Results for instances from collection `New-QKP`

File qkp_new_00500_005_0.txt

Property of graph	Value
Nodes (n)	500
Density (Δ)	5.0 %
Edges (m)	6,248

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	9,577.0	0.95	0.45	1.57	—	**0.00**	**0.00**	**0.01**	1.4	38.4	120.0	1.1	30.0
5.0	18,674.0	0.67	0.28	0.47	—	**0.00**	**0.00**	**0.00**	2.2	53.5	120.0	2.5	38.0
10.0	36,572.0	0.38	0.21	0.32	—	**0.00**	**0.00**	**0.01**	3.3	69.7	120.0	1.1	25.0
25.0	88,274.0	0.20	0.11	0.10	—	**0.00**	**0.00**	**0.00**	5.6	94.6	120.0	1.3	68.0
50.0	169,979.0	0.29	0.08	0.12	—	**0.00**	0.01	**0.01**	7.9	89.3	120.0	7.0	120.0
75.0	249,249.0	0.01	0.01	**0.00**	—	**0.00**	**0.00**	**0.00**	9.8	68.8	120.0	1.1	67.0
90.0	293,522.0	0.03	**0.00**	**0.00**	—	**0.00**	**0.00**	**0.00**	10.6	55.4	120.0	2.4	120.0
95.0	306,502.0	0.09	0.02	**0.00**	—	**0.00**	**0.00**	**0.00**	10.9	48.3	120.0	1.1	18.0
Avg		0.33	0.15	0.32	—	**0.00**	0.00	**0.00**	6.5	64.7	120.0	2.2	60.8
Min		0.01	**0.00**	**0.00**	—	**0.00**	**0.00**	**0.00**	1.4	38.4	120.0	1.1	18.0
Max		0.95	0.45	1.57	—	**0.00**	0.01	**0.01**	10.9	94.6	120.0	7.0	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	35
Running time in seconds for writing input file (t^{write})	1.6
Running time in seconds for executing parametric cut procedure (t^{cut})	0.2
Running time in seconds for reading result file (t^{read})	0.0

File qkp_new_00500_010_0.txt

Property of graph	Value
Nodes (n)	500
Density (Δ)	10.0 %
Edges (m)	12,602

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	18,740.0	0.78	0.24	0.80	—	**0.00**	**0.00**	**0.01**	1.6	41.8	120.0	2.5	39.0
5.0	36,014.0	**0.00**	**0.00**	0.06	—	**0.00**	**0.00**	**0.01**	2.4	54.8	120.0	5.6	73.0
10.0	69,389.0	**0.00**	0.01	0.35	—	**0.00**	**0.00**	**0.01**	3.6	72.2	120.0	10.8	63.0
25.0	169,476.0	**0.00**	0.04	0.03	—	**0.00**	0.01	**0.01**	5.7	88.1	120.0	6.4	120.0
50.0	331,442.0	0.12	**0.00**	0.03	—	**0.00**	0.10	**0.01**	8.1	84.5	120.0	24.2	120.0
75.0	492,624.0	0.16	0.04	0.01	—	**0.00**	**0.00**	**0.01**	9.6	67.1	120.0	6.4	120.0
90.0	584,479.0	0.05	0.01	**0.00**	—	**0.00**	**0.00**	**0.00**	10.2	51.4	120.0	2.9	53.0
95.0	612,109.0	0.20	0.19	**0.00**	—	**0.00**	0.07	**0.00**	10.4	48.0	120.0	7.6	120.0
Avg		0.16	0.07	0.16	—	**0.00**	0.02	**0.01**	6.5	63.5	120.0	8.3	88.5
Min		**0.00**	**0.00**	**0.00**	—	**0.00**	**0.00**	**0.00**	1.6	41.8	120.0	2.5	39.0
Max		0.78	0.24	0.80	—	**0.00**	0.10	**0.01**	10.4	88.1	120.0	24.2	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	27
Running time in seconds for writing input file (t^{write})	1.6
Running time in seconds for executing parametric cut procedure (t^{cut})	0.2
Running time in seconds for reading result file (t^{read})	0.0

File qkp_new_00500_015_0.txt

Property of graph	Value
Nodes (n)	500
Density (Δ)	15.0 %
Edges (m)	18,740

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	25,011.0	0.11	0.11	0.22	—	**0.00**	**0.00**	**0.00**	1.7	41.1	120.0	23.3	120.0
5.0	48,271.0	0.04	0.04	0.02	—	**0.00**	0.08	**0.01**	2.4	56.0	120.0	60.6	120.0
10.0	94,674.0	0.05	0.05	0.08	—	**0.00**	0.04	**0.01**	3.6	71.3	120.0	89.7	120.0
25.0	237,343.0	0.17	0.06	0.06	—	**0.00**	0.20	**0.01**	5.7	91.0	120.0	120.8	120.0
50.0	481,556.0	0.04	0.03	0.03	—	**0.00**	0.12	**0.01**	8.1	87.2	120.0	44.9	120.0
75.0	718,051.0	0.02	**0.00**	0.01	—	**0.00**	0.49	**0.01**	9.9	72.3	120.0	35.8	120.0
90.0	857,858.0	0.03	**0.00**	**0.00**	—	**0.00**	0.27	**0.00**	10.6	55.4	120.0	7.4	120.0
95.0	902,842.0	**0.00**	**0.00**	**0.00**	—	**0.00**	0.17	**0.00**	10.9	50.8	120.0	5.8	120.0
Avg		0.06	0.04	0.05	—	**0.00**	0.17	**0.01**	6.6	65.6	120.0	48.5	120.0
Min		**0.00**	**0.00**	**0.00**	—	**0.00**	**0.00**	**0.00**	1.7	41.1	120.0	5.8	120.0
Max		0.17	0.11	0.22	—	**0.00**	0.49	**0.01**	10.9	91.0	120.0	120.8	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	13
Running time in seconds for writing input file (t^{write})	1.7
Running time in seconds for executing parametric cut procedure (t^{cut})	0.2
Running time in seconds for reading result file (t^{read})	0.0

File qkp_new_00500_020_0.txt

Property of graph	Value
Nodes (n)	500
Density (Δ)	20.0 %
Edges (m)	24,901

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	28,684.0	0.05	0.05	0.17	—	**0.00**	**0.00**	**0.01**	1.6	40.3	120.0	120.2	120.0
5.0	59,757.0	0.30	0.08	0.09	—	0.52	**0.00**	**0.01**	2.5	55.6	120.0	120.6	120.0
10.0	123,807.0	0.50	0.12	0.15	—	0.21	**0.00**	**0.01**	3.5	72.6	120.0	126.7	120.0
25.0	320,339.0	0.31	0.02	0.02	—	**0.00**	0.24	**0.01**	5.9	88.2	120.0	120.8	120.0
50.0	644,998.0	0.34	**0.00**	0.01	—	**0.00**	0.52	**0.01**	9.0	85.7	120.0	91.5	120.0
75.0	964,071.0	0.26	0.02	**0.00**	—	**0.00**	0.40	**0.01**	11.2	65.5	120.0	113.9	120.0
90.0	1,152,268.0	0.22	0.21	0.01	—	**0.00**	0.23	**0.00**	11.8	54.3	120.0	120.7	120.0
95.0	1,212,015.0	**0.00**	**0.00**	**0.00**	—	**0.00**	0.13	**0.00**	11.8	47.2	120.0	25.3	120.0
Avg		0.25	0.06	**0.06**	—	0.09	0.19	**0.01**	7.2	63.7	120.0	105.0	120.0
Min		**0.00**	**0.00**	**0.00**	—	**0.00**	**0.00**	**0.00**	1.6	40.3	120.0	25.3	120.0
Max		0.50	0.21	**0.17**	—	0.52	0.52	**0.01**	11.8	88.2	120.0	126.7	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	10
Running time in seconds for writing input file (t^{write})	1.8
Running time in seconds for executing parametric cut procedure (t^{cut})	0.3
Running time in seconds for reading result file (t^{read})	0.0

File qkp_new_00500_025_0.txt

Property of graph	Value
Nodes (n)	500
Density (Δ)	25.0 %
Edges (m)	31,207

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	41,898.0	**0.00**	**0.00**	0.50	—	**0.00**	**0.00**	**0.00**	1.7	43.4	120.0	37.3	76.0
5.0	82,110.0	0.02	**0.00**	0.02	—	**0.00**	0.18	**0.01**	2.5	57.3	120.0	92.5	120.0
10.0	163,284.0	0.13	0.08	0.03	—	**0.00**	0.42	**0.01**	3.6	71.9	120.0	98.9	120.0
25.0	409,224.0	0.05	0.05	0.01	—	0.01	**0.00**	**0.01**	5.8	88.7	120.0	121.1	120.0
50.0	805,200.0	0.30	**0.00**	0.01	—	0.21	0.99	**0.01**	8.1	84.3	120.0	121.3	120.0
75.0	1,195,282.0	0.09	0.03	0.01	—	**0.00**	0.73	**0.01**	9.7	65.3	120.0	115.5	120.0
90.0	1,425,503.0	0.04	0.02	**0.00**	—	**0.00**	0.56	**0.01**	10.5	52.0	120.0	121.1	120.0
95.0	1,501,428.0	0.08	0.02	**0.00**	—	**0.00**	0.18	**0.00**	10.7	48.7	120.0	59.0	120.0
Avg		0.09	**0.03**	0.07	—	0.03	0.38	**0.01**	6.6	64.0	120.0	95.8	114.5
Min		**0.00**	**0.00**	**0.00**	—	**0.00**	**0.00**	**0.00**	1.7	43.4	120.0	37.3	76.0
Max		0.30	**0.08**	0.50	—	0.21	0.99	**0.01**	10.7	88.7	120.0	121.3	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	12
Running time in seconds for writing input file (t^{write})	1.8
Running time in seconds for executing parametric cut procedure (t^{cut})	0.3
Running time in seconds for reading result file (t^{read})	0.0

File qkp_new_00500_050_0.txt

Property of graph	Value
Nodes (n)	500
Density (Δ)	50.0 %
Edges (m)	62,160

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	74,904.0	0.22	0.22	**0.00**	—	0.18	0.05	**0.01**	1.7	43.7	120.0	120.1	120.0
5.0	159,926.0	1.06	0.08	**0.00**	—	0.95	0.56	**0.01**	2.5	58.9	120.0	120.1	120.0
10.0	318,170.0	**0.00**	**0.00**	**0.00**	—	**0.00**	0.82	**0.01**	3.6	73.7	120.0	118.6	120.0
25.0	783,776.0	0.20	0.05	**0.00**	—	0.54	1.48	**0.01**	5.7	88.5	120.0	120.9	120.0
50.0	1,582,969.0	0.09	0.04	**0.00**	—	0.54	1.06	**0.01**	8.0	85.3	120.0	120.1	120.0
75.0	2,372,768.0	0.39	0.02	**0.00**	—	**0.00**	1.70	**0.01**	9.5	65.5	120.0	121.4	120.0
90.0	2,834,596.0	0.05	0.03	**0.00**	—	**0.00**	0.45	**0.00**	10.3	51.6	120.0	118.9	120.0
95.0	2,986,257.0	0.06	0.06	**0.00**	—	0.03	0.23	**0.00**	10.5	46.9	120.0	120.3	120.0
Avg		0.26	0.06	**0.00**	—	0.28	0.79	**0.01**	6.5	64.3	120.0	120.0	120.0
Min		**0.00**	**0.00**	**0.00**	—	**0.00**	0.05	**0.00**	1.7	43.7	120.0	118.6	120.0
Max		1.06	0.22	**0.00**	—	0.95	1.70	**0.01**	10.5	88.5	120.0	121.4	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	8
Running time in seconds for writing input file (t^{write})	2.0
Running time in seconds for executing parametric cut procedure (t^{cut})	0.3
Running time in seconds for reading result file (t^{read})	0.0

File qkp_new_00500_075_0.txt

Property of graph	Value
Nodes (n)	500
Density (Δ)	75.0 %
Edges (m)	93,314

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	102,064.0	0.28	**0.00**	**0.00**	—	2,230.23	2.30	**0.01**	1.7	40.9	120.0	120.1	120.0
5.0	214,500.0	1.35	**0.00**	**0.00**	—	1,377.58	1.29	**0.01**	2.4	55.2	120.0	120.1	120.0
10.0	452,855.0	0.34	0.17	**0.00**	—	703.33	2.25	**0.01**	3.8	71.2	120.0	120.1	120.0
25.0	1,186,833.0	0.40	0.25	**0.00**	—	328.90	2.13	**0.01**	6.1	88.7	120.0	120.2	120.0
50.0	2,363,078.0	0.33	0.27	**0.00**	—	107.27	2.80	**0.01**	8.5	83.9	120.0	120.1	120.0
75.0	3,532,442.0	0.20	0.16	**0.00**	—	31.84	2.18	**0.01**	10.2	66.1	120.0	120.1	120.0
90.0	4,250,539.0	0.01	0.01	**0.00**	—	9.61	0.82	**0.01**	11.0	78.4	120.0	120.1	120.0
95.0	4,486,870.0	0.06	0.04	**0.00**	—	4.00	0.28	**0.00**	11.2	49.8	120.0	120.1	120.0
Avg		0.37	0.11	**0.00**	—	599.10	1.76	**0.01**	6.9	66.8	120.0	120.1	120.0
Min		0.01	**0.00**	**0.00**	—	4.00	0.28	**0.00**	1.7	40.9	120.0	120.1	120.0
Max		1.35	0.27	**0.00**	—	2,230.23	2.80	**0.01**	11.2	88.7	120.0	120.2	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	5
Running time in seconds for writing input file (t^{write})	2.3
Running time in seconds for executing parametric cut procedure (t^{cut})	0.3
Running time in seconds for reading result file (t^{read})	0.0

File qkp_new_00500_100_0.txt

Property of graph	Value
Nodes (n)	500
Density (Δ)	100.0 %
Edges (m)	124,750

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	165,757.0	0.84	0.21	**0.00**	—	1,561.06	3.35	**0.01**	1.9	44.4	120.0	120.1	120.0
5.0	348,356.0	0.63	0.46	**0.00**	—	0.56	2.35	**0.01**	2.7	59.0	120.0	120.2	120.0
10.0	696,244.0	**0.00**	**0.00**	**0.00**	—	**0.00**	1.28	**0.01**	3.9	74.2	120.0	85.5	120.0
25.0	1,700,166.0	0.26	0.18	**0.00**	—	37.84	1.71	**0.00**	6.1	88.0	120.0	120.1	120.0
50.0	3,239,826.0	0.04	0.02	**0.00**	—	29.90	2.62	**0.01**	8.6	101.5	120.0	120.1	120.0
75.0	4,771,603.0	0.16	0.14	**0.00**	—	12.51	1.91	**0.01**	10.0	97.9	120.0	120.1	120.0
90.0	5,689,984.0	0.16	0.15	**0.00**	—	4.29	0.72	**0.01**	10.7	53.3	120.0	120.1	120.0
95.0	6,001,259.0	0.09	0.07	**0.00**	—	2.25	0.35	**0.00**	10.9	46.7	120.0	120.1	120.0
Avg		0.27	0.15	**0.00**	—	206.05	1.79	**0.01**	6.9	70.6	120.0	115.8	120.0
Min		**0.00**	**0.00**	**0.00**	—	**0.00**	0.35	**0.00**	1.9	44.4	120.0	85.5	120.0
Max		0.84	0.46	**0.00**	—	1,561.06	3.35	**0.01**	10.9	101.5	120.0	120.2	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	10
Running time in seconds for writing input file (t^{write})	2.6
Running time in seconds for executing parametric cut procedure (t^{cut})	0.3
Running time in seconds for reading result file (t^{read})	0.0

File qkp_new_01000_005_0.txt

Property of graph	Value
Nodes (n)	1,000
Density (Δ)	5.0 %
Edges (m)	25,001

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	29,770.0	0.82	0.39	—	—	0.05	**0.00**	**0.02**	8.5	120.0	120.0	120.1	120.0
5.0	60,193.0	0.15	**0.00**	—	—	1.58	0.09	**0.01**	13.0	120.0	120.0	121.3	120.0
10.0	122,346.0	0.20	0.02	—	—	8.03	**0.00**	**0.02**	20.1	120.0	120.0	120.9	120.0
25.0	315,930.0	0.04	**0.00**	—	—	3.56	0.15	**0.03**	33.5	120.0	120.0	120.8	120.0
50.0	642,487.0	0.01	**0.00**	—	—	0.42	0.13	**0.03**	46.6	120.0	120.0	120.7	120.0
75.0	965,639.0	0.08	0.01	—	—	**0.00**	0.40	**0.02**	55.9	120.0	120.0	119.0	120.0
90.0	1,153,319.0	0.04	0.04	—	—	**0.00**	0.13	**0.01**	60.9	120.0	120.0	12.3	120.0
95.0	1,211,977.0	0.04	0.03	—	—	**0.00**	**0.00**	**0.01**	63.1	120.0	120.0	10.7	120.0
Avg		0.17	**0.06**	—	—	1.71	0.11	**0.02**	37.7	120.0	120.0	93.2	120.0
Min		0.01	**0.00**	—	—	**0.00**	**0.00**	**0.01**	8.5	120.0	120.0	10.7	120.0
Max		0.82	**0.39**	—	—	8.03	0.40	**0.03**	63.1	120.0	120.0	121.3	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	20
Running time in seconds for writing input file (t^{write})	3.2
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 qkp_new_01000_010_0.txt

Property of graph	Value
Nodes (n)	1,000
Density (Δ)	10.0 %
Edges (m)	50,050

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	56,113.0	0.11	**0.00**	—	—	6.88	0.20	**0.03**	9.1	120.0	120.0	120.1	120.0
5.0	117,655.0	0.08	**0.00**	—	—	7.06	0.11	**0.01**	13.8	120.0	120.0	120.1	120.0
10.0	242,522.0	0.23	**0.00**	—	—	4.22	0.11	**0.02**	22.0	120.0	120.0	120.1	120.0
25.0	620,926.0	0.15	**0.00**	—	—	3.31	0.41	**0.03**	35.5	120.0	120.0	121.8	120.0
50.0	1,265,631.0	**0.00**	**0.00**	—	—	1.80	0.58	**0.03**	48.5	120.0	120.0	123.0	120.0
75.0	1,915,305.0	0.07	**0.00**	—	—	0.03	0.84	**0.01**	58.5	120.0	120.0	120.1	120.0
90.0	2,293,069.0	0.06	0.03	—	—	**0.00**	0.19	**0.01**	61.7	120.0	120.0	95.2	120.0
95.0	2,417,400.0	0.01	**0.00**	—	—	**0.00**	0.15	**0.01**	62.0	120.0	120.0	12.5	120.0
Avg		0.09	**0.00**	—	—	2.91	0.32	**0.02**	38.9	120.0	120.0	104.1	120.0
Min		**0.00**	**0.00**	—	—	**0.00**	0.11	**0.01**	9.1	120.0	120.0	12.5	120.0
Max		0.23	**0.03**	—	—	7.06	0.84	**0.03**	62.0	120.0	120.0	123.0	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	9
Running time in seconds for writing input file (t^{write})	3.5
Running time in seconds for executing parametric cut procedure (t^{cut})	0.5
Running time in seconds for reading result file (t^{read})	0.0

File qkp_new_01000_015_0.txt

Property of graph	Value
Nodes (n)	1,000
Density (Δ)	15.0 %
Edges (m)	75,129

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	91,203.0	0.37	0.17	—	—	2,143.06	**0.00**	**0.03**	10.6	120.0	120.0	120.2	120.0
5.0	188,221.0	**0.00**	**0.00**	—	—	4.14	0.15	**0.01**	15.4	120.0	120.0	120.1	120.0
10.0	382,674.0	0.03	**0.00**	—	—	2.66	0.77	**0.02**	22.4	120.0	120.0	120.2	120.0
25.0	966,759.0	0.03	**0.00**	—	—	0.33	0.34	**0.02**	35.9	120.0	120.0	120.2	120.0
50.0	1,925,013.0	0.02	**0.00**	—	—	0.48	1.05	**0.02**	50.6	120.0	120.0	122.9	120.0
75.0	2,874,013.0	0.03	**0.00**	—	—	0.03	0.73	**0.02**	59.8	120.0	120.0	120.2	120.0
90.0	3,439,061.0	0.07	0.03	—	—	**0.00**	0.39	**0.01**	64.0	120.0	120.0	109.6	120.0
95.0	3,621,899.0	0.13	0.12	—	—	**0.00**	0.13	**0.01**	63.5	120.0	120.0	103.8	120.0
Avg		0.08	**0.04**	—	—	268.84	0.44	**0.02**	40.3	120.0	120.0	117.1	120.0
Min		**0.00**	**0.00**	—	—	**0.00**	**0.00**	**0.01**	10.6	120.0	120.0	103.8	120.0
Max		0.37	**0.17**	—	—	2,143.06	1.05	**0.03**	64.0	120.0	120.0	122.9	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	11
Running time in seconds for writing input file (t^{write})	3.9
Running time in seconds for executing parametric cut procedure (t^{cut})	0.5
Running time in seconds for reading result file (t^{read})	0.0

File qkp_new_01000_020_0.txt

Property of graph	Value
Nodes (n)	1,000
Density (Δ)	20.0 %
Edges (m)	99,902

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	121,608.0	0.47	**0.00**	—	—	1,940.75	0.50	**0.03**	10.2	120.0	120.0	120.1	120.0
5.0	253,653.0	0.15	**0.00**	—	—	1,612.71	0.36	**0.01**	15.0	120.0	120.0	120.1	120.0
10.0	507,090.0	0.44	**0.00**	—	—	638.27	0.46	**0.02**	22.1	120.0	120.0	120.3	120.0
25.0	1,263,552.0	0.17	**0.00**	—	—	274.80	0.78	**0.03**	35.5	120.0	120.0	120.1	120.0
50.0	2,530,425.0	0.18	**0.00**	—	—	88.12	1.43	**0.03**	48.5	120.0	120.0	120.1	120.0
75.0	3,814,074.0	**0.00**	**0.00**	—	—	28.64	1.05	**0.02**	57.4	120.0	120.0	120.1	120.0
90.0	4,576,945.0	0.03	**0.00**	—	—	**0.00**	0.42	**0.01**	60.6	120.0	120.0	36.9	120.0
95.0	4,823,715.0	0.17	**0.00**	—	—	0.01	0.15	**0.01**	62.6	120.0	120.0	38.2	120.0
Avg		0.20	**0.00**	—	—	572.91	0.64	**0.02**	39.0	120.0	120.0	99.5	120.0
Min		**0.00**	**0.00**	—	—	**0.00**	0.15	**0.01**	10.2	120.0	120.0	36.9	120.0
Max		0.47	**0.00**	—	—	1,940.75	1.43	**0.03**	62.6	120.0	120.0	120.3	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	10
Running time in seconds for writing input file (t^{write})	3.8
Running time in seconds for executing parametric cut procedure (t^{cut})	0.5
Running time in seconds for reading result file (t^{read})	0.0

File qkp_new_01000_025_0.txt

Property of graph	Value
Nodes (n)	1,000
Density (Δ)	25.0 %
Edges (m)	124,753

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	137,855.0	**0.00**	**0.00**	—	—	2,075.74	0.60	**0.03**	10.0	120.0	120.0	120.2	120.0
5.0	282,090.0	**0.00**	**0.00**	—	—	1,090.05	1.44	**0.01**	14.6	120.0	120.0	120.2	120.0
10.0	580,858.0	0.30	**0.00**	—	—	607.22	0.60	**0.02**	21.1	120.0	120.0	120.2	120.0
25.0	1,491,735.0	0.12	**0.00**	—	—	1.09	1.09	**0.03**	34.5	120.0	120.0	120.3	120.0
50.0	3,072,850.0	0.01	**0.00**	—	—	13.37	1.95	**0.03**	49.4	120.0	120.0	120.2	120.0
75.0	4,691,941.0	0.01	**0.00**	—	—	7.87	1.60	**0.02**	59.3	120.0	120.0	120.3	120.0
90.0	5,673,541.0	0.03	**0.00**	—	—	3.83	0.40	**0.01**	62.9	120.0	120.0	120.2	120.0
95.0	5,990,083.0	0.02	**0.00**	—	—	2.15	0.04	**0.01**	65.0	120.0	120.0	120.3	120.0
Avg		0.06	**0.00**	—	—	475.16	0.96	**0.02**	39.6	120.0	120.0	120.3	120.0
Min		**0.00**	**0.00**	—	—	1.09	0.04	**0.01**	10.0	120.0	120.0	120.2	120.0
Max		0.30	**0.00**	—	—	2,075.74	1.95	**0.03**	65.0	120.0	120.0	120.3	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	6
Running time in seconds for writing input file (t^{write})	4.1
Running time in seconds for executing parametric cut procedure (t^{cut})	0.5
Running time in seconds for reading result file (t^{read})	0.0

File qkp_new_01000_050_0.txt

Property of graph	Value
Nodes (n)	1,000
Density (Δ)	50.0 %
Edges (m)	249,625

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	278,236.0	0.16	**0.00**	—	—	2,874.51	1.51	**0.03**	10.0	120.0	120.0	120.3	120.0
5.0	584,895.0	0.64	**0.00**	—	—	1,260.54	1.61	**0.01**	14.9	120.0	120.0	120.3	120.0
10.0	1,182,337.0	0.41	**0.00**	—	—	774.42	2.33	**0.02**	22.0	120.0	120.0	120.5	120.0
25.0	3,059,769.0	**0.00**	**0.00**	—	—	249.91	2.22	**0.03**	36.6	120.0	120.0	120.3	120.0
50.0	6,271,371.0	0.04	**0.00**	—	—	92.10	2.45	**0.03**	52.5	120.0	120.0	120.3	120.0
75.0	9,459,538.0	0.03	**0.00**	—	—	32.24	1.89	**0.02**	58.3	120.0	120.0	120.3	120.0
90.0	11,345,227.0	**0.00**	**0.00**	—	—	11.35	0.82	**0.01**	61.9	120.0	120.0	120.4	120.0
95.0	11,969,693.0	0.01	**0.00**	—	—	6.06	0.26	**0.01**	63.5	120.0	120.0	120.7	120.0
Avg		0.16	**0.00**	—	—	662.64	1.64	**0.02**	40.0	120.0	120.0	120.4	120.0
Min		**0.00**	**0.00**	—	—	6.06	0.26	**0.01**	10.0	120.0	120.0	120.3	120.0
Max		0.64	**0.00**	—	—	2,874.51	2.45	**0.03**	63.5	120.0	120.0	120.7	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	6
Running time in seconds for writing input file (t^{write})	5.1
Running time in seconds for executing parametric cut procedure (t^{cut})	0.7
Running time in seconds for reading result file (t^{read})	0.0

File qkp_new_02000_005_0.txt

Property of graph	Value
Nodes (n)	2,000
Density (Δ)	5.0 %
Edges (m)	99,761

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	114,061.0	0.07	**0.00**	—	—	1,702.48	0.23	**0.13**	59.3	120.0	120.0	120.1	120.0
5.0	234,171.0	0.14	**0.00**	—	—	5.04	0.17	**0.03**	90.9	120.0	120.0	123.0	120.0
10.0	484,077.0	0.03	**0.00**	—	—	46.94	0.37	**0.06**	120.1	120.0	120.0	120.1	120.0
25.0	1,227,337.0	0.07	**0.00**	—	—	2.79	0.41	**0.10**	120.1	120.0	120.0	124.1	120.0
50.0	2,487,374.0	**0.00**	**0.00**	—	—	13.21	0.83	**0.11**	120.0	120.0	120.0	120.1	120.0
75.0	3,785,565.0	0.02	**0.00**	—	—	9.14	0.79	**0.10**	120.1	120.0	120.0	120.1	120.0
90.0	4,553,755.0	**0.00**	**0.00**	—	—	0.01	0.22	**0.07**	120.1	120.0	120.0	120.1	120.0
95.0	4,800,486.0	0.01	**0.00**	—	—	**0.00**	0.20	**0.07**	120.1	120.0	120.0	68.4	120.0
Avg		0.04	**0.00**	—	—	222.45	0.40	**0.08**	108.8	120.0	120.0	114.5	120.0
Min		**0.00**	**0.00**	—	—	**0.00**	0.17	**0.03**	59.3	120.0	120.0	68.4	120.0
Max		0.14	**0.00**	—	—	1,702.48	0.83	**0.13**	120.1	120.0	120.0	124.1	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	13
Running time in seconds for writing input file (t^{write})	7.0
Running time in seconds for executing parametric cut procedure (t^{cut})	0.8
Running time in seconds for reading result file (t^{read})	0.0

File qkp_new_02000_010_0.txt

Property of graph	Value
Nodes (n)	2,000
Density (Δ)	10.0 %
Edges (m)	200,028

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	227,190.0	0.16	**0.00**	—	—	2,558.13	0.59	**0.13**	61.6	120.0	120.0	120.3	120.0
5.0	470,210.0	0.07	**0.00**	—	—	1,590.73	0.70	**0.03**	95.1	120.0	120.0	120.4	120.0
10.0	978,307.0	**0.00**	**0.00**	—	—	715.15	0.62	**0.06**	120.0	120.0	120.0	120.4	120.0
25.0	2,506,007.0	0.01	**0.00**	—	—	270.49	1.02	**0.10**	120.0	120.0	120.0	121.1	120.0
50.0	5,059,189.0	0.03	**0.00**	—	—	91.29	1.62	**0.11**	120.1	120.0	120.0	123.8	120.0
75.0	7,614,896.0	0.05	**0.00**	—	—	31.67	1.36	**0.10**	120.2	120.0	120.0	123.9	120.0
90.0	9,145,556.0	0.01	**0.00**	—	—	0.02	0.36	**0.07**	120.1	120.0	120.0	120.4	120.0
95.0	9,645,246.0	**0.00**	**0.00**	—	—	0.02	0.36	**0.07**	120.0	120.0	120.0	120.4	120.0
Avg		0.04	**0.00**	—	—	657.19	0.83	**0.08**	109.6	120.0	120.0	121.3	120.0
Min		**0.00**	**0.00**	—	—	0.02	0.36	**0.03**	61.6	120.0	120.0	120.3	120.0
Max		0.16	**0.00**	—	—	2,558.13	1.62	**0.13**	120.2	120.0	120.0	123.9	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	10
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 qkp_new_02000_015_0.txt

Property of graph	Value
Nodes (n)	2,000
Density (Δ)	15.0 %
Edges (m)	300,203

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	328,829.0	0.24	**0.00**	—	—	3,287.55	1.29	**0.13**	61.9	120.0	120.0	121.7	120.0
5.0	687,320.0	0.08	**0.00**	—	—	1,599.44	1.42	**0.03**	93.2	120.0	120.0	121.3	120.0
10.0	1,425,447.0	0.01	**0.00**	—	—	854.27	1.49	**0.06**	120.0	120.0	120.0	120.4	120.0
25.0	3,664,940.0	0.09	**0.00**	—	—	278.65	2.24	**0.10**	120.0	120.0	120.0	125.9	120.0
50.0	7,525,863.0	**0.00**	**0.00**	—	—	99.21	2.59	**0.12**	120.0	120.0	120.0	120.8	120.0
75.0	11,346,893.0	**0.00**	**0.00**	—	—	34.87	1.61	**0.10**	120.0	120.0	120.0	123.5	120.0
90.0	13,643,284.0	**0.00**	0.01	—	—	11.48	0.60	**0.08**	120.1	120.0	120.0	125.2	120.0
95.0	14,410,217.0	0.01	**0.00**	—	—	5.98	0.25	**0.07**	120.1	120.0	120.0	122.2	120.0
Avg		0.05	**0.00**	—	—	771.43	1.44	**0.09**	109.4	120.0	120.0	122.6	120.0
Min		**0.00**	**0.00**	—	—	5.98	0.25	**0.03**	61.9	120.0	120.0	120.4	120.0
Max		0.24	**0.01**	—	—	3,287.55	2.59	**0.13**	120.1	120.0	120.0	125.9	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	6
Running time in seconds for writing input file (t^{write})	8.5
Running time in seconds for executing parametric cut procedure (t^{cut})	1.1
Running time in seconds for reading result file (t^{read})	0.0

File qkp_new_02000_020_0.txt

Property of graph	Value
Nodes (n)	2,000
Density (Δ)	20.0 %
Edges (m)	400,370

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	483,109.0	0.28	**0.00**	—	—	3,680.20	1.20	**0.13**	65.0	120.0	120.0	122.3	120.0
5.0	972,320.0	0.06	**0.00**	—	—	1,708.36	2.32	**0.03**	98.1	120.0	120.0	125.5	120.0
10.0	1,951,383.0	0.02	**0.00**	—	—	792.98	1.93	**0.06**	120.1	120.0	120.0	125.9	120.0
25.0	4,928,165.0	**0.00**	**0.00**	—	—	267.33	3.23	**0.10**	120.0	120.0	120.0	125.0	120.0
50.0	9,926,433.0	0.02	**0.00**	—	—	89.01	3.21	**0.12**	120.0	120.0	120.0	120.4	120.0
75.0	15,037,375.0	**0.00**	**0.00**	—	—	32.10	2.50	**0.10**	120.1	120.0	120.0	120.5	120.0
90.0	18,148,621.0	**0.00**	**0.00**	—	—	11.51	0.87	**0.08**	120.1	120.0	120.0	120.5	120.0
95.0	19,184,949.0	**0.00**	**0.00**	—	—	5.30	0.29	**0.07**	120.0	120.0	120.0	122.7	120.0
Avg		0.05	**0.00**	—	—	823.35	1.94	**0.09**	110.4	120.0	120.0	122.8	120.0
Min		**0.00**	**0.00**	—	—	5.30	0.29	**0.03**	65.0	120.0	120.0	120.4	120.0
Max		0.28	**0.00**	—	—	3,680.20	3.23	**0.13**	120.1	120.0	120.0	125.9	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	7
Running time in seconds for writing input file (t^{write})	9.3
Running time in seconds for executing parametric cut procedure (t^{cut})	1.2
Running time in seconds for reading result file (t^{read})	0.0

File qkp_new_02000_025_0.txt

Property of graph	Value
Nodes (n)	2,000
Density (Δ)	25.0 %
Edges (m)	499,502

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	546,863.0	0.01	**0.00**	—	—	4,177.05	2.52	**0.12**	63.4	120.0	120.0	124.4	121.0
5.0	1,149,437.0	0.03	**0.00**	—	—	1,663.32	2.77	**0.03**	96.8	120.0	120.0	126.9	121.0
10.0	2,419,775.0	0.02	**0.00**	—	—	865.60	2.74	**0.06**	120.0	120.0	120.0	120.5	121.0
25.0	6,237,372.0	**0.00**	**0.00**	—	—	289.16	3.49	**0.10**	120.0	120.0	120.0	120.5	121.0
50.0	12,473,837.0	0.01	**0.00**	—	—	96.59	3.61	**0.11**	120.0	120.0	120.0	121.7	121.0
75.0	18,848,119.0	**0.00**	**0.00**	—	—	33.01	2.23	**0.10**	120.1	120.0	120.0	125.2	120.0
90.0	22,693,042.0	0.01	**0.00**	—	—	11.30	0.58	**0.08**	120.0	120.0	120.0	121.3	120.0
95.0	23,972,856.0	0.01	**0.00**	—	—	5.55	0.26	**0.07**	120.0	120.0	120.0	120.5	120.0
Avg		0.01	**0.00**	—	—	892.70	2.27	**0.08**	110.1	120.0	120.0	122.6	120.6
Min		**0.00**	**0.00**	—	—	5.55	0.26	**0.03**	63.4	120.0	120.0	120.5	120.0
Max		0.03	**0.00**	—	—	4,177.05	3.61	**0.12**	120.1	120.0	120.0	126.9	121.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	5
Running time in seconds for writing input file (t^{write})	10.3
Running time in seconds for executing parametric cut procedure (t^{cut})	1.3
Running time in seconds for reading result file (t^{read})	0.0

File qkp_new_05000_005_0.txt

Property of graph	Value
Nodes (n)	5,000
Density (Δ)	5.0 %
Edges (m)	625,102

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	734,874.0	**0.00**	**0.00**	—	—	2,588.79	2.13	**0.88**	120.0	120.0	120.0	120.6	121.0
5.0	1,513,897.0	**0.00**	**0.00**	—	—	1,553.10	1.94	**0.20**	120.1	120.0	120.0	120.5	121.0
10.0	3,070,623.0	0.07	**0.00**	—	—	793.72	2.83	**0.36**	120.5	120.0	120.0	120.4	121.0
25.0	7,767,841.0	**0.00**	0.01	—	—	267.95	3.82	**0.62**	120.6	120.0	120.0	120.3	121.0
50.0	15,737,574.0	**0.00**	0.01	—	—	94.38	4.01	**0.71**	120.8	120.0	120.0	120.5	121.0
75.0	23,724,501.0	**0.00**	**0.00**	—	—	32.14	1.83	**0.65**	120.0	120.0	120.0	120.4	121.0
90.0	28,500,615.0	**0.00**	0.01	—	—	10.56	0.54	**0.50**	120.9	120.0	120.0	120.3	121.0
95.0	30,065,724.0	**0.00**	**0.00**	—	—	5.06	0.29	**0.50**	120.6	120.0	120.0	120.3	121.0
Avg		0.01	**0.00**	—	—	668.21	2.17	**0.55**	120.4	120.0	120.0	120.4	121.0
Min		**0.00**	**0.00**	—	—	5.06	0.29	**0.20**	120.0	120.0	120.0	120.3	121.0
Max		0.07	**0.01**	—	—	2,588.79	4.01	**0.88**	120.9	120.0	120.0	120.6	121.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	10
Running time in seconds for writing input file (t^{write})	20.8
Running time in seconds for executing parametric cut procedure (t^{cut})	2.6
Running time in seconds for reading result file (t^{read})	0.0

File qkp_new_05000_010_0.txt

Property of graph	Value
Nodes (n)	5,000
Density (Δ)	10.0 %
Edges (m)	1,249,818

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	1,472,956.0	**0.00**	**0.00**	—	—	3,446.22	3.70	**0.93**	120.1	120.0	120.0	120.8	122.0
5.0	3,038,098.0	**0.00**	**0.00**	—	—	1,674.59	4.50	**0.23**	120.0	120.0	120.0	121.8	123.0
10.0	6,201,401.0	**0.00**	**0.00**	—	—	841.07	5.45	**0.39**	120.1	120.0	120.0	121.1	123.0
25.0	15,689,959.0	**0.00**	**0.00**	—	—	297.14	6.42	**0.69**	120.7	120.0	120.0	121.5	122.0
50.0	31,557,092.0	0.01	**0.00**	—	—	98.49	6.20	**0.78**	121.0	120.0	120.0	120.8	123.0
75.0	47,408,689.0	**0.00**	**0.00**	—	—	34.46	3.08	**0.67**	120.0	120.0	120.0	121.6	123.0
90.0	56,893,794.0	**0.00**	**0.00**	—	—	12.24	0.90	**0.55**	121.2	120.0	120.0	121.0	123.0
95.0	60,055,198.0	**0.00**	0.01	—	—	6.04	0.40	**0.52**	120.7	120.0	120.0	121.7	123.0
Avg		**0.00**	**0.00**	—	—	801.28	3.83	**0.60**	120.5	120.0	120.0	121.3	122.8
Min		**0.00**	**0.00**	—	—	6.04	0.40	**0.23**	120.0	120.0	120.0	120.8	122.0
Max		**0.01**	**0.01**	—	—	3,446.22	6.42	**0.93**	121.2	120.0	120.0	121.8	123.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	7
Running time in seconds for writing input file (t^{write})	26.6
Running time in seconds for executing parametric cut procedure (t^{cut})	3.3
Running time in seconds for reading result file (t^{read})	0.0

File qkp_new_05000_015_0.txt

Property of graph	Value
Nodes (n)	5,000
Density (Δ)	15.0 %
Edges (m)	1,872,829

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	2,162,686.0	0.11	**0.00**	—	—	—	5.41	**0.85**	120.2	120.0	120.0	120.8	120.0
5.0	4,463,106.0	0.03	**0.00**	—	—	—	6.83	**0.20**	120.3	120.0	120.0	121.1	120.0
10.0	9,107,978.0	0.02	**0.00**	—	—	—	7.65	**0.35**	120.2	120.0	120.0	120.9	121.0
25.0	23,234,191.0	0.02	**0.00**	—	—	—	8.76	**0.60**	120.3	120.0	120.0	120.7	120.0
50.0	46,893,056.0	**0.00**	**0.00**	—	—	—	8.06	**0.69**	121.0	120.0	120.0	122.5	120.0
75.0	70,814,520.0	**0.00**	**0.00**	—	—	—	3.54	**0.62**	120.7	120.0	120.0	121.1	120.0
90.0	85,234,601.0	**0.00**	**0.00**	—	—	—	1.18	**0.53**	120.6	120.0	120.0	122.8	120.0
95.0	89,988,410.0	**0.00**	**0.00**	—	—	—	0.44	**0.48**	121.1	120.0	120.0	121.9	120.0
Avg		0.02	**0.00**	—	—	—	5.23	**0.54**	120.6	120.0	120.0	121.5	120.1
Min		**0.00**	**0.00**	—	—	—	0.44	**0.20**	120.2	120.0	120.0	120.7	120.0
Max		0.11	**0.00**	—	—	—	8.76	**0.85**	121.1	120.0	120.0	122.8	121.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	5
Running time in seconds for writing input file (t^{write})	31.7
Running time in seconds for executing parametric cut procedure (t^{cut})	4.1
Running time in seconds for reading result file (t^{read})	0.0

File qkp_new_05000_020_0.txt

Property of graph	Value
Nodes (n)	5,000
Density (Δ)	20.0 %
Edges (m)	2,499,350

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	2,879,345.0	**0.00**	**0.00**	—	—	—	8.64	**0.92**	120.1	120.0	120.0	120.4	120.0
5.0	5,808,275.0	0.01	**0.00**	—	—	—	8.40	**0.21**	120.3	120.0	120.0	120.6	120.0
10.0	11,815,088.0	0.02	**0.00**	—	—	—	8.92	**0.38**	120.4	120.0	120.0	120.4	120.0
25.0	30,587,805.0	0.01	**0.00**	—	—	—	9.12	**0.66**	120.5	120.0	120.0	120.5	120.0
50.0	62,306,380.0	**0.00**	0.04	—	—	—	8.42	**0.75**	121.0	120.0	120.0	120.4	120.0
75.0	94,222,912.0	**0.00**	**0.00**	—	—	—	3.77	**0.67**	120.8	120.0	120.0	120.4	120.0
90.0	113,503,480.0	**0.00**	**0.00**	—	—	—	1.39	**0.55**	121.2	120.0	120.0	120.4	120.0
95.0	119,944,097.0	**0.00**	0.04	—	—	—	0.52	**0.54**	120.1	120.0	120.0	120.4	120.0
Avg		**0.01**	0.01	—	—	—	6.15	**0.59**	120.5	120.0	120.0	120.4	120.0
Min		**0.00**	**0.00**	—	—	—	0.52	**0.21**	120.1	120.0	120.0	120.4	120.0
Max		**0.02**	0.04	—	—	—	9.12	**0.92**	121.2	120.0	120.0	120.6	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	3
Running time in seconds for writing input file (t^{write})	36.2
Running time in seconds for executing parametric cut procedure (t^{cut})	5.1
Running time in seconds for reading result file (t^{read})	0.0

File qkp_new_10000_005_0.txt

Property of graph	Value
Nodes (n)	10,000
Density (Δ)	5.0 %
Edges (m)	2,495,694

		Deviation from best OFV (%)						Running time (s)					
γ	Best OFV	QKBP*	RG	DP	QK	Gurobi	Hexaly	QKBP*	RG	DP	QK	Gurobi	Hexaly
2.5	2,834,463.0	**0.00**	**0.00**	—	—	—	6.91	**4.14**	120.4	120.0	120.0	120.4	120.0
5.0	5,916,639.0	**0.00**	0.01	—	—	—	6.76	**0.92**	120.1	120.0	120.0	120.4	120.0
10.0	12,161,994.0	**0.00**	**0.00**	—	—	—	7.48	**1.69**	121.2	120.0	120.0	120.4	120.0
25.0	30,835,392.0	0.01	**0.00**	—	—	—	8.66	**2.85**	123.7	120.0	120.0	120.4	120.0
50.0	62,476,819.0	**0.00**	**0.00**	—	—	—	7.45	**3.38**	121.5	120.0	120.0	120.4	120.0
75.0	94,379,334.0	**0.00**	**0.00**	—	—	—	3.74	**3.11**	122.1	120.0	120.0	120.4	120.0
90.0	113,496,076.0	**0.00**	**0.00**	—	—	—	1.21	**2.59**	124.8	120.0	120.0	120.4	120.0
95.0	119,813,742.0	**0.00**	**0.00**	—	—	—	0.49	**2.27**	124.3	120.0	120.0	120.4	120.0
Avg		**0.00**	**0.00**	—	—	—	5.34	**2.62**	122.3	120.0	120.0	120.4	120.0
Min		**0.00**	**0.00**	—	—	—	0.49	**0.92**	120.1	120.0	120.0	120.4	120.0
Max		**0.01**	**0.01**	—	—	—	8.66	**4.14**	124.8	120.0	120.0	120.4	120.0

*The contribution in this paper

QKBP-specific information	Value
Number of breakpoints	7
Running time in seconds for writing input file (t^{write})	52.6
Running time in seconds for executing parametric cut procedure (t^{cut})	6.9
Running time in seconds for reading result file (t^{read})	0.1