

# Pangenome analysis reveals a high degree of genetic diversity in *Gardnerella vaginalis*: an *in silico* approach

Supplementary material:

**Supplementary Table S1**

Organism	Strain	Assembly Level	Size (Mb)	GC%	Genbank Access
<i>Gardnerella vaginalis</i>	NCTC10287	<i>Complete</i>	1.67	41.4	GCA_900637625.1
<i>Gardnerella vaginalis</i>	GV37	<i>Complete</i>	1.75	41.8	GCA_001953155.1
<i>Gardnerella vaginalis</i>	FDAARGOS_568	<i>Complete</i>	1.72	41.3	GCA_003812765.1
<i>Gardnerella vaginalis</i>	409-05	<i>Complete</i>	1.62	42	GCA_000025205.1
<i>Gardnerella vaginalis</i>	ATCC 14018/ JCM11026	<i>Complete</i>	1.67	41.4	GCA_001042655.1
<i>Gardnerella vaginalis</i>	ATCC 14019	<i>Complete</i>	1.67	41.4	GCA_000159155.2
<i>Gardnerella vaginalis</i>	HMP9231	<i>Complete</i>	1.73	41.4	GCA_000213955.1
<i>Gardnerella vaginalis</i>	DSM 4944	<i>Chromosome</i>	1.68	41.3	GCA_900105405.1
<i>Gardnerella vaginalis</i>	UMB0913	<i>Scaffold</i>	1.51	42.1	GCA_002861145.1
<i>Gardnerella vaginalis</i>	UMB0736	<i>Scaffold</i>	1.73	41.1	GCA_013315025.1

<i>Gardnerella vaginalis</i>	UMB0298	<i>Scaffold</i>	1.68	41.2	GCA_002861975. 1
<i>Gardnerella vaginalis</i>	JCP7672	<i>Scaffold</i>	1.69	41.2	GCA_000414645. 1
<i>Gardnerella vaginalis</i>	JCP8108	<i>Scaffold</i>	1.67	41.1	GCA_000414525. 1
<i>Gardnerella vaginalis</i>	UMB0833	<i>Scaffold</i>	1.62	42.1	GCA_002861885. 1
<i>Gardnerella vaginalis</i>	JCP7659	<i>Scaffold</i>	1.54	41.9	GCA_000414665. 1
<i>Gardnerella vaginalis</i>	JCP8070	<i>Scaffold</i>	1.48	42.2	GCA_000414545. 1
<i>Gardnerella vaginalis</i>	UMB1698	<i>Scaffold</i>	1.6	41.5	GCA_013315145. 1
<i>Gardnerella vaginalis</i>	UMB 1686	<i>Scaffold</i>	1.5	43	GCA_002884775. 1
<i>Gardnerella vaginalis</i>	UMB 1642	<i>Contig</i>	1.5	41.5	GCA_002884795. 1
<i>Gardnerella vaginalis</i>	UMB 1489	<i>Scaffold</i>	1.5	42	GCA_013315195. 1
<i>Gardnerella vaginalis</i>	UMB 1350	<i>Scaffold</i>	1.5	42	GCA_013315125. 1
<i>Gardnerella vaginalis</i>	UMB 0912	<i>Scaffold</i>	1.5	42	GCA_002861125. 1
<i>Gardnerella vaginalis</i>	UMB0830	<i>Scaffold</i>	1.6	42	GCA_002861905. 1
<i>Gardnerella vaginalis</i>	UMB0775	<i>Contig</i>	1.7	41	GCA_002861925. 1

<i>Gardnerella vaginalis</i>	UMB0770	<i>Scaffold</i>	1.7	41	GCA_002861945. 1
<i>Gardnerella vaginalis</i>	UMB0769	<i>Contig</i>	1.6	42	GCA_013315215. 1
<i>Gardnerella vaginalis</i>	UMB0768	<i>Contig</i>	1.7	41	GCA_002884835. 1
<i>Gardnerella vaginalis</i>	UMB0742	<i>Contig</i>	1.5	42	GCA_013315135. 1
<i>Gardnerella vaginalis</i>	UMB0682	<i>Contig</i>	1.6	42	GCA_002862065. 1
<i>Gardnerella vaginalis</i>	UMB0662	<i>Scaffold</i>	1.5	42	GCA_013315255. 1
<i>Gardnerella vaginalis</i>	UMB0558	<i>Scaffold</i>	1.6	42	GCA_013315115. 1
<i>Gardnerella vaginalis</i>	UMB0540	<i>Scaffold</i>	1.6	41	GCA_013315045. 1
<i>Gardnerella vaginalis</i>	UMB0388	<i>Scaffold</i>	2	40	GCA_002871555. 1
<i>Gardnerella vaginalis</i>	UMB0386	<i>Scaffold</i>	1.7	41	GCA_002861965. 1
<i>Gardnerella vaginalis</i>	UMB0358	<i>Scaffold</i>	1.7	41	GCA_013315085. 1
<i>Gardnerella vaginalis</i>	UMB0264	<i>Scaffold</i>	1.5	42	GCA_002884875. 1
<i>Gardnerella vaginalis</i>	UMB0233	<i>Contig</i>	1.6	41	GCA_002862045. 1
<i>Gardnerella vaginalis</i>	UMB0202	<i>Scaffold</i>	1.7	41	GCA_013315075. 1

<i>Gardnerella vaginalis</i>	UMB0170	<i>Scaffold</i>	1.5	42	GCA_002884855. 1
<i>Gardnerella vaginalis</i>	UMB0143	<i>Scaffold</i>	1.6	41	GCA_013315005. 1
<i>Gardnerella vaginalis</i>	UMB0061	<i>scaffold</i>	1.7	41	GCA_002861165. 1
<i>Gardnerella vaginalis</i>	UMB0032B	<i>Scaffold</i>	1.7	41	GCA_002862005. 1
<i>Gardnerella vaginalis</i>	UMB0032A	<i>Scaffold</i>	1.7	41	GCA_002862015. 1
<i>Gardnerella vaginalis</i>	UGent 25.49	<i>Scaffold</i>	1.7	41	GCA_003397605. 1
<i>Gardnerella vaginalis</i>	UGent 21.28	<i>Scaffold</i>	1.5	42	GCA_003397615. 1
<i>Gardnerella vaginalis</i>	UGent 09.48	<i>Scaffold</i>	1.5	42	GCA_003397635. 1
<i>Gardnerella vaginalis</i>	UGent 09.07	<i>Scaffold</i>	1.7	41	GCA_003397665.1
<i>Gardnerella vaginalis</i>	UGent 09.01	<i>Scaffold</i>	2	41	GCA_003397755. 1
<i>Gardnerella vaginalis</i>	PSS_7772B	<i>Scaffold</i>	159	42.5	GCA_001546485. 1
<i>Gardnerella vaginalis</i>	NR039	<i>Scaffold</i>	1.9	41	GCA_003585755. 1
<i>Gardnerella vaginalis</i>	NR038	<i>Scaffold</i>	1.9	41	GCA_003585655. 1
<i>Gardnerella vaginalis</i>	NR010	<i>Scaffold</i>	1.6	45	GCA_003408845. 1

<i>Gardnerella vaginalis</i>	N95	<i>Contig</i>	1.5	42	GCA_003369965. 1
<i>Gardnerella vaginalis</i>	N72	<i>Scaffold</i>	1.6	41.5	GCA_003408815. 1
<i>Gardnerella vaginalis</i>	N165	<i>Scaffold</i>	1.7	41	GCA_003408785. 1
<i>Gardnerella vaginalis</i>	N160	<i>Scaffold</i>	1.5	43	GCA_003408775. 1
<i>Gardnerella vaginalis</i>	N153	<i>Contig</i>	1.5	42	GCA_003369935. 1
<i>Gardnerella vaginalis</i>	N144	<i>Scaffold</i>	1.6	42	GCA_003408835. 1
<i>Gardnerella vaginalis</i>	N101	<i>Contig</i>	1.5	42	GCA_003369895. 1
<i>Gardnerella vaginalis</i>	MGYG-HGUT-00021	<i>Scaffold</i>	1.9	40	GCA_902362445. 1
<i>Gardnerella vaginalis</i>	KA00225	<i>Contig</i>	1.7	40.5	GCA_002896555. 1
<i>Gardnerella vaginalis</i>	GS 10234	<i>Scaffold</i>	1.6	41.5	GCA_003397745. 1
<i>Gardnerella vaginalis</i>	GH019	<i>Scaffold</i>	1.5	42	GCA_003426565. 1
<i>Gardnerella vaginalis</i>	GH015	<i>Scaffold</i>	1.6	40.5	GCA_003408745. 1
<i>Gardnerella vaginalis</i>	GED7760B	<i>Scaffold</i>	1.5	43	GCA_001546455. 1
<i>Gardnerella vaginalis</i>	GED7275B	<i>Scaffold</i>	1.5	42	GCA_001546445. 1

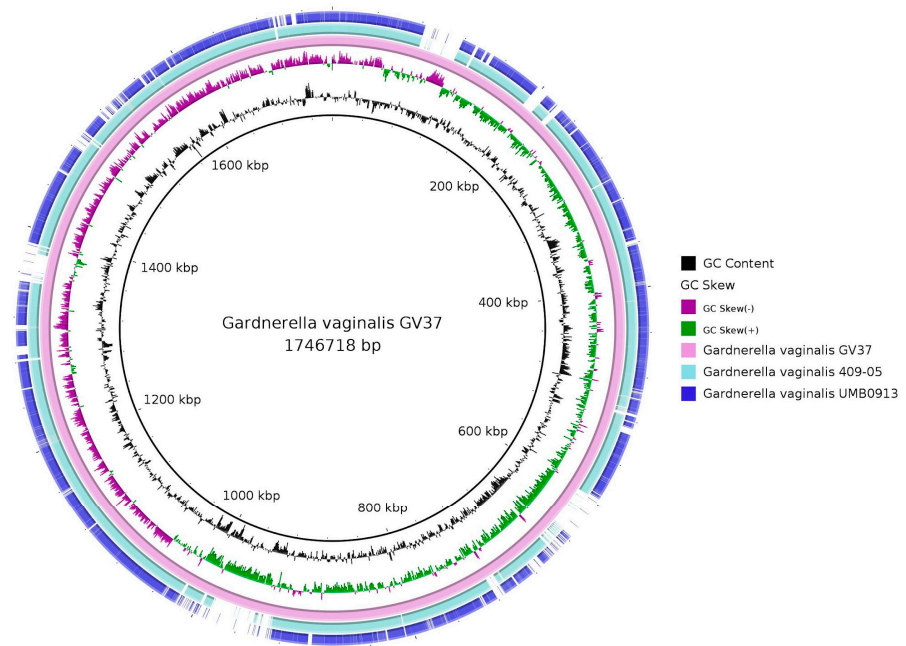
<i>Gardnerella vaginalis</i>	FDAARGOS_296	<i>Contig</i>	1.8	41	GCA_002206225. 2
<i>Gardnerella vaginalis</i>	DNF01149	<i>Contig</i>	1.7	41	GCA_002894105. 1
<i>Gardnerella vaginalis</i>	CMW7778B	<i>Scaffold</i>	1.6	38	GCA_001563665. 1
<i>Gardnerella vaginalis</i>	ATCC_49145_barcode10_01	<i>Contig</i>	1.7	41	GCA_003034925. 1
<i>Gardnerella vaginalis</i>	3549624	<i>Contig</i>	1.7	41	GCA_001049785. 1
<i>Gardnerella vaginalis</i>	23-12	<i>Scaffold</i>	1.6	41.5	GCA_001660735. 1
<i>Gardnerella vaginalis</i>	18-4	<i>Scaffold</i>	1.6	42	GCA_001660755. 1
<i>Gardnerella vaginalis</i>	14019_MetR	<i>Contig</i>	1.7	41	GCA_001278345. 1
<i>Gardnerella vaginalis</i>	14018c	<i>Contig</i>	1.7	41	GCA_004336715. 1
<i>Gardnerella vaginalis</i>	06-12-0010	<i>Contig</i>	1.7	41	GCA_014857145. 1
<i>Gardnerella vaginalis</i>	JCP8522	<i>Scaffold</i>	1.5	42	GCA_000414425. 1
<i>Gardnerella vaginalis</i>	JCP8481B	<i>Scaffold</i>	1.6	42.5	GCA_000414445. 1
<i>Gardnerella vaginalis</i>	JCP8481A	<i>Scaffold</i>	1.6	42.5	GCA_000414465. 1
<i>Gardnerella vaginalis</i>	JCP8151B	<i>Scaffold</i>	1.55	42	GCA_000414485. 1

<i>Gardnerella vaginalis</i>	JCP8151A	<i>Scaffold</i>	1.56	42	GCA_000414505. 1
<i>Gardnerella vaginalis</i>	JCP8066	<i>Scaffold</i>	1.52	42	GCA_000414565. 1
<i>Gardnerella vaginalis</i>	JCP8017B	<i>Scaffold</i>	1.6	42	GCA_000414585. 1
<i>Gardnerella vaginalis</i>	JCP8017A	<i>Scaffold</i>	1.6	42	GCA_000414605. 1
<i>Gardnerella vaginalis</i>	JCP7719	<i>Scaffold</i>	1.6	42	GCA_000414625. 1
<i>Gardnerella vaginalis</i>	JCP7276	<i>Scaffold</i>	1.7	40.5	GCA_000414685. 1
<i>Gardnerella vaginalis</i>	JCP7275	<i>Scaffold</i>	1.6	40.5	GCA_000414705. 1
<i>Gardnerella vaginalis</i>	ATCC_14018_2	<i>Contig</i>	1.7	41	GCA_003397685. 1
<i>Gardnerella vaginalis</i>	ATCC_14018_3	<i>Contig</i>	1.7	41	GCA_004336685. 1
<i>Gardnerella vaginalis</i>	ATCC_14018_4	<i>Scaffold</i>	1.6	41	GCA_000178355. 1
<i>Gardnerella vaginalis</i>	AMD	<i>Contig</i>	1.6	42	GCA_000176475. 1
<i>Gardnerella vaginalis</i>	75712	<i>Contig</i>	1.7	41	GCA_000263535. 1
<i>Gardnerella vaginalis</i>	6420B	<i>Contig</i>	1.5	42	GCA_000263575. 1
<i>Gardnerella vaginalis</i>	6119V5	<i>Contig</i>	1.5	43	GCA_000263655. 1

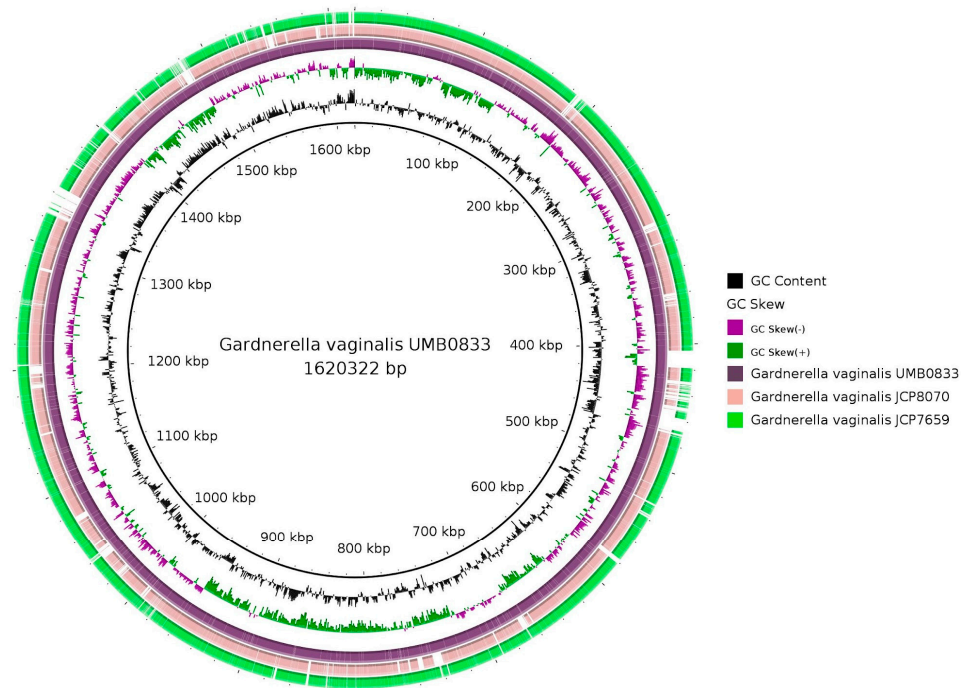
<i>Gardnerella vaginalis</i>	55152	<i>Contig</i>	1.6	41	GCA_000263475. 1
<i>Gardnerella vaginalis</i>	5-1	<i>Contig</i>	1.67	42	GCA_000176495. 1
<i>Gardnerella vaginalis</i>	41V	<i>Contig</i>	1.7	41	GCA_000165635. 2
<i>Gardnerella vaginalis</i>	315-A	<i>Contig</i>	1.7	41	GCA_000214315. 2
<i>Gardnerella vaginalis</i>	284V	<i>Contig</i>	1.7	41	GCA_000263435. 1
<i>Gardnerella vaginalis</i>	1500E	<i>Contig</i>	1.5	42.5	GCA_000263595. 1
<i>Gardnerella vaginalis</i>	1400E	<i>Contig</i>	1.7	41	GCA_000263495. 1
<i>Gardnerella vaginalis</i>	101	<i>Contig</i>	1.5	43	GCA_000165615. 2
<i>Gardnerella vaginalis</i>	0288E	<i>Contig</i>	1.7	41	GCA_000263555. 1
<i>Gardnerella vaginalis</i>	00703Dmash	<i>Contig</i>	1.5	43	GCA_000263635. 1
<i>Gardnerella vaginalis</i>	00703C2mash	<i>Contig</i>	1.54	42	GCA_000263515. 1



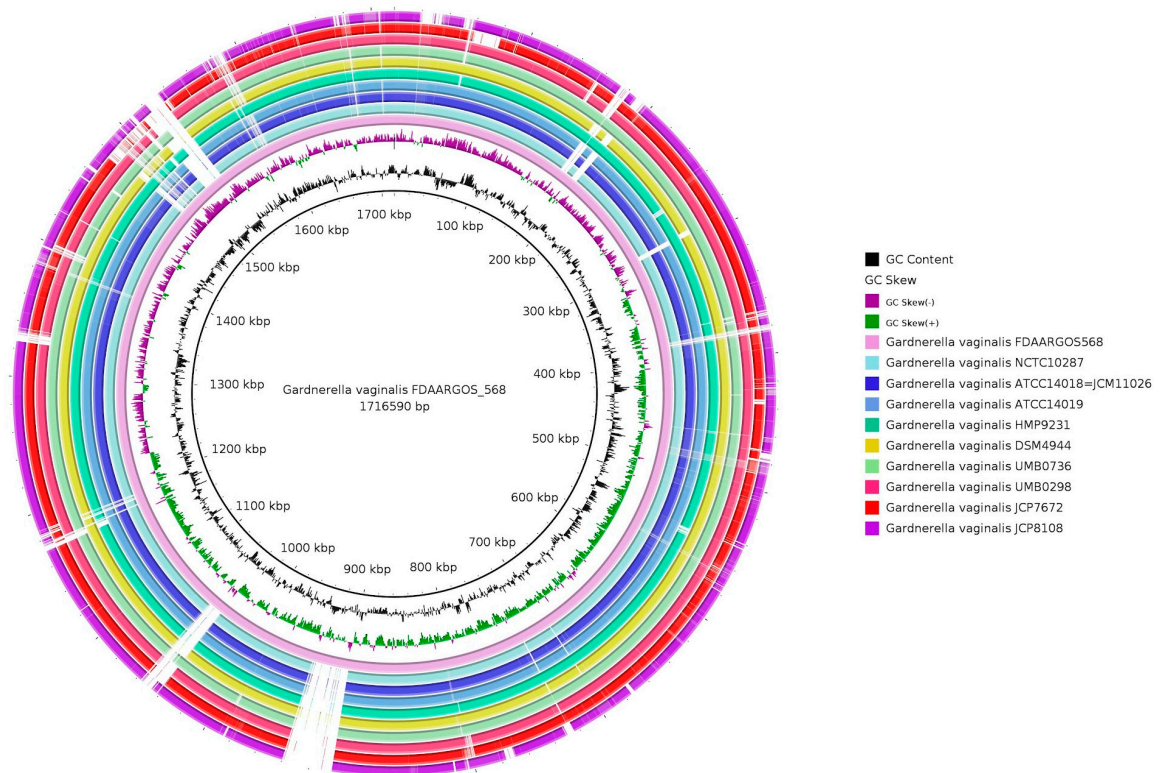
**Supplementary Figure S1: Cluster 1**



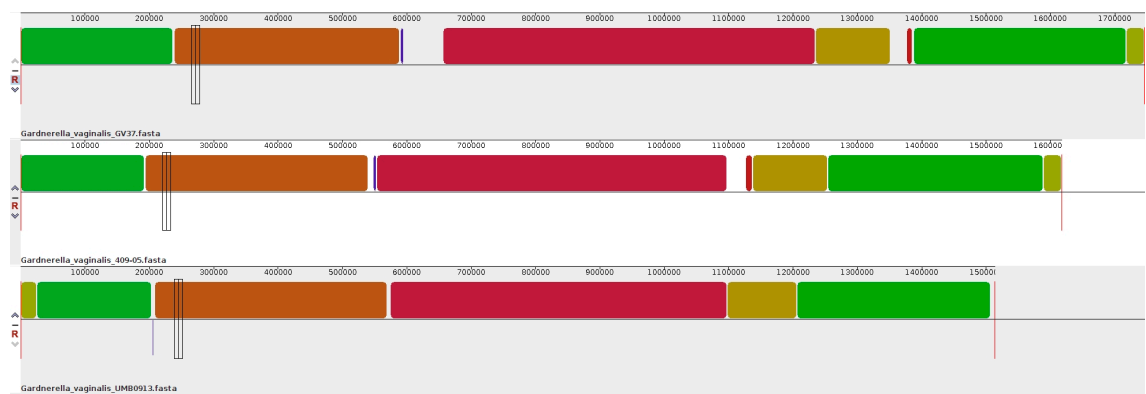
**Supplementary Figure S2: Cluster 2**



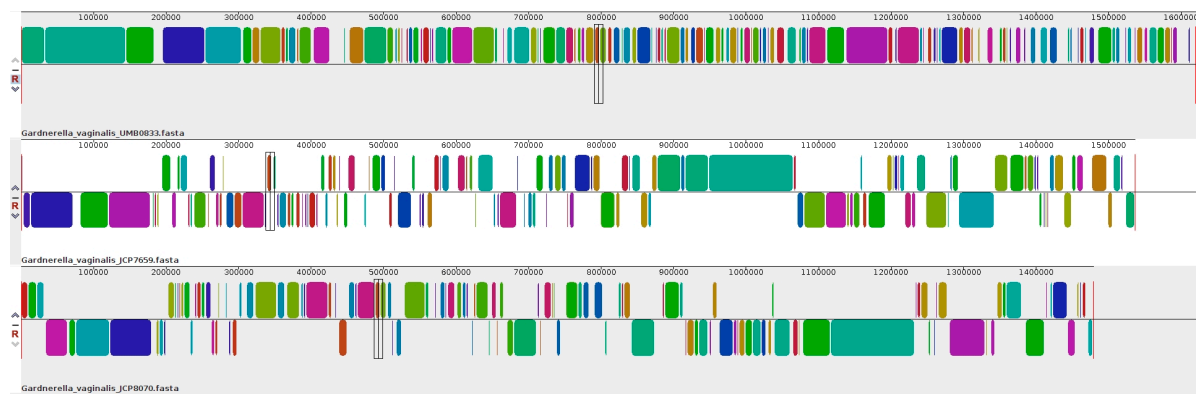
Supplementary Figure S3: Cluster 3



Supplementary Figure S4: Cluster 1



Supplementary Figure S5: Cluster 2



Supplementary Figure S6: Cluster 3

