Experimental Results

Our algorithm is implemented in C++ and our experiments run on a 2.5 GHz Intel Core i5-3210M processor with 4GB memory. The experimental environment of the three previous algorithms are a little bit different, but on the same level. The experiments of Balasundaram et al. were performed on Dell Precision PWS690 machines with a 2.66 GHz Xeon Processor, 3GB main memory, implemented using ILOG CPLEX 10.0. The experiments of McClosky and Hicks were run on a 2.2GHz Dual-Core AMD Opteron processor with 3GB main memory. Moser et al. used an AMD Athlon 64 3700+ machine with 2.2GHz, 1M L2 cache, and 3GB main memory.

Instances $(\|V\|, \|E\|)$	k	Running time in seconds			
		IPBC	OsterPlex	GuidedBranching	Our
ERDOS-97-1 (472, 1314)	2	1.5	0	0.26	0.01
	3	1.8	19	0.57	0.01
	4	2.2	1897	1.12	0.00
	5	5.7	-	6.12	0.01
ERDOS-97-2 (5488, 8972)	2	392.9	1253	4.76	0.01
	3	394.1	$\geq$3600	12.53	0.03
	4	424.0	$\geq$3600	8.86	0.01
	5	1042.8	-	45.07	0.01
ERDOS-98-1 (485, 1381)	2	1.7	0	0.14	0.01
	3	1.8	20	0.98	0.02
	4	2.8	1675	1.14	0.00
	5	7.9	-	6.11	0.01
ERDOS-98-2 (5822, 9505)	2	464.3	1514	5.88	0.02
	3	457.1	$\geq$3600	23.58	0.04
	4	614.7	$\geq$3600	10.31	0.01
	5	1664.6	-	52.81	0.02
ERDOS-99-1 (492, 1417)	2	1.8	0	0.17	0.01
	3	1.8	21	1.8	0.02
	4	1.8	1783	1.47	0.01
	5	9.9	-	8.04	0.01
ERDOS-99-2 (6100, 9939)	2	526.5	1757	7.05	0.02
	3	520.0	$\geq$3600	33.82	0.05
	4	526.3	$\geq$3600	17.23	0.02
	5	653.5	-	122.6	0.02

Table 1: Results for Erdös instances

Instances $(\|V\|, \|E\|)$	k	Running time in seconds			
		IPBC	OsterPlex	GuidedBranching	Our
GEOM-0 (7343, 11898)	2	2384.4	397	9.73	0.01
	3	2387.1	$\geq$3600	9.67	0.01
	4	2383.7	$\geq$3600	9.6	0.01
	5	2298.1	-	9.64	0.01
GEOM-1 (7343, 3939)	2	753.2	1118	5.23	0.00
	3	747.7	$\geq$3600	5.15	0.01
	4	743.7	$\geq$3600	5.45	0.01
	5	691.6	-	8.11	0.01
GEOM-2 (7343, 1976)	2	530.6	1145	3.36	0.01
	3	524.3	$\geq$3600	3.42	0.00
	4	522.2	$\geq$3600	3.46	0.00
	5	472.6	-	13.68	0.01

Table 2: Results for GEOM instances

Instances $(\|V\|, \|E\|)$	k	Running time in seconds		
		IPBC	GuidedBranching	Our
DAYS-3 (13332, 5616)	2	3367.8	20.44	0.01
	3	3395.4	21.49	0.01
	4	3489.8	20.45	0.01
	5	15336.9	78.64	0.01
DAYS-4 (13332, 3251)	2	2635.7	17.69	0.00
	3	2625.1	17.85	0.00
	4	2642.3	17.68	0.00
	5	6201.4	37.74	0.01
DAYS-5 (13332, 2179)	2	2462.9	0.11	0.01
	3	2445.5	0.37	0.01
	4	2426.3	0.31	0.00
	5	2820.8	2.09	0.00

Table 3: Results for DAYS instances

Instances $(\|V\|, \|E\|)$	k	k-plex size, running time in seconds		
		IPBC	GuidedBranching	Our
c-fat200-1 (200, 1534)	1	12, 17.1	12, 0.21	12, 0.01
	2	12, 148.9	12, 1.10	12, 0.01
c-fat200-2 (200, 3235)	1	24, 10.4	24, 0.42	24, 0.01
	2	24, 19.1	24, 3.53	24, 0.01
c-fat200-5 (200, 8473)	1	58, 2.1	58, 1.17	58, 0.01
	2	58, 2.1	58, 22.44	58, 0.01
c-fat500-1 (500, 4459)	1	14, 1334.4	14, 3.95	14, 0.04
	2	14, 1356.1	14, 11.01	14, 0.05
c-fat500-2 (500, 9139)	1	26, 535.7	26, 7.25	26, 0.05
	2	26, 605.3	26, 50.21	26, 0.06
c-fat500-5 (500, 23191)	1	64, 141.6	64, 17.61	64, 0.05
	2	64, 141.5	64, 350.56	64, 0.05
c-fat500-10 (500, 46627)	1	126, 39.9	126, 36.28	126, 0.07
	2	126, 76.5	126, 1547.25	126, 0.07
hamming6-2 (64, 1824)	1	32, 0.0	32, 0.00	32, 0.04
	2	32, 0.0	32, 1.77	32, 33.36
hamming6-4 (64, 704)	1	4, 0.2	4, 0.05	4, 0.00
	2	6, 0.3	6, 0.24	6, 0.06
hamming8-4 (256, 20864)	1	16, 52.2	16, 243.11	16, 129.25
	2	16, 8115.2	[16,171],$\geq$10800	[2,64],$\geq$10800
johnson8-2-4 (28, 210)	1	4, 0.0	4, 0.00	4, 0.00
	2	5, 0.0	5, 0.02	5, 0.01
johnson8-4-4 (70, 1855)	1	14, 0.1	14, 0.44	14, 0.21
	2	14, 4.4	14, 40.70	14, 265.32
MANN_a9 (45, 918)	1	16, 0.0	16, 0.00	16, 11.7
	2	26, 0.0	26, 0.09	26, 4.78
brock200_1 (200, 14834)	1	[20,31], $\geq$10800	21, 794.73	21, 2206.61
	2	[25,53],$\geq$10800	[24,134],$\geq$10800	[2,100],$\geq$10800
brock200_2 (200, 9876)	1	12, 152.5	12, 23.13	12, 3.54
	2	[13,24],$\geq$10800	13, 606.16	13, 512.59
brock200_4 (200, 13089)	1	17, 6617.5	17, 204.58	17, 117.2
	2	[19,41],$\geq$10800	20, 9691.01	[2,50],$\geq$10800
p_hat300-1 (300, 10933)	1	8, 127.0	8, 29.72	8, 0.64
	2	[9,66],$\geq$10800	10, 502.48	10, 46.83
p_hat300-2 (300, 21928)	1	[25,51],$\geq$10800	25, 242.77	25, 91.38
	2	[28,85],$\geq$10800	[28,200],$\geq$10800	[29,38],$\geq$10800
p_hat700-1 (700, 60999)	1	[11,40],$\geq$10800	11, 1464.41	11, 60.17
	2	[10,291],$\geq$10800	[11,467],$\geq$10800	[12,22],$\geq$10800

Table 4: Results for DIMACS instances