

Table S2. General analysis of CRISPR spacer matches for nine *C. difficile* strains.

(A) CRISPR spacer hits to chromosome, phage and plasmid sequences

	PCR Ribotype	MLST	N of spacers	hits to phages	hits to plasmids	hits to chromosomes	from them to prophages	% of prophage hits in chromosome hits
<i>Clostridium difficile</i> 2007855	027	3	98	32	1	11	2	18.18
<i>Clostridium difficile</i> B11	027	3	98	32	1	14	6	42.86
<i>Clostridium difficile</i> CD196	027	3	97	32	1	15	6	40.00
<i>Clostridium difficile</i> R20291	027	3	96	31	3	9	4	44.44
<i>Clostridium difficile</i> 630	012	27	107	32	2	10	4	40.00
<i>Clostridium difficile</i> CF5	017	57	66	23	1	29	17	58.62
<i>Clostridium difficile</i> M68	017	45	27	14	0	2	2	100.00
<i>Clostridium difficile</i> B19	001	36	77	19	3	14	6	42.86
<i>Clostridium difficile</i> M120	078	49	153	85	14	14	7	50.00
total in all strains			819	300	26	118	54	45.76
total in strains (%)				36.63	3.17	14.41	6.59	

Table S2. (B) CRISPR spacer matching of phage sequences.

hit_name	hit_start	hit_end	description	gene	
NC_009089_10_spacer2	emb LN881538.1 CTA	37 35	2, 5, 30	4521 Clostridium phage phiCD146, complete genome	Minor capsid protein
NC_009089_11_spacer1	emb LN881539.1 CTA	37 37	0	5459 Clostridium phage phiCD505, complete genome	Conserved protein of unknown function
NC_009089_11_spacer10	emb LN881538.1 CCA	37 34	3, 9, 18	11762 Clostridium phage phiCD146, complete genome	Tail tube measure
NC_009089_11_spacer11	emb LN881538.1 CCA	37 36	0	15780 Clostridium phage phiCD211, complete genome	Tail tube measure
NC_009089_12_spacer6	emb LN881539.1 CTA	39 34	5, 2, 18, 27, 30	11782 Clostridium phage phiCD146, complete genome	Terminase large subunit
NC_009089_15_spacer1	emb NC_015262.1 CTA	37 32	5, 8, 9, 12, 30	9757 Clostridium phage phiCD119, complete genome	Xkfd protein
NC_009089_15_spacer2	emb LN881538.1 CTA	37 32	5, 18, 21, 30, 33	10861 Clostridium phage phiCD505, complete genome	Conserved protein of unknown function
NC_009089_15_spacer3	emb LN881541.1 CCA	37 36	1	14357 Clostridium phage phiCD505, complete genome	Tail tube measure
NC_009089_16_spacer6	emb LN881537.1 CTA	38 38	0	118543 Clostridium phage phiCD211, complete genome	Conserved protein of unknown function
NC_009089_16_spacer7	emb LN881535.1 CTA	37 32	4, 12, 15, 17	8019 Clostridium phage phiCD119, complete genome	Xkfd protein
NC_009089_17_spacer1	emb LN881539.1 CTA	37 37	0	5442 Clostridium phage phiCD505, complete genome	Conserved protein of unknown function
NC_009089_17_spacer11	emb LN881537.1 CTA	36 36	0	119018 Clostridium phage phiCD211, complete genome	Conserved protein of unknown function
NC_009089_17_spacer12	emb LN881539.1 CTA	37 37	0	121006 Clostridium phage phiCD211, complete genome	Intergenic region
NC_009089_17_spacer15	emb LN881539.1 CTA	37 35	18	39317 Clostridium phage phiMM001, complete genome	Conserved protein of unknown function
NC_009089_17_spacer2	ref NC_015262.1 CTA	37 37	0	13484 Clostridium phage phiCD3636, complete genome	Phage protein XkAs
NC_009089_17_spacer4	emb LN881539.1 CTA	37 31	6, 3, 6, 8, 19, 23, 24	25548 Clostridium phage phiCD505, complete genome	Conserved protein of unknown function
NC_009089_3_spacer2	emb LN881537.1 CTA	38 38	0	118543 Clostridium phage phiCD211, complete genome	Conserved protein of unknown function
NC_009089_3_spacer3	emb LN881535.1 CTA	37 33	4, 3, 12, 15, 17	8019 Clostridium phage phiCD119, complete genome	Tail tube measure
NC_009089_4_spacer10	ref NC_009171.CCA	37 32	5, 1, 8, 9, 12, 30	14357 Clostridium phage phiMM001, complete genome	Tail tube measure
NC_009089_4_spacer9	emb LN881539.1 CTA	37 32	5, 5, 19, 22, 31, 34	10861 Clostridium phage phiCD505, complete genome	Conserved protein of unknown function
NC_009089_6_spacer3	ref NC_009171.CCA	36 32	4, 1, 2, 3, 26	9637 Clostridium phage phiCD119, complete genome	putative integrase
NC_009089_6_spacer8	emb LN881538.1 CCA	38 37	0	119018 Clostridium phage phiCD211, complete genome	Intergenic region
NC_009089_7_spacer2	emb LN881538.1 TCC	38 35	3, 12, 33, 35	9211 Clostridium phage phiCD481-1, complete genome	Site-specific recombinase phage integrase family
NC_009089_8_spacer2	emb LN881542.1 CCA	36 36	0	4801 Clostridium phage phiMM003, complete genome	hypothetical protein
NC_009089_8_spacer4	emb LN881538.1 CCA	37 35	2, 36, 37	8836 Clostridium phage phiCD146, complete genome	Conserved protein of unknown function
NC_009089_8_spacer8	emb LN881539.1 CCA	38 37	2, 38, 39	12856 Clostridium phage phiCD505, complete genome	putative phage tail tube measure protein
NC_009089_9_spacer1	emb LN881539.1 CCA	38 38	0	3276 Clostridium phage phiCD505, complete genome	putative portal protein
NC_009089_9_spacer11	emb LN881536.1 CCA	35 33	2, 11, 21	3840 Clostridium phage phiCD146, complete genome	Conserved protein of unknown function
NC_009089_9_spacer2	emb NC_015262.1 CTA	37 37	0	61065 Clostridium phage phiCD3636, complete genome	putative DNase/helicase protein
NC_009089_9_spacer3	emb LN881535.1 CTA	37 33	4, 5, 6, 15, 33	3309 Clostridium phage phiCD119, complete genome	putative DNase/helicase protein
NC_009089_9_spacer4	emb LN881536.1 TCC	36 36	0	30715 Clostridium phage phiCD146, complete genome	putative phage terminase, large subunit
NC_013315_10_spacer10	emb LN881537.1 CTA	37 32	5, 2, 3, 4, 7	14320 Clostridium phage phiCD211, complete genome	Conserved protein of unknown function
NC_013315_10_spacer11	emb LN881537.1 TCC	37 32	5, 6, 9, 11, 12, 27	11782 Clostridium phage phiCD211, complete genome	putative antirepressor
NC_013315_10_spacer14	emb LN881539.1 CTA	37 37	0	47022 Clostridium phage phiCD505, complete genome	hypothetical protein
NC_013315_10_spacer15	ref NC_013986.1 CCA	35 33	2, 3, 9	47316 Clostridium phage phiCD27, complete genome	putative antirepressor
NC_013315_10_spacer16	emb LN881539.1 CCA	38 35	4, 4, 7, 11, 28	24523 Clostridium phage phiCD146, complete genome	Endonuclease
NC_013315_10_spacer17	emb LN881536.1 CCA	37 36	0	33 Clostridium phage phiCD146, complete genome	Conserved protein of unknown function
NC_013315_10_spacer18	ref NC_015262.1 CTA	37 37	0	61065 Clostridium phage phiCD3636, complete genome	putative para
NC_013315_11_spacer3	emb LN881539.1 CCA	38 37	2, 12	32906 Clostridium phage phiCD505, complete genome	putative DNase/helicase protein
NC_013315_11_spacer5	ref NC_015568.1 CTA	38 37	1	8 Clostridium phage phiCD38-2, complete genome	hypothetical protein
NC_013315_11_spacer7	emb LN881535.1 TCC	37 36	1	6 Clostridium phage phiCD119, complete genome	Minor capsid protein
NC_013315_13_spacer1	emb LN881539.1 CCA	38 37	7, 1, 4, 8, 11, 15, 31, 32	0015 Clostridium phage phiCD505, complete genome	capsid protein
NC_013315_13_spacer2	emb NC_009171.CCA	36 30	6, 1, 2, 6, 15, 30, 36	2007 Clostridium phage phiCD119, complete genome	Xkfd protein
NC_013315_15_spacer10	emb LN881538.1 CTA	37 37	0	3004 Clostridium phage phiCD481-1, complete genome	Intergenic region
NC_013315_15_spacer11	ENA CDH010000.CCA	37 36	1	20 Clostridium phage phiCD505, complete genome	no data
NC_013315_15_spacer12	emb LN881535.1 CTA	37 34	3, 17, 31, 31	9189 Clostridium phage phiCD119, complete genome	Minor capsid protein
NC_013315_15_spacer13	emb NC_015262.1 CTA	38 38	0	4418 Clostridium phage phiCD3636, complete genome	Phage capsid family protein
NC_013315_15_spacer14	ref NC_013986.1 CCA	37 32	5, 5, 11, 25, 31, 33	7007 Clostridium phage phiCD27, complete genome	putative site-specific recombinase
NC_013315_15_spacer15	emb LN881539.1 CCA	38 36	4, 8, 26, 29, 34	5009 Clostridium phage phiMM004, complete genome	phage portal protein
NC_013315_16_spacer1	emb LN881539.1 CCA	37 36	1	23 Clostridium phage phiCD505, complete genome	Conserved protein of unknown function
NC_013315_16_spacer2	emb LN881538.1 CCA	38 38	0	5009 Clostridium phage phiCD505, complete genome	Terminase small subunit
NC_013315_19_spacer13	emb LN881537.1 CTA	37 37	1	1 Clostridium phage phiCD211, complete genome	Intergenic region
NC_013315_19_spacer14	emb LN881537.1 CTA	37 37	0	3004 Clostridium phage phiCD211, complete genome	Conserved protein of unknown function
NC_013315_19_spacer15	emb LN881535.1 CCA	37 32	5, 3, 9, 23, 24, 25	4007 Clostridium phage phiCD119, complete genome	Minor capsid protein
NC_013315_19_spacer16	emb LN881539.1 CCA	38 37	0	12962 Clostridium phage phiCD505, complete genome	NtpC/P0 family protein
NC_013315_19_spacer17	emb NC_015262.1 CTA	38 34	4, 8, 11, 17, 26	5009 Clostridium phage phiCD3636, complete genome	Xkfd protein
NC_013315_19_spacer18	ref NC_014921.1 CCA	37 37	0	10 Clostridium phage phiMM002, complete genome	Intergenic region
NC_013315_20_spacer1	emb LN881542.1 CCA	38 35	7, 6, 18, 19, 21, 29, 31, 33	7007 Clostridium phage phiMM003, complete genome	Conserved protein of unknown function
NC_013315_20_spacer2	emb NC_015262.1 CTA	36 29	4, 218, 33	1000 Clostridium phage phiCD3636, complete genome	Conserved protein of unknown function
NC_013315_20_spacer3	emb LN881537.1 CTA	37 32	4, 2, 2, 6, 22, 33, 37	8849 Clostridium phage phiCD211, complete genome	Conserved protein of unknown function
NC_013315_20_spacer4	emb LN881537.1 CTA	36 35	1	18 Clostridium phage phiCD211, complete genome	Conserved protein of unknown function
NC_013315_20_spacer5	ref NC_015262.1 CTA	37 32	5, 5, 2, 2, 4, 7	4007 Clostridium phage phiCD3636, complete genome	putative phage terminase, large subunit
NC_013316_10_spacer1	emb LN881537.1 CTA	37 32	5, 6, 9, 11, 12, 27	4007 Clostridium phage phiCD211, complete genome	Conserved protein of unknown function
NC_013316_10_spacer14	emb LN881539.1 CCA	37 32	5, 6, 9, 11, 12, 27	4007 Clostridium phage phiCD211, complete genome	Conserved protein of unknown function
NC_013316_10_spacer15	emb LN881536.1 CCA	35 33	2, 3, 9	4007 Clostridium phage phiCD27, complete genome	hypothetical protein
NC_013316_10_spacer16	emb LN881539.1 CCA	39 35	4, 4, 7, 11, 28	800 Clostridium phage phiCD119, complete genome	Endonuclease
NC_013316_10_spacer17	emb LN881536.1 CCA	37 36	0	33 Clostridium phage phiCD146, complete genome	Conserved protein of unknown function
NC_013316_10_spacer18	ref NC_015262.1 CTA	37 37	0	61065 Clostridium phage phiCD3636, complete genome	putative para
NC_013316_11_spacer1	emb LN881540.1 CCA	36 34	2, 12	29906 Clostridium phage phiCD505, complete genome	putative DNase/helicase protein
NC_013316_11_spacer2	emb LN881539.1 CCA	38 37	1	8 Clostridium phage phiCD119, complete genome	hypothetical protein
NC_013316_11_spacer3	emb LN881535.1 TCC	37 36	1	6 Clostridium phage phiCD119, complete genome	Minor capsid protein
NC_013316_13_spacer1	ref NC_017978.1 TCC	36 29	7, 1, 4, 8, 11, 15, 31, 32	0015 Clostridium phage phiCD505, complete genome	capsid protein
NC_013316_13_spacer2	ref NC_009171.CCA	36 30	6, 1, 2, 6, 15, 30, 36	2007 Clostridium phage phiCD119, complete genome	Intergenic region
NC_013316_15_spacer10	emb LN881538.1 CTA	37 37	0	3004 Clostridium phage phiCD481-1, complete genome	Intergenic region
NC_013316_15_spacer11	emb LN881539.1 CCA	37 34	3, 17, 31, 31	9189 Clostridium phage phiCD119, complete genome	Minor capsid protein
NC_013316_15_spacer12	emb NC_015262.1 CTA	38 38	0	4418 Clostridium phage phiCD3636, complete genome	Phage capsid family protein
NC_013316_15_spacer13	ref NC_013986.1 CCA	37 32	5, 5, 11, 25, 31, 33	7007 Clostridium phage phiCD27, complete genome	putative site-specific recombinase
NC_013316_15_spacer14	ref NC_015262.1 CTA	36 35	1	9 Clostridium phage phiCD3636, complete genome	hypothetical protein
NC_013316_16_spacer1	ref NC_014921.1 CCA	38 36	4, 8, 26, 29, 34	5009 Clostridium phage phiMM004, complete genome	phage portal protein
NC_013316_16_spacer2	emb LN881539.1 CCA	37 36	1	1 Clostridium phage phiCD505, complete genome	Conserved protein of unknown function
NC_013316_16_spacer3	emb LN881537.1 CTA	38 33	5, 1, 2, 3, 4, 5	5002 Clostridium phage phiCD119, complete genome	Terminase small subunit
NC_013316_19_spacer10	ref NC_014921.1 CCA	37 37	0	10 Clostridium phage phiMM002, complete genome	hypothetical protein
NC_013316_19_spacer12	emb LN881539.1 CCA	38 35	9, 22, 12, 36	4007 Clostridium phage phiCD505, complete genome	Conserved protein of unknown function
NC_013316_19_spacer16	emb LN881537.1 CTA	37 37	1	1 Clostridium phage phiCD211, complete genome	Intergenic region
NC_013316_19_spacer17	emb LN881537.1 CTA	37 37	0	3004 Clostridium phage phiCD211, complete genome	Conserved protein of unknown function
NC_013316_19_spacer21	emb LN881535.1 CCA	37 32	5, 3, 9, 23, 24, 25	4007 Clostridium phage phiCD119, complete genome	Minor capsid protein
NC_013316_19_spacer23	emb LN881539.1 CCA	38 37	0	12962 Clostridium phage phiCD505, complete genome	NtpC/P0 family protein
NC_013316_19_spacer24	emb NC_015262.1 CTA	38 34	4, 8, 11, 17, 26	5009 Clostridium phage phiCD3636, complete genome	Xkfd protein
NC_013316_20_spacer1	emb LN881542.1 CCA	36 29	7, 6, 18, 19, 21, 29, 31, 33	7007 Clostridium phage phiMM003, complete genome	Conserved protein of unknown function
NC_013316_20_spacer2	emb NC_015262.1 CTA	36 24	2, 17, 33	8006 Clostridium phage phiCD3636, complete genome	Conserved protein of unknown function
NC_013316_20_spacer3	emb LN881537.1 CTA	39 32	7	4008 Clostridium phage phiCD481-1, complete genome	Intergenic region
NC_013316_20_spacer4	emb LN881537.1 CTA	36 35	1	18 Clostridium phage phiCD211, complete genome	Conserved protein of unknown function
NC_013316_20_spacer5	emb NC_015262.1 CTA	37 32	2, 18, 38	9722 Clostridium phage phiCD211, complete genome	Intergenic region
NC_013316_20_spacer6	ref NC_015262.1 CTA	37 34	2, 10, 11, 16	1009 Clostridium phage phiCD3636, complete genome	Conserved protein of unknown function
NC_013316_20_spacer7	emb LN881537.1 CTA	36 33	3, 27, 29, 32	3009 Clostridium phage phiCD211, complete genome	putative HTM-type transcriptional regulator ImmR
NC_013316_20_spacer8	emb LN881539.1 CCA	36 32	4, 16, 31, 35, 36	7007 Clostridium phage phiCD119, complete genome	Conserved protein of unknown function
NC_013316_20_spacer9	emb LN881536.1 CCA	37 37	0	3004 Clostridium phage phiCD146, complete genome	Tail tube measure
NC_013316_21_spacer13	emb LN881539.1 CCA	37 37	0	1467 Clostridium phage phiCD146, complete genome	Tail tube measure
NC_013316_21_spacer16	ref NC_014921.1 CCA	36 31	5, 10, 12, 13, 15, 18	2006 Clostridium phage phiMM004, complete genome	Tail tube measure
NC_013316_21_spacer18	emb LN881539.1 CCA	37 36	1	2 Clostridium phage phiMM004, complete genome	cell wall hydrolase
NC_013316_21_spacer19	ENA CDH010000.CCA	38 36	2, 4, 18	3624 Clostridium phage phiCD119, complete genome	Minor capsid protein
NC_013316_21_spacer21	ENA CDH010000.CCT	37 36	1	35 Clostridium phage phiCD52, contig2	no data
NC_013316_21_spacer22	emb LN881538.1 CCA	37 34	3, 12, 30, 30	8002 Clostridium phage phiCD52, contig1	no data
NC_013316_21_spacer23	ref NC_015262.1 CTA	37 30	5, 1, 2, 16, 27, 30	9189 Clostridium phage phiCD146, complete genome	Phage capsid family protein
NC_013316_21_spacer24	emb LN881535.1 CTA	35 29	6, 1, 2, 3, 4, 5, 15	8009 Clostridium phage phiCD119, complete genome	Conserved protein of unknown function
NC_013316_21_spacer25	emb LN881536.1 CCA	36 36	0	1003 Clostridium phage phiCD146, complete genome	Minor capsid protein
NC_013316_21_spacer26	emb LN881535.1 CTA	34 32	2, 3, 9	6002 Clostridium phage phiCD119, complete genome	Tail tube measure
NC_013316_21_spacer27	emb NC_009171.CCA	37 36	1	20 Clostridium phage phiCD505, complete genome	putative site-specific recombinase
NC_013316_21_spacer28	emb LN881535.1 CTA	38 36	1	1003 Clostridium phage phiCD119, complete genome	Conserved protein of unknown function
NC_013316_21_spacer29	emb LN881535.1 CTA	37 33	4, 1, 6, 7, 10	3009 Clostridium phage phiMM001, complete genome	Tail tube measure
NC_013316_21_spacer30	emb LN881541.1 CCA	36 31	5, 18, 20, 21, 30, 33	8649 Clostridium phage phiMM001, complete genome	conserved chain tail protein
NC_013316_21_spacer31	emb LN881539.1 CCA	36 31	5, 1, 2, 3, 4, 5	1003 Clostridium phage phiCD211, complete genome	Conserved protein of unknown function
NC_013316_21_spacer32	ref NC_014921.1 CTA	37 31	6, 4, 8, 14, 16, 21, 24	0011 Clostridium phage phiMM004, complete genome	hypothetical protein
NC_013316_21_spacer33	emb LN881537.1 CTA	36 36	0	1517 Clostridium phage phiCD3636, complete genome	Conserved protein of unknown function
NC_013316_21_spacer34	ref NC_0				

NC_017174_5_spacer1	ENA CDHE010000 CAA	37	36	0	1.00E-13	100	6507	6542	Clostridium phage phiCD52, contig1	no data	
NC_017174_5_spacer10	ref NC_015262.1 CTC	36	36	3	1.9	100	20562	20617	Clostridium phage phiCD636, complete genome	conserved protein of unknown function	
NC_017174_5_spacer13	ref NC_015262.1 CAA	37	32	6	1.2, 3, 10, 30, 36	2.00E-08	91.43	4262	4296	Clostridium phage phiCD636, complete genome	Phage capsid family protein
NC_017174_5_spacer17	emb LN681538.1 CAA	36	32	4	3, 6, 15, 22	3.00E-08	88.89	592	627	Clostridium phage phiCD481-1, complete genome	putative phage terminase, large subunit
NC_017174_5_spacer2	emb LN681539.1 CTC	37	35	2	2.0E-11	94.59	32018	32054	Clostridium phage phiCD505, complete genome	Transcriptional regulator, BlnA/MecI/CoxP family	
NC_017174_5_spacer3	emb LN681541.1 CAA	37	37	0	1.0E-13	100	32536	32536	Clostridium phage phiCD481-1, complete genome	putative SPB-2 prophage-derived antirepressor protein yodP	
NC_017174_5_spacer4	ref NC_019422.1 CTC	36	34	2	8, 11	1.00E-10	94.44	27308	27343	Clostridium phage phiMMP04, complete genome	hypothetical protein
NC_017174_5_spacer7	ref NC_015262.1 CAA	36	36	0	2.0E-13	100	2657	2692	Clostridium phage phiCD636, complete genome	Phage portal protein	
NC_017174_5_spacer8	emb LN681538.1 CTC	37	37	0	2.3, 17	94.59	32018	32054	Clostridium phage phiCD481-1, complete genome	conserved protein of unknown function	
NC_017174_5_spacer9	ref NC_015262.1 CAA	37	37	0	7.1, 2, 3, 4, 5, 6, 21	3.00E-09	96.77	694	724	Clostridium phage phiCD481-1, complete genome	putative phage terminase, large subunit
NC_017174_6_spacer1	ENA CDHE010000 CAA	38	37	1	26	4.00E-13	97.37	11521	11528	Clostridium phage phiCD52, contig1	no data
NC_017174_6_spacer10	ref NC_009917.1 CTC	36	35	1	2.0E-13	100	2395	2404	Clostridium phage phiCD119, complete genome	hypothetical protein	
NC_017174_6_spacer11	ENA CDHE010000 CTC	37	34	3	3, 36, 37	2.00E-11	97.14	7372	7406	Clostridium phage phiCD52, contig1	no data
NC_017174_6_spacer12	ref NC_009917.1 CAA	37	30	7	4, 6, 25, 26, 27, 28, 37	3.00E-05	83.33	7291	7326	Clostridium phage phiCD119, complete genome	putative capsid protein
NC_017174_6_spacer13	emb LN681534.1 CTC	37	31	6	23, 24, 25, 30, 36, 37	1.00E-07	88.57	30714	30748	Clostridium phage phiCD24-1, complete genome	N-acetyltransferase-L-alanine amidase
NC_017174_6_spacer14	emb LN681535.1 CAA	37	36	1	1.0E-12	100	28459	28459	Clostridium phage phiCD505, complete genome	no data	
NC_017174_6_spacer15	ENA CDHE010000 CTC	39	36	3	3, 17, 23, 37	7.00E-11	92.31	12770	12770	Clostridium phage phiCD52, contig1	no data
NC_017174_6_spacer16	ref NC_013988.1 CTC	37	37	0	6.00E-14	100	48599	48635	Clostridium phage phiCD27, complete genome	putative DNA-binding protein	
NC_017174_6_spacer17	ENA CDHE010000 CTC	37	37	0	3.00E-14	100	6069	6069	Clostridium phage phiCD52, contig1	no data	
NC_017174_6_spacer18	emb LN681537.1 CTC	38	33	5	1, 2, 8, 20, 26	3.00E-09	91.67	41979	42014	Clostridium phage phiCD211, complete genome	conserved protein of unknown function
NC_017174_6_spacer19	ref NC_009917.1 CTC	35	31	4	1, 2, 17, 35	1.0E-09	96.88	12605	12636	Clostridium phage phiCD119, complete genome	putative tape measure protein
NC_017174_6_spacer2	emb LN681541.1 CAA	37	33	4	2, 34, 25	5.00E-12	100	14004	14036	Clostridium phage phiMMP01, complete genome	Tail tape measure
NC_017174_6_spacer22	emb LN681539.1 CTC	37	36	1	4, 22, 25, 29, 35	9.00E-09	89.19	32660	32696	Clostridium phage phiCD505, complete genome	intergenic region
NC_017174_6_spacer23	emb LN681538.1 CAA	37	36	1	21	1.00E-12	97.30	25906	25942	Clostridium phage phiCD505, complete genome	conserved protein of unknown function
NC_017174_6_spacer24	emb LN681538.1 CTC	36	29	7	1, 2, 3, 4, 9, 18, 24	4.00E-07	90.63	9269	9300	Clostridium phage phiCD481-1, complete genome	conserved protein of unknown function
NC_017174_6_spacer25	emb LN681535.1 CAA	37	30	7	7, 1, 7, 10, 15, 22, 23, 25	2.00E-04	81.08	28377	28413	Clostridium phage phiCD211, complete genome	Phage protein HK97 gp10 family
NC_017174_6_spacer27	emb LN681538.1 CTC	37	37	0	3.00E-14	100	6249	6285	Clostridium phage phiCD481-1, complete genome	Tail fiber	
NC_017174_6_spacer28	ref NC_019422.1 CTC	38	38	0	2.00E-14	100	15368	15405	Clostridium phage phiMMP04, complete genome	tail fiber	
NC_017174_6_spacer29	emb LN681537.1 CTC	36	36	0	1.0E-12	100	6262	6298	Clostridium phage phiCD505, complete genome	Clostridium protein, HK97 gp10 family	
NC_017174_6_spacer3	ref NC_024144.1 CAA	37	30	7	7, 8, 21, 31, 34, 35, 36, 37	2.00E-08	93.75	20854	20885	Clostridium phage CDMH1, complete genome	putative baseplate-J protein
NC_017174_6_spacer31	ENA CDHE010000 CTC	36	29	7	7, 8, 10, 32, 33, 34, 35, 36	3.00E-08	93.55	6313	6343	Clostridium phage phiCD52, contig2	no data
NC_017174_6_spacer32	emb LN681538.1 CTC	37	37	0	3.0E-13	100	30	30	30	Clostridium phage phiCD2, complete genome	putative tail tape measure protein
NC_017174_6_spacer33	ref NC_019422.1 CAA	36	31	5	1, 2, 18, 20, 23	2.00E-07	88.57	13495	13529	Clostridium phage phiMMP04, complete genome	baseplate J-like assembly protein
NC_017174_6_spacer34	emb LN681539.1 CAA	36	35	1	34	5.00E-12	97.22	36578	36613	Clostridium phage phiCD505, complete genome	putative antirepressor
NC_017174_6_spacer35	ENA CDHE010000 TAG	37	37	0	3.00E-14	100	2081	2117	Clostridium phage phiCD52, contig1	no data	
NC_017174_6_spacer36	emb LN681538.1 CTC	38	37	1	4.0E-13	100	15825	15862	Clostridium phage phiMMP04, complete genome	putative LYM	
NC_017174_6_spacer37	ref NC_019422.1 CAA	36	37	1	3.0E-14	100	46819	46855	Clostridium phage phiCD505, complete genome	putative antirepressor	
NC_017174_6_spacer38	ref NC_019422.1 CTC	37	32	5	1, 8, 10, 11, 35	6.00E-08	88.89	44713	44748	Clostridium phage phiMMP02, complete genome	hypothetical protein
NC_017174_6_spacer39	ENA CDHE010000 CTC	37	34	3	3, 17, 20, 23	5.00E-09	85.27	6527	6563	Clostridium phage phiCD52, contig1	tail fiber
NC_017174_7_spacer1	ref NC_019422.1 CTC	38	34	4	4, 6, 14, 23	5.00E-09	89.47	18213	18250	Clostridium phage phiMMP04, complete genome	holin
NC_017174_7_spacer2	ENA CDHE010000 CAA	36	30	6	1, 15, 21, 27, 30, 33	5.00E-06	85.71	7629	7663	Clostridium phage phiCD52, contig1	no data
NC_017174_7_spacer3	emb LN681539.1 CAA	36	35	1	33	5.00E-12	97.22	36588	36624	Clostridium phage phiMMP03, complete genome	conserved protein of unknown function
NC_017174_7_spacer4	ref NC_009917.1 CAA	36	31	5	5, 11, 17, 30, 32	2.00E-06	86.11	16695	16730	Clostridium phage phiCD119, complete genome	hypothetical protein
NC_017174_7_spacer5	emb LN681538.1 CTC	37	34	3	3, 9, 19, 25	8.00E-10	91.43	13762	13798	Clostridium phage phiCD481-1, complete genome	Phage protein Xk45
NC_017174_7_spacer6	ref NC_019422.1 CAA	36	35	1	18	5.00E-02	97.22	68837	68873	Conserved protein of unknown function	conserved protein of unknown function
NC_017174_8_spacer1	emb LN681537.1 CAA	36	35	1	1.0E-13	100	22882	22917	Clostridium phage phiCD211, complete genome	Tail tape measure	
NC_017174_8_spacer14	ref NC_017980.1 CTC	34	27	7	1, 2, 19, 20, 21, 33, 34	3.00E-04	87.10	17610	17640	Clostridium phage phiCD79, complete genome	hypothetical protein
NC_017174_8_spacer15	emb LN681538.1 CAA	36	35	1	30	2.0E-12	92.32	22581	22615	Clostridium phage phiCD211, complete genome	Tail tape measure
NC_017174_8_spacer16	emb LN681537.1 CAA	36	36	0	1.0E-13	100	20285	20320	Clostridium phage phiCD211, complete genome	protein of unknown function	
NC_017174_8_spacer17	emb LN681537.1 CAA	36	36	0	1.0E-13	100	19303	19338	Clostridium phage phiCD211, complete genome	protein of unknown function	
NC_017174_8_spacer18	emb LN681537.1 CAA	36	35	1	5	5.00E-12	97.22	36582	36618	Clostridium phage phiCD211, complete genome	protein of unknown function
NC_017174_8_spacer19	emb LN681537.1 CAA	36	34	2	23, 14	6.00E-11	94.44	33910	33945	Clostridium phage phiCD211, complete genome	protein of unknown function
NC_017174_8_spacer20	emb LN681540.1 CAA	36	33	3	3, 31, 35, 36	6.00E-11	97.06	31845	31878	Clostridium phage phiCD505, complete genome	intergenic region
NC_017174_8_spacer21	emb LN681537.1 CAA	36	36	0	1.0E-13	100	19303	19338	Clostridium phage phiCD211, complete genome	protein of unknown function	
NC_017174_8_spacer22	emb LN681538.1 CTC	36	35	1	15	5.00E-12	97.22	36578	36613	Clostridium phage phiCD505, complete genome	putative Crossover junction endodeoxyribonuclease
NC_017174_8_spacer23	emb LN681535.1 CTC	36	35	1	1.0E-13	100	21182	21182	Clostridium phage phiCD11, complete genome	Tail fiber protein	
NC_017174_8_spacer24	emb LN681538.1 CAA	36	35	1	30	5.00E-12	97.22	41179	41214	Clostridium phage phiCD505, complete genome	putative phage protein
NC_017174_8_spacer25	ref NC_019506.1 CTC	36	31	5	3, 8, 34, 35, 36	0.001	86.11	5735	5769	Clostridium phage phiCD130, complete genome	3'-phosphoadenosine 5'-phosphosulfate sulfoltransferase/FAD synthetase-related enzyme
NC_017174_8_spacer26	emb LN681537.1 CAA	36	36	0	1.0E-13	100	52978	53021	Clostridium phage phiMMP03, complete genome	Phage integrase family prophage lambdaC801	
NC_017174_8_spacer27	emb LN681537.1 CAA	36	34	2	218, 23	6.00E-11	94.44	24355	24389	Clostridium phage phiCD211, complete genome	Tail tape measure
NC_017175_10_spacer1	emb LN681537.1 CAA	36	34	2	26, 20	6.00E-11	94.44	117873	117908	Clostridium phage phiCD211, complete genome	protein of unknown function
NC_017175_10_spacer2	emb LN681537.1 CAA	36	36	0	1.0E-13	100	138981	139016	Clostridium phage phiCD211, complete genome	conserved protein of unknown function	
NC_017175_10_spacer3	emb LN681535.1 CTC	35	31	4	3, 6, 25, 26	1.00E-07	88.57	32949	32983	Clostridium phage phiCD111, complete genome	putative DNase/Helicase protein
NC_017175_10_spacer4	emb LN681537.1 CAA	36	34	2	23, 36	1.00E-12	100	45785	45818	Clostridium phage phiCD211, complete genome	putative cell wall hydrolase/autolysin
NC_017175_10_spacer5	emb LN681537.1 CAA	36	36	0	1.0E-13	100	19303	19338	Clostridium phage phiCD211, complete genome	putative peptidoglycan-binding LYM	
NC_017175_6_spacer2	ref NC_015262.1 CTC	37	35	2	216, 22	2.00E-11	94.59	1916	1952	Clostridium phage phiCD111, complete genome	Terminase large subunit
NC_017175_6_spacer3	emb LN681536.1 CAA	38	38	0	7.00E-11	95	29963	30002	Clostridium phage phiCD146, complete genome	intergenic region	
NC_017175_6_spacer4	ref NC_013988.1 CTC	36	36	0	2.0E-13	100	22207	22242	Clostridium phage phiCD27, complete genome	hypothetical protein	
NC_017175_6_spacer5	ref NC_019414.1 CAA	37	37	0	1.0E-13	100	45157	45192	Clostridium phage CDMH1, complete genome	hypothetical protein	
NC_017175_6_spacer6	ref NC_015262.1 CAA	37	35	2	3, 24	3.00E-11	94.59	27126	27162	Clostridium phage phiCD636, complete genome	putative DNase/Helicase protein
NC_017175_6_spacer7	emb LN681538.1 CAA	36	35	1	18	5.00E-12	97.22	3762	3797	Clostridium phage phiCD481-1, complete genome	Phage protein Xk45
NC_017175_6_spacer8	ref NC_019422.1 CTC	36	36	0	2, 10	1.0E-05	92.32	16005	16040	Clostridium phage phiMMP01, complete genome	putative LYM
NC_017175_9_spacer1	ref NC_017980.1 CTC	37	36	1	1.0E-13	100	14215	14250	Clostridium phage phiMMP01, complete genome	Tail tape measure	
NC_017175_9_spacer2	ref NC_024144.1 CAA	37	37	0	10	1.0E-10	100	13828	13864	Clostridium phage CDMH1, complete genome	hypothetical protein
NC_017178_10_spacer10	ref NC_015262.1 CTC	37	32	5	1, 2, 3, 4, 7	4.00E-07	86.49	14320	14356	Clostridium phage phiCD636, complete genome	putative phage terminase, large subunit
NC_017178_10_spacer11	emb LN681537.1 CTC	37	32	5	5, 9, 11, 12, 27	4.00E-07	86.49	117822	117858	Clostridium phage phiCD211, complete genome	protein of unknown function
NC_017178_10_spacer14	emb LN681539.1 CTC	37	37	0	3.0E-14	100	47022	47058	Clostridium phage phiCD505, complete genome	putative antirepressor	
NC_017178_10_spacer15	ref NC_013988.1 CAA	35	33	2	3, 9	4.00E-10	94.29	47316	47350	Clostridium phage phiCD27, complete genome	hypothetical protein
NC_017178_10_spacer16	emb LN681538.1 CAA	37	37	0	1.0E-13	100	80074	80110	Clostridium phage phiCD111, complete genome	Endolysine	
NC_017178_10_spacer17	emb LN681										

Hits to plasmids

query_name	hit_name	PAM	query_length	num_identical	N of mismatches	mismatches significance	percent_identity	hit_start	hit_end	description
NC_009089_7_spacer3	emb FN668943.1	CCA	37	37	0	6.00E-11	100	118718	118754	Clostridium difficile B1 putative phage or plasmid sequence, complete sequence
NC_009089_9_spacer6	emb FN668942.1	CCA	36	36	0	2.00E-10	100	3429	3464	Clostridium difficile B1 plasmid pCDB1, complete sequence
NC_013316_15_spacer10	emb AM180356.1	CCG	37	35	2 27, 37	6.00E-08	97.22	164	199	Clostridium difficile 630 plasmid pCD630, complete replicon
NC_013316_15_spacer10	emb AM180356.1	CCG	37	35	2 27, 37	6.00E-08	97.22	164	199	Clostridium difficile 630 plasmid pCD630, complete replicon
NC_013316_19_spacer1	emb FN668942.1	CCA	39	39	0	4.00E-12	100	35011	35049	Clostridium difficile B1 plasmid pCDB1, complete sequence
NC_013316_19_spacer2	emb FN668942.1	CCT	36	36	0	2.00E-10	100	38136	38171	Clostridium difficile B1 plasmid pCDB1, complete sequence
NC_013974_12_spacer7	emb FN668942.1	GCA	37	33	4 1, 2, 3, 4	1.00E-08	100	28536	28568	Clostridium difficile B1 plasmid pCDB1, complete sequence
NC_013974_7_spacer4	emb FN668943.1	CAA	36	36	0	2.00E-10	100	208600	208635	Clostridium difficile B1 putative phage or plasmid sequence, complete sequence
NC_013974_8_spacer1	emb FN668943.1	CCA	38	34	4 13, 16, 17, 21	0.056	89.47	253455	253492	Clostridium difficile B1 putative phage or plasmid sequence, complete sequence
NC_017173_10_spacer2	emb FN668943.1	CCT	36	31	5 1, 2, 11, 22, 1	0.05	91.18	106661	106694	Clostridium difficile B1 putative phage or plasmid sequence, complete sequence
NC_017173_10_spacer11	emb AM180356.1	GCT	37	36	1 18	1.00E-08	97.30	621	657	Clostridium difficile 630 plasmid pCD630, complete replicon
NC_017174_12_spacer6	emb FN668942.1	TCT	34	31	3 4, 5, 30	0.043	91.18	16616	16649	Clostridium difficile B1 plasmid pCDB1, complete sequence
NC_017174_3_spacer2	emb AM180356.1	CCA	38	34	4 1, 2, 3, 15	2.00E-07	97.14	2068	2102	Clostridium difficile 630 plasmid pCD630, complete replicon
NC_017174_3_spacer3	emb AM180356.1	CCA	38	38	0	2.00E-11	100	1237	1274	Clostridium difficile 630 plasmid pCD630, complete replicon
NC_017174_3_spacer5	emb FN668942.1	CCT	37	34	3 13, 36, 37	2.00E-07	97.14	24874	24908	Clostridium difficile B1 plasmid pCDB1, complete sequence
NC_017174_3_spacer6	gb AF350745.1	CCA	37	33	4 1, 2, 36, 37	1.00E-08	100	6390	6422	Clostridium difficile plasmid pCD6, complete sequence
NC_017174_3_spacer9	emb FN668943.1	CCA	37	34	3 18, 21, 37	4.00E-06	94.44	134856	134891	Clostridium difficile B1 putative phage or plasmid sequence, complete sequence
NC_017174_6_spacer14	emb FN668942.1	CCA	37	37	0	6.00E-11	100	19253	19289	Clostridium difficile B1 plasmid pCDB1, complete sequence
NC_017174_6_spacer20	emb AM180356.1	CCT	36	36	0	2.00E-10	100	1579	1614	Clostridium difficile 630 plasmid pCD630, complete replicon
NC_017174_6_spacer21	emb AM180356.1	TCT	37	31	6 22, 25, 29, 35	0.053	91.18	816	849	Clostridium difficile 630 plasmid pCD630, complete replicon
NC_017174_6_spacer28	emb FN668942.1	CCC	38	37	1 27	4.00E-09	97.37	15348	15385	Clostridium difficile B1 plasmid pCDB1, complete sequence
NC_017174_6_spacer37	emb FN668942.1	CCA	36	31	5 1, 2, 3, 21, 24	8.00E-04	93.94	13478	13510	Clostridium difficile B1 plasmid pCDB1, complete sequence
NC_017174_7_spacer10	emb FN668942.1	CCT	38	34	4 6, 9, 14, 21	0.056	89.47	18536	18573	Clostridium difficile B1 plasmid pCDB1, complete sequence
NC_017174_7_spacer7	emb FN668942.1	CCT	36	36	0	2.00E-10	100	400	455	Clostridium difficile B1 plasmid pCDB1, complete sequence
NC_017178_15_spacer10	emb AM180356.1	CCG	37	35	2 26, 37	6.00E-08	97.22	164	199	Clostridium difficile 630 plasmid pCD630, complete replicon
NC_017179_15_spacer10	emb AM180356.1	CCG	37	35	2 26, 37	6.00E-08	97.22	164	199	Clostridium difficile 630 plasmid pCD630, complete replicon

Table S2. (C) Phage targeting by several CRISPR spacers.

Several spacers within CRISPR array targeting the same phage are indicated by the same colour. The first column includes the name of the strain_array number_spacer number.

query_name	hit_name	query_length	num_identical	PAM	N of mismatches	mismatches positions	description
C.difficile M120							
NC_017174_12_spacer4	ref NC_024144.1	36	35	CCA	1		6 Clostridium phage CDMH1 complete genome
NC_017174_12_spacer6	ref NC_024144.1	34	30	CCT	4	1, 8, 9, 25	Clostridium phage CDMH1 complete genome
NC_017174_12_spacer7	ref NC_024144.1	36	35	CCT	1		24 Clostridium phage CDMH1 complete genome
NC_017174_12_spacer27	ref NC_024144.1	37	35	TCT	2	1, 22	Clostridium phage CDMH1 complete genome
NC_017174_12_spacer6	ref NC_007917.1	34	30	CCT	4	1, 8, 9, 25	Clostridium phage phi CD119, complete genome
NC_017174_12_spacer7	ref NC_007917.1	36	35	CCT	1		24 Clostridium phage phi CD119, complete genome
NC_017174_12_spacer8	ref NC_007917.1	37	34	CCT	3	1, 2, 21	Clostridium phage phi CD119, complete genome
NC_017174_12_spacer9	ref NC_007917.1	38	31	CCT	7	5, 6, 24, 27, 36, 37, 38	Clostridium phage phi CD119, complete genome
NC_017174_12_spacer13	ref NC_007917.1	36	32	CTA	4	13, 117, 23, 29	Clostridium phage phi CD119, complete genome
NC_017174_12_spacer26	ref NC_007917.1	37	34	TCT	3	25, 28, 34	Clostridium phage phi CD119, complete genome
NC_017174_12_spacer27	ref NC_007917.1	37	35	TCT	2	1, 22	Clostridium phage phi CD119, complete genome
NC_017174_12_spacer4	ref NC_009231.1	36	35	CCA	1		6 Clostridium phage phiC2, complete genome
NC_017174_12_spacer6	ref NC_009231.1	34	31	TTC	3	1, 8, 9	Clostridium phage phiC2, complete genome
NC_017174_12_spacer7	ref NC_009231.1	36	35	CCT	1		24 Clostridium phage phiC2, complete genome
NC_017174_12_spacer9	ref NC_009231.1	38	31	CCT	7	5, 6, 24, 27, 36, 37, 38	Clostridium phage phiC2, complete genome
NC_017174_12_spacer19	ref NC_009231.1	35	28	CCA	7	1, 2, 6, 13, 14, 16, 35	Clostridium phage phiC2, complete genome
NC_017174_12_spacer24	emb LN681535.1	36	32	CCA	4	5, 9, 14, 22	Clostridium phage phiCD111, complete genome
NC_017174_12_spacer29	emb LN681535.1	36	36	CCT	0		Clostridium phage phiCD111, complete genome
NC_017174_12_spacer18	emb LN681537.1	36	29	CAA	7	1, 2, 3, 4, 5, 6, 31	Clostridium phage phiCD211, complete genome
NC_017174_12_spacer19	emb LN681537.1	35	32	CCA	3	1, 21, 30	Clostridium phage phiCD211, complete genome
NC_017174_12_spacer28	emb LN681537.1	36	33	CCA	3	3, 21, 33	Clostridium phage phiCD211, complete genome
NC_017174_12_spacer30	emb LN681537.1	37	37	CCT	0		Clostridium phage phiCD211, complete genome
NC_017174_12_spacer6	ref NC_011398.1	34	30	TTC	4	1, 8, 9, 25	Clostridium phage phiCD27, complete genome
NC_017174_12_spacer19	ref NC_011398.1	35	28	CCA	7	1, 2, 6, 13, 14, 16, 35	Clostridium phage phiCD27, complete genome
NC_017174_12_spacer6	emb LN681538.1	34	32	CCT	2	16, 17	Clostridium phage phiCD481-1, complete genome
NC_017174_12_spacer8	emb LN681538.1	37	34	CCT	3	1, 2, 21	Clostridium phage phiCD481-1, complete genome
NC_017174_12_spacer11	emb LN681538.1	37	36	GCT	1		18 Clostridium phage phiCD481-1, complete genome
NC_017174_12_spacer12	emb LN681538.1	36	36	CCT	0		Clostridium phage phiCD481-1, complete genome
NC_017174_12_spacer13	emb LN681538.1	36	33	CTA	3	13, 17, 23	Clostridium phage phiCD481-1, complete genome
NC_017174_12_spacer14	emb LN681538.1	36	36	CCA	0		Clostridium phage phiCD481-1, complete genome
NC_017174_12_spacer24	emb LN681538.1	36	33	CCA	3	5, 9, 22	Clostridium phage phiCD481-1, complete genome
NC_017174_12_spacer26	emb LN681538.1	37	33	TCT	4	19, 22, 34, 37	Clostridium phage phiCD481-1, complete genome
NC_017174_12_spacer3	emb LN681539.1	36	34	CCT	2	24, 27	Clostridium phage phiCD505, complete genome
NC_017174_12_spacer6	emb LN681539.1	34	30	TTC	4	3, 8, 15, 17	Clostridium phage phiCD505, complete genome
NC_017174_12_spacer7	emb LN681539.1	36	35	CCT	1		24 Clostridium phage phiCD505, complete genome
NC_017174_12_spacer8	emb LN681540.1	37	33	CCT	4	1, 2, 6, 21	Clostridium phage phiCD506, complete genome
NC_017174_12_spacer11	emb LN681540.1	37	36	GCT	1		18 Clostridium phage phiCD506, complete genome
NC_017174_12_spacer12	emb LN681540.1	36	36	CCT	0		Clostridium phage phiCD506, complete genome
NC_017174_12_spacer13	emb LN681540.1	36	33	CTA	3	13, 17, 23	Clostridium phage phiCD506, complete genome
NC_017174_12_spacer5	ENA CDIE01000001	37	37	?	0		Clostridium phage phiCD52_contig1
NC_017174_12_spacer7	ENA CDIE01000001	36	36	?	0		Clostridium phage phiCD52_contig1
NC_017174_12_spacer9	ENA CDIE01000001	38	32	?	6	5, 6, 24, 36, 37, 38	Clostridium phage phiCD52_contig1
NC_017174_12_spacer21	ref NC_015262.1	35	31	GCA	4	4, 11, 23, 25	Clostridium phage phiCD6356, complete genome
NC_017174_12_spacer25	ref NC_015262.1	36	34	CCG	2	8, 9	Clostridium phage phiCD6356, complete genome
NC_017174_12_spacer4	emb LN681541.1	36	35	CCA	1		6 Clostridium phage phiMMP0, complete genome
NC_017174_12_spacer7	emb LN681541.1	36	36	CCT	0		Clostridium phage phiMMP0, complete genome
NC_017174_12_spacer3	ref NC_019421.1	36	34	CCT	2	24, 27	Clostridium phage phiMMP02, complete genome
NC_017174_12_spacer6	ref NC_019421.1	34	31	TTC	3	1, 8, 9	Clostridium phage phiMMP02, complete genome
NC_017174_12_spacer7	ref NC_019421.1	36	34	CCT	2	5, 25	Clostridium phage phiMMP02, complete genome
NC_017174_12_spacer9	ref NC_019421.1	38	31	CCT	7	5, 6, 24, 27, 36, 37, 38	Clostridium phage phiMMP02, complete genome
NC_017174_12_spacer4	emb LN681542.1	36	35	CCA	1		6 Clostridium phage phiMMP03, complete genome
NC_017174_12_spacer6	emb LN681542.1	34	30	TTC	4	3, 8, 15, 17	Clostridium phage phiMMP03, complete genome
NC_017174_12_spacer7	emb LN681542.1	36	35	CCT	1		24 Clostridium phage phiMMP03, complete genome
NC_017174_12_spacer9	emb LN681542.1	38	31	CCT	7	5, 6, 24, 27, 36, 37, 38	Clostridium phage phiMMP03, complete genome
NC_017174_12_spacer8	ref NC_019422.1	37	33	CCT	4	1, 2, 6, 21	Clostridium phage phiMMP04, complete genome
NC_017174_12_spacer12	ref NC_019422.1	36	36	CCT	0		Clostridium phage phiMMP04, complete genome
NC_017174_12_spacer14	ref NC_019422.1	36	36	CCA	0		Clostridium phage phiMMP04, complete genome
NC_017174_12_spacer17	ref NC_019422.1	37	37	CCT	0		Clostridium phage phiMMP04, complete genome
NC_017174_12_spacer22	ref NC_019422.1	36	35	CCT	1		15 Clostridium phage phiMMP04, complete genome
NC_017174_12_spacer24	ref NC_019422.1	36	33	CCA	3	5, 9, 23	Clostridium phage phiMMP04, complete genome
NC_017174_5_spacer3	ref NC_009231.1	37	37	CCA	0		Clostridium phage phiC2, complete genome
NC_017174_5_spacer10	ref NC_009231.1	37	31	CCT	6	1, 2, 3, 4, 9, 30	Clostridium phage phiC2, complete genome
NC_017174_5_spacer8	emb LN681538.1	37	35	CCG	2	3, 17	Clostridium phage phiCD481-1, complete genome
NC_017174_5_spacer9	emb LN681538.1	37	30	CCT	7	1, 2, 3, 4, 5, 6, 21	Clostridium phage phiCD481-1, complete genome
NC_017174_5_spacer17	emb LN681538.1	36	32	CCA	4	3, 6, 15, 22	Clostridium phage phiCD481-1, complete genome
NC_017174_5_spacer8	emb LN681540.1	37	35	CCG	2	3, 17	Clostridium phage phiCD506, complete genome
NC_017174_5_spacer9	emb LN681540.1	37	30	CCT	7	1, 2, 3, 4, 5, 6, 21	Clostridium phage phiCD506, complete genome
NC_017174_5_spacer17	emb LN681540.1	36	32	CCA	4	3, 6, 15, 22	Clostridium phage phiCD506, complete genome
NC_017174_5_spacer7	ref NC_015262.1	36	36	CCA	0		Clostridium phage phiCD6356, complete genome
NC_017174_5_spacer10	ref NC_015262.1	37	34	CCT	3	4, 9, 30	Clostridium phage phiCD6356, complete genome
NC_017174_5_spacer13	ref NC_015262.1	38	32	CCC	6	1, 2, 3, 10, 30, 36	Clostridium phage phiCD6356, complete genome
NC_017174_5_spacer4	ref NC_019422.1	36	34	TCT	2	8, 11	Clostridium phage phiMMP04, complete genome
NC_017174_5_spacer8	ref NC_019422.1	37	35	CCG	2	3, 17	Clostridium phage phiMMP04, complete genome
NC_017174_5_spacer9	ref NC_019422.1	37	35	CCT	2	6, 27	Clostridium phage phiMMP04, complete genome
NC_017174_6_spacer4	emb LN681539.1	36	35	CCA	1		34 Clostridium phage phiCD505, complete genome
NC_017174_6_spacer6	emb LN681539.1	37	37	CCA	0		Clostridium phage phiCD505, complete genome
NC_017174_6_spacer14	emb LN681539.1	37	36	CCA	1		15 Clostridium phage phiCD505, complete genome
NC_017174_6_spacer22	emb LN681539.1	37	36	CCA	1		21 Clostridium phage phiCD505, complete genome
NC_017174_6_spacer14	emb LN681540.1	37	36	CCA	1		15 Clostridium phage phiCD506, complete genome
NC_017174_6_spacer21	emb LN681540.1	37	33	TCT	4	22, 25, 29, 35	Clostridium phage phiCD506, complete genome
NC_017174_6_spacer24	emb LN681540.1	36	29	CCT	7	1, 2, 3, 4, 9, 18, 24	Clostridium phage phiCD506, complete genome
NC_017174_6_spacer27	emb LN681540.1	37	37	CCA	0		Clostridium phage phiCD506, complete genome
NC_017174_6_spacer29	emb LN681540.1	36	36	CCT	0		Clostridium phage phiCD506, complete genome
NC_017174_6_spacer14	ENA CDIE01000002	37	36	?	1		15 Clostridium phage phiCD52_contig2
NC_017174_6_spacer17	ENA CDIE01000002	37	37	?	0		Clostridium phage phiCD52_contig2
NC_017174_6_spacer31	ENA CDIE01000002	36	29	?	7	8, 10, 32, 33, 34, 35, 36	Clostridium phage phiCD52_contig2
NC_017174_6_spacer1	ENA CDIE01000001	38	37	?	1		26 Clostridium phage phiCD52_contig1

NC_017174_6_spacer6	ENA CDIE01000001	37	37 ?	0	Clostridium phage phiCD52_contig1
NC_017174_6_spacer9	ENA CDIE01000001	37	34 ?	3 17, 20, 23	Clostridium phage phiCD52_contig1
NC_017174_6_spacer11	ENA CDIE01000001	37	34 ?	3 3, 36, 37	Clostridium phage phiCD52_contig1
NC_017174_6_spacer15	ENA CDIE01000001	39	36 ?	3 17, 23, 37	Clostridium phage phiCD52_contig1
NC_017174_6_spacer41	ENA CDIE01000001	37	37 ?	0	Clostridium phage phiCD52_contig1
NC_017174_6_spacer2	emb LN681541.1	35	33 CCA	2 34, 35	Clostridium phage phiMMP01, complete genome
NC_017174_6_spacer5	emb LN681541.1	38	37 CTG	1	29 Clostridium phage phiMMP01, complete genome
NC_017174_6_spacer14	emb LN681541.1	37	36 CCA	1	15 Clostridium phage phiMMP01, complete genome
NC_017174_6_spacer17	emb LN681541.1	37	37 CCT	0	Clostridium phage phiMMP01, complete genome
NC_017174_6_spacer31	emb LN681541.1	36	29 CTT	7 8, 10, 32, 33, 34, 35, 36	Clostridium phage phiMMP01, complete genome
NC_017174_6_spacer7	ref NC_019421.1	37	32 CTA	5 1, 8, 10, 11, 35	Clostridium phage phiMMP02, complete genome
NC_017174_6_spacer14	ref NC_019421.1	37	36 CCA	1	15 Clostridium phage phiMMP02, complete genome
NC_017174_6_spacer15	ref NC_019421.1	39	36 TCT	3 4, 19, 37	Clostridium phage phiMMP02, complete genome
NC_017174_6_spacer18	ref NC_019421.1	38	33 TTT	5 14, 17, 20, 26, 29	Clostridium phage phiMMP02, complete genome
NC_017174_6_spacer2	emb LN681542.1	35	33 CCA	2 34, 35	Clostridium phage phiMMP03, complete genome
NC_017174_6_spacer4	emb LN681542.1	36	35 CCA	1	34 Clostridium phage phiMMP03, complete genome
NC_017174_6_spacer5	emb LN681542.1	38	37 CTG	1	29 Clostridium phage phiMMP03, complete genome
NC_017174_6_spacer6	emb LN681542.1	37	37 CCA	0	Clostridium phage phiMMP03, complete genome
NC_017174_6_spacer14	emb LN681542.1	37	36 CCA	1	15 Clostridium phage phiMMP03, complete genome
NC_017174_6_spacer17	emb LN681542.1	37	37 CCT	0	Clostridium phage phiMMP03, complete genome
NC_017174_6_spacer22	emb LN681542.1	37	36 CCA	1	21 Clostridium phage phiMMP03, complete genome
NC_017174_6_spacer14	ref NC_019422.1	37	36 CCA	1	9 Clostridium phage phiMMP04, complete genome
NC_017174_6_spacer18	ref NC_019422.1	38	31 TTT	7 17, 20, 23, 24, 25, 29, 35	Clostridium phage phiMMP04, complete genome
NC_017174_6_spacer21	ref NC_019422.1	37	32 TCT	5 22, 25, 29, 30, 35	Clostridium phage phiMMP04, complete genome
NC_017174_6_spacer24	ref NC_019422.1	36	30 CCA	6 1, 2, 3, 4, 10, 12	Clostridium phage phiMMP04, complete genome
NC_017174_6_spacer27	ref NC_019422.1	37	31 CCA	6 1, 2, 8, 11, 13, 35	Clostridium phage phiMMP04, complete genome
NC_017174_6_spacer28	ref NC_019422.1	38	38 CCC	0	Clostridium phage phiMMP04, complete genome
NC_017174_6_spacer29	ref NC_019422.1	36	33 CCT	3 3, 23, 30	Clostridium phage phiMMP04, complete genome
NC_017174_6_spacer37	ref NC_019422.1	36	31 CCA	5 1, 12, 18, 20, 23	Clostridium phage phiMMP04, complete genome
NC_017174_6_spacer2	ref NC_024144.1	35	35 CCA	0	Clostridium phage CDMH1 complete genome
NC_017174_6_spacer3	ref NC_024144.1	37	30 GAA	7 1, 28, 31, 34, 35, 36, 37	Clostridium phage CDMH1 complete genome
NC_017174_6_spacer4	ref NC_024144.1	36	32 CCA	4 10, 13, 14, 34	Clostridium phage CDMH1 complete genome
NC_017174_6_spacer5	ref NC_024144.1	38	36 CTG	2 20, 36	Clostridium phage CDMH1 complete genome
NC_017174_6_spacer14	ref NC_024144.1	37	37 CCA	0	Clostridium phage CDMH1 complete genome
NC_017174_6_spacer18	ref NC_024144.1	38	31 TTT	7 16, 19, 23, 25, 26, 29, 35	Clostridium phage CDMH1 complete genome
NC_017174_6_spacer10	ref NC_007917.1	36	36 CCA	0	Clostridium phage phi CD119, complete genome
NC_017174_6_spacer12	ref NC_007917.1	37	30 CCA	7 4, 6, 25, 26, 27, 28, 37	Clostridium phage phi CD119, complete genome
NC_017174_6_spacer19	ref NC_007917.1	35	31 CTA	4 1, 2, 17, 35	Clostridium phage phi CD119, complete genome
NC_017174_6_spacer22	ref NC_007917.1	37	33 CCA	4 5, 6, 21, 23	Clostridium phage phi CD119, complete genome
NC_017174_6_spacer2	ref NC_009231.1	35	33 CCA	2 34, 35	Clostridium phage phiC2, complete genome
NC_017174_6_spacer4	ref NC_009231.1	36	35 CCA	1	28 Clostridium phage phiC2, complete genome
NC_017174_6_spacer5	ref NC_009231.1	38	37 CTG	1	29 Clostridium phage phiC2, complete genome
NC_017174_6_spacer6	ref NC_009231.1	37	37 CCA	0	Clostridium phage phiC2, complete genome
NC_017174_6_spacer17	ref NC_009231.1	37	37 CCT	0	Clostridium phage phiC2, complete genome
NC_017174_6_spacer18	ref NC_009231.1	38	33 TTT	5 18, 21, 24, 26, 27	Clostridium phage phiC2, complete genome
NC_017174_6_spacer32	ref NC_009231.1	37	36 CCA	1	30 Clostridium phage phiC2, complete genome
NC_017174_6_spacer14	emb LN681535.1	37	34 CCA	3	15 Clostridium phage phiCD111, complete genome
NC_017174_6_spacer25	emb LN681535.1	37	30 CCA	7 3, 7, 10, 15, 22, 23, 25	Clostridium phage phiCD111, complete genome
NC_017174_6_spacer13	emb LN681534.1	37	31 CCT	6 23, 24, 25, 30, 36, 37	Clostridium phage phiCD24-1, complete genome
NC_017174_6_spacer14	emb LN681534.1	37	34 CCA	3	15 Clostridium phage phiCD24-1, complete genome
NC_017174_6_spacer1	ref NC_011398.1	38	36 TCA	2 5, 20	Clostridium phage phiCD27, complete genome
NC_017174_6_spacer6	ref NC_011398.1	37	37 CCA	0	Clostridium phage phiCD27, complete genome
NC_017174_6_spacer14	ref NC_011398.1	37	36 CCA	1	32 Clostridium phage phiCD27, complete genome
NC_017174_6_spacer16	ref NC_011398.1	37	37 CCT	0	Clostridium phage phiCD27, complete genome
NC_017174_6_spacer18	ref NC_011398.1	38	32 TTT	6 15, 18, 21, 24, 26, 27	Clostridium phage phiCD27, complete genome
NC_017174_6_spacer18	emb LN681538.1	38	31 TTT	7 1, 2, 17, 20, 23, 25, 26	Clostridium phage phiCD481-1, complete genome
NC_017174_6_spacer21	emb LN681538.1	37	32 TCT	5 22, 25, 29, 30, 35	Clostridium phage phiCD481-1, complete genome
NC_017174_6_spacer24	emb LN681538.1	36	29 CCT	7 1, 2, 3, 4, 9, 18, 24	Clostridium phage phiCD481-1, complete genome
NC_017174_6_spacer27	emb LN681538.1	37	37 CCA	0	Clostridium phage phiCD481-1, complete genome
NC_017174_6_spacer29	emb LN681538.1	36	35 CCT	1	30 Clostridium phage phiCD481-1, complete genome
NC_017174_7_spacer3	ref NC_007917.1	38	38 TGG	0	Clostridium phage phi CD119, complete genome
NC_017174_7_spacer6	ref NC_007917.1	36	31 CCA	5 5, 11, 17, 30, 32	Clostridium phage phi CD119, complete genome
NC_017174_7_spacer8	ref NC_007917.1	37	34 CCA	3 9, 19, 25	Clostridium phage phi CD119, complete genome
NC_017174_7_spacer3	ref NC_011398.1	38	38 TGG	0	Clostridium phage phiCD27, complete genome
NC_017174_7_spacer5	ref NC_011398.1	36	35 CCA	1	33 Clostridium phage phiCD27, complete genome
NC_017174_7_spacer2	ENA CDIE01000001	36	30 ?	6 1, 15, 21, 27, 30, 33	Clostridium phage phiCD52_contig1
NC_017174_7_spacer3	ENA CDIE01000001	38	36 ?	2 20, 23	Clostridium phage phiCD52_contig1
NC_017174_7_spacer5	ENA CDIE01000001	36	34 ?	2 5, 9	Clostridium phage phiCD52_contig1
NC_017174_7_spacer3	ref NC_019421.1	38	38 TGG	0	Clostridium phage phiMMP02, complete genome
NC_017174_7_spacer5	ref NC_019421.1	36	35 CCA	1	33 Clostridium phage phiMMP02, complete genome
NC_017174_8_spacer1	emb LN681537.1	36	35 TCA	1	18 Clostridium phage phiCD211, complete genome
NC_017174_8_spacer2	emb LN681537.1	36	34 TCA	2 13, 14	Clostridium phage phiCD211, complete genome
NC_017174_8_spacer6	emb LN681537.1	36	36 TCA	0	Clostridium phage phiCD211, complete genome
NC_017174_8_spacer7	emb LN681537.1	36	34 TCA	2 18, 23	Clostridium phage phiCD211, complete genome
NC_017174_8_spacer10	emb LN681537.1	36	36 TCA	0	Clostridium phage phiCD211, complete genome
NC_017174_8_spacer15	emb LN681537.1	36	35 TCA	1	30 Clostridium phage phiCD211, complete genome
NC_017174_8_spacer16	emb LN681537.1	36	36 TCA	0	Clostridium phage phiCD211, complete genome
NC_017174_8_spacer17	emb LN681537.1	36	36 TCA	0	Clostridium phage phiCD211, complete genome
NC_017174_8_spacer18	emb LN681537.1	36	35 TCA	1	5 Clostridium phage phiCD211, complete genome
NC_017174_8_spacer23	emb LN681537.1	36	35 TTA	1	15 Clostridium phage phiCD211, complete genome
C.difficile 630					
NC_009089_8_spacer2	emb LN681539.1	36	34 CCA	2 10, 12	Clostridium phage phiCD505, complete genome
NC_009089_8_spacer8	emb LN681539.1	39	37 CCA	2 38, 39	Clostridium phage phiCD505, complete genome
NC_009089_9_spacer3	emb LN681535.1	37	33 CCT	4 5, 6, 15, 33	Clostridium phage phiCD111, complete genome
NC_009089_9_spacer4	emb LN681535.1	36	35 TCC	1	31 Clostridium phage phiCD111, complete genome
NC_009089_9_spacer11	emb LN681535.1	35	32 CCA	3 5, 11, 21	Clostridium phage phiCD111, complete genome
NC_009089_9_spacer3	emb LN681536.1	37	33 CCT	4 5, 6, 15, 33	Clostridium phage phiCD146, complete genome
NC_009089_9_spacer4	emb LN681536.1	36	36 TCC	0	Clostridium phage phiCD146, complete genome
NC_009089_9_spacer11	emb LN681536.1	35	33 CCA	2 11, 21	Clostridium phage phiCD146, complete genome
NC_009089_9_spacer3	ref NC_015568.1	37	33 CCT	4 5, 6, 15, 33	Clostridium phage phiCD38-2, complete genome

NC_009089_9_spacer4	ref NC_015568.1	36	36 TCC	0	Clostridium phage phiCD38-2, complete genome
NC_009089_9_spacer11	ref NC_015568.1	35	33 CCA	2 11, 21	Clostridium phage phiCD38-2, complete genome
NC_009089_9_spacer3	ref NC_019422.1	37	30 CCT	7 5, 6, 24, 30, 33, 36, 37	Clostridium phage phiMMP04, complete genome
NC_009089_9_spacer4	ref NC_019422.1	36	29 ACC	7 1, 2, 3, 9, 13, 25, 31	Clostridium phage phiMMP04, complete genome
NC_009089_11_spacer1	ref NC_011398.1	37	37 CCT	0	Clostridium phage phiCD27, complete genome
NC_009089_11_spacer2	ref NC_011398.1	36	36 CCA	0	Clostridium phage phiCD27, complete genome
NC_009089_17_spacer1	ref NC_011398.1	37	37 CCT	0	Clostridium phage phiCD27, complete genome
NC_009089_17_spacer4	ref NC_011398.1	37	31 CCT	6 3, 6, 8, 18, 19, 23	Clostridium phage phiCD27, complete genome
NC_009089_17_spacer15	ref NC_011398.1	36	35 CCT	1	18 Clostridium phage phiCD27, complete genome
NC_009089_17_spacer11	emb LN681537.1	36	36 CCT	0	Clostridium phage phiCD211, complete genome
NC_009089_17_spacer12	emb LN681537.1	37	37 CCA	0	Clostridium phage phiCD27, complete genome
NC_009089_17_spacer2	ref NC_015262.1	37	37 CCT	0	Clostridium phage phiCD6356, complete genome
NC_009089_17_spacer4	ref NC_015262.1	37	32 CCT	5 3, 6, 8, 19, 23	Clostridium phage phiCD6356, complete genome
NC_009089_17_spacer1	emb LN681539.1	37	37 CCT	0	Clostridium phage phiCD505, complete genome
NC_009089_17_spacer4	emb LN681539.1	37	31 CCT	6 3, 6, 8, 19, 23, 24	Clostridium phage phiCD505, complete genome

C.difficile CD196=R20291=2007855=BI1

NC_013315_10_spacer4	emb LN681536.1	39	33 CCA	6 4, 7, 11, 28	Clostridium phage phiCD146, complete genome
NC_013315_10_spacer5	emb LN681536.1	37	36 CCA	1	33 Clostridium phage phiCD146, complete genome
NC_013315_10_spacer4	ref NC_015568.1	39	33 CCA	6 10, 14, 15, 16, 31, 34	Clostridium phage phiCD38-2, complete genome
NC_013315_10_spacer5	ref NC_015568.1	37	35 CCA	2 24, 31	Clostridium phage phiCD38-2, complete genome
NC_013315_10_spacer8	ref NC_015262.1	37	37 CCA	0	Clostridium phage phiCD6356, complete genome
NC_013315_10_spacer10	ref NC_015262.1	37	32 CCA	5 1, 2, 3, 4, 7	Clostridium phage phiCD6356, complete genome
NC_013315_10_spacer3	ref NC_011398.1	35	33 CCA	2 3, 9	Clostridium phage phiCD27, complete genome
NC_013315_10_spacer14	ref NC_011398.1	37	37 CCT	0	Clostridium phage phiCD27, complete genome
NC_013315_11_spacer3	emb LN681535.1	36	32 CCA	4 3, 7, 9, 12	Clostridium phage phiCD111, complete genome
NC_013315_11_spacer7	emb LN681535.1	37	36 CCC	1	6 Clostridium phage phiCD111, complete genome
NC_013315_11_spacer3	ref NC_015568.1	36	32 CCA	4 3, 7, 9, 12	Clostridium phage phiCD38-2, complete genome
NC_013315_11_spacer5	ref NC_015568.1	38	37 CCT	1	8 Clostridium phage phiCD38-2, complete genome
NC_013315_11_spacer7	ref NC_015568.1	37	37 CCA	0	Clostridium phage phiCD38-2, complete genome
NC_013315_15_spacer3	ref NC_015262.1	38	38 CCT	0	Clostridium phage phiCD6356, complete genome
NC_013315_15_spacer9	ref NC_015262.1	36	35 CCA	1	9 Clostridium phage phiCD6356, complete genome
NC_013315_19_spacer3	ref NC_015262.1	36	34 CCT	2 6, 8	Clostridium phage phiCD6356, complete genome
NC_013315_19_spacer4	ref NC_015262.1	38	34 CCA	4 8, 11, 17, 26	Clostridium phage phiCD6356, complete genome
NC_013315_19_spacer7	ref NC_019421.1	37	37 CCA	0	Clostridium phage phiMMP02, complete genome
NC_013315_19_spacer9	ref NC_019421.1	38	33 CCA	5 12, 15	Clostridium phage phiMMP02, complete genome
NC_013315_19_spacer13	emb LN681537.1	37	36 CTT	1	1 Clostridium phage phiCD211, complete genome
NC_013315_19_spacer14	emb LN681537.1	37	37 CCT	0	Clostridium phage phiCD211, complete genome

C.difficile BI9

NC_013974_10_spacer5	ref NC_015262.1	38	37 CCT	1	38 Clostridium phage phiCD6356, complete genome
NC_013974_10_spacer6	ref NC_015262.1	37	34 CCA	3 10, 11, 16	Clostridium phage phiCD6356, complete genome
NC_013974_12_spacer12	emb LN681536.1	36	32 CCA	4 16, 31, 35, 36	Clostridium phage phiCD146, complete genome
NC_013974_12_spacer13	emb LN681536.1	37	37 CCA	0	Clostridium phage phiCD146, complete genome
NC_013974_12_spacer12	ref NC_015568.1	36	32 CCA	4 16, 31, 35, 36	Clostridium phage phiCD38-2, complete genome
NC_013974_12_spacer13	ref NC_015568.1	37	36 CCA	1	32 Clostridium phage phiCD38-2, complete genome
NC_013974_14_spacer1	emb LN681536.1	38	35 CCA	3 4, 6, 18	Clostridium phage phiCD146, complete genome
NC_013974_14_spacer7	emb LN681536.1	39	34 CCT	5 1, 2, 16, 27, 30	Clostridium phage phiCD146, complete genome
NC_013974_18_spacer5	emb LN681536.1	36	36 CCA	0	Clostridium phage phiCD146, complete genome
NC_013974_18_spacer7	emb LN681536.1	34	32 CCT	2 3, 9	Clostridium phage phiCD146, complete genome
NC_013974_18_spacer10	emb LN681536.1	35	28 CCT	7 1, 2, 3, 4, 5, 15, 22	Clostridium phage phiCD146, complete genome
NC_013974_18_spacer5	ref NC_015568.1	36	33 CCA	3 14, 15, 16	Clostridium phage phiCD38-2, complete genome
NC_013974_18_spacer7	ref NC_015568.1	34	28 CCT	6 3, 9, 15, 21, 33, 34	Clostridium phage phiCD38-2, complete genome
NC_013974_18_spacer10	ref NC_015568.1	35	28 CCT	7 1, 2, 3, 4, 5, 14, 23	Clostridium phage phiCD38-2, complete genome
NC_013974_18_spacer5	emb LN681535.1	36	32 CCC	4 6, 13, 14, 15	Clostridium phage phiCD111, complete genome
NC_013974_18_spacer7	emb LN681535.1	34	32 CCT	2 3, 9	Clostridium phage phiCD111, complete genome
NC_013974_18_spacer10	emb LN681535.1	35	29 CCT	6 1, 2, 3, 4, 5, 15	Clostridium phage phiCD111, complete genome

C.difficile CF5

NC_017173_6_spacer2	emb LN681536.1	37	34 TCT	3 3, 14, 22	Clostridium phage phiCD146, complete genome
NC_017173_6_spacer3	emb LN681536.1	38	38 CCA	0	Clostridium phage phiCD146, complete genome
NC_017173_6_spacer3	emb LN681538.1	38	35 CCA	3 1, 2, 20	Clostridium phage phiCD481-1, complete genome
NC_017173_6_spacer7	emb LN681538.1	36	30 CCC	6 12, 13, 15, 24, 27, 28	Clostridium phage phiCD481-1, complete genome
NC_017173_6_spacer9	emb LN681538.1	36	35 CAA	1	18 Clostridium phage phiCD481-1, complete genome
NC_017173_6_spacer3	emb LN681540.1	38	38 CCA	0	Clostridium phage phiCD506, complete genome
NC_017173_6_spacer7	emb LN681540.1	36	30 CCC	6 12, 13, 15, 24, 27, 28	Clostridium phage phiCD506, complete genome
NC_017173_6_spacer9	emb LN681540.1	36	35 CAA	1	18 Clostridium phage phiCD506, complete genome
NC_017173_8_spacer13	ref NC_015262.1	37	37 CCT	0	Clostridium phage phiCD6356, complete genome
NC_017173_8_spacer14	ref NC_015262.1	36	36 CCA	0	Clostridium phage phiCD6356, complete genome
NC_017173_10_spacer2	ref NC_015262.1	38	37 CCA	1	36 Clostridium phage phiCD6356, complete genome
NC_017173_10_spacer6	ref NC_015262.1	35	35 CCG	0	Clostridium phage phiCD6356, complete genome
NC_017173_10_spacer10	ref NC_015262.1	36	36 CCA	0	Clostridium phage phiCD6356, complete genome
NC_017173_10_spacer11	ref NC_015262.1	36	29 CCT	7 1, 2, 3, 4, 5, 15, 22	Clostridium phage phiCD6356, complete genome
NC_017173_10_spacer13	ref NC_015262.1	37	36 TCA	1	8 Clostridium phage phiCD6356, complete genome
NC_017173_10_spacer19	ref NC_015262.1	37	37 CCA	0	Clostridium phage phiCD6356, complete genome
NC_017173_10_spacer1	ref NC_019422.1	37	31 CTT	6 4, 8, 14, 16, 21, 24	Clostridium phage phiMMP04, complete genome
NC_017173_10_spacer2	ref NC_019422.1	38	37 CCA	1	36 Clostridium phage phiMMP04, complete genome

C.difficile M68

NC_017175_6_spacer2	emb LN681536.1	37	34 CCT	3 3, 16, 22	Clostridium phage phiCD146, complete genome
NC_017175_6_spacer3	emb LN681536.1	38	38 CCA	0	Clostridium phage phiCD146, complete genome
NC_017175_10_spacer1	emb LN681537.1	36	34 CCT	2 8, 20	Clostridium phage phiCD211, complete genome
NC_017175_10_spacer2	emb LN681537.1	36	36 CCT	0	Clostridium phage phiCD211, complete genome
NC_017175_10_spacer5	emb LN681537.1	36	34 CCA	2 35, 36	Clostridium phage phiCD211, complete genome