	11

Trajectory 2 vs non-2	0.317467	0.113422	0.831499	0.010334	8	13
Trajectory 3 vs non-3	1.135533	0.212626	3.934098	0.744438	3	18
Trajectory 1 vs non-1	3.460904	0.792683	15.10459	0.052202	5	5
Trajectory 2 vs non-2	0.229645	0.038199	1.009812	0.039123	3	7
Trajectory 3 vs non-3	1.754468	0.180493	8.86246	0.361468	2	8
Trajectory 1 vs non-1	0.605866	0.065591	2.738589	0.746696	2	12
Trajectory 2 vs non-2	0.940873	0.281739	3.589718	1	9	5
Trajectory 3 vs non-3	1.865741	0.331794	7.133648	0.408589	3	11
Trajectory 1 vs non-1	0	0	19.15425	1	0	2
Trajectory 2 vs non-2	0.534018	0.006803	41.97081	1	1	1
Trajectory 3 vs non-3	6.670348	0.08477	522.4988	0.244169	1	1
Trajectory 1 vs non-1	1.478783	0.462959	4.125856	0.422505	6	14
Trajectory 2 vs non-2	0.355928	0.125584	0.952172	0.030957	8	12
Trajectory 3 vs non-3	3.045339	0.949919	8.534005	0.030511	6	14
Trajectory 1 vs non-1	1.041997	0.105204	5.501014	1	2	7
Trajectory 2 vs non-2	1.834607	0.347935	18.15065	0.726761	7	2
Trajectory 3 vs non-3	0	0	3.452244	0.614148	0	9
Trajectory 1 vs non-1	0	0	1.365818	0.138218	0	11
Trajectory 2 vs non-2	Inf	1.360611	Inf	0.010558	11	0
Trajectory 3 vs non-3	0	0	2.78962	0.37846	0	11
Trajectory 1 vs non-1	0	0	5.528326	0.583412	0	4
Trajectory 2 vs non-2	0.173796	0.00331	2.169561	0.11999	1	3
Trajectory 3 vs non-3	20.59865	1.64614	1077.812	0.007533	3	1

comparisons between trajectories

Focal_Not	Others_No	speciesname	visitvisit	p.adj	sign	psign
390	1433	Akkermansia muciniphila	BM6 vs. BM1.5	0.02973	Increase	*
1199	624	Akkermansia muciniphila	BM6 vs. BM1.5	0.060538	Decrease	
234	1589	Akkermansia muciniphila	BM6 vs. BM1.5	1	Decrease	
391	1409	Akkermansia muciniphila	BM24 vs. BM1	0.752395	Increase	
1172	628	Akkermansia muciniphila	BM24 vs. BM1	0.752395	Increase	
237	1563	Akkermansia muciniphila	BM24 vs. BM1	0.727758	Decrease	
319	1102	Akkermansia muciniphila	BM36 vs. BM2	0.551441	Increase	
929	492	Akkermansia muciniphila	BM36 vs. BM2	0.640026	Decrease	
173	1248	Akkermansia muciniphila	BM36 vs. BM2	0.640026	Decrease	
446	1530	Akkermansia muciniphila	BM12 vs. BM6	1	Decrease	
1284	692	Akkermansia muciniphila	BM12 vs. BM6	1	Decrease	
246	1730	Akkermansia muciniphila	BM12 vs. BM6	0.643823	Increase	
392	1428	Alistipes putredinis	BM6 vs. BM1.5	1	Decrease	
1196	624	Alistipes putredinis	BM6 vs. BM1.5	0.628862	Decrease	
232	1588	Alistipes putredinis	BM6 vs. BM1.5	0.519787	Increase	
386	1411	Alistipes putredinis	BM24 vs. BM1	0.022136	Increase	*
1176	621	Alistipes putredinis	BM24 vs. BM1	0.036775	Decrease	*
235	1562	Alistipes putredinis	BM24 vs. BM1	1	Decrease	
316	1094	Alistipes putredinis	BM36 vs. BM2	0.29428	Increase	
925	485	Alistipes putredinis	BM36 vs. BM2	0.29428	Decrease	
169	1241	Alistipes putredinis	BM36 vs. BM2	0.411572	Increase	
443	1532	Alistipes putredinis	BM12 vs. BM6	0.206442	Increase	
1285	690	Alistipes putredinis	BM12 vs. BM6	0.206442	Decrease	
247	1728	Alistipes putredinis	BM12 vs. BM6	1	Decrease	
332	1256	Bifidobacterium bifidum	BM6 vs. BM1.5	0.161838	Increase	
1040	548	Bifidobacterium bifidum	BM6 vs. BM1.5	0.714875	Increase	
216	1372	Bifidobacterium bifidum	BM6 vs. BM1.5	0.027009	Decrease	*
366	1312	Bifidobacterium bifidum	BM24 vs. BM1	0.91459	Decrease	
1099	579	Bifidobacterium bifidum	BM24 vs. BM1	0.526624	Decrease	
213	1465	Bifidobacterium bifidum	BM24 vs. BM1	0.340281	Increase	
322	1102	Bifidobacterium bifidum	BM36 vs. BM2	1	Increase	
930	494	Bifidobacterium bifidum	BM36 vs. BM2	1	Decrease	
172	1252	Bifidobacterium bifidum	BM36 vs. BM2	1	Decrease	
361	1240	Bifidobacterium bifidum	BM12 vs. BM6	1	Decrease	
1037	564	Bifidobacterium bifidum	BM12 vs. BM6	1	Increase	
203	1398	Bifidobacterium bifidum	BM12 vs. BM6	1	Decrease	
392	1433	Clostridium A leptum	BM6 vs. BM1.5	0.51506	Increase	
1199	626	Clostridium_A leptum	BM6 vs. BM1.5	0.51506	Decrease	
234	1591	Clostridium_A leptum	BM6 vs. BM1.5	1	Decrease	
391	1419	Clostridium A leptum	BM24 vs. BM1	0.027507	Increase	*
1182	628	Clostridium_A leptum	BM24 vs. BM1	0.07918	Decrease	
237	1573	Clostridium_A leptum	BM24 vs. BM1	1	Decrease	
325	1112	Clostridium A leptum	BM36 vs. BM2	1	Increase	
938	499	Clostridium_A leptum	BM36 vs. BM2	1	Increase	
174	1263	Clostridium_A leptum	BM36 vs. BM2	1	Decrease	
446	1535	Clostridium A leptum	BM12 vs. BM6	1	Increase	
1287	694	Clostridium_A leptum	BM12 vs. BM6	1	Decrease	
248	1733	Clostridium_A leptum	BM12 vs. BM6	1	Decrease	
383	1400	Clostridium AQ innocuum	BM6 vs. BM1.5	0.872031	Increase	
1170	613	Clostridium AQ innocuum	BM6 vs. BM1.5	0.872031	Increase	
230	1553	Clostridium_AQ innocuum	BM6 vs. BM1.5	0.872031	Decrease	
385	1415	Clostridium AQ innocuum	BM24 vs. BM1	0.00067	Increase	*
1179	621	Clostridium_AQ innocuum	BM24 vs. BM1	0.006271	Decrease	*
236	1564	Clostridium_AQ innocuum	BM24 vs. BM1	0.708419	Decrease	
326	1113	Clostridium AQ innocuum	BM36 vs. BM2	1	Decrease	
940	499	Clostridium_AQ innocuum	BM36 vs. BM2	1	Decrease	

173	1266	Clostridium AQ innocuum	BM36 vs. BM2	0.680977	Increase	
431	1477	Clostridium AQ innocuum	BM12 vs. BM6	0.901949	Decrease	
1240	668	Clostridium AQ innocuum	BM12 vs. BM6	0.901949	Decrease	
237	1671	Clostridium AQ innocuum	BM12 vs. BM6	0.901949	Increase	
386	1410	Dialister invisus	BM24 vs. BM1	0.034135	Increase	*
1175	621	Dialister invisus	BM24 vs. BM1	0.074777	Decrease	
235	1561	Dialister invisus	BM24 vs. BM1	1	Decrease	
322	1103	Dialister invisus	BM36 vs. BM2	1	Increase	
930	495	Dialister invisus	BM36 vs. BM2	1	Increase	
173	1252	Dialister invisus	BM36 vs. BM2	1	Decrease	
447	1534	Dialister invisus	BM12 vs. BM6	1	Decrease	
1286	695	Dialister invisus	BM12 vs. BM6	1	Increase	
248	1733	Dialister invisus	BM12 vs. BM6	1	Decrease	
391	1428	Enterocloster clostridioformis	BM6 vs. BM1.5	0.647701	Increase	
1196	623	Enterocloster clostridioformis	BM6 vs. BM1.5	0.361449	Decrease	
232	1587	Enterocloster clostridioformis	BM6 vs. BM1.5	0.361449	Increase	
393	1419	Enterocloster clostridioformis	BM24 vs. BM1	0.363945	Increase	
1182	630	Enterocloster clostridioformis	BM24 vs. BM1	0.418792	Decrease	
237	1575	Enterocloster clostridioformis	BM24 vs. BM1	1	Decrease	
439	1529	Enterocloster clostridioformis	BM12 vs. BM6	0.020687	Increase	*
1283	685	Enterocloster clostridioformis	BM12 vs. BM6	0.020687	Decrease	*
246	1722	Enterocloster clostridioformis	BM12 vs. BM6	1	Increase	
393	1425	Faecalispora sporosphaeroides	BM6 vs. BM1.5	0.415007	Decrease	
1192	626	Faecalispora sporosphaeroides	BM6 vs. BM1.5	0.415007	Increase	
233	1585	Faecalispora sporosphaeroides	BM6 vs. BM1.5	1	Decrease	
443	1536	Faecalispora sporosphaeroides	BM12 vs. BM6	0.007665	Increase	*
1288	691	Faecalispora sporosphaeroides	BM12 vs. BM6	0.022506	Decrease	*
248	1731	Faecalispora sporosphaeroides	BM12 vs. BM6	1	Decrease	
387	1413	Gallintestinimicrobium procne	BM24 vs. BM1	0.019855	Increase	*
1178	622	Gallintestinimicrobium procne	BM24 vs. BM1	0.019855	Decrease	*
235	1565	Gallintestinimicrobium procne	BM24 vs. BM1	1	Increase	
321	1103	Gallintestinimicrobium procne	BM36 vs. BM2	0.91797	Increase	
931	493	Gallintestinimicrobium procne	BM36 vs. BM2	0.91797	Decrease	
172	1252	Gallintestinimicrobium procne	BM36 vs. BM2	1	Decrease	
445	1535	Gallintestinimicrobium procne	BM12 vs. BM6	0.194076	Increase	
1288	692	Gallintestinimicrobium procne	BM12 vs. BM6	0.128792	Decrease	
247	1733	Gallintestinimicrobium procne	BM12 vs. BM6	0.330368	Increase	
391	1433	Hungatella hathewayi	BM6 vs. BM1.5	0.138687	Increase	
1199	625	Hungatella hathewayi	BM6 vs. BM1.5	0.176673	Decrease	
234	1590	Hungatella hathewayi	BM6 vs. BM1.5	1	Decrease	
441	1534	Hungatella hathewayi	BM12 vs. BM6	0.007031	Increase	*
1286	689	Hungatella hathewayi	BM12 vs. BM6	0.037884	Decrease	*
248	1727	Hungatella hathewayi	BM12 vs. BM6	0.606511	Decrease	
387	1418	Megamonas funiformis	BM6 vs. BM1.5	0.425624	Increase	
1188	617	Megamonas funiformis	BM6 vs. BM1.5	0.425624	Decrease	
230	1575	Megamonas funiformis	BM6 vs. BM1.5	0.425624	Increase	
392	1402	Megamonas funiformis	BM24 vs. BM1	0.5951	Decrease	
1172	622	Megamonas funiformis	BM24 vs. BM1	0.37578	Decrease	
230	1564	Megamonas funiformis	BM24 vs. BM1	0.040818	Increase	*
321	1101	Megamonas funiformis	BM36 vs. BM2	0.782017	Increase	
930	492	Megamonas funiformis	BM36 vs. BM2	0.739392	Decrease	
171	1251	Megamonas funiformis	BM36 vs. BM2	0.739392	Increase	
439	1512	Megamonas funiformis	BM12 vs. BM6	0.674922	Increase	
1271	680	Megamonas funiformis	BM12 vs. BM6	0.285679	Decrease	
241	1710	Megamonas funiformis	BM12 vs. BM6	0.285679	Increase	
385	1425	Otoolea symbiosa	BM6 vs. BM1.5	0.032229	Increase	*
1192	618	Otoolea symbiosa	BM6 vs. BM1.5	0.16299	Decrease	
233	1577	Otoolea symbiosa	BM6 vs. BM1.5	0.709818	Decrease	

390	1413	Otoolea symbiosa	BM24 vs. BM1	0.449018	Increase	
1176	627	Otoolea symbiosa	BM24 vs. BM1	0.762192	Decrease	
237	1566	Otoolea symbiosa	BM24 vs. BM1	0.576868	Decrease	
325	1112	Otoolea symbiosa	BM36 vs. BM2	1	Increase	
938	499	Otoolea symbiosa	BM36 vs. BM2	1	Increase	
174	1263	Otoolea symbiosa	BM36 vs. BM2	1	Decrease	
433	1511	Otoolea symbiosa	BM12 vs. BM6	0.157406	Increase	
1265	679	Otoolea symbiosa	BM12 vs. BM6	0.498019	Decrease	
246	1698	Otoolea symbiosa	BM12 vs. BM6	0.330722	Decrease	
392	1433	Parabacteroides goldsteinii	BM6 vs. BM1.5	0.51506	Increase	
1199	626	Parabacteroides goldsteinii	BM6 vs. BM1.5	0.51506	Decrease	
234	1591	Parabacteroides goldsteinii	BM6 vs. BM1.5	1	Decrease	
326	1111	Parabacteroides goldsteinii	BM36 vs. BM2	0.580157	Decrease	
940	497	Parabacteroides goldsteinii	BM36 vs. BM2	0.184951	Decrease	
171	1266	Parabacteroides goldsteinii	BM36 vs. BM2	0.018952	Increase	*
445	1536	Parabacteroides goldsteinii	BM12 vs. BM6	0.152173	Increase	
1288	693	Parabacteroides goldsteinii	BM12 vs. BM6	0.184081	Decrease	
248	1733	Parabacteroides goldsteinii	BM12 vs. BM6	1	Decrease	
393	1429	Phocaeicola plebeius	BM6 vs. BM1.5	0.875119	Decrease	
1196	626	Phocaeicola plebeius	BM6 vs. BM1.5	1	Increase	
233	1589	Phocaeicola plebeius	BM6 vs. BM1.5	0.875119	Increase	
394	1417	Phocaeicola plebeius	BM24 vs. BM1	1	Increase	
1182	629	Phocaeicola plebeius	BM24 vs. BM1	0.18679	Decrease	
235	1576	Phocaeicola plebeius	BM24 vs. BM1	0.18679	Increase	
326	1114	Phocaeicola plebeius	BM36 vs. BM2	1	Decrease	
940	500	Phocaeicola plebeius	BM36 vs. BM2	1	Increase	
174	1266	Phocaeicola plebeius	BM36 vs. BM2	1	Decrease	
447	1532	Phocaeicola plebeius	BM12 vs. BM6	0.580515	Decrease	
1287	692	Phocaeicola plebeius	BM12 vs. BM6	0.190065	Decrease	
245	1734	Phocaeicola plebeius	BM12 vs. BM6	0.02107	Increase	*
391	1403	Pilosibacter sp900066785	BM24 vs. BM1	1	Decrease	
1173	621	Pilosibacter sp900066785	BM24 vs. BM1	0.16051	Decrease	
230	1564	Pilosibacter sp900066785	BM24 vs. BM1	0.040818	Increase	*
324	1100	Pilosibacter sp900066785	BM36 vs. BM2	0.667732	Decrease	
928	496	Pilosibacter sp900066785	BM36 vs. BM2	0.667732	Increase	
172	1252	Pilosibacter sp900066785	BM36 vs. BM2	1	Decrease	
446	1532	Pilosibacter sp900066785	BM12 vs. BM6	1	Decrease	
1286	692	Pilosibacter sp900066785	BM12 vs. BM6	0.526449	Decrease	
246	1732	Pilosibacter sp900066785	BM12 vs. BM6	0.361864	Increase	
392	1427	Prevotella copri_B	BM6 vs. BM1.5	1	Decrease	
1193	626	Prevotella copri_B	BM6 vs. BM1.5	0.907809	Increase	
234	1585	Prevotella copri_B	BM6 vs. BM1.5	0.907809	Decrease	
393	1413	Prevotella copri_B	BM24 vs. BM1	1	Increase	
1180	626	Prevotella copri_B	BM24 vs. BM1	0.109302	Decrease	
233	1573	Prevotella copri_B	BM24 vs. BM1	0.062766	Increase	
326	1109	Prevotella copri_B	BM36 vs. BM2	0.347225	Decrease	
939	496	Prevotella copri_B	BM36 vs. BM2	0.286224	Decrease	
170	1265	Prevotella copri_B	BM36 vs. BM2	0.007609	Increase	*
446	1530	Prevotella copri_B	BM12 vs. BM6	1	Decrease	
1283	693	Prevotella copri_B	BM12 vs. BM6	1	Increase	
247	1729	Prevotella copri_B	BM12 vs. BM6	1	Increase	
325	1115	Prevotella copri_G	BM36 vs. BM2	0.520472	Increase	
941	499	Prevotella copri_G	BM36 vs. BM2	0.520472	Decrease	
174	1266	Prevotella copri_G	BM36 vs. BM2	1	Decrease	
447	1534	Prevotella copri_G	BM12 vs. BM6	1	Decrease	
1288	693	Prevotella copri_G	BM12 vs. BM6	0.184081	Decrease	
246	1735	Prevotella copri_G	BM12 vs. BM6	0.046757	Increase	*
383	1422	Streptococcus lactarius	BM6 vs. BM1.5	0.015501	Increase	*

1191	614	<i>Streptococcus lactarius</i>	BM6 vs. BM1.5	0.015501	Decrease	*
231	1574	<i>Streptococcus lactarius</i>	BM6 vs. BM1.5	0.744438	Increase	
442	1531	<i>Streptococcus lactarius</i>	BM12 vs. BM6	0.078303	Increase	
1285	688	<i>Streptococcus lactarius</i>	BM12 vs. BM6	0.078303	Decrease	
246	1727	<i>Streptococcus lactarius</i>	BM12 vs. BM6	0.361468	Increase	
391	1421	<i>Veillonella hominis</i>	BM6 vs. BM1.5	1	Decrease	
1190	622	<i>Veillonella hominis</i>	BM6 vs. BM1.5	1	Decrease	
231	1581	<i>Veillonella hominis</i>	BM6 vs. BM1.5	1	Increase	
395	1418	<i>Veillonella hominis</i>	BM24 vs. BM1	1	Decrease	
1182	631	<i>Veillonella hominis</i>	BM24 vs. BM1	1	Decrease	
236	1577	<i>Veillonella hominis</i>	BM24 vs. BM1	0.732507	Increase	
441	1522	<i>Veillonella hominis</i>	BM12 vs. BM6	0.422505	Increase	
1280	683	<i>Veillonella hominis</i>	BM12 vs. BM6	0.046435	Decrease	*
242	1721	<i>Veillonella hominis</i>	BM12 vs. BM6	0.046435	Increase	*
391	1426	<i>Veillonella sp900757715</i>	BM6 vs. BM1.5	1	Increase	
1192	625	<i>Veillonella sp900757715</i>	BM6 vs. BM1.5	1	Increase	
234	1583	<i>Veillonella sp900757715</i>	BM6 vs. BM1.5	1	Decrease	
447	1525	<i>Veillonella sp900757715</i>	BM12 vs. BM6	0.207326	Decrease	
1277	695	<i>Veillonella sp900757715</i>	BM12 vs. BM6	0.031674	Increase	*
248	1724	<i>Veillonella sp900757715</i>	BM12 vs. BM6	0.37846	Decrease	
393	1429	<i>Veillonella sp902477915</i>	BM6 vs. BM1.5	0.583412	Decrease	
1198	624	<i>Veillonella sp902477915</i>	BM6 vs. BM1.5	0.179985	Decrease	
231	1591	<i>Veillonella sp902477915</i>	BM6 vs. BM1.5	0.022599	Increase	*

Supplementary Table 10. CAZy enzymes comparisons between

estimate	.y.	group1	group2	n1	n2	statistic	p	conf.low
-4.26E-05	GT35	1	2	328	886	137228	0.000707	-6.02E-05
7.47E-05	GT35	1	3	328	84	15544	0.002	3.33E-05
3.36E-05	GT35	2	3	886	84	44056	2.86E-10	2.77E-05
4.21E-05	GT2	1	2	328	886	146982	0.486	-7.46E-06
-2.74E-05	GT2	1	3	328	84	12900	0.073	-5.62E-05
-7.14E-05	GT2	2	3	886	84	34416	0.012	-3.02E-05
4.37E-05	GT4	1	2	328	886	153870	1.07E-06	4.35E-05
-2.74E-05	GT4	1	3	328	84	12900	0.073	-5.62E-05
-4.12E-05	GT4	2	3	886	84	32652	5.78E-10	-2.41E-06
4.37E-05	GH2_18	1	2	328	886	153870	1.07E-06	4.35E-05
-2.74E-05	GH2_18	1	3	328	84	12900	0.073	-5.62E-05
-4.12E-05	GH2_18	2	3	886	84	32652	5.78E-10	-2.41E-06
-4.11E-05	GH2_10	1	2	328	886	133292	3.67E-09	-5.89E-05
-4.49E-05	GH2_10	1	3	328	84	13576	0.702	-6.86E-06
3.45E-06	GH2_10	2	3	886	84	39748	0.000838	-4.81E-05

trajectories

conf.high	method	alternative	p.adj	p.adj.signif
2.04E-05	Wilcoxon	two.sided	0.001	**
4.11E-05	Wilcoxon	two.sided	0.002	**
5.91E-05	Wilcoxon	two.sided	8.58E-10	****
3.50E-06	Wilcoxon	two.sided	0.486	ns
2.96E-06	Wilcoxon	two.sided	0.109	ns
4.39E-05	Wilcoxon	two.sided	0.036	*
2.13E-05	Wilcoxon	two.sided	1.60E-06	****
2.96E-06	Wilcoxon	two.sided	0.073	ns
-1.63E-05	Wilcoxon	two.sided	1.73E-09	****
2.13E-05	Wilcoxon	two.sided	1.60E-06	****
2.96E-06	Wilcoxon	two.sided	0.073	ns
-1.63E-05	Wilcoxon	two.sided	1.73E-09	****
-4.79E-05	Wilcoxon	two.sided	1.10E-08	****
2.64E-05	Wilcoxon	two.sided	0.702	ns
3.65E-05	Wilcoxon	two.sided	0.001	**

Supplementary Table 11. Model selection for trajectories

Model	Group	Parameter	BIC	Class	APP	Rel_Entropy
m1_2		1 Quadratic	147885.8	100	1	1
m1_3		1 Cubic	143397.4	100	1	1
m2_2		2 Quadratic	145997	73.6-26.4	0.87-0.79	0.50658
m2_3		2 Cubic	138444.2	62.4-37.6	0.89-0.86	0.598969
m3_2		3 Quadratic	145644.7	55.5-4.1-4	0.76-0.79-0	0.536998
m3_3		3 Cubic	137401.7	22.9-64.1-1	0.8-0.82-0	0.613523
m4_2		4 Quadratic	145271.4	36.2-58.3-1	0.78-0.78-0	0.640828
m4_3		4 Cubic	137410.8	25.8-12.8-2	0.76-0.56-0	0.508654
m5_2		5 Quadratic	145213.8	11-19.6-1-1	0.72-0.72-0	0.630614
m5_3		5 Cubic	136717.1	14-22.6-1-0	0.78-0.76-0	0.67466