```
1 /Users/meijiaojiao/opt/anaconda3/envs/RunToEnd/bin/python /Users/meijiaojiao/Desktop/Evolution_algorithm/stuck in local minima/SSGA/SSGA.py
 2 [['iterations', 'mutation rate', 'num individuals', 'crossover probability', 'Mutation type', 'Crossover type', 'R']]
 3 2022-11-20 19:48:48
 4 Parameter Combination is [[1000000, 2.0, 100, 0.5, 'Normal', 'Probabilistic_crossover', 0.1]]
 5 Now testing Function21
 6 Times is 0
 7 Iter at 1998, best solution is -5.03003E+00,
                                                  optima is -10.1532.
                                                                       similarity is 8.11569E+00
                                                                                                    phenotype is [1.0149922059408631, 1.0215573390567974, 0.9918818468968498, 0.9838862888271209]
                                                                      similarity is 3.15171E+00,
 8 Iter at 3998, best solution is -5.05060E+00,
                                                  optima is -10.1532,
                                                                                                    phenotype is [0.9944429088807503, 1.0065385575930352, 0.9918818468968498, 1.0067068544914368]
9 Iter at 5998, best solution is -5.05375E+00,
                                                  optima is -10.1532,
                                                                      similarity is 1.00927E+00,
                                                                                                    phenotype is [1.002430667368384, 1.0065385575930352, 0.9974045559090989, 1.002268122955561]
10 Iter at 7998, best solution is -5.05375E+00,
                                                  optima is -10.1532,
                                                                                                    phenotype is [1.002430667368384, 1.0065385575930352, 0.9974045559090989, 1.002268122955561]
                                                                       similarity is 1.03465E+00,
11 Iter at 9998, best solution is -5.05436E+00,
                                                  optima is -10.1532,
                                                                       similarity is 2.71334E+00.
                                                                                                    phenotype is [1.002430667368384, 0.9961206778504984, 0.9974045559090989, 1.002268122955561]
12 Iter at 11998, best solution is -5.05447E+00, optima is -10.1532, similarity is 7.34767E-01
                                                                                                     phenotype is [1.002430667368384, 0.9961206778504984, 0.9974045559090989, 0.9998113493434312]
13 Iter at 13998, best solution is -5.05447E+00,
                                                                                                     phenotype is [1.002430667368384, 0.9961206778504984, 0.9974045559090989, 0.9998113493434312]
                                                  optima is -10.1532,
                                                                       similarity is 1.31147E+00,
14 Iter at 15998, best solution is -5.05447E+00,
                                                  optima is -10.1532,
                                                                       similarity is 8.76140E-01,
                                                                                                     phenotype is [1.002430667368384, 0.9961206778504984, 0.9974045559090989, 0.9998113493434312]
15 Iter at 17998, best solution is -5.05478E+00,
                                                  optima is -10.1532,
                                                                        similarity is 9.07498E-01,
                                                                                                     phenotype is [1.0001634950197857, 0.9961206778504984, 1.00056406878803, 0.9998113493434312]
16 Iter at 19998, best solution is -5.05484E+00, optima is -10.1532,
                                                                                                     phenotype is [1.0001634950197857, 1.003919654737497, 1.00056406878803, 0.9998113493434312]
                                                                       similarity is 1.57276E+00,
17 Iter at 21998, best solution is -5.05484E+00,
                                                  optima is -10.1532,
                                                                                                     phenotype is [1.0001634950197857, 1.003919654737497, 1.00056406878803, 1.0001570608665433]
                                                                       similarity is 1.74652E+00,
18 Iter at 23998, best solution is -5.05484E+00,
                                                  optima is -10.1532,
                                                                        similarity is 1.61169E+00
                                                                                                     phenotype is [1.0001634950197857, 1.003919654737497, 1.00056406878803, 1.0001570608665433]
                                                  optima is -10.1532,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
19 Iter at 25998, best solution is -5.05519E+00,
                                                                        similarity is 1.13523E+00
20 Iter at 27998, best solution is -5.05519E+00,
                                                  optima is -10.1532,
                                                                       similarity is 8.91281E-01
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
21 Iter at 29998, best solution is -5.05519E+00,
                                                  optima is -10.1532,
                                                                       similarity is 1.65281E+00,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
22 Iter at 31998, best solution is -5.05519E+00, optima is -10.1532,
                                                                        similarity is 9.30054E-02,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
                                                                        similarity is 1.27221E+00,
23 Iter at 33998, best solution is -5.05519E+00,
                                                  optima is -10.1532,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
24 Iter at 35998, best solution is -5.05519E+00,
                                                  optima is -10.1532,
                                                                        similarity is 9.16824E-01,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
                                                                        similarity is 1.25616E-01,
25 Iter at 37998, best solution is -5.05519E+00,
                                                  optima is -10.1532,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
26 Iter at 39998, best solution is -5.05519E+00,
                                                  optima is -10.1532,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
                                                                        similarity is 1.41470E+00
                                                                        similarity is 2.16961E+00
27 Iter at 41998, best solution is -5.05519E+00,
                                                  optima is -10.1532,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
28 Iter at 43998, best solution is -5.05519E+00,
                                                  optima is -10.1532,
                                                                       similarity is 1.00056E+00,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
29 Iter at 45998, best solution is -5.05519E+00,
                                                  optima is -10.1532,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
                                                                        similarity is 2.23275E+00,
30 Iter at 47998, best solution is -5.05519E+00,
                                                  optima is -10.1532,
                                                                       similarity is 1.45249E+00,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
31 Iter at 49998, best solution is -5.05519E+00, optima is -10.1532,
                                                                       similarity is 9.10214E-01,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
32 Iter at 51998, best solution is -5.05519E+00,
                                                  optima is -10.1532,
                                                                       similarity is 1.04334E+00,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
33 Iter at 53998, best solution is -5.05519E+00,
                                                  optima is -10.1532,
                                                                        similarity is 1.41683E+00
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
34 Iter at 55998, best solution is -5.05519E+00,
                                                  optima is -10.1532,
                                                                        similarity is 3.44408E+00
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
35 Iter at 57998, best solution is -5.05519E+00,
                                                  optima is -10.1532,
                                                                        similarity is 0.00000E+00
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
36 Iter at 59998, best solution is -5.05519E+00,
                                                  optima is -10.1532,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
                                                                       similarity is 1.17409E+00,
37 Iter at 61998, best solution is -5.05519E+00, optima is -10.1532,
                                                                       similarity is 8.42346E-01,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
38 Iter at 63998, best solution is -5.05519E+00,
                                                  optima is -10.1532,
                                                                        similarity is 2.52506E+00
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
39 Iter at 65998, best solution is -5.05519E+00, optima is -10.1532,
                                                                       similarity is 5.81435E-01,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
40 Iter at 67998, best solution is -5.05519E+00,
                                                  optima is -10.1532,
                                                                       similarity is 1.00016E+00
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
41 Iter at 69998, best solution is -5.05519E+00,
                                                  optima is -10.1532,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
                                                                        similarity is 7.90480E-01
42 Iter at 71998, best solution is -5.05519E+00,
                                                  optima is -10.1532,
                                                                        similarity is 1.25008E+00
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
43 Iter at 73998, best solution is -5.05519E+00,
                                                  optima is -10.1532,
                                                                       similarity is 1.23870E+00,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
44 Iter at 75998, best solution is -5.05519E+00,
                                                  optima is -10.1532,
                                                                       similarity is 6.92769E-01,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
45 Iter at 77998, best solution is -5.05519E+00,
                                                  optima is -10.1532,
                                                                        similarity is 9.30885E-01.
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
46 Iter at 79998, best solution is -5.05519E+00, optima is -10.1532,
                                                                       similarity is 1.48365E+00,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
47 Iter at 81998, best solution is -5.05520E+00,
                                                  optima is -10.1532,
                                                                        similarity is 1.03371E+00,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433
48 Iter at 83998, best solution is -5.05520E+00,
                                                  optima is -10.1532,
                                                                        similarity is 1.69192E+00
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]
49 Iter at 85998, best solution is -5.05520E+00,
                                                  optima is -10.1532,
                                                                        similarity is 3.46120E-01
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]
50 Iter at 87998, best solution is -5.05520E+00,
                                                  optima is -10.1532,
                                                                        similarity is 2.36710E-03,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]
51 Iter at 89998, best solution is -5.05520E+00,
                                                  optima is -10.1532,
                                                                       similarity is 3.92510E-01.
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]
52 Iter at 91998, best solution is -5.05520E+00,
                                                  optima is -10.1532,
                                                                        similarity is 1.16323E+00.
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]
                                                                       similarity is 1.50729E+00,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]
53 Iter at 93998, best solution is -5.05520E+00,
                                                  optima is -10.1532,
54 Iter at 95998, best solution is -5.05520E+00, optima is -10.1532, similarity is 1.24317E+00,
                                                                                                     phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]
```

File - SSGA					
55 Iter at 97998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.47345E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
56 Iter at 99998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00012E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
57 Iter at 101998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.39232E-01,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	1
58 Iter at 103998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.02304E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
59 Iter at 105998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.01958E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
60 Iter at 107998,	-	optima is -10.1532,	similarity is 6.70444E-01,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
61 Iter at 109998,		optima is -10.1532,	similarity is 9.28851E-01,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
62 Iter at 111998,		optima is -10.1532,	similarity is 1.98298E-01,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	=
63 Iter at 113998,	-	optima is -10.1532,	similarity is 8.41130E-01,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
64 Iter at 115778,		optima is -10.1532,	similarity is 2.29127E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
65 Iter at 117998,		optima is -10.1532,	similarity is 1.24909E+00,	phenotype is [1.0001634750177637, 1.000122634477673, 1.0000860873227747, 1.0001570608605433]	
66 Iter at 119998,		optima is -10.1532,	similarity is 1.41436E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
67 Iter at 121998,		optima is -10.1532,	similarity is 1.414362+00, similarity is 1.15844E+00,	phenotype is [1.0001634750177637, 1.000122634477673, 1.0000860873227747, 1.0001570608605433]	
68 Iter at 123998,	•	•		phenotype is [1.0001634750177637, 1.000122634477673, 1.0000860873227747, 1.0001570608605433]	
•	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 3.96009E-02,		
69 Iter at 125998,		optima is -10.1532,	similarity is 1.41442E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
70 Iter at 127998,	-	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
71 Iter at 129998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 3.38299E-01,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
72 Iter at 131998,		optima is -10.1532,	similarity is 8.68941E-02,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
73 Iter at 133998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.04514E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
74 Iter at 135998,		optima is -10.1532,	similarity is 1.57408E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
75 Iter at 137998,		optima is -10.1532,	similarity is 2.06576E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
76 Iter at 139998,	-	optima is -10.1532,	similarity is 1.95740E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
77 Iter at 141998,		optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
78 Iter at 143998,	•	optima is -10.1532,	similarity is 1.30785E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
79 Iter at 145998,	•	optima is -10.1532,	similarity is 1.00021E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
80 Iter at 147998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 8.99247E-01,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
81 Iter at 149998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.07235E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
82 Iter at 151998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 7.12934E-01,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
83 Iter at 153998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.03524E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
84 Iter at 155998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 6.69288E-01,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
85 Iter at 157998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 9.72134E-01,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
86 Iter at 159998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 7.10747E-01,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
87 Iter at 161998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.19735E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
88 Iter at 163998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.35767E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	i
89 Iter at 165998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.13886E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	i
90 Iter at 167998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00042E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	i
91 Iter at 169998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 6.05166E-01,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	i
92 Iter at 171998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.01342E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	i
93 Iter at 173998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 7.27037E-01,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	i
94 Iter at 175998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 3.92258E-01,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	i
95 Iter at 177998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	i
96 Iter at 179998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.51496E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	l
97 Iter at 181998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.74182E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
98 Iter at 183998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.65934E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
99 Iter at 185998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.47515E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	i
100 Iter at 187998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	ĺ
101 Iter at 189998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 9.81449E-01,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	i
102 Iter at 191998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 4.44387E-01,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	i
103 Iter at 193998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.56217E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	i
104 Iter at 195998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 3.98889E-01,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	ĺ
105 Iter at 197998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00016E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	ĺ
106 Iter at 199998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.12167E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	i
107 Iter at 201998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.36238E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	ĺ
108 Iter at 203998,		optima is -10.1532,	similarity is 1.00016E+00,	phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	ĺ
1			·		

109 Iter at 205998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 8.90364E-01,	phenotype is [1.0001634950197857, 1.000122854499675,	1.0000860873229749, 1.000157060866543	33]
110 Iter at 207998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.53808E+00,	phenotype is [1.0001634950197857, 1.000122854499675,	1.0000860873229749, 1.000157060866543	33]
111 Iter at 209998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 9.69473E-01,	phenotype is [1.0001634950197857, 1.000122854499675,		_
112 Iter at 211998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001634950197857, 1.000122854499675,	•	-
113 Iter at 213998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00016E+00,	phenotype is [1.0001634950197857, 1.000122854499675,		
	•	•		, ,,	· · · · · · · · · · · · · · · · · · ·	
114 Iter at 215998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 3.77323E-02,	phenotype is [1.0001634950197857, 1.000122854499675,	· · · · · · · · · · · · · · · · · · ·	
115 Iter at 217998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 5.84198E-01,	phenotype is [1.0001634950197857, 1.000122854499675,	· · · · · · · · · · · · · · · · · · ·	_
116 Iter at 219998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.17694E+00,	phenotype is [1.0001634950197857, 1.000122854499675,		
117 Iter at 221998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.03769E+00,	phenotype is [1.0001634950197857, 1.000122854499675,	1.0000860873229749, 1.000157060866543	33]
118 Iter at 223998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.08183E+00,	phenotype is [1.0001634950197857, 1.000122854499675,	1.0000860873229749, 1.000157060866543	33]
119 Iter at 225998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 7.13932E-01,	phenotype is [1.0001634950197857, 1.000122854499675,	1.0000860873229749, 1.000157060866543	33]
120 Iter at 227998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.84590E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	1.0000860873229749, 1.000157060866543	33]
121 Iter at 229998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.22192E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	1.0000860873229749, 1.000157060866543	33]
122 Iter at 231998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00818E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	1.0000860873229749, 1.000157060866543	33]
123 Iter at 233998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 5.88124E-01,	phenotype is [1.0001458378020653, 1.000122854499675,	1.0000860873229749, 1.000157060866543	33]
124 Iter at 235998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.50263E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	· · · · · · · · · · · · · · · · · · ·	_
125 Iter at 237998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.22305E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	•	_
126 Iter at 239998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.69937E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	· · · · · · · · · · · · · · · · · · ·	
127 Iter at 241998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.44815E+00,	phenotype is [1.0001458378020653, 1.000122854479675, phenotype is [1.0001458378020653, 1.000122854499675,	· · · · · · · · · · · · · · · · · · ·	_
128 Iter at 243998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 7.64844E-01,	phenotype is [1.0001458378020653, 1.000122854477675, phenotype is [1.0001458378020653, 1.000122854499675,		_
	· · · · · · · · · · · · · · · · · · ·	·				_
129 Iter at 245998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 3.58308E-01,	phenotype is [1.0001458378020653, 1.000122854499675,	•	-
130 Iter at 247998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.98870E-01,	phenotype is [1.0001458378020653, 1.000122854499675,	· · · · · · · · · · · · · · · · · · ·	
131 Iter at 249998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.32457E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	· · · · · · · · · · · · · · · · · · ·	_
132 Iter at 251998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 5.59439E-01,	phenotype is [1.0001458378020653, 1.000122854499675,		
133 Iter at 253998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.43236E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	•	_
134 Iter at 255998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.55042E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	1.0000860873229749, 1.000157060866543	33]
135 Iter at 257998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.24553E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	1.0000860873229749, 1.000157060866543	33]
136 Iter at 259998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.20472E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	1.0000860873229749, 1.000157060866543	33]
137 Iter at 261998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.54126E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	1.0000860873229749, 1.000157060866543	33]
138 Iter at 263998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 7.11649E-01,	phenotype is [1.0001458378020653, 1.000122854499675,	1.0000860873229749, 1.000157060866543	33]
139 Iter at 265998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.99052E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	1.0000860873229749. 1.000157060866543	331
140 Iter at 267998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.98552E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	· · · · · · · · · · · · · · · · · · ·	
141 Iter at 269998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.62292E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	· · · · · · · · · · · · · · · · · · ·	_
142 Iter at 271998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001458378020653, 1.000122854499675,		_
143 Iter at 273998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.84672E+00,	phenotype is [1.0001458378020653, 1.000122854479675, phenotype is [1.0001458378020653, 1.000122854499675,	•	_
144 Iter at 275998,	best solution is -5.05520E+00,	optima is -10.1532, optima is -10.1532,		phenotype is [1.0001458378020653, 1.000122854477075, phenotype is [1.0001458378020653, 1.000122854499675,	· · · · · · · · · · · · · · · · · · ·	_
			similarity is 6.30025E-01,			_
145 Iter at 277998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.77176E-01,	phenotype is [1.0001458378020653, 1.000122854499675,		
146 Iter at 279998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 6.21552E-01,	phenotype is [1.0001458378020653, 1.000122854499675,	· · · · · · · · · · · · · · · · · · ·	
147 Iter at 281998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 9.76403E-01,	phenotype is [1.0001458378020653, 1.000122854499675,	· · · · · · · · · · · · · · · · · · ·	
148 Iter at 283998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.34870E+00,	phenotype is [1.0001458378020653, 1.000122854499675,		
149 Iter at 285998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.32290E-01,	phenotype is [1.0001458378020653, 1.000122854499675,	•	_
150 Iter at 287998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.31701E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	1.0000860873229749, 1.000157060866543	33]
151 Iter at 289998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 5.72301E-01,	phenotype is [1.0001458378020653, 1.000122854499675,	1.0000860873229749, 1.000157060866543	33]
152 Iter at 291998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.91128E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	1.0000860873229749, 1.000157060866543	33]
153 Iter at 293998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 3.05983E-01,	phenotype is [1.0001458378020653, 1.000122854499675,	1.0000860873229749, 1.000157060866543	33]
154 Iter at 295998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.20770E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	1.0000860873229749, 1.000157060866543	33]
155 Iter at 297998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.19548E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	1.0000860873229749, 1.000157060866543	33]
156 Iter at 299998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00570E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	· · · · · · · · · · · · · · · · · · ·	
157 Iter at 301998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.40672E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	· · · · · · · · · · · · · · · · · · ·	_
158 Iter at 303998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.93734E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	•	_
159 Iter at 305998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 6.38469E-01,	phenotype is [1.0001458378020653, 1.000122854479675, phenotype is [1.0001458378020653, 1.000122854499675,	•	_
160 Iter at 307998,	best solution is -5.05520E+00,	optima is -10.1532, optima is -10.1532,	similarity is 0.38407E-01, similarity is 1.08947E+00,	phenotype is [1.0001458378020653, 1.000122854477075, phenotype is [1.0001458378020653, 1.000122854499675,		_
161 Iter at 309998.				phenotype is [1.0001458378020653, 1.000122854499675, phenotype is [1.0001458378020653, 1.000122854499675,		_
	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 3.23268E-01,		•	_
162 Iter at 311998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.42375E+00,	phenotype is [1.0001458378020653, 1.000122854499675,	1.00000000/3227/47, 1.00013/000800343	22]

1 11C - 000A					
163 Iter at 31399	8, best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00027E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	]
164 Iter at 31599	8, best solution is -5.05520E+00,	optima is -10.1532,	similarity is 7.20783E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	]
165 Iter at 31799	<ol><li>best solution is -5.05520E+00,</li></ol>	optima is -10.1532,	similarity is 1.34056E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
166 Iter at 31999	<ol><li>best solution is -5.05520E+00,</li></ol>	optima is -10.1532,	similarity is 1.15633E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	]
167 Iter at 32199	<ol><li>best solution is -5.05520E+00,</li></ol>	optima is -10.1532,	similarity is 3.29953E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	]
168 Iter at 32399	<ol><li>best solution is -5.05520E+00,</li></ol>	optima is -10.1532,	similarity is 8.30990E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	]
169 Iter at 32599	8, best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.03261E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	]
170 Iter at 32799	<ol><li>best solution is -5.05520E+00,</li></ol>	optima is -10.1532,	similarity is 6.13197E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	]
171 Iter at 32999	<ol><li>best solution is -5.05520E+00,</li></ol>	optima is -10.1532,	similarity is 1.00012E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	]
172 Iter at 33199	<ol><li>best solution is -5.05520E+00,</li></ol>	optima is -10.1532,	similarity is 2.55968E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
173 Iter at 33399	8, best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00101E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	]
174 Iter at 33599	<ol><li>best solution is -5.05520E+00,</li></ol>	optima is -10.1532,	similarity is 1.32405E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	J
175 Iter at 33799	8, best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.62406E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	]
176 Iter at 33999	<ol><li>best solution is -5.05520E+00,</li></ol>	optima is -10.1532,	similarity is 1.42995E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	J
177 Iter at 34199	<ol><li>best solution is -5.05520E+00,</li></ol>	optima is -10.1532,	similarity is 1.00009E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	J
178 Iter at 34399	8, best solution is -5.05520E+00,	optima is -10.1532,	similarity is 4.50227E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	]
179 Iter at 34599	<ol><li>best solution is -5.05520E+00,</li></ol>	optima is -10.1532,	similarity is 6.11733E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	J
180 Iter at 34799	<ol><li>best solution is -5.05520E+00,</li></ol>	optima is -10.1532,	similarity is 1.00016E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	]
181 Iter at 34999	<ol><li>best solution is -5.05520E+00,</li></ol>	optima is -10.1532,	similarity is 1.01998E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	J
182 Iter at 35199	<ol><li>best solution is -5.05520E+00,</li></ol>	optima is -10.1532,	similarity is 1.84856E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	]
183 Iter at 35399	<ol><li>best solution is -5.05520E+00,</li></ol>	optima is -10.1532,	similarity is 6.37341E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	]
184 Iter at 35599	8, best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.31957E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	]
185 Iter at 35799	<ol><li>best solution is -5.05520E+00,</li></ol>	optima is -10.1532,	similarity is 7.19597E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	J
186 Iter at 35999	8, best solution is -5.05520E+00,	optima is -10.1532,	similarity is 6.03585E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	]
187 Iter at 36199	8, best solution is -5.05520E+00,	optima is -10.1532,	similarity is 3.14282E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	]
188 Iter at 36399	<ol><li>best solution is -5.05520E+00,</li></ol>	optima is -10.1532,	similarity is 5.30393E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	J
189 Iter at 36599	8, best solution is -5.05520E+00,	optima is -10.1532,	similarity is 9.43430E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	]
190 Iter at 36799	8, best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.43995E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	]
191 Iter at 36999		optima is -10.1532,	similarity is 7.23261E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	_
192 Iter at 37199	8, best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.62593E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	]
193 Iter at 37399	8, best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.28464E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
194 Iter at 37599		optima is -10.1532,	similarity is 1.10239E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	_
195 Iter at 37799	•	optima is -10.1532,	similarity is 9.82714E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	_
196 Iter at 37999	8, best solution is -5.05520E+00,	optima is -10.1532,	similarity is 7.34953E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	_
197 Iter at 38199		optima is -10.1532,	similarity is 2.97273E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
198 Iter at 38399	•	optima is -10.1532,	similarity is 1.38523E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	_
199 Iter at 38599		optima is -10.1532,	similarity is 1.17492E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	Ξ.
200 Iter at 38799	·	optima is -10.1532,	similarity is 4.90960E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
201 Iter at 38999	·	optima is -10.1532,	similarity is 3.16775E-02,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
202 Iter at 39199	·	optima is -10.1532,	similarity is 1.27576E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	-
203 Iter at 39399		optima is -10.1532,	similarity is 2.27432E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
204 Iter at 39599	·	optima is -10.1532,	similarity is 1.00015E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	-
205 Iter at 39799	·	optima is -10.1532,	similarity is 1.01363E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
206 Iter at 39999	•	optima is -10.1532,	similarity is 1.15634E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
207 Iter at 40199	·	optima is -10.1532,	similarity is 5.23412E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
208 Iter at 40399	•	optima is -10.1532,	similarity is 2.66331E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
209 Iter at 40599	•	optima is -10.1532,	similarity is 2.41111E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
210 Iter at 40799		optima is -10.1532,	similarity is 1.04569E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	_
211 Iter at 40999	•	optima is -10.1532,	similarity is 1.40450E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	_
212 Iter at 41199	•	optima is -10.1532,	similarity is 7.34304E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	
213 Iter at 41399	·	optima is -10.1532,	similarity is 1.41099E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	_
214 Iter at 41599	•	optima is -10.1532,	similarity is 2.75721E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	_
215 Iter at 41799	·	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	_
216 Iter at 41999	8, best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.41296E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]	ı
i i					

217 Iter at 421998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00015E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749,	1.0001570608665433]
218 Iter at 423998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.72955E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749,	1.0001570608665433]
219 Iter at 425998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.58627E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749,	1.00015706086654331
220 Iter at 427998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.17385E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749,	1.00015706086654331
221 Iter at 429998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.09512E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749,	
	-	•			
222 Iter at 431998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.11497E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749,	
223 Iter at 433998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749,	
224 Iter at 435998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 4.68468E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749,	
225 Iter at 437998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.73253E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749,	1.0001570608665433]
226 Iter at 439998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.95431E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749,	1.0001570608665433]
227 Iter at 441998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.46254E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749,	1.0001570608665433]
228 Iter at 443998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00036E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749,	1.0001570608665433]
229 Iter at 445998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.37345E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749,	1.0001570608665433]
230 Iter at 447998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 9.48416E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749,	
231 Iter at 449998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 8.73244E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0000860873229749,	
232 Iter at 451998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.24622E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	
-	· · · · · · · · · · · · · · · · · · ·				
233 Iter at 453998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 9.20154E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	
234 Iter at 455998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.15663E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	
235 Iter at 457998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 9.95620E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	
236 Iter at 459998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.06273E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	1.0001570608665433]
237 Iter at 461998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.56105E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	1.0001570608665433]
238 Iter at 463998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 5.33495E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	1.0001570608665433]
239 Iter at 465998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 8.61566E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	1.0001570608665433]
240 Iter at 467998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00016E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	1.0001570608665433]
241 Iter at 469998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 9.53442E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	_
242 Iter at 471998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.54266E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	
243 Iter at 473998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.33549E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	
244 Iter at 475998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.14110E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	_
245 Iter at 477998,	best solution is -5.05520E+00,	optima is -10.1532,		phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	
246 Iter at 477998,	best solution is -5.05520E+00,	•	similarity is 7.69485E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	
	•	optima is -10.1532,	similarity is 6.29153E-01,		
247 Iter at 481998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.74849E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	
248 Iter at 483998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.01083E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	
249 Iter at 485998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 5.78786E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	_
250 Iter at 487998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.25074E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	1.0001570608665433]
251 Iter at 489998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.44726E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	1.0001570608665433]
252 Iter at 491998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 9.60325E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	1.0001570608665433]
253 Iter at 493998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.29489E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	1.0001570608665433]
254 Iter at 495998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.39211E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	1.0001570608665433]
255 Iter at 497998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.61508E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	1.00015706086654331
256 Iter at 499998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 7.62930E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	
257 Iter at 501998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 3.73996E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	
258 Iter at 503998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 8.14012E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	
259 Iter at 505998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 9.37089E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	
· ·					
260 Iter at 507998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 8.88050E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	_
261 Iter at 509998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 8.40541E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	
262 Iter at 511998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 9.27312E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	<u>_</u>
263 Iter at 513998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.96543E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	
264 Iter at 515998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 6.85597E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	
265 Iter at 517998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 9.49902E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	1.0001570608665433]
266 Iter at 519998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.54682E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	1.0001570608665433]
267 Iter at 521998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.11350E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	1.0001570608665433]
268 Iter at 523998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.61202E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	_
269 Iter at 525998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.04186E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	_
270 Iter at 527998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.73733E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463,	
	20 0.000202.007	1,		, , , , , , , , , , , , , , , , , , , ,	

271 Iter at 529998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 3.25300E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	_
272 Iter at 531998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.49836E-02,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
273 Iter at 533998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
274 Iter at 535998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.02252E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
275 Iter at 537998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.35830E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
276 Iter at 539998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
277 Iter at 541998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 7.28695E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
278 Iter at 543998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 6.05742E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
279 Iter at 545998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
· ·	· · · · · · · · · · · · · · · · · · ·				
280 Iter at 547998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.77344E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
281 Iter at 549998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 8.04585E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
282 Iter at 551998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.71654E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
283 Iter at 553998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 4.62534E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
284 Iter at 555998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00015E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
285 Iter at 557998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.04101E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
286 Iter at 559998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.46429E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
287 Iter at 561998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.03420E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
288 Iter at 563998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.16292E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
289 Iter at 565998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
290 Iter at 567998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
291 Iter at 569998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.12034E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
292 Iter at 571998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.39439E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
293 Iter at 573998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.51353E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
294 Iter at 575998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.25476E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
295 Iter at 577998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 7.63950E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
296 Iter at 579998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.32276E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
297 Iter at 581998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.01437E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
298 Iter at 583998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.07235E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
299 Iter at 585998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 8.36024E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
300 Iter at 587998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.44461E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
301 Iter at 589998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.05649E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
302 Iter at 591998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 6.68544E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
303 Iter at 593998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.33275E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
304 Iter at 595998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.332/3E-00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
· ·	· · · · · · · · · · · · · · · · · · ·				
305 Iter at 597998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00016E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
306 Iter at 599998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.37403E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
307 Iter at 601998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 3.18247E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
308 Iter at 603998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.28620E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
309 Iter at 605998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.58652E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
310 Iter at 607998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 3.18559E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
311 Iter at 609998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
312 Iter at 611998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 7.55086E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
313 Iter at 613998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.18429E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
314 Iter at 615998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
315 Iter at 617998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00589E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
316 Iter at 619998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.02765E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
317 Iter at 621998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.05575E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
318 Iter at 623998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.58055E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
319 Iter at 625998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 9.67042E-02,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
320 Iter at 627998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.24385E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
321 Iter at 629998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
322 Iter at 631998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 3.69372E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
323 Iter at 633998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
324 Iter at 635998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.26681E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
	•	•	•	•	

Tile - OOOA					
325 Iter at 637998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.56633E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
326 Iter at 639998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.88772E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
327 Iter at 641998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.82561E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
328 Iter at 643998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.13179E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
329 Iter at 645998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.44732E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
330 Iter at 647998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.13513E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
331 Iter at 649998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.38215E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
332 Iter at 651998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00012E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
333 Iter at 653998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.46926E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
334 Iter at 655998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 8.92998E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
335 Iter at 657998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.09274E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
336 Iter at 659998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.00072E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
337 Iter at 661998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
338 Iter at 663998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 7.62332E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
339 Iter at 665998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.05255E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
340 Iter at 667998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 5.69655E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
341 Iter at 669998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.04557E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
342 Iter at 671998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.68305E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
343 Iter at 673998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 4.85118E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
344 Iter at 675998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00015E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
345 Iter at 677998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.97377E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
346 Iter at 679998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.89036E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
347 Iter at 681998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 5.95044E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
348 Iter at 683998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 7.02954E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
349 Iter at 685998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.40268E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
350 Iter at 687998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.08870E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
351 Iter at 689998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.21748E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
352 Iter at 691998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.29648E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
353 Iter at 693998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.08617E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
354 Iter at 695998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.85226E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
355 Iter at 697998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.70868E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
356 Iter at 699998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 8.40466E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
357 Iter at 701998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.60553E-02,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
358 Iter at 703998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
359 Iter at 705998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
360 Iter at 707998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.27573E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
361 Iter at 709998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 5.56655E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
362 Iter at 711998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.29193E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
363 Iter at 713998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 7.26494E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
364 Iter at 715998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 5.45614E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
365 Iter at 717998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 5.30891E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
366 Iter at 719998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.61796E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
367 Iter at 721998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.44999E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
368 Iter at 723998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 8.05202E-02,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
369 Iter at 725998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 8.42530E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
370 Iter at 727998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.14740E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
371 Iter at 729998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.24488E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
372 Iter at 731998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
373 Iter at 733998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.42218E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
374 Iter at 735998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 3.62858E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
375 Iter at 737998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 6.11907E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
376 Iter at 739998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 7.63220E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
377 Iter at 741998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.26153E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
378 Iter at 743998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 9.90453E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]	
,	,	•	,		

379 Iter at 745998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 4.26687E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
380 Iter at 747998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.43890E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
381 Iter at 749998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.28817E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
382 Iter at 751998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.45945E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
383 Iter at 753998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.38059E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
384 Iter at 755998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.08181E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
385 Iter at 757998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.17396E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
386 Iter at 759998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.55855E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
387 Iter at 761998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.80846E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
388 Iter at 763998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.34926E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
389 Iter at 765998,	best solution is -5.05520E+00,	optima is -10.1532, optima is -10.1532,	similarity is 1.34720E+00, similarity is 8.40370E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
390 Iter at 767998,	best solution is -5.05520E+00,	optima is -10.1532, optima is -10.1532,	similarity is 3.40370E-01, similarity is 1.98350E+00,	
391 Iter at 769998,	best solution is -5.05520E+00, best solution is -5.05520E+00,	optima is -10.1532, optima is -10.1532,	similarity is 1.76336E+00, similarity is 1.15583E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433] phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
· ·				
392 Iter at 771998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 3.90109E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
393 Iter at 773998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.02335E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
394 Iter at 775998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 9.66741E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
395 Iter at 777998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 7.26743E-01,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
396 Iter at 779998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.20275E+00,	phenotype is [1.0001458378020653, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
397 Iter at 781998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.91021E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
398 Iter at 783998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 9.87352E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
399 Iter at 785998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 9.48263E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
400 Iter at 787998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
401 Iter at 789998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.22218E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
402 Iter at 791998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.23235E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
403 Iter at 793998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 7.57121E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
404 Iter at 795998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.18072E-02,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
405 Iter at 797998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 3.30220E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
406 Iter at 799998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 6.21018E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
407 Iter at 801998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 5.58241E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
408 Iter at 803998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.49663E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
409 Iter at 805998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.25019E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
410 Iter at 807998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
411 Iter at 809998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.52006E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
412 Iter at 811998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 7.19800E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
413 Iter at 813998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 9.85283E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
414 Iter at 815998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.15162E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
415 Iter at 817998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 9.22051E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
416 Iter at 819998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.42964E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
417 Iter at 821998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 6.49149E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
418 Iter at 823998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 6.29070E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
419 Iter at 825998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.10256E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
420 Iter at 827998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.24899E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
421 Iter at 829998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.07258E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
422 Iter at 831998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.41439E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
423 Iter at 833998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00038E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
424 Iter at 835998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 3.61853E-02,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
425 Iter at 837998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.25307E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
426 Iter at 839998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
427 Iter at 841998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.72121E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
428 Iter at 843998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00013E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
429 Iter at 845998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.11737E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
430 Iter at 847998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.08079E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
431 Iter at 849998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 3.94960E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
432 Iter at 851998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.54571E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
	20 0.000202.007	1,		, ,

433 Iter at 853998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.53075E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
434 Iter at 855998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.58990E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
435 Iter at 857998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 8.10003E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
436 Iter at 859998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.02913E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
437 Iter at 861998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.28886E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
438 Iter at 863998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.50654E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
439 Iter at 865998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.16377E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
440 Iter at 867998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.30395E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
441 Iter at 869998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.41596E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
442 Iter at 871998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 3.28183E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
443 Iter at 873998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 7.12222E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
444 Iter at 875998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 7.12222E 01, similarity is 9.63432E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
445 Iter at 877998,	best solution is -5.05520E+00,	optima is -10.1532, optima is -10.1532,	similarity is 7.03432E-01, similarity is 1.41441E+00,	phenotype is [1.0001288149270602, 1.000122854499675, 1.0001168995219463, 1.0001570608065433]
'	-	•		
446 Iter at 879998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 3.81741E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
447 Iter at 881998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.79763E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
448 Iter at 883998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.33583E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
449 Iter at 885998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.02979E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
450 Iter at 887998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
451 Iter at 889998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 8.66814E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
452 Iter at 891998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.56115E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
453 Iter at 893998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.58747E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
454 Iter at 895998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 5.58049E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
455 Iter at 897998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.64640E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
456 Iter at 899998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.68179E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
457 Iter at 901998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 8.75832E-02,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
458 Iter at 903998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.17593E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
459 Iter at 905998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00800E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
460 Iter at 907998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.10508E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
461 Iter at 909998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 6.13644E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
462 Iter at 911998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 4.86440E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
463 Iter at 913998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 6.50420E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
464 Iter at 915998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00013E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
465 Iter at 917998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00012E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
466 Iter at 919998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 2.62368E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
467 Iter at 921998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 8.77821E-03,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
468 Iter at 923998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00026E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
469 Iter at 925998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 7.93117E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
470 Iter at 927998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.00012E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
471 Iter at 929998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.81087E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
472 Iter at 931998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.32727E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
473 Iter at 933998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.40592E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
474 Iter at 935998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.54229E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
475 Iter at 937998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.96713E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
476 Iter at 939998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 5.30109E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
477 Iter at 941998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.48509E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
478 Iter at 943998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.26995E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
479 Iter at 945998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.36347E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
480 Iter at 947998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.27296E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
481 Iter at 949998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 5.70528E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
482 Iter at 951998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.08671E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
483 Iter at 953998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 0.00000E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
484 Iter at 955998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 1.54045E+00,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
485 Iter at 957998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 9.75371E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
486 Iter at 959998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 4.18587E-01,	phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
1			,	

## File - SSGA

```
487 Iter at 961998,
                    best solution is -5.05520E+00,
                                                    optima is -10.1532,
                                                                                                      phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
                                                                         similarity is 1.10091E+00,
                                                                                                      phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
488 Iter at 963998.
                    best solution is -5.05520E+00,
                                                    optima is -10.1532,
                                                                         similarity is 1.72448E-01.
489 Iter at 965998, best solution is -5.05520E+00,
                                                    optima is -10.1532,
                                                                         similarity is 2.72457E+00,
                                                                                                      phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
490 Iter at 967998, best solution is -5.05520E+00,
                                                    optima is -10.1532,
                                                                         similarity is 1.15223E+00,
                                                                                                      phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
491 Iter at 969998, best solution is -5.05520E+00,
                                                    optima is -10.1532,
                                                                         similarity is 1.74285E+00,
                                                                                                      phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
492 Iter at 971998, best solution is -5.05520E+00,
                                                    optima is -10.1532,
                                                                         similarity is 1.00993E+00,
                                                                                                      phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
493 Iter at 973998, best solution is -5.05520E+00,
                                                    optima is -10.1532,
                                                                         similarity is 9.74923E-01,
                                                                                                      phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
494 Iter at 975998, best solution is -5.05520E+00,
                                                    optima is -10.1532,
                                                                         similarity is 1.00084E+00,
                                                                                                      phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
495 Iter at 977998, best solution is -5.05520E+00,
                                                    optima is -10.1532,
                                                                         similarity is 6.54666E-01,
                                                                                                      phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
496 Iter at 979998, best solution is -5.05520E+00,
                                                    optima is -10.1532,
                                                                         similarity is 9.40761E-01,
                                                                                                      phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
                                                                                                      phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
497 Iter at 981998, best solution is -5.05520E+00,
                                                    optima is -10.1532,
                                                                         similarity is 8.56910E-01.
498 Iter at 983998, best solution is -5.05520E+00,
                                                    optima is -10.1532,
                                                                         similarity is 1.52007E+00,
                                                                                                      phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
                                                    optima is -10.1532,
                                                                         similarity is 8.46921E-01,
499 Iter at 985998, best solution is -5.05520E+00,
                                                                                                      phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
500 Iter at 987998, best solution is -5.05520E+00,
                                                    optima is -10.1532,
                                                                         similarity is 4.26965E-01,
                                                                                                      phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
501 Iter at 989998, best solution is -5.05520E+00,
                                                    optima is -10.1532,
                                                                         similarity is 4.93293E-02,
                                                                                                      phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
502 Iter at 991998, best solution is -5.05520E+00,
                                                    optima is -10.1532, similarity is 1.00942E+00,
                                                                                                      phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
503 Iter at 993998, best solution is -5.05520E+00.
                                                    optima is -10.1532, similarity is 1.10758E+00,
                                                                                                      phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
504 Iter at 995998, best solution is -5.05520E+00,
                                                    optima is -10.1532,
                                                                         similarity is 2.21195E-01,
                                                                                                      phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
505 Iter at 997998, best solution is -5.05520E+00, optima is -10.1532,
                                                                         similarity is 1.08224E+00,
                                                                                                      phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
506 Iter at 999998, best solution is -5.05520E+00, optima is -10.1532, similarity is 1.75668E+00,
                                                                                                      phenotype is [1.0001288149270662, 1.000122854499675, 1.0001168995219463, 1.0001570608665433]
508 Process finished with exit code 0
```