Supplementary Table 1. Bacterial strains used in this study

Strain	Description	Host and Origin	GenBank Acc. No.	Reference / source
Pseudomonas syringae* pv. *actinidiae				
ICMP 9617		*A. deliciosa*, Japan, 1984		ICMP [B]
ICMP 9853		*Actinidia deliciosa*, Shizuoka, Japan, 1984		ICMP [B]
ICMP 9855		*A. deliciosa*, Japan, 1984		ICMP [B]
ICMP 18708	V	*Actinidia chinensis*, Te Puke, New Zealand, 2010		(1) ICMP [B]
ICMP 18743		*A. delicosa*, Rome, Italy, 2010		(1) ICMP [B]
ICMP 18744		*A. deliciosa*, Rome, Italy, 2010		(1) ICMP [B]
ICMP 18745		*A. chinensis*, Latina, Italy, 2010		(1) ICMP [B]
ICMP 18746		*A. chinensis*, Latina, Italy, 2010		(1) ICMP [B]
ICMP 18800	V	*A. deliciosa*, Paengaroa, New Zealand, 2010		ICMP [B]
ICMP 18801	V	*A. chinensis*, Te Puke, New Zealand, 2010		ICMP [B]
ICMP 18885	V	*A. chinensis*, Rangiuru, New Zealand, 2010		ICMP [B]
ICMP 18886	V	*A. deliciosa*, Te Puke, New Zealand, 2010		ICMP [B]
ICMP 19071		*A. chinensis*, Korea, 1997		ICMP [B]
ICMP 19072		*A. chinensis*, Korea, 1997		ICMP [B]
ICMP 19079		*A. chinensis*, Italy, 2010		ICMP [B]
ICMP 19101	V	*A. chinensis*, Te Puke, New Zealand, 2010		ICMP [B]
ICMP 19104		*A. deliciosa*, Japan, 1988		ICMP [B]
NZ2V	V	New Zealand		NZIPFR [C]
NZ7V	V	New Zealand		NZIPFR [C]
NZ10V	V	New Zealand		NZIPFR [C]
***Pseudomonas syringae* pv. *actinidiae* LV**				
ICMP 18802	LV	*A. chinensis*, Paengaroa, New Zealand, 2010		ICMP [B]
ICMP 18803	LV	*A. chinensis*, Hawkes Bay, New Zealand, 2010		(1) ICMP [B]
ICMP 18804	LV	*A. chinensis*, Rangiuru, New Zealand, 2010		(1) ICMP [B]
ICMP 18806	LV	*A. chinensis*, Pongakawa, New Zealand, 2010		ICMP [B]
ICMP 18807	LV	*A. deliciosa*, Tauranga, New Zealand, 2010		ICMP [B]
ICMP 18882	LV	*A. chinensis*, Motueka, New Zealand, 2010		(1) ICMP [B]
ICMP 18883	LV	*A. deliciosa*, Golden Bay, New Zealand, 2010		(1) ICMP [B]
ICMP 19497	LV	*A. chinensis*, Te Puke, New Zealand, 2010		ICMP [B]
***Actinidia* associated bacteria**				
ABAC1 [A]	*P. syringae* sp.	*Actinidia*, New Zealand	KF003372	NZIPFR [C]
ABAC2 [A]	*Curtobacterium flaccumfaciens*	*Actinidia*, New Zealand	KF003373	NZIPFR [C]
ABAC5 [A]	*Acinetobacter radioresistens*	*Actinidia*, New Zealand	KF003374	NZIPFR [C]
ABAC8 [A]	*P. putida*	*Actinidia*, New Zealand	KF003375	NZIPFR [C]

ABAC9 [A]	*P. syringae* pv. *actinidiae*	*Actinidia*, New Zealand	KF003376	NZIPFR [C]
ABAC10 [A]	*P. syringae* sp.	*Actinidia*, New Zealand	DQ318861	NZIPFR [C]
ABAC13 [A]	*Pseudomonas* sp.	*Actinidia*, New Zealand	KF003378	NZIPFR [C]
ABAC15 [A]	*Bacilllus* sp.	*Actinidia*, New Zealand	KF003379	NZIPFR [C]
ABAC16 [A]	*Achromobacter* sp.	*Actinidia*, New Zealand	KF003380	NZIPFR [C]
ABAC17 [A]	*Pseudomonas* sp.	*Actinidia*, New Zealand	KF003381	NZIPFR [C]
ABAC18 [A]	*Pantoea agglomerans*	*Actinidia*, New Zealand	KF003382	NZIPFR [C]
ABAC19 [A]	*P. agglomerans*	*Actinidia*, New Zealand	KF003383	NZIPFR [C]
ABAC20 [A]	*Bacillus amyloliquefaciens*	*Actinidia*, New Zealand	KF003384	NZIPFR [C]
ABAC21 [A]	*Pseudomonas* sp.	*Actinidia*, New Zealand	KF003385	NZIPFR [C]
ABAC22 [A]	*P. agglomerans*	*Actinidia*, New Zealand	KF003386	NZIPFR [C]
ABAC23 [A]	*P. agglomerans*	*Actinidia*, New Zealand	KF003387	NZIPFR [C]
ABAC24 [A]	*Pseudomonas* sp.	*Actinidia*, New Zealand	KF003388	NZIPFR [C]
ABAC25 [A]	*P. agglomerans*	*Actinidia*, New Zealand	KF003389	NZIPFR [C]
ABAC26 [A]	*B. amyloliquefaciens*	*Actinidia*, New Zealand	KF003390	NZIPFR [C]
ABAC27 [A]	*B. amyloliquefaciens*	*Actinidia*, New Zealand	KF003391	NZIPFR [C]
ABAC28 [A]	*B. amyloliquefaciens*	*Actinidia*, New Zealand	KF003392	NZIPFR [C]
ABAC29 [A]	*Bacillus* sp.	*Actinidia*, New Zealand	KF003393	NZIPFR [C]
ABAC35 [A]	*Bacillus* sp.	*Actinidia*, New Zealand	KF003394	NZIPFR [C]
ABAC36 [A]	*B. amyloliquefaciens*	*Actinidia*, New Zealand	KF003395	NZIPFR [C]
ABAC39 [A]	*P. fluorescens*	*Actinidia*, New Zealand	KF003396	NZIPFR [C]
ABAC41 [A]	*Bacillus cereus*	*Actinidia*, New Zealand	KF003397	NZIPFR [C]
ABAC43 [A]	*P. viridiflava*	*Actinidia*, New Zealand	KF003398	NZIPFR [C]
ABAC45 [A]	*Williamsia* sp.	*Actinidia*, New Zealand	KF003399	NZIPFR [C]
ABAC46 [A]	*Rhodococcus* sp.	*Actinidia*, New Zealand	KF003400	NZIPFR [C]
ABAC53 [A]	*Stenotrophomonas* sp.	*Actinidia*, New Zealand	KF003401	NZIPFR [C]
ABAC54 [A]	*Sphingobacterium* sp.	*Actinidia*, New Zealand	KF003402	NZIPFR [C]
ABAC57 [A]	*Sphingobacterium* sp.	*Actinidia*, New Zealand	KF003403	NZIPFR [C]
ABAC58 [A]	*Kocuria marina*	*Actinidia*, New Zealand	KF003404	NZIPFR [C]
ABAC59 [A]	*Rhizobium* sp.	*Actinidia*, New Zealand	KF003405	NZIPFR [C]
ABAC60 [A]	*P. fluorescens*	*Actinidia*, New Zealand	KF003406	NZIPFR [C]
ABAC61 [A]	*Pseudomonas* sp	*Actinidia*, New Zealand	KF003407	NZIPFR [C]
ABAC62 [A]	*P. fluorescens*	*Actinidia*, New Zealand	KF003408	NZIPFR [C]
ABAC63 [A]	*Pseudomonas* sp.	*Actinidia*, New Zealand	KF003409	NZIPFR [C]
ABAC64 [A]	*P. agglomerans*	*Actinidia*, New Zealand	KF003410	NZIPFR [C]
ABAC65 [A]	*Pantoea sp.*	*Actinidia*, New Zealand	KF003411	NZIPFR [C]
ABAC66 [A]	*C. flaccumfaciens*	*Actinidia*, New Zealand	KF003412	NZIPFR [C]
ABAC68 [A]	*C. flaccumfaciens*	*Actinidia*, New Zealand	KF003413	NZIPFR [C]
ABAC69 [A]	*Rhizobium* sp.	*Actinidia*, New Zealand	KF003414	NZIPFR [C]
ABAC71 [A]	*C. flaccumfaciens*	*Actinidia*, New Zealand	KF003415	NZIPFR [C]
ABAC72 [A]	*P. syringae* sp.	*Actinidia*, New Zealand	KF003416	NZIPFR [C]
ABAC76 [A]	*Pantoea sp.*	*Actinidia*, New Zealand	KF003417	NZIPFR [C]
ABAC77 [A]	*P. agglomerans*	*Actinidia*, New Zealand	KF003418	NZIPFR [C]
ABAC78 [A]	*Enterobacter* sp.	*Actinidia*, New Zealand	KF003419	NZIPFR [C]
ABAC79A [A]	*P. syringae* pv. *actinidiae*	*Actinidia*, New Zealand	KF003420	NZIPFR [C]
ABAC79B [A]	*P. syringae* pv. *actinidiae*	*Actinidia*, New Zealand	KF003421	NZIPFR [C]
Pseudomonas aeruginosa				
PA01				(2)
P1	Pyocin typing strain			(3)
P11	Pyocin typing strain			(3)
P13	Pyocin typing strain			(3)
P14	Pyocin typing strain			(3)
P15	Pyocin typing strain			(3)

P19	Pyocin typing strain			(3)
Pseudomonas corrugata				
ICMP 5819		*Solanum lycopersicum*, United Kingdom, 1972		ICMP [B]
ICMP 7634		*S. lycopersicum*, Oamaru, New Zealand		ICMP [B]
ICMP 8266		*S. lycopersicum*, United Kingdom, 1972		ICMP [B]
ICMP 8270		*Medicago sativa*, USA, 1975		ICMP [B]
ICMP 8633		*S. lycopersicum*, South Africa, 1981		ICMP [B]
ICMP 8889		*S. lycopersicum*, Auckland, New Zealand, 1982		ICMP [B]
ICMP 8894		*S. lycopersicum*, Lincoln, New Zealand, 1982		ICMP [B]
ICMP 9849		*S. lycopersicum*, Chiba, Japan, 1982		ICMP [B]
ICMP 10135		*S. lycopersicum*, Brazil		ICMP [B]
ICMP 10862		*Capsicum annuum*, Tenerife, Spain, 1984		ICMP [B]
Pseudomonas fluorescens				
46A		New Zealand		NZIPFR [C]
ICMP 3636		*A. deliciosa*, Te Puke, New Zealand, 1970		ICMP [B]
ICMP 7279		*Allium cepa*, Puni, New Zealand, 1980		ICMP [B]
ICMP 11288		*A. deliciosa*, Kumeu, New Zealand, 1991		ICMP [B]
SBW25		Sugar beet leaf, United Kingdom, 1992		(4) NZIPFR [C]
Blight Ban A506		Biocontrol strain		Nufarm Americas Inc
Other *Pseudomonas* strains				
ICMP 9505	*P. marginalis*	*A. deliciosa*, Te Puke, New Zealand, 1987		ICMP [B]
ICMP 11289	*P. marginalis*	*A. deliciosa*, Kumeu, New Zealand, 1991		ICMP [B]
ICMP 3272	*Pseudomonas*	*A. deliciosa*, Riverhead, New Zealand, 1971		ICMP [B]
ICMP 10191	*Pseudomonas*	*Actinidia*, Changsha, China, 1981		ICMP [B]
PS2.1 [A]	*Pseudomonas* sp.	*Prunus avium*, New Zealand, 2009	KF019106	NZIPFR [C]
PS4.1 [A]	*Pseudomonas* sp.	*Prunus persica*, Central Otago, New Zealand, 2009	KF019107	NZIPFR [C]
PS5.1 [A]	*Pseudomonas* sp.	*P. persica*, Central Otago, New Zealand, 2009	KF019108	NZIPFR [C]
ICMP 19500	*Pseudomonas* sp.	*A. chinensis*, Kerikeri, New Zealand, 2011		ICMP [B]
ICMP 11168	*P. syringae*	*A. deliciosa*, Katikati, New Zealand, 1991		ICMP [B]
ICMP 11292	*P. syringae*	*A. deliciosa*, New Zealand, 1991		ICMP [B]
ICMP 11293	*P. syringae*	*A. deliciosa*, Kumeu, New Zealand, 1991		ICMP [B]
ICMP 13102	*P. syringae*	*A. deliciosa*, Livron sur Drome, France, 1985		ICMP [B]
ICMP 19498	*P. syringae*	*A. chinensis*, Te Puke, New Zealand, 2010		ICMP [B]
PS10.1 [A]	*P. syringae*	*A. deliciosa*, Te Puke, New Zealand, 2010	KF019101	NZIPFR [C]
ICMP 19499	*P. syringae*	*A. chinensis*, Te Puke, New Zealand, 2011		ICMP [B]
PS12.1 [A]	*P. syringae*	*A. deliciosa*, Te Puke, New Zealand,	KF019102	NZIPFR [C]

		2011		
ICMP 4394	*P. syringae* pv. *atrofaciens*	*Triticum aestivum*, Auckland, New Zealand, 1968		ICMP [B]
PS1.1 [A]	*P. syringae* pv. *morsprunorum*	*Prunus avium*, Central Otago,New Zealand, 2008	KF019104	NZIPFR [C]
PS6.1 [A]	*P. syringae* pv. *morsprunorum*	*P. avium*, Central Otago, New Zealand, 2009	KF019105	NZIPFR [C]
1448A	*P. syringae* pv. *phaseolicola*	*Phaseolus vulgaris*, Ethiopia, 1985		NZIPFR [C]
PS3.1 [A]	*P. syringae* pv. *syringae*	*P. persica*, Central Otago, New Zealand, 2010	KF019109	NZIPFR [C]
PS7.1 [A]	*P. syringae* pv. *syringae*	*P. avium*, Central Otago, New Zealand, 2009	KF019103	NZIPFR [C]
PD2766	*P. syringae* pv. *syringae*	USA		ICMP [B]
PD2774	*P. syringae* pv. *syringae*	USA		ICMP [B]
ICMP 19090 (NCPPB3871)	*P. syringae* pv. *syringae*	*A. deliciosa*, Latina, Italy, 1992		(1) ICMP [B]
DC3000	*P. syringae* pv. *tomato*	Mutant of NCPPB 1106, *Licopersicon esculentum*, UK		(5) NCPPB [D]
ICMP 13104	*P. viridiflava*	*A. deliciosa*, Begrolles en Mauges, France, 1985		ICMP [B]
ICMP 13303	*P. viridiflava*	*A. chinensis*, Te Puke, New Zealand, 1996		ICMP [B]
Other Gram-negative strains				
DBS100	*Citrobacter rodentium*	Gastrointestinal mouse pathogen		(6)
AB259	*Escherichia coli*	Genotype: Hfr (PO1)*relA1 spoT1 thi-1*		(7)
ATCC 39006	*Serratia* sp.	Salt marsh, Cheesequake, New Jersey, USA, 1982		(8, 9)
SCRI1043	*Pectobacterium atrosepticum*	Potato, Perthshire, Scotland, 1985		(10)
Blossom Bless	*P. agglomerans*	Biocontrol strain		Grow-Chem NZ Ltd
ICMP 18800 TnKm12	*P. syringae* pv. *actinidiae*	Unmapped Tn-DS1028lacZKm mutant		This work
BW20767	*E. coli*, pKRCPN1	Donor strain for Tn mutagenesis, Tc^R, Km^R		(11)

[A] Isolate described by comparison of 16S rDNA sequence with those in the Genbank database.
[B] Isolates obtained from the International Collection of Microorganisms from Plants (ICMP) http://www.landcareresearch.co.nz/resources/collections/icmp
[C] Isolates obtained from The New Zealand Institute for Plant & Food Research Ltd (NZIPFR) culture collection.
[D] Isolates obtained from the National Collection of Plant Pathogenic Bacteria (NCPPB) http://www.ncppb.com/

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Supplementary Figures

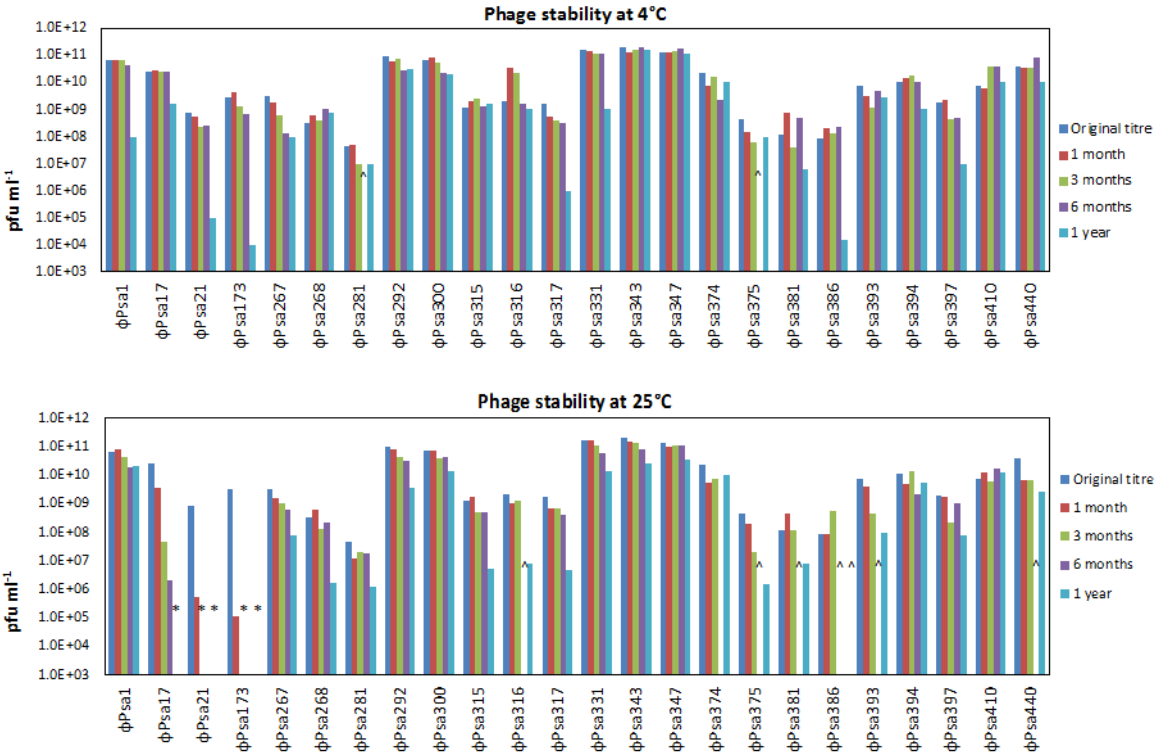

FIG S1 *P. syringae* pv. *actinidiae* phages are generally stable for at least one year. Phage lysates were prepared and the original titres determined, the lysates were then split in two and stored at 4°C or 25°C and titres (pfu ml^{-1}) calculated at the times indicated. * below the detection level of 10^3 pfu ml^{-1}, ^ not tested.

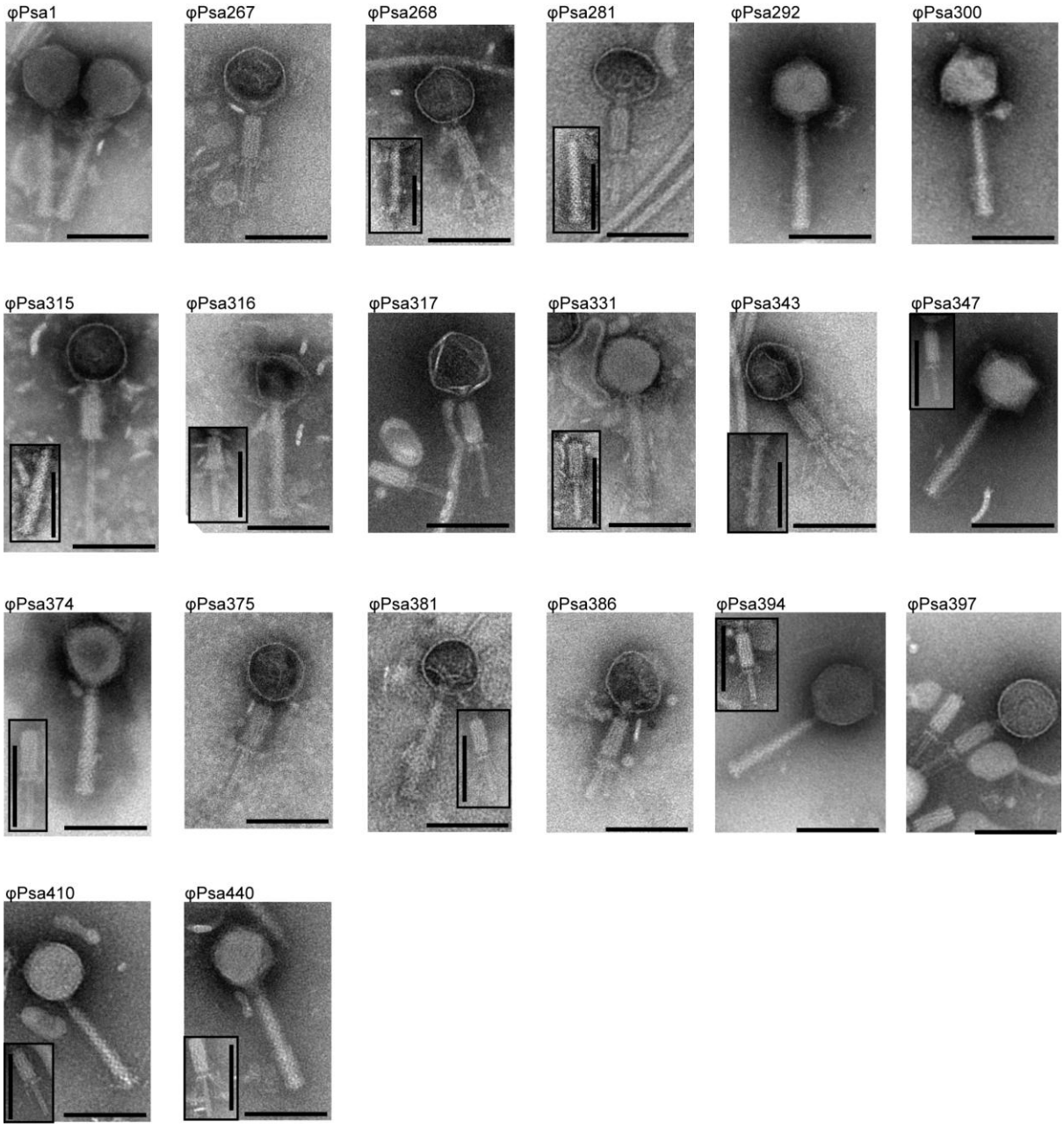

FIG S2 Morphologies of 20 *Myoviridae* phages active against *P. syringae* pv. *actinidiae*. Phage lysates were stained with 1% phosphotungstic acid (pH 6.8) and viewed using a Philips CM100 TEM. All images were taken at 135 kV and scale bars represent 100 nm. The insets represent alternative tail morphologies that were observed (extended or contracted). Details of the measurements and classifications are provided in Table 2.

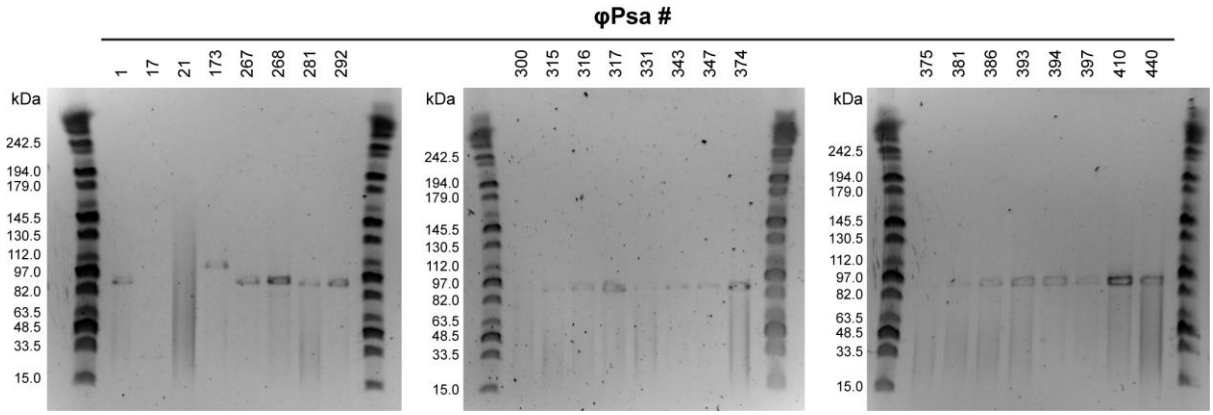

FIG S3 Estimated genome sizes of 24 phages infecting *P. syringae* pv. *actinidiae* using pulsed field gel electrophoresis. Midrange PFGE Marker I (Biolabs) was used as a size standard. The genome size of φPsa21 could not be resolved.