

Table S1: Clinical metadata for the study participants

Group	Number	Sex	Age	CD4+ T cells (cells/mm3)	Viral load copies/ml
HIV-positive	PQ101	male	40	450	<20
HIV-positive	PQ102	male	39	332	n/a
HIV-positive	PQ103	male	47	416	n/a
HIV-positive	PQ104	male	68	334	<20
HIV-positive	PQ105	male	33	288	<20
HIV-positive	PQ106	female	38	936	<20
HIV-positive	PQ107	female	37	393	<20
HIV-positive	PQ108	female	32	600	<20
HIV-positive	PQ109	male	68	200	<20
HIV-positive	PQ110	female	61	320	<20
HIV-positive	PQ111	male	34	219	<40
HIV-positive	PQ112	male	59	1049	48
HIV-positive	PQ113	male	34	310	<20
HIV-positive	PQ114	male	36	404	<20
HIV-positive	PQ115	male	34	591	<20
HIV-positive	PQ116	female	48	501	<20
HIV-positive	PQ117	male	20	170	134
HIV-positive	PQ118	female	64	589	<40
HIV-positive	PQ119	female	45	718	110
HIV-positive	PQ120	male	43	750	<40
HIV-positive	PQ121	female	52	250	n/a
HIV-positive	PQ122	male	46	798	<50
HIV-positive	PQ123	male	43	443	<20
HIV-positive	PQ124	female	46	794	<40
HIV-positive	PQ125	female	41	671	<40
HIV-positive	PQ126	male	47	382	<20
HIV-positive	PQ127	female	43	410	<40
HIV-positive	PQ128	male	41	745	<20
HIV-positive	PQ129	male	36	554	<20
HIV-positive	PQ130	female	38	200	<20
HIV-positive	PQ131	female	38	180	<20
HIV-positive	PQ132	female	50	874	<20
HIV-positive	PQ133	female	53	468	<20
HIV-positive	PQ134	female	43	742	<20
HIV-positive	PQ135	female	48	780	<20
HIV-positive	PQ136	female	36	458	<20
HIV-positive	PQ137	female	44	540	<20
HIV-negative	PQ201	female	52	n/a	n/a
HIV-negative	PQ202	male	29	n/a	n/a
HIV-negative	PQ203	male	41	n/a	n/a
HIV-negative	PQ204	male	23	n/a	n/a
HIV-negative	PQ205	female	52	n/a	n/a
HIV-negative	PQ206	female	41	n/a	n/a
HIV-negative	PQ207	female	35	n/a	n/a
HIV-negative	PQ208	female	53	n/a	n/a
HIV-negative	PQ209	male	53	n/a	n/a
HIV-negative	PQ210	female	44	n/a	n/a
HIV-negative	PQ211	female	36	n/a	n/a
HIV-negative	PQ212	female	28	n/a	n/a
HIV-negative	PQ213	male	54	n/a	n/a
HIV-negative	PQ214	female	39	n/a	n/a
HIV-negative	PQ215	female	49	n/a	n/a
HIV-negative	PQ216	female	55	n/a	n/a
HIV-negative	PQ217	female	50	n/a	n/a

Group	Number	Sex	Age	CD4+ T cells (cells/mm3)	Viral load copies/ml
HIV-negative	PQ218	male	45	n/a	n/a
HIV-negative	PQ219	female	34	n/a	n/a
HIV-negative	PQ220	female	52	n/a	n/a
HIV-negative	PQ221	male	55	n/a	n/a
HIV-negative	PQ222	male	54	n/a	n/a
HIV-negative	PQ223	male	38	n/a	n/a
HIV-negative	PQ224	male	54	n/a	n/a
HIV-negative	PQ225	male	43	n/a	n/a
HIV-negative	PQ226	female	60	n/a	n/a
HIV-negative	PQ227	female	51	n/a	n/a
HIV-negative	PQ228	male	59	n/a	n/a
HIV-negative	PQ229	female	53	n/a	n/a
HIV-negative	PQ230	female	39	n/a	n/a
HIV-negative	PQ231	male	35	n/a	n/a
HIV-negative	PQ232	male	59	n/a	n/a
HIV-negative	PQ233	male	49	n/a	n/a
HIV-negative	PQ234	male	46	n/a	n/a
HIV-negative	PQ235	male	58	n/a	n/a
HIV-negative	PQ240	female	45	n/a	n/a
HIV-negative	PQ241	female	35	n/a	n/a

Table S2: Bacterial richness and diversity of plaque and saliva samples

Sample	Richness (no. of OTUs)	Diversity (Simpson's inverse diversity index)	Good's coverage
PQ101P	549	74.1	0.91
PQ101S	316	7.4	0.95
PQ102P	402	26.4	0.93
PQ102S	250	14.1	0.96
PQ103P	297	27.8	0.95
PQ103S	246	8.8	0.96
PQ104P	360	24.7	0.94
PQ104S	329	28.8	0.94
PQ105P	358	35.7	0.95
PQ105S	289	26.1	0.96
PQ106P	558	44.3	0.91
PQ106S	280	23.7	0.96
PQ107P	495	41	0.92
PQ107S	340	14.6	0.95
PQ108P	381	45.6	0.95
PQ108S	296	16.7	0.95
PQ109P	141	6.9	0.97
PQ109S	180	16.9	0.97
PQ110P	468	64.5	0.93
PQ110S	335	33.3	0.95
PQ111P	466	46.7	0.93
PQ111S	248	17.6	0.96
PQ112P	234	6.8	0.96
PQ112S	236	16	0.96
PQ113S	285	18.2	0.96
PQ114P	442	32.4	0.93
PQ114S	298	24	0.95
PQ115P	265	16.2	0.96
PQ116P	324	12.2	0.94
PQ116S	247	18.7	0.96
PQ117P	449	38.1	0.93
PQ117S	435	23.3	0.93
PQ118P	177	11.8	0.97
PQ118S	184	16	0.97
PQ119P	413	37.7	0.94
PQ119S	258	11.7	0.96
PQ120P	584	70	0.91
PQ120S	468	41.3	0.92
PQ121P	462	33.1	0.93
PQ121S	391	25.2	0.94
PQ122P	233	18.2	0.97
PQ122S	243	12.2	0.95
PQ123P	292	22.4	0.95
PQ123S	206	7.9	0.96
PQ124P	272	19.5	0.96
PQ124S	312	7.9	0.95
PQ125P	272	16.8	0.95
PQ125S	313	19.3	0.94
PQ126P	364	44.2	0.94
PQ126S	315	12.5	0.95
PQ127P	423	32.2	0.94
PQ127S	431	27.4	0.93
PQ128P	278	12	0.95
PQ128S	206	5.9	0.96

Sample	Richness (no. of OTUs)	Diversity (Simpson's inverse diversity index)	Good's coverage
PQ129P	303	46.1	0.95
PQ129S	336	27.5	0.94
PQ130P	276	19.4	0.96
PQ130S	331	26	0.95
PQ131P	374	39.6	0.94
PQ131S	373	28.4	0.93
PQ132P	319	15.9	0.94
PQ132S	336	26.7	0.95
PQ133P	417	53.5	0.94
PQ133S	332	22.9	0.94
PQ134P	380	23.6	0.94
PQ134S	282	20	0.95
PQ135P	263	21.6	0.96
PQ135S	249	10.3	0.95
PQ136P	481	70.3	0.92
PQ136S	435	34.5	0.93
PQ137P	348	38	0.95
PQ137S	307	16.2	0.95
PQ201P	401	34.7	0.93
PQ201S	282	12	0.95
PQ202P	414	19.8	0.94
PQ202S	388	14.8	0.94
PQ203P	395	56.2	0.94
PQ203S	418	12.9	0.93
PQ204P	423	36.2	0.94
PQ204S	374	14.4	0.94
PQ205P	379	23.2	0.94
PQ205S	351	18.2	0.95
PQ206P	363	24.8	0.95
PQ206S	490	52.5	0.93
PQ207P	254	12.4	0.96
PQ207S	244	20.7	0.96
PQ208P	351	30.1	0.95
PQ208S	310	18.8	0.95
PQ209P	272	10.7	0.96
PQ209S	330	12.8	0.94
PQ210P	427	44.8	0.94
PQ210S	325	12.9	0.94
PQ211S	338	20.2	0.94
PQ212P	426	33.8	0.94
PQ212S	356	14.9	0.94
PQ213P	524	59.3	0.91
PQ213S	432	22.4	0.92
PQ214P	504	53.1	0.92
PQ214S	413	22.4	0.93
PQ215P	319	23.3	0.95
PQ215S	423	16.8	0.93
PQ216P	338	35	0.95
PQ216S	408	14.1	0.93
PQ217P	311	25.7	0.96
PQ217S	213	15.5	0.96
PQ218P	424	35	0.94
PQ218S	404	26.9	0.93
PQ219P	408	36.2	0.94
PQ219S	341	5.8	0.94
PQ220P	316	16	0.94

Sample	Richness (no. of OTUs)	Diversity (Simpson's inverse diversity index)	Good's coverage
PQ220S	469	19.9	0.91
PQ221P	390	25.2	0.94
PQ221S	448	26.8	0.92
PQ222P	404	11.9	0.93
PQ222S	454	24.2	0.92
PQ223P	484	55.5	0.93
PQ223S	369	10.6	0.94
PQ224P	402	25.5	0.93
PQ224S	262	12.1	0.95
PQ225P	526	64.5	0.92
PQ225S	497	33.5	0.92
PQ226P	299	37.4	0.96
PQ226S	337	13.3	0.94
PQ227P	343	40.2	0.95
PQ227S	340	11.9	0.94
PQ228P	315	17.9	0.95
PQ228S	425	32.3	0.93
PQ229S	353	19.1	0.94
PQ230P	360	23.2	0.94
PQ230S	468	30.9	0.92
PQ231P	495	50.5	0.92
PQ231S	290	12.6	0.95
PQ232P	487	32.3	0.92
PQ232S	295	5.4	0.94
PQ233P	308	27.3	0.96
PQ234P	491	36.9	0.92
PQ234S	418	18.2	0.93
PQ235P	455	33.6	0.93
PQ235S	378	20.5	0.94
PQ240P	441	44	0.93
PQ240S	239	5.2	0.96
PQ241P	518	49.4	0.92
PQ241S	276	16.2	0.96

Table S3: OTUs associated with age and CD4+ cell counts in saliva of HIV-positive patients

OTU	Identification	Metadata	Pearson Coefficient	Significance (P value)
OTU 444	<i>Bacteroidetes</i> [G-3] HOT365	Age	0.55	0.0003
OTU 192	<i>Catonella morbi</i>	Age	-0.54	0.0003
OTU 218	<i>Fusobacterium</i> sp HOT370	Age	-0.48	0.0020
OTU 631	<i>Treponema denticola</i>	Age	0.46	0.0031
OTU 623	<i>Haemophilus parainfluenzae</i>	CD4+	0.46	0.0036
OTU 381	<i>Selenomonas diana</i>	Age	-0.45	0.0044
OTU 141	<i>Capnocytophaga</i> sp unclassified	Age	0.45	0.0046
OTU 152	<i>Catonella morbi</i>	Age	-0.44	0.0054
OTU 480	<i>Streptococcus mitis</i> /HOT431	CD4+	0.43	0.0067
OTU 116	<i>Porphyromonas endodontalis</i>	Age	-0.42	0.0079
OTU 30	<i>Alloprevotella tanner</i>	CD4+	-0.42	0.0080
OTU 282	<i>Actinomyces</i> sp HOT170/HOT171	CD4+	0.42	0.0089
OTU 129	<i>Prevotella</i> sp HOT443	Age	-0.41	0.0090
OTU 484	<i>Prevotella</i> sp HOT315	Age	-0.41	0.0093
OTU 190	<i>Prevotella maculosa</i>	Age	-0.41	0.0103
OTU 373	<i>Eubacterium yurii</i>	CD4+	-0.41	0.0108
OTU 298	<i>Selenomonas</i> sp HOT136/HOT478	Age	-0.40	0.0121
OTU 555	<i>Lachnospiraceae</i> sp [G-3] HOT100	Age	-0.40	0.0121
OTU 251	<i>Actinomyces</i> sp. HOT170/HOT171	Age	0.40	0.0125
OTU 449	<i>Catonella</i> sp HOT164	Age	-0.40	0.0130
OTU 365	<i>Capnocytophaga granulosa</i>	CD4+	-0.40	0.0134
OTU 81	<i>Actinomyces graevenitzii</i>	Age	0.39	0.0137
OTU 414	<i>Johnsonella</i> sp HOT166	Age	-0.39	0.0138
OTU 412	<i>Lachnospiraceae</i> [G-5] sp HOT080	Age	-0.39	0.0140
OTU 51	<i>Actinomyces</i> sp HOT170	Age	0.39	0.0161
OTU 132	<i>Leptotrichia</i> sp HOT221	Age	-0.39	0.0162
OTU 657	<i>Prevotella oris</i>	Age	-0.38	0.0181
OTU 291	<i>Granulicatella elegans</i>	CD4+	-0.38	0.0181
OTU 77	<i>Selenomonas noxia</i>	Age	-0.38	0.0194
OTU 206	<i>Peptostreptococcus stomatis</i>	Age	-0.37	0.0198
OTU 305	<i>Actinomyces oris</i> /HOT175	Age	-0.37	0.0203
OTU 200	<i>Streptococcus</i> sp HOT058	CD4+	0.37	0.0230
OTU 175	<i>Megasphaera micronuciformis</i>	Age	-0.36	0.0239
OTU 178	<i>Streptococcus mitis</i> bv.2	Age	0.36	0.0241
OTU 516	<i>Prevotella oris</i>	CD4+	-0.36	0.0242
OTU 266	<i>Porphyromonas</i> sp unclassified	Age	0.36	0.0243
OTU 237	<i>Bacteroidaceae</i> [G-1] sp HOT272	Age	-0.36	0.0272
OTU 62	<i>Corynebacterium durum</i>	CD4+	0.36	0.0274
OTU 679	<i>Selenomonas sputigena</i>	Age	-0.35	0.0302
OTU 471	<i>Pseudoramibacter alactolyticus</i>	Age	-0.35	0.0304
OTU 73	<i>Solobacterium moorei</i>	Age	-0.35	0.0305
OTU 45	<i>Gemella morbillorum</i>	Age	-0.35	0.0307
OTU 309	<i>Veillonellaceae</i> [G-1] sp HOT155	CD4+	-0.35	0.0308
OTU 316	<i>Johnsonella</i> sp HOT166	Age	-0.35	0.0309
OTU 15	<i>Catonella morbi</i>	Age	0.35	0.0310
OTU 227	<i>Alloprevotella</i> sp unclassified	Age	-0.35	0.0310
OTU 297	<i>Eubacterium brachy</i>	CD4+	-0.35	0.0312
OTU 152	<i>Catonella morbi</i>	CD4+	-0.35	0.0313
OTU 222	<i>Selenomonas</i> sp HOT149	Age	-0.35	0.0327

OTU	Identification	Metadata	Pearson Coefficient	Significance (<i>P</i> value)
OTU 491	<i>Shuttleworthia satelles</i>	CD4+	-0.35	0.0332
OTU 703	<i>Parvimonas micra</i>	CD4+	-0.34	0.0336
OTU 292	<i>Prevotella dentalis</i>	CD4+	-0.34	0.0351
OTU 45	<i>Gemella morbillorum</i>	CD4+	-0.34	0.0361
OTU 387	<i>Selenomonas</i> sp unclassified	Age	-0.34	0.0363
OTU 188	<i>Abiotrophia defectiva</i>	Age	0.34	0.0386
OTU 55	<i>Granulicatella adiacens</i>	Age	0.33	0.0408
OTU 222	<i>Selenomonas</i> [G-5] sp 149	CD4+	-0.33	0.0426
OTU 297	<i>Lachnospiraceae</i> sp [G-3] HOT100	Age	-0.33	0.0445
OTU 519	<i>Selenomonas diana</i>	CD4+	-0.33	0.0447
OTU 416	<i>Oribacterium</i> sp unclassified	CD4+	-0.33	0.0451
OTU 419	<i>Tannerella</i> sp HOT916	Age	-0.33	0.0455
OTU 206	<i>Peptostreptococcus stomatis</i>	CD4+	-0.32	0.0493
OTU 260	<i>Prevotella veroralis</i>	Age	-0.32	0.0494
OTU 371	<i>Haemophilus parainfluenzae</i>	CD4+	0.32	0.0494
OTU 271	<i>Aggregatibacter</i> sp unclassified	Age	0.32	0.0499

Table S4: OTUs associated with age and CD4+ cell counts in plaque of HIV-positive patients

OTU	Identification	Metadata	Pearson coefficient	Significance (P value)
OTU 152	<i>Catonella morbi</i>	Age	-0.58	0.0001
OTU 73	<i>Solobacterium moorei</i>	Age	-0.57	0.0001
OTU 104	<i>Mogibacterium diversum</i>	Age	-0.56	0.0002
OTU 339	<i>Eubacterium infirmum</i>	Age	-0.52	0.0007
OTU 269	<i>Actinomyces</i> sp unclassified	CD4+	0.50	0.0011
OTU 620	<i>Rothia dentocariosa</i>	CD4+	0.47	0.0029
OTU 484	<i>Prevotella</i> sp HOT315	Age	-0.46	0.0033
OTU 100	<i>Alloprevotella</i> sp HOT474	Age	-0.46	0.0034
OTU 373	<i>Eubacterium yurii</i>	CD4+	-0.45	0.0038
OTU 206	<i>Peptostreptococcus stomatis</i>	Age	-0.45	0.0038
OTU 309	<i>Veillonellaceae</i> [G-1] sp HOT155	Age	-0.45	0.0041
OTU 414	<i>Johnsonella</i> sp HOT166	Age	-0.45	0.0044
OTU 292	<i>Prevotella dentalis</i>	CD4+	-0.45	0.0044
OTU 34	<i>Prevotella pallens</i>	Age	-0.45	0.0046
OTU 62	<i>Corynebacterium durum</i>	Age	0.43	0.0060
OTU 226	TM7 [G-3] HOT351	Age	-0.43	0.0062
OTU 412	<i>Lachnospiraceae</i> [G-5] sp. HOT080	Age	-0.42	0.0075
OTU 483	<i>Actinomyces</i> sp. HOT483	Age	-0.42	0.0078
OTU 373	<i>Eubacterium yurii</i>	Age	-0.42	0.0079
OTU 116	<i>Porphyromonas endodontalis</i>	Age	-0.42	0.0081
OTU 643	<i>Peptococcus</i> sp HOT167	Age	-0.42	0.0082
OTU 77	<i>Selenomonas noxia</i> HOT130	Age	-0.41	0.0091
OTU 185	<i>Selenomonas</i> sp HOT149/HOT138	Age	-0.41	0.0102
OTU 44	<i>Actinomyces odontolyticus</i> /HOT180	Age	-0.41	0.0106
OTU 512	<i>Peptostreptococcaceae</i> [G-7] HOT081	Age	-0.41	0.0107
OTU 152	<i>Catonella morbi</i>	CD4+	-0.41	0.0107
OTU 242	<i>Lachnospiraceae</i> [XI5a] sp unclassified	CD4+	-0.40	0.0118
OTU 349	SR1 sp HOT345	Age	-0.40	0.0118
OTU 316	<i>Johnsonella</i> sp HOT166	Age	-0.40	0.0125
OTU 32	<i>Prevotella intermedia</i>	Age	-0.40	0.0129
OTU 97	<i>Streptococcus mutans</i>	CD4+	0.40	0.0130
OTU 521	<i>Haemophilus parainfluenzae</i>	Age	0.39	0.0138
OTU 51	<i>Actinomyces</i> sp HOT170	Age	0.39	0.0141
OTU 95	<i>Selenomonas sputigena</i>	Age	-0.39	0.0144
OTU 215	<i>Actinomyces</i> sp. HOT180	CD4+	-0.39	0.0150
OTU 261	<i>Prevotella melaninogenica</i>	Age	-0.38	0.0178
OTU 294	<i>Treponema</i> sp HOT270	Age	-0.38	0.0181
OTU 236	<i>Clostridiales</i> sp HOT085	Age	-0.37	0.0202
OTU 209	<i>Streptococcus sinensis</i>	Age	-0.37	0.0213
OTU 188	<i>Abiotrophia defectiva</i>	Age	0.37	0.0216
OTU 124	<i>Prevotella melaninogenica</i>	Age	-0.37	0.0217
OTU 181	<i>Selenomonas sputigena</i>	CD4+	-0.37	0.0222
OTU 510	<i>Prevotella</i> sp unclassified	Age	-0.37	0.0222
OTU 432	<i>Treponema socranskii</i>	Age	-0.37	0.0229
OTU 55	<i>Granulicatella adiacens</i>	CD4+	0.36	0.0240
OTU 44	<i>Actinomyces odontolyticus</i> /HOT180	CD4+	-0.36	0.0241
OTU 189	<i>Alloprevotella</i> sp HOT914	Age	-0.36	0.0242
OTU 109	<i>Selenomonas diana</i>	Age	-0.36	0.0243
OTU 9	<i>Streptococcus infantis</i> /HOT065	Age	0.36	0.0254
OTU 321	<i>Haemophilus haemolyticus</i> /HOT036/HOT908	Age	-0.36	0.0255
OTU 321	<i>Haemophilus</i>	CD4+	-0.36	0.0257

OTU	Identification	Metadata	Pearson coefficient	Significance (P value)
	<i>haemolyticus</i> /HOT036/HOT908			
OTU 193	<i>Actinomyces johnsonii</i>	CD4+	0.36	0.0258
OTU 252	TM7[G-1] sp HOT346	CD4+	0.36	0.0261
OTU 89	<i>Porphyromonas</i> sp HOT279	Age	0.36	0.0274
OTU 104	<i>Mogibacterium diversum/neglectum/vescum/pumilum</i>	CD4+	-0.36	0.0275
OTU 440	<i>Leptotrichia hongkongensis</i>	CD4+	0.35	0.0282
OTU 461	<i>Selenomonas</i> sp HOT126	Age	-0.35	0.0283
OTU 297	<i>Lachnospiraceae</i> [G-3] sp HOT100	CD4+	-0.35	0.0297
OTU 109	<i>Selenomonas diana</i> HOT139	CD4+	-0.35	0.0307
OTU 218	<i>Fusobacterium</i> sp HOT370	Age	-0.34	0.0338
OTU 55	<i>Granulicatella adiacens</i>	Age	0.34	0.0340
OTU 301	<i>Selenomonas artemidis</i>	Age	-0.34	0.0356
OTU 326	<i>Selenomonas diana</i> /HOT149/HOT892	Age	-0.34	0.0362
OTU 190	<i>Prevotella maculosa</i>	Age	-0.34	0.0370
OTU 453	<i>Treponema maltophilum</i>	Age	-0.34	0.0380
OTU 679	<i>Selenomonas sputigena</i>	Age	-0.33	0.0394
OTU 25	<i>Tannerella</i> sp HOT286	Age	-0.33	0.0414
OTU 68	<i>Prevotella melaninogenica</i>	Age	-0.33	0.0418
OTU 184	<i>Haemophilus</i> sp HOT035	CD4+	0.33	0.0425
OTU 167	<i>Anaeroglobus geminatus</i>	Age	-0.33	0.0427
OTU 202	<i>Selenomonas sputigena</i>	Age	-0.33	0.0435
OTU 763	<i>Bacteroidales</i> [G-2] sp HOT274	CD4+	-0.33	0.0441
OTU 101	<i>Capnocytophaga</i> sp HOT332	CD4+	-0.33	0.0446
OTU 642	<i>Prevotella micans</i>	Age	-0.32	0.0469
OTU 108	TM7 [G-1] sp HOT352	Age	-0.32	0.0469
OTU 14	<i>Rothia dentocariosa</i>	CD4+	0.32	0.0478
OTU 30	<i>Alloprevotella tannerae</i>	Age	-0.32	0.0480
OTU 381	<i>Selenomonas diana</i>	Age	-0.32	0.0489
OTU 400	<i>Lachnoanaerobaculum umeaense</i>	Age	-0.32	0.0491
OTU 412	<i>Lachnospiraceae</i> [G-5] sp HOT080	CD4+	-0.32	0.0493
OTU 350	<i>Actinomyces odontolyticus/meyeri</i>	CD4+	0.32	0.0495
OTU 37	<i>Actinomyces</i> sp HOT169	Age	0.32	0.0497

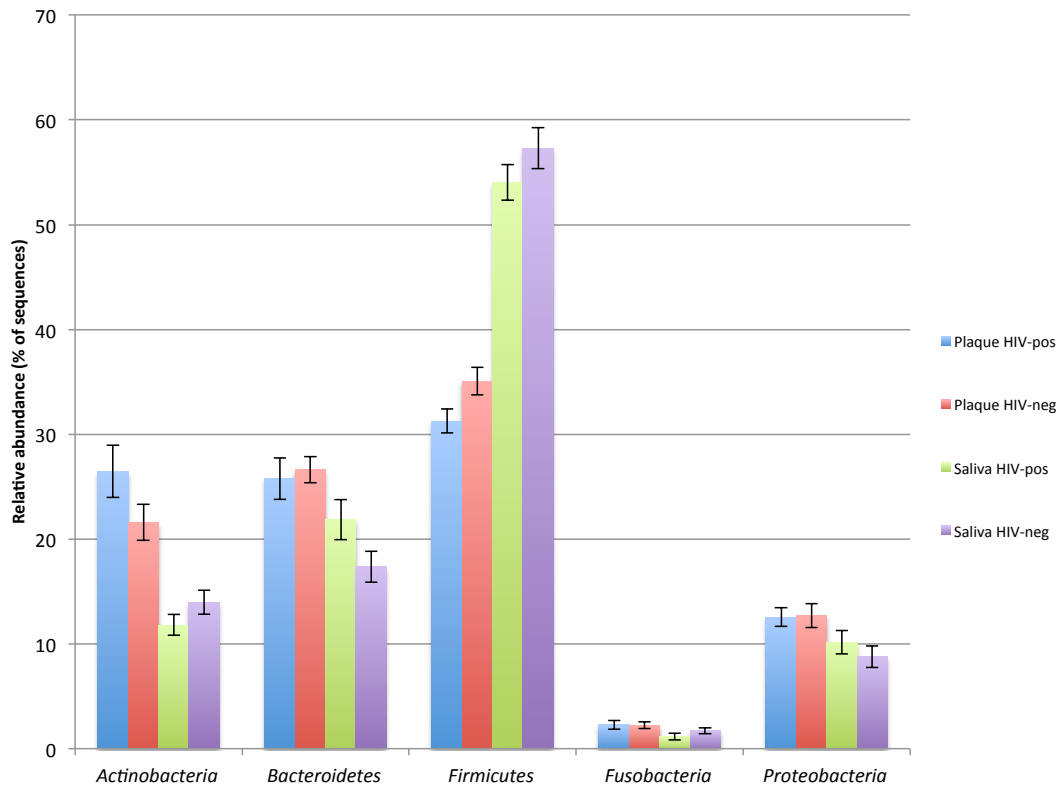


Figure S1: Bar chart showing the mean relative abundances of the predominant phyla present in plaque and saliva of HIV-positive and -negative groups. Error bars show the standard error of the mean.