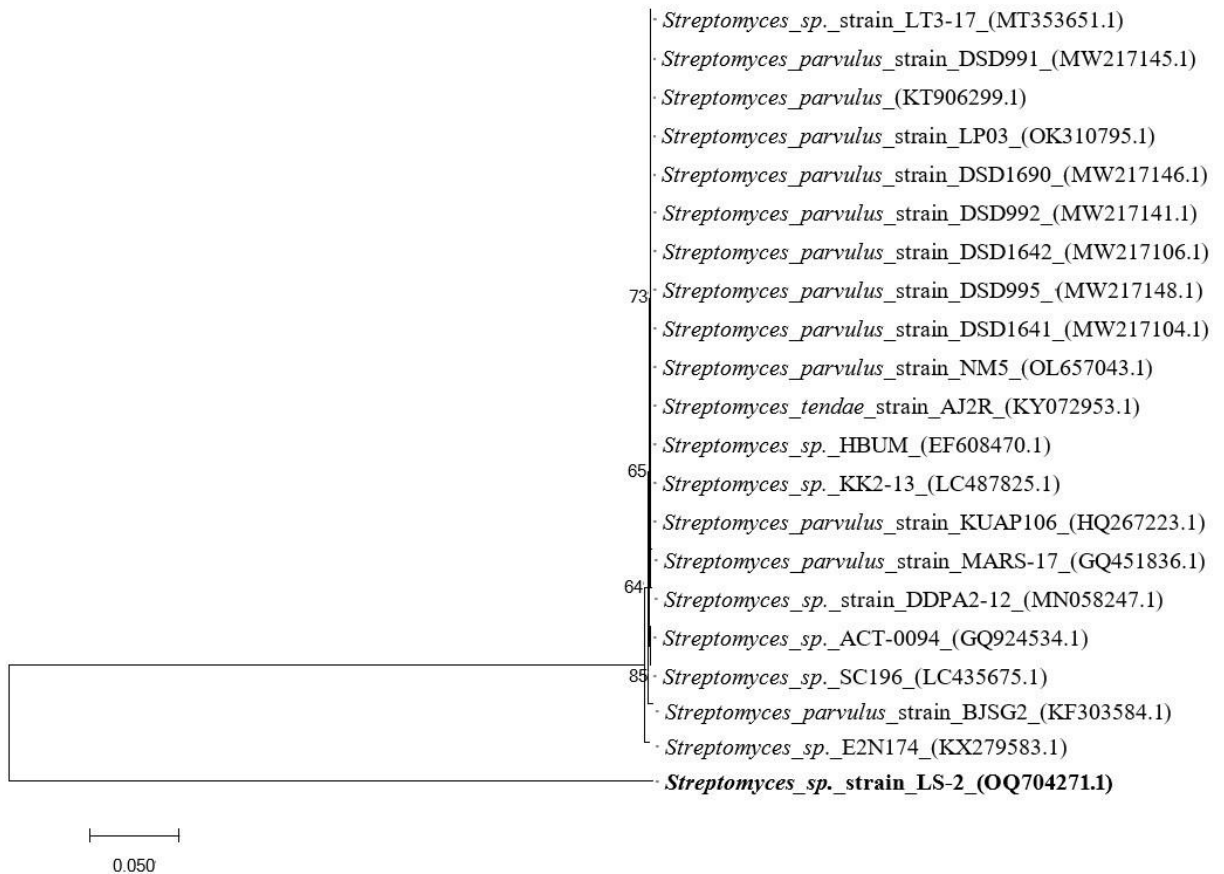


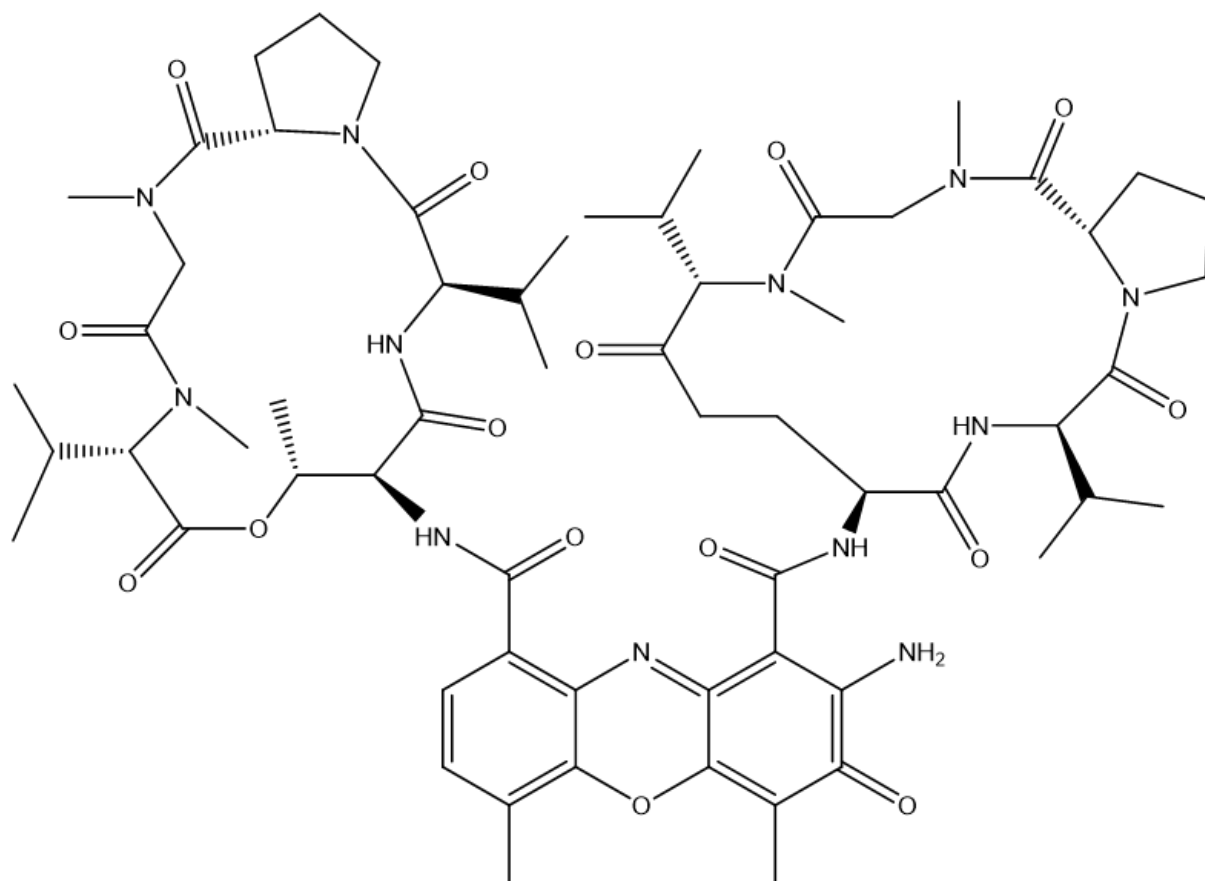


Appendix 1 Sampling point

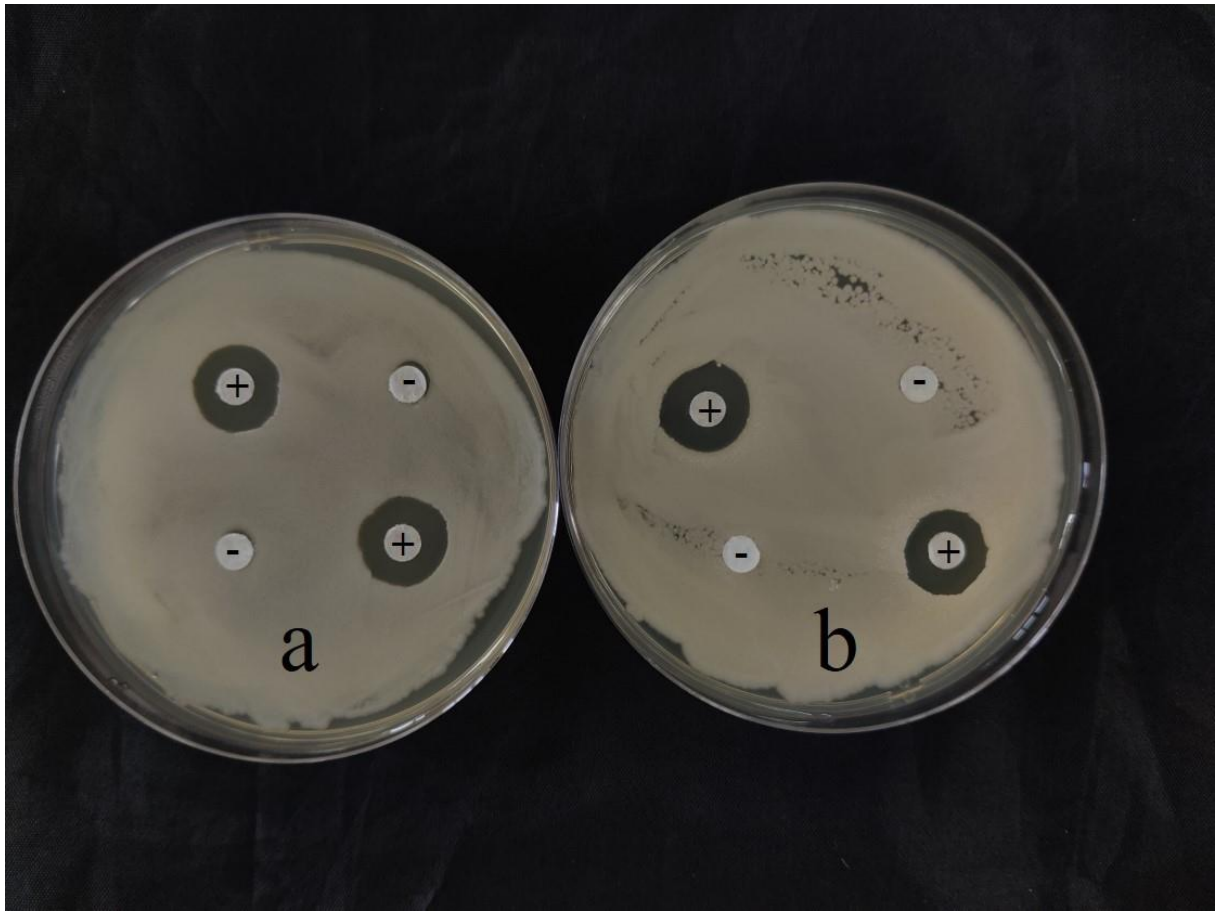


Appendix 2 Phylogenetic tree of strain LS-2 constructed by Neighbor-Joining (NJ)

method. Genebank accession numbers are presented in parentheses



Appendix 3 Structural formula of actinomycin D



Appendix 4 Antibacterial activity of LS-2. a-*Staphylococcus aureus*, b-*Escherichia coli*,

+ the extract, - the sterile water

Appendix 5 P-values after LSD analysis of variance in culture medium optimization test

Medium 1	Medium 2	P-value
AGMM	GNM	0.002
	GAM	0.004
	GSM	0.000
	EM	0.007
GNM	GAM	0.000
	GSM	0.000
	EM	0.404
GAM	GSM	0.044
	EM	0.000
GSM	EM	0.000

Appendix 6 P-values after LSD analysis of variance in culture temperature optimization

test

Temperature 1	Temperature 2	P-value
26	30	0.013
	34	0.000
	38	0.195
30	34	0.004
	38	0.113
34	38	0.000

Appendix 7 P-values after LSD analysis of variance in initial pH optimization test

pH 1	pH 2	P-value
5.5	6.0	0.000
	6.5	0.000
	7.0	0.945
	7.5	0.835
	8.0	0.931
	8.5	0.226
6.0	6.5	0.512
	7.0	0.000
	7.5	0.000
	8.0	0.000
	8.5	0.001
6.5	7.0	0.000
	7.5	0.000
	8.0	0.000
	8.5	0.000
7.0	7.5	0.782
	8.0	0.986
	8.5	0.253
7.5	8.0	0.768
	8.5	0.160
8.0	8.5	0.260