Table 1: Performance Results for IllConditionedRosenbrock_5D_alpha100 Problem

Optimizer	Mean Final Value	Std Dev	Best Value	Worst Value	Mean Func Evals	Success Rate (%)	Mean Time (s)
QQN-GoldenSection	4.32e-1	5.14e-1	5.69e-8	1.61e0	3805.3	35.0	0.070
QQN-CubicQuadraticInterpolation	1.97e-1	2.84e-1	4.07e-9	7.25e-1	1403.3	65.0	0.062
Adam-Robust	1.46e1	6.99e0	6.12e0	2.99e1	2502.0	0.0	0.058
Adam-AMSGrad	4.40e0	3.25e-1	3.25e0	4.82e0	2442.0	0.0	0.056
Adam	3.92e0	4.66e-1	2.83e0	4.65e0	2471.6	0.0	0.050
L-BFGS-Limited	4.05e-1	5.13e-2	3.00e-1	5.47e-1	4035.2	0.0	0.045
QQN-Bisection-2	2.99e-1	2.82e-1	4.91e-8	9.11e-1	1647.8	15.0	0.041
L-BFGS-MoreThuente	1.74e8	7.57e8	3.07e-7	3.47e9	2320.8	20.0	0.041
QQN-Bisection-1	4.19e-1	1.11e0	2.00e-9	4.64e0	1511.2	80.0	0.040
Adam-WeightDecay	1.84e0	2.24e0	1.84e-3	4.66e0	1797.3	0.0	0.038
QQN-StrongWolfe	1.59e-7	1.68e-7	2.70e-9	5.77e-7	1191.3	100.0	0.037
L-BFGS-Conservative	2.02e1	6.75e1	2.46e-1	3.11e2	3386.6	0.0	0.034
L-BFGS-Aggressive	8.07e2	4.06e2	1.72e1	1.19e3	3851.6	0.0	0.029
Trust Region-Precise	1.01e3	1.27e2	8.08e2	1.35e3	3002.0	0.0	0.019
Trust Region-Conservative	1.02e3	1.63e2	7.14e2	1.31e3	3002.0	0.0	0.019
Trust Region-Adaptive	8.41e2	1.37e2	5.05e2	1.11e3	3002.0	0.0	0.019
Trust Region-Standard	6.23e1	7.73e1	4.66e0	2.53e2	2827.2	0.0	0.018
GD-WeightDecay	7.32e-1	1.11e0	1.46e-1	5.40e0	459.3	0.0	0.015
GD-Nesterov	4.24e0	5.00e0	3.82e-1	1.31e1	372.4	0.0	0.012
Trust Region-Aggressive	5.00e0	4.17e-1	4.66e0	5.93e0	776.1	0.0	0.005
L-BFGS	1.50e2	2.28e2	1.98e1	7.52e2	135.3	0.0	0.002
Adam-Fast	1.43e1	3.92e0	4.36e-2	1.86e1	49.9	0.0	0.001
GD	5.09e0	1.48e-1	4.75e0	5.31e0	32.5	0.0	0.001
GD-AdaptiveMomentum	4.60e1	6.15e0	3.36e1	5.66e1	20.6	0.0	0.001
GD-Momentum	3.55e1	8.91e0	1.96e1	4.95e1	20.8	0.0	0.001