

	10	20	30	40	50	60	
1	.....MAL.....SKEAPGFDI.....DDEVLL.....MDSGI.....DSDLMSD.....DE.....STPTARTKSKKATATKQHKYIDYT.....R.....ALDQTQLY						lz4w
1	.....MSQN.....TLKVHDLN.....EDAEFD.....ENG.....VEVFFDEK.....ALVEQEPSDNDLAEELLSSOGA.....TQ.....R.....VLDTAQLY						Ecoli
1	.....MSQN.....TLKVHDLN.....EDAEFD.....DNR.....VEVFFDEK.....ALVEEPPSDNDLAEELLSSOGA.....TQ.....R.....VLDTAQLY						Ecoli_Q157
1	.....MAL.....KKEGPPEFDH.....DDEVLL.....LEPGI.....MLDESSAD.....EQ.....PSPRATPKATTFSFSKKQHKHIDYT.....R.....ALDQTQLY						Paeruginosa
1	.....MAL.....SKEVPEFDI.....DDDVLV.....METGI.....VLETDVVS.....DEPAVSVRTRAKSGSSSLKQHKYIDYS.....R.....ALDQTQLY						Pputida_KT2440
1	.....MAL.....NKEAPEFDI.....DDDVLV.....METGI.....VLETDVVS.....DEPAVSVRTRAKSGSSSLKQHKYIDYT.....R.....ALDQTQLY						Pputida_WCS358
1	.....MAL.....SKEVPEFDI.....DDDVLV.....MESSI.....DMDSMSNN.....EGATPPSVRTKSKSSASLKKQHKYIDYT.....R.....ALDQTQLY						Pfluorescens
1	.....MAL.....GNEAPEFDI.....DDEVLL.....MEAGI.....VLKEASNE.....KQPAAVSGRTKVKHSTSLKKQHKYIDYT.....R.....ALDQTQLY						Psyringae_T
1	.....MAL.....GNEAPEFDI.....DDEVLL.....MEAGI.....VLKEASNE.....KQPAASAGRTKAKQSTSLKKQHKYIDYT.....R.....ALDQTQLY						Psyringae_S
1	.....MAL.....SKEAPEFDI.....DDEVLL.....MEILT.....EKESMSND.....EGSATPSVRTKSKNSTALKQHKYIDYT.....R.....ALDQTQLY						Ptolaasii
1	.....MSQN.....TLKVHDLN.....EDAEFD.....ENG.....VEAFDEK.....ALSEEEPSDNDLAEELLSSOGA.....TQ.....R.....VLDTAQLY						Senterica
1	.....MSQN.....TLKVHDLN.....EDAEFD.....ENG.....VEVFFDEK.....ALVEEPPSDNDLAEELLSSOGA.....TQ.....L.....VLDTAQLY						Sflexneri
1	.....MSVSGT.....VTKVVEEFD.....EDEALE.....VLET.....DARLTSD.....ELVAVEGASEDVREEFDASA.....K.....SLDATQMY						Vcholerae
1	.....MSISNT.....VSKVVEEPEY.....DNASET.....TIDN.....ELBKSSS.....TTEGTA.....VREEFDASS.....K.....SLDATQMY						Vparahaemolyticus
1	.....MSQS.....TLKVNELH.....EDADF.....ENST.....ETEIFDEK.....ALVDEPTESELADELLOAGV.....TQ.....R.....VLDTAQLY						Ypestis
1	.....MSQS.....TLKVNELH.....EDADF.....ENST.....ETEIFDEK.....ALVEDEPTESELADELLOAGV.....TS.....GADATQLY						Yenterocolitica
1	MPARVSRPGITGRSHLMSQN.....TLKVHDLN.....EDAEFD.....ENG.....AEAFDEK.....ALVEEPPSDNDLAEELLSSOGA.....TQ.....R.....VLDTAQLY						Eclocaae
1	MIRCIAWGSVRVATLMSQN.....TLKVHDLN.....EDAEFD.....ENG.....AETFFDEK.....VLNEEPPSDSLAEELLSSOGA.....TQ.....R.....VLDTAQLY						Kcitrophila
1	.....MSQS.....TLKVNELH.....EDTDFE.....ENG.....LDVFFDK.....ALAEEDTNDNDSAEDELLSQV.....PQ.....R.....VLDTAQLY						Ecartovora
1	.....MSQN.....TLKVNELH.....DDADF.....ENGT.....EASFDEK.....ALVEEASENDLAEELLSSOGV.....TQ.....R.....VLDTAQLY						Sentomophila
1	.....MPKSKRHPAQSEKISRAT.....QASVGRAG.....ASTD.....DEDDND.....NERDLEARDADGGDDEREGRARASPDVDDFTRTLQAEALTADTITQHY						Bcepacia
1	.....MPRQKATSAANPADETIGAVDGPNAFNGRSGRRRGAAPASDDVEVVDPLIDEAPAAEPADIATSDANDSADSEDEDEGEAAPE.....EDFRTLVAELAAEDTITQHY						Rsolanacearum
1	.....MALNKAKEAPEFDV.....DDDLV.....MDAIG.....VLEDLDD.....EP.....DLFVAKSRQAN.....LKHQYIDYT.....R.....ALDQTQLY						Avinelandii
1	.....MVG.....TLKVNELH.....EDAEFD.....ENG.....IDVFFDK.....ALVEEPPSDNDLAEELLSSOGT.....AQ.....R.....VLDTAQLY						Echrysanthemi
1	.....VTRR.....DAHDGPAAE.....SSD.....TFEPGAS.....EVPEAAEAPQV.....ADGEHG.....NTLQSY						Rgelatinosa
1	.....MSQS.....TLKVNELY.....DDADL.....ENSM.....EADDFFDEA.....ELKNGDDVTN.....LDEDLLOLQV.....NQ.....R.....MLDATQLY						Xnematosiphilus
1	.....MQDDEEPIKDKEFKEEWESE.....PDDESLLS.....EEDV.....EPDIEKME.....LELDELPEFTDTPFPSPQRGK.....NIA.....K.....ALDQTQLY						Lpneumophila
1	.....MIPDTEQELIN.....						QY

	1.2										2.1										2.2										2.3										2.4										3.0										3.1																																																											
	70										80										90										100										110										120										130										140										150										160										170										180									
67	UNE	IGF	SP	LSPA	EE	VHF	ARL	SOS	GD	PAG	RKR	KM	IES	NLR	L	VV	KI	ARR	VNR	GN	LS	LLD	L	IE	EN	GL	GI	IR	AVE	K	FD	PER	G	FR	F	ST	YAT	T	W	I	R	O	T	IR	AI	MN	Q	TR	T	IR	L	PH	V	V	KEL	NV	YL	RA	ARE	LT	lz4w																																																											
62	GEH	GY	SP	LTA	EE	VVF	ARR	ALR	GD	VAS	RRR	KM	IES	NLR	L	VV	KI	ARR	VNR	GN	LS	LLD	L	IE	EN	GL	GI	IR	AVE	K	FD	PER	G	FR	F	ST	YAT	T	W	I	R	O	T	IR	AI	MN	Q	TR	T	IR	L	PH	V	V	KEL	NV	YL	RT	ARE	LS	Ecoli																																																											
62	GEH	GY	SP	LTA	EE	VVF	ARR	ALR	GD	VAS	RRR	KM	IES	NLR	L	VV	KI	ARR	VNR	GN	LS	LLD	L	IE	EN	GL	GI	IR	AVE	K	FD	PER	G	FR	F	ST	YAT	T	W	I	R	O	T	IR	AI	MN	Q	TR	T	IR	L	PH	V	V	KEL	NV	YL	RT	ARE	LS	Ecoli_Q157																																																											
67	UNE	IGF	SP	LTP	EE	VHF	APL	AQ	GD	PAG	RKR	KM	IES	NLR	L	VV	KI	ARR	VNR	GN	LS	LLD	L	IE	EN	GL	GI	IR	AVE	K	FD	PER	G	FR	F	ST	YAT	T	W	I	R	O	T	IR	AI	MN	Q	TR	T	IR	L	PH	V	V	KEL	NV	YL	RA	ARE	LT	Paeruginosa																																																											
68	UNE	IGF	SP	LSP	EE	VHF	APL	VRQ	GD	PAG	RKR	MMQ	S	NLR	L	VV	KI	ARR	VNR	GN	LS	LLD	L	IE	EN	GL	GI	IR	AVE	K	FD	PER	G	FR	F	ST	YAT	T	W	I	R	O	T	IR	AI	MN	Q	TR	T	IR	L	PH	V	V	KEL	NV	YL	RA	ARE	LT	Pputida_KT2440																																																											
68	UNE	IGF	SP	LSP	EE	VHF	APL	RSQ	GD	PAG	RKR	KM	IES	NLR	L	VV	KI	ARR	VNR	GN	LS	LLD	L	IE	EN	GL	GI	IR	AVE	K	FD	PER	G	FR	F	ST	YAT	T	W	I	R	O	T	IR	AI	MN	Q	TR	T	IR	L	PH	V	V	KEL	NV	YL	RA	ARE	LT	Pputida_WCS358																																																											
68	UNE	IGF	SP	LSP	EE	VHF	APL	RSQ	GD	PAG	RKR	KM	IES	NLR	L	VV	KI	ARR	VNR	GN	LS	LLD	L	IE	EN	GL	GI	IR	AVE	K	FD	PER	G	FR	F	ST	YAT	T	W	I	R	O	T	IR	AI	MN	Q	TR	T	IR	L	PH	V	V	KEL	NV	YL	RA	ARE	LT	Pfluorescens																																																											
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62	GEH	GY	SP	LTA	EE	VVF	ARR	ALR	GD	VAS	RRR	KM	IES	NLR	L	VV	KI	ARR	VNR	GN	LS	LLD	L	IE	EN	GL	GI	IR	AVE	K	FD	PER	G	FR	F	ST	YAT	T	W	I	R	O	T	IR	AI	MN	Q	TR	T	IR	L	PH	V	V	KEL	NV	YL	RT	ARE	LS	Senterica																																																											
62	GEH	GY	SP	LTA	EE	VVF	ARR	ALR	GD	VAS	RRR	KM	IES	NLR	L	VV	KI	ARR	VNR	GN	LS	LLD	L	IE	EN	GL	GI	IR	AVE	K	FD	PER	G	FR	F	ST	YAT	T	W	I	R	O	T	IR	AI	MN	Q	TR	T	IR	L	PH	V	V	KEL	NV	YL	RT	ARE	LS	Sflexneri																																																											
63	SEI	GY	SP	LTA	EE	VL	YARR	ALR	GD	EAA	RKR	KM	IES	NLR	L	VV	KI	SRR	SNR	GN	LS	LLD	L	IE	EN	GL	GI	IR	AVE	K	FD	PER	G	FR	F	ST	YAT	T	W	I	R	O	T	IR	AI	MN	Q	TR	T	IR	L	PH	V	V	KEL	NV	YL	RT	ARE	LS	Vcholerae																																																											
58	GEH	GY	SP	LTA	EE	VL	YARR	ALR	GD	EAA	RKR	KM	IES	NLR	L	VV	KI	SRR	SNR	GN	LS	LLD	L	IE	EN	GL	GI	IR	AVE	K	FD	PER	G	FR	F	ST	YAT	T	W	I	R	O	T	IR	AI	MN	Q	TR	T	IR	L	PH	V	V	KEL	NV	YL	RT	ARE	LS	Vparahaemolyticus																																																											
64	GEH	GY	SP	LTA	EE	VVF	ARR	ALR	GD	VPS	RRR	KM	IES	NLR	L	VV	KI	ARR	VNR	GN	LS	LLD	L	IE	EN	GL	GI	IR	AVE	K	FD	PER	G	FR	F	ST	YAT	T	W	I	R	O	T	IR	AI	MN	Q	TR	T	IR	L	PH	V	V	KEL	NV	YL	RT	ARE	LS	Ypestis																																																											
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78	GEH	GY	SP	LTA	EE	VVF	ARR	ALR	GD	VAS	RRR	KM	IES	NLR	L	VV	KI	ARR	VNR	GN	LS	LLD	L	IE	EN	GL	GI	IR	AVE	K	FD	PER	G	FR	F	ST	YAT	T	W	I	R	O	T	IR	AI	MN	Q	TR	T	IR	L	PH	V	V	KEL	NV	YL	RT	ARE	LS	Eclocaae																																																											
77	GEH	GY	SP	LTA	EE	VVF	ARR	ALR	GD	VAS	RRR	KM	IES	NLR	L	VV	KI	ARR	VNR	GN	LS	LLD	L	IE	EN	GL	GI	IR	AVE	K	FD	PER	G	FR	F	ST	YAT	T	W	I	R	O	T	IR	AI	MN	Q	TR	T	IR	L	PH	V	V	KEL	NV	YL	RT	ARE	LS	Kcitrophila																																																											
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64	GEH	GY	SP	LTA	EE	VVF	ARR	ALR	GD	VPS	RRR	KM	IES	NLR	L	VV	KI	ARR	VNR	GN	LS	LLD	L	IE	EN	GL	GI	IR	AVE	K	FD	PER	G	FR	F	ST	YAT	T	W	I	R	O	T	IR	AI	MN	Q	TR	T	IR	L	PH	V	V	KEL	NV	YL	RT	ARE	LS	Sentomophila																																																											
88	NRR	IS	VK	PL	LTV	EE	QRY	SRLAKA	CE	FFA	ARQ	VMIER	NLR	L	VV	SI	AGK	LNR	V	PL	LD	L	IE	EN	GL	GI	MH	AI	EK	FE	PER	G	FR	F	ST	YAT	T	W	I	R	O	T	IR	AI	MN	Q	ART	VRL	PHV	VIREL	QVLR	AKRHL	Bcepacia																																																																			
109	NRR	IS	VK	PL	LTP	AE	ELHF	STLAKA	CE	FFA	ARQ	VMIER	NLR	L	VV	SI	AGK	LNR	V	PL	LD	L	IE	EN	GL	GI	MH	AI	EK	FE	PER	G	FR	F	ST	YAT	T	W	I	R	O	T	IR	AI	MN	Q	ART	VRL	PHV	VIREL	QVLR	AKRHL	Rsolanacearum																																																																			
67	NRR	IS	VK	PL	LTP	AE	EVHF	ARLAQR	CD	PAG	RKR	KM	IES	NLR	L	VV	KI	ARR	VNR	GN	LS	LLD	L	IE	EN	GL	GI	IR	AVE	K	FD	PER	G	FR	F	ST	YAT	T	W	I	R	O	T	IR	AI	MN	Q	TR	T	IR	L	PH	V	V	KEL	NV	YL	RA	ARE	LT	Avinelandii																																																											
62	GEH	GY	SP	LTA	EE	VVF	ARR	ALR	GD	VPS	RRR	KM	IES	NLR	L	VV	KI	ARR	VNR	GN	LS	LLD	L	IE	EN	GL	GI	IR	AVE	K	FD	PER	G	FR	F	ST	YAT	T	W	I	R	O	T	IR	AI	MN	Q	TR	T	IR	L	PH	V	V	KEL	NV	YL	RT	ARE	LS	Echrysanthemi																																																											
52	RD	IR	AP	L	MS	AE	EH	AT	VARRAR	CD	FA	ARQ	MIER	NLR	L	VV	SI	AGK	V	GR	MP	MD	L	IE	EN	GL	GI	MH	AT	GK	FE	PER	G	FR	F	ST	YAT	T	W	I	R	O	T	IR	AI	MH	Q	ART	IRL	PHV	VIREL	QVLR	KARRALE	Rgelatinosa																																																																		
63	GEH	GY	SP	LTA	EE	VHF	ARR	ALR	GD	IA	RQ	RM	IES	NLR	L	VV	KI	SRR	SNR	GN	LS	LLD	L	IE	EN	GL	GI	IR	AVE	K	FD	PER	G	FR	F	ST	YAT	T	W	I	R	O	T	IR	AI	MN	Q	TR	T	IR	L	PH	V	V	KEL	NV	YL	RT	ARE	LA	Xnematosiphilus																																																											
75	GEH	GY	SP	LTA	EE	HY	AT	LALR	GD	ME	ARK	KM	IES	NLR	L	VV	KI	ARR	VNR	GN	LS	LLD	L	IE	EN	GL	GI	IR	AVE	K	FD	PER	G	FR	F	ST	YAT	T	W	I	R	O	T	IR	AI	MN	Q	TR	T	IR	L	PH	V	V	KEL	NV	YL	RA	ARQL	LS	Lpneumophila																																																											
14	KKH	SKI	PI	LTP	EE	KE	LARR	AQR	GD	KE	AL	KKL	VES	NLR	F	VV	SV	AQ	K	IG	Y	LP	FS	EL	AA	GN	GL	GI	LE	AA	KR	FD	PER	G	FR	F	ST	YAT	V	W	I	R	O	T	IR	AI	MO	LS	Q	GA	V	IR	LK	Q	SHIT	KISHI	YGETS	Aeolicus																																																														