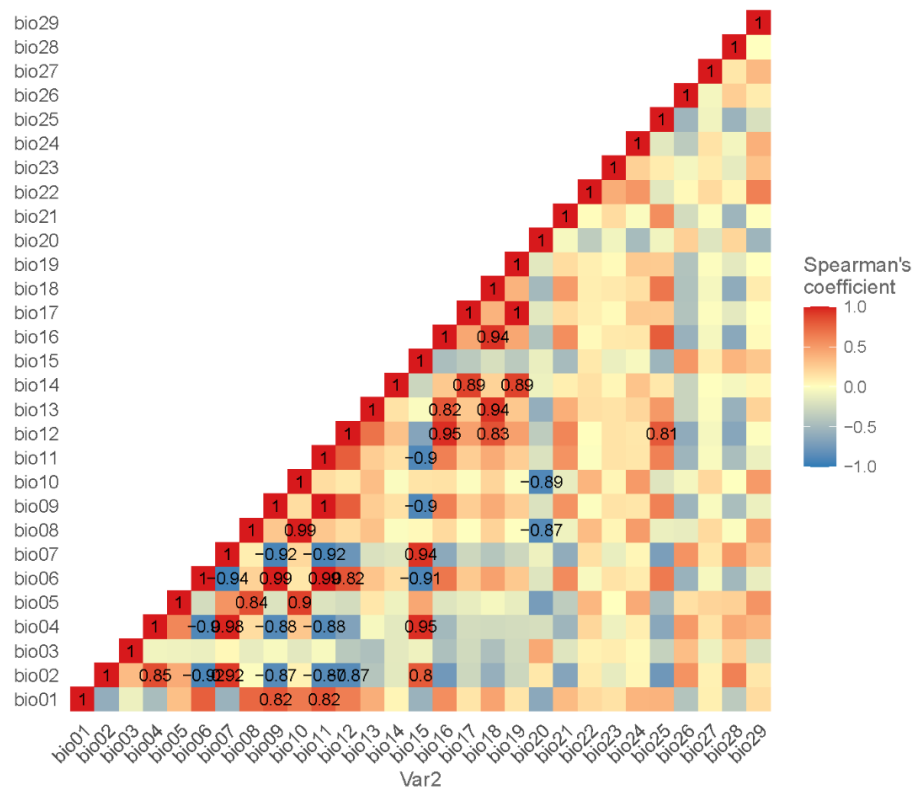


Supplementary Figure S1 Participate in the correlation detection between variables of the model.



Supplementary Table S1 Hyperparameter combination of MaxEnt model

fc	reg	train_TSS	test_TSS	diff_TSS
t	0.2	0.9	0.93	-0.0231
t	0.3	0.9	0.92	-0.0221
t	0.4	0.89	0.92	-0.0235
t	0.5	0.89	0.92	-0.0269
lt	0.2	0.92	0.91	0.0074
lqpht	0.3	0.92	0.91	0.0109
t	0.8	0.88	0.91	-0.0288
lqpht	0.2	0.94	0.91	0.0267
t	0.7	0.88	0.91	-0.0275
t	0.6	0.89	0.91	-0.0242
lqph	0.7	0.9	0.91	-0.0094
lqph	0.6	0.9	0.91	-0.0089
lqph	0.8	0.9	0.91	-0.0088
lqph	0.9	0.9	0.91	-0.0085
lqph	1	0.9	0.91	-0.0084
lh	0.7	0.9	0.91	-0.0084
lh	0.6	0.9	0.91	-0.0084
lqph	1.1	0.9	0.91	-0.0084

lh	0.2	0.9	0.91	-0.0065
lqph	0.5	0.9	0.91	-0.008
lh	0.9	0.9	0.91	-0.0079
lh	0.8	0.9	0.91	-0.0078
lh	0.5	0.9	0.91	-0.0076
lqph	1.2	0.9	0.91	-0.0081
lh	1	0.9	0.91	-0.0074
lh	1.1	0.9	0.91	-0.0072
h	0.5	0.9	0.91	-0.0071
h	0.6	0.9	0.91	-0.0079
lh	0.4	0.9	0.91	-0.0067
h	0.7	0.9	0.91	-0.0084
lqph	1.3	0.9	0.91	-0.0079
h	0.4	0.9	0.91	-0.0063
lh	1.2	0.9	0.91	-0.0072
lqph	0.3	0.9	0.91	-0.0059
lh	1.3	0.9	0.91	-0.0074
lh	1.4	0.9	0.91	-0.0077
lqph	0.4	0.9	0.91	-0.0067
h	0.8	0.9	0.91	-0.0087
lqph	1.4	0.9	0.91	-0.0081
lh	1.5	0.9	0.91	-0.0078
lqph	0.2	0.91	0.91	-0.0054
lh	1.6	0.9	0.91	-0.0079
lh	0.3	0.9	0.91	-0.0053
lqph	1.5	0.9	0.91	-0.0085
h	0.9	0.9	0.91	-0.0088
h	0.3	0.9	0.91	-0.0052
h	1.4	0.9	0.91	-0.0111
lt	0.3	0.91	0.91	0.0034
lqph	1.6	0.9	0.91	-0.0088
lh	1.7	0.9	0.91	-0.008
h	1.3	0.9	0.91	-0.0106
lqph	1.7	0.9	0.91	-0.0092
h	1	0.9	0.91	-0.0093
h	1.5	0.9	0.91	-0.0113
lh	1.8	0.9	0.91	-0.0085
h	1.6	0.9	0.91	-0.0116
lh	1.9	0.9	0.91	-0.0088
h	1.2	0.9	0.91	-0.0099
h	1.1	0.9	0.91	-0.0097
lqph	1.8	0.9	0.91	-0.0098
lh	2	0.9	0.91	-0.0092

h	1.7	0.9	0.91	-0.0117
lqph	1.9	0.9	0.91	-0.0101
lh	2.1	0.9	0.91	-0.0095
lh	2.2	0.9	0.91	-0.0099
lqph	2	0.9	0.91	-0.0103
lqph	2.1	0.9	0.91	-0.0108
h	1.8	0.9	0.91	-0.0117
lh	2.3	0.9	0.91	-0.0103
lh	2.4	0.9	0.91	-0.0108
lqph	2.2	0.9	0.91	-0.011
lh	2.5	0.9	0.91	-0.0112
t	0.9	0.88	0.91	-0.0277
lqpht	0.9	0.9	0.91	-0.0093
h	1.9	0.9	0.91	-0.0117
t	1	0.88	0.91	-0.0278
lqpht	1	0.9	0.91	-0.0093
lh	2.6	0.9	0.91	-0.0114
h	0.2	0.91	0.91	-0.0037
lqph	2.3	0.9	0.91	-0.0114
lqpht	0.8	0.9	0.91	-0.0091
h	2	0.9	0.91	-0.0119
lh	2.7	0.9	0.91	-0.0115
lqpht	0.7	0.9	0.91	-0.0089
lqph	2.4	0.9	0.91	-0.0115
h	2.1	0.9	0.91	-0.0121
lqpht	0.6	0.9	0.91	-0.0084
lqpht	1.1	0.9	0.91	-0.0089
lh	2.8	0.9	0.91	-0.0118
lh	2.9	0.9	0.91	-0.0121
lqph	2.5	0.9	0.91	-0.012
h	2.2	0.9	0.91	-0.0123
lh	3	0.9	0.91	-0.0126
h	2.3	0.9	0.91	-0.0126
t	1.1	0.88	0.91	-0.0271
t	1.2	0.88	0.91	-0.0274
lqpht	1.2	0.9	0.91	-0.0085
lqpht	2.7	0.9	0.91	-0.01
lqph	2.6	0.9	0.91	-0.0126
lqpht	2.8	0.9	0.91	-0.0102
lqpht	3	0.9	0.91	-0.0106
lqpht	0.5	0.9	0.91	-0.0058
lqpht	3.1	0.9	0.91	-0.0109
lh	3.1	0.9	0.91	-0.0128

lqpht	3.2	0.9	0.91	-0.0112
lqpht	2.9	0.9	0.91	-0.0102
h	2.4	0.9	0.91	-0.0129
lqpht	2.6	0.9	0.91	-0.0098
lqph	2.7	0.9	0.91	-0.0129
h	2.5	0.89	0.91	-0.0133
lqpht	3.3	0.9	0.91	-0.0112
lqpht	2.5	0.9	0.91	-0.0096
t	1.3	0.88	0.91	-0.0274
lqph	2.8	0.89	0.91	-0.0131
lh	3.2	0.89	0.91	-0.0131
lqpht	1.3	0.9	0.91	-0.0086
lqpht	2.4	0.9	0.91	-0.0095
lqpht	2.3	0.9	0.91	-0.0093
h	2.6	0.89	0.91	-0.0132
lqpht	2.2	0.9	0.91	-0.009
lqpht	3.4	0.9	0.91	-0.011
lqpht	0.4	0.91	0.91	0.006
lqph	2.9	0.89	0.91	-0.013
lqpht	2.1	0.9	0.91	-0.0089
lqpht	1.4	0.9	0.91	-0.0083
lqph	3	0.89	0.91	-0.0131
lh	3.3	0.89	0.91	-0.0133
lqpht	2	0.9	0.91	-0.0087
h	2.7	0.89	0.91	-0.0134
lqpht	3.5	0.9	0.91	-0.0108
lqpht	1.9	0.9	0.91	-0.0084
lqpht	1.5	0.9	0.91	-0.0081
lqph	3.1	0.89	0.91	-0.013
lt	0.4	0.91	0.91	-0.0019
h	2.8	0.89	0.91	-0.0136
lh	3.4	0.89	0.91	-0.0134
lqpht	1.6	0.9	0.91	-0.0079
lqpht	1.7	0.9	0.91	-0.0079
t	1.4	0.88	0.91	-0.0268
lqpht	1.8	0.9	0.91	-0.0079
lqpht	3.6	0.9	0.91	-0.0109
lh	3.5	0.89	0.91	-0.0132
t	1.5	0.88	0.91	-0.0266
h	2.9	0.89	0.91	-0.0137
lqpht	3.7	0.9	0.91	-0.0111
lqph	3.2	0.89	0.91	-0.0123
lh	3.6	0.89	0.91	-0.0131

lqph	3.8	0.9	0.91	-0.0111
h	3	0.89	0.91	-0.0139
lqph	3.3	0.89	0.91	-0.0122
lt	0.6	0.89	0.91	-0.0158
lqph	3.9	0.9	0.91	-0.0111
h	3.1	0.89	0.91	-0.014
lqph	3.4	0.89	0.91	-0.0121
lh	3.7	0.89	0.91	-0.0128
lt	0.5	0.89	0.91	-0.0115
t	1.6	0.88	0.91	-0.026
lqph	3.5	0.89	0.91	-0.0121
lt	0.7	0.89	0.91	-0.0174
lh	3.8	0.89	0.91	-0.0126
lqph	4	0.89	0.91	-0.0108
h	3.2	0.89	0.91	-0.0139
lqph	3.6	0.89	0.91	-0.012
lt	0.8	0.89	0.91	-0.0193
lqph	3.7	0.89	0.91	-0.0118
lh	3.9	0.89	0.91	-0.0122
lt	0.9	0.89	0.91	-0.0199
h	3.3	0.89	0.91	-0.0139
lqph	3.8	0.89	0.91	-0.0116
lh	4	0.89	0.9	-0.0118
lt	1	0.88	0.9	-0.0198
h	3.4	0.89	0.9	-0.0138
lqph	3.9	0.89	0.9	-0.0113
lt	2.4	0.88	0.9	-0.0235
t	1.7	0.88	0.9	-0.0279
lt	2.6	0.88	0.9	-0.0222
lt	2.5	0.88	0.9	-0.0228
lt	2.3	0.88	0.9	-0.0235
lt	1.1	0.88	0.9	-0.0198
lt	2.2	0.88	0.9	-0.0239
lt	2.7	0.88	0.9	-0.0214
lqph	4	0.89	0.9	-0.0108
t	1.8	0.88	0.9	-0.0279
lt	2.1	0.88	0.9	-0.024
lt	2.8	0.88	0.9	-0.0204
lt	3.1	0.89	0.9	-0.0174
lt	2	0.88	0.9	-0.0236
lt	2.9	0.88	0.9	-0.0193
t	1.9	0.88	0.9	-0.0277
t	2	0.88	0.9	-0.0277

lt	3	0.89	0.9	-0.0185
t	2.1	0.88	0.9	-0.0277
h	3.5	0.89	0.9	-0.0135
lt	1.2	0.88	0.9	-0.0197
lt	3.2	0.89	0.9	-0.0165
lt	3.3	0.89	0.9	-0.0154
lt	3.4	0.89	0.9	-0.015
lt	3.5	0.89	0.9	-0.0143
lt	1.9	0.88	0.9	-0.0228
lt	1.8	0.88	0.9	-0.0222
lt	3.6	0.89	0.9	-0.0134
h	3.6	0.89	0.9	-0.0138
lt	1.3	0.88	0.9	-0.0196
lt	1.7	0.88	0.9	-0.0215
lt	1.6	0.88	0.9	-0.0208
h	3.7	0.89	0.9	-0.0141
lt	1.4	0.88	0.9	-0.0198
lt	1.5	0.88	0.9	-0.02
lt	3.7	0.89	0.9	-0.0126
h	3.8	0.89	0.9	-0.014
t	2.2	0.88	0.9	-0.0267
t	2.3	0.88	0.9	-0.027
h	3.9	0.89	0.9	-0.0139
lt	3.8	0.89	0.9	-0.0118
h	4	0.89	0.9	-0.0136
t	2.4	0.88	0.9	-0.0263
t	2.5	0.88	0.9	-0.0262
lt	3.9	0.89	0.9	-0.0111
t	2.8	0.88	0.9	-0.0255
t	2.6	0.88	0.9	-0.0254
t	2.7	0.88	0.9	-0.0254
lq	0.2	0.89	0.9	-0.0127
t	2.9	0.88	0.9	-0.0252
t	3	0.88	0.9	-0.0252
t	3.1	0.88	0.9	-0.0252
lt	4	0.89	0.9	-0.0107
t	3.2	0.88	0.9	-0.0248
lqp	0.2	0.89	0.9	-0.0123
t	3.3	0.88	0.9	-0.0244
t	3.4	0.88	0.9	-0.0243
lq	0.3	0.89	0.9	-0.0138
t	3.5	0.88	0.9	-0.0236
t	3.6	0.88	0.9	-0.0236

t	3.7	0.87	0.9	-0.0238
t	3.8	0.87	0.9	-0.0238
t	3.9	0.87	0.9	-0.0238
t	4	0.87	0.9	-0.0238
lq	0.4	0.88	0.9	-0.0144
lqp	0.3	0.88	0.9	-0.014
lq	0.5	0.88	0.9	-0.0139
lqp	0.4	0.88	0.9	-0.0139
lq	0.6	0.88	0.89	-0.0156
lq	0.7	0.88	0.89	-0.0176
lqp	0.5	0.88	0.89	-0.0119
lqp	0.6	0.88	0.89	-0.0137
lp	0.2	0.88	0.89	-0.0151
lqp	0.7	0.88	0.89	-0.0143
lqp	0.8	0.88	0.89	-0.0146
lqp	0.9	0.88	0.89	-0.0167
lq	0.8	0.88	0.89	-0.0185
lqp	1	0.88	0.89	-0.0178
lq	0.9	0.87	0.89	-0.0188
lqp	1.1	0.87	0.89	-0.0181
lq	1	0.87	0.89	-0.0191
lq	1.1	0.87	0.89	-0.0188
lqp	1.2	0.87	0.89	-0.0182
lq	1.2	0.87	0.89	-0.0189
lqp	1.3	0.87	0.89	-0.0183
lq	1.3	0.87	0.89	-0.0189
lq	1.4	0.87	0.89	-0.0195
lp	0.3	0.87	0.89	-0.016
lqp	1.4	0.87	0.89	-0.018
lq	1.5	0.87	0.89	-0.0196
lq	1.6	0.87	0.89	-0.0196
lqp	1.5	0.87	0.89	-0.0179
lq	1.7	0.87	0.89	-0.0192
lq	1.8	0.87	0.89	-0.0192
lqp	1.6	0.87	0.89	-0.0178
lqp	3.5	0.87	0.89	-0.0166
lq	1.9	0.87	0.89	-0.0187
lqp	4	0.87	0.89	-0.0159
lqp	3.6	0.87	0.89	-0.0164
lqp	2	0.87	0.89	-0.0176
lqp	2.1	0.87	0.89	-0.0175
lqp	2.4	0.87	0.89	-0.0175
lqp	3.7	0.87	0.89	-0.0163

lqp	3.8	0.87	0.89	-0.016
lqp	3.4	0.87	0.89	-0.0166
lqp	3.9	0.87	0.89	-0.0158
lqp	1.8	0.87	0.89	-0.0176
lqp	1.9	0.87	0.89	-0.0176
lqp	2.2	0.87	0.89	-0.0176
lqp	2.3	0.87	0.89	-0.0176
lqp	1.7	0.87	0.89	-0.0178
lqp	3.3	0.87	0.89	-0.0166
lqp	2.5	0.87	0.89	-0.0173
lqp	3.1	0.87	0.89	-0.0168
lqp	3.2	0.87	0.89	-0.0166
lqp	3	0.87	0.89	-0.0169
lqp	2.6	0.87	0.89	-0.0171
lqp	2.9	0.87	0.89	-0.0169
lqp	2.7	0.87	0.89	-0.0171
lqp	2.8	0.87	0.89	-0.0171
lq	2	0.87	0.89	-0.0185
lq	4	0.87	0.89	-0.018
lq	3.9	0.87	0.89	-0.0179
lq	3.8	0.87	0.89	-0.018
lq	3.7	0.87	0.89	-0.0179
lq	3.6	0.87	0.89	-0.0179
lq	3.5	0.87	0.89	-0.0179
lq	2.1	0.87	0.89	-0.0183
lq	3.3	0.87	0.89	-0.0181
lq	3.4	0.87	0.89	-0.018
lq	3.2	0.87	0.89	-0.0181
lq	3.1	0.87	0.89	-0.018
lq	3	0.87	0.89	-0.018
lq	2.9	0.87	0.89	-0.018
lq	2.8	0.87	0.89	-0.018
lq	2.5	0.87	0.89	-0.018
lq	2.2	0.87	0.89	-0.0183
lq	2.6	0.87	0.89	-0.0181
lq	2.7	0.87	0.89	-0.018
lq	2.4	0.87	0.89	-0.0181
lq	2.3	0.87	0.89	-0.018
q	4	0.87	0.89	-0.0181
q	3.9	0.87	0.89	-0.0181
q	3.8	0.87	0.89	-0.0182
q	3.7	0.87	0.89	-0.0183
lp	0.4	0.87	0.89	-0.0169

q	3.6	0.87	0.89	-0.0182
q	3.5	0.87	0.89	-0.0183
q	3.4	0.87	0.89	-0.0183
q	3.3	0.87	0.89	-0.0182
q	3.2	0.87	0.89	-0.0182
q	3.1	0.87	0.89	-0.0183
q	3	0.87	0.89	-0.0183
q	2.9	0.87	0.89	-0.0183
q	2.8	0.87	0.89	-0.0183
q	2.7	0.87	0.89	-0.0184
q	2.6	0.87	0.89	-0.0185
q	2.4	0.87	0.88	-0.0185
q	2.5	0.87	0.88	-0.0185
q	2.3	0.87	0.88	-0.0186
q	2.1	0.87	0.88	-0.0186
q	2.2	0.87	0.88	-0.0186
q	2	0.87	0.88	-0.0188
q	1.9	0.87	0.88	-0.0187
q	1.8	0.87	0.88	-0.0186
q	1.7	0.87	0.88	-0.0186
q	1.6	0.87	0.88	-0.0185
q	1.3	0.87	0.88	-0.0188
q	1.2	0.87	0.88	-0.019
q	1.4	0.87	0.88	-0.0187
q	1.5	0.87	0.88	-0.0186
q	1.1	0.87	0.88	-0.019
q	1	0.87	0.88	-0.019
q	0.9	0.87	0.88	-0.019
q	0.8	0.87	0.88	-0.0191
q	0.7	0.87	0.88	-0.0192
q	0.6	0.87	0.88	-0.0193
q	0.4	0.86	0.88	-0.0194
q	0.5	0.86	0.88	-0.0192
q	0.2	0.86	0.88	-0.0195
q	0.3	0.86	0.88	-0.0195
lp	1	0.87	0.88	-0.0175
lp	0.9	0.87	0.88	-0.0176
lp	0.7	0.87	0.88	-0.0178
lp	0.8	0.87	0.88	-0.0177
lp	0.5	0.87	0.88	-0.0179
lp	0.6	0.87	0.88	-0.0178
lp	1.1	0.87	0.88	-0.0175
lp	1.2	0.86	0.88	-0.0176

lp	1.3	0.86	0.88	-0.0176
lp	2.4	0.87	0.88	-0.0166
lp	2.5	0.86	0.88	-0.0167
lp	2.3	0.86	0.88	-0.0167
lp	2.6	0.86	0.88	-0.0167
lp	2.2	0.86	0.88	-0.0169
lp	1.4	0.86	0.88	-0.0174
lp	2.1	0.86	0.88	-0.017
lp	2.8	0.86	0.88	-0.0164
lp	2.7	0.86	0.88	-0.0165
lp	2.9	0.86	0.88	-0.0166
lp	1.5	0.86	0.88	-0.0175
lp	2	0.86	0.88	-0.0171
lp	1.6	0.86	0.88	-0.0176
lp	1.8	0.86	0.88	-0.0173
lp	1.9	0.86	0.88	-0.0171
lp	1.7	0.86	0.88	-0.0173
l	4	0.86	0.88	-0.0179
lp	3	0.86	0.88	-0.0164
l	3.7	0.86	0.88	-0.0179
l	3.8	0.86	0.88	-0.0179
l	3.5	0.86	0.88	-0.018
l	3.9	0.86	0.88	-0.0178
l	3.3	0.86	0.88	-0.0181
l	3.4	0.86	0.88	-0.018
l	3.6	0.86	0.88	-0.0179
l	3.1	0.86	0.88	-0.0182
l	3.2	0.86	0.88	-0.0181
l	2.9	0.86	0.88	-0.0183
l	3	0.86	0.88	-0.0183
l	2.8	0.86	0.88	-0.0184
l	2.5	0.86	0.88	-0.0185
l	2.7	0.86	0.88	-0.0184
l	2.6	0.86	0.88	-0.0185
l	2.4	0.86	0.88	-0.0185
lp	3.1	0.86	0.88	-0.016
l	2.1	0.86	0.88	-0.0187
l	2.3	0.86	0.88	-0.0186
l	2	0.86	0.88	-0.0187
l	2.2	0.86	0.88	-0.0186
l	1.6	0.86	0.88	-0.0189
l	1.7	0.86	0.88	-0.0189
l	1.8	0.86	0.88	-0.0187

l	1.4	0.86	0.88	-0.019
l	1.9	0.86	0.88	-0.0187
l	1.3	0.86	0.88	-0.0191
l	1.5	0.86	0.88	-0.0189
lp	3.2	0.86	0.88	-0.016
l	1.2	0.86	0.88	-0.019
l	1.1	0.86	0.88	-0.0189
lp	3.3	0.86	0.88	-0.0161
l	1	0.86	0.88	-0.0189
l	0.9	0.86	0.88	-0.0189
l	0.8	0.86	0.88	-0.0189
l	0.7	0.86	0.88	-0.0189
l	0.6	0.86	0.88	-0.019
l	0.5	0.86	0.88	-0.019
l	0.3	0.86	0.88	-0.019
l	0.4	0.86	0.88	-0.019
lp	3.4	0.86	0.88	-0.0159
l	0.2	0.86	0.88	-0.019
lp	3.5	0.86	0.88	-0.0157
lp	3.6	0.86	0.88	-0.0156
lp	3.7	0.86	0.88	-0.0155
lp	3.8	0.86	0.88	-0.0154
lp	3.9	0.86	0.88	-0.0154
lp	4	0.86	0.88	-0.0153
p	0.2	0.85	0.87	-0.0168
p	0.4	0.85	0.87	-0.0169
p	0.3	0.85	0.87	-0.0168
p	0.6	0.85	0.87	-0.0169
p	0.5	0.85	0.87	-0.0169
p	0.7	0.85	0.87	-0.017
p	0.8	0.85	0.87	-0.0169
p	0.9	0.85	0.87	-0.0169
p	1	0.85	0.87	-0.0169
p	1.2	0.85	0.87	-0.017
p	1.1	0.85	0.87	-0.0169
p	1.3	0.85	0.87	-0.017
p	1.5	0.85	0.87	-0.0172
p	1.4	0.85	0.87	-0.017
p	1.6	0.85	0.87	-0.0172
p	1.7	0.85	0.87	-0.0173
p	1.8	0.85	0.87	-0.0174
p	1.9	0.85	0.87	-0.0174
p	2	0.85	0.87	-0.0174

p	2.1	0.85	0.87	-0.0175
p	2.2	0.85	0.87	-0.0175
p	2.4	0.85	0.87	-0.0176
p	2.3	0.85	0.87	-0.0175
p	2.5	0.85	0.87	-0.0176
p	2.6	0.85	0.87	-0.0177
p	2.7	0.85	0.87	-0.0176
p	2.8	0.85	0.87	-0.0177
p	2.9	0.85	0.87	-0.0177
p	3	0.85	0.87	-0.0177
p	3.1	0.85	0.87	-0.0178
p	3.2	0.85	0.87	-0.0179
p	3.3	0.85	0.87	-0.0179
p	3.5	0.85	0.87	-0.0181
p	3.4	0.85	0.87	-0.018
p	3.6	0.85	0.87	-0.0181
p	3.7	0.85	0.87	-0.0181
p	3.8	0.85	0.87	-0.0181
p	4	0.85	0.87	-0.0182
p	3.9	0.85	0.87	-0.0181

Supplementary Table S2 North China leopard field distribution point list

Data number	longit ude	latitud e	Occurrence position	Collectio n time	Collection source
1	108.71	35.18	Tongchuan City forest area of Shaanxi province	2022	field investigation
2	108.86	35.64	Huangling County forest area, Yan 'an city, Shaanxi province	2022	
3	108.94	36.44	Yanan city, Shaanxi province Ganquan county forest	2023	Camera trap monitoring
4	109.09	36.43	Yanan city, Shaanxi province Ganquan county forest	2023	
5	108.76	35.86	Ziwuling forest area, Yan 'an City, Shaanxi province	2023	
6	109.27	35.59	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	
7	108.67	35.92	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	
8	108.62	35.91	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	
9	108.68	35.90	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	

10	108.56	35.89	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	
11	108.73	35.88	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	
12	108.62	35.87	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	
13	108.59	35.87	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	
14	108.57	35.86	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	
15	108.55	35.87	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	
16	108.60	35.83	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	
17	108.60	35.81	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	field investigation
18	108.63	35.82	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	
19	108.64	35.81	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	
20	108.70	35.81	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	
21	108.71	35.83	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	
22	108.74	35.84	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	
23	108.57	35.79	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	
24	108.55	35.80	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	
25	108.60	35.80	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	
26	108.58	35.79	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	
27	108.65	36.01	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	
28	108.29	36.12	Ziwuling forest area, Yan 'an City, Shaanxi province	2021	
29	108.37	36.04	Ziwuling forest area, Gansu Province	2023	National Forestry and Grassland Administration
30	108.34	36.04	Ziwuling forest area, Gansu Province	2023	
31	108.36	36.01	Ziwuling forest area, Gansu Province	2023	
32	108.37	35.99	Ziwuling forest area, Gansu Province	2023	
33	108.40	35.98	Ziwuling forest area, Gansu Province	2023	

34	108.40	35.95	Ziwuling forest area, Gansu Province	2023	
35	108.36	35.95	Ziwuling forest area, Gansu Province	2023	
36	108.43	35.94	Ziwuling forest area, Gansu Province	2023	
37	108.46	35.95	Ziwuling forest area, Gansu Province	2023	
38	108.36	35.87	Ziwuling forest area, Gansu Province	2023	
39	108.39	35.90	Ziwuling forest area, Gansu Province	2023	
40	108.44	35.86	Ziwuling forest area, Gansu Province	2023	
41	108.47	35.86	Ziwuling forest area, Gansu Province	2023	
42	108.47	35.88	Ziwuling forest area, Gansu Province	2023	
43	108.40	35.81	Ziwuling forest area, Gansu Province	2023	
44	108.43	35.80	Ziwuling forest area, Gansu Province	2023	
45	108.44	35.83	Ziwuling forest area, Gansu Province	2023	
46	108.50	35.83	Ziwuling forest area, Gansu Province	2023	
47	108.50	35.80	Ziwuling forest area, Gansu Province	2023	
48	108.46	35.77	Ziwuling forest area, Gansu Province	2023	
49	108.47	35.73	Ziwuling forest area, Gansu Province	2023	
50	108.43	35.73	Ziwuling forest area, Gansu Province	2023	
51	108.50	35.73	Ziwuling forest area, Gansu Province	2023	
52	108.50	35.71	Ziwuling forest area, Gansu Province	2023	
53	108.47	35.68	Ziwuling forest area, Gansu Province	2023	
54	108.47	35.65	Ziwuling forest area, Gansu Province	2023	
55	108.47	35.62	Ziwuling forest area, Gansu Province	2023	
56	108.47	35.59	Ziwuling forest area, Gansu Province	2023	
57	108.55	35.60	Ziwuling forest area, Gansu Province	2023	
58	108.53	35.62	Ziwuling forest area, Gansu Province	2023	
59	108.50	35.59	Ziwuling forest area, Gansu Province	2023	
60	108.50	35.57	Ziwuling forest area, Gansu Province	2023	
61	108.52	35.59	Ziwuling forest area, Gansu Province	2023	
62	108.60	35.55	Ziwuling forest area, Gansu Province	2023	
63	108.60	35.53	Ziwuling forest area, Gansu Province	2023	
64	108.57	35.49	Ziwuling forest area, Gansu Province	2023	
65	108.59	35.49	Ziwuling forest area, Gansu Province	2023	
66	108.59	35.46	Ziwuling forest area, Gansu Province	2023	
67	108.55	35.39	Ziwuling forest area, Gansu Province	2023	
68	108.59	35.42	Ziwuling forest area, Gansu Province	2023	
69	108.58	35.35	Ziwuling forest area, Gansu Province	2023	
70	108.47	35.75	Ziwuling forest area, Gansu Province	2023	
71	108.52	35.53	Ziwuling forest area, Gansu Province	2023	
72	108.31	35.95	Ziwuling forest area, Gansu Province	2023	