

Online Supplement

EC.1. Online Appendix C: Detailed Tables of Results.

Table EC.1 Comparison of single-cut and multiple-cuts versions.

n	p	α	ϑ	Bd-alg-1		Bd-alg- n		Bd-alg- n^2		BD-cpx- n^2	
				Time[s]	#iter	Time[s]	#iter	Time[s]	#iter	Time[s]	#iter
10	5	0.2	0	37.05	158	5.19	27	2.68	12	2.65	13
10	5	0.2	0.1	27.09	135	4.86	26	1.92	11	1.85	11
10	5	0.2	0.25	23.7	121	3.63	24	1.89	13	3.11	17
10	5	0.5	0	28.16	141	0.96	13	0.41	7	1.61	12
10	5	0.5	0.1	21.79	128	1.19	15	0.51	9	1.37	11
10	5	0.5	0.25	32.06	152	0.86	14	0.3	8	0.93	12
10	5	0.8	0	51.93	197	0.3	11	0.12	7	0.53	9
10	5	0.8	0.1	40.1	187	0.36	11	0.13	6	0.42	10
10	5	0.8	0.25	47.71	210	0.16	10	0.17	9	0.15	10
10	8	0.2	0	17887	908	177.87	76	14.26	20	76.29	34
10	8	0.2	0.1	14253.8	811	102.34	66	9.18	18	56.11	28
10	8	0.2	0.25	24959.3	940	191.5	77	9.8	19	43.96	27
10	8	0.5	0	1174.28	347	3.51	18	0.63	8	6.1	16
10	8	0.5	0.1	3190.06	504	9.59	24	0.92	9	7.15	15
10	8	0.5	0.25	39991.8	1302	46.77	48	3.51	17	8.31	23
10	8	0.8	0	14565	1180	2.92	25	0.5	12	1.76	16
10	8	0.8	0.1	3664.37	691	5.94	28	0.35	10	0.82	13
10	8	0.8	0.25	404.57	357	14.11	43	0.23	11	0.44	13
20	5	0.2	0	28640.3	766	95.53	27	45.8	10	126.74	16
20	5	0.2	0.1	14658	591	78.72	26	27.91	11	86.87	17
20	5	0.2	0.25	15037.6	620	67.44	25	29.87	11	35.16	15
20	5	0.5	0	time	time	45.87	22	46.37	14	89.2	19
20	5	0.5	0.1	time	time	49.24	23	25.62	12	69.12	20
20	5	0.5	0.25	time	time	40.88	24	16.13	13	56.69	25
20	5	0.8	0	time	time	63.14	32	14.79	15	75.94	24
20	5	0.8	0.1	time	time	22.52	27	8.73	12	26.92	25
20	5	0.8	0.25	time	time	18.83	24	7.27	21	2.76	18
20	8	0.2	0	time	time	time	time	6280.76	36	32199.6	54
20	8	0.2	0.1	time	time	time	time	14014.8	53	71048	69
20	8	0.2	0.25	time	time	time	time	9927.78	46	37354.3	57
20	8	0.5	0	time	time	31577.6	118	2252.99	31	18167.4	51
20	8	0.5	0.1	time	time	14735.4	84	641.19	19	4961.26	34
20	8	0.5	0.25	time	time	9195.49	75	377.32	18	2094.48	30
20	8	0.8	0	time	time	477.66	36	49	15	521.49	25
20	8	0.8	0.1	time	time	339.94	35	19.93	15	109.11	19
20	8	0.8	0.25	time	time	1292.2	67	25.8	24	7.53	20
25	5	0.2	0	time	time	408.45	37	237.99	13	237.12	17
25	5	0.2	0.1	time	time	250.25	30	120.97	12	210.7	18
25	5	0.2	0.25	time	time	460.88	38	192.87	15	229.74	20
25	5	0.5	0	time	time	274.18	32	191.27	15	815.25	23
25	5	0.5	0.1	time	time	153.86	29	108.21	14	672.49	26
25	5	0.5	0.25	time	time	168.51	34	176.96	20	334.25	31
25	5	0.8	0	time	time	251.4	37	53.65	14	254.53	22
25	5	0.8	0.1	time	time	176.35	39	62.6	18	72.93	21
25	5	0.8	0.25	time	time	44.5	30	40.87	19	3.89	13

time: 24h time limit exceeded.

Table EC.2 Comparison of single-cut and multiple-cuts versions.

n	p	α	ϑ	Bd- alg-1		Bd- $\text{alg-}n$		Bd- $\text{alg-}n^2$		BD- $\text{cpx-}n^2$	
				Time[s]	#iter	Time[s]	#iter	Time[s]	#iter	Time[s]	#iter
25	8	0.2	0	time	time	time	time	33540.4	43	time	time
25	8	0.2	0.1	time	time	time	time	time	time	time	time
25	8	0.2	0.25	time	time	time	time	time	time	time	time
25	8	0.5	0	time	time	time	time	9007.69	24	time	time
25	8	0.5	0.1	time	time	time	time	16808.6	32	time	time
25	8	0.5	0.25	time	time	time	time	7814.53	29	52320.3	52
25	8	0.8	0	time	time	5928.37	55	278.08	19	7216.45	33
25	8	0.8	0.1	time	time	4892.85	57	232.29	20	1293.48	28
25	8	0.8	0.25	time	time	4955.26	65	154.78	29	12.97	18
40	5	0.2	0	time	time	18244.9	58	5348.35	15	14063	23
40	5	0.2	0.1	time	time	3405.17	32	1356.68	11	2825.61	16
40	5	0.2	0.25	time	time	5492.97	40	1117.64	12	1903.08	17
40	5	0.5	0	time	time	15022.4	53	14762.4	21	81331	35
40	5	0.5	0.1	time	time	3182.6	36	3626.68	19	7309.98	21
40	5	0.5	0.25	time	time	923.64	27	1381.65	17	1323.42	19
40	5	0.8	0	time	time	14174.1	65	4380.85	22	26201.7	30
40	5	0.8	0.1	time	time	4714.1	50	2224.42	23	1046.16	22
40	5	0.8	0.25	time	time	1898.17	45	528.25	20	21.4	13
40	8	0.2	0	time	time	time	time	time	time	time	time
40	8	0.2	0.1	time	time	time	time	time	time	time	time
40	8	0.2	0.25	time	time	time	time	time	time	time	time
40	8	0.5	0	time	time	time	time	time	time	time	time
40	8	0.5	0.1	time	time	time	time	time	time	time	time
40	8	0.5	0.25	time	time	time	time	time	time	time	time
40	8	0.8	0	time	time	time	time	time	time	time	time
40	8	0.8	0.1	time	time	time	time	37241.8	29	time	time
40	8	0.8	0.25	time	time	time	time	35412.9	63	10088.1	69
50	5	0.2	0	time	time	63190.1	60	26309.4	17	81005.1	30
50	5	0.2	0.1	time	time	12734.1	36	16284.5	14	16167	23
50	5	0.2	0.25	time	time	11811.2	38	8080.01	13	7792.48	19
50	5	0.5	0	time	time	57596.5	61	74491.5	24	time	time
50	5	0.5	0.1	time	time	23364.5	48	56032.4	25	time	time
50	5	0.5	0.25	time	time	20103.7	64	28025.9	24	27551.6	30
50	5	0.8	0	time	time	time	time	63081.5	29	time	time
50	5	0.8	0.1	time	time	34959.3	72	26246	30	10473.1	29
50	5	0.8	0.25	time	time	14348.5	72	9957.53	33	60.25	15
50	8	0.2	0	time	time	time	time	time	time	time	time
50	8	0.2	0.1	time	time	time	time	time	time	time	time
50	8	0.2	0.25	time	time	time	time	time	time	time	time
50	8	0.5	0	time	time	time	time	time	time	time	time
50	8	0.5	0.1	time	time	time	time	time	time	time	time
50	8	0.5	0.25	time	time	time	time	time	time	time	time
50	8	0.8	0	time	time	time	time	time	time	time	time
50	8	0.8	0.1	time	time	time	time	time	time	time	time
50	8	0.8	0.25	time	time	time	time	77492.5	45	3515.43	43

time: 24h time limit exceeded.

Table EC.3 Comparison of a variant without filtering of cuts and two strategies of cut filtering.

n	p	ϑ	α	BDCF			BDCF1			BDCF2		
				Time[s]	#Cut	#No	Time[s]	#Cut	#No	Time[s]	#Cut	#No
10	5	0.2	0	0.29	990	1	0.3	914	1	0.27	983	1
10	5	0.2	0.1	0.32	945	1	0.32	912	1	0.31	912	1
10	5	0.2	0.25	0.38	1035	6	0.29	821	8	0.33	887	7
10	5	0.5	0	0.15	585	1	0.16	545	1	0.13	493	1
10	5	0.5	0.1	0.11	540	1	0.12	500	1	0.15	670	1
10	5	0.5	0.25	0.24	1215	4	0.21	790	3	0.24	771	3
10	5	0.8	0	0.08	450	1	0.09	434	1	0.1	540	1
10	5	0.8	0.1	0.1	675	1	0.1	576	1	0.12	636	1
10	5	0.8	0.25	0.09	540	1	0.07	310	1	0.1	478	1
10	8	0.2	0	0.85	1215	112	0.87	1260	135	1.06	1877	174
10	8	0.2	0.1	0.68	990	86	0.61	942	85	0.69	1137	88
10	8	0.2	0.25	1.41	1710	170	1.48	2023	229	0.99	1347	226
10	8	0.5	0	0.22	720	4	0.22	552	9	0.28	910	10
10	8	0.5	0.1	0.48	1170	69	0.37	806	36	0.38	749	55
10	8	0.5	0.25	0.68	1800	188	0.6	1176	230	0.51	1355	191
10	8	0.8	0	0.26	1305	67	0.23	741	32	0.2	685	43
10	8	0.8	0.1	0.24	1035	31	0.19	680	49	0.21	687	34
10	8	0.8	0.25	0.14	720	68	0.19	842	60	0.16	603	80
20	5	0.2	0	5.97	3990	8	4.15	3556	1	4.25	2580	4
20	5	0.2	0.1	3.74	3420	1	4.87	3517	4	4.05	3010	11
20	5	0.2	0.25	4.73	3420	1	3.82	3816	1	4.31	3897	17
20	5	0.5	0	2.19	3040	1	2.58	2650	1	2.53	3167	13
20	5	0.5	0.1	2.77	3990	1	2.61	3171	1	2.35	3305	1
20	5	0.5	0.25	8.42	7030	13	6.44	3981	7	6.34	3239	35
20	5	0.8	0	1.27	2660	1	1.63	2745	1	1.43	2129	1
20	5	0.8	0.1	1.79	3610	2	1.77	2658	2	1.26	1907	12
20	5	0.8	0.25	1.1	2660	1	1.24	1740	1	3.34	11042	645
20	8	0.2	0	46.64	7030	439	44.25	7168	516	32.36	6844	319
20	8	0.2	0.1	232.09	10640	2329	208.87	9440	3291	200.57	12276	3122
20	8	0.2	0.25	318.28	9500	4610	249.51	7613	4755	193.91	9255	4131
20	8	0.5	0	31.82	5320	433	22.98	4661	636	19.02	5086	500
20	8	0.5	0.1	21.82	4940	331	18.07	4736	447	14.42	5437	218
20	8	0.5	0.25	44.19	7030	322	19.51	5095	376	21.64	4388	610
20	8	0.8	0	3.09	3990	3	2.75	2997	3	2.38	2433	6
20	8	0.8	0.1	3.45	5320	4	2.67	3020	5	2.61	2720	5
20	8	0.8	0.25	2.04	3610	9	2.22	2094	10	2.08	1553	8
25	5	0.2	0	16.9	5400	1	11.85	5608	1	12.19	6604	1
25	5	0.2	0.1	13.47	6000	5	11.67	4977	6	12.6	7261	1
25	5	0.2	0.25	14.53	7200	1	14.19	5432	14	13.41	5499	3
25	5	0.5	0	8.2	6600	1	6.75	4941	12	7.3	5868	6
25	5	0.5	0.1	8.34	5400	1	6.02	4747	1	6.76	5284	1
25	5	0.5	0.25	34.81	10500	44	20.83	5731	49	20.64	6179	50
25	5	0.8	0	3.45	3600	1	2.68	3223	1	2.85	2918	6
25	5	0.8	0.1	3.51	3600	1	3.57	3884	1	3.64	3131	12
25	5	0.8	0.25	3.13	5700	3	3.2	3520	1	2.21	2421	5

time: 24h time limit exceeded.

Table EC.4 Comparison of a variant without filtering of cuts and two strategies of cut filtering.

n	p	ϑ	α	BDCF			BDCF1			BDCF2		
				Time[s]	#Cut	#No	Time[s]	#Cut	#No	Time[s]	#Cut	#No
25	8	0.2	0	278.71	13800	660	194.31	11428	941	132.5	9820	715
25	8	0.2	0.1	1624.79	14400	5426	848.47	13686	4113	884.7	10829	5760
25	8	0.2	0.25	1651.51	11400	7546	794.44	7976	6393	587.85	9228	6128
25	8	0.5	0	95.18	10800	465	27.16	5444	153	31.39	6211	229
25	8	0.5	0.1	278.95	12300	1383	191.72	13658	1374	101.17	8833	1186
25	8	0.5	0.25	418.98	12900	1920	187.18	8917	2125	195.06	10506	2977
25	8	0.8	0	8.88	7500	10	6.79	4205	15	6.47	3606	16
25	8	0.8	0.1	10.67	7500	11	10.84	6864	36	8.09	4510	15
25	8	0.8	0.25	4.57	6300	41	3.8	1942	22	3.23	1675	36
40	5	0.2	0	270.82	17940	25	221.75	19936	3	237.31	21919	31
40	5	0.2	0.1	122.05	19500	1	116.83	15868	1	160.98	16868	20
40	5	0.2	0.25	198.18	15600	42	164.38	16308	20	149.51	18351	1
40	5	0.5	0	112.69	17160	3	75.85	17821	1	91.03	20273	3
40	5	0.5	0.1	72.46	17160	1	65.44	14894	3	78.86	19646	43
40	5	0.5	0.25	72.31	15600	11	59.19	15357	15	50.33	18718	1
40	5	0.8	0	41.75	17160	1	26.41	11120	1	25.17	12603	1
40	5	0.8	0.1	59.13	14820	9	36.57	12747	1	37.7	15021	1
40	5	0.8	0.25	26.56	14820	1	20.13	9124	1	23.62	10714	1
40	8	0.2	0	7145.35	34320	528	1601.63	26279	341	2018.81	23237	590
40	8	0.2	0.1	2537.9	36660	199	979.26	23707	131	898.95	23812	137
40	8	0.2	0.25	8876.23	35880	1134	4658.36	30766	1351	3711.55	31801	1827
40	8	0.5	0	1006.54	22620	371	1458.75	27640	989	834.89	18044	688
40	8	0.5	0.1	2914.17	37440	1105	1217.35	24095	1220	1501.84	24424	1331
40	8	0.5	0.25	20172.4	41340	5539	5666.85	27415	4508	7843.22	41395	6117
40	8	0.8	0	292.88	23400	51	74.74	11811	108	95.71	12964	23
40	8	0.8	0.1	436.78	27300	185	153.09	12182	136	161.65	13803	193
40	8	0.8	0.25	213.07	28080	265	108.46	16338	289	109.22	18517	474
50	5	0.2	0	613.42	29400	1	596.79	26448	1	657.96	27134	1
50	5	0.2	0.1	468.11	25725	1	504.91	23640	5	550.45	25322	4
50	5	0.2	0.25	447.91	24500	1	468.2	22919	18	493.28	23131	1
50	5	0.5	0	365.71	33075	5	295.45	23240	62	322.53	23548	21
50	5	0.5	0.1	161.63	20825	1	178.11	17299	19	154.74	17835	1
50	5	0.5	0.25	211.08	33075	1	232.84	24937	2	220.67	23082	5
50	5	0.8	0	103.24	15925	23	96.27	19276	6	78.42	14282	15
50	5	0.8	0.1	95.24	19600	1	79.74	17606	1	103.96	19180	19
50	5	0.8	0.25	46.02	19600	1	41.16	10151	1	38.54	12423	63
50	8	0.2	0	23693.3	58800	389	3334.5	40074	131	3560.09	38701	104
50	8	0.2	0.1	time	time	time	33190.2	47404	2316	32423.9	60075	2139
50	8	0.2	0.25	time	time	time	60028.9	53881	8969	45321.1	68057	5759
50	8	0.5	0	13196.1	42875	603	2277.12	36836	602	1996.59	30812	648
50	8	0.5	0.1	54650	62475	3727	24490.4	44808	4319	16446.8	38795	4755
50	8	0.5	0.25	time	time	time	24486.2	48537	6042	14467.9	50192	6432
50	8	0.8	0	207.99	25725	11	134.04	15966	3	142.98	15966	14
50	8	0.8	0.1	1352.77	44100	110	577.35	30713	254	402.82	22741	124
50	8	0.8	0.25	182.76	40425	23	144.37	19024	251	120.08	14405	207

time: 24h time limit exceeded.

Table EC.5 Comparison of three strategies for adding cuts in the B&B tree: only for integer solutions (BDC), for all integer solutions and fractional solutions at the root node (BDCFR) and for all integer and fractional solutions (BDCFA).

n	p	ϑ	α	BDC			BDCFR			BDCFA		
				Time[s]	#Cut	#No	Time[s]	#Cut	#No	Time[s]	#Cut	#No
10	5	0.2	0	0.36	1261	239	0.27	983	1	0.24	983	1
10	5	0.2	0.1	0.24	1152	158	0.31	912	1	0.31	912	1
10	5	0.2	0.25	0.2	1286	78	0.33	887	7	0.39	927	3
10	5	0.5	0	0.17	1370	115	0.13	493	1	0.14	493	1
10	5	0.5	0.1	0.1	855	31	0.15	670	1	0.16	670	1
10	5	0.5	0.25	0.12	1083	73	0.24	771	3	0.26	772	2
10	5	0.8	0	0.09	875	31	0.1	540	1	0.1	540	1
10	5	0.8	0.1	0.09	899	86	0.12	636	1	0.12	636	1
10	5	0.8	0.25	0.09	927	45	0.1	478	1	0.11	478	1
10	8	0.2	0	1.15	2036	601	1.06	1877	174	8.42	5104	107
10	8	0.2	0.1	0.95	2006	463	0.69	1137	88	2.22	2240	31
10	8	0.2	0.25	2.37	1800	2059	0.99	1347	226	2.39	1939	44
10	8	0.5	0	0.21	949	171	0.28	910	10	0.29	929	3
10	8	0.5	0.1	0.37	1672	301	0.38	749	55	0.88	1069	23
10	8	0.5	0.25	0.74	2082	981	0.51	1355	191	1.77	1340	42
10	8	0.8	0	0.14	1064	161	0.2	685	43	0.58	718	21
10	8	0.8	0.1	0.18	1228	206	0.21	687	34	0.32	696	9
10	8	0.8	0.25	0.21	1345	378	0.16	603	80	0.53	492	34
20	5	0.2	0	5.66	5684	880	4.25	2580	4	4.5	2718	2
20	5	0.2	0.1	4.89	7505	253	4.05	3010	11	4.08	3180	2
20	5	0.2	0.25	3.25	5890	321	4.31	3897	17	4.18	4172	2
20	5	0.5	0	4.58	7352	633	2.53	3167	13	2.75	3416	2
20	5	0.5	0.1	4.36	7178	810	2.35	3305	1	2.27	3305	1
20	5	0.5	0.25	3.08	6788	557	6.34	3239	35	7.92	3375	6
20	5	0.8	0	4.87	11299	841	1.43	2129	1	1.46	2129	1
20	5	0.8	0.1	4.46	9767	1303	1.26	1907	12	1.72	2025	3
20	5	0.8	0.25	5.91	15854	1515	3.34	11042	645	1.43	2668	5
20	8	0.2	0	217.82	16327	10107	32.36	6844	319	182.47	16911	82
20	8	0.2	0.1	334.68	23589	14460	200.57	12276	3122	2802.68	66352	348
20	8	0.2	0.25	304.42	23537	14431	193.91	9255	4131	6997.9	96650	644
20	8	0.5	0	115.02	17822	8111	19.02	5086	500	67.07	10234	81
20	8	0.5	0.1	69.88	14899	9202	14.42	5437	218	29.64	5854	32
20	8	0.5	0.25	30.49	13833	2710	21.64	4388	610	34.81	5731	48
20	8	0.8	0	8.87	7049	1909	2.38	2433	6	3.02	2471	4
20	8	0.8	0.1	15.07	13506	1577	2.61	2720	5	3.74	2752	4
20	8	0.8	0.25	16.57	20390	8392	2.08	1553	8	3.12	1619	7
25	5	0.2	0	25.15	9858	1348	12.19	6604	1	14.66	6604	1
25	5	0.2	0.1	11.31	9337	431	12.6	7261	1	14.62	7261	1
25	5	0.2	0.25	13.79	12448	497	13.41	5499	3	16.38	5629	2
25	5	0.5	0	19.27	9173	1760	7.3	5868	6	7.68	6267	2
25	5	0.5	0.1	21.23	12181	741	6.76	5284	1	6.57	5284	1
25	5	0.5	0.25	15.87	15402	1328	20.64	6179	50	34.08	7115	15
25	5	0.8	0	19.82	15053	2848	2.85	2918	6	3.07	2979	2
25	5	0.8	0.1	26.5	23382	3094	3.64	3131	12	3.71	3188	2
25	5	0.8	0.25	23.78	33632	3102	2.21	2421	5	2.57	2429	3

time: 24h time limit exceeded.

Table EC.6 Comparison of three strategies for adding cuts in the B&B tree: only for integer solutions (BDC), for all integer solutions and fractional solutions at the root node (BDCFR) and for all integer and fractional solutions (BDCFA).

n	p	ϑ	α	BDC			BDCFR			BDCFA		
				Time[s]	#Cut	#No	Time[s]	#Cut	#No	Time[s]	#Cut	#No
25	8	0.2	0	871.68	34314	12170	132.5	9820	715	2422.3	53729	183
25	8	0.2	0.1	2454.49	41996	39951	884.7	10829	5760	5667.89	67895	378
25	8	0.2	0.25	2617.95	43273	36441	587.85	9228	6128	4305.17	58438	432
25	8	0.5	0	845.42	17570	26408	31.39	6211	229	251.19	15743	123
25	8	0.5	0.1	1148.15	27643	55044	101.17	8833	1186	364.86	19007	110
25	8	0.5	0.25	576.62	31215	37571	195.06	10506	2977	1484.67	30594	359
25	8	0.8	0	137.99	19638	17229	6.47	3606	16	9.32	3803	11
25	8	0.8	0.1	73.33	26939	8081	8.09	4510	15	11.18	4074	9
25	8	0.8	0.25	141.19	37456	29810	3.23	1675	36	6.5	1808	19
40	5	0.2	0	752.59	38736	4336	237.31	21919	31	216.35	22665	2
40	5	0.2	0.1	330.22	42149	1361	160.98	16868	20	165.73	18223	2
40	5	0.2	0.25	160.46	32492	1255	149.51	18351	1	146.47	18351	1
40	5	0.5	0	1157.8	45248	12879	91.03	20273	3	89.55	20882	3
40	5	0.5	0.1	358.51	46171	3780	78.86	19646	43	75.16	20944	2
40	5	0.5	0.25	132.26	37969	2277	50.33	18718	1	51.45	18718	1
40	5	0.8	0	415.92	62323	9028	25.17	12603	1	25.11	12603	1
40	5	0.8	0.1	145.78	52659	3639	37.7	15021	1	37.12	15021	1
40	5	0.8	0.25	242.87	141256	7431	23.62	10714	1	23.77	10714	1
40	8	0.2	0	28233.6	91072	30091	2018.81	23237	590	4798.21	41470	75
40	8	0.2	0.1	25035.5	108140	34331	898.95	23812	137	1287.42	25896	10
40	8	0.2	0.25	42454.5	93648	74207	3711.55	31801	1827	38429.9	116882	314
40	8	0.5	0	44103.1	77627	98921	834.89	18044	688	1340.8	30636	29
40	8	0.5	0.1	24220.4	91836	70077	1501.84	24424	1331	6882.92	48108	309
40	8	0.5	0.25	12972.4	115014	151458	7843.22	41395	6117	72772.5	96036	1056
40	8	0.8	0	10043.2	94801	68928	95.71	12964	23	114.64	13263	9
40	8	0.8	0.1	5122.28	90192	88275	161.65	13803	193	309.23	13431	31
40	8	0.8	0.25	5837.06	174987	184831	109.22	18517	474	292.82	12568	100
50	5	0.2	0	2106.62	74970	5447	657.96	27134	1	618.29	27134	1
50	5	0.2	0.1	1336.94	70488	3546	550.45	25322	4	504.8	26107	2
50	5	0.2	0.25	493.39	53979	1606	493.28	23131	1	435.01	23131	1
50	5	0.5	0	3986.35	82058	19623	322.53	23548	21	290.69	24662	2
50	5	0.5	0.1	1526.88	99633	5760	154.74	17835	1	149.75	17835	1
50	5	0.5	0.25	776.8	60604	6350	220.67	23082	5	228.27	23647	5
50	5	0.8	0	2439.55	94099	23729	78.42	14282	15	75.6	14779	2
50	5	0.8	0.1	1994.74	136131	21378	103.96	19180	19	94.91	19721	2
50	5	0.8	0.25	703.71	167829	15019	38.54	12423	63	44.73	11533	2
50	8	0.2	0	time	time	time	3560.09	38701	104	4582.84	42865	16
50	8	0.2	0.1	time	time	time	32423.9	60075	2139	time	time	time
50	8	0.2	0.25	time	time	time	45321.1	68057	5759	time	time	time
50	8	0.5	0	time	time	time	1996.59	30812	648	8537.87	46310	90
50	8	0.5	0.1	time	time	time	16446.8	38795	4755	time	time	time
50	8	0.5	0.25	time	time	time	14467.9	50192	6432	time	time	time
50	8	0.8	0	63116.7	177009	266421	142.98	15966	14	193.1	16095	9
50	8	0.8	0.1	38800.2	221718	265619	402.82	22741	124	830.06	26213	39
50	8	0.8	0.25	25845.2	234459	387056	120.08	14405	207	394.2	13857	54

time: 24h time limit exceeded.