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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]
8 Iter at 3998, best solution is -5.05060E+00, optima is -10.1532, similarity is 3.15171E+00, 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, similarity is 1.03465E+00, phenotype is [1.002430667368384, 1.0065385575930352, 0.9974045559090989, 1.002268122955561]
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, optima is -10.1532, similarity is 1.31147E+00, phenotype is [1.002430667368384, 0.9961206778504984, 0.9974045559090989, 0.9998113493434312]
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, similarity is 1.57276E+00, phenotype is [1.0001634950197857, 1.003919654737497, 1.00056406878803, 0.9998113493434312]
17 Iter at 21998, best solution is -5.05484E+00, optima is -10.1532, similarity is 1.74652E+00, phenotype is [1.0001634950197857, 1.003919654737497, 1.00056406878803, 1.0001570608665433]
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]
19 Iter at 25998, best solution is -5.05519E+00, optima is -10.1532, similarity is 1.13523E+00, phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
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]
23 Iter at 33998, best solution is -5.05519E+00, optima is -10.1532, similarity is 1.27221E+00, 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]
25 Iter at 37998, best solution is -5.05519E+00, optima is -10.1532, similarity is 1.25616E-01, phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
26 Iter at 39998, best solution is -5.05519E+00, optima is -10.1532, similarity is 1.41470E+00, phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
27 Iter at 41998, best solution is -5.05519E+00, optima is -10.1532, similarity is 2.16961E+00, 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, similarity is 2.23275E+00, phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
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, similarity is 1.17409E+00, phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
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, similarity is 7.90480E-01, phenotype is [1.0001634950197857, 1.000122854499675, 1.00056406878803, 1.0001570608665433]
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]
53 Iter at 93998, best solution is -5.05520E+00, optima is -10.1532, similarity is 1.50729E+00, phenotype is [1.0001634950197857, 1.000122854499675, 1.0000860873229749, 1.0001570608665433]
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]
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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]
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,	best solution is	-5.05520E+00,	optima is	-10.1532,	similarity is	6.70444E-01,	phenotype is	[1.0001634950197857,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
61	Iter	at	109998,	best solution is	-5.05520E+00,	optima is	-10.1532,	similarity is	9.28851E-01,	phenotype is	[1.0001634950197857,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
62	Iter	at	111998,	best solution is	-5.05520E+00,	optima is	-10.1532,	similarity is	1.98298E-01,	phenotype is	[1.0001634950197857,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
63	Iter	at	113998,	best solution is	-5.05520E+00,	optima is	-10.1532,	similarity is	8.41130E-01,	phenotype is	[1.0001634950197857,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
64	Iter	at	115998,	best solution is	-5.05520E+00,	optima is	-10.1532,	similarity is	2.29127E+00,	phenotype is	[1.0001634950197857,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
65	Iter	at	117998,	best solution is	-5.05520E+00,	optima is	-10.1532,	similarity is	1.24909E+00,	phenotype is	[1.0001634950197857,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
66	Iter	at	119998,	best solution is	-5.05520E+00,	optima is	-10.1532,	similarity is	1.141436E+00,	phenotype is	[1.0001634950197857,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
67	Iter	at	121998,	best solution is	-5.05520E+00,	optima is	-10.1532,	similarity is	1.15844E+00,	phenotype is	[1.0001634950197857,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
68	Iter	at	123998,	best solution is	-5.05520E+00,	optima is	-10.1532,	similarity is	3.96009E-02,	phenotype is	[1.0001634950197857,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
69	Iter	at	125998,	best solution is	-5.05520E+00,	optima is	-10.1532,	similarity is	1.41442E+00,	phenotype is	[1.0001634950197857,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
70	Iter	at	127998,	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]
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,	best solution is	-5.05520E+00,	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,	best solution is	-5.05520E+00,	optima is	-10.1532,	similarity is	1.57408E+00,	phenotype is	[1.0001634950197857,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
75	Iter	at	137998,	best solution is	-5.05520E+00,	optima is	-10.1532,	similarity is	2.06576E+00,	phenotype is	[1.0001634950197857,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
76	Iter	at	139998,	best solution is	-5.05520E+00,	optima is	-10.1532,	similarity is	1.95740E+00,	phenotype is	[1.0001634950197857,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
77	Iter	at	141998,	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]
78	Iter	at	143998,	best solution is	-5.05520E+00,	optima is	-10.1532,	similarity is	1.30785E+00,	phenotype is	[1.0001634950197857,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
79	Iter	at	145998,	best solution is	-5.05520E+00,	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]
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]
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]
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]
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]
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]
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]
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]
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]
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]
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]
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]
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]
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]
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]
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]
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]
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]
108	Iter	at	203998,	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]

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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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0000860873229749,	1.0001570608665433]
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,	1.0000860873229749,	1.0001570608665433]
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,	1.0000860873229749,	1.0001570608665433]
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,	1.0000860873229749,	1.0001570608665433]
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,	1.0000860873229749,	1.0001570608665433]
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,	1.0000860873229749,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0000860873229749,	1.0001570608665433]
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,	1.0000860873229749,	1.0001570608665433]
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,	1.0000860873229749,	1.0001570608665433]
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163	Iter	at	313998,	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	315998,	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	317998,	best	solution	is	-5.05520E+00,	optima	is	-10.1532,	similarity	is	1.34056E+00,	phenotype	is	[1.0001458378020653,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
166	Iter	at	319998,	best	solution	is	-5.05520E+00,	optima	is	-10.1532,	similarity	is	1.15633E+00,	phenotype	is	[1.0001458378020653,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
167	Iter	at	321998,	best	solution	is	-5.05520E+00,	optima	is	-10.1532,	similarity	is	3.29953E-01,	phenotype	is	[1.0001458378020653,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
168	Iter	at	323998,	best	solution	is	-5.05520E+00,	optima	is	-10.1532,	similarity	is	8.30990E-01,	phenotype	is	[1.0001458378020653,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
169	Iter	at	325998,	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	327998,	best	solution	is	-5.05520E+00,	optima	is	-10.1532,	similarity	is	6.13197E-01,	phenotype	is	[1.0001458378020653,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
171	Iter	at	329998,	best	solution	is	-5.05520E+00,	optima	is	-10.1532,	similarity	is	1.00012E+00,	phenotype	is	[1.0001458378020653,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
172	Iter	at	331998,	best	solution	is	-5.05520E+00,	optima	is	-10.1532,	similarity	is	2.55968E-01,	phenotype	is	[1.0001458378020653,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
173	Iter	at	333998,	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	335998,	best	solution	is	-5.05520E+00,	optima	is	-10.1532,	similarity	is	1.32405E+00,	phenotype	is	[1.0001458378020653,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
175	Iter	at	337998,	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	339998,	best	solution	is	-5.05520E+00,	optima	is	-10.1532,	similarity	is	1.42995E+00,	phenotype	is	[1.0001458378020653,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
177	Iter	at	341998,	best	solution	is	-5.05520E+00,	optima	is	-10.1532,	similarity	is	1.00009E+00,	phenotype	is	[1.0001458378020653,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
178	Iter	at	343998,	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	345998,	best	solution	is	-5.05520E+00,	optima	is	-10.1532,	similarity	is	6.11733E-01,	phenotype	is	[1.0001458378020653,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
180	Iter	at	347998,	best	solution	is	-5.05520E+00,	optima	is	-10.1532,	similarity	is	1.00016E+00,	phenotype	is	[1.0001458378020653,	1.000122854499675,	1.0000860873229749,	1.0001570608665433]
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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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
244	Iter	at	475998,	best	solution	is	-5.05520E+00,	optima	is	-10.1532,	similarity	is	1.14410E+00,	phenotype	is	[1.0001458378020653,	1.000122854499675,	1.0001168995219463,	1.0001570608665433]
245	Iter	at	477998,	best	solution	is	-5.05520E+00,	optima	is	-10.1532,	similarity	is	7.69485E-01,	phenotype	is	[1.0001458378020653,	1.000122854499675,	1.0001168995219463,	1.0001570608665433]
246	Iter	at	479998,	best	solution	is	-5.05520E+00,	optima	is	-10.1532,	similarity	is	6.29153E-01,	phenotype	is	[1.0001458378020653,	1.000122854499675,	1.0001168995219463,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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	1.90325E-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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]
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,	1.0001570608665433]

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	2.91203E-02,	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	9.60424E-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]

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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	5.10255E+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	5.6955E-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																			

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	1.17356E+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	1.58795E+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,	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,	similarity	is	1.98350E+00,	phenotype	is	[1.0001458378020653,	1.000122854499675,	1.0001168995219463,	1.0001570608665433]
391	Iter	at	769998,	best	solution	is	-5.05520E+00,	optima	is	-10.1532,	similarity	is	1.15583E+00,	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]
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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	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,	similarity	is	1.41441E+00,	phenotype	is	[1.0001288149270662,	1.000122854499675,	1.0001168995219463,	1.0001570608665433]
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	1.10508E+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	2.13644E-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	1.27298E+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]

487	Iter at 961998,	best solution is -5.05520E+00,	optima is -10.1532,	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,	phenotype is [1.0001288149270662,	1.000122854499675,	1.0001168995219463,	1.0001570608665433]
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]
497	Iter at 981998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 8.56910E-01,	phenotype is [1.0001288149270662,	1.000122854499675,	1.0001168995219463,	1.0001570608665433]
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]
499	Iter at 985998,	best solution is -5.05520E+00,	optima is -10.1532,	similarity is 8.46921E-01,	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]
507								
508	Process finished with exit code 0							
509								