

Algorithm	prob	n	t	n_it	f_opt	g_norm	fevals	gevals	nfails	co
QPS-roma	GENROSE	500	2.34458	1026	1	0.000429746	53435	1028	2	-0.99
scipy_lbfgs	GENROSE	500	0.132893	1076	1	0.000905173	1312	1312	nan	
QPS-roma	ARWHEAD	5000	0.0783455	6	0	3.67887e-05	237	8	1	-0.096
scipy_lbfgs	ARWHEAD	5000	0.0262294	12	6.4591e-09	0.000754085	14	14	nan	
QPS-roma	BROYDN7D	5000	24.9955	1360	1960	0.000706245	75744	1362	1	-0.78
scipy_lbfgs QPS-roma	BROYDN7D CRAGGLVY	5000 5000	2.39349 $0.991645$	$\frac{1636}{56}$	$\begin{array}{c} 1987.57 \\ 1688.22 \end{array}$	0.000927399 $0.000826078$	$\frac{1670}{2780}$	$\frac{1670}{58}$	$_{ m nan}$	-0.16
scipy_lbfgs	CRAGGLVY	5000	0.0997813	60	1688.22	0.000827982	73	73	nan	-0.10
QPS-roma	DIXMAANA	3000	0.0164485	5	1.00003	0.000327332	120	7	1	-1.5226
scipy_lbfgs	DIXMAANA	3000	0.00718546	9	1.00026	0.00080197	11	11	nan	1.0220
QPS-roma	DIXMAANB	3000	0.0121608	5	1	5.31059e-05	90	7	1	
scipy_lbfgs	DIXMAANB	3000	0.00743198	9	1.00001	0.000615803	11	11	nan	
QPS-roma	DIXMAANC	3000	0.0135934	5	1	0.000456669	95	7	1	
scipy_lbfgs	DIXMAANC	3000	0.010143	11	1	8.29907e-05	13	13	nan	
QPS-roma	DIXMAAND	3000	0.0230906	6	1	5.37187e-06	153	8	1	-0.18
scipy_lbfgs	DIXMAAND	3000	0.00937915	12	1.00001	0.000701989	14	14	nan	
QPS-roma	DIXMAANE	3000	0.402988	65	1.00048	0.000978595	2853	67	1	-0.12
scipy_lbfgs	DIXMAANE	3000	0.0617452	76	1.00121	0.000874208	81	81	nan	0.7
QPS-roma	DIXMAANE	3000 3000	0.165974	28 46	1.00054 1.00084	0.000972261	1193 49	30 49	1 nan	-0.74
scipy_lbfgs QPS-roma	DIXMAANF DIXMAANG	3000	0.0313232 $0.172819$	29	1.00084	0.000927275 $0.000875045$	1263	31	nan 1	-0.69
scipy_lbfgs	DIXMAANG	3000	0.0300264	50	1.00048	0.000373043	52	52	nan	-0.03
QPS-roma	DIXMAANH	3000	0.148789	25	1.00049	0.00013333	1035	27	1	-0.62
scipy_lbfgs	DIXMAANH	3000	0.0280533	43	1.00043	0.000965907	46	46	nan	0.02
QPS-roma	DIXMAANI	3000	0.547683	86	1.00192	0.000989529	3858	88	1	-0.87
scipy_lbfgs	DIXMAANI	3000	0.0562654	96	1.01126	0.000910887	100	100	nan	
QPS-roma	DIXMAANJ	3000	2.03851	275	1.15385	0.000937468	14657	277	1	-0.9
scipy_lbfgs	DIXMAANJ	3000	0.0252912	38	1.00065	0.000532064	42	42	nan	
QPS-roma	DIXMAANK	3000	0.184305	30	1.00044	0.000425595	1322	32	1	-0.88
scipy_lbfgs	DIXMAANK	3000	0.0188982	30	1.00153	0.000647089	33	33	nan	
QPS-roma	DIXMAANL	3000	1.33179	166	2.47325	0.00079413	9657	168	1	-0.88
scipy_lbfgs QPS-roma	DIXMAANL DIXMAANM	3000 3000	0.0246499 $0.668901$	$\frac{37}{105}$	1.0003 1.00604	0.000829973 $0.000979507$	$\frac{40}{4781}$	$\frac{40}{107}$	nan 1	-0.94
scipy_lbfgs	DIXMAANM	3000	0.0570159	95	1.01035	0.000979307	100	100	nan	-0.94
QPS-roma	DIXMAANN	3000	0.334639	51	1.00171	0.000975294	2380	53	1	-0.86
cipy_lbfgs	DIXMAANN	3000	0.0286756	46	1.00305	0.00083068	48	48	nan	0.00
QPS-roma	DIXMAANO	3000	0.27018	42	1.003	0.000909982	1919	44	1	-0.70
scipy_lbfgs	DIXMAANO	3000	0.0340197	56	1.00089	0.000765005	60	60	nan	
QPS-roma	DIXMAANP	3000	0.249324	38	1.00271	0.000991984	1766	40	1	-0.98
scipy_lbfgs	DIXMAANP	3000	0.0273621	43	1.00194	0.00086149	46	46	nan	
QPS-roma	EDENSCH	10000	0.362885	17	60003.3	0.000802499	708	19	1	-0.91
scipy_lbfgs	EDENSCH	10000	0.0717289	25	60003.3	0.000815028	31	31	nan	
QPS-roma	ENGVAL1	5000	0.101392	14	5548.67	0.000388842	484	16	1	-0.75
scipy_lbfgs	ENGVAL1	5000	0.0163531	15	5548.67	0.000599333	17	17	nan	0.7
QPS-roma scipy_lbfgs	FLETCHCR	1000 1000	0.352304	$\frac{124}{4917}$	2.08038e-07	0.000916452	$5682 \\ 5820$	$\frac{126}{5820}$	1	-0.74
QPS-roma	FLETCHCR FMINSURF	5625	1.04107 $2.93851$	$\frac{4917}{237}$	2.64187e-09 1.00091	0.000529303 $0.000841384$	12291	239	$     \begin{array}{c}       \text{nan} \\       0     \end{array} $	-2.3940
scipy_lbfgs	FMINSURF	5625	0.271282	174	1.01839	0.000997127	178	178	nan	-2.0340
QPS-roma	LIARWHD	5000	0.0790882	14	7.07327e-07	4.76275e-05	386	16	3	-0.99
scipy_lbfgs	LIARWHD	5000	0.0230055	23	1.03873e-15	6.52013e-06	27	27	nan	2.00
QPS-roma	NCB20	5010	11.4089	210	-1130.87	0.000636807	10954	212	1	-0.010
scipy_lbfgs	NCB20	5010	0.709738	174	-1204.23	0.000648772	198	198	nan	
QPS-roma	NONCVXU2	5000	40.2561	3325	11584.5	0.000981228	163863	3327	0	-6.0643
scipy_lbfgs	NONCVXU2	5000	4.02718	3385	11584.2	0.000899666	3466	3466	nan	
QPS-roma	NONCVXUN	5000	61.5781	5000	11605.4	0.00615398	247037	5002	0	-3.3866
scipy_lbfgs	NONCVXUN	5000	6.1397	5000	11594.1	0.00472194	5110	5110	nan	
QPS-roma	NONDIA	5000	0.00953722	5	0.000257447	0.000256462	37	7	1	
scipy_lbfgs QPS-roma	NONDOLLAR	5000	0.00784063	128	0.000257072	0.00025656	5 7496	5 130	nan 1	-0.98
QPS-roma scipy_lbfgs	NONDQUAR NONDQUAR	5000 5000	0.793645 $0.0629423$	$\frac{128}{103}$	0.000335406 $0.000344713$	0.000928546 $0.00097921$	$7496 \\ 118$	130 118	1 nan	-0.98
QPS-roma	POWELLSG	5000	0.0629423	103	0.00364847	0.00097921	487	17	nan 2	-0.55
scipy_lbfgs	POWELLSG	5000	0.0348008	26	0.00304847	0.000731330	28	28	nan	-0.00
QPS-roma	POWER	10000	2.19122	281	1.94444e-05	0.000241881	16049	283	1	-0.99
scipy_lbfgs	POWER	10000	0.310971	307	1.73577e-05	0.000946771	314	314	nan	2.00
QPS-roma	SCHMVETT	5000	0.376673	22	-14994	0.000770141	921	24	1	-0.99
	SCHMVETT	5000	0.0506403	27	-14994	0.000647497	29	29	nan	
scipy_lbfgs	CDCCCNIDD	5000	0.0243247	6	2.37137e-12	9.72065e-07	221	8	1	-0.99
QPS-roma	SROSENBR		0.0117712	16	7.52942e-08	0.000119951	17	17	nan	
QPS-roma scipy_lbfgs	SROSENBR	5000			10.000	1.42109e-14	106	3	0	
QPS-roma scipy_lbfgs QPS-roma	SROSENBR TOINTGSS	5000	0.0240901	1	10.002					
QPS-roma scipy_lbfgs QPS-roma scipy_lbfgs	SROSENBR TOINTGSS TOINTGSS	5000 5000	$\begin{array}{c} 0.0240901 \\ 0.0187006 \end{array}$	13	10.002	0.000364092	17	17	nan	
QPS-roma scipy_lbfgs QPS-roma scipy_lbfgs QPS-roma	SROSENBR TOINTGSS TOINTGSS TQUARTIC	5000 5000 5000	$\begin{array}{c} 0.0240901 \\ 0.0187006 \\ 0.015296 \end{array}$	13 1	$\begin{array}{c} 10.002 \\ 0.806135 \end{array}$	$\begin{array}{c} 0.000364092 \\ 0.000343907 \end{array}$	$\frac{17}{109}$	$\frac{17}{3}$	nan 0	
QPS-roma scipy_lbfgs QPS-roma scipy_lbfgs QPS-roma scipy_lbfgs	SROSENBR TOINTGSS TOINTGSS TQUARTIC TQUARTIC	5000 5000 5000 5000	0.0240901 $0.0187006$ $0.015296$ $0.0173063$	13 1 18	10.002 0.806135 9.28792e-14	$\begin{array}{c} 0.000364092 \\ 0.000343907 \\ 3.97812 \text{e-}05 \end{array}$	17 109 26	17 3 26	nan 0 nan	
QPS-roma scipy_lbfgs QPS-roma scipy_lbfgs QPS-roma scipy_lbfgs QPS-roma	SROSENBR TOINTGSS TOINTGSS TQUARTIC TQUARTIC VAREIGVL	5000 5000 5000 5000 5000	$\begin{array}{c} 0.0240901 \\ 0.0187006 \\ 0.015296 \\ 0.0173063 \\ 0.443818 \end{array}$	13 1 18 36	10.002 0.806135 9.28792e-14 1.64003e-05	0.000364092 0.000343907 3.97812e-05 0.000812879	17 109 26 1506	17 3 26 38	nan 0 nan 1	-0.87
QPS-roma scipy_lbfgs QPS-roma scipy_lbfgs QPS-roma scipy_lbfgs QPS-roma scipy_lbfgs	SROSENBR TOINTGSS TOINTGSS TQUARTIC TQUARTIC VAREIGVL VAREIGVL	5000 5000 5000 5000 5000 5000	$\begin{array}{c} 0.0240901 \\ 0.0187006 \\ 0.015296 \\ 0.0173063 \\ 0.443818 \\ 0.0245726 \end{array}$	13 1 18 36 15	10.002 0.806135 9.28792e-14 1.64003e-05 1.11792e-07	0.000364092 0.000343907 3.97812e-05 0.000812879 0.000871173	17 109 26 1506 19	17 3 26 38 19	nan 0 nan 1 nan	-0.87
scipy_lbfgs QPS-roma scipy_lbfgs QPS-roma scipy_lbfgs QPS-roma scipy_lbfgs QPS-roma scipy_lbfgs QPS-roma	SROSENBR TOINTGSS TOINTGSS TQUARTIC TQUARTIC VAREIGVL	5000 5000 5000 5000 5000	$\begin{array}{c} 0.0240901 \\ 0.0187006 \\ 0.015296 \\ 0.0173063 \\ 0.443818 \end{array}$	13 1 18 36	10.002 0.806135 9.28792e-14 1.64003e-05	0.000364092 0.000343907 3.97812e-05 0.000812879	17 109 26 1506	17 3 26 38	nan 0 nan 1	-0.87 -0.9