Table 3: Performance of ABCD, APG and eARBCG on θ_+, FAP, QAP, BIQ, RCP and extended BIQ problems ($\varepsilon = 10^{-6}$)

			iteration			η			η_g			time		
problem	$m_E; m_I$	n_s	ABCD	APG	eARBCG	ABCD	APG	eARBCG	ABCD	APG	eARBCG	ABCD	APG	eARBCG
theta4	1949;0	200	0;1454	2996	4859	9.9-7	9.9-7	9.8-7	1.3-7	4.2-8	-4.3-7	25	52	52
theta42	5986;0	200	0;1110	2356	4548	9.9-7	9.9-7	9.0-7	-4.0-8	2.1-8	-1.4-7	20	43	57
theta6	4375;0	300	0;1641	2675	5220	9.9-7	9.9-7	9.7-7	1.0-7	-1.7-9	-4.7-7	1:09	1:59	2:48
theta62	13390;0	300	0;1281	2266	4997	9.7-7	9.9-7	9.9-7	-1.2-7	-7.9-9	-7.2-8	58	1:47	2:35
theta8	7905;0	400	0;1689	2583	7225	9.8-7	9.9-7	9.9-7	-1.3-7	-1.9-9	-3.2-7	3:24	5:20	11:02
theta82	23872;0	400	0;1405	2227	6302	9.9-7	9.9-7	9.7-7	-1.5-7	4.3-9	-1.4-7	2:49	4:52	9:16
theta83	39862;0	400	0;1672	2157	6242	9.9-7	9.9-7	9.9-7	1.6-8	5.8-9	-1.2-7	4:00	4:36	9:30
theta10	12470;0	500	0;1820	2629	7839	9.9-7	9.9-7	9.9-7	-9.2-8	1.9-10	-2.5-7	7:19	9:08	18:26
theta102	37467;0	500	0;1705	2266	6923	9.9-7	9.9-7	9.9-7	6.8-8	1.9-8	-1.5-7	7:04	8:19	16:25
theta103	62516;0	500	0;1641	2228	6729	9.9-7	9.9-7	9.8-7	5.9-8	1.8-8	-1.3-7	6:50	8:31	17:01
theta104	87245;0	500	25;1483	2235	6726	9.9-7	9.9-7	9.9-7	-1.8-7	1.6-8	-1.1-7	7:16	7:41	16:43
theta12	17979;0	600	0;1961	2644	8728	9.9-7	9.8-7	9.7-7	-1.4-7	5.8-8	-2.6-7	12:28	14:40	27:32
theta123	90020;0	600	0;1743	2366	7160	9.9-7	9.9-7	9.9-7	4.4-8	2.0-8	-1.3-7	11:27	13:37	27:35
theta162	127600;0	800	0;2149	2670	7508	9.9-7	9.8-7	9.9-7	4.0-8	2.3-8	-1.3-7	29:59	30:58	54:54
MANN-a27	703;0	378	0;579	1170	6113	9.6-7	7.8-7	9.8-7	1.8-6	-1.5-6	2.1-6	57	1:33	6:54
johnson8-4-4	561;0	70	0;83	135	630	8.8-7	8.1-7	7.7-7	-1.1-7	1.1-7	1.0-7	01	01	01
johnson16-2-4	1681;0	120	3;59	328	1323	6.4-8	9.7-7	9.9-7	-3.0-8	3.8-8	9.6-9	01	03	06
san200-0.7-1	5971;0	200	0;117	229	1720	9.9-7	9.0-7	8.5-7	-9.3-7	1.4-7	-3.3-8	01	03	17
sanr200-0.7	6033;0	200	0;1156	2353	4453	9.8-7	9.9-7	9.9-7	-2.6-8	1.7-8	-9.9-8	22	45	53
c-fat200-1	18367;0	200	0;1249	1464	4681	9.9-7	9.9-7	9.8-7	3.7-8	-3.3-9	-4.4-8	21	19	51
hamming-6-4	1313;0	64	2;67	133	296	5.9-7	2.5-7	8.9-7	4.5-8	2.1-8	8.9-6	01	00	01
hamming-8-4	11777;0	256	0;89	229	620	7.3-7	7.6-7	8.1-7	4.7-7	-5.9-8	-5.6-8	02	05	13
hamming-9-8	2305;0	512	0;382	615	6304	2.5-7	5.3-7	8.4-7	-1.3-6	-2.6-7	-3.0-7	57	1:23	13:02
hamming-10-2	23041;0	1024	89;254	817	5211	8.2-7	7.6-7	6.4-7	4.2-6	7.5-8	-5.4-8	4:39	6:28	56:51
hamming-7-5-6	1793;0	128	0;382	611	1397	6.1-7	8.6-7	9.6-7	-1.0-7	-3.8-7	-3.2-7	02	03	07
hamming-8-3-4	16129;0	256	0;120	265	663	9.1-7	7.3-7	7.3-7	-8.4-7	8.0-8	5.8-8	02	05	09
hamming-9-5-6	53761;0	512	0;253	456	1629	8.0-7	1.9-7	3.6-7	5.6-7	-1.2-8	-5.1-8	27	37	2:40
brock200-1	5067;0	200	0;1114	2458	4652	9.9-7	9.9-7	9.5-7	-1.4-7	2.0-8	-1.9-7	11	24	32
brock200-4	6812;0	200	0;1080	2188	4348	9.9-7	9.9-7	9.8-7	-9.7-8	6.4-9	-1.3-7	11	25	39
brock400-1	20078;0	400	0;1586	2347	6553	9.9-7	9.9-7	9.6-7	-6.0-8	-3.4-9	-1.9-7	1:35	2:17	6:21
keller4	5101;0	171	0;1427	2083	5136	9.9-7	9.9-7	9.9-7	5.1-8	-7.0-8	-2.0-7	09	14	37
p-hat300-1	33918;0	300	19;1969	2628	7291	9.9-7	9.9-7	9.9-7	-2.7-7	9.2-9	-1.0-7	55	1:03	2:43
G43	9991;0	1000	0;3350	3949	15965	9.9-7	9.9-7	9.9-7	-5.2-7	-4.6-8	-2.8-7	26:40	30:07	2:11:03
G44	9991;0	1000	0;3351	4039	15965	9.9-7	9.8-7	9.9-7	-4.1-7	6.1-8	-2.9-7	28:02	31:43	2:34:37
G45	9991;0	1000	0;3220	3868	15678	9.9-7	9.9-7	9.9-7	-4.6-7	-1.1-7	-2.0-7	25:28	29:15	2:51:51
G46	9991;0	1000	0;3144	3647	15630	9.9-7	9.7-7	9.8-7	-4.7-7	1.9-7	-1.9-7	24:59	27:29	2:55:29
G47	9991;0	1000	0;3378	4025	15607	9.9-7	9.8-7	9.9-7	-5.5-7	7.8-9	-2.3-7	26:55	32:19	1:28:28
G51	5910;0	1000	0;11273	16058	41754	8.6-7	9.9-7	9.9-7	-5.2-7	-1.9-8	-9.1-7	1:39:35	2:18:14	4:03:33
G52	5917;0	1000	0;7955	18194	36594	9.9-7	9.8-7	9.9-7	-5.0-7	7.3-9	-9.3-7	1:09:04	3:03:03	3:43:49
G53	5915;0	1000	0;10887	16420	39485	9.6-7	9.5-7	9.8-7	-5.6-7	-1.6-8	-7.3-7	1:41:55	3:48:26	4:55:22
G54	5917;0	1000	0;10883	13798	41754	9.5-7	9.9-7	9.9-7	-4.9-7	1.5-8	-9.2-7	2:46:39	4:09:19	7:36:36
1dc.128	1472;0	128	0;1563	2901	4768	9.9-7	9.9-7	9.9-7	8.3-8	-5.0-8	-3.4-7	09	21	19
1et.128	673;0	128	0;1611	2362	4593	9.9-7	9.9-7	9.9-7	4.5-7	4.1-7	-2.9-8	15	18	23
1tc.128	513;0	128	0;543	730	1924	9.9-7	8.6-7	5.3-7	-7.1-7	-2.9-7	-8.2-8	05	06	07
1zc.128	1121;0	128	0;621	687	1859	9.8-7	9.9-7	9.9-7	-7.2-7	-8.5-8	7.5-8	05	06	07
1dc.256	3840;0	256	0;2224	2991	9216	9.9-7	9.9-7	9.9-7	-2.8-7	2.9-8	-2.6-7	38	1:28	2:50
1et.256	1665;0	256	0;2482	2656	9552	9.8-7	9.9-7	9.6-7	-3.0-7	-2.2-7	-2.6-7	42	1:13	2:22
1tc.256	1313;0	256	0;3089	3694	12216	9.9-7	9.8-7	9.9-7	-9.3-8	-1.1-8	-2.7-7	55	1:46	2:48
1zc.256	2817;0	256	0;810	719	2875	9.9-7	9.9-7	9.9-7	1.7-7	1.4-7	-1.1-7	12	17	34
1dc.512	9728;0	512	0;3755	5543	17564	9.9-7	9.5-7	9.8-7	-3.6-7	-1.6-8	-3.9-7	6:21	17:53	25:12
1et.512	4033;0	512	0;3265	3181	11786	9.9-7	9.9-7	9.9-7	-3.8-7	-1.8-8	-5.0-7	5:33	11:14	16:14
1tc.512	3265;0	512	0;5590	10046	26847	9.9-7	9.8-7	9.8-7	-6.8-7	1.3-8	-4.0-7	9:39	33:42	37:02
2dc.512	54896;0	512	16;2871	3468	8987	9.5-7	9.7-7	9.8-7	-3.8-7	7.2-9	-2.4-7	5:24	12:16	12:47
1zc.512	6913;0	512	0;3370	2666	18104	9.9-7	9.1-7	9.4-7	-3.2-7	-8.9-7	-3.8-7	4:59	7:27	24:15
1dc.1024	24064;0	1024	0;3074	5976	16655	9.9-7	9.5-7	9.9-7	-2.7-7	3.4-8	-2.6-7	28:57	2:17:15	1:53:08
1et.1024	9601;0	1024	0;5119	7874	26394	9.9-7	9.9-7	9.9-7	-3.7-7	-7.3-8	4.4-7	46:55	2:55:02	3:42:44
1tc.1024	7937;0	1024	0;6282	10496	26839	9.9-7	9.9-7	9.9-7	-6.4-7	-9.6-10	-1.8-7	1:00:21	3:46:21	5:03:53

Table 3: Performance of ABCD, APG and eARBCG on θ_+, FAP, QAP, BIQ, RCP and extended BIQ problems ($\varepsilon = 10^{-6}$)

			iteration			η			η_g			time		
problem	$m_E; m_I$	n_s	ABCD	APG	eARBCG	ABCD	APG	eARBCG	ABCD	APG	eARBCG	ABCD	APG	eARBCG
1zc.1024	16641;0	1024	0;2281	1724	13029	9.7-7	9.9-7	9.7-7	-1.3-6	-3.5-7	6.2-8	18:16	32:11	2:29:37
2dc.1024	169163;0	1024	18;2029	4910	11689	9.9-7	9.7-7	9.7-7	-2.9-7	2.1-9	-3.2-7	19:23	1:46:34	46:54
1dc.2048	58368;0	2048	0;2700	5447	17472	9.9-7	9.9-7	9.9-7	-8.5-8	-1.6-7	6.7-7	2:54:31	11:05:59	7:38:17
1et.2048	22529;0	2048	0;5267	14243	30322	9.9-7	9.3-7	9.7-7	-4.2-7	-1.9-8	9.7-7	5:13:18	21:40:08	14:08:56
1tc.2048	18945;0	2048	0;7737	15235	65261	9.8-7	9.8-7	9.4-7	-5.4-7	-5.1-8	1.4-6	7:34:43	22:17:52	31:38:14
2dc.2048	504452;0	2048	0;5392	6996	14000	9.9-7	9.8-7	9.9-7	8.8-9	1.6-9	-4.3-7	5:38:09	6:15:33	6:56:29
1zc.2048	39425;0	2048	0;2928	1730	32486	9.2-7	9.4-7	8.7-7	-9.3-8	-6.0-7	6.6-7	4:16:36	1:38:33	21:51:00
fap08	120;0	120	0;47	111	223	8.4-7	9.5-7	9.7-7	-6.5-8	2.0-7	2.6-6	00	01	01
fap09	174;0	174	0;54	111	258	9.4-7	9.6-7	9.1-7	1.4-7	1.9-7	2.1-6	01	01	02
fap10	183;0	183	0;45	67	254	8.4-7	7.9-7	6.2-7	7.5-8	1.2-7	3.2-7	01	01	02
fap11	252;0	252	0;53	76	219	8.6-7	9.9-7	9.2-7	1.8-7	2.1-7	1.1-6	01	01	04
fap12	369;0	369	0;58	94	258	7.8-7	9.7-7	7.1-7	-9.2-8	4.2-7	1.0-6	03	07	15
fap25	2118;0	2118	0;46	95	218	9.2-7	8.1-7	9.0-7	-3.1-8	5.1-8	1.1-6	2:44	11:02	12:26
fap36	4110;0	4110	24;48	129	250	8.4-7	9.7-7	9.9-7	1.4-9	2.7-8	1.3-6	1:15:31	1:38:55	1:40:50
bur26a	1051;0	676	151;27	3110	43852	9.9-7	9.9-7	9.9-7	-5.7-6	-8.0-6	-5.6-6	6:14	17:12	1:33:31
bur26b	1051;0	676	150;27	3083	43600	9.6-7	9.9-7	9.9-7	-5.7-6	-7.9-6	-5.5-6	6:05	17:05	1:38:59
bur26c	1051;0	676	146;27	3245	45432	9.3-7	9.9-7	9.9-7	-6.9-6	-9.2-6	-6.3-6	6:18	18:47	2:08:59
bur26d	1051;0	676	172;27	3188	44790	9.6-7	9.9-7	9.9-7	-6.1-6	-8.7-6	-6.0-6	7:12	18:00	2:30:30
bur26e	1051;0	676	153;27	3178	44615	9.6-7	9.9-7	9.9-7	-6.2-6	-8.7-6	-6.0-6	8:01	18:23	2:49:49
bur26f	1051;0	676	127;27	3142	44272	9.9-7	9.9-7	9.9-7	-5.7-6	-8.6-6	-5.9-6	4:10	17:37	2:48:14
bur26g	1051;0	676	149;27	3012	42291	9.8-7	9.9-7	9.9-7	-6.3-6	-8.4-6	-5.9-6	7:18	17:23	2:06:01
bur26h	1051;0	676	126;27	3004	42050	9.7-7	9.9-7	9.9-7	-6.1-6	-8.3-6	-5.9-6	4:09	15:40	2:27:21
chr12a	232;0	144	128;42	6694	75000	9.5-7	9.9-7	1.6-6	-1.6-5	-3.7-5	-3.2-5	08	1:23	6:12
chr12b	232;0	144	171;49	7685	75000	9.8-7	9.9-7	1.9-6	-2.9-5	-4.2-5	-4.0-5	10	1:33	5:36
chr12c	232;0	144	166;36	5924	75000	9.7-7	9.9-7	1.4-6	-2.7-5	-3.5-5	-2.8-5	08	1:08	5:55
chr15a	358;0	225	211;44	6621	75000	9.9-7	9.9-7	1.7-6	-3.8-5	-4.9-5	-4.2-5	41	2:34	12:17
chr15b	358;0	225	279;49	7257	75000	9.9-7	9.9-7	1.8-6	-3.6-5	-5.1-5	-4.6-5	45	2:47	12:19
chr15c	358;0	225	310;42	6293	75000	9.9-7	9.9-7	1.7-6	-3.1-5	-4.8-5	-4.0-5	46	2:31	12:27
chr18a	511;0	324	205;38	5802	75000	9.9-7	9.9-7	1.5-6	-1.6-5	-3.2-5	-2.5-5	1:54	4:35	29:15
chr18b	511;0	324	210;33	4776	75000	9.8-7	9.9-7	1.4-6	-1.6-5	-2.7-5	-1.9-5	1:29	3:47	30:51
chr20a	628;0	400	242;40	5548	75000	9.4-7	9.9-7	1.3-6	-1.7-5	-2.7-5	-2.1-5	2:44	10:09	1:39:07
chr20b	628;0	400	203;33	4727	74892	9.9-7	9.9-7	9.9-7	-1.5-5	-2.5-5	-1.7-5	2:41	8:34	1:32:59
chr20c	628;0	400	223;48	6738	75000	9.7-7	9.9-7	1.6-6	-2.1-5	-3.4-5	-3.0-5	3:25	12:27	59:58
chr22a	757;0	484	390;42	4871	75000	9.4-7	9.9-7	1.0-6	-1.3-5	-2.1-5	-1.5-5	6:10	13:04	1:44:43
chr22b	757;0	484	224;40	4430	68291	9.9-7	9.9-7	9.9-7	-1.4-5	-2.0-5	-1.4-5	3:31	11:51	1:44:34
chr25a	973;0	625	234;36	4750	75000	9.9-7	9.9-7	1.0-6	-1.3-5	-2.3-5	-1.6-5	8:08	21:30	4:00:41
els19	568;0	361	175;33	5232	75000	9.8-7	9.9-7	1.2-6	-1.2-5	-2.7-5	-2.0-5	1:01	4:14	44:27
esc16a	406;0	256	206;79	12101	75000	9.8-7	9.9-7	3.3-6	-4.0-5	-5.6-5	-7.0-5	47	3:42	18:40
esc16b	406;0	256	112;60	9267	75000	9.4-7	9.9-7	2.5-6	-4.3-6	-4.1-5	-4.5-5	18	2:48	19:40
esc16c	406;0	256	96;62	9201	75000	9.7-7	9.9-7	2.4-6	-7.0-6	-3.6-5	-3.8-5	16	2:46	19:47
esc16d	406;0	256	112;58	7940	75000	9.8-7	9.9-7	2.0-6	-4.9-6	-2.9-5	-2.8-5	20	2:29	20:02
esc16e	406;0	256	180;72	9973	75000	9.9-7	9.9-7	2.7-6	-3.2-5	-4.5-5	-5.1-5	18	3:04	19:08
esc16g	406;0	256	218;71	10713	75000	9.7-7	9.9-7	2.8-6	-3.3-5	-4.6-5	-5.3-5	26	3:19	16:24
esc16h	406;0	256	140;75	10741	75000	9.4-7	9.9-7	3.0-6	-4.5-6	-4.7-5	-5.7-5	13	3:20	10:10
esc16i	406;0	256	81;51	8756	75000	8.7-7	9.9-7	2.0-6	-8.4-6	-3.1-5	-3.0-5	07	2:40	9:59
esc16j	406;0	256	194;61	9000	75000	9.5-7	9.9-7	2.2-6	-6.4-6	-3.4-5	-3.5-5	13	2:45	10:43
esc32a	1582;0	1024	155;48	4950	75000	9.7-7	9.7-7	1.2-6	-1.2-5	-1.9-5	-1.3-5	8:41	52:28	4:35:48
esc32b	1582;0	1024	152;39	6966	75000	9.0-7	9.9-7	1.2-6	-1.4-5	-2.0-5	-1.5-5	10:26	1:30:30	4:50:54
esc32c	1582;0	1024	177;77	10626	75000	9.7-7	9.9-7	3.0-6	-3.4-5	-4.6-5	-5.4-5	13:49	2:48:01	4:58:03
esc32d	1582;0	1024	184;71	12520	75000	9.8-7	9.9-7	2.7-6	-3.1-5	-4.1-5	-4.7-5	28:56	3:05:06	5:16:11
esc32e	1582;0	1024	272;38	3245	45376	9.2-7	9.9-7	9.9-7	-2.7-7	-5.5-6	-3.8-6	18:12	23:50	3:32:35
esc32f	1582;0	1024	272;38	3245	45376	9.2-7	9.9-7	9.9-7	-2.7-7	-5.5-6	-3.8-6	18:51	25:13	3:51:30
esc32g	1582;0	1024	113;46	4071	63055	9.5-7	9.9-7	9.9-7	-1.2-6	-9.5-6	-6.7-6	13:00	31:09	5:41:29
esc32h	1582;0	1024	145;66	9791	75000	9.5-7	9.9-7	2.7-6	-3.0-5	-4.4-5	-5.0-5	20:40	1:41:10	10:49:54
had12	232;0	144	151;35	5557	75000	9.5-7	9.9-7	1.3-6	-9.6-6	-1.9-5	-1.4-5	06	57	6:23
had14	313;0	196	90;37	5670	75000	9.9-7	9.9-7	1.3-6	-1.5-5	-1.9-5	-1.5-5	12	1:28	6:48
had16	406;0	256	114;38	5238	75000	9.8-7	9.9-7	1.2-6	-1.1-5	-1.5-5	-1.1-5	18	2:18	12:05

Table 3: Performance of ABCD, APG and eARBCG on θ_+, FAP, QAP, BIQ, RCP and extended BIQ problems ($\varepsilon = 10^{-6}$)

			iteration			η			η_g			time		
problem	$m_E; m_I$	n_s	ABCD	APG	eARBCG	ABCD	APG	eARBCG	ABCD	APG	eARBCG	ABCD	APG	eARBCG
had18	511;0	324	109;39	5288	75000	9.7-7	9.9-7	1.2-6	-1.0-5	-1.4-5	-1.1-5	17	3:37	19:02
had20	628;0	400	153;41	5269	75000	9.6-7	9.9-7	1.2-6	-9.8-6	-1.4-5	-1.0-5	1:38	8:02	41:08
kra30a	1393;0	900	179;42	6177	75000	9.9-7	9.9-7	1.5-6	-3.8-6	-3.6-5	-2.9-5	5:55	57:39	3:51:14
kra30b	1393;0	900	240;42	6216	75000	9.9-7	9.9-7	1.5-6	-2.6-5	-3.7-5	-3.0-5	19:19	1:11:10	3:58:05
kra32	1582;0	1024	336;44	6190	75000	9.6-7	9.9-7	1.4-6	-1.9-5	-2.9-5	-2.4-5	40:34	1:47:07	6:24:11
lipa20a	628;0	400	125;40	2273	29318	9.3-7	9.9-7	9.9-7	-1.6-6	-3.6-6	-2.4-6	1:04	3:43	20:31
lipa20b	628;0	400	164;38	4268	66682	9.4-7	9.9-7	9.9-7	-5.9-6	-1.1-5	-7.2-6	1:24	3:30	47:49
lipa30a	1393;0	900	193;37	1980	22720	9.8-7	9.9-7	9.9-7	-8.3-7	-2.3-6	-1.5-6	9:28	10:01	1:30:56
lipa30b	1393;0	900	193;29	3441	50659	9.4-7	9.9-7	9.9-7	-4.4-6	-7.1-6	-4.8-6	11:30	17:46	3:52:30
lipa40a	2458;0	1600	83; 9	1646	18212	9.7-7	9.9-7	9.9-7	-6.2-7	-1.8-6	-1.2-6	21:13	37:53	8:40:03
lipa40b	2458;0	1600	274;33	3460	51010	9.6-7	9.9-7	9.9-7	-3.7-6	-7.2-6	-4.8-6	1:11:40	2:20:07	14:32:56
nug12	232;0	144	95;41	6432	75000	9.9-7	9.9-7	1.5-6	-2.0-5	-2.5-5	-2.2-5	15	1:09	6:55
nug14	313;0	196	119;44	6632	75000	9.8-7	9.9-7	1.6-6	-2.2-5	-2.8-5	-2.4-5	17	1:44	9:39
nug15	358;0	225	162;41	6395	75000	9.9-7	9.9-7	1.5-6	-1.5-5	-2.5-5	-2.1-5	28	2:15	13:21
nug16a	406;0	256	152;42	6670	75000	9.8-7	9.9-7	1.6-6	-1.9-5	-2.6-5	-2.3-5	1:00	2:52	17:27
nug16b	406;0	256	126;43	6572	75000	9.9-7	9.9-7	1.6-6	-2.3-5	-2.9-5	-2.5-5	43	2:45	18:25
nug17	457;0	289	138;43	6605	75000	9.7-7	9.9-7	1.6-6	-1.5-5	-2.7-5	-2.3-5	31	3:33	24:06
nug18	511;0	324	205;42	6499	75000	9.0-7	9.9-7	1.5-6	-1.9-5	-2.6-5	-2.2-5	1:58	4:42	31:16
nug20	628;0	400	159;43	6400	75000	9.8-7	9.9-7	1.5-6	-1.9-5	-2.7-5	-2.3-5	1:49	9:28	1:35:21
nug21	691;0	441	204;45	6713	75000	9.9-7	9.9-7	1.6-6	-2.4-5	-3.0-5	-2.6-5	5:24	13:12	1:58:15
nug22	757;0	484	409;48	7196	75000	9.7-7	9.9-7	1.8-6	-2.5-5	-3.6-5	-3.2-5	8:03	17:04	2:19:02
nug24	898;0	576	181;43	6400	75000	9.6-7	9.9-7	1.5-6	-1.9-5	-2.7-5	-2.2-5	6:25	23:30	1:45:44
nug25	973;0	625	240;42	6250	75000	9.8-7	9.9-7	1.5-6	-1.8-5	-2.5-5	-2.0-5	3:39	30:34	2:06:53
nug27	1132;0	729	287;44	5217	75000	9.9-7	9.9-7	1.1-6	-1.9-5	-2.7-5	-2.0-5	5:42	36:24	2:57:17
nug28	1216;0	784	277;44	5048	75000	9.8-7	9.9-7	1.1-6	-1.8-5	-2.5-5	-1.8-5	7:23	38:44	3:42:27
nug30	1393;0	900	210;41	6156	75000	9.6-7	9.9-7	1.4-6	-1.6-5	-2.2-5	-1.8-5	9:58	1:11:51	7:20:31
rou12	232;0	144	152;36	5715	75000	9.8-7	9.9-7	1.3-6	-1.6-5	-2.1-5	-1.6-5	08	57	7:03
rou15	358;0	225	169;33	5250	75000	9.7-7	9.9-7	1.2-6	-1.4-5	-2.0-5	-1.5-5	17	1:39	14:52
rou20	628;0	400	156;36	5308	75000	9.9-7	9.9-7	1.2-6	-1.3-5	-1.6-5	-1.2-5	1:21	8:50	1:39:12
scr12	232;0	144	135;45	6986	75000	9.9-7	9.9-7	1.7-6	-2.5-5	-3.8-5	-3.4-5	05	1:13	7:10
scr15	358;0	225	288;41	6415	75000	9.7-7	9.9-7	1.5-6	-2.7-5	-3.5-5	-2.9-5	30	1:24	17:23
scr20	628;0	400	198;39	5555	75000	9.8-7	9.9-7	1.3-6	-1.7-5	-2.9-5	-2.2-5	1:49	5:03	1:32:58
ste36a	1996;0	1296	211;37	5494	75000	9.8-7	9.9-7	1.2-6	-1.7-5	-2.5-5	-1.9-5	40:38	1:11:46	8:28:01
ste36b	1996;0	1296	231;48	6918	75000	9.6-7	9.9-7	1.7-6	-2.9-5	-3.9-5	-3.5-5	1:05:38	1:57:46	9:39:13
ste36c	1996;0	1296	225;39	5779	75000	9.9-7	9.9-7	1.3-6	-1.8-5	-2.7-5	-2.1-5	50:54	2:46:30	14:10:06
tai12a	232;0	144	121;46	6682	75000	9.6-7	9.9-7	1.6-6	-3.6-6	-2.8-5	-2.4-5	07	1:03	5:42
tai12b	232;0	144	142;45	7111	75000	9.9-7	9.9-7	1.7-6	-2.9-5	-3.8-5	-3.4-5	22	1:02	6:15
tai15a	358;0	225	219;32	4789	75000	9.6-7	9.9-7	1.1-6	-1.3-5	-1.8-5	-1.3-5	28	1:33	13:15
tai15b	358;0	225	118;83	12599	75000	9.5-7	9.9-7	3.7-6	-6.2-5	-9.7-5	**-1.3-4**	18	4:02	12:28
tai17a	457;0	289	217;35	4982	75000	9.9-7	9.9-7	1.1-6	-1.0-5	-1.6-5	-1.2-5	48	2:35	21:54
tai20a	628;0	400	164;31	5072	75000	9.8-7	9.9-7	1.1-6	-1.1-5	-1.5-5	-1.1-5	1:23	8:37	1:35:41
tai20b	628;0	400	180;45	7271	75000	9.9-7	9.9-7	1.8-6	-2.8-5	-3.9-5	-3.6-5	3:26	5:52	1:27:02
tai25a	973;0	625	346;31	6297	75000	9.9-7	9.9-7	1.5-6	-2.4-6	-2.8-5	-2.4-5	7:51	13:35	1:21:54
tai25b	973;0	625	141;39	6176	75000	9.9-7	9.9-7	1.4-6	-1.8-5	-2.6-5	-2.2-5	8:02	13:42	1:23:59
tai30a	1393;0	900	258;31	4212	65722	9.9-7	9.9-7	9.9-7	-7.0-6	-1.1-5	-7.5-6	17:39	19:37	2:43:13
tai30b	1393;0	900	106;35	4489	71044	9.9-7	9.9-7	9.9-7	-9.5-6	-2.1-5	-1.5-5	5:07	21:28	2:56:30
tai35a	1888;0	1225	246;30	3953	59536	9.7-7	9.9-7	9.9-7	-5.9-6	-8.9-6	-6.0-6	13:08	40:30	5:06:41
tai35b	1888;0	1225	128;43	6624	75000	9.9-7	9.9-7	1.6-6	-1.7-5	-2.4-5	-2.1-5	19:14	1:09:33	6:24:39
tai40a	2458;0	1600	325;31	3973	60071	9.8-7	9.9-7	9.9-7	-5.0-6	-8.6-6	-5.7-6	32:43	1:24:16	9:43:53
tai40b	2458;0	1600	126;33	4316	66912	9.2-7	9.9-7	9.9-7	-1.1-5	-1.5-5	-1.0-5	29:47	2:43:34	12:22:13
tho30	1393;0	900	159;43	6624	75000	9.9-7	9.9-7	1.6-6	-1.7-5	-2.3-5	-2.0-5	12:49	1:16:52	3:51:02
tho40	2458;0	1600	194;43	6242	75000	9.8-7	9.9-7	1.5-6	-1.6-5	-2.1-5	-1.8-5	1:41:24	3:51:16	24:09:34
be100.1	101;0	101	0;799	1269	3700	9.9-7	9.8-7	9.8-7	1.2-8	6.5-7	-2.0-6	05	08	11
be100.2	101;0	101	0;815	1504	3672	9.9-7	9.9-7	7.8-7	-3.3-8	-2.8-7	-1.5-6	03	10	11
be100.3	101;0	101	0;829	1404	2945	9.9-7	9.9-7	9.9-7	-2.4-7	-3.4-7	-1.9-6	04	10	10
be100.4	101;0	101	0;775	1432	2937	9.9-7	9.8-7	9.9-7	-2.5-7	-3.9-7	8.7-7	06	08	08
be100.5	101;0	101	0;780	1510	2768	9.9-7	9.9-7	9.9-7	-1.6-8	5.0-7	5.5-7	04	08	08

Table 3: Performance of ABCD, APG and eARBCG on θ_+, FAP, QAP, BIQ, RCP and extended BIQ problems ($\varepsilon = 10^{-6}$)

			iteration			η			η_g			time		
problem	$m_E; m_I$	n_s	ABCD	APG	eARBCG	ABCD	APG	eARBCG	ABCD	APG	eARBCG	ABCD	APG	eARBCG
be100.6	101;0	101	0;828	1458	3629	9.9-7	9.9-7	9.9-7	3.2-7	-2.2-7	-2.3-6	04	09	12
be100.7	101;0	101	0;748	1366	3684	9.9-7	9.9-7	9.7-7	-5.5-7	-7.3-8	-2.2-6	06	07	11
be100.8	101;0	101	0;743	1114	3672	9.9-7	9.9-7	8.9-7	1.1-7	4.9-7	-2.1-6	06	06	11
be100.9	101;0	101	0;748	1252	2512	9.9-7	9.9-7	9.8-7	2.3-7	-2.2-7	-1.1-6	06	07	08
be100.10	101;0	101	0;777	1161	2691	9.9-7	9.6-7	7.3-7	1.0-6	-2.7-7	1.6-6	04	06	08
be120.3.1	121;0	121	0;728	1055	2797	9.9-7	9.9-7	9.4-7	-4.5-7	-1.3-6	2.3-6	08	07	10
be120.3.2	121;0	121	0;766	1191	2797	9.9-7	9.9-7	9.8-7	-2.7-7	1.2-6	2.1-6	08	08	11
be120.3.3	121;0	121	0;724	1044	2758	9.9-7	9.9-7	9.1-7	-6.3-7	-9.8-7	2.3-6	07	07	11
be120.3.4	121;0	121	0;752	1099	2909	9.9-7	9.9-7	9.7-7	-6.5-7	-2.3-6	2.6-6	06	07	11
be120.3.5	121;0	121	0;752	1112	2691	9.9-7	9.8-7	9.9-7	-7.1-10	1.3-6	2.3-6	04	07	10
be120.3.6	121;0	121	0;748	1114	2797	9.9-7	9.9-7	9.5-7	1.1-7	1.8-7	2.3-6	07	08	10
be120.3.7	121;0	121	0;774	1467	2931	9.9-7	9.9-7	8.0-7	-8.4-8	-1.0-6	1.9-6	08	11	11
be120.3.8	121;0	121	0;663	904	2945	9.9-7	9.9-7	9.6-7	1.9-7	2.8-6	2.7-6	05	07	10
be120.3.9	121;0	121	0;811	1256	2215	9.9-7	9.9-7	9.9-7	-5.1-7	-1.9-7	7.0-7	04	09	07
be120.3.10	121;0	121	0;717	1132	2691	9.9-7	9.9-7	9.1-7	1.6-7	6.2-7	2.3-6	07	10	09
be120.8.1	121;0	121	0;711	949	2931	9.9-7	9.9-7	8.3-7	-4.7-7	4.5-8	2.1-6	07	08	09
be120.8.2	121;0	121	0;770	1410	2937	9.9-7	9.9-7	9.9-7	-1.9-7	2.2-7	3.7-7	07	11	11
be120.8.3	121;0	121	0;749	1321	2931	9.9-7	9.9-7	9.0-7	-2.5-7	1.2-6	2.3-6	08	09	10
be120.8.4	121;0	121	0;796	1536	3730	9.9-7	9.9-7	9.2-7	-1.5-7	-6.2-7	-2.2-6	07	14	14
be120.8.5	121;0	121	0;825	1476	3730	9.9-7	9.9-7	8.6-7	-1.9-7	1.4-6	-2.2-6	06	13	13
be120.8.6	121;0	121	0;733	1270	2877	9.9-7	9.9-7	9.4-7	-5.0-7	6.5-7	1.2-6	06	11	10
be120.8.7	121;0	121	0;781	1203	3730	9.9-7	9.9-7	9.0-7	-2.5-7	-2.4-6	-2.7-6	08	08	13
be120.8.8	121;0	121	0;784	1062	2931	9.9-7	9.9-7	8.3-7	1.8-7	-2.2-6	1.8-6	07	07	11
be120.8.9	121;0	121	0;825	1307	2840	9.9-7	9.9-7	9.5-7	-4.1-8	9.2-7	2.1-6	09	10	10
be120.8.10	121;0	121	0;791	1453	2969	9.9-7	9.9-7	9.9-7	2.4-8	3.0-7	2.2-6	08	11	10
be150.3.1	151;0	151	0;753	1059	3250	9.9-7	9.9-7	9.7-7	3.8-8	2.0-6	-2.1-6	11	10	16
be150.3.2	151;0	151	0;751	1180	3603	9.9-7	9.9-7	9.4-7	8.3-8	-3.0-6	-2.7-6	06	13	20
be150.3.3	151;0	151	0;740	1037	3525	9.9-7	9.9-7	9.9-7	-3.6-7	-8.7-9	-2.7-6	10	10	19
be150.3.4	151;0	151	0;699	911	3231	9.9-7	9.9-7	9.9-7	8.8-7	3.4-6	9.8-7	07	11	17
be150.3.5	151;0	151	0;705	991	2969	9.9-7	9.9-7	9.9-7	-5.2-7	-4.4-7	2.7-6	10	12	17
be150.3.6	151;0	151	0;725	1053	2969	9.9-7	9.9-7	9.7-7	-2.5-7	-2.5-6	2.6-6	10	12	17
be150.3.7	151;0	151	0;698	1038	3616	9.9-7	9.9-7	9.9-7	7.0-7	-6.8-8	-3.0-6	06	11	18
be150.3.8	151;0	151	0;693	1074	3269	9.9-7	9.9-7	9.9-7	4.0-7	4.3-7	-2.8-6	09	11	18
be150.3.9	151;0	151	0;757	996	2666	9.9-7	9.9-7	9.3-7	3.8-7	9.0-9	2.2-6	11	11	13
be150.3.10	151;0	151	0;723	1179	3337	9.9-7	9.9-7	9.9-7	8.0-7	-3.2-6	-3.0-6	06	12	19
be150.8.1	151;0	151	0;766	2765	3441	9.9-7	9.9-7	9.9-7	4.9-7	-5.7-8	2.9-6	11	28	18
be150.8.2	151;0	151	0;737	3136	3281	9.9-7	9.9-7	9.9-7	5.8-7	5.0-6	2.3-7	10	36	19
be150.8.3	151;0	151	0;763	2884	3733	9.9-7	9.9-7	9.9-7	5.3-7	1.4-6	3.2-6	10	33	19
be150.8.4	151;0	151	0;851	1196	3337	9.9-7	9.9-7	9.0-7	-3.8-7	-3.1-6	-2.5-6	07	13	18
be150.8.5	151;0	151	0;810	3128	3648	9.9-7	9.9-7	9.9-7	4.5-7	6.0-7	3.0-6	08	38	23
be150.8.6	151;0	151	0;789	1298	3700	9.9-7	9.9-7	9.7-7	3.9-7	-3.7-6	3.1-6	10	17	22
be150.8.7	151;0	151	0;769	3059	3796	9.9-7	9.9-7	9.9-7	2.0-7	2.6-6	3.3-6	11	35	22
be150.8.8	151;0	151	0;755	3165	3774	9.9-7	9.9-7	9.3-7	5.8-7	-4.4-6	3.0-6	09	37	22
be150.8.9	151;0	151	0;779	1248	3646	9.9-7	9.9-7	9.9-7	-2.0-7	-2.5-6	-2.9-6	08	12	21
be150.8.10	151;0	151	0;798	3215	3700	9.9-7	9.9-7	9.7-7	4.8-7	2.7-6	3.0-6	13	30	23
be200.3.1	201;0	201	0;714	3013	3730	9.9-7	9.9-7	9.7-7	4.4-7	-4.6-6	3.1-6	21	48	37
be200.3.2	201;0	201	0;742	2780	3646	9.9-7	9.9-7	9.9-7	2.2-7	5.3-6	3.1-6	15	47	36
be200.3.3	201;0	201	0;757	2873	2626	9.9-7	9.9-7	9.7-7	2.5-7	5.3-6	-1.6-6	21	50	26
be200.3.4	201;0	201	0;783	2820	2626	9.9-7	9.9-7	9.7-7	4.7-7	1.6-6	-1.5-6	21	44	25
be200.3.5	201;0	201	0;762	3026	2660	9.9-7	9.9-7	9.9-7	5.9-7	1.3-6	5.7-7	22	50	26
be200.3.6	201;0	201	0;723	2878	3720	9.9-7	9.9-7	9.7-7	5.4-7	5.6-6	3.1-6	18	49	38
be200.3.7	201;0	201	0;775	2622	2526	9.9-7	9.9-7	9.9-7	2.7-7	3.8-6	-3.2-6	22	43	24
be200.3.8	201;0	201	0;736	2764	2598	9.9-7	9.9-7	8.8-7	4.2-7	-5.8-6	-2.5-6	21	46	26
be200.3.9	201;0	201	0;751	2819	3672	9.9-7	9.9-7	9.2-7	7.3-7	3.7-6	2.8-6	20	48	36
be200.3.10	201;0	201	0;717	3028	3603	9.9-7	9.9-7	9.8-7	5.5-7	-3.3-6	3.0-6	15	51	34
be200.8.1	201;0	201	0;850	3031	2718	9.9-7	9.9-7	9.9-7	4.0-8	2.3-6	2.9-6	18	53	26
be200.8.2	201;0	201	0;760	2996	2606	9.9-7	9.9-7	9.9-7	3.0-7	-3.7-6	-3.4-6	17	53	25

Table 3: Performance of ABCD, APG and eARBCG on θ_+, FAP, QAP, BIQ, RCP and extended BIQ problems ($\varepsilon = 10^{-6}$)

			iteration			η			η_g			time		
problem	$m_E; m_I$	n_s	ABCD	APG	eARBCG	ABCD	APG	eARBCG	ABCD	APG	eARBCG	ABCD	APG	eARBCG
be200.8.3	201;0	201	0;809	3094	2521	9.9-7	9.9-7	9.9-7	-2.0-7	-4.1-6	-9.7-8	16	54	26
be200.8.4	201;0	201	0;797	2882	2424	9.9-7	9.9-7	9.9-7	-5.0-7	1.3-6	1.5-6	19	51	24
be200.8.5	201;0	201	0;838	2789	2598	9.9-7	9.9-7	9.9-7	3.5-7	-5.3-6	-2.8-6	23	49	23
be200.8.6	201;0	201	0;788	3103	2598	9.9-7	9.7-7	9.3-7	-3.8-7	-5.7-6	3.5-6	11	55	21
be200.8.7	201;0	201	0;773	3225	2450	9.9-7	9.9-7	9.9-7	-1.8-7	-6.9-6	3.8-6	16	55	26
be200.8.8	201;0	201	0;796	3124	2280	9.9-7	9.8-7	9.9-7	2.5-8	-6.2-6	4.1-7	13	50	25
be200.8.9	201;0	201	0;773	3165	2491	9.9-7	9.9-7	9.9-7	-9.0-8	1.3-7	-3.2-6	12	50	26
be200.8.10	201;0	201	0;809	2785	2532	9.9-7	9.9-7	9.8-7	4.3-7	-2.9-6	-3.4-6	20	48	26
be250.1	251;0	251	0;707	2448	2547	9.9-7	9.9-7	9.1-7	4.5-7	-1.2-6	-2.6-6	24	1:05	39
be250.2	251;0	251	0;693	2571	2525	9.8-7	9.9-7	9.5-7	6.5-7	-5.1-6	-2.7-6	15	57	41
be250.3	251;0	251	0;613	2346	2525	9.9-7	9.9-7	9.7-7	-4.4-7	2.5-7	-2.8-6	22	1:11	41
be250.4	251;0	251	0;694	2482	2547	9.9-7	9.9-7	8.5-7	2.7-7	-4.5-6	-2.7-6	23	1:14	41
be250.5	251;0	251	0;598	878	2598	9.9-7	9.9-7	9.4-7	-2.8-7	-2.0-6	1.6-6	26	28	42
be250.6	251;0	251	0;599	893	2547	9.9-7	9.9-7	8.9-7	-5.7-7	-5.7-6	-2.5-6	14	24	40
be250.7	251;0	251	0;621	2959	2525	9.9-7	9.9-7	9.6-7	-4.8-7	3.4-6	-2.9-6	21	1:26	41
be250.8	251;0	251	0;649	995	2547	9.9-7	9.9-7	8.5-7	-8.1-8	8.5-7	-2.7-6	26	29	40
be250.9	251;0	251	0;743	3326	2546	9.9-7	9.9-7	9.9-7	4.5-7	-9.4-7	-8.3-8	24	1:30	41
be250.10	251;0	251	0;637	2716	2547	9.9-7	9.9-7	8.9-7	-1.4-7	4.6-6	-2.7-6	15	1:10	40
bqp50-1	51;0	51	0;832	1367	2999	9.9-7	9.9-7	9.7-7	-1.6-8	-1.2-7	-2.1-8	03	05	05
bqp50-2	51;0	51	0;1037	1539	3878	9.7-7	9.9-7	9.9-7	-5.0-8	1.7-7	-1.5-7	03	06	06
bqp50-3	51;0	51	0;701	1035	2804	9.9-7	9.9-7	9.7-7	2.3-7	4.9-7	2.5-7	03	04	06
bqp50-4	51;0	51	0;642	839	1476	9.9-7	9.9-7	8.4-7	7.3-7	-9.0-8	-1.4-6	02	03	03
bqp50-5	51;0	51	0;699	1025	2244	9.9-7	9.9-7	9.0-7	1.9-7	-2.9-8	-7.8-7	03	04	04
bqp50-6	51;0	51	0;672	1215	2598	9.9-7	9.8-7	9.9-7	-8.3-8	3.4-7	6.8-9	01	05	05
bqp50-7	51;0	51	0;712	940	1999	9.9-7	9.9-7	9.9-7	1.4-6	1.3-6	-3.3-7	03	04	04
bqp50-8	51;0	51	0;778	992	2208	9.9-7	9.9-7	9.7-7	1.3-7	1.3-6	-7.6-7	03	04	05
bqp50-9	51;0	51	0;692	915	1355	9.9-7	9.8-7	9.9-7	1.8-7	-2.7-8	-1.5-6	03	04	03
bqp50-10	51;0	51	0;620	811	1431	9.9-7	9.9-7	9.9-7	-5.3-7	-1.1-6	-1.6-6	02	04	03
bqp100-1	101;0	101	0;730	969	2080	9.9-7	9.9-7	9.1-7	-1.2-7	9.5-7	4.5-7	06	06	07
bqp100-2	101;0	101	0;766	1391	2718	9.9-7	9.9-7	9.6-7	-2.9-7	-4.8-7	1.9-6	05	07	10
bqp100-3	101;0	101	0;790	1025	2877	9.9-7	9.9-7	7.4-7	-2.7-7	-2.0-6	2.0-6	06	07	12
bqp100-4	101;0	101	0;740	1211	2650	9.9-7	9.9-7	9.3-7	-1.2-7	-2.9-7	1.9-6	05	07	10
bqp100-5	101;0	101	0;745	1315	2557	9.9-7	9.9-7	9.9-7	-2.2-7	-3.2-7	1.8-6	05	07	07
bqp100-6	101;0	101	0;745	1138	2572	9.8-7	9.9-7	9.5-7	6.3-7	-5.3-7	1.6-6	07	06	09
bqp100-7	101;0	101	0;732	917	2626	9.9-7	9.9-7	9.9-7	3.0-7	-9.8-7	2.4-6	07	06	10
bqp100-8	101;0	101	0;737	1137	2747	9.9-7	9.9-7	9.7-7	-5.4-7	1.1-6	2.1-6	07	07	10
bqp100-9	101;0	101	0;714	1196	2807	9.9-7	9.3-7	9.7-7	-1.9-7	1.6-6	2.2-6	05	07	09
bqp100-10	101;0	101	0;749	1192	2877	9.9-7	9.8-7	6.8-7	-2.6-7	8.2-7	1.2-6	07	06	11
bqp250-1	251;0	251	0;789	3152	2691	9.9-7	9.9-7	9.2-7	-5.7-7	6.8-6	3.5-6	30	1:28	43
bqp250-2	251;0	251	0;762	2334	2650	9.8-7	9.9-7	9.7-7	-4.8-7	6.6-6	3.8-6	27	1:09	44
bqp250-3	251;0	251	0;671	2431	2598	9.9-7	9.8-7	9.8-7	-6.0-7	6.7-6	3.9-6	24	1:06	42
bqp250-4	251;0	251	0;795	2913	2394	9.9-7	9.9-7	9.5-7	-6.0-8	3.6-6	3.3-6	30	1:20	40
bqp250-5	251;0	251	0;831	2854	2598	9.9-7	9.9-7	9.7-7	-3.2-7	-4.8-6	3.4-6	30	1:15	43
bqp250-6	251;0	251	0;755	2563	1806	9.9-7	9.9-7	9.9-7	-4.9-7	4.5-6	1.3-6	28	1:07	29
bqp250-7	251;0	251	0;765	2848	2641	9.9-7	9.9-7	9.9-7	-8.1-7	8.5-8	3.9-6	31	1:20	42
bqp250-8	251;0	251	0;701	2962	2547	9.9-7	9.9-7	9.7-7	-4.0-7	-5.5-6	-3.2-6	28	1:29	42
bqp250-9	251;0	251	0;775	2901	2598	9.9-7	9.9-7	9.9-7	-7.8-7	-7.2-6	4.0-6	25	1:25	39
bqp250-10	251;0	251	0;774	2871	2094	9.9-7	9.9-7	9.8-7	-4.4-8	5.0-6	3.2-6	36	1:21	29
bqp500-1	501;0	501	0;676	2378	3365	9.9-7	9.7-7	9.3-7	1.2-6	9.0-6	9.0-7	2:59	8:19	7:23
bqp500-2	501;0	501	0;741	2562	4448	9.2-7	9.8-7	9.9-7	1.0-6	9.9-6	-5.3-6	3:15	9:08	9:54
bqp500-3	501;0	501	0;674	2550	4430	9.9-7	9.9-7	9.9-7	1.4-6	1.0-5	-5.4-6	3:01	9:01	9:53
bqp500-4	501;0	501	0;648	2574	4503	9.9-7	9.9-7	9.9-7	1.2-6	1.1-5	-5.5-6	2:53	9:00	10:09
bqp500-5	501;0	501	0;760	2507	4000	9.9-7	9.9-7	9.9-7	8.7-7	9.7-6	-5.2-6	3:35	8:48	8:41
bqp500-6	501;0	501	0;733	2450	3472	9.9-7	9.9-7	9.6-7	8.4-7	9.3-6	-3.3-6	3:17	8:26	7:19
bqp500-7	501;0	501	0;709	2483	3621	9.9-7	9.9-7	9.9-7	9.9-7	9.8-6	-5.0-6	2:56	8:05	7:34
bqp500-8	501;0	501	0;713	2449	3472	9.8-7	9.9-7	9.3-7	1.4-6	9.5-6	-3.6-6	2:28	7:43	7:19
bqp500-9	501;0	501	0;674	2452	3431	9.9-7	9.8-7	9.8-7	7.7-7	9.6-6	-3.3-6	3:02	8:32	7:12

Table 3: Performance of ABCD, APG and eARBCG on θ_+, FAP, QAP, BIQ, RCP and extended BIQ problems ($\varepsilon = 10^{-6}$)

			iteration			η			η_g			time		
problem	$m_E; m_I$	n_s	ABCD	APG	eARBCG	ABCD	APG	eARBCG	ABCD	APG	eARBCG	ABCD	APG	eARBCG
bqp500-10	501;0	501	0;692	2570	4477	9.9-7	9.9-7	9.9-7	1.1-6	1.0-5	-5.4-6	2:47	8:22	8:16
gka1a	51;0	51	0;683	1055	1985	9.9-7	9.5-7	9.9-7	7.7-8	-6.6-7	-7.9-7	02	04	04
gka2a	61;0	61	0;764	839	4000	9.9-7	9.9-7	9.9-7	3.5-8	7.5-7	3.6-8	03	03	09
gka3a	71;0	71	0;728	988	2385	9.9-7	9.9-7	8.7-7	2.8-8	-1.1-7	-1.2-6	03	03	05
gka4a	81;0	81	0;735	903	2118	9.7-7	9.8-7	9.7-7	2.4-7	-2.4-7	-1.6-6	04	04	06
gka5a	51;0	51	0;788	996	1957	9.9-7	9.8-7	9.9-7	-2.7-7	-1.4-6	7.7-7	04	03	03
gka6a	31;0	31	0;660	1072	2598	9.9-7	9.9-7	9.9-7	4.1-7	1.4-7	-5.9-9	03	02	03
gka7a	31;0	31	0;713	1267	2547	9.9-7	9.9-7	9.7-7	4.1-7	1.2-6	-1.9-7	03	03	03
gka8a	101;0	101	0;753	1186	2877	9.9-7	9.6-7	9.6-7	-4.6-7	9.9-7	-7.7-7	07	08	09
gka1b	21;0	21	0;368	506	377	9.6-7	9.1-7	6.4-7	2.7-8	5.9-8	8.0-8	01	02	00
gka2b	31;0	31	0;657	1251	935	9.9-7	9.9-7	9.9-7	-5.1-8	-2.1-9	2.4-8	02	03	01
gka3b	41;0	41	0;569	963	601	9.9-7	9.9-7	9.3-7	2.3-8	9.2-9	1.1-7	02	04	01
gka4b	51;0	51	0;581	1038	601	9.9-7	9.9-7	9.1-7	5.8-8	-1.9-9	2.4-8	02	05	02
gka5b	61;0	61	0;522	755	411	9.9-7	9.9-7	9.8-7	5.3-8	-3.4-8	7.3-8	03	03	01
gka6b	71;0	71	0;574	1110	469	9.9-7	9.9-7	9.3-7	1.8-8	6.9-9	1.1-7	04	06	01
gka7b	81;0	81	0;583	1168	371	9.8-7	9.9-7	9.0-7	8.5-9	-1.1-9	9.4-8	03	07	01
gka8b	91;0	91	0;852	1356	644	9.9-7	9.8-7	8.7-7	-1.1-7	2.7-8	3.4-8	06	08	02
gka9b	101;0	101	0;1099	1936	719	9.8-7	9.9-7	9.8-7	-1.2-8	4.9-9	4.1-9	08	11	03
gka10b	126;0	126	0;1142	1941	1010	9.9-7	9.9-7	9.8-7	-8.1-8	1.5-8	7.6-8	11	13	05
gka1c	41;0	41	0;1001	1670	3475	9.9-7	9.9-7	9.9-7	-8.8-9	-3.1-7	-1.4-7	04	04	06
gka2c	51;0	51	0;697	1036	2465	9.9-7	9.9-7	8.6-7	-4.4-7	2.1-8	-1.1-6	03	04	04
gka3c	61;0	61	0;696	1099	2598	9.9-7	9.9-7	9.6-7	2.1-8	-3.7-7	1.1-6	02	05	06
gka4c	71;0	71	0;751	1369	2978	9.9-7	9.9-7	9.7-7	1.5-7	-2.1-7	1.1-6	04	07	08
gka5c	81;0	81	0;745	1008	2052	9.9-7	9.9-7	9.9-7	4.9-7	9.8-7	-1.1-8	05	06	05
gka6c	91;0	91	0;699	1278	2491	9.9-7	9.9-7	9.5-7	2.1-7	2.1-8	-2.0-6	05	07	08
gka7c	101;0	101	0;664	948	1992	9.9-7	9.8-7	9.9-7	-10.0-8	6.0-7	2.0-6	06	06	07
gka1d	101;0	101	0;643	890	2032	9.9-7	9.9-7	9.9-7	4.3-7	1.7-7	1.9-6	06	04	08
gka2d	101;0	101	0;689	1238	2430	9.9-7	9.9-7	9.7-7	7.2-8	-3.6-7	-1.7-6	06	08	10
gka3d	101;0	101	0;709	1301	2415	9.9-7	9.8-7	9.8-7	-4.3-8	2.5-8	1.9-6	03	06	09
gka4d	101;0	101	0;714	1146	2532	9.9-7	9.9-7	9.9-7	-1.3-8	-4.3-7	2.2-6	06	07	10
gka5d	101;0	101	0;744	963	2634	9.9-7	9.9-7	9.8-7	1.7-7	-3.1-7	2.4-6	07	06	10
gka6d	101;0	101	0;787	1327	2784	9.9-7	9.9-7	9.9-7	-1.6-7	-3.8-7	2.4-6	07	09	10
gka7d	101;0	101	0;785	1030	2747	9.9-7	9.9-7	8.5-7	9.1-8	-4.6-7	2.2-6	04	06	08
gka8d	101;0	101	0;739	1230	2829	9.9-7	9.9-7	9.9-7	-2.8-7	9.0-7	2.0-6	05	08	09
gka9d	101;0	101	0;741	1277	2718	9.9-7	9.9-7	9.9-7	-2.5-7	-9.6-7	1.5-6	07	08	09
gka10d	101;0	101	0;739	1260	2979	9.9-7	9.9-7	9.9-7	-3.2-7	1.3-6	-1.1-6	07	11	10
gka1e	201;0	201	0;675	958	2999	9.9-7	9.9-7	9.7-7	7.2-7	4.8-6	2.8-6	18	19	31
gka2e	201;0	201	0;719	1155	2632	9.9-7	9.9-7	9.9-7	9.1-7	5.9-6	9.2-7	19	20	27
gka3e	201;0	201	0;753	2995	3730	9.9-7	9.9-7	9.6-7	5.0-7	-2.4-6	2.8-6	22	1:01	37
gka4e	201;0	201	0;735	2445	2036	9.9-7	9.9-7	9.9-7	-2.5-7	-1.7-6	-8.0-7	21	47	21
gka5e	201;0	201	0;712	2931	2598	9.9-7	9.9-7	9.8-7	4.6-8	-3.5-6	-3.4-6	19	57	27
gka1f	501;0	501	0;630	2233	2731	9.8-7	9.9-7	9.8-7	4.4-7	-7.4-6	-4.2-6	2:53	7:55	5:54
gka2f	501;0	501	0;684	2298	3338	9.7-7	9.8-7	9.9-7	8.4-7	9.1-6	3.2-6	3:05	8:11	7:11
gka3f	501;0	501	0;801	2579	4430	9.9-7	9.9-7	9.9-7	9.3-7	1.0-5	-5.4-6	3:29	8:40	9:39
gka4f	501;0	501	0;751	2798	5158	9.9-7	9.9-7	9.8-7	8.3-7	1.1-5	4.2-6	2:36	9:15	11:20
gka5f	501;0	501	0;749	2120	5158	9.7-7	9.9-7	9.9-7	1.0-6	-9.6-6	4.2-6	3:28	7:20	9:43
soybean-small.2	48;0	47	0;780	2252	1362	9.6-7	9.9-7	8.1-7	-2.0-8	-7.6-10	2.7-8	04	06	02
soybean-small.3	48;0	47	0;253	869	600	9.8-7	9.9-7	4.0-7	-8.5-9	-2.8-8	2.7-8	02	04	01
soybean-small.4	48;0	47	0;454	1028	547	9.7-7	9.8-7	9.8-7	2.8-8	1.0-8	2.9-6	03	05	01
soybean-small.5	48;0	47	0;397	914	513	9.9-7	9.9-7	9.3-7	-2.8-8	-8.3-9	3.2-6	02	02	01
soybean-small.6	48;0	47	0;358	1127	560	9.9-7	9.9-7	9.2-7	-1.9-8	-4.5-9	2.7-6	02	04	01
soybean-small.7	48;0	47	0;351	984	562	9.9-7	9.9-7	9.8-7	-6.6-8	1.1-8	2.7-6	02	03	01
soybean-small.8	48;0	47	0;346	917	560	9.9-7	9.9-7	9.9-7	1.1-7	-6.3-9	2.7-6	02	03	01
soybean-small.9	48;0	47	0;327	920	513	9.9-7	9.9-7	9.9-7	4.9-8	1.6-8	3.2-6	01	02	01
soybean-small.10	48;0	47	0;297	870	493	9.8-7	9.9-7	9.5-7	-2.2-7	-1.9-8	3.4-6	02	03	01
soybean-small.11	48;0	47	0;281	850	589	9.6-7	9.9-7	9.5-7	-5.5-8	-3.2-8	3.6-9	01	02	01
soybean-large.2	308;0	307	0;1745	6307	13795	9.8-7	9.8-7	9.7-7	-7.2-7	-9.4-10	-4.9-8	1:17	3:07	5:03

Table 3: Performance of ABCD, APG and eARBCG on θ_+, FAP, QAP, BIQ, RCP and extended BIQ problems ($\varepsilon = 10^{-6}$)

			iteration			η			η_g			time		
problem	$m_E; m_I$	n_s	ABCD	APG	eARBCG	ABCD	APG	eARBCG	ABCD	APG	eARBCG	ABCD	APG	eARBCG
soybean-large.3	308;0	307	0;1764	4676	14096	9.1-7	9.9-7	7.3-7	-1.8-7	-3.8-8	-1.2-8	45	2:17	5:22
soybean-large.4	308;0	307	0;1262	4417	6965	8.5-7	9.9-7	8.9-7	1.2-7	7.2-9	-1.9-8	34	2:16	2:31
soybean-large.5	308;0	307	0;1017	4492	6219	9.4-7	9.9-7	9.8-7	-2.9-8	2.4-9	-2.2-8	43	2:11	2:19
soybean-large.6	308;0	307	0;601	2623	7468	9.8-7	9.9-7	9.8-7	-8.3-9	-1.6-9	-3.7-11	26	1:19	2:45
soybean-large.7	308;0	307	0;740	2103	4065	9.8-7	9.9-7	8.7-7	5.8-9	-7.0-10	1.0-9	32	1:03	1:26
soybean-large.8	308;0	307	0;706	2501	4351	9.9-7	9.9-7	9.9-7	-1.3-8	2.9-9	-8.4-9	34	1:18	1:34
soybean-large.9	308;0	307	0;728	2289	4560	9.4-7	9.9-7	7.8-7	3.1-8	-2.4-9	2.7-8	27	1:20	1:43
soybean-large.10	308;0	307	0;525	2227	4560	9.5-7	9.9-7	9.3-7	5.5-8	-2.5-9	3.0-8	15	1:15	1:39
soybean-large.11	308;0	307	0;484	3806	2261	9.7-7	9.9-7	8.3-7	1.7-8	5.4-9	-1.3-8	17	1:57	46
spambase-small.2	301;0	300	0;17	73	79	1.5-7	8.6-7	1.5-7	4.5-9	4.7-9	4.5-9	01	03	01
spambase-small.3	301;0	300	0;17	73	79	1.5-7	8.6-7	1.5-7	4.6-9	4.9-9	4.5-9	01	02	02
spambase-small.4	301;0	300	0;17	73	79	1.5-7	8.6-7	1.5-7	4.7-9	5.1-9	4.6-9	01	03	01
spambase-small.5	301;0	300	0;17	73	79	1.6-7	8.6-7	1.6-7	4.8-9	5.2-9	4.7-9	01	03	01
spambase-small.6	301;0	300	0;17	73	79	1.6-7	8.6-7	1.6-7	4.9-9	5.4-9	4.8-9	01	02	01
spambase-small.7	301;0	300	0;17	73	79	1.6-7	8.6-7	1.6-7	5.0-9	5.6-9	4.9-9	01	03	01
spambase-small.8	301;0	300	0;17	73	79	1.7-7	8.6-7	1.7-7	5.1-9	5.8-9	5.0-9	01	03	01
spambase-small.9	301;0	300	0;17	73	79	1.7-7	8.6-7	1.7-7	5.2-9	6.0-9	5.1-9	01	03	01
spambase-small.10	301;0	300	0;17	73	79	1.7-7	8.6-7	1.7-7	5.3-9	6.2-9	5.2-9	01	03	01
spambase-small.11	301;0	300	0;17	73	79	1.8-7	8.6-7	1.8-7	5.3-9	6.4-9	5.3-9	01	03	01
spambase-medium.2	901;0	900	0;52	144	210	4.6-8	9.2-7	4.6-8	8.5-10	-1.4-10	8.3-10	44	1:35	1:32
spambase-medium.3	901;0	900	0;52	144	210	4.6-8	9.2-7	4.6-8	8.7-10	-9.1-11	8.6-10	43	1:29	1:32
spambase-medium.4	901;0	900	0;52	144	210	4.6-8	9.2-7	4.6-8	9.0-10	-4.7-11	8.9-10	50	1:28	1:33
spambase-medium.5	901;0	900	0;52	144	210	4.6-8	9.2-7	4.6-8	9.2-10	-2.2-12	9.2-10	41	1:27	1:32
spambase-medium.6	901;0	900	0;52	144	210	4.7-8	9.2-7	4.7-8	9.5-10	4.2-11	9.5-10	42	1:28	1:37
spambase-medium.7	901;0	900	0;52	144	210	4.7-8	9.2-7	4.7-8	9.7-10	8.7-11	9.8-10	48	1:30	1:30
spambase-medium.8	901;0	900	0;52	144	210	4.7-8	9.2-7	4.7-8	9.9-10	1.3-10	1.0-9	50	1:27	1:35
spambase-medium.9	901;0	900	0;52	144	210	4.8-8	9.2-7	4.8-8	1.0-9	1.8-10	1.0-9	49	1:24	1:33
spambase-medium.10	901;0	900	0;52	144	210	4.8-8	9.2-7	4.8-8	1.0-9	2.2-10	1.1-9	51	1:24	1:33
spambase-medium.11	901;0	900	0;52	144	210	4.9-8	9.2-7	4.9-8	1.1-9	2.6-10	1.1-9	46	1:24	1:33
spambase-large.2	1501;0	1500	0;62	217	263	5.4-7	8.2-7	2.8-8	-7.0-8	-4.0-10	4.0-10	4:02	8:40	6:47
spambase-large.3	1501;0	1500	0;62	217	263	5.4-7	8.2-7	2.8-8	-7.0-8	-3.7-10	4.2-10	3:07	7:36	6:47
spambase-large.4	1501;0	1500	0;62	217	263	5.4-7	8.2-7	2.8-8	-7.0-8	-3.5-10	4.4-10	3:47	8:39	6:47
spambase-large.5	1501;0	1500	0;62	217	263	5.4-7	8.2-7	2.8-8	-7.0-8	-3.2-10	4.5-10	3:53	9:30	6:38
spambase-large.6	1501;0	1500	0;62	217	263	5.4-7	8.2-7	2.9-8	-7.0-8	-3.0-10	4.7-10	3:41	9:34	6:22
spambase-large.7	1501;0	1500	0;62	217	263	5.4-7	8.2-7	2.9-8	-7.0-8	-2.7-10	4.9-10	3:47	10:21	6:36
spambase-large.8	1501;0	1500	0;62	217	263	5.4-7	8.2-7	2.9-8	-7.0-8	-2.5-10	5.0-10	3:56	9:55	6:40
spambase-large.9	1501;0	1500	0;62	217	263	5.4-7	8.2-7	2.9-8	-7.0-8	-2.2-10	5.2-10	3:53	9:14	6:19
spambase-large.10	1501;0	1500	0;62	217	263	5.4-7	8.2-7	2.9-8	-7.0-8	-2.0-10	5.4-10	4:12	8:59	5:36
spambase-large.11	1501;0	1500	0;62	217	263	5.4-7	8.2-7	2.9-8	-7.0-8	-1.7-10	5.5-10	4:08	8:04	7:12
abalone-small.2	201;0	200	0;1493	3125	11423	9.7-7	9.9-7	9.7-7	-2.9-8	1.3-8	-3.2-9	27	34	1:39
abalone-small.3	201;0	200	0;609	2276	6740	9.7-7	9.9-7	9.5-7	3.8-8	-4.2-9	3.4-10	12	27	59
abalone-small.4	201;0	200	0;511	1715	3307	9.7-7	9.9-7	9.9-7	2.0-8	-1.2-9	6.2-9	10	24	27
abalone-small.5	201;0	200	0;286	1530	2579	9.2-7	9.9-7	9.6-7	2.8-8	-5.4-9	1.5-8	06	20	23
abalone-small.6	201;0	200	0;311	1601	2618	9.9-7	9.9-7	8.0-7	1.9-8	-5.5-9	1.1-8	06	22	22
abalone-small.7	201;0	200	0;400	1514	1343	9.9-7	9.9-7	6.4-7	5.6-8	1.2-9	1.5-8	10	26	13
abalone-small.8	201;0	200	0;367	1360	910	9.9-7	9.9-7	9.2-7	-1.8-7	-2.6-10	-1.6-8	08	25	08
abalone-small.9	201;0	200	0;384	1378	902	9.7-7	9.9-7	9.4-7	3.9-8	2.6-9	-2.0-8	07	27	09
abalone-small.10	201;0	200	0;316	1312	934	9.8-7	9.9-7	7.2-7	1.5-9	-5.3-9	-3.4-9	04	23	08
abalone-small.11	201;0	200	0;339	1262	979	9.8-7	9.7-7	8.0-7	1.6-7	-6.6-9	-6.2-9	05	20	09
abalone-medium.2	401;0	400	0;2270	6478	29149	8.9-7	9.8-7	9.9-7	-1.2-8	3.0-9	-1.2-8	3:22	7:23	35:04
abalone-medium.3	401;0	400	0;770	4130	17796	9.9-7	9.7-7	9.3-7	3.1-8	1.0-8	-6.2-9	58	6:06	20:34
abalone-medium.4	401;0	400	0;746	2254	8191	7.3-7	9.9-7	9.8-7	1.5-8	1.2-8	-1.1-9	1:03	3:26	9:33
abalone-medium.5	401;0	400	0;448	2251	4964	9.1-7	9.9-7	9.9-7	3.2-8	9.2-10	-1.3-9	34	3:18	5:39
abalone-medium.6	401;0	400	0;339	2145	4052	9.8-7	9.9-7	9.4-7	-4.5-9	2.3-9	-8.0-10	26	3:09	4:13
abalone-medium.7	401;0	400	0;365	2024	2989	9.7-7	9.9-7	9.9-7	-7.9-8	9.4-11	-2.2-9	29	3:15	2:51
abalone-medium.8	401;0	400	0;461	1994	2742	9.8-7	9.9-7	6.1-7	-5.0-8	4.3-9	9.7-9	36	3:14	2:10
abalone-medium.9	401;0	400	0;524	2271	1524	9.7-7	9.9-7	8.7-7	4.5-8	-1.3-9	4.8-7	43	4:21	1:18

Table 3: Performance of ABCD, APG and eARBCG on θ_+, FAP, QAP, BIQ, RCP and extended BIQ problems ($\varepsilon = 10^{-6}$)

			iteration			η			η_g			time		
problem	$m_E; m_I$	n_s	ABCD	APG	eARBCG	ABCD	APG	eARBCG	ABCD	APG	eARBCG	ABCD	APG	eARBCG
abalone-medium.10	401;0	400	0;477	1948	1894	9.3-7	9.9-7	8.9-7	-9.2-8	2.8-9	-7.3-9	38	3:43	1:36
abalone-medium.11	401;0	400	0;445	1834	1904	9.7-7	9.9-7	8.7-7	-1.1-7	-1.7-9	-1.8-8	44	3:36	1:37
abalone-large.2	1001;0	1000	0;869	10956	80482	9.9-7	9.8-7	9.9-7	1.1-8	3.4-9	-1.3-8	11:45	2:26:39	8:46:18
abalone-large.3	1001;0	1000	0;695	5033	41764	9.9-7	9.9-7	9.9-7	-2.2-8	-4.2-9	-4.0-9	10:44	1:10:46	4:53:35
abalone-large.4	1001;0	1000	0;716	3089	18374	8.2-7	9.9-7	6.9-7	5.9-8	-1.3-9	-2.6-10	10:49	41:57	2:24:14
abalone-large.5	1001;0	1000	0;590	2872	10594	9.6-7	9.9-7	6.0-7	4.6-8	-6.5-10	-1.9-9	9:28	39:26	1:33:36
abalone-large.6	1001;0	1000	0;561	3104	7697	9.7-7	9.9-7	9.3-7	1.0-8	-1.9-9	-1.5-9	9:01	43:42	1:07:38
abalone-large.7	1001;0	1000	0;522	2949	7470	9.7-7	9.9-7	9.9-7	-5.5-9	8.8-10	2.6-9	8:43	40:16	1:07:55
abalone-large.8	1001;0	1000	0;490	2920	5533	9.7-7	9.9-7	9.5-7	-1.9-8	1.8-9	4.0-9	7:53	36:26	51:42
abalone-large.9	1001;0	1000	0;507	3117	3509	9.9-7	9.9-7	8.7-7	-1.9-10	-2.5-9	6.4-9	8:47	39:25	31:59
abalone-large.10	1001;0	1000	0;503	3078	3202	9.9-7	9.9-7	8.6-7	-6.6-9	3.2-9	5.7-10	9:21	35:18	29:41
abalone-large.11	1001;0	1000	0;531	2578	3206	9.5-7	9.9-7	9.3-7	3.0-8	2.0-9	6.0-10	8:26	32:41	28:18
segment-small.2	401;0	400	0;19	43	24277	3.6-7	8.3-7	9.9-7	3.2-8	1.1-8	3.3-8	02	03	31:18
segment-small.3	401;0	400	0;19	43	25017	3.6-7	8.3-7	9.9-7	3.2-8	1.1-8	3.3-8	03	03	32:13
segment-small.4	401;0	400	0;19	43	25894	3.6-7	8.3-7	9.9-7	3.2-8	1.1-8	3.2-8	03	03	32:33
segment-small.5	401;0	400	0;19	43	25894	3.6-7	8.3-7	9.9-7	3.2-8	1.2-8	3.2-8	03	04	29:22
segment-small.6	401;0	400	0;19	43	25895	3.6-7	8.3-7	9.9-7	3.3-8	1.2-8	3.2-8	03	04	34:12
segment-small.7	401;0	400	0;19	43	26693	3.6-7	8.3-7	9.8-7	3.3-8	1.2-8	3.0-8	03	04	34:22
segment-small.8	401;0	400	0;19	43	26693	3.6-7	8.3-7	9.8-7	3.3-8	1.3-8	3.0-8	03	04	33:59
segment-small.9	401;0	400	0;19	43	26693	3.6-7	8.3-7	9.8-7	3.3-8	1.3-8	3.0-8	03	04	34:11
segment-small.10	401;0	400	0;19	43	26693	3.6-7	8.3-7	9.8-7	3.3-8	1.3-8	2.9-8	02	04	33:55
segment-small.11	401;0	400	0;19	43	26693	3.6-7	8.3-7	9.8-7	3.4-8	1.3-8	2.9-8	03	04	32:03
segment-medium.2	701;0	700	0;49	127	195	9.2-7	8.1-7	8.6-7	-2.4-7	1.0-8	2.3-8	20	36	42
segment-medium.3	701;0	700	0;49	127	195	9.2-7	8.1-7	8.7-7	-2.3-7	1.1-8	2.4-8	17	38	42
segment-medium.4	701;0	700	0;48	127	195	9.4-7	8.1-7	8.7-7	-2.5-7	1.1-8	2.4-8	20	33	42
segment-medium.5	701;0	700	0;48	127	195	9.4-7	8.1-7	8.8-7	-2.5-7	1.2-8	2.4-8	18	42	41
segment-medium.6	701;0	700	0;48	127	195	9.4-7	8.1-7	8.8-7	-2.5-7	1.2-8	2.5-8	17	38	39
segment-medium.7	701;0	700	0;48	127	195	9.4-7	8.1-7	8.9-7	-2.5-7	1.3-8	2.5-8	14	31	38
segment-medium.8	701;0	700	0;48	127	195	9.4-7	8.1-7	9.0-7	-2.5-7	1.4-8	2.6-8	16	29	36
segment-medium.9	701;0	700	0;48	127	195	9.4-7	8.1-7	9.1-7	-2.5-7	1.4-8	2.6-8	16	44	37
segment-medium.10	701;0	700	0;48	127	195	9.4-7	8.1-7	9.2-7	-2.5-7	1.5-8	2.6-8	16	42	30
segment-medium.11	701;0	700	0;48	127	195	9.4-7	8.1-7	9.3-7	-2.5-7	1.5-8	2.7-8	24	42	27
segment-large.2	1001;0	1000	0;52	121	210	8.8-7	9.7-7	7.2-7	-2.0-7	6.6-9	1.6-8	1:09	1:38	1:57
segment-large.3	1001;0	1000	0;52	121	210	8.8-7	9.7-7	7.3-7	-2.0-7	6.8-9	1.6-8	1:13	1:44	1:55
segment-large.4	1001;0	1000	0;52	121	210	8.8-7	9.7-7	7.3-7	-2.0-7	7.1-9	1.7-8	1:04	1:35	1:56
segment-large.5	1001;0	1000	0;52	121	210	8.8-7	9.7-7	7.3-7	-2.0-7	7.4-9	1.7-8	1:08	1:31	1:54
segment-large.6	1001;0	1000	0;52	121	210	8.8-7	9.7-7	7.4-7	-2.0-7	7.6-9	1.7-8	1:04	1:34	1:55
segment-large.7	1001;0	1000	0;52	121	210	8.8-7	9.7-7	7.4-7	-2.0-7	7.9-9	1.7-8	1:05	1:32	1:46
segment-large.8	1001;0	1000	0;52	121	210	8.8-7	9.7-7	7.5-7	-2.0-7	8.2-9	1.7-8	55	1:33	1:46
segment-large.9	1001;0	1000	0;52	121	210	8.8-7	9.7-7	7.5-7	-2.0-7	8.4-9	1.7-8	48	1:30	1:42
segment-large.10	1001;0	1000	0;52	121	210	8.8-7	9.7-7	7.6-7	-2.0-7	8.7-9	1.8-8	46	1:23	1:37
segment-large.11	1001;0	1000	0;52	121	210	8.8-7	9.7-7	7.7-7	-2.0-7	8.9-9	1.8-8	43	1:40	1:27
housing.2	507;0	506	0;15	47	54	1.8-7	8.2-7	4.7-7	3.4-9	-3.5-8	4.1-9	03	07	04
housing.3	507;0	506	0;15	47	54	1.8-7	8.2-7	4.7-7	3.4-9	-3.5-8	4.1-9	03	05	04
housing.4	507;0	506	0;15	47	54	1.7-7	8.1-7	4.7-7	3.4-9	-3.5-8	4.2-9	03	06	04
housing.5	507;0	506	0;15	47	54	1.7-7	8.1-7	4.7-7	3.4-9	-3.5-8	4.2-9	03	08	04
housing.6	507;0	506	0;15	47	54	1.7-7	8.1-7	4.7-7	3.4-9	-3.5-8	4.2-9	03	08	04
housing.7	507;0	506	0;15	47	54	1.7-7	8.1-7	4.7-7	3.4-9	-3.5-8	4.2-9	02	08	04
housing.8	507;0	506	0;15	47	54	1.6-7	8.1-7	4.7-7	3.4-9	-3.5-8	4.2-9	03	07	06
housing.9	507;0	506	0;15	47	54	1.6-7	8.1-7	4.7-7	3.4-9	-3.5-8	4.2-9	04	08	06
housing.10	507;0	506	0;15	47	54	1.6-7	8.1-7	4.7-7	3.4-9	-3.5-8	4.2-9	04	08	06
housing.11	507;0	506	0;15	47	54	1.6-7	8.1-7	4.7-7	3.4-9	-3.5-8	4.2-9	03	08	07
ex-be100.1	101;14850	101	0;2350	10994	24368	9.9-7	9.9-7	9.9-7	-7.9-7	1.4-7	-5.8-7	53	3:38	2:54
ex-be100.2	101;14850	101	0;1984	10799	23449	9.9-7	9.9-7	9.7-7	-5.8-7	3.6-8	-3.3-7	44	3:22	2:37
ex-be100.3	101;14850	101	0;2166	10869	21706	9.9-7	9.9-7	9.9-7	-6.7-7	-3.1-9	-4.2-7	25	3:22	2:23
ex-be100.4	101;14850	101	0;2726	11146	24469	9.9-7	9.9-7	9.9-7	-7.3-7	6.1-8	-4.3-7	1:06	3:10	2:45
ex-be100.5	101;14850	101	0;1962	11852	19297	9.9-7	9.9-7	9.8-7	-6.9-7	-3.6-8	-4.4-7	45	3:10	2:09

Table 3: Performance of ABCD, APG and eARBCG on θ_+, FAP, QAP, BIQ, RCP and extended BIQ problems ($\varepsilon = 10^{-6}$)

			iteration			η			η_g			time		
problem	$m_E; m_I$	n_s	ABCD	APG	eARBCG	ABCD	APG	eARBCG	ABCD	APG	eARBCG	ABCD	APG	eARBCG
ex-be100.6	101;14850	101	0;1984	10682	20044	9.9-7	9.9-7	9.7-7	-7.8-7	4.6-8	-6.5-7	49	3:00	2:10
ex-be100.7	101;14850	101	0;2060	11385	23638	9.9-7	9.9-7	9.9-7	-7.8-7	9.9-8	-4.4-7	48	2:36	2:43
ex-be100.8	101;14850	101	0;2202	11318	24368	9.9-7	9.9-7	9.9-7	-7.3-7	8.8-8	-3.9-7	51	3:29	2:55
ex-be100.9	101;14850	101	0;1954	10213	20216	9.9-7	9.9-7	9.6-7	-5.5-7	7.5-9	-3.4-7	44	2:46	2:23
ex-be100.10	101;14850	101	0;1857	11264	16405	9.9-7	9.9-7	9.6-7	-4.7-7	1.1-7	-4.8-7	41	2:47	1:59
ex-be120.3.1	121;21420	121	0;1806	12293	17260	9.9-7	9.9-7	9.8-7	-3.2-7	-1.3-8	-2.8-7	1:20	4:06	2:35
ex-be120.3.2	121;21420	121	0;1462	11993	12727	9.8-7	9.9-7	9.6-7	-5.0-7	3.7-8	-3.3-7	1:11	3:52	1:47
ex-be120.3.3	121;21420	121	0;1496	12774	9999	9.9-7	9.9-7	9.3-7	3.5-7	-6.1-8	-5.1-7	1:11	4:02	1:29
ex-be120.3.4	121;21420	121	0;1583	12283	13471	9.9-7	9.9-7	9.9-7	-4.4-7	6.5-8	-3.8-7	1:16	3:31	2:04
ex-be120.3.5	121;21420	121	0;1683	11548	13466	9.9-7	9.9-7	8.4-7	1.3-7	-3.7-8	-2.3-7	1:01	3:36	2:03
ex-be120.3.6	121;21420	121	0;1551	10276	13545	9.9-7	9.9-7	9.9-7	-5.2-7	-9.3-8	-3.2-7	1:11	3:47	2:08
ex-be120.3.7	121;21420	121	0;1625	11514	13474	9.9-7	9.9-7	9.4-7	-1.2-7	3.7-8	-4.4-7	1:15	4:15	2:05
ex-be120.3.8	121;21420	121	0;1510	8907	12860	9.9-7	9.9-7	9.9-7	-2.6-7	-2.0-8	-2.8-7	57	3:06	1:51
ex-be120.3.9	121;21420	121	0;1561	13471	11921	9.9-7	9.9-7	9.9-7	4.5-7	-2.8-8	-1.6-7	1:09	4:43	2:11
ex-be120.3.10	121;21420	121	0;1645	12501	17057	9.9-7	9.9-7	9.9-7	-6.7-8	-2.3-8	-1.7-7	55	3:39	3:10
ex-be120.8.1	121;21420	121	0;1672	13127	16996	9.9-7	9.9-7	9.7-7	-8.6-7	-5.6-8	-5.0-7	1:20	4:07	3:08
ex-be120.8.2	121;21420	121	0;1797	12501	21806	9.9-7	9.9-7	9.9-7	-8.6-7	-6.0-8	-4.4-7	1:14	4:23	3:49
ex-be120.8.3	121;21420	121	0;1597	12372	16891	9.9-7	9.9-7	9.7-7	-8.7-7	9.6-8	-7.3-7	1:05	4:15	2:53
ex-be120.8.4	121;21420	121	0;1892	12693	26535	9.9-7	9.9-7	9.7-7	-8.4-7	8.6-9	-3.9-7	1:07	4:39	4:47
ex-be120.8.5	121;21420	121	0;2100	11634	20123	9.9-7	9.9-7	9.7-7	-7.2-7	-5.4-8	-5.4-7	1:25	4:18	3:30
ex-be120.8.6	121;21420	121	0;1923	12982	21750	9.9-7	9.9-7	9.6-7	-8.3-7	4.9-8	-3.5-7	39	4:20	3:52
ex-be120.8.7	121;21420	121	0;2208	12856	21700	9.9-7	9.9-7	9.8-7	-8.4-7	-6.1-8	-5.2-7	1:19	4:29	3:46
ex-be120.8.8	121;21420	121	0;2034	11727	22174	9.9-7	9.9-7	9.9-7	-6.4-7	3.4-9	-3.2-7	1:25	3:51	4:04
ex-be120.8.9	121;21420	121	0;1525	12719	17292	9.9-7	9.9-7	9.8-7	-7.8-7	1.2-7	-8.6-7	1:04	5:08	3:02
ex-be120.8.10	121;21420	121	0;1760	12451	17893	9.9-7	9.9-7	9.8-7	-8.7-7	6.0-8	-5.0-7	1:13	4:28	3:01
ex-be150.3.1	151;33525	151	0;1648	13193	14901	9.9-7	9.9-7	9.1-7	-4.4-7	1.6-8	-2.7-7	50	6:33	3:42
ex-be150.3.2	151;33525	151	0;1329	14729	12806	9.9-7	9.9-7	9.9-7	-6.6-7	4.0-8	-3.3-7	47	7:48	3:12
ex-be150.3.3	151;33525	151	0;1490	13055	11344	9.9-7	9.9-7	9.7-7	-2.8-8	-7.9-8	-3.5-7	37	6:47	2:43
ex-be150.3.4	151;33525	151	0;1840	12480	17166	9.7-7	9.9-7	8.8-7	-5.1-7	-1.2-8	-3.3-7	31	6:08	4:24
ex-be150.3.5	151;33525	151	0;1596	12035	15004	9.9-7	9.9-7	9.9-7	6.3-9	-1.6-8	-1.7-7	1:02	5:46	3:56
ex-be150.3.6	151;33525	151	0;1460	25000	11993	9.9-7	1.6-5	9.7-7	-3.3-7	-2.1-8	-4.0-7	53	13:24	3:03
ex-be150.3.7	151;33525	151	0;1578	25000	17166	9.9-7	1.4-6	9.9-7	-5.7-7	2.8-9	-2.1-7	1:02	12:33	4:19
ex-be150.3.8	151;33525	151	0;1450	11732	13430	9.9-7	9.9-7	9.4-7	-6.6-7	-8.0-9	-4.1-7	51	6:06	3:22
ex-be150.3.9	151;33525	151	0;1097	10608	9127	9.8-7	9.9-7	9.9-7	-4.5-7	4.9-8	-2.3-7	37	5:29	2:28
ex-be150.3.10	151;33525	151	0;1663	15746	15993	9.9-7	9.9-7	9.9-7	-2.2-7	-3.1-8	-2.5-7	1:01	8:08	4:01
ex-be150.8.1	151;33525	151	0;1625	14737	21363	9.9-7	9.9-7	9.7-7	-1.0-6	-2.3-8	-5.9-7	1:00	6:11	5:41
ex-be150.8.2	151;33525	151	0;1480	17385	19905	9.9-7	9.9-7	9.6-7	-7.3-7	1.0-7	-6.8-7	47	8:00	5:10
ex-be150.8.3	151;33525	151	0;1708	13233	25434	9.9-7	9.9-7	9.9-7	-6.1-7	6.7-8	-6.0-7	56	7:35	6:54
ex-be150.8.4	151;33525	151	0;1681	14704	29855	9.9-7	9.9-7	9.9-7	-8.6-7	4.8-8	-3.0-7	1:13	7:50	7:58
ex-be150.8.5	151;33525	151	0;2148	12752	21881	9.9-7	9.9-7	9.5-7	-9.8-7	4.0-8	-4.9-7	1:21	6:19	5:43
ex-be150.8.6	151;33525	151	0;1752	13725	21887	9.9-7	9.9-7	9.7-7	-1.1-6	1.1-7	-5.4-7	1:10	7:13	5:30
ex-be150.8.7	151;33525	151	0;1732	13138	25434	9.9-7	9.9-7	9.7-7	-6.4-7	-1.0-7	-5.1-7	1:14	6:48	6:06
ex-be150.8.8	151;33525	151	0;1632	13285	22522	9.9-7	9.9-7	9.8-7	-7.2-7	-1.2-7	-6.0-7	55	6:42	5:15
ex-be150.8.9	151;33525	151	0;1614	12340	22522	9.9-7	9.9-7	9.8-7	-9.8-7	9.8-8	-4.8-7	1:07	5:52	5:52
ex-be150.8.10	151;33525	151	0;1674	13595	24245	9.9-7	9.9-7	9.9-7	-7.3-7	-5.3-8	-5.3-7	57	4:46	6:30
ex-be200.3.1	201;59700	201	0;1668	25000	13469	9.8-7	1.1-5	9.8-7	-8.2-8	-4.6-8	-3.9-7	1:48	16:13	6:23
ex-be200.3.2	201;59700	201	0;1673	14852	11655	9.9-7	9.9-7	9.9-7	4.8-7	3.8-8	-3.0-7	1:36	12:13	5:09
ex-be200.3.3	201;59700	201	0;1581	25000	13570	9.9-7	1.0-5	9.7-7	-5.3-7	-5.2-8	-3.6-7	1:40	19:24	6:26
ex-be200.3.4	201;59700	201	0;1273	19211	16150	9.9-7	9.9-7	9.6-7	-5.8-7	5.5-8	-2.9-7	1:23	16:02	7:44
ex-be200.3.5	201;59700	201	0;1672	14488	13118	9.9-7	9.9-7	9.8-7	4.4-7	-7.1-8	-3.5-7	1:26	12:17	5:53
ex-be200.3.6	201;59700	201	0;1611	25000	12846	9.9-7	1.2-5	9.0-7	3.8-7	4.6-8	-3.9-7	1:32	15:43	6:12
ex-be200.3.7	201;59700	201	0;1762	25000	13640	9.9-7	1.3-5	9.3-7	-2.9-7	1.5-7	-5.6-7	1:42	13:55	6:49
ex-be200.3.8	201;59700	201	0;1784	25000	15688	9.9-7	1.4-5	9.8-7	-2.0-7	-7.4-8	-2.9-7	1:37	15:04	8:12
ex-be200.3.9	201;59700	201	0;1631	25000	12128	9.9-7	1.1-5	9.6-7	3.8-7	1.7-8	-3.8-7	1:14	20:00	6:28
ex-be200.3.10	201;59700	201	0;1437	25000	11654	9.8-7	1.1-5	9.4-7	-3.4-7	6.1-8	-2.6-7	1:16	21:06	5:36
ex-be200.8.1	201;59700	201	0;1978	14611	31201	9.9-7	9.9-7	9.8-7	-6.5-7	1.1-7	-6.3-7	1:48	11:53	16:12
ex-be200.8.2	201;59700	201	0;1776	16543	26578	9.9-7	9.9-7	9.7-7	-1.2-6	4.9-8	-4.9-7	1:41	15:14	13:09

Table 3: Performance of ABCD, APG and eARBCG on θ_+, FAP, QAP, BIQ, RCP and extended BIQ problems ($\varepsilon = 10^{-6}$)

			iteration			η			η_g			time		
problem	$m_E; m_I$	n_s	ABCD	APG	eARBCG	ABCD	APG	eARBCG	ABCD	APG	eARBCG	ABCD	APG	eARBCG
ex-be200.8.3	201;59700	201	0;1827	13927	26989	9.9-7	9.9-7	9.7-7	-6.2-7	-6.1-8	-6.6-7	1:38	11:14	13:42
ex-be200.8.4	201;59700	201	0;1847	19844	26635	9.3-7	9.9-7	9.8-7	-9.4-7	-7.2-8	-6.4-7	1:43	15:07	13:12
ex-be200.8.5	201;59700	201	0;1771	14081	30597	9.9-7	9.9-7	9.9-7	-7.5-7	-4.9-8	-4.4-7	1:34	13:31	16:07
ex-be200.8.6	201;59700	201	0;1983	14314	27503	9.9-7	9.9-7	9.6-7	-4.8-7	-4.0-8	-7.9-7	1:42	13:02	14:01
ex-be200.8.7	201;59700	201	0;1830	16212	29440	9.9-7	9.9-7	9.4-7	-6.9-7	-1.1-7	-6.1-7	1:48	14:21	15:33
ex-be200.8.8	201;59700	201	0;1952	21779	31075	9.9-7	9.9-7	9.9-7	-7.7-7	6.3-8	-6.8-7	1:49	18:58	15:53
ex-be200.8.9	201;59700	201	0;2106	14086	26627	9.9-7	9.9-7	9.9-7	-1.3-6	-1.3-7	-5.9-7	2:24	10:25	14:36
ex-be200.8.10	201;59700	201	0;1778	16329	26889	9.9-7	9.9-7	9.9-7	-9.3-7	1.0-7	-6.2-7	1:30	13:02	13:47
ex-be250.1	251;93375	251	0;719	9100	3005	9.9-7	9.9-7	9.9-7	-4.1-8	-6.1-9	-1.7-8	1:16	14:51	2:38
ex-be250.2	251;93375	251	0;705	9409	2656	9.9-7	9.9-7	9.8-7	-7.8-8	1.4-9	-3.0-8	1:25	14:22	2:09
ex-be250.3	251;93375	251	0;706	9195	2733	9.9-7	9.9-7	9.9-7	-3.4-8	-2.2-9	2.1-9	1:10	10:56	2:29
ex-be250.4	251;93375	251	0;705	12298	2976	9.9-7	9.9-7	9.7-7	-5.0-8	-7.3-9	-8.8-9	1:12	17:06	2:29
ex-be250.5	251;93375	251	0;705	10136	2894	9.8-7	9.9-7	9.9-7	-8.6-9	-1.4-8	-3.5-8	1:13	12:38	2:16
ex-be250.6	251;93375	251	0;685	10050	2701	9.9-7	9.9-7	9.9-7	-5.7-8	4.0-9	-2.7-8	1:10	16:06	2:10
ex-be250.7	251;93375	251	0;711	10887	2892	9.9-7	9.9-7	9.9-7	-2.9-8	-5.2-9	-1.2-8	1:12	16:42	2:19
ex-be250.8	251;93375	251	0;712	9672	2733	9.9-7	9.9-7	9.8-7	-4.6-8	6.7-9	-2.8-8	1:13	12:50	2:17
ex-be250.9	251;93375	251	0;711	6718	2645	9.9-7	9.9-7	9.8-7	-6.8-8	5.9-9	-5.1-9	1:18	10:21	2:05
ex-be250.10	251;93375	251	0;717	11436	2843	9.9-7	9.9-7	9.7-7	-6.9-8	-1.9-9	-3.4-9	1:16	14:40	2:27
ex-bqp50-1	51;3675	51	0;997	7160	4969	9.9-7	9.9-7	9.1-7	1.9-8	-1.8-8	-2.3-8	10	54	17
ex-bqp50-2	51;3675	51	0;1624	7366	19210	9.9-7	9.9-7	9.3-7	-1.7-7	-1.0-8	-1.3-7	16	1:03	1:02
ex-bqp50-3	51;3675	51	0;1696	6301	13343	9.9-7	9.9-7	9.9-7	4.7-9	-2.2-8	-1.4-7	13	38	46
ex-bqp50-4	51;3675	51	0;1560	7199	13455	9.9-7	9.9-7	9.6-7	-4.2-8	-7.6-9	-1.3-7	15	59	43
ex-bqp50-5	51;3675	51	0;1075	5258	6640	9.1-7	9.9-7	9.8-7	1.9-9	-9.7-10	-4.5-8	13	43	25
ex-bqp50-6	51;3675	51	0;1511	5914	13278	9.9-7	9.7-7	9.9-7	6.3-8	2.1-8	-7.8-8	19	46	43
ex-bqp50-7	51;3675	51	0;1098	5639	6655	9.7-7	9.9-7	9.8-7	1.0-7	1.9-8	-7.9-8	06	51	25
ex-bqp50-8	51;3675	51	0;1593	8968	13837	9.9-7	9.9-7	9.6-7	-9.5-8	2.3-8	-1.0-7	13	1:16	52
ex-bqp50-9	51;3675	51	0;1204	6119	9796	9.9-7	9.8-7	9.8-7	-4.2-8	3.3-8	-6.8-8	08	25	34
ex-bqp50-10	51;3675	51	0;849	5479	4630	9.9-7	9.9-7	9.7-7	1.8-8	3.5-8	-6.1-8	06	41	13
ex-bqp100-1	101;14850	101	0;1093	11573	8654	9.9-7	9.9-7	9.0-7	-4.0-7	2.7-8	-2.2-7	17	3:28	59
ex-bqp100-2	101;14850	101	0;1683	11782	13716	9.9-7	9.9-7	9.3-7	-1.0-7	1.4-8	-1.7-7	33	3:08	1:40
ex-bqp100-3	101;14850	101	0;1303	13429	9848	9.9-7	9.9-7	9.6-7	-2.9-7	3.4-8	-3.4-7	26	3:44	1:17
ex-bqp100-4	101;14850	101	0;1593	12789	14024	9.9-7	9.9-7	9.6-7	2.6-8	9.1-9	-1.3-7	32	3:27	1:41
ex-bqp100-5	101;14850	101	0;1601	10891	9790	9.9-7	9.9-7	8.4-7	3.7-7	4.4-8	-2.6-7	39	2:22	1:11
ex-bqp100-6	101;14850	101	0;1602	11792	12148	9.7-7	9.9-7	9.8-7	4.4-8	2.4-8	-2.7-7	33	3:10	1:28
ex-bqp100-7	101;14850	101	0;1599	12627	10387	9.9-7	9.9-7	9.8-7	3.5-7	-2.6-8	-2.7-7	34	3:20	1:18
ex-bqp100-8	101;14850	101	0;1607	11156	13045	9.9-7	9.9-7	9.4-7	-1.5-7	-5.8-8	-2.4-7	34	3:11	1:46
ex-bqp100-9	101;14850	101	0;1670	11240	13765	9.9-7	9.9-7	9.8-7	-3.3-7	-2.5-8	-3.0-7	23	2:44	2:06
ex-bqp100-10	101;14850	101	0;1220	12954	9790	9.9-7	9.9-7	9.8-7	-3.4-7	1.3-8	-2.1-7	15	2:54	1:21
ex-bqp250-1	251;93375	251	0;2103	25000	19822	9.9-7	1.4-5	9.9-7	-9.2-7	-1.1-7	-3.8-7	3:43	27:18	17:29
ex-bqp250-2	251;93375	251	0;1416	25000	17502	9.9-7	1.3-5	9.5-7	-6.9-7	2.0-8	-4.9-7	2:22	31:49	16:09
ex-bqp250-3	251;93375	251	0;1983	25000	17875	9.9-7	1.6-5	9.9-7	-8.7-7	6.5-8	-4.5-7	3:09	26:50	15:38
ex-bqp250-4	251;93375	251	0;1894	25000	16784	9.9-7	1.1-5	9.9-7	-4.5-7	5.3-9	-4.4-7	3:12	21:25	13:49
ex-bqp250-5	251;93375	251	0;1482	25000	19808	9.9-7	1.7-5	9.0-7	-5.1-7	2.4-9	-4.0-7	2:30	29:48	16:52
ex-bqp250-6	251;93375	251	0;1787	25000	16364	9.9-7	1.5-5	9.6-7	-5.2-7	6.5-8	-4.4-7	2:30	30:47	15:42
ex-bqp250-7	251;93375	251	0;1473	25000	19191	9.9-7	1.3-5	9.9-7	-4.9-7	9.2-8	-5.6-7	2:07	27:23	16:18
ex-bqp250-8	251;93375	251	0;1509	25000	15232	9.8-7	1.3-5	9.9-7	-6.5-7	-5.9-9	-1.2-7	2:20	18:46	12:34
ex-bqp250-9	251;93375	251	0;1525	25000	21471	9.9-7	1.7-5	9.9-7	-6.3-7	1.0-8	-5.3-7	2:20	18:33	18:09
ex-bqp250-10	251;93375	251	0;1791	25000	16364	9.9-7	1.3-5	9.4-7	-4.5-7	7.6-8	-4.3-7	2:50	18:24	11:18
ex-bqp500-1	501;374250	501	0;1439	15676	16436	9.9-7	9.9-7	8.8-7	-7.8-7	3.1-8	-4.1-7	14:34	2:00:25	1:42:18
ex-bqp500-2	501;374250	501	0;1545	14458	17465	9.9-7	9.9-7	9.6-7	-8.2-7	4.4-8	-3.7-7	16:01	58:40	1:56:40
ex-bqp500-3	501;374250	501	0;1795	15400	19460	9.9-7	9.9-7	9.5-7	-9.0-7	4.4-8	-2.5-7	19:43	1:12:55	1:51:14
ex-bqp500-4	501;374250	501	0;1738	20092	19899	9.9-7	9.9-7	9.9-7	-9.1-7	4.8-8	-4.6-7	12:39	2:25:38	2:07:29
ex-bqp500-5	501;374250	501	0;1777	15230	19517	9.9-7	9.9-7	9.3-7	-9.0-7	2.3-8	-2.2-7	17:38	1:01:55	2:10:26
ex-bqp500-6	501;374250	501	0;1902	16149	17590	9.5-7	9.9-7	9.0-7	-7.0-7	5.9-8	-5.0-7	19:49	1:20:43	1:36:51
ex-bqp500-7	501;374250	501	0;1835	15655	17481	9.9-7	9.9-7	9.9-7	-8.1-7	-6.2-8	-4.5-7	20:18	1:57:19	1:51:46
ex-bqp500-8	501;374250	501	0;1798	16958	22473	9.9-7	9.9-7	9.7-7	-8.8-7	-8.2-9	-1.9-7	18:12	1:09:32	2:31:37
ex-bqp500-9	501;374250	501	0;1977	15086	19588	9.9-7	9.9-7	9.9-7	-6.6-7	5.0-8	-2.6-7	20:19	1:14:18	2:04:43

Table 3: Performance of ABCD, APG and eARBCG on θ_+, FAP, QAP, BIQ, RCP and extended BIQ problems ($\varepsilon = 10^{-6}$)

			iteration			η			η_g			time		
problem	$m_E; m_I$	n_s	ABCD	APG	eARBCG	ABCD	APG	eARBCG	ABCD	APG	eARBCG	ABCD	APG	eARBCG
ex-bqp500-10	501;374250	501	0;1447	16325	19686	9.7-7	9.9-7	9.8-7	-7.6-7	-6.2-8	-2.9-7	15:30	2:01:24	2:06:46
ex-gka1a	51;3675	51	0;1172	4355	8446	9.9-7	9.9-7	9.8-7	2.7-8	2.5-8	-4.5-8	13	36	31
ex-gka2a	61;5310	61	0;1604	6902	10243	9.9-7	9.9-7	9.9-7	-4.4-8	-3.4-8	-6.9-8	09	1:18	50
ex-gka3a	71;7245	71	0;1389	8555	9706	9.9-7	9.9-7	9.8-7	-6.6-10	-5.0-9	-1.0-7	15	1:32	44
ex-gka4a	81;9480	81	0;1565	10107	11475	9.9-7	9.9-7	9.8-7	1.3-7	-5.7-9	-1.4-7	16	1:55	1:04
ex-gka5a	51;3675	51	0;1767	6260	14491	9.9-7	9.7-7	9.9-7	-1.3-7	-1.1-8	-1.4-7	19	39	1:00
ex-gka6a	31;1305	31	0;1817	7163	13854	9.9-7	9.9-7	9.9-7	-5.4-8	-1.3-8	-1.2-7	12	43	44
ex-gka7a	31;1305	31	0;2364	9651	20162	9.9-7	9.7-7	9.9-7	-2.6-7	2.3-8	-2.1-7	19	1:14	1:04
ex-gka8a	101;14850	101	0;1617	9758	15972	9.9-7	9.9-7	9.9-7	-3.5-8	-1.1-8	-9.5-8	20	3:03	1:54
ex-gka1b	21;570	21	0;629	1552	3455	9.9-7	9.7-7	9.5-7	-1.0-8	1.0-8	-6.0-8	06	11	11
ex-gka2b	31;1305	31	0;798	2048	5350	9.9-7	9.9-7	8.4-7	9.0-9	-6.5-9	-7.3-8	06	14	18
ex-gka3b	41;2340	41	0;1005	2587	5291	9.9-7	9.9-7	9.8-7	-1.4-8	-2.1-9	-7.5-8	06	17	22
ex-gka4b	51;3675	51	0;1024	2836	2365	9.9-7	9.6-7	9.8-7	-1.3-8	-6.2-9	4.7-8	09	25	08
ex-gka5b	61;5310	61	0;1124	3086	2320	9.9-7	9.9-7	9.0-7	-6.9-8	4.1-9	7.3-8	10	31	09
ex-gka6b	71;7245	71	0;1369	3699	2520	9.9-7	9.9-7	9.5-7	-2.0-8	3.6-9	1.0-7	12	42	08
ex-gka7b	81;9480	81	0;1280	3570	2645	9.9-7	9.9-7	8.6-7	-1.5-8	-2.0-8	7.5-8	13	42	10
ex-gka8b	91;12015	91	0;1244	3831	2291	9.9-7	9.2-7	9.7-7	7.2-9	-5.9-9	1.4-7	18	54	14
ex-gka9b	101;14850	101	0;1357	4275	2616	9.9-7	9.8-7	8.4-7	2.0-8	-3.6-9	1.2-7	18	1:10	20
ex-gka10b	126;23250	126	0;1657	4494	10002	9.9-7	9.9-7	9.7-7	-1.0-8	7.8-9	-1.7-7	1:04	1:39	1:27
ex-gka1c	41;2340	41	0;2099	6365	21597	9.9-7	9.9-7	9.5-7	-1.4-7	2.2-8	-1.7-7	10	28	55
ex-gka2c	51;3675	51	0;2054	8613	16855	9.9-7	9.9-7	9.9-7	-1.8-7	-3.4-10	-1.8-7	20	1:05	58
ex-gka3c	61;5310	61	0;1572	9401	11820	9.8-7	9.9-7	9.8-7	8.5-8	-9.5-9	-1.2-7	12	1:11	45
ex-gka4c	71;7245	71	0;1578	8650	13285	9.9-7	9.9-7	9.0-7	-7.7-8	-2.9-8	-2.6-7	13	1:49	58
ex-gka5c	81;9480	81	0;1487	10583	11263	9.9-7	9.9-7	9.5-7	5.7-8	-4.6-9	-9.0-8	17	2:16	1:06
ex-gka6c	91;12015	91	0;872	10297	6446	9.5-7	9.9-7	9.5-7	8.2-8	-3.4-8	-1.2-7	14	2:17	39
ex-gka7c	101;14850	101	0;1087	10623	8272	9.9-7	9.9-7	9.3-7	-9.4-8	-1.1-8	-5.4-8	14	2:52	52
ex-gka1d	101;14850	101	0;860	9424	4389	9.9-7	9.9-7	9.6-7	8.7-8	4.2-8	-1.0-7	09	2:19	31
ex-gka2d	101;14850	101	0;869	10611	6381	9.9-7	9.9-7	9.8-7	-7.9-8	9.3-8	-2.7-7	16	2:32	37
ex-gka3d	101;14850	101	0;1254	10777	9803	9.9-7	9.9-7	9.9-7	-3.6-7	-8.1-8	-3.6-7	21	2:53	1:03
ex-gka4d	101;14850	101	0;1439	11764	13078	9.9-7	9.9-7	9.9-7	-6.4-7	5.5-8	-4.5-7	14	3:36	1:37
ex-gka5d	101;14850	101	0;1704	10627	13878	9.7-7	9.9-7	9.5-7	-1.4-7	-1.0-7	-2.5-7	25	3:03	1:28
ex-gka6d	101;14850	101	0;1857	10736	19745	9.9-7	9.9-7	9.9-7	-5.9-7	-2.0-8	-2.2-7	30	2:59	1:55
ex-gka7d	101;14850	101	0;1792	11509	17667	9.9-7	9.9-7	9.7-7	-8.2-7	9.2-8	-4.5-7	25	3:14	2:07
ex-gka8d	101;14850	101	0;2478	11136	23449	9.9-7	9.9-7	9.8-7	-7.5-7	3.8-8	-3.4-7	48	3:33	2:49
ex-gka9d	101;14850	101	0;1692	10746	21131	9.9-7	9.9-7	9.0-7	-7.9-7	5.9-8	-5.4-7	33	2:41	2:04
ex-gka10d	101;14850	101	0;2170	11400	25481	9.9-7	9.9-7	9.8-7	-6.2-7	5.3-8	-3.5-7	34	2:24	2:37
ex-gka1e	201;59700	201	0;750	7944	3909	9.9-7	9.9-7	9.9-7	-2.6-8	7.6-9	-4.1-9	35	7:18	1:38
ex-gka2e	201;59700	201	0;1651	25000	9885	9.9-7	1.0-5	9.6-7	5.9-7	1.0-7	-3.7-7	1:17	19:30	3:53
ex-gka3e	201;59700	201	0;1577	15270	13640	9.9-7	9.9-7	9.2-7	-3.2-7	-9.9-9	-3.3-7	1:07	14:41	5:02
ex-gka4e	201;59700	201	0;1460	25000	19976	9.9-7	1.7-5	9.9-7	-6.0-7	3.3-9	-5.2-7	1:20	22:57	7:34
ex-gka5e	201;59700	201	0;2038	25000	20715	9.9-7	1.9-5	9.9-7	-9.0-7	8.4-8	-6.1-7	1:16	22:12	7:42
ex-gka1f	501;374250	501	0;643	5599	2864	9.9-7	9.9-7	9.7-7	-8.4-8	-3.8-9	-1.4-9	7:15	50:41	18:28
ex-gka2f	501;374250	501	0;1049	8569	8939	9.9-7	9.9-7	9.8-7	-4.1-7	3.7-8	-1.8-7	6:18	1:08:19	55:07
ex-gka3f	501;374250	501	0;1798	21403	26462	9.9-7	9.9-7	9.2-7	-9.4-7	-5.6-8	-5.9-7	13:14	2:12:26	2:53:59
ex-gka4f	501;374250	501	0;2169	25000	37127	9.9-7	2.2-6	9.9-7	-7.2-7	-2.2-8	-6.9-7	21:49	2:27:06	3:11:07
ex-gka5f	501;374250	501	0;2259	25000	37456	9.8-7	1.6-6	9.9-7	-1.2-6	-5.5-8	-1.1-6	24:17	2:26:09	4:00:00