

Table S1. Phages included in the phage cloud analysis shown in Figure 1.

	name	accession	cloud
1	Clostridium phage phiMMP02	JX145341	1
2	Clostridium phage phiMMP04	JX145342	1
3	Clostridium phage phiMMP01	LN681541	1
4	Clostridium phage phiCDHM14	LK985321	1
5	Clostridium phage phiCD505	LN681539	1
6	Clostridium phage CDKM9	KX228399	1
7	Clostridium phage CDKM15	KX228400	1
8	Clostridium virus phiCD27	EU719189	1
9	Clostridium virus phiCD27 NC	011398	1
10	Clostridium phage phiMMP03	LN681542	1
11	Clostridium virus phiCD119	AY855346	1
12	Clostridium virus phiCD119 NC	007917	1
13	Clostridium phage phiCDHM19	LK985322	1
14	Clostridium phage CDMH1	HG531805	1
15	Clostridium virus phiC2	DQ466086	1
16	Clostridium virus phiC2 NC	009231	1
17	Clostridium phage phiCD506	LN681540	1
18	Clostridium phage phiCDHM13	HG796225	1
19	Clostridium phage JD032	MK473382	1
20	Clostridium phage phiCD481-1	LN681538	1
21	Clostridium phage phiCDHM11	HG798901	1
22	Clostridium phage phiZP2	JQ729992	2
23	Clostridium phage CPQ7	MZ401007	2
24	Clostridium phage CPS2	MH248069	2
25	Clostridium phage CPQ1	MW057920	2
26	Clostridium phage phiCP7R	JQ729990	2
27	Clostridium phage CPQ9	MZ401008	2
28	Clostridium phage CPQ10	MZ401009	2
29	Clostridium phage CPQ3	MZ401005	2
30	Clostridium phage phiCPV4	JQ729991	2
31	Clostridium phage phiCP26F	GQ443085	3
32	Clostridium phage phiCP34O	JF767209	3
33	Clostridium phage phiCP39-O	EU588980	3
34	Clostridium phage vB CpeP PMQ04	MZ995505	3
35	Clostridium phage phiCP9O	JF767210	3
36	Clostridium phage phiCP13O	JF767208	3
37	Clostridium phage CPQ4	MZ401006	3
38	Clostridium phage CPD1	MH999280	3
39	Clostridium phage CPD4	MK017819	4
40	Clostridium phage CP3	MF001357	4
41	Clostridium phage CPAS-15	MN417334	4

42	Clostridium phage Clo-PEP-1	KY206887	4
43	Clostridium phage phiCT9441A	KM983329	5
44	Clostridium phage phiCT19406A	KM983330	5
45	Clostridium phage phiCT453A	KM983327	5
46	Clostridium phage phiCTC2A	KM983333	5
47	Clostridium phage phiCD111	LN681535	6
48	Clostridium phage phiCD146	LN681536	6
49	Clostridium phage CDSH1	KU057941	6
50	Clostridium phage phiCD38-2	HM568888	6
51	Clostridium phage CPS1	KY996523	7
52	Clostridium phage vB CpeP HN02	MW815121	7
53	Clostridium phage CPD2	MH999279	7
54	Clostridium phage phi24R	JN800508	7
55	Clostridium phage phiCD211	LN681537	8
56	Clostridioides phage LIBA2945	MF547663	8
57	Clostridioides phage LIBA6276	MF547662	8
58	Clostridium phage phiCT453B	KM983328	9
59	Clostridium phage phiCTC2B	KM983334	9
60	Clostridium phage phiCT19406B	KM983331	9
61	Clostridium phage c-st	AP008983	10
62	Clostridium phage D-1873	ACSJ01000000	10
63	Clostridium phage phiCD24-1	LN681534	11
64	Clostridium phage phiCDKH01	MN718463	11
65	Clostridium phage phi3626 NC	003524	12
66	Clostridium phage phi3626	AY082070	12
67	Clostridium phage susfortuna	MH393889	13
68	Clostridium phage CPD7	MK017820	13
69	Clostridium phage vB CpeS-CP51	KC237729	14
70	Clostridium phage phiCT19406C	KM983332	15
71	Clostridium phage PhiS63	JQ660954	16
72	Clostridium phage phiSM101	CP000315	17
73	Clostridium phage phiCTP1	HM159959	18
74	Clostridium phage HM T	KU517658	19
75	Clostridium phage CWou-2020a	CP063964	20
76	Clostridium phage CpV1	HM640230	21
77	Clostridium phage HM2	LT600745	22
78	Clostridium phage phi8074-B1	JQ246028	23
79	Prokaryotic dsDNA virus sp	MK892507	24
80	Clostridium phage phiCD6356	GU949551	25
81	Clostridioides phage phiSemix9P1	KX905163	26
82	Clostridium phage CWou-2020b	CP063968	27