Results for instances from collection `Large-QKP`

File qkp_new_00500_005_0.txt

Property of graph	Value
Nodes (n)	500
Density (Δ)	5.0 %
Edges (m)	6,264

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	9,872.0	0.79	1.18	**0.00**	—	13.56	—	**0.00**	**0.00**	**0.00**	0.9	4.2	120.0	34.8	120.0	0.4	30.0
5.0	19,063.0	0.65	0.22	0.16	—	37.21	—	**0.00**	**0.00**	**0.00**	1.5	2.6	120.0	40.6	120.0	0.9	30.0
10.0	36,992.0	0.42	0.24	**0.00**	—	63.77	—	**0.00**	**0.00**	**0.00**	2.3	7.4	120.0	52.5	120.0	0.7	28.0
25.0	88,799.0	0.10	0.10	**0.00**	—	58.27	—	**0.00**	**0.00**	**0.01**	3.7	10.1	120.0	74.2	120.0	1.3	43.0
50.0	170,578.0	0.29	0.08	**0.00**	—	44.39	—	**0.00**	0.01	**0.01**	5.2	5.8	120.0	51.0	120.0	5.0	120.0
75.0	249,961.0	0.02	**0.00**	**0.00**	—	20.55	—	**0.00**	**0.00**	**0.00**	6.4	3.8	120.0	32.9	120.0	0.9	43.0
Avg		0.38	0.30	0.03	—	39.62	—	**0.00**	0.00	**0.01**	3.3	5.7	120.0	47.7	120.0	1.5	49.0
Min		0.02	**0.00**	**0.00**	—	13.56	—	**0.00**	**0.00**	**0.00**	0.9	2.6	120.0	32.9	120.0	0.4	28.0
Max		0.79	1.18	0.16	—	63.77	—	**0.00**	0.01	**0.01**	6.4	10.1	120.0	74.2	120.0	5.0	120.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	21
Running time in seconds for writing input file (t^{write})	0.0109
Running time in seconds for executing parametric cut procedure (t^{cut})	0.0310
Running time in seconds for reading result file (t^{read})	0.0094

File qkp_new_00500_010_0.txt

Property of graph	Value
Nodes (n)	500
Density (Δ)	10.0 %
Edges (m)	12,651

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	18,802.0	0.78	0.23	**0.00**	—	111.05	—	**0.00**	**0.00**	**0.00**	1.1	1.7	120.0	21.9	120.0	1.3	41.0
5.0	36,217.0	0.42	0.03	0.02	—	140.23	—	**0.00**	**0.00**	**0.00**	1.7	4.3	120.0	31.9	120.0	1.9	64.0
10.0	69,911.0	**0.00**	0.09	**0.00**	—	130.29	—	**0.00**	0.01	**0.01**	2.4	9.7	120.0	45.8	120.0	3.7	120.0
25.0	170,431.0	0.01	0.04	**0.00**	—	105.73	—	**0.00**	0.02	**0.01**	4.0	9.7	120.0	66.7	120.0	4.3	120.0
50.0	333,169.0	0.12	**0.00**	**0.00**	—	55.95	—	**0.00**	0.08	**0.01**	5.5	7.0	120.0	38.9	120.0	12.8	120.0
75.0	494,737.0	0.15	0.04	**0.00**	—	22.59	—	**0.00**	0.01	**0.00**	6.6	4.0	120.0	33.4	120.0	3.8	120.0
Avg		0.25	0.07	0.00	—	94.31	—	**0.00**	0.02	**0.01**	3.6	6.1	120.0	39.8	120.0	4.6	97.5
Min		**0.00**	**0.00**	**0.00**	—	22.59	—	**0.00**	**0.00**	**0.00**	1.1	1.7	120.0	21.9	120.0	1.3	41.0
Max		0.78	0.23	0.02	—	140.23	—	**0.00**	0.08	**0.01**	6.6	9.7	120.0	66.7	120.0	12.8	120.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	18
Running time in seconds for writing input file (t^{write})	0.0209
Running time in seconds for executing parametric cut procedure (t^{cut})	0.0150
Running time in seconds for reading result file (t^{read})	0.0087

File qkp_new_00500_015_0.txt

Property of graph	Value
Nodes (n)	500
Density (Δ)	15.0 %
Edges (m)	18,817

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	25,487.0	0.20	0.20	**0.00**	—	186.15	—	**0.00**	**0.00**	**0.00**	1.1	6.2	120.0	19.0	120.0	4.0	120.0
5.0	49,240.0	0.02	0.02	**0.00**	—	239.73	—	**0.00**	0.06	**0.00**	1.7	7.7	120.0	25.5	120.0	20.9	120.0
10.0	96,148.0	0.16	0.13	**0.00**	—	225.32	—	**0.00**	0.03	**0.01**	2.4	6.4	120.0	43.0	120.0	51.0	120.0
25.0	239,691.0	0.04	0.03	**0.00**	—	149.58	—	**0.00**	0.07	**0.01**	3.9	9.6	120.0	64.4	120.0	120.5	120.0
50.0	484,722.0	0.04	0.02	**0.00**	—	71.13	—	**0.00**	0.17	**0.01**	5.4	6.1	120.0	39.5	120.0	32.9	120.0
75.0	721,536.0	0.05	0.02	**0.00**	—	28.26	—	**0.00**	0.51	**0.01**	6.5	3.0	120.0	31.1	120.0	19.0	120.0
Avg		0.09	0.07	**0.00**	—	150.03	—	**0.00**	0.14	**0.01**	3.5	6.5	120.0	37.1	120.0	41.4	120.0
Min		0.02	0.02	**0.00**	—	28.26	—	**0.00**	**0.00**	**0.00**	1.1	3.0	120.0	19.0	120.0	4.0	120.0
Max		0.20	0.20	**0.00**	—	239.73	—	**0.00**	0.51	**0.01**	6.5	9.6	120.0	64.4	120.0	120.5	120.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	11
Running time in seconds for writing input file (t^{write})	0.0285
Running time in seconds for executing parametric cut procedure (t^{cut})	0.0310
Running time in seconds for reading result file (t^{read})	0.0089

File qkp_new_00500_020_0.txt

Property of graph	Value
Nodes (n)	500
Density (Δ)	20.0 %
Edges (m)	24,985

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	29,349.0	0.15	0.06	**0.00**	—	298.06	—	**0.00**	**0.00**	**0.01**	1.1	6.0	120.0	16.1	120.0	72.3	120.0
5.0	60,711.0	0.15	**0.00**	**0.00**	—	278.33	—	**0.00**	0.11	**0.00**	1.7	2.1	120.0	27.4	120.0	118.7	120.0
10.0	125,341.0	0.31	0.08	**0.00**	—	296.98	—	**0.00**	0.06	**0.01**	2.5	9.5	120.0	43.1	120.0	120.5	120.0
25.0	322,736.0	0.31	0.02	**0.00**	—	169.27	—	**0.00**	0.36	**0.01**	4.0	10.5	120.0	57.7	120.0	61.0	120.0
50.0	647,981.0	0.01	**0.00**	**0.00**	—	98.14	—	**0.00**	0.50	**0.01**	5.5	8.5	120.0	33.3	120.0	62.3	120.0
75.0	967,916.0	0.25	0.02	**0.00**	—	33.54	—	**0.00**	0.39	**0.01**	6.6	4.1	120.0	29.8	120.0	56.8	120.0
Avg		0.20	0.03	**0.00**	—	195.72	—	**0.00**	0.24	**0.01**	3.6	6.8	120.0	34.6	120.0	81.9	120.0
Min		0.01	**0.00**	**0.00**	—	33.54	—	**0.00**	**0.00**	**0.00**	1.1	2.1	120.0	16.1	120.0	56.8	120.0
Max		0.31	0.08	**0.00**	—	298.06	—	**0.00**	0.50	**0.01**	6.6	10.5	120.0	57.7	120.0	120.5	120.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	7
Running time in seconds for writing input file (t^{write})	0.0390
Running time in seconds for executing parametric cut procedure (t^{cut})	0.0310
Running time in seconds for reading result file (t^{read})	0.0089

File qkp_new_00500_025_0.txt

Property of graph	Value
Nodes (n)	500
Density (Δ)	25.0 %
Edges (m)	31,340

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	42,938.0	0.48	**0.00**	**0.00**	—	613.37	—	**0.00**	**0.00**	**0.00**	1.2	2.6	120.0	13.0	120.0	19.6	120.0
5.0	83,387.0	0.02	**0.00**	**0.00**	—	369.42	—	**0.00**	0.15	**0.01**	1.8	2.8	120.0	26.6	120.0	54.2	120.0
10.0	165,327.0	0.20	0.03	**0.00**	—	309.85	—	**0.00**	0.06	**0.01**	2.5	9.4	120.0	43.4	120.0	55.2	120.0
25.0	412,548.0	0.32	0.08	**0.00**	—	172.66	—	**0.00**	0.58	**0.01**	4.0	10.7	120.0	61.3	120.0	120.0	120.0
50.0	810,158.0	**0.00**	**0.00**	**0.00**	—	94.02	—	**0.00**	1.02	**0.01**	5.6	5.3	120.0	34.5	120.0	97.3	120.0
75.0	1,201,152.0	0.15	0.05	**0.00**	—	37.70	—	**0.00**	0.73	**0.01**	6.6	4.3	120.0	28.3	120.0	88.8	120.0
Avg		0.19	0.03	**0.00**	—	266.17	—	**0.00**	0.42	**0.01**	3.6	5.8	120.0	34.5	120.0	72.5	120.0
Min		**0.00**	**0.00**	**0.00**	—	37.70	—	**0.00**	**0.00**	**0.00**	1.2	2.6	120.0	13.0	120.0	19.6	120.0
Max		0.48	0.08	**0.00**	—	613.37	—	**0.00**	1.02	**0.01**	6.6	10.7	120.0	61.3	120.0	120.0	120.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	8
Running time in seconds for writing input file (t^{write})	0.0494
Running time in seconds for executing parametric cut procedure (t^{cut})	0.0310
Running time in seconds for reading result file (t^{read})	0.0096

File qkp_new_00500_050_0.txt

Property of graph	Value
Nodes (n)	500
Density (Δ)	50.0 %
Edges (m)	62,414

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	77,155.0	0.31	0.07	**0.00**	—	670.47	—	**0.00**	0.07	**0.01**	1.2	2.3	120.0	15.9	120.0	120.0	120.0
5.0	163,173.0	0.75	0.20	**0.00**	—	500.54	—	**0.00**	0.55	**0.00**	1.7	2.2	120.0	30.2	120.0	120.0	120.0
10.0	322,656.0	**0.00**	**0.00**	**0.00**	—	337.47	—	**0.00**	0.82	**0.01**	2.4	10.7	120.0	43.5	120.0	94.7	120.0
25.0	790,406.0	0.27	0.06	**0.00**	—	180.66	—	0.51	1.94	**0.01**	3.8	9.2	120.0	49.3	120.0	120.0	120.0
50.0	1,592,437.0	0.12	0.07	**0.00**	—	64.41	—	0.02	1.09	**0.01**	5.3	7.5	120.0	37.5	120.0	120.1	120.0
75.0	2,384,171.0	0.39	0.01	**0.00**	—	28.04	—	**0.00**	1.03	**0.00**	6.6	4.7	120.0	28.2	120.0	120.0	120.0
Avg		0.31	0.07	**0.00**	—	296.93	—	0.09	0.92	**0.01**	3.5	6.1	120.0	34.1	120.0	115.8	120.0
Min		**0.00**	**0.00**	**0.00**	—	28.04	—	**0.00**	0.07	**0.00**	1.2	2.2	120.0	15.9	120.0	94.7	120.0
Max		0.75	0.20	**0.00**	—	670.47	—	0.51	1.94	**0.01**	6.6	10.7	120.0	49.3	120.0	120.1	120.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	5
Running time in seconds for writing input file (t^{write})	0.0933
Running time in seconds for executing parametric cut procedure (t^{cut})	0.0310
Running time in seconds for reading result file (t^{read})	0.0096

File qkp_new_00500_075_0.txt

Property of graph	Value
Nodes (n)	500
Density (Δ)	75.0 %
Edges (m)	93,683

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	105,428.0	**0.00**	**0.00**	**0.00**	—	915.98	—	1,584.96	2.38	**0.01**	1.1	5.5	120.0	16.0	120.0	120.1	120.0
5.0	219,169.0	1.31	**0.00**	**0.00**	—	639.56	—	1,121.41	1.22	**0.00**	1.6	10.8	120.0	28.5	120.0	120.1	120.0
10.0	459,189.0	0.41	0.15	**0.00**	—	558.99	—	1.53	1.31	**0.01**	2.4	8.3	120.0	40.5	120.0	120.1	120.0
25.0	1,196,839.0	0.39	0.21	**0.00**	—	285.58	—	0.30	2.14	**0.01**	3.9	9.8	120.0	36.5	120.0	120.0	120.0
50.0	2,376,553.0	0.35	0.27	**0.00**	—	112.61	—	12.80	2.35	**0.01**	5.3	7.2	120.0	28.1	120.0	120.1	120.0
75.0	3,549,102.0	0.20	0.17	**0.00**	—	39.88	—	8.67	1.43	**0.01**	6.4	4.5	120.0	28.3	120.0	120.1	120.0
Avg		0.44	0.13	**0.00**	—	425.43	—	454.95	1.80	**0.01**	3.5	7.7	120.0	29.7	120.0	120.1	120.0
Min		**0.00**	**0.00**	**0.00**	—	39.88	—	0.30	1.22	**0.00**	1.1	4.5	120.0	16.0	120.0	120.0	120.0
Max		1.31	0.27	**0.00**	—	915.98	—	1,584.96	2.38	**0.01**	6.4	10.8	120.0	40.5	120.0	120.1	120.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	4
Running time in seconds for writing input file (t^{write})	0.1418
Running time in seconds for executing parametric cut procedure (t^{cut})	0.0310
Running time in seconds for reading result file (t^{read})	0.0086

File qkp_new_00500_100_0.txt

Property of graph	Value
Nodes (n)	500
Density (Δ)	100.0 %
Edges (m)	125,250

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	168,983.0	0.83	0.18	**0.00**	—	820.64	—	1,456.44	3.28	**0.01**	1.2	2.2	120.0	17.9	120.0	120.1	120.0
5.0	353,472.0	0.68	0.52	**0.00**	—	1,059.53	—	0.16	1.15	**0.00**	1.8	2.8	120.0	23.2	120.0	120.1	120.0
10.0	703,693.0	**0.00**	**0.00**	**0.00**	—	548.71	—	0.34	1.28	**0.01**	2.7	9.8	120.0	42.8	120.0	120.2	120.0
25.0	1,712,274.0	0.25	0.18	**0.00**	—	238.26	—	36.66	1.71	**0.00**	4.0	8.0	120.0	45.6	120.0	120.1	120.0
50.0	3,257,240.0	0.04	0.03	**0.00**	—	91.23	—	29.96	3.03	**0.01**	5.6	3.2	120.0	36.5	120.0	120.1	120.0
75.0	4,792,386.0	0.16	0.15	**0.00**	—	23.73	—	12.99	1.91	**0.01**	7.4	4.2	120.0	41.4	120.0	120.1	120.0
Avg		0.33	0.18	**0.00**	—	463.68	—	256.09	2.06	**0.01**	3.8	5.1	120.0	34.6	120.0	120.1	120.0
Min		**0.00**	**0.00**	**0.00**	—	23.73	—	0.16	1.15	**0.00**	1.2	2.2	120.0	17.9	120.0	120.1	120.0
Max		0.83	0.52	**0.00**	—	1,059.53	—	1,456.44	3.28	**0.01**	7.4	9.8	120.0	45.6	120.0	120.2	120.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	7
Running time in seconds for writing input file (t^{write})	0.2141
Running time in seconds for executing parametric cut procedure (t^{cut})	0.0470
Running time in seconds for reading result file (t^{read})	0.0100

File qkp_new_01000_005_0.txt

Property of graph	Value
Nodes (n)	1,000
Density (Δ)	5.0 %
Edges (m)	25,060

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	30,060.0	0.32	0.55	**0.00**	—	—	—	**0.00**	0.72	**0.01**	6.8	11.7	120.0	120.0	120.0	120.1	120.0
5.0	60,794.0	0.14	0.12	**0.00**	—	—	—	0.03	0.08	**0.01**	10.0	11.9	120.0	120.0	120.0	120.7	120.0
10.0	123,246.0	0.16	0.14	**0.00**	—	—	—	0.46	0.16	**0.01**	14.7	11.6	120.0	120.0	120.0	120.6	120.0
25.0	317,319.0	0.05	0.02	**0.00**	—	—	—	1.00	0.15	**0.03**	24.7	18.6	120.0	120.0	120.0	146.0	120.0
50.0	644,364.0	0.04	0.01	**0.00**	—	—	—	**0.00**	0.11	**0.03**	36.0	12.0	120.0	120.0	120.0	63.5	120.0
75.0	968,148.0	0.08	0.01	**0.00**	—	—	—	**0.00**	0.32	**0.02**	42.7	9.1	120.0	120.0	120.0	13.0	120.0
Avg		0.13	0.14	**0.00**	—	—	—	0.25	0.26	**0.02**	22.5	12.5	120.0	120.0	120.0	97.3	120.0
Min		0.04	0.01	**0.00**	—	—	—	**0.00**	0.08	**0.01**	6.8	9.1	120.0	120.0	120.0	13.0	120.0
Max		0.32	0.55	**0.00**	—	—	—	1.00	0.72	**0.03**	42.7	18.6	120.0	120.0	120.0	146.0	120.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	16
Running time in seconds for writing input file (t^{write})	0.0455
Running time in seconds for executing parametric cut procedure (t^{cut})	0.0780
Running time in seconds for reading result file (t^{read})	0.0115

File qkp_new_01000_010_0.txt

Property of graph	Value
Nodes (n)	1,000
Density (Δ)	10.0 %
Edges (m)	50,148

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	57,178.0	0.12	0.18	**0.00**	—	—	—	5.96	0.12	**0.01**	7.5	9.6	120.0	120.0	120.0	120.1	120.0
5.0	119,109.0	0.09	**0.00**	**0.00**	—	—	—	4.71	0.34	**0.01**	10.8	7.4	120.0	120.0	120.0	120.6	120.0
10.0	244,891.0	0.07	0.05	**0.00**	—	—	—	2.68	0.28	**0.01**	15.8	23.6	120.0	120.0	120.0	120.2	120.0
25.0	623,926.0	0.04	0.01	**0.00**	—	—	—	3.19	0.20	**0.02**	26.1	12.6	120.0	120.0	120.0	120.4	120.0
50.0	1,269,383.0	0.10	0.02	**0.00**	—	—	—	1.55	0.38	**0.02**	36.6	9.5	120.0	120.0	120.0	120.1	120.0
75.0	1,919,905.0	0.07	**0.00**	**0.00**	—	—	—	0.03	0.71	**0.02**	48.4	8.9	120.0	120.0	120.0	120.3	120.0
Avg		0.08	0.04	**0.00**	—	—	—	3.02	0.34	**0.02**	24.2	11.9	120.0	120.0	120.0	120.3	120.0
Min		0.04	**0.00**	**0.00**	—	—	—	0.03	0.12	**0.01**	7.5	7.4	120.0	120.0	120.0	120.1	120.0
Max		0.12	0.18	**0.00**	—	—	—	5.96	0.71	**0.02**	48.4	23.6	120.0	120.0	120.0	120.6	120.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	6
Running time in seconds for writing input file (t^{write})	0.1264
Running time in seconds for executing parametric cut procedure (t^{cut})	0.0930
Running time in seconds for reading result file (t^{read})	0.0105

File qkp_new_01000_015_0.txt

Property of graph	Value
Nodes (n)	1,000
Density (Δ)	15.0 %
Edges (m)	75,292

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	92,547.0	0.48	0.15	**0.00**	—	—	—	0.43	0.80	**0.02**	8.1	9.9	120.0	120.0	120.0	120.1	120.0
5.0	189,943.0	0.08	0.08	**0.00**	—	—	—	3.35	0.25	**0.01**	11.7	8.9	120.0	120.0	120.0	120.0	120.0
10.0	384,820.0	0.05	**0.00**	**0.00**	—	—	—	2.46	0.39	**0.01**	17.3	24.4	120.0	120.0	120.0	120.0	120.0
25.0	970,417.0	**0.00**	**0.00**	**0.00**	—	—	—	0.21	0.35	**0.02**	27.3	22.2	120.0	120.0	120.0	120.1	120.0
50.0	1,930,029.0	**0.00**	0.01	**0.00**	—	—	—	0.12	1.19	**0.02**	39.0	11.3	120.0	120.0	120.0	120.2	120.0
75.0	2,880,251.0	0.05	**0.00**	**0.00**	—	—	—	0.05	0.74	**0.02**	48.5	8.6	120.0	120.0	120.0	120.1	120.0
Avg		0.11	0.04	**0.00**	—	—	—	1.10	0.62	**0.02**	25.3	14.2	120.0	120.0	120.0	120.1	120.0
Min		**0.00**	**0.00**	**0.00**	—	—	—	0.05	0.25	**0.01**	8.1	8.6	120.0	120.0	120.0	120.0	120.0
Max		0.48	0.15	**0.00**	—	—	—	3.35	1.19	**0.02**	48.5	24.4	120.0	120.0	120.0	120.2	120.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	7
Running time in seconds for writing input file (t^{write})	0.1261
Running time in seconds for executing parametric cut procedure (t^{cut})	0.0940
Running time in seconds for reading result file (t^{read})	0.0105

File qkp_new_01000_020_0.txt

Property of graph	Value
Nodes (n)	1,000
Density (Δ)	20.0 %
Edges (m)	100,094

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	122,974.0	0.14	**0.00**	**0.00**	—	—	—	2,449.74	0.31	**0.02**	7.9	10.6	120.0	120.0	120.0	120.1	120.0
5.0	255,856.0	0.15	**0.00**	**0.00**	—	—	—	1,619.81	0.49	**0.01**	12.0	8.0	120.0	120.0	120.0	120.1	120.0
10.0	509,980.0	0.06	0.03	**0.00**	—	—	—	2.01	0.29	**0.01**	17.0	14.8	120.0	120.0	120.0	120.1	120.0
25.0	1,269,063.0	0.23	0.03	**0.00**	—	—	—	34.06	0.81	**0.02**	27.0	18.2	120.0	120.0	120.0	120.1	120.0
50.0	2,537,611.0	0.18	**0.00**	**0.00**	—	—	—	30.31	1.43	**0.02**	36.9	12.2	120.0	120.0	120.0	120.1	120.0
75.0	3,822,995.0	0.11	0.01	**0.00**	—	—	—	14.75	1.04	**0.02**	43.5	9.1	120.0	120.0	120.0	120.1	120.0
Avg		0.14	0.01	**0.00**	—	—	—	691.78	0.73	**0.02**	24.0	12.1	120.0	120.0	120.0	120.1	120.0
Min		0.06	**0.00**	**0.00**	—	—	—	2.01	0.29	**0.01**	7.9	8.0	120.0	120.0	120.0	120.1	120.0
Max		0.23	0.03	**0.00**	—	—	—	2,449.74	1.43	**0.02**	43.5	18.2	120.0	120.0	120.0	120.1	120.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	6
Running time in seconds for writing input file (t^{write})	0.1696
Running time in seconds for executing parametric cut procedure (t^{cut})	0.0930
Running time in seconds for reading result file (t^{read})	0.0103

File qkp_new_01000_025_0.txt

Property of graph	Value
Nodes (n)	1,000
Density (Δ)	25.0 %
Edges (m)	124,986

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	139,522.0	**0.00**	**0.00**	**0.00**	—	—	—	2,106.93	0.51	**0.02**	7.4	6.2	120.0	120.0	120.0	120.1	120.0
5.0	284,394.0	**0.00**	**0.00**	**0.00**	—	—	—	1,310.54	0.69	**0.01**	10.8	8.5	120.0	120.0	120.0	120.1	120.0
10.0	584,057.0	0.01	**0.00**	**0.00**	—	—	—	681.94	0.58	**0.01**	15.7	20.5	120.0	120.0	120.0	120.1	120.0
25.0	1,498,980.0	0.21	0.02	**0.00**	—	—	—	285.77	1.25	**0.02**	24.9	29.6	120.0	120.0	120.0	120.1	120.0
50.0	3,081,295.0	**0.00**	0.01	**0.00**	—	—	—	103.70	2.13	**0.02**	35.2	10.7	120.0	120.0	120.0	120.1	120.0
75.0	4,702,828.0	**0.00**	**0.00**	**0.00**	—	—	—	29.72	1.27	**0.02**	41.8	9.2	120.0	120.0	120.0	120.2	120.0
Avg		0.04	0.01	**0.00**	—	—	—	753.10	1.07	**0.02**	22.6	14.1	120.0	120.0	120.0	120.1	120.0
Min		**0.00**	**0.00**	**0.00**	—	—	—	29.72	0.51	**0.01**	7.4	6.2	120.0	120.0	120.0	120.1	120.0
Max		0.21	0.02	**0.00**	—	—	—	2,106.93	2.13	**0.02**	41.8	29.6	120.0	120.0	120.0	120.2	120.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	4
Running time in seconds for writing input file (t^{write})	0.2014
Running time in seconds for executing parametric cut procedure (t^{cut})	0.1100
Running time in seconds for reading result file (t^{read})	0.0110

File qkp_new_01000_050_0.txt

Property of graph	Value
Nodes (n)	1,000
Density (Δ)	50.0 %
Edges (m)	250,104

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	282,148.0	0.14	**0.00**	**0.00**	—	—	—	2,621.33	0.90	**0.02**	7.7	7.2	120.0	120.0	120.0	120.1	120.0
5.0	590,377.0	0.62	**0.00**	**0.00**	—	—	—	1,544.96	1.53	**0.01**	11.3	16.0	120.0	120.0	120.0	120.2	120.0
10.0	1,189,591.0	**0.00**	**0.00**	**0.00**	—	—	—	717.99	1.86	**0.01**	16.2	25.0	120.0	120.0	120.0	120.2	120.0
25.0	3,071,469.0	**0.00**	**0.00**	**0.00**	—	—	—	261.63	3.38	**0.02**	26.1	23.7	120.0	120.0	120.0	120.2	120.0
50.0	6,288,440.0	0.04	0.01	**0.00**	—	—	—	92.71	2.96	**0.02**	36.4	10.7	120.0	120.0	120.0	120.2	120.0
75.0	9,479,582.0	0.03	**0.00**	**0.00**	—	—	—	29.72	1.90	**0.02**	42.8	9.0	120.0	120.0	120.0	120.2	120.0
Avg		0.14	0.00	**0.00**	—	—	—	878.06	2.09	**0.02**	23.4	15.3	120.0	120.0	120.0	120.2	120.0
Min		**0.00**	**0.00**	**0.00**	—	—	—	29.72	0.90	**0.01**	7.7	7.2	120.0	120.0	120.0	120.1	120.0
Max		0.62	0.01	**0.00**	—	—	—	2,621.33	3.38	**0.02**	42.8	25.0	120.0	120.0	120.0	120.2	120.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	4
Running time in seconds for writing input file (t^{write})	0.4269
Running time in seconds for executing parametric cut procedure (t^{cut})	0.1100
Running time in seconds for reading result file (t^{read})	0.0113

File qkp_new_02000_005_0.txt

Property of graph	Value
Nodes (n)	2,000
Density (Δ)	5.0 %
Edges (m)	99,846

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	114,908.0	0.31	0.15	**0.00**	—	—	—	1,264.38	0.82	**0.12**	54.4	32.8	120.0	120.0	120.0	120.1	120.0
5.0	235,199.0	0.22	0.09	**0.00**	—	—	—	1,097.73	0.37	**0.03**	83.7	42.0	120.0	120.0	120.0	120.1	120.0
10.0	485,499.0	0.01	0.01	**0.00**	—	—	—	672.55	0.31	**0.05**	112.6	31.9	120.0	120.0	120.0	120.1	120.0
25.0	1,230,052.0	0.06	0.02	**0.00**	—	—	—	2.78	0.37	**0.09**	120.1	70.2	120.0	120.0	120.0	120.1	120.0
50.0	2,491,034.0	0.02	0.02	**0.00**	—	—	—	13.38	0.80	**0.11**	120.0	40.2	120.0	120.0	120.0	120.1	120.0
75.0	3,789,519.0	0.02	**0.00**	**0.00**	—	—	—	8.99	0.77	**0.10**	120.1	34.2	120.0	120.0	120.0	120.1	120.0
Avg		0.11	0.05	**0.00**	—	—	—	509.97	0.57	**0.08**	101.8	41.9	120.0	120.0	120.0	120.1	120.0
Min		0.01	**0.00**	**0.00**	—	—	—	2.78	0.31	**0.03**	54.4	31.9	120.0	120.0	120.0	120.1	120.0
Max		0.31	0.15	**0.00**	—	—	—	1,264.38	0.82	**0.12**	120.1	70.2	120.0	120.0	120.0	120.1	120.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	8
Running time in seconds for writing input file (t^{write})	0.1683
Running time in seconds for executing parametric cut procedure (t^{cut})	0.2030
Running time in seconds for reading result file (t^{read})	0.0128

File qkp_new_02000_010_0.txt

Property of graph	Value
Nodes (n)	2,000
Density (Δ)	10.0 %
Edges (m)	200,235

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	228,845.0	0.15	**0.00**	**0.00**	—	—	—	2,324.46	0.62	**0.12**	50.9	35.9	120.0	120.0	120.0	120.2	120.0
5.0	472,216.0	0.21	0.01	**0.00**	—	—	—	1,540.21	0.71	**0.03**	77.7	45.7	120.0	120.0	120.0	120.6	120.0
10.0	981,426.0	**0.00**	0.01	**0.00**	—	—	—	713.29	0.61	**0.05**	116.4	61.6	120.0	120.0	120.0	122.4	120.0
25.0	2,511,153.0	0.01	0.01	**0.00**	—	—	—	256.97	1.25	**0.09**	120.0	42.2	120.0	120.0	120.0	122.5	120.0
50.0	5,066,831.0	0.06	0.01	**0.00**	—	—	—	91.75	1.64	**0.10**	120.0	39.3	120.0	120.0	120.0	121.5	120.0
75.0	7,625,072.0	0.04	0.01	**0.00**	—	—	—	30.16	1.24	**0.09**	120.1	35.8	120.0	120.0	120.0	121.1	120.0
Avg		0.08	0.01	**0.00**	—	—	—	826.14	1.01	**0.08**	100.8	43.4	120.0	120.0	120.0	121.4	120.0
Min		**0.00**	**0.00**	**0.00**	—	—	—	30.16	0.61	**0.03**	50.9	35.8	120.0	120.0	120.0	120.2	120.0
Max		0.21	0.01	**0.00**	—	—	—	2,324.46	1.64	**0.12**	120.1	61.6	120.0	120.0	120.0	122.5	120.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	7
Running time in seconds for writing input file (t^{write})	0.3380
Running time in seconds for executing parametric cut procedure (t^{cut})	0.2030
Running time in seconds for reading result file (t^{read})	0.0123

File qkp_new_02000_015_0.txt

Property of graph	Value
Nodes (n)	2,000
Density (Δ)	15.0 %
Edges (m)	300,499

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	331,280.0	0.11	0.03	**0.00**	—	—	—	3,396.73	1.40	**0.12**	56.9	34.7	120.0	120.0	120.0	120.6	120.0
5.0	690,840.0	0.06	0.01	**0.00**	—	—	—	1,668.26	1.14	**0.03**	82.2	40.5	120.0	120.0	120.0	120.4	120.0
10.0	1,430,674.0	0.09	0.01	**0.00**	—	—	—	838.10	1.64	**0.05**	117.5	70.5	120.0	120.0	120.0	120.3	120.0
25.0	3,672,378.0	0.11	**0.00**	**0.00**	—	—	—	278.08	2.37	**0.09**	120.0	74.8	120.0	120.0	120.0	125.3	120.0
50.0	7,536,423.0	**0.00**	**0.00**	**0.00**	—	—	—	94.76	2.27	**0.10**	120.1	43.3	120.0	120.0	120.0	125.8	120.0
75.0	11,359,372.0	0.01	**0.00**	**0.00**	—	—	—	35.21	1.53	**0.10**	120.1	37.6	120.0	120.0	120.0	126.3	120.0
Avg		0.06	0.01	**0.00**	—	—	—	1,051.86	1.72	**0.08**	102.8	50.2	120.0	120.0	120.0	123.1	120.0
Min		**0.00**	**0.00**	**0.00**	—	—	—	35.21	1.14	**0.03**	56.9	34.7	120.0	120.0	120.0	120.3	120.0
Max		0.11	0.03	**0.00**	—	—	—	3,396.73	2.37	**0.12**	120.1	74.8	120.0	120.0	120.0	126.3	120.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	4
Running time in seconds for writing input file (t^{write})	0.5110
Running time in seconds for executing parametric cut procedure (t^{cut})	0.2350
Running time in seconds for reading result file (t^{read})	0.0129

File qkp_new_02000_020_0.txt

Property of graph	Value
Nodes (n)	2,000
Density (Δ)	20.0 %
Edges (m)	400,766

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	486,094.0	0.24	0.01	**0.00**	—	—	—	2,439.94	2.09	**0.12**	54.6	42.9	120.0	120.0	120.0	120.5	121.0
5.0	976,759.0	0.11	0.08	**0.00**	—	—	—	1,417.72	1.82	**0.03**	81.9	33.0	120.0	120.0	120.0	125.6	120.0
10.0	1,958,290.0	0.10	0.02	**0.00**	—	—	—	813.61	2.15	**0.05**	120.0	68.2	120.0	120.0	120.0	120.2	120.0
25.0	4,938,228.0	**0.00**	**0.00**	**0.00**	—	—	—	271.03	2.81	**0.09**	120.0	85.9	120.0	120.0	120.0	126.8	120.0
50.0	9,944,933.0	0.08	0.05	**0.00**	—	—	—	90.69	3.26	**0.11**	120.0	43.9	120.0	120.0	120.0	124.6	120.0
75.0	15,055,117.0	0.02	0.01	**0.00**	—	—	—	32.41	2.31	**0.11**	120.0	35.1	120.0	120.0	120.0	120.8	120.0
Avg		0.09	0.03	**0.00**	—	—	—	844.23	2.41	**0.08**	102.8	51.5	120.0	120.0	120.0	123.1	120.2
Min		**0.00**	**0.00**	**0.00**	—	—	—	32.41	1.82	**0.03**	54.6	33.0	120.0	120.0	120.0	120.2	120.0
Max		0.24	0.08	**0.00**	—	—	—	2,439.94	3.26	**0.12**	120.0	85.9	120.0	120.0	120.0	126.8	121.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	5
Running time in seconds for writing input file (t^{write})	0.6666
Running time in seconds for executing parametric cut procedure (t^{cut})	0.2500
Running time in seconds for reading result file (t^{read})	0.0130

File qkp_new_02000_025_0.txt

Property of graph	Value
Nodes (n)	2,000
Density (Δ)	25.0 %
Edges (m)	499,994

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	549,896.0	0.35	**0.00**	**0.00**	—	—	—	3,969.08	2.13	**0.12**	50.9	38.2	120.0	120.0	120.0	122.0	121.0
5.0	1,154,066.0	0.04	0.01	**0.00**	—	—	—	1,648.29	2.60	**0.03**	78.8	45.6	120.0	120.0	120.0	120.6	121.0
10.0	2,426,843.0	0.02	**0.00**	**0.00**	—	—	—	837.38	3.00	**0.05**	117.5	60.6	120.0	120.0	120.0	120.3	120.0
25.0	6,249,462.0	**0.00**	**0.00**	**0.00**	—	—	—	293.21	3.69	**0.10**	120.0	81.7	120.0	120.0	120.0	120.3	121.0
50.0	12,491,911.0	0.02	0.01	**0.00**	—	—	—	103.34	3.47	**0.11**	120.0	43.9	120.0	120.0	120.0	123.9	121.0
75.0	18,869,258.0	0.01	**0.00**	**0.00**	—	—	—	34.72	2.12	**0.11**	120.1	39.5	120.0	120.0	120.0	126.2	121.0
Avg		0.07	0.00	**0.00**	—	—	—	1,147.67	2.84	**0.09**	101.2	51.6	120.0	120.0	120.0	122.2	120.8
Min		**0.00**	**0.00**	**0.00**	—	—	—	34.72	2.12	**0.03**	50.9	38.2	120.0	120.0	120.0	120.3	120.0
Max		0.35	0.01	**0.00**	—	—	—	3,969.08	3.69	**0.12**	120.1	81.7	120.0	120.0	120.0	126.2	121.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	3
Running time in seconds for writing input file (t^{write})	0.8245
Running time in seconds for executing parametric cut procedure (t^{cut})	0.2650
Running time in seconds for reading result file (t^{read})	0.0129

File qkp_new_05000_005_0.txt

Property of graph	Value
Nodes (n)	5,000
Density (Δ)	5.0 %
Edges (m)	625,366

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	737,304.0	0.05	0.01	**0.00**	—	—	—	2,883.71	2.16	**0.85**	120.2	139.7	120.0	120.0	120.0	120.4	121.0
5.0	1,517,315.0	0.02	0.01	**0.00**	—	—	—	1,600.55	2.62	**0.19**	120.2	139.5	120.0	120.0	120.0	120.4	121.0
10.0	3,075,312.0	0.08	0.01	**0.00**	—	—	—	813.97	2.71	**0.34**	120.2	140.2	120.0	120.0	120.0	120.4	121.0
25.0	7,774,287.0	**0.00**	**0.00**	**0.00**	—	—	—	279.46	3.53	**0.60**	120.1	140.4	120.0	120.0	120.0	120.4	121.0
50.0	15,746,984.0	0.01	0.01	**0.00**	—	—	—	94.16	3.99	**0.70**	121.0	139.7	120.0	120.0	120.0	120.4	121.0
75.0	23,740,241.0	0.03	0.03	**0.00**	—	—	—	32.08	1.89	**0.69**	120.8	140.6	120.0	120.0	120.0	120.4	121.0
Avg		0.03	0.01	**0.00**	—	—	—	950.66	2.82	**0.56**	120.4	140.0	120.0	120.0	120.0	120.4	121.0
Min		**0.00**	**0.00**	**0.00**	—	—	—	32.08	1.89	**0.19**	120.1	139.5	120.0	120.0	120.0	120.4	121.0
Max		0.08	0.03	**0.00**	—	—	—	2,883.71	3.99	**0.85**	121.0	140.6	120.0	120.0	120.0	120.4	121.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	6
Running time in seconds for writing input file (t^{write})	1.0933
Running time in seconds for executing parametric cut procedure (t^{cut})	0.5940
Running time in seconds for reading result file (t^{read})	0.0224

File qkp_new_05000_010_0.txt

Property of graph	Value
Nodes (n)	5,000
Density (Δ)	10.0 %
Edges (m)	1,250,329

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	1,476,621.0	0.04	0.02	**0.00**	—	—	—	3,328.18	5.15	**0.88**	120.2	141.9	120.0	120.0	120.0	120.8	122.0
5.0	3,043,242.0	**0.00**	**0.00**	**0.00**	—	—	—	1,701.66	5.78	**0.20**	120.1	142.2	120.0	120.0	120.0	120.9	122.0
10.0	6,209,043.0	**0.00**	**0.00**	**0.00**	—	—	—	895.90	5.25	**0.36**	120.3	142.9	120.0	120.0	120.0	121.0	122.0
25.0	15,702,880.0	0.01	**0.00**	**0.00**	—	—	—	305.63	6.39	**0.63**	120.2	140.9	120.0	120.0	120.0	121.7	123.0
50.0	31,583,225.0	0.04	0.03	**0.00**	—	—	—	101.24	6.28	**0.73**	120.8	143.1	120.0	120.0	120.0	121.1	125.0
75.0	47,430,968.0	**0.00**	**0.00**	**0.00**	—	—	—	34.83	2.83	**0.71**	120.4	143.2	120.0	120.0	120.0	121.9	124.0
Avg		0.01	0.01	**0.00**	—	—	—	1,061.24	5.28	**0.58**	120.3	142.4	120.0	120.0	120.0	121.2	123.0
Min		**0.00**	**0.00**	**0.00**	—	—	—	34.83	2.83	**0.20**	120.1	140.9	120.0	120.0	120.0	120.8	122.0
Max		0.04	0.03	**0.00**	—	—	—	3,328.18	6.39	**0.88**	120.8	143.2	120.0	120.0	120.0	121.9	125.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	5
Running time in seconds for writing input file (t^{write})	2.2128
Running time in seconds for executing parametric cut procedure (t^{cut})	0.7810
Running time in seconds for reading result file (t^{read})	0.0223

File qkp_new_05000_015_0.txt

Property of graph	Value
Nodes (n)	5,000
Density (Δ)	15.0 %
Edges (m)	1,873,577

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	2,168,521.0	0.01	**0.00**	**0.00**	—	—	—	—	6.84	**0.89**	120.1	144.7	120.0	120.0	120.0	120.3	121.0
5.0	4,471,055.0	0.02	0.02	**0.00**	—	—	—	—	6.40	**0.20**	120.3	144.6	120.0	120.0	120.0	120.3	121.0
10.0	9,121,755.0	0.08	0.04	**0.00**	—	—	—	—	7.75	**0.35**	120.0	145.3	120.0	120.0	120.0	120.5	121.0
25.0	23,256,039.0	0.02	0.02	**0.00**	—	—	—	—	9.11	**0.60**	120.3	143.3	120.0	120.0	120.0	120.3	123.0
50.0	46,918,707.0	0.01	0.01	**0.00**	—	—	—	—	7.99	**0.70**	120.2	142.8	120.0	120.0	120.0	120.4	121.0
75.0	70,862,287.0	0.03	0.02	**0.00**	—	—	—	—	3.66	**0.75**	120.5	142.7	120.0	120.0	120.0	120.7	122.0
Avg		0.03	0.02	**0.00**	—	—	—	—	6.96	**0.58**	120.2	143.9	120.0	120.0	120.0	120.4	121.5
Min		0.01	**0.00**	**0.00**	—	—	—	—	3.66	**0.20**	120.0	142.7	120.0	120.0	120.0	120.3	121.0
Max		0.08	0.04	**0.00**	—	—	—	—	9.11	**0.89**	120.5	145.3	120.0	120.0	120.0	120.7	123.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	3
Running time in seconds for writing input file (t^{write})	3.3285
Running time in seconds for executing parametric cut procedure (t^{cut})	1.0620
Running time in seconds for reading result file (t^{read})	0.0230

File qkp_new_05000_020_0.txt

Property of graph	Value
Nodes (n)	5,000
Density (Δ)	20.0 %
Edges (m)	2,500,402

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	2,887,319.0	**0.00**	**0.00**	**0.00**	—	—	—	—	6.88	**0.83**	120.0	146.0	120.0	120.0	120.0	120.4	120.0
5.0	5,824,467.0	0.09	0.07	**0.00**	—	—	—	—	8.31	**0.18**	120.1	146.0	120.0	120.0	120.0	120.4	120.0
10.0	11,835,556.0	0.06	0.04	**0.00**	—	—	—	—	8.46	**0.33**	120.2	145.3	120.0	120.0	120.0	120.4	120.0
25.0	30,618,459.0	0.02	0.01	**0.00**	—	—	—	—	9.38	**0.59**	120.6	145.9	120.0	120.0	120.0	120.4	120.0
50.0	62,344,564.0	**0.00**	0.04	**0.00**	—	—	—	—	8.22	**0.69**	120.3	147.2	120.0	120.0	120.0	120.4	120.0
75.0	94,303,250.0	0.04	0.04	**0.00**	—	—	—	—	4.02	**0.74**	120.2	145.2	120.0	120.0	120.0	120.4	120.0
Avg		0.03	0.03	**0.00**	—	—	—	—	7.54	**0.56**	120.2	145.9	120.0	120.0	120.0	120.4	120.0
Min		**0.00**	**0.00**	**0.00**	—	—	—	—	4.02	**0.18**	120.0	145.2	120.0	120.0	120.0	120.4	120.0
Max		0.09	0.07	**0.00**	—	—	—	—	9.38	**0.83**	120.6	147.2	120.0	120.0	120.0	120.4	120.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	3
Running time in seconds for writing input file (t^{write})	4.4920
Running time in seconds for executing parametric cut procedure (t^{cut})	1.0940
Running time in seconds for reading result file (t^{read})	0.0224

File qkp_new_10000_005_0.txt

Property of graph	Value
Nodes (n)	10,000
Density (Δ)	5.0 %
Edges (m)	2,496,201

		Deviation from best OFV (%)								Running time (s)							
γ	Best OFV	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly	**QKBP**	RG	IHEA	LDP	DP	QK	Gurobi	Hexaly
2.5	2,838,130.0	0.01	0.01	**0.00**	—	—	—	—	7.40	**4.15**	120.4	207.3	120.0	120.0	120.0	120.5	120.0
5.0	5,922,475.0	**0.00**	**0.00**	**0.00**	—	—	—	—	7.49	**0.76**	120.9	204.8	120.0	120.0	120.0	120.5	120.0
10.0	12,169,869.0	**0.00**	0.01	**0.00**	—	—	—	—	7.84	**1.45**	121.9	205.3	120.0	120.0	120.0	120.5	120.0
25.0	30,848,899.0	0.01	**0.00**	**0.00**	—	—	—	—	8.58	**2.53**	120.4	203.3	120.0	120.0	120.0	120.5	120.0
50.0	62,495,580.0	**0.00**	**0.00**	**0.00**	—	—	—	—	7.40	**3.03**	124.1	200.2	120.0	120.0	120.0	120.5	120.0
75.0	94,402,497.0	**0.00**	0.02	**0.00**	—	—	—	—	3.65	**3.18**	122.0	207.7	120.0	120.0	120.0	120.5	120.0
Avg		0.00	0.01	**0.00**	—	—	—	—	7.06	**2.52**	121.6	204.8	120.0	120.0	120.0	120.5	120.0
Min		**0.00**	**0.00**	**0.00**	—	—	—	—	3.65	**0.76**	120.4	200.2	120.0	120.0	120.0	120.5	120.0
Max		0.01	0.02	**0.00**	—	—	—	—	8.58	**4.15**	124.1	207.7	120.0	120.0	120.0	120.5	120.0

QKBP is the contribution in this paper

QKBP-specific information	Value
Number of breakpoints	5
Running time in seconds for writing input file (t^{write})	4.4425
Running time in seconds for executing parametric cut procedure (t^{cut})	1.5310
Running time in seconds for reading result file (t^{read})	0.0386