Figure S1 pairwise similarity matrix.

Order	Accession no.	Isolate	[01]	[02]	[03]	[04]	[05]	[06]	[07]	[08]	[09]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]
[01]	EF382672	K. pneumoniae pK29		0.9996	0.9998	0.9998	0.9998	0.9998	0.9998	0.9998	0.9996	0.9996	0.9996	0.9989	0.9989	0.9945	0.9943	0.9943	0.9943	0.9943	0.9943	0.9935	0.9927	0.9931	0.9941	0.9941	0.9941	0.9941	0.9814	0.9788	0.9827	0.9833	0.9892	0.9894	0.9726	0.9685	0.9703	0.9727	0.9735	0.7315	0.7322	0.7318
[02]	JZTO00000000	S. enterica Senftenberg 50264	0.9996		0.9998	0.9998	0.9998	0.9998	0.9998	0.9998	0.9996	0.9996	0.9996	0.9989	0.9989	0.9945	0.9943	0.9943	0.9943	0.9943	0.9943	0.9935	0.9927	0.9931	0.9941	0.9941	0.9941	0.9941	0.9814	0.9788	0.9827	0.9833	0.9892	0.9894	0.9726	0.9685	0.9703	0.9727	0.9735	0.7315	0.7322	0.7318
[03]	JZTM00000000	S. enterica Montevideo 50262	0.9998	0.9998		1	1	1	1	1	0.9998	0.9998	0.9998	0.9991	0.9991	0.9947	0.9945	0.9945	0.9945	0.9945	0.9945	0.9936	0.9929	0.9933	0.9943	0.9943	0.9943	0.9943	0.9816	0.9789	0.9829	0.9835	0.9894	0.9896	0.9727	0.9687	0.9704	0.9729	0.9736	0.7315	0.7322	0.7318
[04]	JZTN00000000	S. enterica Senftenberg 50263	0.9998	0.9998	1		1	1	1	1	0.9998	0.9998	0.9998	0.9991	0.9991	0.9947	0.9945	0.9945	0.9945	0.9945	0.9945	0.9936	0.9929	0.9933	0.9943	0.9943	0.9943	0.9943	0.9816	0.9789	0.9829	0.9835	0.9894	0.9896	0.9727	0.9687	0.9704	0.9729	0.9736	0.7315	0.7322	0.7318
[05]	JZTP00000000	S. enterica Senftenberg 50265	0.9998	0.9998	1	1		1	1	1	0.9998	0.9998	0.9998	0.9991	0.9991	0.9947	0.9945	0.9945	0.9945	0.9945	0.9945	0.9936	0.9929	0.9933	0.9943	0.9943	0.9943	0.9943	0.9816	0.9789	0.9829	0.9835	0.9894	0.9896	0.9727	0.9687	0.9704	0.9729	0.9736	0.7315	0.7322	0.7318
[06]		S. enterica Montevideo 50270	0.9998	0.9998	1	1	1		1	1	0.9998	0.9998	0.9998	0.9991	0.9991	0.9947	0.9945	0.9945	0.9945	0.9945	0.9945	0.9936	0.9929	0.9933	0.9943	0.9943	0.9943	0.9943	0.9816	0.9789	0.9829	0.9835	0.9894	0.9896	0.9727	0.9687	0.9704	0.9729	0.9736	0.7315	0.7322	0.7318
[07]	JZTU00000000	S. enterica Senftenberg 50271	0.9998	0.9998	1	1	1	1		1	0.9998	0.9998	0.9998	0.9991	0.9991	0.9947	0.9945	0.9945	0.9945	0.9945	0.9945	0.9936	0.9929	0.9933	0.9943	0.9943	0.9943	0.9943	0.9816	0.9789	0.9829	0.9835	0.9894	0.9896	0.9727	0.9687	0.9704	0.9729	0.9736	0.7315	0.7322	0.7318
[08]	JZTV00000000	S. enterica Senftenberg 50272	0.9998	0.9998	1	1	1	1	1		0.9998	0.9998	0.9998	0.9991	0.9991	0.9947	0.9945	0.9945	0.9945	0.9945	0.9945	0.9936	0.9929	0.9933	0.9943	0.9943	0.9943	0.9943	0.9816	0.9789	0.9829	0.9835	0.9894	0.9896	0.9727	0.9687	0.9704	0.9729	0.9736	0.7315	0.7322	0.7318
[09]	JZTS00000000	S. enterica Indiana 50269	0.9996	0.9996	0.9998	0.9998	0.9998	0.9998	0.9998	0.9998		1	1	0.9993	0.9993	0.9949	0.9947	0.9947	0.9947	0.9947	0.9947	0.9938	0.9931	0.9935	0.9945	0.9945	0.9945	0.9945	0.9818	0.9791	0.9831	0.9836	0.9896	0.9897	0.9729	0.9688	0.9706	0.9731	0.9738	0.7317	0.7324	0.732
[10]	CP006731	C. sakazakii CMCC 45402	0.9996	0.9996	0.9998	0.9998	0.9998	0.9998	0.9998	0.9998	1		1	0.9993	0.9993	0.9949	0.9947	0.9947	0.9947	0.9947	0.9947	0.9938	0.9931	0.9935	0.9945	0.9945	0.9945	0.9945	0.9818	0.9791	0.9831	0.9836	0.9896	0.9897	0.9729	0.9688	0.9706	0.9731	0.9738	0.7317	0.7324	0.732
[11]	CP010377	E. cloacae 34983	0.9996	0.9996	0.9998	0.9998	0.9998	0.9998	0.9998	0.9998	1	1		0.9993	0.9993	0.9949	0.9947	0.9947	0.9947	0.9947	0.9947	0.9938	0.9931	0.9935	0.9945	0.9945	0.9945	0.9945	0.9818	0.9791	0.9831	0.9836	0.9896	0.9897	0.9729	0.9688	0.9706	0.9731	0.9738	0.7317	0.7324	0.732
[12]	CP004091	C. sakazakii SP291	0.9989	0.9989	0.9991	0.9991	0.9991	0.9991	0.9991	0.9991	0.9993	0.9993	0.9993		0.9996	0.9949	0.9947	0.9947	0.9947	0.9947	0.9947	0.9938	0.9931	0.9935	0.9945	0.9945	0.9945	0.9945	0.9811	0.9784	0.9827	0.9833	0.9896	0.9897	0.9726	0.9685	0.9703	0.9727	0.9735	0.7317	0.7324	0.732
[13]	CP001918	E. cloacae ATCC 13047	0.9989	0.9989	0.9991	0.9991	0.9991	0.9991	0.9991	0.9991	0.9993	0.9993	0.9993	0.9996		0.9949	0.9947	0.9947	0.9947	0.9947	0.9947	0.9938	0.9931	0.9935	0.9945	0.9945	0.9945	0.9945	0.9811	0.9784	0.9827	0.9833	0.9896	0.9897	0.9726	0.9685	0.9703	0.9727	0.9735	0.7313	0.732	0.7317
[14]	KF719971	K. oxytoca pKOXM1A	0.9945	0.9945	0.9947	0.9947	0.9947	0.9947	0.9947	0.9947	0.9949	0.9949	0.9949	0.9949	0.9949		0.9998	0.9998	0.9998	0.9998	0.9998	0.9988	0.9979	0.9982	0.9918	0.9918	0.9918	0.9918	0.9858	0.9832	0.9797	0.9803	0.9858	0.986	0.9685	0.9667	0.9683	0.9697	0.9704	0.7318	0.7324	0.732
[15]	CP000648	K. pneumoniae pKPN3	0.9943	0.9943	0.9945	0.9945	0.9945	0.9945	0.9945	0.9945	0.9947	0.9947	0.9947	0.9947	0.9947	0.9998		1	1	1	1	0.9989	0.9981	0.9984	0.9917	0.9917	0.9917	0.9917	0.986	0.9834	0.9799	0.9804	0.986	0.9862	0.9687	0.9669	0.9685	0.9699	0.9706	0.7318	0.7324	0.732
[16]	CP006657	K. pneumoniae p1	0.9943	0.9943	0.9945	0.9945	0.9945	0.9945	0.9945	0.9945	0.9947	0.9947	0.9947	0.9947	0.9947	0.9998	1		1	1	1	0.9989	0.9981	0.9984	0.9917	0.9917	0.9917	0.9917	0.986	0.9834	0.9799	0.9804	0.986	0.9862	0.9687	0.9669	0.9685	0.9699	0.9706	0.7318	0.7324	0.732
[17]	CP006927	K. pneumoniae p30660_1	0.9943	0.9943	0.9945	0.9945	0.9945	0.9945	0.9945	0.9945	0.9947	0.9947	0.9947	0.9947	0.9947	0.9998	1	1		1	1	0.9989	0.9981	0.9984	0.9917	0.9917	0.9917	0.9917	0.986	0.9834	0.9799	0.9804	0.986	0.9862	0.9687	0.9669	0.9685	0.9699	0.9706	0.7318	0.7324	0.732
[18]	JN233704	K. pneumoniae pKPN-IT	0.9943	0.9943	0.9945	0.9945	0.9945	0.9945	0.9945	0.9945	0.9947	0.9947	0.9947	0.9947	0.9947	0.9998	1	1	1		1	0.9989	0.9981	0.9984	0.9917	0.9917	0.9917	0.9917	0.986	0.9834	0.9799	0.9804	0.986	0.9862	0.9687	0.9669	0.9685	0.9699	0.9706	0.7318	0.7324	0.732
[19]	JX442974	K. pneumoniae pKN-LS6	0.9943	0.9943	0.9945	0.9945	0.9945	0.9945	0.9945	0.9945	0.9947	0.9947	0.9947	0.9947	0.9947	0.9998	1	1	1	1		0.9989	0.9981	0.9984	0.9917	0.9917	0.9917	0.9917	0.986	0.9834	0.9799	0.9804	0.986	0.9862	0.9687	0.9669	0.9685	0.9699	0.9706	0.7318	0.7324	0.732
[20]	FO834905	K. pneumoniae pKP52.145_II	0.9935	0.9935	0.9936	0.9936	0.9936	0.9936	0.9936	0.9936	0.9938	0.9938	0.9938	0.9938	0.9938	0.9988	0.9989	0.9989	0.9989	0.9989	0.9989		0.9977	0.9981	0.9913	0.9913	0.9913	0.9913	0.9857	0.983	0.9799	0.9804	0.9858	0.9862	0.9681	0.9667	0.9681	0.9701	0.9703	0.7318	0.7324	0.732
[21]	JX424424	K. pneumoniae pKPN_CZ	0.9927	0.9927	0.9929	0.9929	0.9929	0.9929	0.9929	0.9929	0.9931	0.9931	0.9931	0.9931	0.9931	0.9979	0.9981	0.9981	0.9981	0.9981	0.9981	0.9977		0.9986	0.9901	0.9901	0.9901	0.9901	0.9848	0.9821	0.979	0.9795	0.9851	0.985	0.9674	0.9658	0.9678	0.9694	0.9699	0.7318	0.732	0.7317
[22]	KF719853	K. pneumoniae pKP007	0.9931	0.9931	0.9933	0.9933	0.9933	0.9933	0.9933	0.9933	0.9935	0.9935	0.9935	0.9935	0.9935	0.9982	0.9984	0.9984	0.9984	0.9984	0.9981	0.9986		0.9904	0.9904	0.9904	0.9904	0.9851	0.9825	0.979	0.9795	0.9851	0.985	0.9674	0.9658	0.9674	0.969	0.9699	0.7322	0.7327	0.7324
[23]	JZTJ00000000	S. enterica Tennessee 50259	0.9941	0.9941	0.9943	0.9943	0.9943	0.9943	0.9943	0.9943	0.9945	0.9945	0.9945	0.9945	0.9945	0.9918	0.9917	0.9917	0.9917	0.9917	0.9917	0.9913	0.9901	0.9904		1	1	1	0.9815	0.9789	0.9868	0.9874	0.9874	0.9878	0.9704	0.9673	0.9693	0.9716	0.9725	0.7317	0.7328	0.7322
[24]	JZTK00000000	S. enterica Tennessee 50260 lac1	0.9941	0.9941	0.9943	0.9943	0.9943	0.9943	0.9943	0.9943	0.9945	0.9945	0.9945	0.9945	0.9945	0.9918	0.9917	0.9917	0.9917	0.9917	0.9917	0.9913	0.9901	0.9904	1		1	1	0.9815	0.9789	0.9868	0.9874	0.9874	0.9878	0.9704	0.9673	0.9693	0.9716	0.9725	0.7317	0.7328	0.7322
[25]	JZTL00000000	S. enterica Tennessee 50261 lac1	0.9941	0.9941	0.9943	0.9943	0.9943	0.9943	0.9943	0.9943	0.9945	0.9945	0.9945	0.9945	0.9945	0.9918	0.9917	0.9917	0.9917	0.9917	0.9917	0.9913	0.9901	0.9904	1	1		1	0.9815	0.9789	0.9868	0.9874	0.9874	0.9878	0.9704	0.9673	0.9693	0.9716	0.9725	0.7317	0.7328	0.7322
[26]	AHUY01000000	S. enterica Tennessee 4535	0.9941	0.9941	0.9943	0.9943	0.9943	0.9943	0.9943	0.9943	0.9945	0.9945	0.9945	0.9945	0.9945	0.9918	0.9917	0.9917	0.9917	0.9917	0.9917	0.9913	0.9901	0.9904	1	1	1		0.9815	0.9789	0.9868	0.9874	0.9874	0.9878	0.9704	0.9673	0.9693	0.9716	0.9725	0.7317	0.7328	0.7322
[27]	CP008843	K. oxytoca pKOXM1B	0.9814	0.9814	0.9816	0.9816	0.9816	0.9816	0.9816	0.9816	0.9818	0.9818	0.9818	0.9811	0.9811	0.9858	0.986	0.986	0.986	0.986	0.986	0.9857	0.9848	0.9851	0.9815	0.9815	0.9815	0.9815		0.9963	0.9838	0.9843	0.9727	0.9733	0.9605	0.9612	0.965	0.9635	0.9642	0.7318	0.7322	0.7318
[28]	HF571988	Y. enterocolitica YE53/03	0.9788	0.9788	0.9789	0.9789	0.9789	0.9789	0.9789	0.9789	0.9791	0.9791	0.9791	0.9784	0.9784	0.9832	0.9834	0.9834	0.9834	0.9834	0.9834	0.983	0.9821	0.9825	0.9789	0.9789	0.9789	0.9789	0.9963		0.9815	0.982	0.9704	0.9711	0.96	0.96	0.9646	0.9627	0.9634	0.7311	0.7317	0.7315
[29]	JZTX00000000	S. enterica Tennessee 50260 lac2	0.9827	0.9827	0.9829	0.9829	0.9829	0.9829	0.9829	0.9829	0.9831	0.9831	0.9831	0.9827	0.9827	0.9797	0.9799	0.9799	0.9799	0.9799	0.9799	0.9799	0.979	0.979	0.9868	0.9868	0.9868	0.9868	0.9838	0.9815		0.9995	0.9763	0.9767	0.9646	0.9633	0.9662	0.9673	0.9671	0.7305	0.7319	0.7315
[30]	JZTL00000000	S. enterica Tennessee 50261 lac2	0.9833	0.9833	0.9835	0.9835	0.9835	0.9835	0.9835	0.9835	0.9836	0.9836	0.9836	0.9833	0.9833	0.9803	0.9804	0.9804	0.9804	0.9804	0.9804	0.9804	0.9795	0.9795	0.9874	0.9874	0.9874	0.9874	0.9843	0.982	0.9995		0.9769	0.9772	0.9651	0.9639	0.9667	0.9678	0.9676	0.731	0.7324	0.7321
[31]	CP009855	E. cloacae pENT-22e	0.9892	0.9892	0.9894	0.9894	0.9894	0.9894	0.9894	0.9894	0.9896	0.9896	0.9896	0.9896	0.9896	0.9858	0.986	0.986	0.986	0.986	0.986	0.9858	0.9851	0.9851	0.9874	0.9874	0.9874	0.9874	0.9727	0.9704	0.9763	0.9769		0.9984	0.9777	0.9699	0.9724	0.9752	0.9761	0.7321	0.7328	0.7324
[32]	CP009866	Pantoea sp. PSNIH2	0.9894	0.9894	0.9896	0.9896	0.9896	0.9896	0.9896	0.9896	0.9897	0.9897	0.9897	0.9897	0.9897	0.986	0.9862	0.9862	0.9862	0.9862	0.9862	0.9862	0.985	0.9853	0.9878	0.9878	0.9878	0.9878	0.9733	0.971	0.9767	0.9772	0.9984		0.9775	0.9699	0.9724	0.9752	0.9759	0.7326	0.7333	0.733
[33]	BA000007	E. coli Sakai	0.9726	0.9726	0.9727	0.9727	0.9727	0.9727	0.9727	0.9727	0.9729	0.9729	0.9729	0.9726	0.9726	0.9685	0.9687	0.9687	0.9687	0.9687	0.9687	0.9681	0.9674	0.9674	0.9704	0.9704	0.9704	0.9704	0.9605	0.96	0.9646	0.9651	0.9777	0.9775		0.9713	0.954	0.974	0.9751	0.7326	0.7335	0.7334
[34]	AE014075	E. coli CFT073	0.9685	0.9685	0.9687	0.9687	0.9687	0.9687	0.9687	0.9687	0.9688	0.9688	0.9688	0.9685	0.9685	0.9667	0.9669	0.9669	0.9669	0.9669	0.9669	0.9667	0.9658	0.9658	0.9673	0.9673	0.9673	0.9673	0.9612	0.96	0.9633	0.9639	0.9699	0.9699	0.9713		0.9752	0.9722	0.9745	0.7372	0.7377	0.7376
[35]	FN554766	E. coli 042	0.9703	0.9703	0.9704	0.9704	0.9704	0.9704	0.9704	0.9704	0.9706	0.9706	0.9706	0.9703	0.9703	0.9683	0.9685	0.9685	0.9685	0.9685	0.9685	0.9681	0.9678	0.9674	0.9693	0.9693	0.9693	0.9693	0.965	0.9644	0.9662	0.9667	0.9724	0.9724	0.954	0.9752		0.9768	0.9786	0.7369	0.738	0.7378
[36]	CP003289	E. coli 2011C-3493	0.9727	0.9727	0.9729	0.9729	0.9729	0.9729	0.9729	0.9729	0.9731	0.9731	0.9731	0.9727	0.9727	0.9697	0.9699	0.9699	0.9699	0.9699	0.9699	0.9699	0.9694	0.969	0.9716	0.9716	0.9716	0.9716	0.9635	0.9627	0.9673	0.9678	0.9752	0.9752	0.974	0.9722	0.9768		0.9873	0.7341	0.735	0.7348
[37]	U00096	E. coli K-12 MG1655	0.9735	0.9735	0.9736	0.9736	0.9736	0.9736	0.9736	0.9736	0.9738	0.9738	0.9738	0.9735	0.9735	0.9704	0.9706	0.9706	0.9706	0.9706	0.9706	0.9703	0.9699	0.9699	0.9725	0.9725	0.9725	0.9725	0.9642	0.9634	0.9671	0.9676	0.9761	0.9759	0.9751	0.9745	0.9786	0.9873		0.7357	0.7371	0.7369
[38]	CP000880	S. enterica arizonae RSK2980	0.7315	0.7315	0.7315	0.7315	0.7315	0.7315	0.7315	0.7315	0.7317	0.7317	0.7317	0.7317	0.7313	0.7318	0.7318	0.7318	0.7318	0.7318	0.7318	0.7318	0.7318	0.7322	0.7317	0.7317	0.7317	0.7317	0.7318	0.7311	0.7305	0.731	0.7321	0.7326	0.7326	0.7372	0.7369	0.7341	0.7357		0.9799	0.9798
[39]	JZTQ00000000	S. enterica diarizonae 50267	0.7322	0.7322	0.7322	0.7322	0.7322	0.7322	0.7322	0.7322	0.7324	0.7324	0.7324	0.7324	0.732	0.7324	0.7324	0.7324	0.7324	0.7324	0.7324	0.7324	0.732	0.7327	0.7328	0.7328	0.7328	0.7328	0.7322	0.7317	0.7319	0.7324	0.7328	0.7333	0.7335	0.7377	0.738	0.735	0.7371	0.9799		0.9984
[40]	JZTR00000000	S. enterica diarizonae 50268	0.7318	0.7318	0.7318	0.7318	0.7318	0.7318	0.7318	0.7318	0.732	0.732	0.732	0.732	0.7317	0.732	0.732	0.732	0.732	0.732	0.732	0.732	0.7317	0.7324	0.7322	0.7322	0.7322	0.7322	0.7318	0.7315	0.7315	0.7321	0.7324	0.733	0.7334	0.7376	0.7378	0.7348	0.7369	0.9798	0.9984	

Figure S1. Pairwise similarity matrix of the *lacIZY* sequences analyzed in this study. This matrix was generated by calculating the pairwise proportion distances in MEGA3 and then converting the resulting differences (p) to similarities (1-p). Values are color-coded from high to low on a green to red scale.