Results for instances from collection
TeamFormation-QKP-2

File Synthetic_TF_01000.txt

Property of graph	Value
Nodes (n)	1,000
Density (Δ)	13.4 %
Edges (m)	67,159

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	GR	DP	QK	Gurobi	Hexaly	QKBP*	GR	DP	QK	Gurobi	Hexaly
2.5	31.9	**0.00**	32.21	inf	inf	**0.00**	**0.00**	**0.00**	2.7	120.0	120.0	6.8	120.0
5.0	57.6	**0.00**	36.14	inf	inf	**0.00**	**0.00**	**0.00**	5.9	120.0	120.0	11.4	120.0
10.0	104.5	0.05	23.69	inf	inf	**0.00**	3.18	**0.01**	11.2	120.0	120.0	11.7	120.0
25.0	229.6	0.07	10.29	inf	inf	**0.00**	1.23	**0.01**	25.8	120.0	120.0	39.8	120.0
50.0	418.1	0.02	1.91	inf	inf	**0.00**	0.09	**0.01**	42.6	120.0	120.0	39.3	120.0
75.0	573.0	**0.00**	1.02	inf	inf	**0.00**	0.04	**0.01**	54.4	120.0	120.0	15.7	120.0
90.0	629.4	**0.00**	0.09	inf	inf	**0.00**	**0.00**	**0.01**	61.2	120.0	120.0	11.5	70.0
95.0	640.0	**0.00**	0.04	5.61	inf	0.01	**0.00**	**0.01**	61.7	105.2	120.0	8.6	28.0
Avg		0.02	13.17	inf	inf	**0.00**	0.57	**0.01**	33.2	118.2	120.0	18.1	102.2
Min		**0.00**	0.04	5.61	inf	**0.00**	**0.00**	**0.00**	2.7	105.2	120.0	6.8	28.0
Max		0.07	36.14	inf	inf	**0.01**	3.18	**0.01**	61.7	120.0	120.0	39.8	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	162
Running time in seconds for writing input file (t^{write})	3.3
Running time in seconds for executing parametric cut procedure (t^{cut})	0.4
Running time in seconds for reading result file (t^{read})	0.0

File Synthetic_TF_02000.txt

Property of graph	Value
Nodes (n)	2,000
Density (Δ)	12.4 %
Edges (m)	247,696

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	GR	DP	QK	Gurobi	Hexaly	QKBP*	GR	DP	QK	Gurobi	Hexaly
2.5	116.5	0.50	33.47	inf	inf	**0.00**	10.31	**0.03**	14.5	120.0	120.0	85.6	120.0
5.0	208.6	0.02	20.98	inf	inf	**0.00**	10.43	**0.03**	31.9	120.0	120.0	115.9	120.0
10.0	372.3	**0.00**	14.13	inf	inf	46.86	4.36	**0.04**	72.8	120.0	120.0	120.3	120.0
25.0	839.3	**0.00**	4.37	inf	inf	67.89	0.64	**0.07**	120.0	120.0	120.0	120.6	120.0
50.0	1,598.5	**0.00**	1.88	inf	inf	40.12	0.21	**0.05**	120.0	120.0	120.0	120.7	120.0
75.0	2,236.5	**0.00**	0.19	inf	inf	0.01	0.06	**0.06**	120.2	120.0	120.0	81.7	120.0
90.0	2,486.5	**0.00**	0.02	inf	inf	**0.00**	0.01	**0.07**	120.0	120.0	120.0	66.0	120.0
95.0	2,537.4	**0.00**	0.01	inf	inf	**0.00**	**0.00**	**0.07**	120.0	120.0	120.0	57.8	120.0
Avg		**0.07**	9.38	inf	inf	19.36	3.25	**0.05**	89.9	120.0	120.0	96.1	120.0
Min		**0.00**	0.01	inf	inf	**0.00**	**0.00**	**0.03**	14.5	120.0	120.0	57.8	120.0
Max		**0.50**	33.47	inf	inf	67.89	10.43	**0.07**	120.2	120.0	120.0	120.7	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	134
Running time in seconds for writing input file (t^{write})	7.8
Running time in seconds for executing parametric cut procedure (t^{cut})	1.0
Running time in seconds for reading result file (t^{read})	0.0

File Synthetic_TF_04000.txt

Property of graph	Value
Nodes (n)	4,000
Density (Δ)	12.7 %
Edges (m)	1,014,045

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	GR	DP	QK	Gurobi	Hexaly	QKBP*	GR	DP	QK	Gurobi	Hexaly
2.5	391.4	**0.00**	46.76	inf	inf	2,355.68	11.13	**0.09**	120.0	120.0	120.0	120.5	122.0
5.0	709.4	**0.00**	29.59	inf	inf	643.54	6.56	**0.13**	120.0	120.0	120.0	120.5	122.0
10.0	1,291.4	**0.00**	11.24	inf	inf	263.88	4.22	**0.38**	120.1	120.0	120.0	120.5	122.0
25.0	3,149.7	**0.00**	2.15	inf	inf	118.24	2.31	**0.33**	120.1	120.0	120.0	120.5	122.0
50.0	6,177.8	**0.00**	0.50	inf	inf	49.30	1.60	**0.26**	120.5	120.0	120.0	120.5	122.0
75.0	8,717.6	**0.00**	0.11	inf	inf	17.27	0.60	**0.28**	120.1	120.0	120.0	120.9	122.0
90.0	9,775.0	**0.00**	**0.00**	inf	inf	6.94	0.15	**0.32**	120.4	120.0	120.0	120.5	122.0
95.0	10,009.0	**0.00**	**0.00**	inf	inf	2.87	0.04	**0.34**	120.4	120.0	120.0	120.5	122.0
Avg		**0.00**	11.29	inf	inf	432.21	3.33	**0.27**	120.2	120.0	120.0	120.6	122.0
Min		**0.00**	**0.00**	inf	inf	2.87	0.04	**0.09**	120.0	120.0	120.0	120.5	122.0
Max		**0.00**	46.76	inf	inf	2,355.68	11.13	**0.38**	120.5	120.0	120.0	120.9	122.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	161
Running time in seconds for writing input file (t^{write})	19.5
Running time in seconds for executing parametric cut procedure (t^{cut})	2.7
Running time in seconds for reading result file (t^{read})	0.0

File Synthetic_TF_06000.txt

Property of graph	Value
Nodes (n)	6,000
Density (Δ)	12.5 %
Edges (m)	2,257,990

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	GR	DP	QK	Gurobi	Hexaly	QKBP*	GR	DP	QK	Gurobi	Hexaly
2.5	655.8	**0.00**	28.88	inf	inf	721.50	19.13	**0.22**	120.1	120.0	120.0	120.5	120.0
5.0	1,284.3	**0.00**	13.75	inf	inf	475.95	6.77	**0.22**	120.0	120.0	120.0	121.2	120.0
10.0	2,666.5	**0.00**	6.91	inf	inf	255.96	7.67	**0.45**	120.2	120.0	120.0	121.0	120.0
25.0	6,883.5	**0.00**	1.57	inf	inf	99.76	4.44	**0.71**	120.8	120.0	120.0	121.5	120.0
50.0	13,690.9	**0.00**	0.52	inf	inf	42.19	3.26	**0.55**	121.1	120.0	120.0	122.4	120.0
75.0	19,597.2	**0.00**	0.01	inf	inf	17.78	1.65	**0.64**	120.2	120.0	120.0	121.3	120.0
90.0	22,107.8	**0.00**	**0.00**	inf	inf	6.56	0.46	**0.70**	120.9	120.0	120.0	121.2	120.0
95.0	22,652.0	**0.00**	**0.00**	inf	inf	2.59	0.15	**0.73**	121.6	120.0	120.0	121.3	120.0
Avg		**0.00**	6.46	inf	inf	202.79	5.44	**0.53**	120.6	120.0	120.0	121.3	120.0
Min		**0.00**	**0.00**	inf	inf	2.59	0.15	**0.22**	120.0	120.0	120.0	120.5	120.0
Max		**0.00**	28.88	inf	inf	721.50	19.13	**0.73**	121.6	120.0	120.0	122.4	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	168
Running time in seconds for writing input file (t^{write})	35.9
Running time in seconds for executing parametric cut procedure (t^{cut})	4.9
Running time in seconds for reading result file (t^{read})	0.0

File Synthetic_TF_08000.txt

Property of graph	Value
Nodes (n)	8,000
Density (Δ)	12.6 %
Edges (m)	4,023,218

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	GR	DP	QK	Gurobi	Hexaly	QKBP*	GR	DP	QK	Gurobi	Hexaly
2.5	1,228.3	**0.00**	33.13	inf	inf	inf	16.77	**0.34**	120.0	120.0	120.0	120.6	120.0
5.0	2,327.9	**0.00**	21.44	inf	inf	inf	13.86	**0.37**	120.3	120.0	120.0	120.7	120.0
10.0	4,702.1	**0.00**	7.76	inf	inf	inf	8.91	**1.02**	120.2	120.0	120.0	120.6	120.0
25.0	12,082.6	**0.00**	1.78	inf	inf	inf	7.36	**1.39**	121.0	120.0	120.0	120.6	120.0
50.0	24,279.4	**0.00**	0.26	inf	inf	inf	5.89	**1.03**	120.3	120.0	120.0	120.6	120.0
75.0	34,905.3	**0.00**	0.04	inf	inf	inf	3.57	**1.22**	122.7	120.0	120.0	120.6	120.0
90.0	39,378.8	**0.00**	**0.00**	inf	inf	inf	1.23	**1.34**	120.1	120.0	120.0	120.6	120.0
95.0	40,344.0	**0.00**	**0.00**	inf	inf	inf	0.47	**1.38**	121.4	120.0	120.0	120.6	120.0
Avg		**0.00**	8.05	inf	inf	inf	7.26	**1.01**	120.8	120.0	120.0	120.6	120.0
Min		**0.00**	**0.00**	inf	inf	inf	0.47	**0.34**	120.0	120.0	120.0	120.6	120.0
Max		**0.00**	33.13	inf	inf	inf	16.77	**1.39**	122.7	120.0	120.0	120.7	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	187
Running time in seconds for writing input file (t^{write})	55.9
Running time in seconds for executing parametric cut procedure (t^{cut})	8.0
Running time in seconds for reading result file (t^{read})	0.1

File Synthetic_TF_10000.txt

Property of graph	Value
Nodes (n)	10,000
Density (Δ)	12.8 %
Edges (m)	6,383,021

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	GR	DP	QK	Gurobi	Hexaly	QKBP*	GR	DP	QK	Gurobi	Hexaly
2.5	1,827.9	**0.00**	33.38	inf	inf	inf	35.15	**0.64**	120.2	120.0	120.0	121.0	120.0
5.0	3,518.4	**0.00**	18.66	inf	inf	inf	24.98	**0.65**	120.3	120.0	120.0	121.1	120.0
10.0	7,107.6	**0.00**	6.87	inf	inf	inf	16.73	**1.63**	121.0	120.0	120.0	121.1	120.0
25.0	18,590.7	**0.00**	1.20	inf	inf	inf	13.95	**2.35**	121.4	120.0	120.0	121.1	120.0
50.0	37,622.0	**0.00**	0.27	inf	inf	inf	12.05	**1.51**	123.5	120.0	120.0	121.0	120.0
75.0	54,050.2	**0.00**	0.03	inf	inf	inf	6.63	**2.00**	121.9	120.0	120.0	121.0	120.0
90.0	61,092.6	**0.00**	**0.00**	inf	inf	inf	2.34	**2.20**	123.2	120.0	120.0	121.0	120.0
95.0	62,630.4	**0.00**	**0.00**	inf	inf	inf	0.96	**2.33**	125.0	120.0	120.0	121.0	120.0
Avg		**0.00**	7.55	inf	inf	inf	14.10	**1.66**	122.1	120.0	120.0	121.1	120.0
Min		**0.00**	**0.00**	inf	inf	inf	0.96	**0.64**	120.2	120.0	120.0	121.0	120.0
Max		**0.00**	33.38	inf	inf	inf	35.15	**2.35**	125.0	120.0	120.0	121.1	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	174
Running time in seconds for writing input file (t^{write})	81.6
Running time in seconds for executing parametric cut procedure (t^{cut})	11.9
Running time in seconds for reading result file (t^{read})	0.1