Supplementary Material for the Paper "Solving Multiplicative Programs by Binary-encoding the Multiplication Operation"

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This document provides supplementary material for the paper "Solving Multiplicative Programs by Binary-encoding the Multiplication Operation" in which the authors conducted a computational study comprising a total of 5,400 runs done in 4 experiments. The following tables show the detailed results for Experiments 1–4:

- Direction (maximize, minimize),
- Variables (binary, continuous),
- # Objectives (2, 3, 4),
- Solution approach:
    - N-O: Nested, One-shot,
    - N-B: Nested, Bitwise,
    - N-B+F: Nested, Bitwise + F-cut,
    - N-B+P: Nested, Bitwise + P-cut,
    - N-O-Imm: Nested, One-shot, Indirect Min-Min,
    - N-O-mm: Nested, One-shot, Min-Min,
    - A-O: Altogether, One-shot,
    - A-O-Imm: Altogether, One-shot, Indirect Min-Min,
    - N-O-M: N-O with M as multiplier from the set $\{10^0, 10^2, 10^4\}$,
    - N-O-Imm-M: N-O-Imm with M as multiplier from the set $\{10^0, 10^2, 10^4\}$,
- Instance,
- # Variables,
- # Constraints,
- Objective value,
- Relative gap,
- Solve time (s).

For an electronic version of these results, see the CSV file available at github.com/paymanghasemi.

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1 Detailed Results for Experiment 1

Table 1: Detailed Results for Experiment 1

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	Binary	2	N-B	100-50.0-1.lp	100	50	27,756.00	0.00%	7.83
				100-50.0-2.lp	100	50	39,468.00	0.00%	8.49
				100-50.0-3.lp	100	50	22,195.00	0.00%	5.80
				100-50.0-4.lp	100	50	35,502.00	0.00%	6.98
				100-50.0-5.lp	100	50	17,205.00	0.00%	7.87
				100-100-1.lp	100	100	20,776.00	0.00%	14.45
				100-100-2.lp	100	100	16,781.00	0.00%	3.27
				100-100-3.lp	100	100	17,010.00	0.00%	6.72
				100-100-4.lp	100	100	22,990.00	0.00%	12.00
				100-100-5.lp	100	100	15,714.00	0.00%	6.42
				100-150.0-1.lp	100	150	17,199.00	0.00%	8.62
				100-150.0-2.lp	100	150	12,996.00	0.00%	14.44
				100-150.0-3.lp	100	150	20,475.00	0.00%	6.27
				100-150.0-4.lp	100	150	13,485.00	0.00%	10.73
				100-150.0-5.lp	100	150	15,360.00	0.00%	17.53
				100-200-1.lp	100	200	15,921.00	0.00%	13.42
				100-200-2.lp	100	200	12,150.00	0.00%	16.38
				100-200-3.lp	100	200	17,520.00	0.00%	13.86
				100-200-4.lp	100	200	16,289.00	0.00%	14.86
				100-200-5.lp	100	200	9,975.00	0.00%	9.75
				200-100.0-1.lp	200	100	139,728.00	0.00%	63.17
				200-100.0-2.lp	200	100	70,500.00	0.00%	71.53
				200-100.0-3.lp	200	100	89,646.00	0.00%	57.01
				200-100.0-4.lp	200	100	147,518.00	0.00%	101.37
				200-100.0-5.lp	200	100	91,800.00	0.00%	26.19
				200-200-1.lp	200	200	63,012.00	0.00%	46.16

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*2*	*N-B*	200-200-2.lp	200	200	70,771.00	0.00%	109.52
				200-200-3.lp	200	200	70,350.00	0.00%	154.04
				200-200-4.lp	200	200	67,851.00	0.00%	93.24
				200-200-5.lp	200	200	91,103.00	0.00%	50.03
				200-300.0-1.lp	200	300	69,866.00	0.00%	309.30
				200-300.0-2.lp	200	300	66,381.00	0.00%	79.70
				200-300.0-3.lp	200	300	74,685.00	0.00%	203.50
				200-300.0-4.lp	200	300	59,466.00	0.00%	224.80
				200-300.0-5.lp	200	300	60,573.00	0.00%	67.86
				200-400-1.lp	200	400	65,704.00	0.00%	159.22
				200-400-2.lp	200	400	57,424.00	0.00%	1,425.15
				200-400-3.lp	200	400	68,625.00	0.00%	1,060.28
				200-400-4.lp	200	400	67,032.00	0.00%	63.20
				200-400-5.lp	200	400	46,690.00	0.00%	365.78
				300-150.0-1.lp	300	150	168,776.00	0.00%	266.17
				300-150.0-2.lp	300	150	168,950.00	0.00%	1,143.53
				300-150.0-3.lp	300	150	199,396.00	0.00%	2,153.13
				300-150.0-4.lp	300	150	245,784.00	0.00%	54.12
				300-150.0-5.lp	300	150	179,046.00	0.00%	465.48
				300-300-1.lp	300	300	178,648.00	0.00%	975.30
				300-300-2.lp	300	300	262,268.00	5.84%	3,600.00
				300-300-3.lp	300	300	153,458.00	0.00%	2,052.39
				300-300-4.lp	300	300	185,440.00	0.00%	2,952.84
				300-300-5.lp	300	300	179,180.00	0.00%	877.58
				300-450.0-1.lp	300	450	151,620.00	2.59%	3,600.00
				300-450.0-2.lp	300	450	164,385.00	0.29%	3,600.00
				300-450.0-3.lp	300	450	126,976.00	3.12%	3,600.00
				300-450.0-4.lp	300	450	158,197.00	0.97%	3,600.00
				300-450.0-5.lp	300	450	131,560.00	1.17%	3,600.00
				300-600-1.lp	300	600	139,880.00	5.14%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*2*	*N-B*	300-600-2.lp	300	600	135,797.00	2.49%	3,600.00
				300-600-3.lp	300	600	110,860.00	3.34%	3,600.00
				300-600-4.lp	300	600	147,500.00	5.23%	3,600.00
				300-600-5.lp	300	600	149,910.00	0.41%	3,600.00
				400-200.0-1.lp	400	200	316,608.00	0.90%	3,600.00
				400-200.0-2.lp	400	200	483,328.00	1.67%	3,600.00
				400-200.0-3.lp	400	200	328,512.00	8.86%	3,600.00
				400-200.0-4.lp	400	200	361,984.00	3.94%	3,600.00
				400-200.0-5.lp	400	200	317,967.00	0.00%	2,238.39
				400-400-1.lp	400	400	295,260.00	9.89%	3,600.00
				400-400-2.lp	400	400	301,056.00	8.12%	3,600.00
				400-400-3.lp	400	400	274,944.00	1.29%	3,600.00
				400-400-4.lp	400	400	322,000.00	1.73%	3,600.00
				400-400-5.lp	400	400	295,260.00	5.15%	3,600.00
				400-600.0-1.lp	400	600	231,264.00	2.65%	3,600.00
				400-600.0-2.lp	400	600	267,036.00	9.45%	3,600.00
				400-600.0-3.lp	400	600	204,477.00	22.00%	3,600.00
				400-600.0-4.lp	400	600	295,404.00	5.10%	3,600.00
				400-600.0-5.lp	400	600	218,892.00	4.57%	3,600.00
				400-800-1.lp	400	800	246,048.00	6.14%	3,600.00
				400-800-2.lp	400	800	229,497.00	1.70%	3,600.00
				400-800-3.lp	400	800	213,828.00	6.78%	3,600.00
				400-800-4.lp	400	800	245,760.00	6.25%	3,600.00
				400-800-5.lp	400	800	–	∞	3,600.00
				500-250.0-1.lp	500	250	603,161.00	0.00%	1,058.07
				500-250.0-2.lp	500	250	581,632.00	1.39%	3,600.00
				500-250.0-3.lp	500	250	549,824.00	1.30%	3,600.00
				500-250.0-4.lp	500	250	526,240.00	19.70%	3,600.00
				500-250.0-5.lp	500	250	573,534.00	2.76%	3,600.00
				500-500-1.lp	500	500	458,752.00	12.50%	3,600.00

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*2*	N-B	500-500-2.lp	500	500	395,780.00	7.09%	3,600.00
				500-500-3.lp	500	500	–	∞	3,600.00
				500-500-4.lp	500	500	393,216.00	7.69%	3,600.00
				500-500-5.lp	500	500	393,346.00	7.66%	3,600.00
				500-750.0-1.lp	500	750	262,178.00	49.99%	3,600.00
				500-750.0-2.lp	500	750	376,872.00	4.16%	3,600.00
				500-750.0-3.lp	500	750	343,418.00	12.66%	3,600.00
				500-750.0-4.lp	500	750	360,480.00	8.32%	3,600.00
				500-750.0-5.lp	500	750	368,809.00	2.13%	3,600.00
				500-1000-1.lp	500	1,000	364,665.00	7.26%	3,600.00
				500-1000-2.lp	500	1,000	362,204.00	7.89%	3,600.00
				500-1000-3.lp	500	1,000	329,728.00	8.52%	3,600.00
				500-1000-4.lp	500	1,000	442,368.00	3.57%	3,600.00
				500-1000-5.lp	500	1,000	320,800.00	2.10%	3,600.00
			N-B+F	100-50.0-1.lp	100	50	27,756.00	0.00%	2.44
				100-50.0-2.lp	100	50	39,468.00	0.00%	3.24
				100-50.0-3.lp	100	50	22,195.00	0.00%	4.49
				100-50.0-4.lp	100	50	35,502.00	0.00%	4.72
				100-50.0-5.lp	100	50	17,205.00	0.00%	6.28
				100-100-1.lp	100	100	20,776.00	0.00%	8.35
				100-100-2.lp	100	100	16,781.00	0.00%	2.87
				100-100-3.lp	100	100	17,010.00	0.00%	4.79
				100-100-4.lp	100	100	22,990.00	0.00%	6.40
				100-100-5.lp	100	100	15,714.00	0.00%	3.47
				100-150.0-1.lp	100	150	17,199.00	0.00%	6.18
				100-150.0-2.lp	100	150	12,996.00	0.00%	8.07
				100-150.0-3.lp	100	150	20,475.00	0.00%	4.77
				100-150.0-4.lp	100	150	13,485.00	0.00%	1.71
				100-150.0-5.lp	100	150	15,360.00	0.00%	5.05
				100-200-1.lp	100	200	15,921.00	0.00%	3.48

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	Binary	2	N-B+F	100-200-2.lp	100	200	12,150.00	0.00%	7.51
				100-200-3.lp	100	200	17,520.00	0.00%	11.09
				100-200-4.lp	100	200	16,289.00	0.00%	13.92
				100-200-5.lp	100	200	9,975.00	0.00%	5.69
				200-100.0-1.lp	200	100	139,728.00	0.00%	110.51
				200-100.0-2.lp	200	100	70,500.00	0.00%	177.77
				200-100.0-3.lp	200	100	89,646.00	0.00%	112.80
				200-100.0-4.lp	200	100	147,518.00	0.00%	109.32
				200-100.0-5.lp	200	100	91,800.00	0.00%	22.82
				200-200-1.lp	200	200	63,012.00	0.00%	57.19
				200-200-2.lp	200	200	70,771.00	0.00%	260.09
				200-200-3.lp	200	200	70,350.00	0.00%	294.59
				200-200-4.lp	200	200	67,851.00	0.00%	243.43
				200-200-5.lp	200	200	91,103.00	0.00%	78.68
				200-300.0-1.lp	200	300	69,866.00	0.00%	818.01
				200-300.0-2.lp	200	300	66,381.00	0.00%	175.60
				200-300.0-3.lp	200	300	74,685.00	0.00%	546.58
				200-300.0-4.lp	200	300	59,466.00	0.00%	278.17
				200-300.0-5.lp	200	300	60,573.00	0.00%	158.68
				200-400-1.lp	200	400	65,704.00	0.00%	611.33
				200-400-2.lp	200	400	57,424.00	0.00%	946.55
				200-400-3.lp	200	400	68,625.00	0.00%	1,389.98
				200-400-4.lp	200	400	67,032.00	0.00%	138.20
				200-400-5.lp	200	400	46,690.00	0.00%	742.42
				300-150.0-1.lp	300	150	168,776.00	0.00%	695.14
				300-150.0-2.lp	300	150	168,950.00	0.00%	1,375.15
				300-150.0-3.lp	300	150	198,968.00	0.36%	3,600.00
				300-150.0-4.lp	300	150	245,784.00	0.00%	29.17
				300-150.0-5.lp	300	150	179,046.00	0.00%	692.58
				300-300-1.lp	300	300	178,648.00	0.00%	1,788.36

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*2*	*N-B+F*	300-300-2.lp	300	300	262,260.00	49.98%	3,600.00
				300-300-3.lp	300	300	153,145.00	0.30%	3,600.00
				300-300-4.lp	300	300	185,440.00	0.50%	3,600.00
				300-300-5.lp	300	300	179,180.00	0.00%	2,083.37
				300-450.0-1.lp	300	450	153,344.00	1.48%	3,600.00
				300-450.0-2.lp	300	450	134,260.00	31.71%	3,600.00
				300-450.0-3.lp	300	450	123,392.00	5.86%	3,600.00
				300-450.0-4.lp	300	450	158,760.00	0.62%	3,600.00
				300-450.0-5.lp	300	450	–	∞	3,600.00
				300-600-1.lp	300	600	132,160.00	19.34%	3,600.00
				300-600-2.lp	300	600	135,366.00	2.80%	3,600.00
				300-600-3.lp	300	600	110,600.00	1.81%	3,600.00
				300-600-4.lp	300	600	151,611.00	2.59%	3,600.00
				300-600-5.lp	300	600	147,960.00	2.37%	3,600.00
				400-200.0-1.lp	400	200	314,400.00	1.59%	3,600.00
				400-200.0-2.lp	400	200	475,968.00	3.16%	3,600.00
				400-200.0-3.lp	400	200	344,378.00	2.24%	3,600.00
				400-200.0-4.lp	400	200	368,775.00	0.00%	3,380.92
				400-200.0-5.lp	400	200	317,967.00	0.00%	2,851.74
				400-400-1.lp	400	400	296,834.00	9.41%	3,600.00
				400-400-2.lp	400	400	295,668.00	9.77%	3,600.00
				400-400-3.lp	400	400	269,658.00	8.56%	3,600.00
				400-400-4.lp	400	400	319,904.00	2.37%	3,600.00
				400-400-5.lp	400	400	296,116.00	4.88%	3,600.00
				400-600.0-1.lp	400	600	230,400.00	3.02%	3,600.00
				400-600.0-2.lp	400	600	264,562.00	10.29%	3,600.00
				400-600.0-3.lp	400	600	204,800.00	21.87%	3,600.00
				400-600.0-4.lp	400	600	303,380.00	2.54%	3,600.00
				400-600.0-5.lp	400	600	215,265.00	6.15%	3,600.00
				400-800-1.lp	400	800	248,368.00	5.25%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*2*	N-B+F	400-800-2.lp	400	800	197,120.00	24.80%	3,600.00
				400-800-3.lp	400	800	213,009.00	7.14%	3,600.00
				400-800-4.lp	400	800	245,760.00	6.25%	3,600.00
				400-800-5.lp	400	800	–	∞	3,600.00
				500-250.0-1.lp	500	250	603,161.00	0.00%	2,452.06
				500-250.0-2.lp	500	250	552,960.00	15.62%	3,600.00
				500-250.0-3.lp	500	250	540,672.00	2.94%	3,600.00
				500-250.0-4.lp	500	250	571,725.00	12.76%	3,600.00
				500-250.0-5.lp	500	250	558,536.00	5.30%	3,600.00
				500-500-1.lp	500	500	459,240.00	12.41%	3,600.00
				500-500-2.lp	500	500	394,625.00	7.36%	3,600.00
				500-500-3.lp	500	500	–	∞	3,600.00
				500-500-4.lp	500	500	395,415.00	3.46%	3,600.00
				500-500-5.lp	500	500	398,970.00	6.34%	3,600.00
				500-750.0-1.lp	500	750	291,168.00	44.46%	3,600.00
				500-750.0-2.lp	500	750	377,136.00	4.09%	3,600.00
				500-750.0-3.lp	500	750	361,472.00	8.07%	3,600.00
				500-750.0-4.lp	500	750	378,000.00	3.87%	3,600.00
				500-750.0-5.lp	500	750	360,990.00	4.20%	3,600.00
				500-1000-1.lp	500	1,000	362,460.00	7.82%	3,600.00
				500-1000-2.lp	500	1,000	377,760.00	3.93%	3,600.00
				500-1000-3.lp	500	1,000	341,040.00	13.27%	3,600.00
				500-1000-4.lp	500	1,000	426,106.00	7.12%	3,600.00
				500-1000-5.lp	500	1,000	312,039.00	4.77%	3,600.00
			N-B+P	100-50.0-1.lp	100	50	27,756.00	0.00%	3.22
				100-50.0-2.lp	100	50	39,468.00	0.00%	3.77
				100-50.0-3.lp	100	50	22,195.00	0.00%	2.99
				100-50.0-4.lp	100	50	35,502.00	0.00%	5.42
				100-50.0-5.lp	100	50	17,205.00	0.00%	4.11
				100-100-1.lp	100	100	20,776.00	0.00%	6.58

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	Binary	2	N-B+P	100-100-2.lp	100	100	16,781.00	0.00%	0.88
				100-100-3.lp	100	100	17,010.00	0.00%	3.08
				100-100-4.lp	100	100	22,990.00	0.00%	3.75
				100-100-5.lp	100	100	15,714.00	0.00%	3.31
				100-150.0-1.lp	100	150	17,199.00	0.00%	4.33
				100-150.0-2.lp	100	150	12,996.00	0.00%	8.79
				100-150.0-3.lp	100	150	20,475.00	0.00%	3.02
				100-150.0-4.lp	100	150	13,485.00	0.00%	4.08
				100-150.0-5.lp	100	150	15,360.00	0.00%	5.92
				100-200-1.lp	100	200	15,921.00	0.00%	3.74
				100-200-2.lp	100	200	12,150.00	0.00%	25.74
				100-200-3.lp	100	200	17,520.00	0.00%	4.46
				100-200-4.lp	100	200	16,289.00	0.00%	11.34
				100-200-5.lp	100	200	9,975.00	0.00%	8.08
				200-100.0-1.lp	200	100	139,728.00	0.00%	63.37
				200-100.0-2.lp	200	100	70,500.00	0.00%	90.54
				200-100.0-3.lp	200	100	89,646.00	0.00%	94.30
				200-100.0-4.lp	200	100	147,518.00	0.00%	171.86
				200-100.0-5.lp	200	100	91,800.00	0.00%	14.33
				200-200-1.lp	200	200	63,012.00	0.00%	29.27
				200-200-2.lp	200	200	70,771.00	0.00%	149.53
				200-200-3.lp	200	200	70,350.00	0.00%	141.55
				200-200-4.lp	200	200	67,851.00	0.00%	166.22
				200-200-5.lp	200	200	91,103.00	0.00%	15.08
				200-300.0-1.lp	200	300	69,866.00	0.00%	651.89
				200-300.0-2.lp	200	300	66,381.00	0.00%	37.02
				200-300.0-3.lp	200	300	74,685.00	0.00%	223.43
				200-300.0-4.lp	200	300	59,466.00	0.00%	217.13
				200-300.0-5.lp	200	300	60,573.00	0.00%	124.87
				200-400-1.lp	200	400	65,704.00	0.00%	157.05

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*2*	*N-B+P*	200-400-2.lp	200	400	57,424.00	0.00%	1,229.95
				200-400-3.lp	200	400	68,625.00	0.00%	1,631.22
				200-400-4.lp	200	400	67,032.00	0.00%	67.29
				200-400-5.lp	200	400	46,690.00	0.00%	649.33
				300-150.0-1.lp	300	150	168,776.00	0.00%	725.76
				300-150.0-2.lp	300	150	168,950.00	0.00%	1,733.43
				300-150.0-3.lp	300	150	199,396.00	0.00%	2,188.51
				300-150.0-4.lp	300	150	245,784.00	0.00%	23.40
				300-150.0-5.lp	300	150	179,046.00	0.00%	421.60
				300-300-1.lp	300	300	178,648.00	0.00%	744.10
				300-300-2.lp	300	300	266,496.00	4.32%	3,600.00
				300-300-3.lp	300	300	153,458.00	0.00%	2,758.14
				300-300-4.lp	300	300	185,440.00	0.50%	3,600.00
				300-300-5.lp	300	300	179,180.00	0.00%	3,058.54
				300-450.0-1.lp	300	450	152,492.00	2.03%	3,600.00
				300-450.0-2.lp	300	450	143,166.00	27.18%	3,600.00
				300-450.0-3.lp	300	450	126,976.00	3.12%	3,600.00
				300-450.0-4.lp	300	450	158,188.00	0.97%	3,600.00
				300-450.0-5.lp	300	450	–	∞	3,600.00
				300-600-1.lp	300	600	139,264.00	5.55%	3,600.00
				300-600-2.lp	300	600	135,720.00	2.54%	3,600.00
				300-600-3.lp	300	600	111,067.00	3.16%	3,600.00
				300-600-4.lp	300	600	147,968.00	4.93%	3,600.00
				300-600-5.lp	300	600	147,968.00	4.93%	3,600.00
				400-200.0-1.lp	400	200	312,708.00	4.57%	3,600.00
				400-200.0-2.lp	400	200	487,620.00	0.79%	3,600.00
				400-200.0-3.lp	400	200	346,458.00	1.65%	3,600.00
				400-200.0-4.lp	400	200	368,775.00	0.03%	3,600.00
				400-200.0-5.lp	400	200	317,580.00	0.60%	3,600.00
				400-400-1.lp	400	400	294,978.00	9.98%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*2*	*N-B+P*	400-400-2.lp	400	400	307,200.00	1.32%	3,600.00
				400-400-3.lp	400	400	270,336.00	8.33%	3,600.00
				400-400-4.lp	400	400	313,600.00	4.30%	3,600.00
				400-400-5.lp	400	400	296,250.00	4.83%	3,600.00
				400-600.0-1.lp	400	600	229,632.00	12.40%	3,600.00
				400-600.0-2.lp	400	600	275,377.00	15.96%	3,600.00
				400-600.0-3.lp	400	600	196,745.00	24.95%	3,600.00
				400-600.0-4.lp	400	600	303,156.00	2.61%	3,600.00
				400-600.0-5.lp	400	600	213,204.00	7.05%	3,600.00
				400-800-1.lp	400	800	245,907.00	6.19%	3,600.00
				400-800-2.lp	400	800	230,622.00	1.22%	3,600.00
				400-800-3.lp	400	800	214,080.00	6.67%	3,600.00
				400-800-4.lp	400	800	246,720.00	5.88%	3,600.00
				400-800-5.lp	400	800	−	∞	3,600.00
				500-250.0-1.lp	500	250	603,161.00	0.00%	1,791.95
				500-250.0-2.lp	500	250	585,728.00	0.69%	3,600.00
				500-250.0-3.lp	500	250	549,222.00	1.41%	3,600.00
				500-250.0-4.lp	500	250	564,144.00	28.27%	3,600.00
				500-250.0-5.lp	500	250	573,440.00	2.78%	3,600.00
				500-500-1.lp	500	500	492,000.00	3.13%	3,600.00
				500-500-2.lp	500	500	404,550.00	5.03%	3,600.00
				500-500-3.lp	500	500	−	∞	3,600.00
				500-500-4.lp	500	500	396,900.00	6.83%	3,600.00
				500-500-5.lp	500	500	402,304.00	5.56%	3,600.00
				500-750.0-1.lp	500	750	395,602.00	7.13%	3,600.00
				500-750.0-2.lp	500	750	377,098.00	4.10%	3,600.00
				500-750.0-3.lp	500	750	367,517.00	6.54%	3,600.00
				500-750.0-4.lp	500	750	364,800.00	7.23%	3,600.00
				500-750.0-5.lp	500	750	368,676.00	2.16%	3,600.00
				500-1000-1.lp	500	1,000	361,609.00	8.04%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*2*	*N-B+P*	500-1000-2.lp	500	1,000	379,392.00	3.52%	3,600.00
				500-1000-3.lp	500	1,000	329,728.00	16.15%	3,600.00
				500-1000-4.lp	500	1,000	426,666.00	6.99%	3,600.00
				500-1000-5.lp	500	1,000	313,644.00	4.28%	3,600.00
			N-O	100-50.0-1.lp	100	50	27,756.00	0.00%	0.34
				100-50.0-2.lp	100	50	39,468.00	0.00%	0.72
				100-50.0-3.lp	100	50	22,195.00	0.00%	0.36
				100-50.0-4.lp	100	50	35,502.00	0.00%	0.72
				100-50.0-5.lp	100	50	17,205.00	0.00%	0.58
				100-100-1.lp	100	100	20,776.00	0.00%	1.19
				100-100-2.lp	100	100	16,781.00	0.00%	0.31
				100-100-3.lp	100	100	17,010.00	0.00%	0.49
				100-100-4.lp	100	100	22,990.00	0.00%	0.51
				100-100-5.lp	100	100	15,714.00	0.00%	0.50
				100-150.0-1.lp	100	150	17,199.00	0.00%	0.38
				100-150.0-2.lp	100	150	12,996.00	0.00%	0.56
				100-150.0-3.lp	100	150	20,475.00	0.00%	0.70
				100-150.0-4.lp	100	150	13,485.00	0.00%	0.47
				100-150.0-5.lp	100	150	15,360.00	0.00%	0.92
				100-200-1.lp	100	200	15,921.00	0.00%	0.59
				100-200-2.lp	100	200	12,150.00	0.00%	1.11
				100-200-3.lp	100	200	17,520.00	0.00%	0.69
				100-200-4.lp	100	200	16,289.00	0.00%	1.66
				100-200-5.lp	100	200	9,975.00	0.00%	1.00
				200-100.0-1.lp	200	100	139,728.00	0.00%	6.84
				200-100.0-2.lp	200	100	70,500.00	0.00%	10.47
				200-100.0-3.lp	200	100	89,646.00	0.00%	2.47
				200-100.0-4.lp	200	100	147,518.00	0.00%	13.64
				200-100.0-5.lp	200	100	91,800.00	0.00%	3.47
				200-200-1.lp	200	200	63,012.00	0.00%	2.77

(continued from previous page)

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*2*	*N-O*	200-200-2.lp	200	200	70,771.00	0.00%	8.36
				200-200-3.lp	200	200	70,350.00	0.00%	9.31
				200-200-4.lp	200	200	67,851.00	0.00%	8.88
				200-200-5.lp	200	200	91,103.00	0.00%	5.39
				200-300.0-1.lp	200	300	69,866.00	0.00%	17.21
				200-300.0-2.lp	200	300	66,381.00	0.00%	8.32
				200-300.0-3.lp	200	300	74,685.00	0.00%	11.97
				200-300.0-4.lp	200	300	59,466.00	0.00%	13.94
				200-300.0-5.lp	200	300	60,573.00	0.00%	7.88
				200-400-1.lp	200	400	65,704.00	0.00%	11.18
				200-400-2.lp	200	400	57,424.00	0.00%	42.93
				200-400-3.lp	200	400	68,625.00	0.00%	31.90
				200-400-4.lp	200	400	67,032.00	0.00%	2.96
				200-400-5.lp	200	400	46,690.00	0.00%	17.46
				300-150.0-1.lp	300	150	168,776.00	0.00%	38.92
				300-150.0-2.lp	300	150	168,950.00	0.00%	59.45
				300-150.0-3.lp	300	150	199,396.00	0.00%	47.26
				300-150.0-4.lp	300	150	245,784.00	0.00%	6.57
				300-150.0-5.lp	300	150	179,046.00	0.00%	30.42
				300-300-1.lp	300	300	178,648.00	0.00%	26.98
				300-300-2.lp	300	300	269,272.00	0.00%	867.68
				300-300-3.lp	300	300	153,458.00	0.00%	173.46
				300-300-4.lp	300	300	185,440.00	0.00%	152.11
				300-300-5.lp	300	300	179,180.00	0.00%	43.83
				300-450.0-1.lp	300	450	153,344.00	0.00%	2,688.91
				300-450.0-2.lp	300	450	164,385.00	0.00%	836.35
				300-450.0-3.lp	300	450	130,239.00	0.00%	459.01
				300-450.0-4.lp	300	450	158,760.00	0.00%	449.35
				300-450.0-5.lp	300	450	132,570.00	0.00%	146.48
				300-600-1.lp	300	600	144,710.00	1.48%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*2*	*N-O*	300-600-2.lp	300	600	137,268.00	0.08%	3,600.00
				300-600-3.lp	300	600	111,695.00	0.00%	166.66
				300-600-4.lp	300	600	151,823.00	0.00%	315.38
				300-600-5.lp	300	600	149,910.00	0.00%	198.03
				400-200.0-1.lp	400	200	318,202.00	0.00%	3,422.88
				400-200.0-2.lp	400	200	488,580.00	0.00%	508.86
				400-200.0-3.lp	400	200	350,856.00	0.00%	383.89
				400-200.0-4.lp	400	200	368,775.00	0.00%	165.23
				400-200.0-5.lp	400	200	317,967.00	0.00%	105.10
				400-400-1.lp	400	400	312,475.00	0.00%	1,904.10
				400-400-2.lp	400	400	311,200.00	0.00%	543.89
				400-400-3.lp	400	400	278,202.00	0.00%	2,030.08
				400-400-4.lp	400	400	323,604.00	0.00%	2,867.11
				400-400-5.lp	400	400	303,056.00	1.02%	3,600.00
				400-600.0-1.lp	400	600	232,956.00	0.50%	3,600.00
				400-600.0-2.lp	400	600	278,103.00	0.81%	3,600.00
				400-600.0-3.lp	400	600	229,810.00	0.57%	3,600.00
				400-600.0-4.lp	400	600	303,459.00	1.19%	3,600.00
				400-600.0-5.lp	400	600	223,768.00	1.01%	3,600.00
				400-800-1.lp	400	800	253,964.00	1.19%	3,600.00
				400-800-2.lp	400	800	231,210.00	0.00%	343.32
				400-800-3.lp	400	800	218,880.00	1.68%	3,600.00
				400-800-4.lp	400	800	253,464.00	0.32%	3,600.00
				400-800-5.lp	400	800	262,772.00	0.00%	1,443.51
				500-250.0-1.lp	500	250	603,161.00	0.00%	53.35
				500-250.0-2.lp	500	250	586,806.00	0.40%	3,600.00
				500-250.0-3.lp	500	250	552,393.00	0.00%	1,945.05
				500-250.0-4.lp	500	250	588,074.00	0.30%	3,600.00
				500-250.0-5.lp	500	250	580,038.00	0.22%	3,600.00
				500-500-1.lp	500	500	496,980.00	0.66%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*2*	*N-O*	500-500-2.lp	500	500	418,064.00	1.63%	3,600.00
				500-500-3.lp	500	500	523,328.00	0.87%	3,600.00
				500-500-4.lp	500	500	404,954.00	1.19%	3,600.00
				500-500-5.lp	500	500	407,704.00	1.04%	3,600.00
				500-750.0-1.lp	500	750	414,920.00	1.28%	3,600.00
				500-750.0-2.lp	500	750	383,728.00	1.42%	3,600.00
				500-750.0-3.lp	500	750	375,732.00	1.17%	3,600.00
				500-750.0-4.lp	500	750	386,974.00	1.25%	3,600.00
				500-750.0-5.lp	500	750	372,504.00	0.00%	1,846.68
				500-1000-1.lp	500	1,000	374,000.00	1.64%	3,600.00
				500-1000-2.lp	500	1,000	382,899.00	1.37%	3,600.00
				500-1000-3.lp	500	1,000	357,084.00	1.01%	3,600.00
				500-1000-4.lp	500	1,000	450,240.00	1.08%	3,600.00
				500-1000-5.lp	500	1,000	322,869.00	1.02%	3,600.00
Min	Binary	2	N-B	100-50.0-1.lp	100	50	957.00	0.00%	7.59
				100-50.0-2.lp	100	50	984.00	0.00%	5.17
				100-50.0-3.lp	100	50	354.00	0.00%	4.21
				100-50.0-4.lp	100	50	480.00	0.00%	4.55
				100-50.0-5.lp	100	50	549.00	0.00%	4.91
				100-100-1.lp	100	100	588.00	0.00%	6.10
				100-100-2.lp	100	100	368.00	0.00%	4.99
				100-100-3.lp	100	100	290.00	0.00%	5.18
				100-100-4.lp	100	100	749.00	0.00%	11.16
				100-100-5.lp	100	100	144.00	0.00%	2.36
				100-150.0-1.lp	100	150	385.00	0.00%	7.50
				100-150.0-2.lp	100	150	141.00	0.00%	6.95
				100-150.0-3.lp	100	150	1,080.00	0.00%	7.67
				100-150.0-4.lp	100	150	138.00	0.00%	4.32
				100-150.0-5.lp	100	150	243.00	0.00%	10.26
				100-200-1.lp	100	200	616.00	0.00%	10.50

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*N-B*	100-200-2.lp	100	200	498.00	0.00%	10.64
				100-200-3.lp	100	200	936.00	0.00%	11.87
				100-200-4.lp	100	200	336.00	0.00%	9.11
				100-200-5.lp	100	200	720.00	0.00%	6.99
				200-100.0-1.lp	200	100	1,832.00	0.00%	34.77
				200-100.0-2.lp	200	100	2,028.00	0.00%	17.68
				200-100.0-3.lp	200	100	1,330.00	0.00%	18.74
				200-100.0-4.lp	200	100	1,880.00	0.00%	17.33
				200-100.0-5.lp	200	100	752.00	0.00%	12.30
				200-200-1.lp	200	200	2,160.00	0.00%	57.62
				200-200-2.lp	200	200	2,160.00	0.00%	224.56
				200-200-3.lp	200	200	2,016.00	0.00%	29.25
				200-200-4.lp	200	200	1,562.00	0.00%	25.29
				200-200-5.lp	200	200	1,832.00	0.00%	34.01
				200-300.0-1.lp	200	300	1,708.00	0.00%	28.72
				200-300.0-2.lp	200	300	1,110.00	0.00%	57.05
				200-300.0-3.lp	200	300	2,046.00	0.00%	56.67
				200-300.0-4.lp	200	300	1,720.00	0.00%	73.72
				200-300.0-5.lp	200	300	1,725.00	0.00%	176.06
				200-400-1.lp	200	400	1,495.00	0.00%	76.10
				200-400-2.lp	200	400	426.00	0.00%	237.06
				200-400-3.lp	200	400	2,198.00	0.00%	244.14
				200-400-4.lp	200	400	676.00	0.00%	324.07
				200-400-5.lp	200	400	1,353.00	0.00%	45.24
				300-150.0-1.lp	300	150	1,920.00	0.00%	211.14
				300-150.0-2.lp	300	150	3,458.00	0.00%	21.61
				300-150.0-3.lp	300	150	4,573.00	0.00%	177.66
				300-150.0-4.lp	300	150	4,920.00	0.00%	107.85
				300-150.0-5.lp	300	150	3,132.00	0.00%	76.22
				300-300-1.lp	300	300	5,542.00	0.00%	404.27

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*N-B*	300-300-2.lp	300	300	3,740.00	0.00%	1,529.62
				300-300-3.lp	300	300	3,430.00	0.00%	2,248.63
				300-300-4.lp	300	300	1,365.00	0.00%	152.64
				300-300-5.lp	300	300	3,696.00	0.00%	896.38
				300-450.0-1.lp	300	450	3,276.00	6.23%	3,600.00
				300-450.0-2.lp	300	450	2,421.00	0.00%	446.94
				300-450.0-3.lp	300	450	2,420.00	0.00%	410.46
				300-450.0-4.lp	300	450	2,928.00	0.00%	448.04
				300-450.0-5.lp	300	450	2,225.00	0.00%	304.97
				300-600-1.lp	300	600	2,178.00	0.00%	509.24
				300-600-2.lp	300	600	3,136.00	0.00%	478.02
				300-600-3.lp	300	600	2,640.00	0.00%	803.45
				300-600-4.lp	300	600	3,465.00	40.89%	3,600.00
				300-600-5.lp	300	600	3,341.00	38.70%	3,600.00
				400-200.0-1.lp	400	200	5,520.00	0.00%	211.67
				400-200.0-2.lp	400	200	8,347.00	0.00%	107.46
				400-200.0-3.lp	400	200	3,798.00	0.00%	492.62
				400-200.0-4.lp	400	200	5,124.00	0.00%	190.52
				400-200.0-5.lp	400	200	4,355.00	0.00%	167.35
				400-400-1.lp	400	400	3,773.00	0.00%	3,035.01
				400-400-2.lp	400	400	6,760.00	0.00%	1,109.59
				400-400-3.lp	400	400	4,152.00	0.00%	1,485.55
				400-400-4.lp	400	400	14,960.00	99.99%	3,600.00
				400-400-5.lp	400	400	5,310.00	22.86%	3,600.00
				400-600.0-1.lp	400	600	2,880.00	0.00%	3,559.31
				400-600.0-2.lp	400	600	3,042.00	32.68%	3,600.00
				400-600.0-3.lp	400	600	8,008.00	99.99%	3,600.00
				400-600.0-4.lp	400	600	4,242.00	0.00%	1,686.34
				400-600.0-5.lp	400	600	4,256.00	0.00%	3,227.35
				400-800-1.lp	400	800	7,930.00	99.99%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*N-B*	400-800-2.lp	400	800	3,976.00	99.97%	3,600.00
				400-800-3.lp	400	800	3,990.00	0.00%	1,735.14
				400-800-4.lp	400	800	8,181.00	99.99%	3,600.00
				400-800-5.lp	400	800	7,429.00	99.99%	3,600.00
				500-250.0-1.lp	500	250	5,104.00	0.00%	1,975.44
				500-250.0-2.lp	500	250	6,240.00	0.00%	1,832.28
				500-250.0-3.lp	500	250	13,552.00	99.99%	3,600.00
				500-250.0-4.lp	500	250	7,185.00	0.00%	1,885.15
				500-250.0-5.lp	500	250	8,112.00	24.26%	3,600.00
				500-500-1.lp	500	500	6,817.00	99.99%	3,600.00
				500-500-2.lp	500	500	6,894.00	99.99%	3,600.00
				500-500-3.lp	500	500	4,510.00	0.00%	3,569.86
				500-500-4.lp	500	500	7,888.00	99.99%	3,600.00
				500-500-5.lp	500	500	16,254.00	99.99%	3,600.00
				500-750.0-1.lp	500	750	7,524.00	45.56%	3,600.00
				500-750.0-2.lp	500	750	7,854.00	99.99%	3,600.00
				500-750.0-3.lp	500	750	16,128.00	99.99%	3,600.00
				500-750.0-4.lp	500	750	7,623.00	99.99%	3,600.00
				500-750.0-5.lp	500	750	8,180.00	49.93%	3,600.00
				500-1000-1.lp	500	1,000	8,175.00	99.99%	3,600.00
				500-1000-2.lp	500	1,000	16,359.00	99.99%	3,600.00
				500-1000-3.lp	500	1,000	7,334.00	16.23%	3,600.00
				500-1000-4.lp	500	1,000	13,362.00	99.99%	3,600.00
				500-1000-5.lp	500	1,000	8,085.00	99.99%	3,600.00
			N-B+F	100-50.0-1.lp	100	50	957.00	0.00%	3.72
				100-50.0-2.lp	100	50	984.00	0.00%	2.66
				100-50.0-3.lp	100	50	354.00	0.00%	4.38
				100-50.0-4.lp	100	50	480.00	0.00%	1.24
				100-50.0-5.lp	100	50	549.00	0.00%	1.86
				100-100-1.lp	100	100	588.00	0.00%	5.91

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*N-B+F*	100-100-2.lp	100	100	368.00	0.00%	2.34
				100-100-3.lp	100	100	290.00	0.00%	3.73
				100-100-4.lp	100	100	749.00	0.00%	6.00
				100-100-5.lp	100	100	144.00	0.00%	1.26
				100-150.0-1.lp	100	150	385.00	0.00%	7.71
				100-150.0-2.lp	100	150	141.00	0.00%	3.63
				100-150.0-3.lp	100	150	1,080.00	0.00%	3.76
				100-150.0-4.lp	100	150	138.00	0.00%	4.47
				100-150.0-5.lp	100	150	243.00	0.00%	3.20
				100-200-1.lp	100	200	616.00	0.00%	8.14
				100-200-2.lp	100	200	498.00	0.00%	2.30
				100-200-3.lp	100	200	936.00	0.00%	11.70
				100-200-4.lp	100	200	336.00	0.00%	6.66
				100-200-5.lp	100	200	720.00	0.00%	6.86
				200-100.0-1.lp	200	100	1,832.00	0.00%	48.66
				200-100.0-2.lp	200	100	2,028.00	0.00%	9.06
				200-100.0-3.lp	200	100	1,330.00	0.00%	21.33
				200-100.0-4.lp	200	100	1,880.00	0.00%	9.73
				200-100.0-5.lp	200	100	752.00	0.00%	6.10
				200-200-1.lp	200	200	2,160.00	0.00%	61.17
				200-200-2.lp	200	200	2,160.00	0.00%	252.09
				200-200-3.lp	200	200	2,016.00	0.00%	16.47
				200-200-4.lp	200	200	1,562.00	0.00%	20.78
				200-200-5.lp	200	200	1,832.00	0.00%	38.71
				200-300.0-1.lp	200	300	1,708.00	0.00%	23.28
				200-300.0-2.lp	200	300	1,110.00	0.00%	46.77
				200-300.0-3.lp	200	300	2,046.00	0.00%	48.80
				200-300.0-4.lp	200	300	1,720.00	0.00%	112.62
				200-300.0-5.lp	200	300	1,725.00	0.00%	284.18
				200-400-1.lp	200	400	1,495.00	0.00%	77.40

(continued from previous page)

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	Binary	2	N-B+F	200-400-2.lp	200	400	426.00	0.00%	359.83
				200-400-3.lp	200	400	2,198.00	0.00%	494.43
				200-400-4.lp	200	400	676.00	0.00%	172.78
				200-400-5.lp	200	400	1,353.00	0.00%	60.83
				300-150.0-1.lp	300	150	1,920.00	0.00%	276.94
				300-150.0-2.lp	300	150	3,458.00	0.00%	15.93
				300-150.0-3.lp	300	150	4,573.00	0.00%	406.99
				300-150.0-4.lp	300	150	4,920.00	0.00%	82.87
				300-150.0-5.lp	300	150	3,132.00	0.00%	88.68
				300-300-1.lp	300	300	5,542.00	0.00%	531.34
				300-300-2.lp	300	300	3,740.00	0.00%	2,001.23
				300-300-3.lp	300	300	3,430.00	10.44%	3,600.00
				300-300-4.lp	300	300	1,365.00	0.00%	254.51
				300-300-5.lp	300	300	3,696.00	0.00%	2,870.55
				300-450.0-1.lp	300	450	3,276.00	37.48%	3,600.00
				300-450.0-2.lp	300	450	2,421.00	0.00%	1,876.13
				300-450.0-3.lp	300	450	2,420.00	0.00%	604.81
				300-450.0-4.lp	300	450	2,928.00	0.00%	933.47
				300-450.0-5.lp	300	450	2,225.00	0.00%	1,004.87
				300-600-1.lp	300	600	2,178.00	0.00%	1,206.03
				300-600-2.lp	300	600	3,136.00	0.00%	2,653.43
				300-600-3.lp	300	600	2,640.00	0.00%	953.98
				300-600-4.lp	300	600	3,465.00	40.89%	3,600.00
				300-600-5.lp	300	600	3,341.00	99.97%	3,600.00
				400-200.0-1.lp	400	200	5,520.00	0.00%	321.72
				400-200.0-2.lp	400	200	8,347.00	0.00%	577.96
				400-200.0-3.lp	400	200	3,798.00	0.00%	2,944.90
				400-200.0-4.lp	400	200	5,124.00	0.00%	578.87
				400-200.0-5.lp	400	200	4,355.00	0.00%	698.25
				400-400-1.lp	400	400	7,944.00	99.99%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*N-B+F*	400-400-2.lp	400	400	6,760.00	0.00%	2,901.09
				400-400-3.lp	400	400	4,152.00	0.00%	924.11
				400-400-4.lp	400	400	7,854.00	99.99%	3,600.00
				400-400-5.lp	400	400	6,534.00	37.31%	3,600.00
				400-600.0-1.lp	400	600	3,835.00	99.97%	3,600.00
				400-600.0-2.lp	400	600	3,410.00	99.97%	3,600.00
				400-600.0-3.lp	400	600	3,456.00	99.97%	3,600.00
				400-600.0-4.lp	400	600	6,137.00	33.26%	3,600.00
				400-600.0-5.lp	400	600	4,256.00	0.00%	2,001.64
				400-800-1.lp	400	800	6,489.00	99.98%	3,600.00
				400-800-2.lp	400	800	2,925.00	29.98%	3,600.00
				400-800-3.lp	400	800	3,990.00	0.00%	1,828.21
				400-800-4.lp	400	800	8,010.00	99.99%	3,600.00
				400-800-5.lp	400	800	7,709.00	99.99%	3,600.00
				500-250.0-1.lp	500	250	5,104.00	0.00%	3,349.74
				500-250.0-2.lp	500	250	6,591.00	37.85%	3,600.00
				500-250.0-3.lp	500	250	16,280.00	99.99%	3,600.00
				500-250.0-4.lp	500	250	7,185.00	0.24%	3,600.00
				500-250.0-5.lp	500	250	8,112.00	99.99%	3,600.00
				500-500-1.lp	500	500	7,497.00	99.99%	3,600.00
				500-500-2.lp	500	500	6,562.00	99.98%	3,600.00
				500-500-3.lp	500	500	4,570.00	10.37%	3,600.00
				500-500-4.lp	500	500	7,060.00	99.99%	3,600.00
				500-500-5.lp	500	500	16,296.00	99.99%	3,600.00
				500-750.0-1.lp	500	750	31,920.00	100.00%	3,600.00
				500-750.0-2.lp	500	750	8,188.00	99.99%	3,600.00
				500-750.0-3.lp	500	750	14,875.00	99.99%	3,600.00
				500-750.0-4.lp	500	750	6,936.00	99.99%	3,600.00
				500-750.0-5.lp	500	750	15,792.00	99.99%	3,600.00
				500-1000-1.lp	500	1,000	11,200.00	99.99%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	N-B+F	500-1000-2.lp	500	1,000	7,828.00	99.99%	3,600.00
				500-1000-3.lp	500	1,000	14,625.00	99.99%	3,600.00
				500-1000-4.lp	500	1,000	16,170.00	99.99%	3,600.00
				500-1000-5.lp	500	1,000	5,760.00	99.98%	3,600.00
			N-B+P	100-50.0-1.lp	100	50	957.00	0.00%	2.98
				100-50.0-2.lp	100	50	984.00	0.00%	1.30
				100-50.0-3.lp	100	50	354.00	0.00%	2.73
				100-50.0-4.lp	100	50	480.00	0.00%	1.76
				100-50.0-5.lp	100	50	549.00	0.00%	3.34
				100-100-1.lp	100	100	588.00	0.00%	4.34
				100-100-2.lp	100	100	368.00	0.00%	2.04
				100-100-3.lp	100	100	290.00	0.00%	4.70
				100-100-4.lp	100	100	749.00	0.00%	2.97
				100-100-5.lp	100	100	144.00	0.00%	1.26
				100-150.0-1.lp	100	150	385.00	0.00%	6.32
				100-150.0-2.lp	100	150	141.00	0.00%	4.58
				100-150.0-3.lp	100	150	1,080.00	0.00%	1.49
				100-150.0-4.lp	100	150	138.00	0.00%	3.62
				100-150.0-5.lp	100	150	243.00	0.00%	3.86
				100-200-1.lp	100	200	616.00	0.00%	6.71
				100-200-2.lp	100	200	498.00	0.00%	3.93
				100-200-3.lp	100	200	936.00	0.00%	4.94
				100-200-4.lp	100	200	336.00	0.00%	8.33
				100-200-5.lp	100	200	720.00	0.00%	3.86
				200-100.0-1.lp	200	100	1,832.00	0.00%	22.68
				200-100.0-2.lp	200	100	2,028.00	0.00%	5.78
				200-100.0-3.lp	200	100	1,330.00	0.00%	11.56
				200-100.0-4.lp	200	100	1,880.00	0.00%	9.41
				200-100.0-5.lp	200	100	752.00	0.00%	4.20
				200-200-1.lp	200	200	2,160.00	0.00%	83.96

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*N-B+P*	200-200-2.lp	200	200	2,160.00	0.00%	196.63
				200-200-3.lp	200	200	2,016.00	0.00%	16.22
				200-200-4.lp	200	200	1,562.00	0.00%	21.97
				200-200-5.lp	200	200	1,832.00	0.00%	33.92
				200-300.0-1.lp	200	300	1,708.00	0.00%	24.53
				200-300.0-2.lp	200	300	1,110.00	0.00%	68.81
				200-300.0-3.lp	200	300	2,046.00	0.00%	38.98
				200-300.0-4.lp	200	300	1,720.00	0.00%	72.79
				200-300.0-5.lp	200	300	1,725.00	0.00%	266.65
				200-400-1.lp	200	400	1,495.00	0.00%	39.11
				200-400-2.lp	200	400	426.00	0.00%	194.67
				200-400-3.lp	200	400	2,198.00	0.00%	224.03
				200-400-4.lp	200	400	676.00	0.00%	141.07
				200-400-5.lp	200	400	1,353.00	0.00%	40.80
				300-150.0-1.lp	300	150	1,920.00	0.00%	409.04
				300-150.0-2.lp	300	150	3,458.00	0.00%	16.26
				300-150.0-3.lp	300	150	4,573.00	0.00%	528.37
				300-150.0-4.lp	300	150	4,920.00	0.00%	88.11
				300-150.0-5.lp	300	150	3,132.00	0.00%	73.81
				300-300-1.lp	300	300	5,542.00	0.00%	574.47
				300-300-2.lp	300	300	3,740.00	0.00%	1,184.73
				300-300-3.lp	300	300	3,430.00	40.29%	3,600.00
				300-300-4.lp	300	300	1,365.00	0.00%	173.69
				300-300-5.lp	300	300	3,696.00	0.00%	2,269.52
				300-450.0-1.lp	300	450	3,276.00	0.00%	2,721.33
				300-450.0-2.lp	300	450	2,421.00	0.00%	2,995.88
				300-450.0-3.lp	300	450	2,420.00	0.00%	308.10
				300-450.0-4.lp	300	450	2,928.00	0.00%	533.20
				300-450.0-5.lp	300	450	2,225.00	0.00%	784.45
				300-600-1.lp	300	600	2,178.00	0.00%	999.48

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*N-B+P*	300-600-2.lp	300	600	3,136.00	0.00%	2,064.74
				300-600-3.lp	300	600	2,640.00	0.00%	622.38
				300-600-4.lp	300	600	3,465.00	40.89%	3,600.00
				300-600-5.lp	300	600	3,795.00	99.97%	3,600.00
				400-200.0-1.lp	400	200	5,520.00	0.00%	890.88
				400-200.0-2.lp	400	200	8,347.00	0.00%	263.28
				400-200.0-3.lp	400	200	3,798.00	0.00%	597.90
				400-200.0-4.lp	400	200	5,124.00	0.00%	376.61
				400-200.0-5.lp	400	200	4,355.00	0.00%	361.23
				400-400-1.lp	400	400	3,773.00	99.97%	3,600.00
				400-400-2.lp	400	400	6,760.00	0.00%	849.92
				400-400-3.lp	400	400	4,152.00	0.00%	569.23
				400-400-4.lp	400	400	14,478.00	99.99%	3,600.00
				400-400-5.lp	400	400	5,430.00	24.57%	3,600.00
				400-600.0-1.lp	400	600	4,060.00	99.98%	3,600.00
				400-600.0-2.lp	400	600	3,900.00	99.97%	3,600.00
				400-600.0-3.lp	400	600	3,962.00	99.97%	3,600.00
				400-600.0-4.lp	400	600	4,242.00	0.00%	3,508.49
				400-600.0-5.lp	400	600	7,400.00	44.65%	3,600.00
				400-800-1.lp	400	800	7,416.00	99.99%	3,600.00
				400-800-2.lp	400	800	3,486.00	41.25%	3,600.00
				400-800-3.lp	400	800	3,990.00	0.00%	2,030.10
				400-800-4.lp	400	800	8,130.00	99.99%	3,600.00
				400-800-5.lp	400	800	8,149.00	99.99%	3,600.00
				500-250.0-1.lp	500	250	5,104.00	0.00%	3,296.97
				500-250.0-2.lp	500	250	6,240.00	34.36%	3,600.00
				500-250.0-3.lp	500	250	15,400.00	99.99%	3,600.00
				500-250.0-4.lp	500	250	7,185.00	0.00%	1,723.97
				500-250.0-5.lp	500	250	15,903.00	99.99%	3,600.00
				500-500-1.lp	500	500	7,276.00	99.99%	3,600.00

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*N-B+P*	500-500-2.lp	500	500	14,501.00	99.99%	3,600.00
				500-500-3.lp	500	500	5,592.00	26.75%	3,600.00
				500-500-4.lp	500	500	6,855.00	99.99%	3,600.00
				500-500-5.lp	500	500	14,965.00	99.99%	3,600.00
				500-750.0-1.lp	500	750	7,089.00	99.99%	3,600.00
				500-750.0-2.lp	500	750	16,380.00	99.99%	3,600.00
				500-750.0-3.lp	500	750	16,284.00	99.99%	3,600.00
				500-750.0-4.lp	500	750	7,942.00	99.99%	3,600.00
				500-750.0-5.lp	500	750	16,296.00	99.99%	3,600.00
				500-1000-1.lp	500	1,000	7,680.00	99.99%	3,600.00
				500-1000-2.lp	500	1,000	14,706.00	99.99%	3,600.00
				500-1000-3.lp	500	1,000	15,840.00	99.99%	3,600.00
				500-1000-4.lp	500	1,000	14,478.00	99.99%	3,600.00
				500-1000-5.lp	500	1,000	8,188.00	99.99%	3,600.00
			N-O	100-50.0-1.lp	100	50	957.00	0.00%	0.15
				100-50.0-2.lp	100	50	984.00	0.00%	0.10
				100-50.0-3.lp	100	50	354.00	0.00%	0.18
				100-50.0-4.lp	100	50	480.00	0.00%	0.22
				100-50.0-5.lp	100	50	549.00	0.00%	0.20
				100-100-1.lp	100	100	588.00	0.00%	0.23
				100-100-2.lp	100	100	368.00	0.00%	0.19
				100-100-3.lp	100	100	290.00	0.00%	0.24
				100-100-4.lp	100	100	749.00	0.00%	0.18
				100-100-5.lp	100	100	144.00	0.00%	0.25
				100-150.0-1.lp	100	150	385.00	0.00%	0.83
				100-150.0-2.lp	100	150	141.00	0.00%	0.21
				100-150.0-3.lp	100	150	1,080.00	0.00%	0.22
				100-150.0-4.lp	100	150	138.00	0.00%	0.69
				100-150.0-5.lp	100	150	243.00	0.00%	0.34
				100-200-1.lp	100	200	616.00	0.00%	0.67

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*N-O*	100-200-2.lp	100	200	498.00	0.00%	0.37
				100-200-3.lp	100	200	936.00	0.00%	0.52
				100-200-4.lp	100	200	336.00	0.00%	0.55
				100-200-5.lp	100	200	720.00	0.00%	0.36
				200-100.0-1.lp	200	100	1,832.00	0.00%	5.81
				200-100.0-2.lp	200	100	2,028.00	0.00%	0.50
				200-100.0-3.lp	200	100	1,330.00	0.00%	2.49
				200-100.0-4.lp	200	100	1,880.00	0.00%	0.65
				200-100.0-5.lp	200	100	752.00	0.00%	0.47
				200-200-1.lp	200	200	2,160.00	0.00%	1.66
				200-200-2.lp	200	200	2,160.00	0.00%	10.94
				200-200-3.lp	200	200	2,016.00	0.00%	0.81
				200-200-4.lp	200	200	1,562.00	0.00%	0.82
				200-200-5.lp	200	200	1,832.00	0.00%	2.63
				200-300.0-1.lp	200	300	1,708.00	0.00%	0.80
				200-300.0-2.lp	200	300	1,110.00	0.00%	1.88
				200-300.0-3.lp	200	300	2,046.00	0.00%	1.57
				200-300.0-4.lp	200	300	1,720.00	0.00%	2.38
				200-300.0-5.lp	200	300	1,725.00	0.00%	10.70
				200-400-1.lp	200	400	1,495.00	0.00%	5.34
				200-400-2.lp	200	400	426.00	0.00%	25.84
				200-400-3.lp	200	400	2,198.00	0.00%	33.25
				200-400-4.lp	200	400	676.00	0.00%	22.85
				200-400-5.lp	200	400	1,353.00	0.00%	1.27
				300-150.0-1.lp	300	150	1,920.00	0.00%	47.42
				300-150.0-2.lp	300	150	3,458.00	0.00%	0.77
				300-150.0-3.lp	300	150	4,573.00	0.00%	13.46
				300-150.0-4.lp	300	150	4,920.00	0.00%	2.63
				300-150.0-5.lp	300	150	3,132.00	0.00%	5.56
				300-300-1.lp	300	300	5,542.00	0.00%	12.71

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*N-O*	300-300-2.lp	300	300	3,740.00	0.00%	35.00
				300-300-3.lp	300	300	3,430.00	0.00%	49.08
				300-300-4.lp	300	300	1,365.00	0.00%	17.10
				300-300-5.lp	300	300	3,696.00	0.00%	32.75
				300-450.0-1.lp	300	450	3,276.00	0.00%	59.29
				300-450.0-2.lp	300	450	2,421.00	0.00%	65.22
				300-450.0-3.lp	300	450	2,420.00	0.00%	36.10
				300-450.0-4.lp	300	450	2,928.00	0.00%	29.38
				300-450.0-5.lp	300	450	2,225.00	0.00%	24.81
				300-600-1.lp	300	600	2,178.00	0.00%	31.89
				300-600-2.lp	300	600	3,136.00	0.00%	34.10
				300-600-3.lp	300	600	2,640.00	0.00%	47.24
				300-600-4.lp	300	600	3,325.00	0.00%	247.48
				300-600-5.lp	300	600	3,000.00	0.00%	122.17
				400-200.0-1.lp	400	200	5,520.00	0.00%	11.82
				400-200.0-2.lp	400	200	8,347.00	0.00%	18.69
				400-200.0-3.lp	400	200	3,798.00	0.00%	35.92
				400-200.0-4.lp	400	200	5,124.00	0.00%	30.40
				400-200.0-5.lp	400	200	4,355.00	0.00%	10.62
				400-400-1.lp	400	400	3,773.00	0.00%	59.18
				400-400-2.lp	400	400	6,760.00	0.00%	27.33
				400-400-3.lp	400	400	4,152.00	0.00%	22.68
				400-400-4.lp	400	400	5,967.00	0.00%	363.09
				400-400-5.lp	400	400	5,310.00	0.00%	115.68
				400-600.0-1.lp	400	600	2,880.00	0.00%	332.46
				400-600.0-2.lp	400	600	2,970.00	0.00%	300.60
				400-600.0-3.lp	400	600	2,682.00	0.00%	549.13
				400-600.0-4.lp	400	600	4,242.00	0.00%	91.06
				400-600.0-5.lp	400	600	4,256.00	0.00%	19.57
				400-800-1.lp	400	800	4,134.00	0.00%	496.18

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*N-O*	400-800-2.lp	400	800	2,925.00	0.00%	459.28
				400-800-3.lp	400	800	3,990.00	0.00%	94.56
				400-800-4.lp	400	800	4,365.00	0.00%	462.80
				400-800-5.lp	400	800	3,366.00	0.00%	119.68
				500-250.0-1.lp	500	250	5,104.00	0.00%	103.16
				500-250.0-2.lp	500	250	6,240.00	0.00%	66.01
				500-250.0-3.lp	500	250	9,250.00	0.00%	397.04
				500-250.0-4.lp	500	250	7,185.00	0.00%	51.07
				500-250.0-5.lp	500	250	8,016.00	0.00%	608.31
				500-500-1.lp	500	500	4,631.00	0.00%	141.71
				500-500-2.lp	500	500	4,716.00	0.00%	2,324.10
				500-500-3.lp	500	500	4,510.00	0.00%	140.77
				500-500-4.lp	500	500	4,458.00	0.00%	1,506.89
				500-500-5.lp	500	500	7,480.00	0.00%	127.54
				500-750.0-1.lp	500	750	5,382.00	0.00%	311.56
				500-750.0-2.lp	500	750	4,026.00	0.00%	514.24
				500-750.0-3.lp	500	750	7,361.00	0.00%	447.60
				500-750.0-4.lp	500	750	4,797.00	0.00%	1,817.80
				500-750.0-5.lp	500	750	5,614.00	0.00%	414.55
				500-1000-1.lp	500	1,000	3,993.00	0.00%	531.56
				500-1000-2.lp	500	1,000	5,088.00	0.00%	649.73
				500-1000-3.lp	500	1,000	7,334.00	0.00%	992.20
				500-1000-4.lp	500	1,000	3,834.00	0.00%	1,978.84
				500-1000-5.lp	500	1,000	4,928.00	0.00%	880.24

2   Detailed Results for Experiment 2

Table 2: Detailed Results for Experiment 2

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	Binary	2	N-O	100-50.0-1.lp	100	50	957.00	0.00%	0.15
				100-50.0-2.lp	100	50	984.00	0.00%	0.10
				100-50.0-3.lp	100	50	354.00	0.00%	0.18
				100-50.0-4.lp	100	50	480.00	0.00%	0.22
				100-50.0-5.lp	100	50	549.00	0.00%	0.20
				100-100-1.lp	100	100	588.00	0.00%	0.23
				100-100-2.lp	100	100	368.00	0.00%	0.19
				100-100-3.lp	100	100	290.00	0.00%	0.24
				100-100-4.lp	100	100	749.00	0.00%	0.18
				100-100-5.lp	100	100	144.00	0.00%	0.25
				100-150.0-1.lp	100	150	385.00	0.00%	0.83
				100-150.0-2.lp	100	150	141.00	0.00%	0.21
				100-150.0-3.lp	100	150	1,080.00	0.00%	0.22
				100-150.0-4.lp	100	150	138.00	0.00%	0.69
				100-150.0-5.lp	100	150	243.00	0.00%	0.34
				100-200-1.lp	100	200	616.00	0.00%	0.67
				100-200-2.lp	100	200	498.00	0.00%	0.37
				100-200-3.lp	100	200	936.00	0.00%	0.52
				100-200-4.lp	100	200	336.00	0.00%	0.55
				100-200-5.lp	100	200	720.00	0.00%	0.36
				200-100.0-1.lp	200	100	1,832.00	0.00%	5.81
				200-100.0-2.lp	200	100	2,028.00	0.00%	0.50
				200-100.0-3.lp	200	100	1,330.00	0.00%	2.49
				200-100.0-4.lp	200	100	1,880.00	0.00%	0.65
				200-100.0-5.lp	200	100	752.00	0.00%	0.47
				200-200-1.lp	200	200	2,160.00	0.00%	1.66

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*N-O*	200-200-2.lp	200	200	2,160.00	0.00%	10.94
				200-200-3.lp	200	200	2,016.00	0.00%	0.81
				200-200-4.lp	200	200	1,562.00	0.00%	0.82
				200-200-5.lp	200	200	1,832.00	0.00%	2.63
				200-300.0-1.lp	200	300	1,708.00	0.00%	0.80
				200-300.0-2.lp	200	300	1,110.00	0.00%	1.88
				200-300.0-3.lp	200	300	2,046.00	0.00%	1.57
				200-300.0-4.lp	200	300	1,720.00	0.00%	2.38
				200-300.0-5.lp	200	300	1,725.00	0.00%	10.70
				200-400-1.lp	200	400	1,495.00	0.00%	5.34
				200-400-2.lp	200	400	426.00	0.00%	25.84
				200-400-3.lp	200	400	2,198.00	0.00%	33.25
				200-400-4.lp	200	400	676.00	0.00%	22.85
				200-400-5.lp	200	400	1,353.00	0.00%	1.27
				300-150.0-1.lp	300	150	1,920.00	0.00%	47.42
				300-150.0-2.lp	300	150	3,458.00	0.00%	0.77
				300-150.0-3.lp	300	150	4,573.00	0.00%	13.46
				300-150.0-4.lp	300	150	4,920.00	0.00%	2.63
				300-150.0-5.lp	300	150	3,132.00	0.00%	5.56
				300-300-1.lp	300	300	5,542.00	0.00%	12.71
				300-300-2.lp	300	300	3,740.00	0.00%	35.00
				300-300-3.lp	300	300	3,430.00	0.00%	49.08
				300-300-4.lp	300	300	1,365.00	0.00%	17.10
				300-300-5.lp	300	300	3,696.00	0.00%	32.75
				300-450.0-1.lp	300	450	3,276.00	0.00%	59.29
				300-450.0-2.lp	300	450	2,421.00	0.00%	65.22
				300-450.0-3.lp	300	450	2,420.00	0.00%	36.10
				300-450.0-4.lp	300	450	2,928.00	0.00%	29.38
				300-450.0-5.lp	300	450	2,225.00	0.00%	24.81
				300-600-1.lp	300	600	2,178.00	0.00%	31.89

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*N-O*	300-600-2.lp	300	600	3,136.00	0.00%	34.10
				300-600-3.lp	300	600	2,640.00	0.00%	47.24
				300-600-4.lp	300	600	3,325.00	0.00%	247.48
				300-600-5.lp	300	600	3,000.00	0.00%	122.17
				400-200.0-1.lp	400	200	5,520.00	0.00%	11.82
				400-200.0-2.lp	400	200	8,347.00	0.00%	18.69
				400-200.0-3.lp	400	200	3,798.00	0.00%	35.92
				400-200.0-4.lp	400	200	5,124.00	0.00%	30.40
				400-200.0-5.lp	400	200	4,355.00	0.00%	10.62
				400-400-1.lp	400	400	3,773.00	0.00%	59.18
				400-400-2.lp	400	400	6,760.00	0.00%	27.33
				400-400-3.lp	400	400	4,152.00	0.00%	22.68
				400-400-4.lp	400	400	5,967.00	0.00%	363.09
				400-400-5.lp	400	400	5,310.00	0.00%	115.68
				400-600.0-1.lp	400	600	2,880.00	0.00%	332.46
				400-600.0-2.lp	400	600	2,970.00	0.00%	300.60
				400-600.0-3.lp	400	600	2,682.00	0.00%	549.13
				400-600.0-4.lp	400	600	4,242.00	0.00%	91.06
				400-600.0-5.lp	400	600	4,256.00	0.00%	19.57
				400-800-1.lp	400	800	4,134.00	0.00%	496.18
				400-800-2.lp	400	800	2,925.00	0.00%	459.28
				400-800-3.lp	400	800	3,990.00	0.00%	94.56
				400-800-4.lp	400	800	4,365.00	0.00%	462.80
				400-800-5.lp	400	800	3,366.00	0.00%	119.68
				500-250.0-1.lp	500	250	5,104.00	0.00%	103.16
				500-250.0-2.lp	500	250	6,240.00	0.00%	66.01
				500-250.0-3.lp	500	250	9,250.00	0.00%	397.04
				500-250.0-4.lp	500	250	7,185.00	0.00%	51.07
				500-250.0-5.lp	500	250	8,016.00	0.00%	608.31
				500-500-1.lp	500	500	4,631.00	0.00%	141.71

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*N-O*	500-500-2.lp	500	500	4,716.00	0.00%	2,324.10
				500-500-3.lp	500	500	4,510.00	0.00%	140.77
				500-500-4.lp	500	500	4,458.00	0.00%	1,506.89
				500-500-5.lp	500	500	7,480.00	0.00%	127.54
				500-750.0-1.lp	500	750	5,382.00	0.00%	311.56
				500-750.0-2.lp	500	750	4,026.00	0.00%	514.24
				500-750.0-3.lp	500	750	7,361.00	0.00%	447.60
				500-750.0-4.lp	500	750	4,797.00	0.00%	1,817.80
				500-750.0-5.lp	500	750	5,614.00	0.00%	414.55
				500-1000-1.lp	500	1,000	3,993.00	0.00%	531.56
				500-1000-2.lp	500	1,000	5,088.00	0.00%	649.73
				500-1000-3.lp	500	1,000	7,334.00	0.00%	992.20
				500-1000-4.lp	500	1,000	3,834.00	0.00%	1,978.84
				500-1000-5.lp	500	1,000	4,928.00	0.00%	880.24
			N-O-Imm	100-50.0-1.lp	100	50	957.00	0.00%	0.11
				100-50.0-2.lp	100	50	984.00	0.00%	0.08
				100-50.0-3.lp	100	50	354.00	0.00%	0.08
				100-50.0-4.lp	100	50	480.00	0.00%	0.13
				100-50.0-5.lp	100	50	549.00	0.00%	0.11
				100-100-1.lp	100	100	588.00	0.00%	0.13
				100-100-2.lp	100	100	368.00	0.00%	0.08
				100-100-3.lp	100	100	290.00	0.00%	0.26
				100-100-4.lp	100	100	749.00	0.00%	0.18
				100-100-5.lp	100	100	144.00	0.00%	0.14
				100-150.0-1.lp	100	150	385.00	0.00%	0.31
				100-150.0-2.lp	100	150	141.00	0.00%	0.17
				100-150.0-3.lp	100	150	1,080.00	0.00%	0.15
				100-150.0-4.lp	100	150	138.00	0.00%	0.35
				100-150.0-5.lp	100	150	243.00	0.00%	0.18
				100-200-1.lp	100	200	616.00	0.00%	0.28

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*N-O-Imm*	100-200-2.lp	100	200	498.00	0.00%	0.23
				100-200-3.lp	100	200	936.00	0.00%	0.36
				100-200-4.lp	100	200	336.00	0.00%	0.38
				100-200-5.lp	100	200	720.00	0.00%	0.24
				200-100.0-1.lp	200	100	1,832.00	0.00%	0.51
				200-100.0-2.lp	200	100	2,028.00	0.00%	0.32
				200-100.0-3.lp	200	100	1,330.00	0.00%	0.44
				200-100.0-4.lp	200	100	1,880.00	0.00%	0.34
				200-100.0-5.lp	200	100	752.00	0.00%	0.21
				200-200-1.lp	200	200	2,160.00	0.00%	1.47
				200-200-2.lp	200	200	2,160.00	0.00%	2.13
				200-200-3.lp	200	200	2,016.00	0.00%	0.45
				200-200-4.lp	200	200	1,562.00	0.00%	0.58
				200-200-5.lp	200	200	1,832.00	0.00%	0.82
				200-300.0-1.lp	200	300	1,708.00	0.00%	1.28
				200-300.0-2.lp	200	300	1,110.00	0.00%	0.90
				200-300.0-3.lp	200	300	2,046.00	0.00%	0.99
				200-300.0-4.lp	200	300	1,720.00	0.00%	1.56
				200-300.0-5.lp	200	300	1,725.00	0.00%	5.84
				200-400-1.lp	200	400	1,495.00	0.00%	4.88
				200-400-2.lp	200	400	426.00	0.00%	20.14
				200-400-3.lp	200	400	2,198.00	0.00%	28.14
				200-400-4.lp	200	400	676.00	0.00%	25.79
				200-400-5.lp	200	400	1,353.00	0.00%	0.79
				300-150.0-1.lp	300	150	1,920.00	0.00%	45.00
				300-150.0-2.lp	300	150	3,458.00	0.00%	0.44
				300-150.0-3.lp	300	150	4,573.00	0.00%	6.23
				300-150.0-4.lp	300	150	4,920.00	0.00%	2.00
				300-150.0-5.lp	300	150	3,132.00	0.00%	2.45
				300-300-1.lp	300	300	5,542.00	0.00%	4.66

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	Binary	2	N-O-Imm	300-300-2.lp	300	300	3,740.00	0.00%	22.25
				300-300-3.lp	300	300	3,430.00	0.00%	42.29
				300-300-4.lp	300	300	1,365.00	0.00%	2.07
				300-300-5.lp	300	300	3,696.00	0.00%	28.86
				300-450.0-1.lp	300	450	3,276.00	0.00%	32.48
				300-450.0-2.lp	300	450	2,421.00	0.00%	7.44
				300-450.0-3.lp	300	450	2,420.00	0.00%	4.98
				300-450.0-4.lp	300	450	2,928.00	0.00%	70.28
				300-450.0-5.lp	300	450	2,225.00	0.00%	17.09
				300-600-1.lp	300	600	2,178.00	0.00%	16.55
				300-600-2.lp	300	600	3,136.00	0.00%	33.78
				300-600-3.lp	300	600	2,640.00	0.00%	5.75
				300-600-4.lp	300	600	3,325.00	0.00%	213.53
				300-600-5.lp	300	600	3,000.00	0.00%	125.63
				400-200.0-1.lp	400	200	5,520.00	0.00%	2.10
				400-200.0-2.lp	400	200	8,347.00	0.00%	3.03
				400-200.0-3.lp	400	200	3,798.00	0.00%	11.01
				400-200.0-4.lp	400	200	5,124.00	0.00%	11.45
				400-200.0-5.lp	400	200	4,355.00	0.00%	2.55
				400-400-1.lp	400	400	3,773.00	0.00%	92.79
				400-400-2.lp	400	400	6,760.00	0.00%	25.29
				400-400-3.lp	400	400	4,152.00	0.00%	14.09
				400-400-4.lp	400	400	5,967.00	0.00%	95.01
				400-400-5.lp	400	400	5,310.00	0.00%	177.16
				400-600.0-1.lp	400	600	2,880.00	0.00%	560.89
				400-600.0-2.lp	400	600	2,970.00	0.00%	125.13
				400-600.0-3.lp	400	600	2,682.00	0.00%	1,343.87
				400-600.0-4.lp	400	600	4,242.00	0.00%	88.04
				400-600.0-5.lp	400	600	4,256.00	0.00%	12.48
				400-800-1.lp	400	800	4,134.00	0.00%	602.96

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*N-O-Imm*	400-800-2.lp	400	800	2,925.00	0.00%	1,488.30
				400-800-3.lp	400	800	3,990.00	0.00%	35.07
				400-800-4.lp	400	800	4,365.00	0.00%	197.66
				400-800-5.lp	400	800	3,366.00	0.00%	106.07
				500-250.0-1.lp	500	250	5,104.00	0.00%	188.46
				500-250.0-2.lp	500	250	6,240.00	0.00%	39.61
				500-250.0-3.lp	500	250	9,250.00	0.00%	206.69
				500-250.0-4.lp	500	250	7,185.00	0.00%	69.20
				500-250.0-5.lp	500	250	8,016.00	0.00%	473.19
				500-500-1.lp	500	500	4,631.00	0.00%	222.74
				500-500-2.lp	500	500	4,716.00	0.00%	1,233.75
				500-500-3.lp	500	500	4,510.00	0.00%	467.82
				500-500-4.lp	500	500	4,458.00	0.00%	510.44
				500-500-5.lp	500	500	7,480.00	0.00%	99.36
				500-750.0-1.lp	500	750	5,382.00	0.00%	755.14
				500-750.0-2.lp	500	750	4,026.00	0.00%	311.92
				500-750.0-3.lp	500	750	7,361.00	0.00%	386.18
				500-750.0-4.lp	500	750	4,797.00	0.00%	1,401.74
				500-750.0-5.lp	500	750	5,614.00	0.00%	405.90
				500-1000-1.lp	500	1,000	3,993.00	0.00%	305.63
				500-1000-2.lp	500	1,000	5,088.00	0.00%	315.72
				500-1000-3.lp	500	1,000	7,334.00	0.00%	627.35
				500-1000-4.lp	500	1,000	3,834.00	0.00%	1,761.72
				500-1000-5.lp	500	1,000	4,928.00	0.00%	1,073.64
			N-O-mm	100-50.0-1.lp	100	50	957.00	0.00%	0.24
				100-50.0-2.lp	100	50	984.00	0.00%	0.10
				100-50.0-3.lp	100	50	354.00	0.00%	0.20
				100-50.0-4.lp	100	50	480.00	0.00%	0.14
				100-50.0-5.lp	100	50	549.00	0.00%	0.14
				100-100-1.lp	100	100	588.00	0.00%	0.31

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*N-O-mm*	100-100-2.lp	100	100	368.00	0.00%	0.26
				100-100-3.lp	100	100	290.00	0.00%	0.26
				100-100-4.lp	100	100	749.00	0.00%	0.27
				100-100-5.lp	100	100	144.00	0.00%	0.18
				100-150.0-1.lp	100	150	385.00	0.00%	0.76
				100-150.0-2.lp	100	150	141.00	0.00%	0.17
				100-150.0-3.lp	100	150	1,080.00	0.00%	0.27
				100-150.0-4.lp	100	150	138.00	0.00%	0.54
				100-150.0-5.lp	100	150	243.00	0.00%	0.26
				100-200-1.lp	100	200	616.00	0.00%	0.57
				100-200-2.lp	100	200	498.00	0.00%	0.40
				100-200-3.lp	100	200	936.00	0.00%	1.07
				100-200-4.lp	100	200	336.00	0.00%	0.41
				100-200-5.lp	100	200	720.00	0.00%	0.65
				200-100.0-1.lp	200	100	1,832.00	0.00%	1.88
				200-100.0-2.lp	200	100	2,028.00	0.00%	0.76
				200-100.0-3.lp	200	100	1,330.00	0.00%	1.70
				200-100.0-4.lp	200	100	1,880.00	0.00%	0.45
				200-100.0-5.lp	200	100	752.00	0.00%	0.47
				200-200-1.lp	200	200	2,160.00	0.00%	7.15
				200-200-2.lp	200	200	2,160.00	0.00%	7.52
				200-200-3.lp	200	200	2,016.00	0.00%	1.54
				200-200-4.lp	200	200	1,562.00	0.00%	2.26
				200-200-5.lp	200	200	1,832.00	0.00%	3.30
				200-300.0-1.lp	200	300	1,708.00	0.00%	1.19
				200-300.0-2.lp	200	300	1,110.00	0.00%	5.16
				200-300.0-3.lp	200	300	2,046.00	0.00%	10.19
				200-300.0-4.lp	200	300	1,720.00	0.00%	5.46
				200-300.0-5.lp	200	300	1,725.00	0.00%	29.37
				200-400-1.lp	200	400	1,495.00	0.00%	4.84

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*N-O-mm*	200-400-2.lp	200	400	426.00	0.00%	29.52
				200-400-3.lp	200	400	2,198.00	0.00%	18.87
				200-400-4.lp	200	400	676.00	0.00%	24.51
				200-400-5.lp	200	400	1,353.00	0.00%	1.14
				300-150.0-1.lp	300	150	1,920.00	0.00%	46.69
				300-150.0-2.lp	300	150	3,458.00	0.00%	1.98
				300-150.0-3.lp	300	150	4,573.00	0.00%	18.00
				300-150.0-4.lp	300	150	4,920.00	0.00%	5.35
				300-150.0-5.lp	300	150	3,132.00	0.00%	12.52
				300-300-1.lp	300	300	5,542.00	0.00%	43.69
				300-300-2.lp	300	300	3,740.00	0.00%	50.95
				300-300-3.lp	300	300	3,430.00	0.00%	192.16
				300-300-4.lp	300	300	1,365.00	0.00%	19.36
				300-300-5.lp	300	300	3,696.00	0.00%	249.14
				300-450.0-1.lp	300	450	3,276.00	0.00%	51.90
				300-450.0-2.lp	300	450	2,421.00	0.00%	258.05
				300-450.0-3.lp	300	450	2,420.00	0.00%	68.62
				300-450.0-4.lp	300	450	2,928.00	0.00%	67.97
				300-450.0-5.lp	300	450	2,225.00	0.00%	49.16
				300-600-1.lp	300	600	2,178.00	0.00%	23.65
				300-600-2.lp	300	600	3,136.00	0.00%	45.21
				300-600-3.lp	300	600	2,640.00	0.00%	80.01
				300-600-4.lp	300	600	3,465.00	5.45%	3,600.00
				300-600-5.lp	300	600	3,000.00	0.00%	179.65
				400-200.0-1.lp	400	200	5,520.00	0.00%	16.68
				400-200.0-2.lp	400	200	8,347.00	0.00%	9.32
				400-200.0-3.lp	400	200	3,798.00	0.00%	54.44
				400-200.0-4.lp	400	200	5,124.00	0.00%	37.89
				400-200.0-5.lp	400	200	4,355.00	0.00%	17.49
				400-400-1.lp	400	400	3,773.00	0.00%	298.14

(continued from previous page)

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	Binary	2	N-O-mm	400-400-2.lp	400	400	6,760.00	0.00%	118.32
				400-400-3.lp	400	400	4,152.00	0.00%	12.86
				400-400-4.lp	400	400	5,967.00	0.00%	545.43
				400-400-5.lp	400	400	5,310.00	0.00%	698.33
				400-600.0-1.lp	400	600	2,880.00	0.00%	1,648.23
				400-600.0-2.lp	400	600	2,970.00	0.00%	546.08
				400-600.0-3.lp	400	600	2,682.00	9.32%	3,600.00
				400-600.0-4.lp	400	600	4,242.00	0.00%	332.82
				400-600.0-5.lp	400	600	4,256.00	0.00%	15.38
				400-800-1.lp	400	800	4,134.00	0.00%	2,717.45
				400-800-2.lp	400	800	2,925.00	0.00%	1,402.95
				400-800-3.lp	400	800	3,990.00	0.00%	317.59
				400-800-4.lp	400	800	4,365.00	0.00%	383.72
				400-800-5.lp	400	800	3,366.00	0.00%	897.71
				500-250.0-1.lp	500	250	5,104.00	0.00%	187.59
				500-250.0-2.lp	500	250	6,240.00	0.00%	73.29
				500-250.0-3.lp	500	250	9,250.00	0.00%	268.67
				500-250.0-4.lp	500	250	7,185.00	0.00%	137.55
				500-250.0-5.lp	500	250	8,016.00	2.99%	3,600.00
				500-500-1.lp	500	500	4,631.00	0.00%	1,066.17
				500-500-2.lp	500	500	4,716.00	0.00%	511.11
				500-500-3.lp	500	500	4,510.00	0.00%	422.65
				500-500-4.lp	500	500	4,458.00	0.00%	2,372.61
				500-500-5.lp	500	500	7,480.00	0.00%	730.99
				500-750.0-1.lp	500	750	5,382.00	0.00%	775.58
				500-750.0-2.lp	500	750	4,026.00	0.00%	1,083.96
				500-750.0-3.lp	500	750	7,361.00	0.00%	503.67
				500-750.0-4.lp	500	750	4,797.00	36.46%	3,600.00
				500-750.0-5.lp	500	750	6,660.00	-100.00%	3,526.10
				500-1000-1.lp	500	1,000	3,993.00	0.00%	492.09

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*N-O-mm*	500-1000-2.lp	500	1,000	–	∞	3,600.00
				500-1000-3.lp	500	1,000	7,334.00	0.00%	702.77
				500-1000-4.lp	500	1,000	3,834.00	0.00%	2,581.64
				500-1000-5.lp	500	1,000	4,928.00	0.00%	1,082.99
		3	N-O	100-50.0-1.lp	100	50	87,420.00	0.00%	2.55
				100-50.0-2.lp	100	50	53,856.00	0.00%	1.10
				100-50.0-3.lp	100	50	73,344.00	0.00%	1.71
				100-50.0-4.lp	100	50	87,300.00	0.00%	1.19
				100-50.0-5.lp	100	50	121,752.00	0.00%	1.22
				100-100-1.lp	100	100	42,228.00	0.00%	1.43
				100-100-2.lp	100	100	77,760.00	0.00%	1.65
				100-100-3.lp	100	100	104,400.00	0.00%	8.51
				100-100-4.lp	100	100	89,712.00	0.00%	1.07
				100-100-5.lp	100	100	74,970.00	0.00%	2.75
				100-150.0-1.lp	100	150	51,340.00	0.00%	1.18
				100-150.0-2.lp	100	150	110,352.00	0.00%	1.60
				100-150.0-3.lp	100	150	162,578.00	0.00%	2.14
				100-150.0-4.lp	100	150	30,798.00	0.00%	1.64
				100-150.0-5.lp	100	150	47,244.00	0.00%	1.38
				100-200-1.lp	100	200	55,680.00	0.00%	2.15
				100-200-2.lp	100	200	98,340.00	0.00%	0.84
				100-200-3.lp	100	200	52,380.00	0.00%	1.79
				100-200-4.lp	100	200	55,350.00	0.00%	2.58
				100-200-5.lp	100	200	124,700.00	0.00%	2.03
				200-100.0-1.lp	200	100	457,164.00	0.00%	52.13
				200-100.0-2.lp	200	100	729,270.00	0.00%	35.67
				200-100.0-3.lp	200	100	840,213.00	0.00%	37.50
				200-100.0-4.lp	200	100	862,710.00	0.00%	29.26
				200-100.0-5.lp	200	100	673,872.00	0.00%	21.10
				200-200-1.lp	200	200	453,627.00	0.00%	29.66

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*3*	*N-O*	200-200-2.lp	200	200	511,032.00	0.00%	108.50
				200-200-3.lp	200	200	290,862.00	0.00%	96.74
				200-200-4.lp	200	200	609,588.00	0.00%	38.61
				200-200-5.lp	200	200	101,132.00	0.00%	18.30
				200-300.0-1.lp	200	300	834,480.00	0.00%	61.54
				200-300.0-2.lp	200	300	288,252.00	0.00%	88.49
				200-300.0-3.lp	200	300	409,752.00	0.00%	330.44
				200-300.0-4.lp	200	300	227,740.00	0.00%	96.33
				200-300.0-5.lp	200	300	289,800.00	0.00%	50.51
				200-400-1.lp	200	400	462,462.00	0.00%	367.83
				200-400-2.lp	200	400	366,080.00	0.00%	145.90
				200-400-3.lp	200	400	111,650.00	0.00%	197.62
				200-400-4.lp	200	400	280,839.00	0.00%	55.94
				200-400-5.lp	200	400	345,870.00	0.00%	155.12
				300-150.0-1.lp	300	150	1,803,012.00	0.00%	685.65
				300-150.0-2.lp	300	150	1,551,123.00	0.00%	65.50
				300-150.0-3.lp	300	150	2,376,180.00	0.00%	46.68
				300-150.0-4.lp	300	150	1,483,272.00	0.00%	234.48
				300-150.0-5.lp	300	150	1,607,490.00	0.00%	19.02
				300-300-1.lp	300	300	2,135,280.00	0.00%	377.61
				300-300-2.lp	300	300	2,328,192.00	0.00%	403.59
				300-300-3.lp	300	300	1,181,700.00	0.00%	109.89
				300-300-4.lp	300	300	958,272.00	0.00%	650.21
				300-300-5.lp	300	300	1,340,000.00	0.00%	225.33
				300-450.0-1.lp	300	450	1,089,660.00	0.00%	616.55
				300-450.0-2.lp	300	450	1,062,600.00	0.00%	159.58
				300-450.0-3.lp	300	450	1,610,784.00	0.00%	98.86
				300-450.0-4.lp	300	450	1,239,590.00	0.00%	2,039.14
				300-450.0-5.lp	300	450	1,257,075.00	0.00%	200.61
				300-600-1.lp	300	600	622,545.00	0.00%	258.92

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	Binary	3	N-O	300-600-2.lp	300	600	861,648.00	39.15%	3,600.00
				300-600-3.lp	300	600	761,600.00	0.00%	2,228.61
				300-600-4.lp	300	600	1,448,352.00	0.00%	200.23
				300-600-5.lp	300	600	888,602.00	0.00%	548.42
				400-200.0-1.lp	400	200	2,222,112.00	0.00%	1,207.24
				400-200.0-2.lp	400	200	3,846,816.00	0.00%	623.88
				400-200.0-3.lp	400	200	5,799,465.00	0.00%	205.13
				400-200.0-4.lp	400	200	2,480,950.00	0.00%	385.88
				400-200.0-5.lp	400	200	4,039,024.00	0.00%	342.07
				400-400-1.lp	400	400	2,265,522.00	0.00%	592.80
				400-400-2.lp	400	400	4,520,880.00	0.00%	743.92
				400-400-3.lp	400	400	1,821,012.00	0.00%	309.00
				400-400-4.lp	400	400	3,748,976.00	0.00%	543.20
				400-400-5.lp	400	400	5,481,696.00	0.00%	2,452.46
				400-600.0-1.lp	400	600	1,881,386.00	0.00%	424.90
				400-600.0-2.lp	400	600	3,189,624.00	0.00%	1,177.37
				400-600.0-3.lp	400	600	2,265,600.00	0.00%	589.09
				400-600.0-4.lp	400	600	3,397,200.00	11.45%	3,600.00
				400-600.0-5.lp	400	600	2,295,524.00	0.00%	582.82
				400-800-1.lp	400	800	3,121,160.00	0.00%	1,385.53
				400-800-2.lp	400	800	1,288,560.00	0.00%	635.22
				400-800-3.lp	400	800	2,151,740.00	0.00%	1,727.72
				400-800-4.lp	400	800	1,870,713.00	0.00%	440.93
				400-800-5.lp	400	800	3,096,620.00	43.09%	3,600.00
				500-250.0-1.lp	500	250	4,100,100.00	0.00%	266.05
				500-250.0-2.lp	500	250	4,208,944.00	0.00%	2,277.61
				500-250.0-3.lp	500	250	5,696,048.00	0.00%	317.58
				500-250.0-4.lp	500	250	4,247,087.00	0.00%	526.70
				500-250.0-5.lp	500	250	6,659,880.00	0.00%	1,324.39
				500-500-1.lp	500	500	4,671,205.00	33.82%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*3*	*N-O*	500-500-2.lp	500	500	5,710,848.00	33.92%	3,600.00
				500-500-3.lp	500	500	6,219,775.00	0.00%	3,187.19
				500-500-4.lp	500	500	5,150,368.00	0.00%	534.60
				500-500-5.lp	500	500	9,089,580.00	51.99%	3,600.00
				500-750.0-1.lp	500	750	9,446,400.00	82.98%	3,600.00
				500-750.0-2.lp	500	750	5,415,235.00	71.56%	3,600.00
				500-750.0-3.lp	500	750	6,604,400.00	60.29%	3,600.00
				500-750.0-4.lp	500	750	10,551,296.00	91.01%	3,600.00
				500-750.0-5.lp	500	750	22,020,096.00	100.00%	3,600.00
				500-1000-1.lp	500	1,000	9,424,896.00	92.62%	3,600.00
				500-1000-2.lp	500	1,000	7,299,072.00	88.03%	3,600.00
				500-1000-3.lp	500	1,000	7,723,375.00	66.01%	3,600.00
				500-1000-4.lp	500	1,000	7,313,544.00	64.71%	3,600.00
				500-1000-5.lp	500	1,000	5,576,310.00	40.59%	3,600.00
			N-O-Imm	100-50.0-1.lp	100	50	87,420.00	0.00%	0.32
				100-50.0-2.lp	100	50	53,856.00	0.00%	0.76
				100-50.0-3.lp	100	50	73,344.00	0.00%	0.99
				100-50.0-4.lp	100	50	87,300.00	0.00%	0.59
				100-50.0-5.lp	100	50	121,752.00	0.00%	0.60
				100-100-1.lp	100	100	42,228.00	0.00%	1.18
				100-100-2.lp	100	100	77,760.00	0.00%	0.74
				100-100-3.lp	100	100	104,400.00	0.00%	0.55
				100-100-4.lp	100	100	89,712.00	0.00%	0.68
				100-100-5.lp	100	100	74,970.00	0.00%	1.42
				100-150.0-1.lp	100	150	51,340.00	0.00%	1.04
				100-150.0-2.lp	100	150	110,352.00	0.00%	0.91
				100-150.0-3.lp	100	150	162,578.00	0.00%	1.38
				100-150.0-4.lp	100	150	30,798.00	0.00%	0.86
				100-150.0-5.lp	100	150	47,244.00	0.00%	0.68
				100-200-1.lp	100	200	55,680.00	0.00%	1.31

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*3*	*N-O-Imm*	100-200-2.lp	100	200	98,340.00	0.00%	0.67
				100-200-3.lp	100	200	52,380.00	0.00%	1.16
				100-200-4.lp	100	200	55,350.00	0.00%	0.79
				100-200-5.lp	100	200	124,700.00	0.00%	0.97
				200-100.0-1.lp	200	100	457,164.00	0.00%	2.77
				200-100.0-2.lp	200	100	729,270.00	0.00%	4.45
				200-100.0-3.lp	200	100	840,213.00	0.00%	1.53
				200-100.0-4.lp	200	100	862,710.00	0.00%	2.21
				200-100.0-5.lp	200	100	673,872.00	0.00%	2.09
				200-200-1.lp	200	200	453,627.00	0.00%	5.94
				200-200-2.lp	200	200	511,032.00	0.00%	28.92
				200-200-3.lp	200	200	290,862.00	0.00%	61.15
				200-200-4.lp	200	200	609,588.00	0.00%	3.68
				200-200-5.lp	200	200	101,132.00	0.00%	11.03
				200-300.0-1.lp	200	300	834,480.00	0.00%	6.34
				200-300.0-2.lp	200	300	288,252.00	0.00%	4.74
				200-300.0-3.lp	200	300	409,752.00	0.00%	81.84
				200-300.0-4.lp	200	300	227,740.00	0.00%	6.00
				200-300.0-5.lp	200	300	289,800.00	0.00%	3.28
				200-400-1.lp	200	400	462,462.00	0.00%	167.05
				200-400-2.lp	200	400	366,080.00	0.00%	4.37
				200-400-3.lp	200	400	111,650.00	0.00%	64.69
				200-400-4.lp	200	400	280,839.00	0.00%	14.91
				200-400-5.lp	200	400	345,870.00	0.00%	66.30
				300-150.0-1.lp	300	150	1,803,012.00	0.00%	591.44
				300-150.0-2.lp	300	150	1,551,123.00	0.00%	6.19
				300-150.0-3.lp	300	150	2,376,180.00	0.00%	5.01
				300-150.0-4.lp	300	150	1,483,272.00	0.00%	70.04
				300-150.0-5.lp	300	150	1,607,490.00	0.00%	1.83
				300-300-1.lp	300	300	2,135,280.00	0.00%	634.30

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*3*	*N-O-Imm*	300-300-2.lp	300	300	2,328,192.00	0.00%	121.63
				300-300-3.lp	300	300	1,181,700.00	0.00%	51.11
				300-300-4.lp	300	300	958,272.00	0.00%	46.13
				300-300-5.lp	300	300	1,340,000.00	0.00%	45.80
				300-450.0-1.lp	300	450	1,089,660.00	0.00%	185.57
				300-450.0-2.lp	300	450	1,062,600.00	0.00%	84.64
				300-450.0-3.lp	300	450	1,610,784.00	0.00%	225.05
				300-450.0-4.lp	300	450	1,239,590.00	0.00%	372.24
				300-450.0-5.lp	300	450	1,257,075.00	0.00%	45.92
				300-600-1.lp	300	600	622,545.00	0.00%	66.60
				300-600-2.lp	300	600	861,648.00	0.00%	994.13
				300-600-3.lp	300	600	761,600.00	0.00%	206.12
				300-600-4.lp	300	600	1,448,352.00	0.00%	119.96
				300-600-5.lp	300	600	888,602.00	0.00%	449.01
				400-200.0-1.lp	400	200	2,222,112.00	0.00%	135.23
				400-200.0-2.lp	400	200	3,846,816.00	0.00%	473.43
				400-200.0-3.lp	400	200	5,799,465.00	0.00%	129.14
				400-200.0-4.lp	400	200	2,480,950.00	0.00%	79.75
				400-200.0-5.lp	400	200	4,039,024.00	0.00%	5.77
				400-400-1.lp	400	400	2,265,522.00	0.00%	416.43
				400-400-2.lp	400	400	4,520,880.00	0.00%	466.61
				400-400-3.lp	400	400	1,821,012.00	0.00%	99.62
				400-400-4.lp	400	400	3,748,976.00	0.00%	155.71
				400-400-5.lp	400	400	5,481,696.00	0.00%	1,684.97
				400-600.0-1.lp	400	600	1,881,386.00	0.00%	324.25
				400-600.0-2.lp	400	600	3,189,624.00	0.00%	651.43
				400-600.0-3.lp	400	600	2,265,600.00	0.00%	169.65
				400-600.0-4.lp	400	600	3,397,200.00	0.00%	572.41
				400-600.0-5.lp	400	600	2,295,524.00	0.00%	905.68
				400-800-1.lp	400	800	3,121,160.00	0.00%	680.35

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*3*	*N-O-Imm*	400-800-2.lp	400	800	1,288,560.00	0.00%	188.93
				400-800-3.lp	400	800	2,151,740.00	0.00%	716.62
				400-800-4.lp	400	800	1,870,713.00	0.00%	186.90
				400-800-5.lp	400	800	2,575,925.00	0.00%	1,196.65
				500-250.0-1.lp	500	250	4,100,100.00	0.00%	39.05
				500-250.0-2.lp	500	250	4,208,944.00	0.00%	250.28
				500-250.0-3.lp	500	250	5,696,048.00	0.00%	85.21
				500-250.0-4.lp	500	250	4,247,087.00	0.00%	231.53
				500-250.0-5.lp	500	250	6,659,880.00	0.00%	210.05
				500-500-1.lp	500	500	4,499,385.00	26.05%	3,600.00
				500-500-2.lp	500	500	4,561,440.00	0.00%	735.36
				500-500-3.lp	500	500	6,219,775.00	0.00%	1,347.13
				500-500-4.lp	500	500	5,150,368.00	0.00%	148.33
				500-500-5.lp	500	500	7,383,408.00	16.98%	3,600.00
				500-750.0-1.lp	500	750	4,851,120.00	51.47%	3,600.00
				500-750.0-2.lp	500	750	3,190,740.00	1.41%	3,600.00
				500-750.0-3.lp	500	750	5,838,196.00	50.31%	3,600.00
				500-750.0-4.lp	500	750	3,552,120.00	15.17%	3,600.00
				500-750.0-5.lp	500	750	3,737,460.00	45.49%	3,600.00
				500-1000-1.lp	500	1,000	4,642,092.00	79.11%	3,600.00
				500-1000-2.lp	500	1,000	3,878,118.00	34.75%	3,600.00
				500-1000-3.lp	500	1,000	5,081,356.00	37.69%	3,600.00
				500-1000-4.lp	500	1,000	6,770,400.00	37.19%	3,600.00
				500-1000-5.lp	500	1,000	5,576,310.00	45.04%	3,600.00
			N-O-mm	100-50.0-1.lp	100	50	87,420.00	0.00%	1.44
				100-50.0-2.lp	100	50	53,856.00	0.00%	4.75
				100-50.0-3.lp	100	50	73,344.00	0.00%	11.44
				100-50.0-4.lp	100	50	87,300.00	0.00%	1.76
				100-50.0-5.lp	100	50	121,752.00	0.00%	14.26
				100-100-1.lp	100	100	42,228.00	0.00%	12.20

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*3*	*N-O-mm*	100-100-2.lp	100	100	77,760.00	0.00%	8.46
				100-100-3.lp	100	100	104,400.00	0.00%	9.51
				100-100-4.lp	100	100	89,712.00	0.00%	10.97
				100-100-5.lp	100	100	74,970.00	0.00%	4.86
				100-150.0-1.lp	100	150	51,340.00	0.00%	21.96
				100-150.0-2.lp	100	150	110,352.00	0.00%	8.02
				100-150.0-3.lp	100	150	162,578.00	0.00%	30.43
				100-150.0-4.lp	100	150	30,798.00	0.00%	0.98
				100-150.0-5.lp	100	150	47,244.00	0.00%	6.49
				100-200-1.lp	100	200	55,680.00	0.00%	10.12
				100-200-2.lp	100	200	98,340.00	0.00%	6.84
				100-200-3.lp	100	200	52,380.00	0.00%	2.20
				100-200-4.lp	100	200	55,350.00	0.00%	4.37
				100-200-5.lp	100	200	124,700.00	0.00%	7.95
				200-100.0-1.lp	200	100	457,164.00	0.00%	84.55
				200-100.0-2.lp	200	100	729,270.00	0.00%	20.04
				200-100.0-3.lp	200	100	840,213.00	0.00%	35.64
				200-100.0-4.lp	200	100	862,710.00	0.00%	27.20
				200-100.0-5.lp	200	100	673,872.00	0.00%	33.10
				200-200-1.lp	200	200	453,627.00	0.00%	46.34
				200-200-2.lp	200	200	511,032.00	0.00%	103.63
				200-200-3.lp	200	200	290,862.00	0.00%	106.05
				200-200-4.lp	200	200	609,588.00	0.00%	28.96
				200-200-5.lp	200	200	101,132.00	0.00%	62.37
				200-300.0-1.lp	200	300	834,480.00	0.00%	249.88
				200-300.0-2.lp	200	300	288,252.00	0.00%	623.22
				200-300.0-3.lp	200	300	409,752.00	0.00%	289.64
				200-300.0-4.lp	200	300	227,740.00	0.00%	160.65
				200-300.0-5.lp	200	300	289,800.00	0.00%	79.69
				200-400-1.lp	200	400	462,462.00	0.00%	374.03

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*3*	*N-O-mm*	200-400-2.lp	200	400	366,080.00	0.00%	305.33
				200-400-3.lp	200	400	111,650.00	0.00%	511.09
				200-400-4.lp	200	400	280,839.00	0.00%	369.88
				200-400-5.lp	200	400	345,870.00	0.00%	211.48
				300-150.0-1.lp	300	150	1,803,012.00	23.67%	3,600.00
				300-150.0-2.lp	300	150	1,551,123.00	0.00%	427.64
				300-150.0-3.lp	300	150	2,376,180.00	0.00%	163.36
				300-150.0-4.lp	300	150	1,483,272.00	23.43%	3,600.00
				300-150.0-5.lp	300	150	1,607,490.00	0.00%	10.60
				300-300-1.lp	300	300	3,123,520.00	55.76%	3,600.00
				300-300-2.lp	300	300	2,328,192.00	2.63%	3,600.00
				300-300-3.lp	300	300	1,181,700.00	0.00%	3,462.27
				300-300-4.lp	300	300	−	∞	3,600.00
				300-300-5.lp	300	300	1,340,000.00	0.00%	812.79
				300-450.0-1.lp	300	450	1,089,660.00	0.00%	846.72
				300-450.0-2.lp	300	450	1,062,600.00	0.00%	214.77
				300-450.0-3.lp	300	450	1,610,784.00	0.00%	1,964.81
				300-450.0-4.lp	300	450	−	∞	3,600.00
				300-450.0-5.lp	300	450	1,257,075.00	0.00%	800.18
				300-600-1.lp	300	600	622,545.00	0.00%	996.01
				300-600-2.lp	300	600	−	∞	3,600.00
				300-600-3.lp	300	600	−	∞	3,600.00
				300-600-4.lp	300	600	1,448,352.00	0.00%	687.94
				300-600-5.lp	300	600	−	∞	3,600.00
				400-200.0-1.lp	400	200	4,194,648.00	53.74%	3,600.00
				400-200.0-2.lp	400	200	−	∞	3,600.00
				400-200.0-3.lp	400	200	5,799,465.00	0.00%	2,159.27
				400-200.0-4.lp	400	200	2,480,950.00	0.00%	2,134.66
				400-200.0-5.lp	400	200	4,039,024.00	0.00%	259.42
				400-400-1.lp	400	400	2,535,624.00	30.40%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*3*	*N-O-mm*	400-400-2.lp	400	400	–	∞	3,600.00
				400-400-3.lp	400	400	3,466,974.00	58.71%	3,600.00
				400-400-4.lp	400	400	5,820,360.00	59.12%	3,600.00
				400-400-5.lp	400	400	–	∞	3,600.00
				400-600.0-1.lp	400	600	1,881,386.00	0.00%	2,653.49
				400-600.0-2.lp	400	600	4,380,000.00	43.88%	3,600.00
				400-600.0-3.lp	400	600	–	∞	3,600.00
				400-600.0-4.lp	400	600	3,810,024.00	53.56%	3,600.00
				400-600.0-5.lp	400	600	–	∞	3,600.00
				400-800-1.lp	400	800	3,121,160.00	0.00%	2,140.41
				400-800-2.lp	400	800	3,462,144.00	83.17%	3,600.00
				400-800-3.lp	400	800	2,602,080.00	81.81%	3,600.00
				400-800-4.lp	400	800	–	∞	3,600.00
				400-800-5.lp	400	800	–	∞	3,600.00
				500-250.0-1.lp	500	250	4,100,100.00	0.00%	64.80
				500-250.0-2.lp	500	250	–	∞	3,600.00
				500-250.0-3.lp	500	250	5,696,048.00	0.00%	596.46
				500-250.0-4.lp	500	250	–	∞	3,600.00
				500-250.0-5.lp	500	250	–	∞	3,600.00
				500-500-1.lp	500	500	–	∞	3,600.00
				500-500-2.lp	500	500	–	∞	3,600.00
				500-500-3.lp	500	500	–	∞	3,600.00
				500-500-4.lp	500	500	5,150,368.00	6.94%	3,600.00
				500-500-5.lp	500	500	–	∞	3,600.00
				500-750.0-1.lp	500	750	–	∞	3,600.00
				500-750.0-2.lp	500	750	–	∞	3,600.00
				500-750.0-3.lp	500	750	–	∞	3,600.00
				500-750.0-4.lp	500	750	–	∞	3,600.00
				500-750.0-5.lp	500	750	–	∞	3,600.00
				500-1000-1.lp	500	1,000	–	∞	3,600.00

(continued from previous page)

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*3*	*N-O-mm*	500-1000-2.lp	500	1,000	–	∞	3,600.00
				500-1000-3.lp	500	1,000	–	∞	3,600.00
				500-1000-4.lp	500	1,000	–	∞	3,600.00
				500-1000-5.lp	500	1,000	–	∞	3,600.00

3 Detailed Results for Experiment 3

Table 3: Detailed Results for Experiment 3

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	Binary	2	GRB SOCP	100-50.0-1.lp	100	50	27,756.00	0.00%	0.02
				100-50.0-2.lp	100	50	39,468.00	0.00%	0.13
				100-50.0-3.lp	100	50	22,195.00	0.00%	0.09
				100-50.0-4.lp	100	50	35,502.00	0.00%	0.22
				100-50.0-5.lp	100	50	17,205.00	0.00%	0.22
				100-100-1.lp	100	100	20,776.00	0.00%	0.41
				100-100-2.lp	100	100	16,781.00	0.00%	0.03
				100-100-3.lp	100	100	17,010.00	0.00%	0.17
				100-100-4.lp	100	100	22,990.00	0.00%	0.39
				100-100-5.lp	100	100	15,714.00	0.00%	0.24
				100-150.0-1.lp	100	150	17,199.00	0.00%	0.36
				100-150.0-2.lp	100	150	12,996.00	0.00%	0.38
				100-150.0-3.lp	100	150	20,475.00	0.00%	0.24
				100-150.0-4.lp	100	150	13,485.00	0.00%	0.20
				100-150.0-5.lp	100	150	15,360.00	0.00%	0.64
				100-200-1.lp	100	200	15,921.00	0.00%	0.23
				100-200-2.lp	100	200	12,150.00	0.00%	1.04
				100-200-3.lp	100	200	17,520.00	0.00%	0.88
				100-200-4.lp	100	200	16,289.00	0.00%	1.02
				100-200-5.lp	100	200	9,975.00	0.00%	0.64
				200-100.0-1.lp	200	100	139,728.00	0.00%	1.07
				200-100.0-2.lp	200	100	70,500.00	0.00%	2.45
				200-100.0-3.lp	200	100	89,646.00	0.00%	0.85
				200-100.0-4.lp	200	100	147,518.00	0.00%	2.93
				200-100.0-5.lp	200	100	91,800.00	0.00%	0.42
				200-200-1.lp	200	200	63,012.00	0.00%	0.92

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*2*	*GRB SOCP*	200-200-2.lp	200	200	70,771.00	0.00%	3.03
				200-200-3.lp	200	200	70,350.00	0.00%	1.59
				200-200-4.lp	200	200	67,851.00	0.00%	3.19
				200-200-5.lp	200	200	91,103.00	0.00%	1.30
				200-300.0-1.lp	200	300	69,866.00	0.00%	9.20
				200-300.0-2.lp	200	300	66,381.00	0.00%	0.99
				200-300.0-3.lp	200	300	74,685.00	0.00%	2.91
				200-300.0-4.lp	200	300	59,466.00	0.00%	3.52
				200-300.0-5.lp	200	300	60,573.00	0.00%	1.84
				200-400-1.lp	200	400	65,704.00	0.00%	1.81
				200-400-2.lp	200	400	57,424.00	0.00%	16.26
				200-400-3.lp	200	400	68,625.00	0.00%	10.34
				200-400-4.lp	200	400	67,032.00	0.00%	0.92
				200-400-5.lp	200	400	46,690.00	0.00%	8.74
				300-150.0-1.lp	300	150	168,776.00	0.00%	5.17
				300-150.0-2.lp	300	150	168,950.00	0.00%	6.05
				300-150.0-3.lp	300	150	199,396.00	0.00%	15.68
				300-150.0-4.lp	300	150	245,784.00	0.00%	0.76
				300-150.0-5.lp	300	150	179,046.00	0.00%	2.13
				300-300-1.lp	300	300	178,648.00	0.00%	4.53
				300-300-2.lp	300	300	269,272.00	0.00%	202.06
				300-300-3.lp	300	300	153,458.00	0.00%	16.23
				300-300-4.lp	300	300	185,440.00	0.00%	25.62
				300-300-5.lp	300	300	179,180.00	0.00%	8.30
				300-450.0-1.lp	300	450	153,344.00	0.00%	495.70
				300-450.0-2.lp	300	450	164,385.00	0.00%	55.30
				300-450.0-3.lp	300	450	130,239.00	0.00%	67.76
				300-450.0-4.lp	300	450	158,760.00	0.00%	53.03
				300-450.0-5.lp	300	450	132,570.00	0.00%	36.62
				300-600-1.lp	300	600	144,789.00	0.00%	520.85

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	Binary	2	GRB SOCP	300-600-2.lp	300	600	137,268.00	0.00%	804.01
				300-600-3.lp	300	600	111,695.00	0.00%	57.57
				300-600-4.lp	300	600	151,823.00	0.00%	52.04
				300-600-5.lp	300	600	149,910.00	0.00%	39.67
				400-200.0-1.lp	400	200	318,202.00	0.00%	122.95
				400-200.0-2.lp	400	200	488,580.00	0.00%	26.19
				400-200.0-3.lp	400	200	350,856.00	0.00%	31.20
				400-200.0-4.lp	400	200	368,775.00	0.00%	15.28
				400-200.0-5.lp	400	200	317,967.00	0.00%	30.46
				400-400-1.lp	400	400	312,475.00	0.00%	193.22
				400-400-2.lp	400	400	311,200.00	0.00%	39.42
				400-400-3.lp	400	400	278,202.00	0.00%	71.20
				400-400-4.lp	400	400	323,604.00	0.00%	251.92
				400-400-5.lp	400	400	303,056.00	0.38%	3,600.00
				400-600.0-1.lp	400	600	232,956.00	0.30%	3,600.00
				400-600.0-2.lp	400	600	278,256.00	0.29%	3,600.00
				400-600.0-3.lp	400	600	229,810.00	0.00%	132.27
				400-600.0-4.lp	400	600	305,368.00	0.00%	127.56
				400-600.0-5.lp	400	600	223,768.00	0.00%	451.40
				400-800-1.lp	400	800	254,589.00	0.00%	1,767.55
				400-800-2.lp	400	800	231,210.00	0.00%	43.15
				400-800-3.lp	400	800	219,450.00	0.00%	1,866.71
				400-800-4.lp	400	800	253,464.00	0.00%	105.61
				400-800-5.lp	400	800	262,772.00	0.00%	245.71
				500-250.0-1.lp	500	250	603,161.00	0.00%	7.04
				500-250.0-2.lp	500	250	586,806.00	0.00%	246.53
				500-250.0-3.lp	500	250	552,393.00	0.00%	95.60
				500-250.0-4.lp	500	250	588,074.00	0.00%	1,808.42
				500-250.0-5.lp	500	250	580,038.00	0.00%	943.00
				500-500-1.lp	500	500	497,503.00	0.00%	644.17

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*2*	*GRB SOCP*	500-500-2.lp	500	500	419,055.00	0.54%	3,600.00
				500-500-3.lp	500	500	523,746.00	0.16%	3,600.00
				500-500-4.lp	500	500	406,141.00	0.25%	3,600.00
				500-500-5.lp	500	500	407,704.00	0.00%	3,296.29
				500-750.0-1.lp	500	750	416,028.00	0.28%	3,600.00
				500-750.0-2.lp	500	750	385,691.00	0.00%	571.13
				500-750.0-3.lp	500	750	376,550.00	0.28%	3,600.00
				500-750.0-4.lp	500	750	386,974.00	0.46%	3,600.00
				500-750.0-5.lp	500	750	372,504.00	0.00%	38.31
				500-1000-1.lp	500	1,000	375,978.00	0.35%	3,600.00
				500-1000-2.lp	500	1,000	384,580.00	0.20%	3,600.00
				500-1000-3.lp	500	1,000	357,136.00	0.34%	3,600.00
				500-1000-4.lp	500	1,000	450,247.00	0.24%	3,600.00
				500-1000-5.lp	500	1,000	322,869.00	0.34%	3,600.00
			N-O	100-50.0-1.lp	100	50	27,756.00	0.00%	0.34
				100-50.0-2.lp	100	50	39,468.00	0.00%	0.72
				100-50.0-3.lp	100	50	22,195.00	0.00%	0.36
				100-50.0-4.lp	100	50	35,502.00	0.00%	0.72
				100-50.0-5.lp	100	50	17,205.00	0.00%	0.58
				100-100-1.lp	100	100	20,776.00	0.00%	1.19
				100-100-2.lp	100	100	16,781.00	0.00%	0.31
				100-100-3.lp	100	100	17,010.00	0.00%	0.49
				100-100-4.lp	100	100	22,990.00	0.00%	0.51
				100-100-5.lp	100	100	15,714.00	0.00%	0.50
				100-150.0-1.lp	100	150	17,199.00	0.00%	0.38
				100-150.0-2.lp	100	150	12,996.00	0.00%	0.56
				100-150.0-3.lp	100	150	20,475.00	0.00%	0.70
				100-150.0-4.lp	100	150	13,485.00	0.00%	0.47
				100-150.0-5.lp	100	150	15,360.00	0.00%	0.92
				100-200-1.lp	100	200	15,921.00	0.00%	0.59

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*2*	*N-O*	100-200-2.lp	100	200	12,150.00	0.00%	1.11
				100-200-3.lp	100	200	17,520.00	0.00%	0.69
				100-200-4.lp	100	200	16,289.00	0.00%	1.66
				100-200-5.lp	100	200	9,975.00	0.00%	1.00
				200-100.0-1.lp	200	100	139,728.00	0.00%	6.84
				200-100.0-2.lp	200	100	70,500.00	0.00%	10.47
				200-100.0-3.lp	200	100	89,646.00	0.00%	2.47
				200-100.0-4.lp	200	100	147,518.00	0.00%	13.64
				200-100.0-5.lp	200	100	91,800.00	0.00%	3.47
				200-200-1.lp	200	200	63,012.00	0.00%	2.77
				200-200-2.lp	200	200	70,771.00	0.00%	8.36
				200-200-3.lp	200	200	70,350.00	0.00%	9.31
				200-200-4.lp	200	200	67,851.00	0.00%	8.88
				200-200-5.lp	200	200	91,103.00	0.00%	5.39
				200-300.0-1.lp	200	300	69,866.00	0.00%	17.21
				200-300.0-2.lp	200	300	66,381.00	0.00%	8.32
				200-300.0-3.lp	200	300	74,685.00	0.00%	11.97
				200-300.0-4.lp	200	300	59,466.00	0.00%	13.94
				200-300.0-5.lp	200	300	60,573.00	0.00%	7.88
				200-400-1.lp	200	400	65,704.00	0.00%	11.18
				200-400-2.lp	200	400	57,424.00	0.00%	42.93
				200-400-3.lp	200	400	68,625.00	0.00%	31.90
				200-400-4.lp	200	400	67,032.00	0.00%	2.96
				200-400-5.lp	200	400	46,690.00	0.00%	17.46
				300-150.0-1.lp	300	150	168,776.00	0.00%	38.92
				300-150.0-2.lp	300	150	168,950.00	0.00%	59.45
				300-150.0-3.lp	300	150	199,396.00	0.00%	47.26
				300-150.0-4.lp	300	150	245,784.00	0.00%	6.57
				300-150.0-5.lp	300	150	179,046.00	0.00%	30.42
				300-300-1.lp	300	300	178,648.00	0.00%	26.98

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	Binary	2	N-O	300-300-2.lp	300	300	269,272.00	0.00%	867.68
				300-300-3.lp	300	300	153,458.00	0.00%	173.46
				300-300-4.lp	300	300	185,440.00	0.00%	152.11
				300-300-5.lp	300	300	179,180.00	0.00%	43.83
				300-450.0-1.lp	300	450	153,344.00	0.00%	2,688.91
				300-450.0-2.lp	300	450	164,385.00	0.00%	836.35
				300-450.0-3.lp	300	450	130,239.00	0.00%	459.01
				300-450.0-4.lp	300	450	158,760.00	0.00%	449.35
				300-450.0-5.lp	300	450	132,570.00	0.00%	146.48
				300-600-1.lp	300	600	144,710.00	1.48%	3,600.00
				300-600-2.lp	300	600	137,268.00	0.08%	3,600.00
				300-600-3.lp	300	600	111,695.00	0.00%	166.66
				300-600-4.lp	300	600	151,823.00	0.00%	315.38
				300-600-5.lp	300	600	149,910.00	0.00%	198.03
				400-200.0-1.lp	400	200	318,202.00	0.00%	3,422.88
				400-200.0-2.lp	400	200	488,580.00	0.00%	508.86
				400-200.0-3.lp	400	200	350,856.00	0.00%	383.89
				400-200.0-4.lp	400	200	368,775.00	0.00%	165.23
				400-200.0-5.lp	400	200	317,967.00	0.00%	105.10
				400-400-1.lp	400	400	312,475.00	0.00%	1,904.10
				400-400-2.lp	400	400	311,200.00	0.00%	543.89
				400-400-3.lp	400	400	278,202.00	0.00%	2,030.08
				400-400-4.lp	400	400	323,604.00	0.00%	2,867.11
				400-400-5.lp	400	400	303,056.00	1.02%	3,600.00
				400-600.0-1.lp	400	600	232,956.00	0.50%	3,600.00
				400-600.0-2.lp	400	600	278,103.00	0.81%	3,600.00
				400-600.0-3.lp	400	600	229,810.00	0.57%	3,600.00
				400-600.0-4.lp	400	600	303,459.00	1.19%	3,600.00
				400-600.0-5.lp	400	600	223,768.00	1.01%	3,600.00
				400-800-1.lp	400	800	253,964.00	1.19%	3,600.00

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*2*	*N-O*	400-800-2.lp	400	800	231,210.00	0.00%	343.32
				400-800-3.lp	400	800	218,880.00	1.68%	3,600.00
				400-800-4.lp	400	800	253,464.00	0.32%	3,600.00
				400-800-5.lp	400	800	262,772.00	0.00%	1,443.51
				500-250.0-1.lp	500	250	603,161.00	0.00%	53.35
				500-250.0-2.lp	500	250	586,806.00	0.40%	3,600.00
				500-250.0-3.lp	500	250	552,393.00	0.00%	1,945.05
				500-250.0-4.lp	500	250	588,074.00	0.30%	3,600.00
				500-250.0-5.lp	500	250	580,038.00	0.22%	3,600.00
				500-500-1.lp	500	500	496,980.00	0.66%	3,600.00
				500-500-2.lp	500	500	418,064.00	1.63%	3,600.00
				500-500-3.lp	500	500	523,328.00	0.87%	3,600.00
				500-500-4.lp	500	500	404,954.00	1.19%	3,600.00
				500-500-5.lp	500	500	407,704.00	1.04%	3,600.00
				500-750.0-1.lp	500	750	414,920.00	1.28%	3,600.00
				500-750.0-2.lp	500	750	383,728.00	1.42%	3,600.00
				500-750.0-3.lp	500	750	375,732.00	1.17%	3,600.00
				500-750.0-4.lp	500	750	386,974.00	1.25%	3,600.00
				500-750.0-5.lp	500	750	372,504.00	0.00%	1,846.68
				500-1000-1.lp	500	1,000	374,000.00	1.64%	3,600.00
				500-1000-2.lp	500	1,000	382,899.00	1.37%	3,600.00
				500-1000-3.lp	500	1,000	357,084.00	1.01%	3,600.00
				500-1000-4.lp	500	1,000	450,240.00	1.08%	3,600.00
				500-1000-5.lp	500	1,000	322,869.00	1.02%	3,600.00
		3	A-O	100-50.0-1.lp	100	50	5,596,864.00	0.00%	5.22
				100-50.0-2.lp	100	50	3,084,480.00	0.00%	5.33
				100-50.0-3.lp	100	50	5,152,224.00	0.00%	11.28
				100-50.0-4.lp	100	50	5,280,540.00	0.00%	16.87
				100-50.0-5.lp	100	50	5,911,934.00	0.00%	20.00
				100-100-1.lp	100	100	1,897,896.00	0.00%	13.67

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*3*	*A-O*	100-100-2.lp	100	100	2,392,084.00	0.00%	6.90
				100-100-3.lp	100	100	3,130,326.00	0.00%	12.48
				100-100-4.lp	100	100	5,747,056.00	0.00%	11.87
				100-100-5.lp	100	100	2,234,208.00	0.00%	22.37
				100-150.0-1.lp	100	150	1,977,984.00	0.00%	10.04
				100-150.0-2.lp	100	150	3,823,776.00	0.00%	43.49
				100-150.0-3.lp	100	150	5,407,020.00	0.00%	18.87
				100-150.0-4.lp	100	150	2,815,716.00	0.00%	5.56
				100-150.0-5.lp	100	150	2,377,683.00	0.00%	26.14
				100-200-1.lp	100	200	1,841,964.00	0.00%	14.51
				100-200-2.lp	100	200	2,904,600.00	0.00%	16.30
				100-200-3.lp	100	200	2,236,416.00	0.00%	20.18
				100-200-4.lp	100	200	3,428,040.00	0.00%	34.77
				100-200-5.lp	100	200	2,849,696.00	0.00%	29.59
				200-100.0-1.lp	200	100	44,248,566.00	0.00%	145.19
				200-100.0-2.lp	200	100	40,892,908.00	0.00%	610.05
				200-100.0-3.lp	200	100	61,443,648.00	0.00%	83.08
				200-100.0-4.lp	200	100	60,410,196.00	0.00%	484.04
				200-100.0-5.lp	200	100	42,675,880.00	0.00%	172.52
				200-200-1.lp	200	200	36,141,600.00	0.00%	167.33
				200-200-2.lp	200	200	46,753,344.00	0.00%	113.18
				200-200-3.lp	200	200	24,614,480.00	0.00%	342.85
				200-200-4.lp	200	200	41,807,931.00	0.00%	172.12
				200-200-5.lp	200	200	31,057,368.00	0.00%	124.23
				200-300.0-1.lp	200	300	39,200,980.00	0.00%	165.53
				200-300.0-2.lp	200	300	25,335,804.00	0.00%	183.71
				200-300.0-3.lp	200	300	37,269,217.00	0.00%	424.83
				200-300.0-4.lp	200	300	20,795,082.00	0.00%	257.49
				200-300.0-5.lp	200	300	23,443,200.00	0.00%	161.69
				200-400-1.lp	200	400	21,820,752.00	0.00%	1,160.71

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*3*	*A-O*	200-400-2.lp	200	400	23,381,336.00	2.56%	3,600.00
				200-400-3.lp	200	400	26,413,488.00	0.00%	817.90
				200-400-4.lp	200	400	22,999,680.00	0.00%	410.29
				200-400-5.lp	200	400	29,016,960.00	0.00%	1,285.08
				300-150.0-1.lp	300	150	115,178,540.00	1.57%	3,600.00
				300-150.0-2.lp	300	150	136,860,234.00	0.00%	1,490.04
				300-150.0-3.lp	300	150	162,694,390.00	1.40%	3,600.00
				300-150.0-4.lp	300	150	167,093,798.00	0.00%	2,057.46
				300-150.0-5.lp	300	150	157,969,222.00	0.91%	3,600.00
				300-300-1.lp	300	300	103,352,915.00	0.00%	567.22
				300-300-2.lp	300	300	162,391,005.00	0.00%	1,029.00
				300-300-3.lp	300	300	99,120,336.00	0.00%	3,508.79
				300-300-4.lp	300	300	134,006,392.00	0.96%	3,600.00
				300-300-5.lp	300	300	120,683,360.00	0.87%	3,600.00
				300-450.0-1.lp	300	450	71,778,304.00	3.85%	3,600.00
				300-450.0-2.lp	300	450	100,790,109.00	1.01%	3,600.00
				300-450.0-3.lp	300	450	78,994,608.00	0.00%	972.99
				300-450.0-4.lp	300	450	65,783,220.00	2.11%	3,600.00
				300-450.0-5.lp	300	450	92,125,431.00	0.00%	1,734.80
				300-600-1.lp	300	600	59,085,010.00	3.44%	3,600.00
				300-600-2.lp	300	600	80,838,000.00	1.09%	3,600.00
				300-600-3.lp	300	600	74,714,464.00	0.00%	1,856.70
				300-600-4.lp	300	600	86,238,194.00	0.00%	1,626.75
				300-600-5.lp	300	600	71,429,505.00	1.31%	3,600.00
				400-200.0-1.lp	400	200	293,250,408.00	0.00%	1,913.89
				400-200.0-2.lp	400	200	324,064,000.00	2.20%	3,600.00
				400-200.0-3.lp	400	200	393,278,834.00	0.38%	3,600.00
				400-200.0-4.lp	400	200	295,876,790.00	0.23%	3,600.00
				400-200.0-5.lp	400	200	395,237,604.00	0.56%	3,600.00
				400-400-1.lp	400	400	270,046,980.00	1.93%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	Binary	3	A-O	400-400-2.lp	400	400	277,400,988.00	1.96%	3,600.00
				400-400-3.lp	400	400	198,044,802.00	3.75%	3,600.00
				400-400-4.lp	400	400	240,675,400.00	3.37%	3,600.00
				400-400-5.lp	400	400	310,321,440.00	2.35%	3,600.00
				400-600.0-1.lp	400	600	197,203,842.00	2.05%	3,600.00
				400-600.0-2.lp	400	600	197,186,220.00	0.78%	3,600.00
				400-600.0-3.lp	400	600	243,364,711.00	1.26%	3,600.00
				400-600.0-4.lp	400	600	205,023,944.00	1.40%	3,600.00
				400-600.0-5.lp	400	600	203,392,768.00	3.23%	3,600.00
				400-800-1.lp	400	800	212,197,040.00	1.81%	3,600.00
				400-800-2.lp	400	800	158,341,918.00	2.02%	3,600.00
				400-800-3.lp	400	800	171,430,400.00	3.69%	3,600.00
				400-800-4.lp	400	800	173,543,280.00	1.64%	3,600.00
				400-800-5.lp	400	800	173,587,932.00	3.35%	3,600.00
				500-250.0-1.lp	500	250	660,108,046.00	1.20%	3,600.00
				500-250.0-2.lp	500	250	582,441,600.00	0.84%	3,600.00
				500-250.0-3.lp	500	250	679,087,992.00	1.06%	3,600.00
				500-250.0-4.lp	500	250	586,445,400.00	0.78%	3,600.00
				500-250.0-5.lp	500	250	754,421,440.00	1.35%	3,600.00
				500-500-1.lp	500	500	415,469,016.00	1.52%	3,600.00
				500-500-2.lp	500	500	529,306,997.00	1.44%	3,600.00
				500-500-3.lp	500	500	429,500,016.00	1.69%	3,600.00
				500-500-4.lp	500	500	458,069,472.00	1.45%	3,600.00
				500-500-5.lp	500	500	507,104,832.00	2.21%	3,600.00
				500-750.0-1.lp	500	750	345,802,080.00	1.51%	3,600.00
				500-750.0-2.lp	500	750	378,100,800.00	4.61%	3,600.00
				500-750.0-3.lp	500	750	453,225,024.00	1.78%	3,600.00
				500-750.0-4.lp	500	750	340,384,200.00	1.11%	3,600.00
				500-750.0-5.lp	500	750	449,997,650.00	2.14%	3,600.00
				500-1000-1.lp	500	1,000	381,190,992.00	2.56%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*3*	*A-O*	500-1000-2.lp	500	1,000	343,096,704.00	2.33%	3,600.00
				500-1000-3.lp	500	1,000	343,502,544.00	4.06%	3,600.00
				500-1000-4.lp	500	1,000	368,149,320.00	2.40%	3,600.00
				500-1000-5.lp	500	1,000	361,308,564.00	4.80%	3,600.00
			GRB SOCP	100-50.0-1.lp	100	50	5,596,864.00	0.00%	0.38
				100-50.0-2.lp	100	50	3,084,480.00	0.00%	0.29
				100-50.0-3.lp	100	50	5,152,224.00	0.00%	0.82
				100-50.0-4.lp	100	50	5,280,539.99	0.00%	0.17
				100-50.0-5.lp	100	50	5,911,934.00	0.00%	0.59
				100-100-1.lp	100	100	1,897,896.00	0.00%	0.58
				100-100-2.lp	100	100	2,392,084.00	0.00%	0.15
				100-100-3.lp	100	100	3,130,326.00	0.00%	0.50
				100-100-4.lp	100	100	5,747,056.00	0.00%	0.45
				100-100-5.lp	100	100	2,234,207.99	0.00%	0.74
				100-150.0-1.lp	100	150	1,977,984.00	0.00%	0.71
				100-150.0-2.lp	100	150	3,823,776.00	0.00%	0.57
				100-150.0-3.lp	100	150	5,407,020.00	0.00%	0.63
				100-150.0-4.lp	100	150	2,815,716.00	0.00%	0.91
				100-150.0-5.lp	100	150	2,377,682.99	0.00%	0.69
				100-200-1.lp	100	200	1,841,964.00	0.00%	0.88
				100-200-2.lp	100	200	2,904,599.99	0.00%	0.76
				100-200-3.lp	100	200	2,236,416.00	0.00%	1.37
				100-200-4.lp	100	200	3,428,039.98	0.00%	0.99
				100-200-5.lp	100	200	2,849,696.00	0.00%	1.54
				200-100.0-1.lp	200	100	44,248,566.49	0.00%	1.49
				200-100.0-2.lp	200	100	40,892,908.00	0.00%	4.21
				200-100.0-3.lp	200	100	61,443,648.00	0.00%	1.44
				200-100.0-4.lp	200	100	60,410,195.37	0.00%	6.77
				200-100.0-5.lp	200	100	42,675,879.90	0.00%	1.13
				200-200-1.lp	200	200	36,141,600.00	0.00%	0.85

(continued from previous page)

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*3*	*GRB SOCP*	200-200-2.lp	200	200	46,753,344.00	0.00%	6.46
				200-200-3.lp	200	200	24,614,480.00	0.00%	6.67
				200-200-4.lp	200	200	41,807,930.86	0.00%	2.43
				200-200-5.lp	200	200	31,057,368.20	0.00%	0.77
				200-300.0-1.lp	200	300	39,200,979.98	0.00%	4.63
				200-300.0-2.lp	200	300	25,335,804.00	0.00%	2.93
				200-300.0-3.lp	200	300	37,269,216.95	0.00%	12.73
				200-300.0-4.lp	200	300	20,795,082.00	0.00%	8.79
				200-300.0-5.lp	200	300	23,443,199.97	0.00%	1.80
				200-400-1.lp	200	400	21,820,752.00	0.00%	25.39
				200-400-2.lp	200	400	23,381,336.00	0.00%	52.24
				200-400-3.lp	200	400	26,413,488.00	0.00%	19.38
				200-400-4.lp	200	400	22,999,680.03	0.00%	9.42
				200-400-5.lp	200	400	29,016,960.00	0.00%	17.33
				300-150.0-1.lp	300	150	115,178,540.00	0.00%	170.89
				300-150.0-2.lp	300	150	136,860,234.00	0.00%	19.77
				300-150.0-3.lp	300	150	163,280,040.00	0.00%	380.74
				300-150.0-4.lp	300	150	167,093,798.00	0.00%	8.22
				300-150.0-5.lp	300	150	157,969,222.00	0.00%	84.73
				300-300-1.lp	300	300	103,352,915.13	0.00%	8.74
				300-300-2.lp	300	300	162,391,005.16	0.00%	25.91
				300-300-3.lp	300	300	99,120,335.66	0.00%	22.50
				300-300-4.lp	300	300	134,006,392.58	0.00%	79.06
				300-300-5.lp	300	300	120,683,360.00	0.00%	82.71
				300-450.0-1.lp	300	450	72,934,079.81	0.00%	47.81
				300-450.0-2.lp	300	450	100,790,109.00	0.00%	103.77
				300-450.0-3.lp	300	450	78,994,608.23	0.00%	22.86
				300-450.0-4.lp	300	450	66,216,150.00	0.00%	29.18
				300-450.0-5.lp	300	450	92,125,431.00	0.00%	9.83
				300-600-1.lp	300	600	59,085,010.00	0.46%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*3*	*GRB SOCP*	300-600-2.lp	300	600	81,171,599.66	0.00%	101.96
				300-600-3.lp	300	600	74,714,463.39	0.00%	41.41
				300-600-4.lp	300	600	86,238,194.00	0.00%	54.78
				300-600-5.lp	300	600	71,429,505.00	0.00%	123.32
				400-200.0-1.lp	400	200	293,250,408.00	0.00%	17.17
				400-200.0-2.lp	400	200	325,054,619.10	0.00%	1,704.98
				400-200.0-3.lp	400	200	393,278,834.00	0.00%	29.57
				400-200.0-4.lp	400	200	295,876,789.25	0.00%	52.54
				400-200.0-5.lp	400	200	395,237,595.94	0.00%	84.68
				400-400-1.lp	400	400	271,411,198.85	0.00%	704.26
				400-400-2.lp	400	400	278,411,680.00	0.16%	3,600.00
				400-400-3.lp	400	400	201,831,300.00	0.00%	252.02
				400-400-4.lp	400	400	244,360,395.00	0.11%	3,600.00
				400-400-5.lp	400	400	312,421,065.60	0.00%	3,342.95
				400-600.0-1.lp	400	600	197,693,188.00	0.00%	1,627.24
				400-600.0-2.lp	400	600	197,186,220.00	0.00%	68.02
				400-600.0-3.lp	400	600	243,364,711.00	0.00%	437.18
				400-600.0-4.lp	400	600	205,023,943.52	0.00%	290.75
				400-600.0-5.lp	400	600	207,401,040.00	0.00%	110.78
				400-800-1.lp	400	800	212,843,808.45	0.00%	204.21
				400-800-2.lp	400	800	158,634,724.77	0.00%	3,119.27
				400-800-3.lp	400	800	172,912,500.00	0.33%	3,600.00
				400-800-4.lp	400	800	173,543,280.00	0.00%	452.76
				400-800-5.lp	400	800	173,257,200.00	0.98%	3,600.00
				500-250.0-1.lp	500	250	662,341,212.00	0.12%	3,600.00
				500-250.0-2.lp	500	250	583,042,075.00	0.00%	488.53
				500-250.0-3.lp	500	250	679,087,992.00	0.19%	3,600.00
				500-250.0-4.lp	500	250	587,306,409.93	0.00%	233.96
				500-250.0-5.lp	500	250	757,576,418.69	0.00%	68.85
				500-500-1.lp	500	500	416,777,712.00	0.22%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*3*	*GRB SOCP*	500-500-2.lp	500	500	530,576,971.88	0.15%	3,600.00
				500-500-3.lp	500	500	431,226,360.00	0.21%	3,600.00
				500-500-4.lp	500	500	460,192,768.49	0.00%	1,790.33
				500-500-5.lp	500	500	510,953,184.00	0.11%	3,600.00
				500-750.0-1.lp	500	750	346,267,460.07	0.24%	3,600.00
				500-750.0-2.lp	500	750	387,156,000.00	0.43%	3,600.00
				500-750.0-3.lp	500	750	455,810,385.14	0.00%	3,401.81
				500-750.0-4.lp	500	750	340,728,843.29	0.00%	485.51
				500-750.0-5.lp	500	750	451,900,330.00	0.28%	3,600.00
				500-1000-1.lp	500	1,000	383,583,970.00	0.41%	3,600.00
				500-1000-2.lp	500	1,000	343,096,706.70	0.54%	3,600.00
				500-1000-3.lp	500	1,000	350,633,600.00	0.27%	3,600.00
				500-1000-4.lp	500	1,000	370,798,350.00	0.00%	669.53
				500-1000-5.lp	500	1,000	369,714,296.00	0.49%	3,600.00
			N-O	100-50.0-1.lp	100	50	5,596,864.00	0.00%	3.91
				100-50.0-2.lp	100	50	3,084,480.00	0.00%	2.33
				100-50.0-3.lp	100	50	5,152,224.00	0.00%	2.31
				100-50.0-4.lp	100	50	5,280,540.00	0.00%	2.97
				100-50.0-5.lp	100	50	5,911,934.00	0.00%	6.24
				100-100-1.lp	100	100	1,897,896.00	0.00%	6.07
				100-100-2.lp	100	100	2,392,084.00	0.00%	1.48
				100-100-3.lp	100	100	3,130,326.00	0.00%	8.02
				100-100-4.lp	100	100	5,747,056.00	0.00%	2.15
				100-100-5.lp	100	100	2,234,208.00	0.00%	3.92
				100-150.0-1.lp	100	150	1,977,984.00	0.00%	10.35
				100-150.0-2.lp	100	150	3,823,776.00	0.00%	15.41
				100-150.0-3.lp	100	150	5,407,020.00	0.00%	3.54
				100-150.0-4.lp	100	150	2,815,716.00	0.00%	10.40
				100-150.0-5.lp	100	150	2,377,683.00	0.00%	4.96
				100-200-1.lp	100	200	1,841,964.00	0.00%	10.63

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*3*	*N-O*	100-200-2.lp	100	200	2,904,600.00	0.00%	8.59
				100-200-3.lp	100	200	2,236,416.00	0.00%	10.11
				100-200-4.lp	100	200	3,428,040.00	0.00%	7.95
				100-200-5.lp	100	200	2,849,696.00	0.00%	18.25
				200-100.0-1.lp	200	100	44,248,566.00	0.00%	152.25
				200-100.0-2.lp	200	100	40,892,908.00	0.00%	90.69
				200-100.0-3.lp	200	100	61,443,648.00	0.00%	24.12
				200-100.0-4.lp	200	100	60,410,196.00	0.00%	106.62
				200-100.0-5.lp	200	100	42,675,880.00	0.00%	70.02
				200-200-1.lp	200	200	36,141,600.00	0.00%	42.68
				200-200-2.lp	200	200	46,753,344.00	0.00%	79.40
				200-200-3.lp	200	200	24,614,480.00	0.00%	135.51
				200-200-4.lp	200	200	41,807,931.00	0.00%	152.69
				200-200-5.lp	200	200	31,057,368.00	0.00%	27.76
				200-300.0-1.lp	200	300	39,200,980.00	0.00%	86.20
				200-300.0-2.lp	200	300	25,335,804.00	0.00%	142.98
				200-300.0-3.lp	200	300	37,269,217.00	0.00%	289.83
				200-300.0-4.lp	200	300	20,795,082.00	0.00%	176.72
				200-300.0-5.lp	200	300	23,443,200.00	0.00%	170.20
				200-400-1.lp	200	400	21,820,752.00	0.00%	970.31
				200-400-2.lp	200	400	23,381,336.00	0.00%	1,753.51
				200-400-3.lp	200	400	26,413,488.00	0.00%	290.07
				200-400-4.lp	200	400	22,999,680.00	0.00%	82.30
				200-400-5.lp	200	400	29,016,960.00	0.00%	428.25
				300-150.0-1.lp	300	150	115,178,540.00	0.00%	3,050.11
				300-150.0-2.lp	300	150	136,860,234.00	0.00%	1,109.55
				300-150.0-3.lp	300	150	162,727,512.00	1.02%	3,600.00
				300-150.0-4.lp	300	150	167,093,798.00	0.00%	514.56
				300-150.0-5.lp	300	150	157,969,222.00	0.00%	1,593.06
				300-300-1.lp	300	300	103,352,915.00	0.00%	308.98

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*3*	*N-O*	300-300-2.lp	300	300	162,391,005.00	0.00%	2,522.93
				300-300-3.lp	300	300	99,120,336.00	0.00%	613.17
				300-300-4.lp	300	300	133,826,000.00	0.29%	3,600.00
				300-300-5.lp	300	300	120,683,360.00	0.00%	1,921.41
				300-450.0-1.lp	300	450	72,934,080.00	0.00%	3,284.42
				300-450.0-2.lp	300	450	100,790,109.00	0.00%	1,798.89
				300-450.0-3.lp	300	450	78,994,608.00	0.00%	591.52
				300-450.0-4.lp	300	450	66,216,150.00	0.00%	3,114.57
				300-450.0-5.lp	300	450	92,125,431.00	0.00%	639.66
				300-600-1.lp	300	600	58,927,440.00	3.18%	3,600.00
				300-600-2.lp	300	600	81,171,600.00	0.00%	1,750.84
				300-600-3.lp	300	600	74,714,464.00	0.00%	732.19
				300-600-4.lp	300	600	86,238,194.00	0.00%	1,264.31
				300-600-5.lp	300	600	71,429,505.00	0.00%	3,509.74
				400-200.0-1.lp	400	200	293,250,408.00	0.00%	848.95
				400-200.0-2.lp	400	200	324,021,060.00	1.43%	3,600.00
				400-200.0-3.lp	400	200	393,278,834.00	0.51%	3,600.00
				400-200.0-4.lp	400	200	295,704,576.00	0.69%	3,600.00
				400-200.0-5.lp	400	200	394,351,972.00	1.04%	3,600.00
				400-400-1.lp	400	400	271,411,200.00	1.19%	3,600.00
				400-400-2.lp	400	400	277,037,860.00	1.95%	3,600.00
				400-400-3.lp	400	400	201,237,120.00	1.05%	3,600.00
				400-400-4.lp	400	400	241,778,880.00	2.44%	3,600.00
				400-400-5.lp	400	400	310,905,980.00	1.98%	3,600.00
				400-600.0-1.lp	400	600	197,214,756.00	1.52%	3,600.00
				400-600.0-2.lp	400	600	197,186,220.00	0.00%	2,375.90
				400-600.0-3.lp	400	600	241,909,376.00	1.77%	3,600.00
				400-600.0-4.lp	400	600	205,023,944.00	1.07%	3,600.00
				400-600.0-5.lp	400	600	205,809,120.06	1.38%	3,600.00
				400-800-1.lp	400	800	210,952,258.00	1.96%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	Binary	3	N-O	400-800-2.lp	400	800	158,597,100.00	1.92%	3,600.00
				400-800-3.lp	400	800	171,378,759.00	3.03%	3,600.00
				400-800-4.lp	400	800	170,166,906.00	3.52%	3,600.00
				400-800-5.lp	400	800	170,286,480.00	5.13%	3,600.00
				500-250.0-1.lp	500	250	660,035,880.00	1.43%	3,600.00
				500-250.0-2.lp	500	250	582,369,660.00	0.88%	3,600.00
				500-250.0-3.lp	500	250	668,422,150.00	2.81%	3,600.00
				500-250.0-4.lp	500	250	585,594,240.00	0.96%	3,600.00
				500-250.0-5.lp	500	250	757,576,512.00	0.44%	3,600.00
				500-500-1.lp	500	500	416,017,740.00	1.50%	3,600.00
				500-500-2.lp	500	500	528,684,030.00	1.52%	3,600.00
				500-500-3.lp	500	500	423,047,448.00	3.29%	3,600.00
				500-500-4.lp	500	500	458,511,592.00	1.22%	3,600.00
				500-500-5.lp	500	500	509,599,624.00	1.24%	3,600.00
				500-750.0-1.lp	500	750	343,027,520.00	2.18%	3,600.00
				500-750.0-2.lp	500	750	384,578,160.00	2.36%	3,600.00
				500-750.0-3.lp	500	750	446,842,240.00	3.24%	3,600.00
				500-750.0-4.lp	500	750	339,786,548.00	1.27%	3,600.00
				500-750.0-5.lp	500	750	448,690,816.00	2.51%	3,600.00
				500-1000-1.lp	500	1,000	378,842,112.00	3.11%	3,600.00
				500-1000-2.lp	500	1,000	336,362,208.31	4.50%	3,600.00
				500-1000-3.lp	500	1,000	347,364,990.00	2.44%	3,600.00
				500-1000-4.lp	500	1,000	366,683,500.00	2.41%	3,600.00
				500-1000-5.lp	500	1,000	364,134,688.00	3.91%	3,600.00
		4	A-O	100-50.0-1.lp	100	50	1,386,568,263.00	0.00%	3,514.64
				100-50.0-2.lp	100	50	2,328,933,600.00	0.00%	669.30
				100-50.0-3.lp	100	50	3,414,025,680.00	0.00%	749.17
				100-50.0-4.lp	100	50	1,034,431,904.00	0.00%	553.68
				100-50.0-5.lp	100	50	997,722,600.00	0.00%	1,160.53
				100-100-1.lp	100	100	580,794,300.00	0.00%	494.46

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*4*	*A-O*	100-100-2.lp	100	100	1,039,542,240.00	0.00%	1,629.55
				100-100-3.lp	100	100	776,208,384.00	89.68%	3,600.00
				100-100-4.lp	100	100	1,061,340,000.00	0.00%	603.22
				100-100-5.lp	100	100	731,410,902.00	0.00%	588.20
				100-150.0-1.lp	100	150	704,418,120.00	0.00%	2,551.25
				100-150.0-2.lp	100	150	1,197,036,480.00	0.00%	3,292.45
				100-150.0-3.lp	100	150	850,031,880.00	0.00%	1,251.71
				100-150.0-4.lp	100	150	677,060,020.00	0.00%	1,479.68
				100-150.0-5.lp	100	150	1,438,632,000.00	0.00%	3,159.26
				100-200-1.lp	100	200	459,706,520.00	0.00%	835.11
				100-200-2.lp	100	200	901,570,560.00	0.00%	476.14
				100-200-3.lp	100	200	779,859,360.00	0.00%	1,571.56
				100-200-4.lp	100	200	488,537,936.00	0.00%	522.75
				100-200-5.lp	100	200	339,531,088.00	0.00%	292.31
				200-100.0-1.lp	200	100	18,253,667,376.00	18.49%	3,600.00
				200-100.0-2.lp	200	100	26,467,564,032.00	67.41%	3,600.00
				200-100.0-3.lp	200	100	33,680,869,200.00	3.67%	3,600.00
				200-100.0-4.lp	200	100	41,771,056,250.00	48.52%	3,600.00
				200-100.0-5.lp	200	100	18,759,024,000.00	21.42%	3,600.00
				200-200-1.lp	200	200	21,032,116,800.00	21.21%	3,600.00
				200-200-2.lp	200	200	16,078,830,894.00	6.85%	3,600.00
				200-200-3.lp	200	200	10,662,851,520.00	13.63%	3,600.00
				200-200-4.lp	200	200	10,448,921,004.00	11.07%	3,600.00
				200-200-5.lp	200	200	12,263,246,996.00	5.57%	3,600.00
				200-300.0-1.lp	200	300	11,697,037,625.00	6.10%	3,600.00
				200-300.0-2.lp	200	300	13,651,626,856.00	14.59%	3,600.00
				200-300.0-3.lp	200	300	10,435,485,312.00	8.96%	3,600.00
				200-300.0-4.lp	200	300	10,678,014,270.00	11.58%	3,600.00
				200-300.0-5.lp	200	300	13,133,477,376.00	14.20%	3,600.00
				200-400-1.lp	200	400	13,285,952,064.00	12.39%	3,600.00

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*4*	*A-O*	200-400-2.lp	200	400	9,400,257,090.00	6.91%	3,600.00
				200-400-3.lp	200	400	13,827,955,856.00	7.23%	3,600.00
				200-400-4.lp	200	400	6,235,268,963.00	7.93%	3,600.00
				200-400-5.lp	200	400	10,875,745,920.00	14.62%	3,600.00
				300-150.0-1.lp	300	150	75,606,018,048.00	71.55%	3,600.00
				300-150.0-2.lp	300	150	228,951,883,776.00	64.19%	3,600.00
				300-150.0-3.lp	300	150	103,579,776,000.00	56.11%	3,600.00
				300-150.0-4.lp	300	150	59,319,224,922.00	85.28%	3,600.00
				300-150.0-5.lp	300	150	146,150,808,460.00	60.86%	3,600.00
				300-300-1.lp	300	300	98,123,422,752.00	61.28%	3,600.00
				300-300-2.lp	300	300	116,880,310,272.00	52.17%	3,600.00
				300-300-3.lp	300	300	79,556,771,840.00	85.53%	3,600.00
				300-300-4.lp	300	300	101,120,887,296.00	16.11%	3,600.00
				300-300-5.lp	300	300	122,803,645,800.00	42.39%	3,600.00
				300-450.0-1.lp	300	450	66,019,000,320.00	59.97%	3,600.00
				300-450.0-2.lp	300	450	60,686,745,600.00	43.88%	3,600.00
				300-450.0-3.lp	300	450	49,038,412,500.00	60.92%	3,600.00
				300-450.0-4.lp	300	450	58,826,407,680.00	10.27%	3,600.00
				300-450.0-5.lp	300	450	60,632,536,770.00	48.51%	3,600.00
				300-600-1.lp	300	600	52,670,976,000.00	79.84%	3,600.00
				300-600-2.lp	300	600	75,436,130,304.00	86.15%	3,600.00
				300-600-3.lp	300	600	36,893,227,008.00	56.51%	3,600.00
				300-600-4.lp	300	600	55,671,763,200.00	53.36%	3,600.00
				300-600-5.lp	300	600	60,989,644,800.00	51.75%	3,600.00
				400-200.0-1.lp	400	200	356,901,715,968.00	83.09%	3,600.00
				400-200.0-2.lp	400	200	242,262,999,040.00	88.98%	3,600.00
				400-200.0-3.lp	400	200	263,066,746,880.00	88.04%	3,600.00
				400-200.0-4.lp	400	200	307,523,715,072.00	73.89%	3,600.00
				400-200.0-5.lp	400	200	286,584,460,800.00	74.23%	3,600.00
				400-400-1.lp	400	400	133,680,857,088.00	67.80%	3,600.00

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*4*	*A-O*	400-400-2.lp	400	400	247,482,425,344.00	63.99%	3,600.00
				400-400-3.lp	400	400	209,658,624,318.00	66.87%	3,600.00
				400-400-4.lp	400	400	204,615,290,880.00	44.99%	3,600.00
				400-400-5.lp	400	400	167,268,843,520.00	92.39%	3,600.00
				400-600.0-1.lp	400	600	139,334,778,880.00	66.95%	3,600.00
				400-600.0-2.lp	400	600	179,455,949,088.00	55.86%	3,600.00
				400-600.0-3.lp	400	600	231,275,855,360.00	39.37%	3,600.00
				400-600.0-4.lp	400	600	191,357,776,260.00	36.12%	3,600.00
				400-600.0-5.lp	400	600	249,413,632,000.00	54.60%	3,600.00
				400-800-1.lp	400	800	114,504,730,602.00	79.33%	3,600.00
				400-800-2.lp	400	800	144,815,063,040.00	54.41%	3,600.00
				400-800-3.lp	400	800	156,202,346,010.00	58.92%	3,600.00
				400-800-4.lp	400	800	167,550,283,830.00	21.67%	3,600.00
				400-800-5.lp	400	800	159,429,427,608.96	56.12%	3,600.00
				500-250.0-1.lp	500	250	817,125,988,224.00	52.08%	3,600.00
				500-250.0-2.lp	500	250	755,244,854,325.00	91.31%	3,600.00
				500-250.0-3.lp	500	250	1,037,234,601,984.00	80.40%	3,600.00
				500-250.0-4.lp	500	250	664,427,427,840.00	77.28%	3,600.00
				500-250.0-5.lp	500	250	824,170,095,936.00	70.31%	3,600.00
				500-500-1.lp	500	500	453,914,186,880.00	89.57%	3,600.00
				500-500-2.lp	500	500	268,338,554,800.00	87.45%	3,600.00
				500-500-3.lp	500	500	302,021,738,496.00	93.13%	3,600.00
				500-500-4.lp	500	500	537,993,750,528.00	70.13%	3,600.00
				500-500-5.lp	500	500	452,199,914,496.00	85.79%	3,600.00
				500-750.0-1.lp	500	750	385,644,847,104.00	82.00%	3,600.00
				500-750.0-2.lp	500	750	389,139,136,512.00	91.15%	3,600.00
				500-750.0-3.lp	500	750	353,477,836,800.00	73.85%	3,600.00
				500-750.0-4.lp	500	750	348,429,221,888.00	77.70%	3,600.00
				500-750.0-5.lp	500	750	494,045,208,576.00	77.78%	3,600.00
				500-1000-1.lp	500	1,000	180,510,235,668.00	91.79%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*4*	*A-O*	500-1000-2.lp	500	1,000	329,878,863,360.00	82.06%	3,600.00
				500-1000-3.lp	500	1,000	228,841,226,240.00	86.63%	3,600.00
				500-1000-4.lp	500	1,000	283,739,754,496.00	79.36%	3,600.00
				500-1000-5.lp	500	1,000	247,363,272,704.00	88.17%	3,600.00
			GRB SOCP	100-50.0-1.lp	100	50	1,386,568,263.00	0.00%	0.21
				100-50.0-2.lp	100	50	2,328,933,600.35	0.00%	0.34
				100-50.0-3.lp	100	50	3,414,025,680.00	0.00%	0.35
				100-50.0-4.lp	100	50	1,034,431,904.62	0.00%	0.22
				100-50.0-5.lp	100	50	997,722,600.00	0.00%	0.33
				100-100-1.lp	100	100	580,794,300.41	0.00%	0.25
				100-100-2.lp	100	100	1,039,542,240.00	0.00%	0.26
				100-100-3.lp	100	100	1,208,661,299.56	0.00%	0.83
				100-100-4.lp	100	100	1,061,339,999.55	0.00%	0.23
				100-100-5.lp	100	100	731,410,902.45	0.00%	0.27
				100-150.0-1.lp	100	150	704,418,120.00	0.00%	0.42
				100-150.0-2.lp	100	150	1,197,036,480.00	0.00%	0.30
				100-150.0-3.lp	100	150	850,031,879.64	0.00%	0.34
				100-150.0-4.lp	100	150	677,060,020.00	0.00%	0.60
				100-150.0-5.lp	100	150	1,438,631,999.45	0.00%	0.56
				100-200-1.lp	100	200	459,706,520.00	0.00%	0.55
				100-200-2.lp	100	200	901,570,560.00	0.00%	1.42
				100-200-3.lp	100	200	779,859,360.00	0.00%	0.21
				100-200-4.lp	100	200	488,537,936.00	0.00%	0.38
				100-200-5.lp	100	200	339,531,088.00	0.00%	1.28
				200-100.0-1.lp	200	100	19,927,035,904.00	0.00%	7.45
				200-100.0-2.lp	200	100	33,500,968,200.00	0.00%	0.55
				200-100.0-3.lp	200	100	33,914,647,071.37	0.00%	1.57
				200-100.0-4.lp	200	100	47,885,403,888.00	0.00%	2.54
				200-100.0-5.lp	200	100	20,767,833,593.22	0.00%	1.74
				200-200-1.lp	200	200	22,724,368,095.00	0.00%	3.29

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*4*	GRB SOCP	200-200-2.lp	200	200	16,403,803,198.96	0.00%	3.47
				200-200-3.lp	200	200	11,258,010,606.00	0.00%	3.17
				200-200-4.lp	200	200	10,838,403,830.41	0.00%	19.16
				200-200-5.lp	200	200	12,412,127,352.00	0.00%	2.64
				200-300.0-1.lp	200	300	11,809,741,349.13	0.00%	4.59
				200-300.0-2.lp	200	300	14,725,718,580.00	0.00%	4.65
				200-300.0-3.lp	200	300	10,607,721,880.00	0.00%	8.95
				200-300.0-4.lp	200	300	10,913,812,800.00	0.00%	7.33
				200-300.0-5.lp	200	300	13,613,582,682.02	0.00%	15.11
				200-400-1.lp	200	400	14,022,055,134.00	0.00%	1.37
				200-400-2.lp	200	400	9,433,491,200.00	0.00%	2.82
				200-400-3.lp	200	400	14,128,136,536.86	0.00%	3.48
				200-400-4.lp	200	400	6,235,268,961.22	0.00%	4.81
				200-400-5.lp	200	400	11,227,874,110.02	0.00%	11.48
				300-150.0-1.lp	300	150	85,218,117,122.27	0.00%	4.70
				300-150.0-2.lp	300	150	247,369,680,054.01	0.00%	5.45
				300-150.0-3.lp	300	150	105,952,581,989.58	0.00%	52.88
				300-150.0-4.lp	300	150	160,551,456,280.74	0.00%	38.53
				300-150.0-5.lp	300	150	151,737,550,080.00	0.00%	5.30
				300-300-1.lp	300	300	100,551,695,328.00	0.00%	11.74
				300-300-2.lp	300	300	127,044,314,872.00	0.00%	26.63
				300-300-3.lp	300	300	88,623,668,952.22	0.00%	9.88
				300-300-4.lp	300	300	104,893,780,278.16	0.00%	22.13
				300-300-5.lp	300	300	131,524,403,180.83	0.00%	89.35
				300-450.0-1.lp	300	450	74,213,995,680.00	0.00%	15.14
				300-450.0-2.lp	300	450	64,301,871,805.08	0.00%	19.64
				300-450.0-3.lp	300	450	61,269,540,200.12	0.00%	24.49
				300-450.0-4.lp	300	450	59,380,468,767.00	0.00%	28.73
				300-450.0-5.lp	300	450	65,839,464,841.28	0.00%	255.91
				300-600-1.lp	300	600	61,359,741,271.41	0.00%	194.18

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*4*	*GRB SOCP*	300-600-2.lp	300	600	82,090,579,200.04	0.00%	38.90
				300-600-3.lp	300	600	41,626,808,928.00	0.00%	17.91
				300-600-4.lp	300	600	63,413,279,989.36	0.00%	62.80
				300-600-5.lp	300	600	67,989,828,948.86	0.00%	89.67
				400-200.0-1.lp	400	200	500,061,891,375.01	0.00%	30.96
				400-200.0-2.lp	400	200	343,767,754,529.58	0.00%	35.19
				400-200.0-3.lp	400	200	386,615,655,671.86	0.00%	41.71
				400-200.0-4.lp	400	200	452,612,096,105.72	0.00%	4.28
				400-200.0-5.lp	400	200	326,757,605,820.02	0.00%	9.61
				400-400-1.lp	400	400	198,375,298,128.07	0.00%	6.91
				400-400-2.lp	400	400	290,810,438,072.93	0.00%	1,515.80
				400-400-3.lp	400	400	242,715,803,400.00	0.31%	3,600.00
				400-400-4.lp	400	400	218,347,946,131.42	0.00%	1,687.22
				400-400-5.lp	400	400	326,954,804,369.85	0.00%	2,849.35
				400-600.0-1.lp	400	600	202,539,501,757.66	0.00%	913.63
				400-600.0-2.lp	400	600	198,091,641,128.61	0.00%	115.22
				400-600.0-3.lp	400	600	243,344,731,834.37	0.00%	75.44
				400-600.0-4.lp	400	600	203,649,526,080.00	0.15%	3,600.00
				400-600.0-5.lp	400	600	257,262,581,314.18	0.00%	3,239.80
				400-800-1.lp	400	800	163,502,395,603.65	0.00%	270.90
				400-800-2.lp	400	800	150,831,478,960.79	0.00%	459.15
				400-800-3.lp	400	800	165,805,721,151.47	0.00%	1,182.40
				400-800-4.lp	400	800	178,669,381,519.58	0.00%	668.35
				400-800-5.lp	400	800	174,615,532,898.94	0.00%	1,489.42
				500-250.0-1.lp	500	250	962,917,693,910.04	0.00%	24.86
				500-250.0-2.lp	500	250	903,889,491,048.19	0.00%	718.67
				500-250.0-3.lp	500	250	1,253,942,671,969.59	0.00%	409.55
				500-250.0-4.lp	500	250	944,157,326,280.71	0.00%	450.93
				500-250.0-5.lp	500	250	1,012,727,753,856.00	0.18%	3,600.00
				500-500-1.lp	500	500	628,258,346,100.01	0.24%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*4*	GRB SOCP	500-500-2.lp	500	500	516,378,036,028.43	0.00%	2,165.67
				500-500-3.lp	500	500	580,166,353,198.86	0.00%	1,309.62
				500-500-4.lp	500	500	613,580,070,729.91	0.00%	1,017.63
				500-500-5.lp	500	500	686,946,773,339.64	0.16%	3,600.00
				500-750.0-1.lp	500	750	548,332,651,951.52	0.00%	353.13
				500-750.0-2.lp	500	750	501,738,692,400.01	0.28%	3,600.00
				500-750.0-3.lp	500	750	511,153,394,567.40	0.17%	3,600.00
				500-750.0-4.lp	500	750	488,949,518,330.00	0.08%	3,600.00
				500-750.0-5.lp	500	750	631,250,351,424.00	0.21%	3,600.00
				500-1000-1.lp	500	1,000	370,146,203,823.58	0.00%	1,300.13
				500-1000-2.lp	500	1,000	482,729,302,449.81	0.20%	3,600.00
				500-1000-3.lp	500	1,000	428,603,238,648.00	0.51%	3,600.00
				500-1000-4.lp	500	1,000	394,757,667,840.00	0.28%	3,600.00
				500-1000-5.lp	500	1,000	422,648,808,120.00	0.22%	3,600.00
			N-O	100-50.0-1.lp	100	50	1,386,568,263.00	0.00%	72.78
				100-50.0-2.lp	100	50	2,328,933,600.00	0.00%	115.17
				100-50.0-3.lp	100	50	3,414,025,680.00	0.00%	54.12
				100-50.0-4.lp	100	50	1,034,431,904.00	0.00%	43.66
				100-50.0-5.lp	100	50	997,722,600.00	0.00%	99.94
				100-100-1.lp	100	100	580,794,300.00	0.00%	53.86
				100-100-2.lp	100	100	1,039,542,240.00	0.00%	40.34
				100-100-3.lp	100	100	1,208,661,300.00	0.00%	179.09
				100-100-4.lp	100	100	1,061,340,000.00	0.00%	32.83
				100-100-5.lp	100	100	731,410,902.00	0.00%	52.89
				100-150.0-1.lp	100	150	704,418,120.00	0.00%	46.55
				100-150.0-2.lp	100	150	1,197,036,480.00	0.00%	89.85
				100-150.0-3.lp	100	150	850,031,880.00	0.00%	50.26
				100-150.0-4.lp	100	150	677,060,020.00	0.00%	42.36
				100-150.0-5.lp	100	150	1,438,632,000.00	0.00%	87.56
				100-200-1.lp	100	200	459,706,520.00	0.00%	85.83

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	Binary	4	N-O	100-200-2.lp	100	200	901,570,560.00	0.00%	39.00
				100-200-3.lp	100	200	779,859,360.00	0.00%	37.96
				100-200-4.lp	100	200	488,537,936.00	0.00%	28.80
				100-200-5.lp	100	200	339,531,088.00	0.00%	16.44
				200-100.0-1.lp	200	100	19,927,035,904.00	0.00%	3,518.69
				200-100.0-2.lp	200	100	33,500,968,200.00	0.00%	993.45
				200-100.0-3.lp	200	100	33,914,647,080.00	0.00%	3,139.17
				200-100.0-4.lp	200	100	47,885,403,888.00	0.00%	3,102.11
				200-100.0-5.lp	200	100	19,931,832,960.00	6.97%	3,600.00
				200-200-1.lp	200	200	22,724,368,095.00	0.00%	2,564.42
				200-200-2.lp	200	200	16,403,803,200.00	0.00%	3,334.30
				200-200-3.lp	200	200	11,258,010,606.00	0.00%	1,798.93
				200-200-4.lp	200	200	10,789,397,685.00	3.90%	3,600.00
				200-200-5.lp	200	200	12,412,127,352.00	0.00%	608.18
				200-300.0-1.lp	200	300	11,809,741,352.00	0.00%	1,034.80
				200-300.0-2.lp	200	300	14,725,718,580.00	0.00%	740.58
				200-300.0-3.lp	200	300	10,607,721,880.00	0.00%	2,864.95
				200-300.0-4.lp	200	300	10,913,812,800.00	0.00%	1,594.88
				200-300.0-5.lp	200	300	13,613,582,682.00	1.59%	3,600.00
				200-400-1.lp	200	400	14,022,055,134.00	0.00%	360.72
				200-400-2.lp	200	400	9,433,491,200.00	0.00%	465.88
				200-400-3.lp	200	400	14,128,136,540.00	0.00%	2,330.00
				200-400-4.lp	200	400	6,235,268,963.00	0.00%	645.51
				200-400-5.lp	200	400	11,096,106,288.00	4.03%	3,600.00
				300-150.0-1.lp	300	150	84,154,190,328.00	3.26%	3,600.00
				300-150.0-2.lp	300	150	244,337,135,616.00	3.08%	3,600.00
				300-150.0-3.lp	300	150	45,054,605,700.00	58.64%	3,600.00
				300-150.0-4.lp	300	150	151,401,220,572.00	7.84%	3,600.00
				300-150.0-5.lp	300	150	150,213,556,350.00	2.09%	3,600.00
				300-300-1.lp	300	300	98,516,908,800.00	3.62%	3,600.00

(continued from previous page)

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*4*	*N-O*	300-300-2.lp	300	300	123,424,769,624.00	4.59%	3,600.00
				300-300-3.lp	300	300	32,713,560,192.00	63.89%	3,600.00
				300-300-4.lp	300	300	102,959,072,720.00	3.80%	3,600.00
				300-300-5.lp	300	300	128,765,452,800.00	5.09%	3,600.00
				300-450.0-1.lp	300	450	69,025,841,280.00	9.09%	3,600.00
				300-450.0-2.lp	300	450	62,086,536,895.00	5.54%	3,600.00
				300-450.0-3.lp	300	450	61,269,540,200.00	1.77%	3,600.00
				300-450.0-4.lp	300	450	58,511,996,730.00	4.47%	3,600.00
				300-450.0-5.lp	300	450	65,223,030,600.00	3.90%	3,600.00
				300-600-1.lp	300	600	58,702,413,159.00	7.96%	3,600.00
				300-600-2.lp	300	600	78,505,574,400.00	7.34%	3,600.00
				300-600-3.lp	300	600	39,823,318,080.00	6.74%	3,600.00
				300-600-4.lp	300	600	22,921,557,120.00	65.21%	3,600.00
				300-600-5.lp	300	600	66,266,065,008.00	5.56%	3,600.00
				400-200.0-1.lp	400	200	466,291,261,440.00	8.33%	3,600.00
				400-200.0-2.lp	400	200	322,527,900,240.00	7.27%	3,600.00
				400-200.0-3.lp	400	200	175,766,448,960.00	55.33%	3,600.00
				400-200.0-4.lp	400	200	450,193,880,448.00	2.20%	3,600.00
				400-200.0-5.lp	400	200	320,696,696,320.00	3.65%	3,600.00
				400-400-1.lp	400	400	161,918,046,720.00	21.07%	3,600.00
				400-400-2.lp	400	400	225,485,783,040.00	24.46%	3,600.00
				400-400-3.lp	400	400	197,055,222,111.00	21.57%	3,600.00
				400-400-4.lp	400	400	103,352,971,520.00	54.40%	3,600.00
				400-400-5.lp	400	400	315,359,982,432.00	5.92%	3,600.00
				400-600.0-1.lp	400	600	84,394,703,800.00	59.88%	3,600.00
				400-600.0-2.lp	400	600	164,734,884,864.00	18.51%	3,600.00
				400-600.0-3.lp	400	600	206,262,642,960.00	17.47%	3,600.00
				400-600.0-4.lp	400	600	77,032,417,216.00	63.26%	3,600.00
				400-600.0-5.lp	400	600	199,542,942,720.00	24.91%	3,600.00
				400-800-1.lp	400	800	142,829,797,600.00	15.24%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Binary*	*4*	*N-O*	400-800-2.lp	400	800	142,524,047,568.00	8.08%	3,600.00
				400-800-3.lp	400	800	78,295,176,285.00	54.52%	3,600.00
				400-800-4.lp	400	800	139,136,598,016.00	24.78%	3,600.00
				400-800-5.lp	400	800	161,679,651,840.00	10.44%	3,600.00
				500-250.0-1.lp	500	250	946,790,934,952.00	2.84%	3,600.00
				500-250.0-2.lp	500	250	880,199,107,200.00	3.88%	3,600.00
				500-250.0-3.lp	500	250	1,173,528,421,136.00	9.54%	3,600.00
				500-250.0-4.lp	500	250	886,035,321,600.00	8.36%	3,600.00
				500-250.0-5.lp	500	250	781,962,854,400.00	24.35%	3,600.00
				500-500-1.lp	500	500	211,634,046,000.00	67.12%	3,600.00
				500-500-2.lp	500	500	473,881,903,104.00	9.74%	3,600.00
				500-500-3.lp	500	500	557,366,964,000.00	5.83%	3,600.00
				500-500-4.lp	500	500	537,881,194,318.00	14.71%	3,600.00
				500-500-5.lp	500	500	539,444,445,033.00	22.99%	3,600.00
				500-750.0-1.lp	500	750	516,335,339,520.00	7.69%	3,600.00
				500-750.0-2.lp	500	750	296,276,613,216.00	42.53%	3,600.00
				500-750.0-3.lp	500	750	187,132,054,032.00	65.47%	3,600.00
				500-750.0-4.lp	500	750	178,018,981,056.00	64.71%	3,600.00
				500-750.0-5.lp	500	750	307,184,481,000.00	52.61%	3,600.00
				500-1000-1.lp	500	1,000	180,510,235,668.00	52.64%	3,600.00
				500-1000-2.lp	500	1,000	173,203,181,760.00	65.64%	3,600.00
				500-1000-3.lp	500	1,000	227,449,487,160.00	48.62%	3,600.00
				500-1000-4.lp	500	1,000	373,481,472,000.00	8.18%	3,600.00
				500-1000-5.lp	500	1,000	158,666,618,880.00	63.38%	3,600.00
Min	Binary	2	GRB Nonconvex	100-50.0-1.lp	100	50	957.00	0.00%	0.30
				100-50.0-2.lp	100	50	984.00	0.00%	0.26
				100-50.0-3.lp	100	50	354.00	0.00%	0.17
				100-50.0-4.lp	100	50	480.00	0.00%	0.29
				100-50.0-5.lp	100	50	549.00	0.00%	0.22
				100-100-1.lp	100	100	588.00	0.00%	0.50

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*GRB Nonconvex*	100-100-2.lp	100	100	368.00	0.00%	0.26
				100-100-3.lp	100	100	290.00	0.00%	0.24
				100-100-4.lp	100	100	749.00	0.00%	0.56
				100-100-5.lp	100	100	144.00	0.00%	0.21
				100-150.0-1.lp	100	150	385.00	0.00%	0.49
				100-150.0-2.lp	100	150	141.00	0.00%	0.31
				100-150.0-3.lp	100	150	1,080.00	0.00%	0.65
				100-150.0-4.lp	100	150	138.00	0.00%	0.67
				100-150.0-5.lp	100	150	243.00	0.00%	0.33
				100-200-1.lp	100	200	616.00	0.00%	0.87
				100-200-2.lp	100	200	498.00	0.00%	0.30
				100-200-3.lp	100	200	936.00	0.00%	1.34
				100-200-4.lp	100	200	336.00	0.00%	0.74
				100-200-5.lp	100	200	720.00	0.00%	1.17
				200-100.0-1.lp	200	100	1,832.00	0.00%	1.50
				200-100.0-2.lp	200	100	2,028.00	0.00%	0.94
				200-100.0-3.lp	200	100	1,330.00	0.00%	1.80
				200-100.0-4.lp	200	100	1,880.00	0.00%	0.72
				200-100.0-5.lp	200	100	752.00	0.00%	0.71
				200-200-1.lp	200	200	2,160.00	0.00%	4.41
				200-200-2.lp	200	200	2,160.00	0.00%	8.74
				200-200-3.lp	200	200	2,016.00	0.00%	2.02
				200-200-4.lp	200	200	1,562.00	0.00%	1.96
				200-200-5.lp	200	200	1,832.00	0.00%	2.09
				200-300.0-1.lp	200	300	1,708.00	0.00%	4.59
				200-300.0-2.lp	200	300	1,110.00	0.00%	4.39
				200-300.0-3.lp	200	300	2,046.00	0.00%	4.64
				200-300.0-4.lp	200	300	1,720.00	0.00%	5.80
				200-300.0-5.lp	200	300	1,725.00	0.00%	9.22
				200-400-1.lp	200	400	1,495.00	0.00%	4.70

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*GRB Nonconvex*	200-400-2.lp	200	400	426.00	0.00%	13.36
				200-400-3.lp	200	400	2,198.00	0.00%	27.50
				200-400-4.lp	200	400	676.00	0.00%	23.47
				200-400-5.lp	200	400	1,353.00	0.00%	4.86
				300-150.0-1.lp	300	150	1,920.00	0.00%	25.50
				300-150.0-2.lp	300	150	3,458.00	0.00%	3.81
				300-150.0-3.lp	300	150	4,573.00	0.00%	6.78
				300-150.0-4.lp	300	150	4,920.00	0.00%	20.16
				300-150.0-5.lp	300	150	3,132.00	0.00%	7.38
				300-300-1.lp	300	300	5,542.00	0.00%	36.03
				300-300-2.lp	300	300	3,740.00	0.00%	30.90
				300-300-3.lp	300	300	3,430.00	0.00%	195.33
				300-300-4.lp	300	300	1,365.00	0.00%	38.11
				300-300-5.lp	300	300	3,696.00	0.00%	80.69
				300-450.0-1.lp	300	450	3,276.00	0.00%	121.04
				300-450.0-2.lp	300	450	2,421.00	0.00%	57.96
				300-450.0-3.lp	300	450	2,420.00	0.00%	39.97
				300-450.0-4.lp	300	450	2,928.00	0.00%	53.80
				300-450.0-5.lp	300	450	2,225.00	0.00%	38.55
				300-600-1.lp	300	600	2,178.00	0.00%	50.12
				300-600-2.lp	300	600	3,136.00	0.00%	147.50
				300-600-3.lp	300	600	2,640.00	0.00%	82.41
				300-600-4.lp	300	600	3,325.00	0.00%	683.02
				300-600-5.lp	300	600	3,000.00	0.00%	581.39
				400-200.0-1.lp	400	200	5,520.00	0.00%	18.74
				400-200.0-2.lp	400	200	8,347.00	0.00%	14.16
				400-200.0-3.lp	400	200	3,798.00	0.00%	68.79
				400-200.0-4.lp	400	200	5,124.00	0.00%	82.07
				400-200.0-5.lp	400	200	4,355.00	0.00%	8.62
				400-400-1.lp	400	400	3,773.00	0.00%	150.44

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*GRB Nonconvex*	400-400-2.lp	400	400	6,760.00	0.00%	133.96
				400-400-3.lp	400	400	4,152.00	0.00%	92.65
				400-400-4.lp	400	400	5,967.00	0.00%	560.08
				400-400-5.lp	400	400	5,310.00	0.00%	423.81
				400-600.0-1.lp	400	600	2,880.00	0.00%	705.87
				400-600.0-2.lp	400	600	2,970.00	0.00%	551.97
				400-600.0-3.lp	400	600	2,682.00	0.00%	1,210.61
				400-600.0-4.lp	400	600	4,242.00	0.00%	415.48
				400-600.0-5.lp	400	600	4,256.00	0.00%	112.47
				400-800-1.lp	400	800	4,134.00	0.00%	1,604.99
				400-800-2.lp	400	800	2,925.00	0.00%	1,314.05
				400-800-3.lp	400	800	3,990.00	0.00%	464.04
				400-800-4.lp	400	800	4,365.00	0.00%	1,153.52
				400-800-5.lp	400	800	3,366.00	0.00%	436.45
				500-250.0-1.lp	500	250	5,104.00	0.00%	362.35
				500-250.0-2.lp	500	250	6,240.00	0.00%	281.04
				500-250.0-3.lp	500	250	9,250.00	0.00%	1,249.16
				500-250.0-4.lp	500	250	7,185.00	0.00%	79.59
				500-250.0-5.lp	500	250	8,016.00	0.00%	2,284.31
				500-500-1.lp	500	500	4,631.00	0.00%	475.35
				500-500-2.lp	500	500	4,716.00	34.00%	3,600.00
				500-500-3.lp	500	500	4,510.00	0.00%	181.48
				500-500-4.lp	500	500	4,458.00	0.00%	1,545.50
				500-500-5.lp	500	500	7,480.00	0.00%	453.16
				500-750.0-1.lp	500	750	5,382.00	0.00%	861.79
				500-750.0-2.lp	500	750	4,026.00	0.00%	1,622.27
				500-750.0-3.lp	500	750	7,361.00	0.00%	1,041.56
				500-750.0-4.lp	500	750	4,797.00	45.00%	3,600.00
				500-750.0-5.lp	500	750	5,614.00	0.00%	1,702.02
				500-1000-1.lp	500	1,000	3,993.00	0.00%	1,452.04

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*GRB Nonconvex*	500-1000-2.lp	500	1,000	5,088.00	0.00%	1,780.68
				500-1000-3.lp	500	1,000	7,334.00	0.00%	3,293.40
				500-1000-4.lp	500	1,000	3,834.00	0.00%	2,703.65
				500-1000-5.lp	500	1,000	4,928.00	28.30%	3,600.00
			N-O-Imm	100-50.0-1.lp	100	50	957.00	0.00%	0.11
				100-50.0-2.lp	100	50	984.00	0.00%	0.08
				100-50.0-3.lp	100	50	354.00	0.00%	0.08
				100-50.0-4.lp	100	50	480.00	0.00%	0.13
				100-50.0-5.lp	100	50	549.00	0.00%	0.11
				100-100-1.lp	100	100	588.00	0.00%	0.13
				100-100-2.lp	100	100	368.00	0.00%	0.08
				100-100-3.lp	100	100	290.00	0.00%	0.26
				100-100-4.lp	100	100	749.00	0.00%	0.18
				100-100-5.lp	100	100	144.00	0.00%	0.14
				100-150.0-1.lp	100	150	385.00	0.00%	0.31
				100-150.0-2.lp	100	150	141.00	0.00%	0.17
				100-150.0-3.lp	100	150	1,080.00	0.00%	0.15
				100-150.0-4.lp	100	150	138.00	0.00%	0.35
				100-150.0-5.lp	100	150	243.00	0.00%	0.18
				100-200-1.lp	100	200	616.00	0.00%	0.28
				100-200-2.lp	100	200	498.00	0.00%	0.23
				100-200-3.lp	100	200	936.00	0.00%	0.36
				100-200-4.lp	100	200	336.00	0.00%	0.38
				100-200-5.lp	100	200	720.00	0.00%	0.24
				200-100.0-1.lp	200	100	1,832.00	0.00%	0.51
				200-100.0-2.lp	200	100	2,028.00	0.00%	0.32
				200-100.0-3.lp	200	100	1,330.00	0.00%	0.44
				200-100.0-4.lp	200	100	1,880.00	0.00%	0.34
				200-100.0-5.lp	200	100	752.00	0.00%	0.21
				200-200-1.lp	200	200	2,160.00	0.00%	1.47

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*N-O-Imm*	200-200-2.lp	200	200	2,160.00	0.00%	2.13
				200-200-3.lp	200	200	2,016.00	0.00%	0.45
				200-200-4.lp	200	200	1,562.00	0.00%	0.58
				200-200-5.lp	200	200	1,832.00	0.00%	0.82
				200-300.0-1.lp	200	300	1,708.00	0.00%	1.28
				200-300.0-2.lp	200	300	1,110.00	0.00%	0.90
				200-300.0-3.lp	200	300	2,046.00	0.00%	0.99
				200-300.0-4.lp	200	300	1,720.00	0.00%	1.56
				200-300.0-5.lp	200	300	1,725.00	0.00%	5.84
				200-400-1.lp	200	400	1,495.00	0.00%	4.88
				200-400-2.lp	200	400	426.00	0.00%	20.14
				200-400-3.lp	200	400	2,198.00	0.00%	28.14
				200-400-4.lp	200	400	676.00	0.00%	25.79
				200-400-5.lp	200	400	1,353.00	0.00%	0.79
				300-150.0-1.lp	300	150	1,920.00	0.00%	45.00
				300-150.0-2.lp	300	150	3,458.00	0.00%	0.44
				300-150.0-3.lp	300	150	4,573.00	0.00%	6.23
				300-150.0-4.lp	300	150	4,920.00	0.00%	2.00
				300-150.0-5.lp	300	150	3,132.00	0.00%	2.45
				300-300-1.lp	300	300	5,542.00	0.00%	4.66
				300-300-2.lp	300	300	3,740.00	0.00%	22.25
				300-300-3.lp	300	300	3,430.00	0.00%	42.29
				300-300-4.lp	300	300	1,365.00	0.00%	2.07
				300-300-5.lp	300	300	3,696.00	0.00%	28.86
				300-450.0-1.lp	300	450	3,276.00	0.00%	32.48
				300-450.0-2.lp	300	450	2,421.00	0.00%	7.44
				300-450.0-3.lp	300	450	2,420.00	0.00%	4.98
				300-450.0-4.lp	300	450	2,928.00	0.00%	70.28
				300-450.0-5.lp	300	450	2,225.00	0.00%	17.09
				300-600-1.lp	300	600	2,178.00	0.00%	16.55

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*N-O-Imm*	300-600-2.lp	300	600	3,136.00	0.00%	33.78
				300-600-3.lp	300	600	2,640.00	0.00%	5.75
				300-600-4.lp	300	600	3,325.00	0.00%	213.53
				300-600-5.lp	300	600	3,000.00	0.00%	125.63
				400-200.0-1.lp	400	200	5,520.00	0.00%	2.10
				400-200.0-2.lp	400	200	8,347.00	0.00%	3.03
				400-200.0-3.lp	400	200	3,798.00	0.00%	11.01
				400-200.0-4.lp	400	200	5,124.00	0.00%	11.45
				400-200.0-5.lp	400	200	4,355.00	0.00%	2.55
				400-400-1.lp	400	400	3,773.00	0.00%	92.79
				400-400-2.lp	400	400	6,760.00	0.00%	25.29
				400-400-3.lp	400	400	4,152.00	0.00%	14.09
				400-400-4.lp	400	400	5,967.00	0.00%	95.01
				400-400-5.lp	400	400	5,310.00	0.00%	177.16
				400-600.0-1.lp	400	600	2,880.00	0.00%	560.89
				400-600.0-2.lp	400	600	2,970.00	0.00%	125.13
				400-600.0-3.lp	400	600	2,682.00	0.00%	1,343.87
				400-600.0-4.lp	400	600	4,242.00	0.00%	88.04
				400-600.0-5.lp	400	600	4,256.00	0.00%	12.48
				400-800-1.lp	400	800	4,134.00	0.00%	602.96
				400-800-2.lp	400	800	2,925.00	0.00%	1,488.30
				400-800-3.lp	400	800	3,990.00	0.00%	35.07
				400-800-4.lp	400	800	4,365.00	0.00%	197.66
				400-800-5.lp	400	800	3,366.00	0.00%	106.07
				500-250.0-1.lp	500	250	5,104.00	0.00%	188.46
				500-250.0-2.lp	500	250	6,240.00	0.00%	39.61
				500-250.0-3.lp	500	250	9,250.00	0.00%	206.69
				500-250.0-4.lp	500	250	7,185.00	0.00%	69.20
				500-250.0-5.lp	500	250	8,016.00	0.00%	473.19
				500-500-1.lp	500	500	4,631.00	0.00%	222.74

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*2*	*N-O-Imm*	500-500-2.lp	500	500	4,716.00	0.00%	1,233.75
				500-500-3.lp	500	500	4,510.00	0.00%	467.82
				500-500-4.lp	500	500	4,458.00	0.00%	510.44
				500-500-5.lp	500	500	7,480.00	0.00%	99.36
				500-750.0-1.lp	500	750	5,382.00	0.00%	755.14
				500-750.0-2.lp	500	750	4,026.00	0.00%	311.92
				500-750.0-3.lp	500	750	7,361.00	0.00%	386.18
				500-750.0-4.lp	500	750	4,797.00	0.00%	1,401.74
				500-750.0-5.lp	500	750	5,614.00	0.00%	405.90
				500-1000-1.lp	500	1,000	3,993.00	0.00%	305.63
				500-1000-2.lp	500	1,000	5,088.00	0.00%	315.72
				500-1000-3.lp	500	1,000	7,334.00	0.00%	627.35
				500-1000-4.lp	500	1,000	3,834.00	0.00%	1,761.72
				500-1000-5.lp	500	1,000	4,928.00	0.00%	1,073.64
		3	A-O-Imm	100-50.0-1.lp	100	50	87,420.00	0.00%	3.94
				100-50.0-2.lp	100	50	53,856.00	0.00%	1.19
				100-50.0-3.lp	100	50	73,344.00	0.00%	1.44
				100-50.0-4.lp	100	50	87,300.00	0.00%	5.83
				100-50.0-5.lp	100	50	121,752.00	0.00%	1.46
				100-100-1.lp	100	100	42,228.00	0.00%	2.18
				100-100-2.lp	100	100	77,760.00	0.00%	1.24
				100-100-3.lp	100	100	104,400.00	0.00%	1.08
				100-100-4.lp	100	100	89,712.00	0.00%	8.16
				100-100-5.lp	100	100	74,970.00	0.00%	2.94
				100-150.0-1.lp	100	150	51,340.00	0.00%	2.27
				100-150.0-2.lp	100	150	110,352.00	0.00%	10.46
				100-150.0-3.lp	100	150	162,578.00	0.00%	2.72
				100-150.0-4.lp	100	150	30,798.00	0.00%	1.58
				100-150.0-5.lp	100	150	47,244.00	0.00%	1.83
				100-200-1.lp	100	200	55,680.00	0.00%	11.24

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*3*	*A-O-Imm*	100-200-2.lp	100	200	98,340.00	0.00%	1.57
				100-200-3.lp	100	200	52,380.00	0.00%	9.60
				100-200-4.lp	100	200	55,350.00	0.00%	1.16
				100-200-5.lp	100	200	124,700.00	0.00%	11.60
				200-100.0-1.lp	200	100	457,164.00	0.00%	3.97
				200-100.0-2.lp	200	100	729,270.00	0.00%	6.35
				200-100.0-3.lp	200	100	840,213.00	0.00%	3.82
				200-100.0-4.lp	200	100	862,710.00	0.00%	21.32
				200-100.0-5.lp	200	100	673,872.00	0.00%	4.95
				200-200-1.lp	200	200	453,627.00	0.00%	28.22
				200-200-2.lp	200	200	511,032.00	0.00%	19.03
				200-200-3.lp	200	200	290,862.00	0.00%	123.02
				200-200-4.lp	200	200	609,588.00	0.00%	91.43
				200-200-5.lp	200	200	101,132.00	0.00%	16.27
				200-300.0-1.lp	200	300	834,480.00	0.00%	12.67
				200-300.0-2.lp	200	300	288,252.00	0.00%	29.10
				200-300.0-3.lp	200	300	409,752.00	0.00%	155.99
				200-300.0-4.lp	200	300	227,740.00	0.00%	39.73
				200-300.0-5.lp	200	300	289,800.00	0.00%	5.68
				200-400-1.lp	200	400	462,462.00	0.00%	88.82
				200-400-2.lp	200	400	366,080.00	0.00%	6.78
				200-400-3.lp	200	400	111,650.00	0.00%	176.75
				200-400-4.lp	200	400	280,839.00	0.00%	125.83
				200-400-5.lp	200	400	345,870.00	0.00%	114.41
				300-150.0-1.lp	300	150	1,803,012.00	0.00%	547.75
				300-150.0-2.lp	300	150	1,551,123.00	0.00%	78.40
				300-150.0-3.lp	300	150	2,376,180.00	0.00%	14.25
				300-150.0-4.lp	300	150	1,483,272.00	0.00%	1,862.85
				300-150.0-5.lp	300	150	1,607,490.00	0.00%	3.94
				300-300-1.lp	300	300	2,135,280.00	0.00%	198.15

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*3*	*A-O-Imm*	300-300-2.lp	300	300	2,328,192.00	0.00%	297.50
				300-300-3.lp	300	300	1,181,700.00	0.00%	266.54
				300-300-4.lp	300	300	958,272.00	0.00%	448.99
				300-300-5.lp	300	300	1,340,000.00	0.00%	1,688.22
				300-450.0-1.lp	300	450	1,089,660.00	0.00%	220.25
				300-450.0-2.lp	300	450	1,062,600.00	0.00%	74.62
				300-450.0-3.lp	300	450	1,610,784.00	0.00%	26.65
				300-450.0-4.lp	300	450	1,239,590.00	0.00%	1,866.57
				300-450.0-5.lp	300	450	1,257,075.00	0.00%	107.98
				300-600-1.lp	300	600	622,545.00	0.00%	194.32
				300-600-2.lp	300	600	861,648.00	84.19%	3,600.00
				300-600-3.lp	300	600	761,600.00	0.00%	185.82
				300-600-4.lp	300	600	1,448,352.00	0.00%	346.07
				300-600-5.lp	300	600	888,602.00	0.00%	732.03
				400-200.0-1.lp	400	200	2,222,112.00	0.00%	636.57
				400-200.0-2.lp	400	200	3,846,816.00	0.00%	532.70
				400-200.0-3.lp	400	200	5,799,465.00	0.00%	215.09
				400-200.0-4.lp	400	200	2,480,950.00	0.00%	1,736.91
				400-200.0-5.lp	400	200	4,039,024.00	0.00%	15.29
				400-400-1.lp	400	400	2,265,522.00	0.00%	204.83
				400-400-2.lp	400	400	4,520,880.00	0.00%	657.54
				400-400-3.lp	400	400	1,821,012.00	0.00%	277.69
				400-400-4.lp	400	400	–	∞	3,600.00
				400-400-5.lp	400	400	5,481,696.00	0.00%	3,381.05
				400-600.0-1.lp	400	600	1,881,386.00	0.00%	295.54
				400-600.0-2.lp	400	600	3,189,624.00	0.00%	679.91
				400-600.0-3.lp	400	600	2,265,600.00	0.00%	400.37
				400-600.0-4.lp	400	600	3,397,200.00	0.00%	1,307.45
				400-600.0-5.lp	400	600	2,295,524.00	0.00%	824.48
				400-800-1.lp	400	800	3,121,160.00	0.00%	2,140.01

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*3*	*A-O-Imm*	400-800-2.lp	400	800	1,288,560.00	0.00%	369.52
				400-800-3.lp	400	800	2,151,740.00	0.00%	1,444.36
				400-800-4.lp	400	800	1,870,713.00	0.00%	269.20
				400-800-5.lp	400	800	2,575,925.00	0.00%	994.60
				500-250.0-1.lp	500	250	4,100,100.00	0.00%	35.44
				500-250.0-2.lp	500	250	4,519,017.00	12.99%	3,600.00
				500-250.0-3.lp	500	250	5,696,048.00	0.00%	43.50
				500-250.0-4.lp	500	250	4,247,087.00	0.00%	293.65
				500-250.0-5.lp	500	250	6,659,880.00	0.00%	307.11
				500-500-1.lp	500	500	4,499,385.00	29.29%	3,600.00
				500-500-2.lp	500	500	7,279,914.00	57.65%	3,600.00
				500-500-3.lp	500	500	6,219,775.00	0.00%	2,623.95
				500-500-4.lp	500	500	5,150,368.00	0.00%	314.73
				500-500-5.lp	500	500	7,383,408.00	36.98%	3,600.00
				500-750.0-1.lp	500	750	4,851,120.00	63.07%	3,600.00
				500-750.0-2.lp	500	750	3,952,950.00	55.04%	3,600.00
				500-750.0-3.lp	500	750	6,925,600.00	76.31%	3,600.00
				500-750.0-4.lp	500	750	−	∞	3,600.00
				500-750.0-5.lp	500	750	3,737,460.00	71.94%	3,600.00
				500-1000-1.lp	500	1,000	5,599,488.00	91.02%	3,600.00
				500-1000-2.lp	500	1,000	−	∞	3,600.00
				500-1000-3.lp	500	1,000	5,600,250.00	62.55%	3,600.00
				500-1000-4.lp	500	1,000	6,770,400.00	63.55%	3,600.00
				500-1000-5.lp	500	1,000	6,641,986.00	57.08%	3,600.00
			GRB Nonconvex	100-50.0-1.lp	100	50	87,420.00	0.00%	0.81
				100-50.0-2.lp	100	50	53,856.00	0.00%	2.10
				100-50.0-3.lp	100	50	73,344.00	0.00%	1.85
				100-50.0-4.lp	100	50	87,300.00	0.00%	1.60
				100-50.0-5.lp	100	50	121,752.00	0.00%	1.31
				100-100-1.lp	100	100	42,228.00	0.00%	4.18

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*3*	*GRB Nonconvex*	100-100-2.lp	100	100	77,760.00	0.00%	2.47
				100-100-3.lp	100	100	104,400.00	0.00%	3.40
				100-100-4.lp	100	100	89,712.00	0.00%	3.52
				100-100-5.lp	100	100	74,970.00	0.00%	3.30
				100-150.0-1.lp	100	150	51,340.00	0.00%	3.87
				100-150.0-2.lp	100	150	110,352.00	0.00%	2.95
				100-150.0-3.lp	100	150	162,578.00	0.00%	6.56
				100-150.0-4.lp	100	150	30,798.00	0.00%	4.13
				100-150.0-5.lp	100	150	47,244.00	0.00%	3.46
				100-200-1.lp	100	200	55,680.00	0.00%	4.08
				100-200-2.lp	100	200	98,340.00	0.00%	5.47
				100-200-3.lp	100	200	52,380.00	0.00%	4.31
				100-200-4.lp	100	200	55,350.00	0.00%	5.63
				100-200-5.lp	100	200	124,700.00	0.00%	3.46
				200-100.0-1.lp	200	100	457,164.00	0.00%	7.20
				200-100.0-2.lp	200	100	729,270.00	0.00%	9.78
				200-100.0-3.lp	200	100	840,213.00	0.00%	7.71
				200-100.0-4.lp	200	100	862,710.00	0.00%	9.50
				200-100.0-5.lp	200	100	673,872.00	0.00%	23.14
				200-200-1.lp	200	200	453,627.00	0.00%	22.19
				200-200-2.lp	200	200	511,032.00	0.00%	36.57
				200-200-3.lp	200	200	290,862.00	0.00%	66.42
				200-200-4.lp	200	200	609,588.00	0.00%	17.21
				200-200-5.lp	200	200	101,132.00	0.00%	20.96
				200-300.0-1.lp	200	300	834,480.00	0.00%	73.87
				200-300.0-2.lp	200	300	288,252.00	0.00%	30.10
				200-300.0-3.lp	200	300	409,752.00	0.00%	106.92
				200-300.0-4.lp	200	300	227,740.00	0.00%	27.04
				200-300.0-5.lp	200	300	289,800.00	0.00%	43.55
				200-400-1.lp	200	400	462,462.00	0.00%	130.68

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*3*	*GRB Nonconvex*	200-400-2.lp	200	400	366,080.00	0.00%	43.45
				200-400-3.lp	200	400	111,650.00	0.00%	130.87
				200-400-4.lp	200	400	280,839.00	0.00%	89.74
				200-400-5.lp	200	400	345,870.00	0.00%	309.16
				300-150.0-1.lp	300	150	1,803,012.00	0.00%	324.55
				300-150.0-2.lp	300	150	1,551,123.00	0.00%	49.22
				300-150.0-3.lp	300	150	2,376,180.00	0.00%	45.83
				300-150.0-4.lp	300	150	1,483,272.00	0.00%	113.93
				300-150.0-5.lp	300	150	1,607,490.00	0.00%	23.98
				300-300-1.lp	300	300	2,135,280.00	0.00%	556.82
				300-300-2.lp	300	300	2,328,192.00	0.00%	480.36
				300-300-3.lp	300	300	1,181,700.00	0.00%	113.67
				300-300-4.lp	300	300	958,272.00	0.00%	205.26
				300-300-5.lp	300	300	1,340,000.00	0.00%	468.62
				300-450.0-1.lp	300	450	1,089,660.00	0.00%	660.94
				300-450.0-2.lp	300	450	1,062,600.00	0.00%	402.46
				300-450.0-3.lp	300	450	1,610,784.00	0.00%	319.23
				300-450.0-4.lp	300	450	1,239,590.00	0.00%	1,819.14
				300-450.0-5.lp	300	450	1,257,075.00	0.00%	217.61
				300-600-1.lp	300	600	622,545.00	0.00%	298.80
				300-600-2.lp	300	600	861,648.00	73.70%	3,600.00
				300-600-3.lp	300	600	761,600.00	0.00%	473.70
				300-600-4.lp	300	600	1,448,352.00	0.00%	490.75
				300-600-5.lp	300	600	888,602.00	0.00%	1,737.18
				400-200.0-1.lp	400	200	2,222,112.00	0.00%	387.11
				400-200.0-2.lp	400	200	3,846,816.00	0.00%	814.62
				400-200.0-3.lp	400	200	5,799,465.00	0.00%	476.98
				400-200.0-4.lp	400	200	2,480,950.00	0.00%	270.33
				400-200.0-5.lp	400	200	4,039,024.00	0.00%	82.37
				400-400-1.lp	400	400	2,265,522.00	0.00%	790.05

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*3*	*GRB Nonconvex*	400-400-2.lp	400	400	4,520,880.00	0.00%	2,152.41
				400-400-3.lp	400	400	1,821,012.00	0.00%	505.02
				400-400-4.lp	400	400	3,748,976.00	0.00%	935.81
				400-400-5.lp	400	400	5,507,216.00	47.20%	3,600.00
				400-600.0-1.lp	400	600	1,881,386.00	0.00%	2,896.27
				400-600.0-2.lp	400	600	3,189,624.00	16.80%	3,600.00
				400-600.0-3.lp	400	600	2,265,600.00	0.00%	1,531.63
				400-600.0-4.lp	400	600	3,397,200.00	46.70%	3,600.00
				400-600.0-5.lp	400	600	2,295,524.00	35.80%	3,600.00
				400-800-1.lp	400	800	3,121,160.00	52.70%	3,600.00
				400-800-2.lp	400	800	1,288,560.00	0.00%	2,709.37
				400-800-3.lp	400	800	2,151,740.00	41.30%	3,600.00
				400-800-4.lp	400	800	1,870,713.00	0.00%	2,129.97
				400-800-5.lp	400	800	2,575,925.00	54.70%	3,600.00
				500-250.0-1.lp	500	250	4,100,100.00	0.00%	316.15
				500-250.0-2.lp	500	250	4,208,944.00	52.00%	3,600.00
				500-250.0-3.lp	500	250	5,696,048.00	0.00%	238.51
				500-250.0-4.lp	500	250	4,247,087.00	0.00%	1,097.24
				500-250.0-5.lp	500	250	6,659,880.00	0.00%	1,303.44
				500-500-1.lp	500	500	4,671,205.00	76.20%	3,600.00
				500-500-2.lp	500	500	4,561,440.00	43.80%	3,600.00
				500-500-3.lp	500	500	6,219,775.00	51.60%	3,600.00
				500-500-4.lp	500	500	5,150,368.00	0.00%	1,310.10
				500-500-5.lp	500	500	7,383,408.00	52.80%	3,600.00
				500-750.0-1.lp	500	750	4,840,920.00	89.40%	3,600.00
				500-750.0-2.lp	500	750	5,091,385.00	84.40%	3,600.00
				500-750.0-3.lp	500	750	6,604,400.00	86.30%	3,600.00
				500-750.0-4.lp	500	750	4,113,366.00	81.20%	3,600.00
				500-750.0-5.lp	500	750	3,737,460.00	97.80%	3,600.00
				500-1000-1.lp	500	1,000	4,603,456.00	100.00%	3,600.00

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*3*	GRB Nonconvex	500-1000-2.lp	500	1,000	3,878,118.00	83.40%	3,600.00
				500-1000-3.lp	500	1,000	5,081,356.00	81.30%	3,600.00
				500-1000-4.lp	500	1,000	6,594,600.00	75.50%	3,600.00
				500-1000-5.lp	500	1,000	5,576,310.00	73.90%	3,600.00
			N-O-Imm	100-50.0-1.lp	100	50	87,420.00	0.00%	0.32
				100-50.0-2.lp	100	50	53,856.00	0.00%	0.76
				100-50.0-3.lp	100	50	73,344.00	0.00%	0.99
				100-50.0-4.lp	100	50	87,300.00	0.00%	0.59
				100-50.0-5.lp	100	50	121,752.00	0.00%	0.60
				100-100-1.lp	100	100	42,228.00	0.00%	1.18
				100-100-2.lp	100	100	77,760.00	0.00%	0.74
				100-100-3.lp	100	100	104,400.00	0.00%	0.55
				100-100-4.lp	100	100	89,712.00	0.00%	0.68
				100-100-5.lp	100	100	74,970.00	0.00%	1.42
				100-150.0-1.lp	100	150	51,340.00	0.00%	1.04
				100-150.0-2.lp	100	150	110,352.00	0.00%	0.91
				100-150.0-3.lp	100	150	162,578.00	0.00%	1.38
				100-150.0-4.lp	100	150	30,798.00	0.00%	0.86
				100-150.0-5.lp	100	150	47,244.00	0.00%	0.68
				100-200-1.lp	100	200	55,680.00	0.00%	1.31
				100-200-2.lp	100	200	98,340.00	0.00%	0.67
				100-200-3.lp	100	200	52,380.00	0.00%	1.16
				100-200-4.lp	100	200	55,350.00	0.00%	0.79
				100-200-5.lp	100	200	124,700.00	0.00%	0.97
				200-100.0-1.lp	200	100	457,164.00	0.00%	2.77
				200-100.0-2.lp	200	100	729,270.00	0.00%	4.45
				200-100.0-3.lp	200	100	840,213.00	0.00%	1.53
				200-100.0-4.lp	200	100	862,710.00	0.00%	2.21
				200-100.0-5.lp	200	100	673,872.00	0.00%	2.09
				200-200-1.lp	200	200	453,627.00	0.00%	5.94

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*3*	*N-O-Imm*	200-200-2.lp	200	200	511,032.00	0.00%	28.92
				200-200-3.lp	200	200	290,862.00	0.00%	61.15
				200-200-4.lp	200	200	609,588.00	0.00%	3.68
				200-200-5.lp	200	200	101,132.00	0.00%	11.03
				200-300.0-1.lp	200	300	834,480.00	0.00%	6.34
				200-300.0-2.lp	200	300	288,252.00	0.00%	4.74
				200-300.0-3.lp	200	300	409,752.00	0.00%	81.84
				200-300.0-4.lp	200	300	227,740.00	0.00%	6.00
				200-300.0-5.lp	200	300	289,800.00	0.00%	3.28
				200-400-1.lp	200	400	462,462.00	0.00%	167.05
				200-400-2.lp	200	400	366,080.00	0.00%	4.37
				200-400-3.lp	200	400	111,650.00	0.00%	64.69
				200-400-4.lp	200	400	280,839.00	0.00%	14.91
				200-400-5.lp	200	400	345,870.00	0.00%	66.30
				300-150.0-1.lp	300	150	1,803,012.00	0.00%	591.44
				300-150.0-2.lp	300	150	1,551,123.00	0.00%	6.19
				300-150.0-3.lp	300	150	2,376,180.00	0.00%	5.01
				300-150.0-4.lp	300	150	1,483,272.00	0.00%	70.04
				300-150.0-5.lp	300	150	1,607,490.00	0.00%	1.83
				300-300-1.lp	300	300	2,135,280.00	0.00%	634.30
				300-300-2.lp	300	300	2,328,192.00	0.00%	121.63
				300-300-3.lp	300	300	1,181,700.00	0.00%	51.11
				300-300-4.lp	300	300	958,272.00	0.00%	46.13
				300-300-5.lp	300	300	1,340,000.00	0.00%	45.80
				300-450.0-1.lp	300	450	1,089,660.00	0.00%	185.57
				300-450.0-2.lp	300	450	1,062,600.00	0.00%	84.64
				300-450.0-3.lp	300	450	1,610,784.00	0.00%	225.05
				300-450.0-4.lp	300	450	1,239,590.00	0.00%	372.24
				300-450.0-5.lp	300	450	1,257,075.00	0.00%	45.92
				300-600-1.lp	300	600	622,545.00	0.00%	66.60

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*3*	*N-O-Imm*	300-600-2.lp	300	600	861,648.00	0.00%	994.13
				300-600-3.lp	300	600	761,600.00	0.00%	206.12
				300-600-4.lp	300	600	1,448,352.00	0.00%	119.96
				300-600-5.lp	300	600	888,602.00	0.00%	449.01
				400-200.0-1.lp	400	200	2,222,112.00	0.00%	135.23
				400-200.0-2.lp	400	200	3,846,816.00	0.00%	473.43
				400-200.0-3.lp	400	200	5,799,465.00	0.00%	129.14
				400-200.0-4.lp	400	200	2,480,950.00	0.00%	79.75
				400-200.0-5.lp	400	200	4,039,024.00	0.00%	5.77
				400-400-1.lp	400	400	2,265,522.00	0.00%	416.43
				400-400-2.lp	400	400	4,520,880.00	0.00%	466.61
				400-400-3.lp	400	400	1,821,012.00	0.00%	99.62
				400-400-4.lp	400	400	3,748,976.00	0.00%	155.71
				400-400-5.lp	400	400	5,481,696.00	0.00%	1,684.97
				400-600.0-1.lp	400	600	1,881,386.00	0.00%	324.25
				400-600.0-2.lp	400	600	3,189,624.00	0.00%	651.43
				400-600.0-3.lp	400	600	2,265,600.00	0.00%	169.65
				400-600.0-4.lp	400	600	3,397,200.00	0.00%	572.41
				400-600.0-5.lp	400	600	2,295,524.00	0.00%	905.68
				400-800-1.lp	400	800	3,121,160.00	0.00%	680.35
				400-800-2.lp	400	800	1,288,560.00	0.00%	188.93
				400-800-3.lp	400	800	2,151,740.00	0.00%	716.62
				400-800-4.lp	400	800	1,870,713.00	0.00%	186.90
				400-800-5.lp	400	800	2,575,925.00	0.00%	1,196.65
				500-250.0-1.lp	500	250	4,100,100.00	0.00%	39.05
				500-250.0-2.lp	500	250	4,208,944.00	0.00%	250.28
				500-250.0-3.lp	500	250	5,696,048.00	0.00%	85.21
				500-250.0-4.lp	500	250	4,247,087.00	0.00%	231.53
				500-250.0-5.lp	500	250	6,659,880.00	0.00%	210.05
				500-500-1.lp	500	500	4,499,385.00	26.05%	3,600.00

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*3*	N-O-Imm	500-500-2.lp	500	500	4,561,440.00	0.00%	735.36
				500-500-3.lp	500	500	6,219,775.00	0.00%	1,347.13
				500-500-4.lp	500	500	5,150,368.00	0.00%	148.33
				500-500-5.lp	500	500	7,383,408.00	16.98%	3,600.00
				500-750.0-1.lp	500	750	4,851,120.00	51.47%	3,600.00
				500-750.0-2.lp	500	750	3,190,740.00	1.41%	3,600.00
				500-750.0-3.lp	500	750	5,838,196.00	50.31%	3,600.00
				500-750.0-4.lp	500	750	3,552,120.00	15.17%	3,600.00
				500-750.0-5.lp	500	750	3,737,460.00	45.49%	3,600.00
				500-1000-1.lp	500	1,000	4,642,092.00	79.11%	3,600.00
				500-1000-2.lp	500	1,000	3,878,118.00	34.75%	3,600.00
				500-1000-3.lp	500	1,000	5,081,356.00	37.69%	3,600.00
				500-1000-4.lp	500	1,000	6,770,400.00	37.19%	3,600.00
				500-1000-5.lp	500	1,000	5,576,310.00	45.04%	3,600.00
		4	A-O-Imm	100-50.0-1.lp	100	50	35,141,184.00	0.00%	107.96
				100-50.0-2.lp	100	50	6,774,840.00	0.00%	201.44
				100-50.0-3.lp	100	50	49,888,062.00	0.00%	180.85
				100-50.0-4.lp	100	50	7,944,160.00	0.00%	414.38
				100-50.0-5.lp	100	50	10,804,320.00	0.00%	1,555.60
				100-100-1.lp	100	100	16,476,930.00	0.00%	1,090.89
				100-100-2.lp	100	100	9,886,019.00	0.00%	69.03
				100-100-3.lp	100	100	9,166,500.00	0.00%	93.50
				100-100-4.lp	100	100	9,927,720.00	0.00%	47.03
				100-100-5.lp	100	100	7,203,000.00	0.00%	135.04
				100-150.0-1.lp	100	150	14,866,236.00	0.00%	55.40
				100-150.0-2.lp	100	150	31,217,280.00	0.00%	119.83
				100-150.0-3.lp	100	150	9,905,532.00	100.00%	3,600.00
				100-150.0-4.lp	100	150	16,689,240.00	0.00%	125.99
				100-150.0-5.lp	100	150	4,199,580.00	0.00%	316.92
				100-200-1.lp	100	200	6,007,320.00	0.00%	1,529.87

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*4*	*A-O-Imm*	100-200-2.lp	100	200	30,489,088.00	0.00%	167.61
				100-200-3.lp	100	200	6,918,820.00	0.00%	597.57
				100-200-4.lp	100	200	7,541,670.00	0.00%	2,086.33
				100-200-5.lp	100	200	1,014,816.00	0.00%	32.11
				200-100.0-1.lp	200	100	118,392,350.00	0.00%	1,752.82
				200-100.0-2.lp	200	100	602,823,186.00	0.00%	1,240.32
				200-100.0-3.lp	200	100	441,861,264.00	0.00%	549.24
				200-100.0-4.lp	200	100	723,824,640.00	0.00%	814.59
				200-100.0-5.lp	200	100	346,829,040.00	0.00%	925.67
				200-200-1.lp	200	200	204,369,984.00	100.00%	3,600.00
				200-200-2.lp	200	200	67,445,622.00	100.00%	3,600.00
				200-200-3.lp	200	200	37,527,375.00	0.00%	2,579.91
				200-200-4.lp	200	200	−	∞	3,600.00
				200-200-5.lp	200	200	245,189,490.00	82.73%	3,600.00
				200-300.0-1.lp	200	300	212,911,232.00	100.00%	3,600.00
				200-300.0-2.lp	200	300	−	∞	3,600.00
				200-300.0-3.lp	200	300	−	∞	3,600.00
				200-300.0-4.lp	200	300	69,463,680.00	100.00%	3,600.00
				200-300.0-5.lp	200	300	−	∞	3,600.00
				200-400-1.lp	200	400	194,733,000.00	71.13%	3,600.00
				200-400-2.lp	200	400	106,152,120.00	88.57%	3,600.00
				200-400-3.lp	200	400	264,062,760.00	100.00%	3,600.00
				200-400-4.lp	200	400	84,588,000.00	100.00%	3,600.00
				200-400-5.lp	200	400	−	∞	3,600.00
				300-150.0-1.lp	300	150	−	∞	3,600.00
				300-150.0-2.lp	300	150	2,417,865,120.00	92.23%	3,600.00
				300-150.0-3.lp	300	150	1,265,906,124.00	90.36%	3,600.00
				300-150.0-4.lp	300	150	3,274,695,788.00	100.00%	3,600.00
				300-150.0-5.lp	300	150	1,424,332,080.00	0.00%	932.37
				300-300-1.lp	300	300	1,535,457,000.00	100.00%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*4*	*A-O-Imm*	300-300-2.lp	300	300	1,895,088,690.00	100.00%	3,600.00
				300-300-3.lp	300	300	1,002,236,928.00	100.00%	3,600.00
				300-300-4.lp	300	300	1,208,825,904.00	100.00%	3,600.00
				300-300-5.lp	300	300	2,000,603,136.00	82.64%	3,600.00
				300-450.0-1.lp	300	450	754,365,150.00	100.00%	3,600.00
				300-450.0-2.lp	300	450	−	∞	3,600.00
				300-450.0-3.lp	300	450	825,971,520.00	100.00%	3,600.00
				300-450.0-4.lp	300	450	698,064,200.00	100.00%	3,600.00
				300-450.0-5.lp	300	450	1,386,011,088.00	91.83%	3,600.00
				300-600-1.lp	300	600	825,476,850.00	100.00%	3,600.00
				300-600-2.lp	300	600	1,434,551,800.00	100.00%	3,600.00
				300-600-3.lp	300	600	864,743,760.00	100.00%	3,600.00
				300-600-4.lp	300	600	1,141,801,920.00	100.00%	3,600.00
				300-600-5.lp	300	600	−	∞	3,600.00
				400-200.0-1.lp	400	200	5,657,089,200.00	63.23%	3,600.00
				400-200.0-2.lp	400	200	−	∞	3,600.00
				400-200.0-3.lp	400	200	5,218,364,736.00	71.39%	3,600.00
				400-200.0-4.lp	400	200	4,608,534,840.00	74.01%	3,600.00
				400-200.0-5.lp	400	200	3,743,937,288.00	99.61%	3,600.00
				400-400-1.lp	400	400	2,279,403,666.00	93.44%	3,600.00
				400-400-2.lp	400	400	4,259,221,440.00	100.00%	3,600.00
				400-400-3.lp	400	400	3,690,384,100.00	100.00%	3,600.00
				400-400-4.lp	400	400	2,379,904,128.00	100.00%	3,600.00
				400-400-5.lp	400	400	−	∞	3,600.00
				400-600.0-1.lp	400	600	−	∞	3,600.00
				400-600.0-2.lp	400	600	3,395,917,096.00	100.00%	3,600.00
				400-600.0-3.lp	400	600	2,900,682,072.00	100.00%	3,600.00
				400-600.0-4.lp	400	600	1,888,509,600.00	51.18%	3,600.00
				400-600.0-5.lp	400	600	2,839,173,120.00	100.00%	3,600.00
				400-800-1.lp	400	800	1,904,938,200.00	100.00%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*4*	*A-O-Imm*	400-800-2.lp	400	800	1,989,068,800.00	100.00%	3,600.00
				400-800-3.lp	400	800	–	∞	3,600.00
				400-800-4.lp	400	800	2,595,988,224.00	100.00%	3,600.00
				400-800-5.lp	400	800	–	∞	3,600.00
				500-250.0-1.lp	500	250	9,839,525,850.00	89.09%	3,600.00
				500-250.0-2.lp	500	250	–	∞	3,600.00
				500-250.0-3.lp	500	250	13,762,015,614.00	98.54%	3,600.00
				500-250.0-4.lp	500	250	–	∞	3,600.00
				500-250.0-5.lp	500	250	9,828,181,656.00	97.48%	3,600.00
				500-500-1.lp	500	500	–	∞	3,600.00
				500-500-2.lp	500	500	5,936,336,250.00	100.00%	3,600.00
				500-500-3.lp	500	500	6,606,978,840.00	100.00%	3,600.00
				500-500-4.lp	500	500	7,632,715,776.00	95.64%	3,600.00
				500-500-5.lp	500	500	4,257,000,000.00	88.76%	3,600.00
				500-750.0-1.lp	500	750	8,271,163,890.00	100.00%	3,600.00
				500-750.0-2.lp	500	750	4,755,951,025.00	100.00%	3,600.00
				500-750.0-3.lp	500	750	6,034,250,640.00	100.00%	3,600.00
				500-750.0-4.lp	500	750	5,491,122,000.00	100.00%	3,600.00
				500-750.0-5.lp	500	750	6,845,583,602.00	100.00%	3,600.00
				500-1000-1.lp	500	1,000	4,242,855,648.00	100.00%	3,600.00
				500-1000-2.lp	500	1,000	6,224,715,000.00	100.00%	3,600.00
				500-1000-3.lp	500	1,000	–	∞	3,600.00
				500-1000-4.lp	500	1,000	–	∞	3,600.00
				500-1000-5.lp	500	1,000	5,152,076,100.00	100.00%	3,600.00
			GRB Nonconvex	100-50.0-1.lp	100	50	35,141,184.00	0.00%	6.93
				100-50.0-2.lp	100	50	6,774,840.00	0.00%	3.40
				100-50.0-3.lp	100	50	49,888,062.00	0.00%	35.40
				100-50.0-4.lp	100	50	7,944,160.00	0.00%	6.83
				100-50.0-5.lp	100	50	10,804,320.00	0.00%	4.41
				100-100-1.lp	100	100	16,476,930.00	0.00%	8.95

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*4*	*GRB Nonconvex*	100-100-2.lp	100	100	9,886,019.00	0.00%	6.66
				100-100-3.lp	100	100	9,166,500.00	0.00%	5.70
				100-100-4.lp	100	100	9,927,720.00	0.00%	13.37
				100-100-5.lp	100	100	7,203,000.00	0.00%	17.29
				100-150.0-1.lp	100	150	14,866,236.00	0.00%	9.85
				100-150.0-2.lp	100	150	31,217,280.00	0.00%	26.03
				100-150.0-3.lp	100	150	9,905,532.00	0.00%	23.68
				100-150.0-4.lp	100	150	16,689,240.00	0.00%	18.74
				100-150.0-5.lp	100	150	4,199,580.00	0.00%	6.70
				100-200-1.lp	100	200	6,007,320.00	0.00%	14.22
				100-200-2.lp	100	200	30,489,088.00	0.00%	22.57
				100-200-3.lp	100	200	6,918,820.00	0.00%	4.97
				100-200-4.lp	100	200	7,541,670.00	0.00%	27.15
				100-200-5.lp	100	200	1,014,816.00	0.00%	3.71
				200-100.0-1.lp	200	100	118,392,350.00	0.00%	105.25
				200-100.0-2.lp	200	100	602,823,186.00	0.00%	157.65
				200-100.0-3.lp	200	100	441,861,264.00	0.00%	95.99
				200-100.0-4.lp	200	100	723,824,640.00	0.00%	120.45
				200-100.0-5.lp	200	100	346,829,040.00	0.00%	181.01
				200-200-1.lp	200	200	155,751,750.00	0.00%	176.25
				200-200-2.lp	200	200	67,445,622.00	0.00%	231.04
				200-200-3.lp	200	200	37,527,375.00	0.00%	513.23
				200-200-4.lp	200	200	107,932,160.00	0.00%	46.32
				200-200-5.lp	200	200	245,189,490.00	0.00%	150.01
				200-300.0-1.lp	200	300	169,478,400.00	0.00%	210.30
				200-300.0-2.lp	200	300	118,968,960.00	0.00%	1,288.46
				200-300.0-3.lp	200	300	18,603,008.00	0.00%	368.26
				200-300.0-4.lp	200	300	69,463,680.00	0.00%	359.99
				200-300.0-5.lp	200	300	49,496,700.00	0.00%	118.11
				200-400-1.lp	200	400	194,733,000.00	0.00%	1,129.87

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*4*	*GRB Nonconvex*	200-400-2.lp	200	400	106,152,120.00	0.00%	726.19
				200-400-3.lp	200	400	140,874,240.00	0.00%	329.52
				200-400-4.lp	200	400	72,475,760.00	0.00%	543.99
				200-400-5.lp	200	400	102,880,440.00	0.00%	258.02
				300-150.0-1.lp	300	150	808,016,706.00	0.00%	82.03
				300-150.0-2.lp	300	150	2,417,865,120.00	0.00%	1,144.33
				300-150.0-3.lp	300	150	1,265,906,124.00	0.00%	701.67
				300-150.0-4.lp	300	150	2,333,812,481.00	0.00%	1,344.55
				300-150.0-5.lp	300	150	1,424,332,080.00	0.00%	206.79
				300-300-1.lp	300	300	1,097,287,664.00	0.00%	1,992.68
				300-300-2.lp	300	300	1,578,758,454.00	0.00%	2,101.72
				300-300-3.lp	300	300	1,002,236,928.00	79.60%	3,600.00
				300-300-4.lp	300	300	1,208,825,904.00	82.30%	3,600.00
				300-300-5.lp	300	300	1,894,878,040.00	60.20%	3,600.00
				300-450.0-1.lp	300	450	754,365,150.00	0.00%	3,527.98
				300-450.0-2.lp	300	450	976,430,640.00	72.50%	3,600.00
				300-450.0-3.lp	300	450	605,186,400.00	46.20%	3,600.00
				300-450.0-4.lp	300	450	666,597,200.00	100.00%	3,600.00
				300-450.0-5.lp	300	450	1,186,333,533.00	0.00%	3,416.38
				300-600-1.lp	300	600	709,203,120.00	99.00%	3,600.00
				300-600-2.lp	300	600	1,322,355,200.00	100.00%	3,600.00
				300-600-3.lp	300	600	825,807,840.00	100.00%	3,600.00
				300-600-4.lp	300	600	1,141,801,920.00	92.20%	3,600.00
				300-600-5.lp	300	600	948,591,568.00	100.00%	3,600.00
				400-200.0-1.lp	400	200	5,073,358,368.00	27.60%	3,600.00
				400-200.0-2.lp	400	200	4,380,104,128.00	61.20%	3,600.00
				400-200.0-3.lp	400	200	4,688,671,932.00	0.00%	1,182.54
				400-200.0-4.lp	400	200	4,608,534,840.00	0.00%	1,827.95
				400-200.0-5.lp	400	200	2,459,706,480.00	0.00%	1,660.08
				400-400-1.lp	400	400	2,226,084,282.00	32.80%	3,600.00

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*4*	*GRB Nonconvex*	400-400-2.lp	400	400	2,935,221,300.00	75.10%	3,600.00
				400-400-3.lp	400	400	2,422,037,464.00	78.20%	3,600.00
				400-400-4.lp	400	400	2,379,904,128.00	87.40%	3,600.00
				400-400-5.lp	400	400	3,751,905,984.00	100.00%	3,600.00
				400-600.0-1.lp	400	600	1,993,373,928.00	91.90%	3,600.00
				400-600.0-2.lp	400	600	2,312,709,165.00	93.60%	3,600.00
				400-600.0-3.lp	400	600	2,900,682,072.00	90.70%	3,600.00
				400-600.0-4.lp	400	600	1,888,509,600.00	73.50%	3,600.00
				400-600.0-5.lp	400	600	2,839,173,120.00	90.80%	3,600.00
				400-800-1.lp	400	800	1,904,938,200.00	100.00%	3,600.00
				400-800-2.lp	400	800	1,879,908,450.00	100.00%	3,600.00
				400-800-3.lp	400	800	1,925,545,160.00	100.00%	3,600.00
				400-800-4.lp	400	800	2,136,432,480.00	100.00%	3,600.00
				400-800-5.lp	400	800	1,846,592,748.00	100.00%	3,600.00
				500-250.0-1.lp	500	250	9,839,525,850.00	51.00%	3,600.00
				500-250.0-2.lp	500	250	7,278,386,544.00	55.70%	3,600.00
				500-250.0-3.lp	500	250	10,025,097,984.00	54.00%	3,600.00
				500-250.0-4.lp	500	250	7,591,636,416.00	69.10%	3,600.00
				500-250.0-5.lp	500	250	9,628,836,840.00	66.80%	3,600.00
				500-500-1.lp	500	500	7,382,552,320.00	96.50%	3,600.00
				500-500-2.lp	500	500	5,901,126,924.00	91.50%	3,600.00
				500-500-3.lp	500	500	6,220,494,462.00	85.20%	3,600.00
				500-500-4.lp	500	500	7,632,715,776.00	77.70%	3,600.00
				500-500-5.lp	500	500	4,257,000,000.00	63.00%	3,600.00
				500-750.0-1.lp	500	750	7,637,058,000.00	95.70%	3,600.00
				500-750.0-2.lp	500	750	4,755,951,025.00	100.00%	3,600.00
				500-750.0-3.lp	500	750	6,034,250,640.00	91.00%	3,600.00
				500-750.0-4.lp	500	750	5,491,122,000.00	100.00%	3,600.00
				500-750.0-5.lp	500	750	4,910,994,270.00	100.00%	3,600.00
				500-1000-1.lp	500	1,000	4,239,994,248.00	99.60%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*4*	GRB Nonconvex	500-1000-2.lp	500	1,000	4,673,647,656.00	94.10%	3,600.00
				500-1000-3.lp	500	1,000	3,269,091,168.00	100.00%	3,600.00
				500-1000-4.lp	500	1,000	4,187,457,884.00	100.00%	3,600.00
				500-1000-5.lp	500	1,000	5,249,639,808.00	100.00%	3,600.00
			N-O-Imm	100-50.0-1.lp	100	50	35,141,184.00	0.00%	11.33
				100-50.0-2.lp	100	50	6,774,840.00	0.00%	4.93
				100-50.0-3.lp	100	50	49,888,062.00	0.00%	14.22
				100-50.0-4.lp	100	50	7,944,160.00	0.00%	8.77
				100-50.0-5.lp	100	50	10,804,320.00	0.00%	6.99
				100-100-1.lp	100	100	16,476,930.00	0.00%	12.44
				100-100-2.lp	100	100	9,886,019.00	0.00%	8.82
				100-100-3.lp	100	100	9,166,500.00	0.00%	8.94
				100-100-4.lp	100	100	9,927,720.00	0.00%	6.09
				100-100-5.lp	100	100	7,203,000.00	0.00%	20.38
				100-150.0-1.lp	100	150	14,866,236.00	0.00%	13.33
				100-150.0-2.lp	100	150	31,217,280.00	0.00%	25.82
				100-150.0-3.lp	100	150	9,905,532.00	0.00%	23.32
				100-150.0-4.lp	100	150	16,689,240.00	0.00%	22.00
				100-150.0-5.lp	100	150	4,199,580.00	0.00%	10.60
				100-200-1.lp	100	200	6,007,320.00	0.00%	35.39
				100-200-2.lp	100	200	30,489,088.00	0.00%	19.72
				100-200-3.lp	100	200	6,918,820.00	0.00%	9.08
				100-200-4.lp	100	200	7,541,670.00	0.00%	27.54
				100-200-5.lp	100	200	1,014,816.00	0.00%	6.92
				200-100.0-1.lp	200	100	118,392,350.00	0.00%	54.89
				200-100.0-2.lp	200	100	602,823,186.00	0.00%	113.68
				200-100.0-3.lp	200	100	441,861,264.00	0.00%	79.36
				200-100.0-4.lp	200	100	723,824,640.00	0.00%	36.59
				200-100.0-5.lp	200	100	346,829,040.00	0.00%	191.81
				200-200-1.lp	200	200	155,751,750.00	0.00%	268.60

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	Binary	4	N-O-Imm	200-200-2.lp	200	200	67,445,622.00	0.00%	191.82
				200-200-3.lp	200	200	37,527,375.00	0.00%	108.13
				200-200-4.lp	200	200	107,932,160.00	0.00%	102.50
				200-200-5.lp	200	200	245,189,490.00	0.00%	315.63
				200-300.0-1.lp	200	300	169,478,400.00	0.00%	180.40
				200-300.0-2.lp	200	300	118,968,960.00	0.00%	610.13
				200-300.0-3.lp	200	300	18,603,008.00	0.00%	87.68
				200-300.0-4.lp	200	300	69,463,680.00	0.00%	435.21
				200-300.0-5.lp	200	300	49,496,700.00	0.00%	49.29
				200-400-1.lp	200	400	194,733,000.00	0.00%	589.93
				200-400-2.lp	200	400	106,152,120.00	0.00%	148.97
				200-400-3.lp	200	400	140,874,240.00	0.00%	209.07
				200-400-4.lp	200	400	72,475,760.00	0.00%	483.36
				200-400-5.lp	200	400	102,880,440.00	0.00%	416.88
				300-150.0-1.lp	300	150	808,016,706.00	0.00%	122.50
				300-150.0-2.lp	300	150	2,417,865,120.00	0.00%	867.66
				300-150.0-3.lp	300	150	1,265,906,124.00	0.00%	510.51
				300-150.0-4.lp	300	150	2,333,812,481.00	0.00%	1,379.54
				300-150.0-5.lp	300	150	1,424,332,080.00	0.00%	467.19
				300-300-1.lp	300	300	1,097,287,664.00	0.00%	1,180.18
				300-300-2.lp	300	300	1,578,758,454.00	0.00%	161.01
				300-300-3.lp	300	300	1,002,236,928.00	0.00%	1,027.77
				300-300-4.lp	300	300	1,208,825,904.00	0.00%	2,759.72
				300-300-5.lp	300	300	1,894,878,040.00	0.00%	866.20
				300-450.0-1.lp	300	450	754,365,150.00	0.00%	880.35
				300-450.0-2.lp	300	450	976,430,640.00	0.00%	2,115.20
				300-450.0-3.lp	300	450	605,186,400.00	0.00%	3,009.75
				300-450.0-4.lp	300	450	666,597,200.00	0.00%	1,564.83
				300-450.0-5.lp	300	450	1,186,333,533.00	0.00%	1,960.73
				300-600-1.lp	300	600	709,203,120.00	100.00%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	Binary	4	N-O-Imm	300-600-2.lp	300	600	1,322,355,200.00	0.00%	2,122.81
				300-600-3.lp	300	600	825,807,840.00	34.63%	3,600.00
				300-600-4.lp	300	600	1,141,801,920.00	26.17%	3,600.00
				300-600-5.lp	300	600	948,591,568.00	15.11%	3,600.00
				400-200.0-1.lp	400	200	5,073,358,368.00	0.00%	901.63
				400-200.0-2.lp	400	200	4,037,061,600.00	16.09%	3,600.00
				400-200.0-3.lp	400	200	4,688,671,932.00	0.00%	308.60
				400-200.0-4.lp	400	200	4,608,534,840.00	0.00%	376.94
				400-200.0-5.lp	400	200	2,459,706,480.00	0.00%	214.42
				400-400-1.lp	400	400	2,226,084,282.00	0.00%	797.16
				400-400-2.lp	400	400	2,935,221,300.00	27.30%	3,600.00
				400-400-3.lp	400	400	2,422,037,464.00	25.53%	3,600.00
				400-400-4.lp	400	400	2,379,904,128.00	33.47%	3,600.00
				400-400-5.lp	400	400	3,772,753,920.00	45.70%	3,600.00
				400-600.0-1.lp	400	600	1,993,373,928.00	21.57%	3,600.00
				400-600.0-2.lp	400	600	2,312,709,165.00	56.69%	3,600.00
				400-600.0-3.lp	400	600	2,900,682,072.00	60.95%	3,600.00
				400-600.0-4.lp	400	600	1,888,509,600.00	0.00%	291.60
				400-600.0-5.lp	400	600	2,839,173,120.00	0.00%	3,527.64
				400-800-1.lp	400	800	1,904,938,200.00	90.70%	3,600.00
				400-800-2.lp	400	800	1,879,908,450.00	98.82%	3,600.00
				400-800-3.lp	400	800	1,925,545,160.00	100.00%	3,600.00
				400-800-4.lp	400	800	2,177,062,240.00	92.31%	3,600.00
				400-800-5.lp	400	800	1,846,592,748.00	90.99%	3,600.00
				500-250.0-1.lp	500	250	9,839,525,850.00	23.61%	3,600.00
				500-250.0-2.lp	500	250	7,278,386,544.00	4.11%	3,600.00
				500-250.0-3.lp	500	250	10,025,097,984.00	25.03%	3,600.00
				500-250.0-4.lp	500	250	7,591,636,416.00	11.37%	3,600.00
				500-250.0-5.lp	500	250	9,628,836,840.00	27.59%	3,600.00
				500-500-1.lp	500	500	7,382,552,320.00	60.59%	3,600.00

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Binary*	*4*	N-O-Imm	500-500-2.lp	500	500	5,572,097,795.00	36.05%	3,600.00
				500-500-3.lp	500	500	6,464,043,768.00	48.08%	3,600.00
				500-500-4.lp	500	500	7,632,715,776.00	21.27%	3,600.00
				500-500-5.lp	500	500	4,257,000,000.00	0.00%	1,285.26
				500-750.0-1.lp	500	750	7,236,386,740.00	58.25%	3,600.00
				500-750.0-2.lp	500	750	4,755,951,025.00	54.85%	3,600.00
				500-750.0-3.lp	500	750	6,034,250,640.00	82.30%	3,600.00
				500-750.0-4.lp	500	750	4,321,209,760.00	59.82%	3,600.00
				500-750.0-5.lp	500	750	4,910,994,270.00	79.04%	3,600.00
				500-1000-1.lp	500	1,000	4,239,994,248.00	70.72%	3,600.00
				500-1000-2.lp	500	1,000	4,673,647,656.00	77.81%	3,600.00
				500-1000-3.lp	500	1,000	3,269,091,168.00	56.44%	3,600.00
				500-1000-4.lp	500	1,000	4,187,457,884.00	100.00%	3,600.00
				500-1000-5.lp	500	1,000	5,152,076,100.00	100.00%	3,600.00

4 Detailed Results for Experiment 4

Table 4: Detailed Results for Experiment 4

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	Continuous	2	GRB SOCP	400-200.0-1.lp	400	200	83,303,343.92	0.00%	0.14
				400-200.0-2.lp	400	200	101,574,104.51	0.00%	0.14
				400-200.0-3.lp	400	200	98,434,710.39	0.00%	0.14
				400-200.0-4.lp	400	200	93,255,820.08	0.00%	0.14
				400-200.0-5.lp	400	200	97,289,863.71	0.00%	0.14
				400-400-1.lp	400	400	26,244,678.96	0.00%	0.40
				400-400-2.lp	400	400	27,965,041.08	0.00%	0.35
				400-400-3.lp	400	400	35,379,226.47	0.00%	0.37
				400-400-4.lp	400	400	34,665,395.82	0.00%	0.38
				400-400-5.lp	400	400	27,782,652.72	0.00%	0.36
				400-600.0-1.lp	400	600	14,164,455.17	0.00%	0.65
				400-600.0-2.lp	400	600	17,125,523.09	0.00%	0.66
				400-600.0-3.lp	400	600	15,578,982.14	0.00%	0.71
				400-600.0-4.lp	400	600	17,892,251.12	0.00%	0.72
				400-600.0-5.lp	400	600	17,946,642.54	0.00%	0.67
				400-800-1.lp	400	800	10,627,955.68	0.00%	1.15
				400-800-2.lp	400	800	11,332,084.63	0.00%	1.19
				400-800-3.lp	400	800	12,622,484.94	0.00%	1.25
				400-800-4.lp	400	800	13,323,392.95	0.00%	1.22
				400-800-5.lp	400	800	12,524,475.20	0.00%	1.28
				800-400.0-1.lp	800	400	348,836,730.17	0.00%	0.75
				800-400.0-2.lp	800	400	329,556,547.51	0.00%	0.66
				800-400.0-3.lp	800	400	337,113,207.62	0.00%	0.68
				800-400.0-4.lp	800	400	347,021,874.21	0.00%	0.69
				800-400.0-5.lp	800	400	371,226,005.17	0.00%	0.65
				800-800-1.lp	800	800	138,411,872.78	0.00%	2.29

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*2*	*GRB SOCP*	800-800-2.lp	800	800	128,657,104.96	0.00%	2.27
				800-800-3.lp	800	800	118,501,594.99	0.00%	2.30
				800-800-4.lp	800	800	124,946,629.84	0.00%	2.31
				800-800-5.lp	800	800	123,963,907.58	0.00%	2.24
				800-1200.0-1.lp	800	1,200	89,743,333.46	0.00%	4.91
				800-1200.0-2.lp	800	1,200	65,203,977.74	0.00%	4.89
				800-1200.0-3.lp	800	1,200	74,318,298.93	0.00%	5.34
				800-1200.0-4.lp	800	1,200	78,183,874.52	0.00%	5.37
				800-1200.0-5.lp	800	1,200	88,347,231.62	0.00%	5.42
				800-1600-1.lp	800	1,600	51,805,042.30	0.00%	9.33
				800-1600-2.lp	800	1,600	57,044,113.57	0.00%	9.32
				800-1600-3.lp	800	1,600	57,066,191.27	0.00%	9.24
				800-1600-4.lp	800	1,600	54,526,853.19	0.00%	9.30
				800-1600-5.lp	800	1,600	52,782,253.30	0.00%	9.95
				1200-600.0-1.lp	1,200	600	777,360,453.89	0.00%	2.26
				1200-600.0-2.lp	1,200	600	699,487,524.05	0.00%	2.10
				1200-600.0-3.lp	1,200	600	704,533,087.56	0.00%	2.16
				1200-600.0-4.lp	1,200	600	646,978,708.70	0.00%	2.09
				1200-600.0-5.lp	1,200	600	660,690,614.64	0.00%	2.04
				1200-1200-1.lp	1,200	1,200	311,250,257.53	0.00%	8.69
				1200-1200-2.lp	1,200	1,200	269,386,534.01	0.00%	8.77
				1200-1200-3.lp	1,200	1,200	287,771,337.83	0.00%	8.07
				1200-1200-4.lp	1,200	1,200	275,858,340.13	0.00%	9.40
				1200-1200-5.lp	1,200	1,200	*Error: unable to satisfy optimality tolerances*		
				1200-1800.0-1.lp	1,200	1,800	153,099,065.89	0.00%	18.07
				1200-1800.0-2.lp	1,200	1,800	179,659,426.61	0.00%	19.72
				1200-1800.0-3.lp	1,200	1,800	187,881,969.26	0.00%	20.27
				1200-1800.0-5.lp	1,200	1,800	172,340,543.48	0.00%	21.83
				1200-1800.0-4.lp	1,200	1,800	*Error: unable to satisfy optimality tolerances*		
				1200-2400-1.lp	1,200	2,400	128,782,532.57	0.00%	39.24

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*2*	*GRB SOCP*	1200-2400-2.lp	1,200	2,400	128,038,342.32	0.00%	39.89
				1200-2400-3.lp	1,200	2,400	132,560,784.84	0.00%	36.04
				1200-2400-4.lp	1,200	2,400	122,942,932.23	0.00%	39.27
				1200-2400-5.lp	1,200	2,400	120,692,590.58	0.00%	37.79
				1600-800.0-1.lp	1,600	800	1,157,369,040.89	0.00%	6.79
				1600-800.0-2.lp	1,600	800	1,116,597,717.23	0.00%	6.47
				1600-800.0-3.lp	1,600	800	1,116,382,739.29	0.00%	6.71
				1600-800.0-5.lp	1,600	800	1,198,189,458.75	0.00%	6.28
				1600-800.0-4.lp	1,600	800	*Error: unable to satisfy optimality tolerances*		
				1600-1600-1.lp	1,600	1,600	458,644,704.66	0.00%	24.52
				1600-1600-2.lp	1,600	1,600	449,319,197.36	0.00%	24.69
				1600-1600-3.lp	1,600	1,600	468,119,062.17	0.00%	22.64
				1600-1600-4.lp	1,600	1,600	405,531,571.54	0.00%	23.29
				1600-1600-5.lp	1,600	1,600	426,042,978.43	0.00%	23.90
				1600-2400.0-1.lp	1,600	2,400	296,073,247.88	0.00%	56.34
				1600-2400.0-2.lp	1,600	2,400	345,519,606.80	0.00%	50.60
				1600-2400.0-3.lp	1,600	2,400	316,910,731.38	0.00%	50.54
				1600-2400.0-4.lp	1,600	2,400	309,641,387.79	0.00%	51.20
				1600-2400.0-5.lp	1,600	2,400	308,428,575.65	0.00%	52.21
				1600-3200-1.lp	1,600	3,200	206,738,226.06	0.00%	85.92
				1600-3200-2.lp	1,600	3,200	237,100,041.11	0.00%	85.48
				1600-3200-3.lp	1,600	3,200	237,494,822.47	0.00%	93.57
				1600-3200-5.lp	1,600	3,200	245,322,919.95	0.00%	88.95
				1600-3200-4.lp	1,600	3,200	*Error: unable to satisfy optimality tolerances*		
				2000-1000.0-1.lp	2,000	1,000	1,633,038,136.56	0.00%	13.04
				2000-1000.0-2.lp	2,000	1,000	1,543,884,888.39	0.00%	13.34
				2000-1000.0-3.lp	2,000	1,000	1,526,771,282.32	0.00%	12.68
				2000-1000.0-4.lp	2,000	1,000	1,664,635,153.44	0.00%	13.25
				2000-1000.0-5.lp	2,000	1,000	1,653,439,286.52	0.00%	13.74
				2000-2000-1.lp	2,000	2,000	685,896,544.48	0.00%	45.23

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*2*	*GRB SOCP*	2000-2000-2.lp	2,000	2,000	744,327,381.32	0.00%	45.84
				2000-2000-3.lp	2,000	2,000	836,878,784.42	0.00%	43.10
				2000-2000-4.lp	2,000	2,000	662,453,260.73	0.00%	43.94
				2000-2000-5.lp	2,000	2,000	691,677,198.43	0.00%	46.14
				2000-3000.0-1.lp	2,000	3,000	522,013,089.92	0.00%	104.30
				2000-3000.0-2.lp	2,000	3,000	471,430,719.73	0.00%	98.87
				2000-3000.0-3.lp	2,000	3,000	442,372,089.41	0.00%	108.56
				2000-3000.0-4.lp	2,000	3,000	473,790,955.99	0.00%	101.50
				2000-3000.0-5.lp	2,000	3,000	453,969,309.08	0.00%	107.33
				2000-4000-1.lp	2,000	4,000	392,423,642.04	0.00%	179.68
				2000-4000-2.lp	2,000	4,000	347,081,016.78	0.00%	187.76
				2000-4000-3.lp	2,000	4,000	349,460,690.15	0.00%	171.75
				2000-4000-4.lp	2,000	4,000	351,981,764.37	0.00%	166.64
				2000-4000-5.lp	2,000	4,000	*Error: unable to satisfy optimality tolerances*		
			N-O-10^0	400-200.0-1.lp	400	200	83,301,790.75	0.00%	3.12
				400-200.0-2.lp	400	200	101,574,028.63	0.00%	2.20
				400-200.0-3.lp	400	200	98,434,676.46	0.00%	2.44
				400-200.0-4.lp	400	200	93,249,996.00	0.00%	3.53
				400-200.0-5.lp	400	200	97,289,632.25	0.00%	2.63
				400-400-1.lp	400	400	26,244,672.18	0.00%	4.87
				400-400-2.lp	400	400	27,965,005.73	0.00%	3.48
				400-400-3.lp	400	400	35,379,120.61	0.00%	3.61
				400-400-4.lp	400	400	34,665,137.48	0.00%	4.53
				400-400-5.lp	400	400	27,782,527.50	0.00%	4.51
				400-600.0-1.lp	400	600	14,164,395.82	0.00%	2.66
				400-600.0-2.lp	400	600	17,125,329.71	0.00%	5.55
				400-600.0-3.lp	400	600	15,578,982.04	0.00%	2.86
				400-600.0-4.lp	400	600	17,892,238.37	0.00%	3.65
				400-600.0-5.lp	400	600	17,946,502.50	0.00%	6.12
				400-800-1.lp	400	800	10,627,957.86	0.00%	8.38

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	Continuous	2	N-O-10^0	400-800-2.lp	400	800	11,331,895.00	0.00%	7.48
				400-800-3.lp	400	800	12,622,399.69	0.00%	8.06
				400-800-4.lp	400	800	13,322,809.10	0.00%	5.21
				400-800-5.lp	400	800	12,524,475.95	0.00%	6.69
				800-400.0-1.lp	800	400	348,836,263.94	0.00%	20.99
				800-400.0-2.lp	800	400	329,556,550.97	0.00%	17.19
				800-400.0-3.lp	800	400	337,113,154.05	0.00%	12.34
				800-400.0-4.lp	800	400	347,020,080.63	0.00%	13.76
				800-400.0-5.lp	800	400	371,225,996.90	0.00%	17.99
				800-800-1.lp	800	800	138,411,879.45	0.00%	39.49
				800-800-2.lp	800	800	128,655,646.96	0.00%	33.37
				800-800-3.lp	800	800	118,501,381.01	0.00%	25.70
				800-800-4.lp	800	800	124,946,537.41	0.00%	28.26
				800-800-5.lp	800	800	123,963,704.66	0.00%	20.41
				800-1200.0-1.lp	800	1,200	89,743,251.06	0.00%	52.51
				800-1200.0-2.lp	800	1,200	65,203,981.58	0.00%	16.02
				800-1200.0-3.lp	800	1,200	74,317,330.30	0.00%	37.94
				800-1200.0-4.lp	800	1,200	78,183,869.80	0.00%	49.67
				800-1200.0-5.lp	800	1,200	88,347,060.64	0.00%	94.42
				800-1600-1.lp	800	1,600	51,804,981.37	0.00%	31.82
				800-1600-2.lp	800	1,600	57,044,117.70	0.00%	17.19
				800-1600-3.lp	800	1,600	57,066,058.43	0.00%	34.15
				800-1600-4.lp	800	1,600	54,526,777.79	0.00%	22.72
				800-1600-5.lp	800	1,600	52,782,139.47	0.00%	19.47
				1200-600.0-1.lp	1,200	600	777,360,362.43	0.00%	31.63
				1200-600.0-2.lp	1,200	600	699,487,528.86	0.00%	45.15
				1200-600.0-3.lp	1,200	600	704,532,970.44	0.00%	32.06
				1200-600.0-4.lp	1,200	600	646,978,723.53	0.00%	39.87
				1200-600.0-5.lp	1,200	600	660,690,613.91	0.00%	42.79
				1200-1200-1.lp	1,200	1,200	311,249,990.77	0.00%	62.54

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*2*	*N-O*-10^0	1200-1200-2.lp	1,200	1,200	269,386,463.87	0.00%	33.24
				1200-1200-3.lp	1,200	1,200	287,771,338.15	0.00%	33.28
				1200-1200-4.lp	1,200	1,200	275,857,940.00	0.00%	62.57
				1200-1200-5.lp	1,200	1,200	261,733,774.57	0.00%	30.92
				1200-1800.0-1.lp	1,200	1,800	153,098,755.51	0.00%	180.34
				1200-1800.0-2.lp	1,200	1,800	179,659,334.70	0.00%	82.90
				1200-1800.0-3.lp	1,200	1,800	187,881,915.00	0.00%	159.61
				1200-1800.0-4.lp	1,200	1,800	187,592,381.73	0.00%	157.92
				1200-1800.0-5.lp	1,200	1,800	172,340,084.67	0.00%	127.81
				1200-2400-1.lp	1,200	2,400	128,782,477.94	0.00%	125.36
				1200-2400-2.lp	1,200	2,400	128,038,339.95	0.00%	158.99
				1200-2400-3.lp	1,200	2,400	132,560,729.38	0.00%	137.98
				1200-2400-4.lp	1,200	2,400	122,942,767.65	0.00%	133.66
				1200-2400-5.lp	1,200	2,400	120,692,271.08	0.00%	244.67
				1600-800.0-1.lp	1,600	800	1,157,368,947.90	0.00%	33.83
				1600-800.0-2.lp	1,600	800	1,116,597,354.53	0.00%	55.70
				1600-800.0-3.lp	1,600	800	1,116,382,708.87	0.00%	33.22
				1600-800.0-4.lp	1,600	800	1,140,353,716.78	0.00%	46.69
				1600-800.0-5.lp	1,600	800	1,198,189,340.70	0.00%	88.89
				1600-1600-1.lp	1,600	1,600	458,644,507.48	0.00%	150.66
				1600-1600-2.lp	1,600	1,600	449,318,847.35	0.00%	267.80
				1600-1600-3.lp	1,600	1,600	468,118,845.69	0.00%	386.01
				1600-1600-4.lp	1,600	1,600	405,531,566.56	0.00%	200.00
				1600-1600-5.lp	1,600	1,600	426,042,945.34	0.00%	140.10
				1600-2400.0-1.lp	1,600	2,400	296,073,196.12	0.00%	629.69
				1600-2400.0-2.lp	1,600	2,400	345,519,630.62	0.00%	259.62
				1600-2400.0-3.lp	1,600	2,400	316,910,709.39	0.00%	217.94
				1600-2400.0-4.lp	1,600	2,400	309,641,366.25	0.00%	201.40
				1600-2400.0-5.lp	1,600	2,400	308,425,479.01	0.00%	106.92
				1600-3200-1.lp	1,600	3,200	206,737,889.33	0.00%	263.35

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*2*	N-O-10^0	1600-3200-2.lp	1,600	3,200	237,100,080.75	0.00%	687.64
				1600-3200-3.lp	1,600	3,200	237,494,795.25	0.00%	154.14
				1600-3200-4.lp	1,600	3,200	214,004,751.79	0.00%	255.31
				1600-3200-5.lp	1,600	3,200	245,322,926.67	0.00%	410.82
				2000-1000.0-1.lp	2,000	1,000	1,633,030,505.99	0.00%	190.69
				2000-1000.0-2.lp	2,000	1,000	1,543,883,969.05	0.00%	243.88
				2000-1000.0-3.lp	2,000	1,000	1,526,770,440.71	0.00%	99.85
				2000-1000.0-4.lp	2,000	1,000	1,664,634,933.21	0.00%	177.00
				2000-1000.0-5.lp	2,000	1,000	1,653,439,183.71	0.00%	138.16
				2000-2000-1.lp	2,000	2,000	685,896,549.46	0.00%	377.74
				2000-2000-2.lp	2,000	2,000	744,327,432.80	0.00%	223.25
				2000-2000-3.lp	2,000	2,000	836,878,491.58	0.00%	324.51
				2000-2000-4.lp	2,000	2,000	662,453,003.42	0.00%	425.43
				2000-2000-5.lp	2,000	2,000	691,677,139.53	0.00%	488.30
				2000-3000.0-1.lp	2,000	3,000	522,013,049.34	0.00%	1,209.99
				2000-3000.0-2.lp	2,000	3,000	471,430,697.36	0.00%	758.28
				2000-3000.0-3.lp	2,000	3,000	442,372,075.08	0.00%	393.81
				2000-3000.0-4.lp	2,000	3,000	473,789,874.60	0.00%	357.69
				2000-3000.0-5.lp	2,000	3,000	453,967,005.65	0.00%	593.18
				2000-4000-1.lp	2,000	4,000	392,423,660.31	0.00%	757.93
				2000-4000-2.lp	2,000	4,000	347,081,009.47	0.00%	1,053.00
				2000-4000-3.lp	2,000	4,000	349,460,734.68	0.00%	632.05
				2000-4000-4.lp	2,000	4,000	351,981,780.92	0.00%	1,323.66
				2000-4000-5.lp	2,000	4,000	342,076,970.06	0.00%	1,170.11
			N-O-10^2	400-200.0-1.lp	400	200	83,303,343.68	0.00%	4.54
				400-200.0-2.lp	400	200	101,574,101.05	0.00%	4.72
				400-200.0-3.lp	400	200	98,434,709.27	0.00%	3.78
				400-200.0-4.lp	400	200	93,255,816.83	0.00%	3.25
				400-200.0-5.lp	400	200	97,289,863.78	0.00%	4.05
				400-400-1.lp	400	400	26,244,678.70	0.00%	5.87

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	Continuous	2	N-O-10^2	400-400-2.lp	400	400	27,965,040.64	0.00%	5.54
				400-400-3.lp	400	400	35,379,223.31	0.00%	7.80
				400-400-4.lp	400	400	34,665,395.89	0.00%	5.20
				400-400-5.lp	400	400	27,782,651.39	0.00%	8.22
				400-600.0-1.lp	400	600	14,164,455.16	0.00%	9.36
				400-600.0-2.lp	400	600	17,125,526.06	0.00%	10.52
				400-600.0-3.lp	400	600	15,578,982.06	0.00%	12.76
				400-600.0-4.lp	400	600	17,892,250.97	0.00%	7.31
				400-600.0-5.lp	400	600	17,946,643.84	0.00%	8.18
				400-800-1.lp	400	800	10,627,958.24	0.00%	13.21
				400-800-2.lp	400	800	11,332,085.61	0.00%	15.54
				400-800-3.lp	400	800	12,622,484.73	0.00%	18.24
				400-800-4.lp	400	800	13,323,393.42	0.00%	12.11
				400-800-5.lp	400	800	12,524,476.07	0.00%	15.52
				800-400.0-1.lp	800	400	348,836,735.72	0.00%	15.91
				800-400.0-2.lp	800	400	329,556,555.75	0.00%	18.56
				800-400.0-3.lp	800	400	337,113,209.28	0.00%	12.32
				800-400.0-4.lp	800	400	347,021,876.89	0.00%	15.32
				800-400.0-5.lp	800	400	371,226,015.57	0.00%	18.28
				800-800-1.lp	800	800	138,411,879.44	0.00%	23.40
				800-800-2.lp	800	800	128,657,110.98	0.00%	35.36
				800-800-3.lp	800	800	118,501,587.57	0.00%	13.63
				800-800-4.lp	800	800	124,946,638.72	0.00%	31.02
				800-800-5.lp	800	800	123,963,914.56	0.00%	19.55
				800-1200.0-1.lp	800	1,200	89,743,362.66	0.00%	48.07
				800-1200.0-2.lp	800	1,200	65,203,983.42	0.00%	35.19
				800-1200.0-3.lp	800	1,200	74,318,291.53	0.00%	45.27
				800-1200.0-4.lp	800	1,200	78,183,874.85	0.00%	56.45
				800-1200.0-5.lp	800	1,200	88,347,231.48	0.00%	42.59
				800-1600-1.lp	800	1,600	51,805,045.33	0.00%	75.78

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*2*	*N-O*-10²	800-1600-2.lp	800	1,600	57,044,118.90	0.00%	69.37
				800-1600-3.lp	800	1,600	57,066,190.77	0.00%	47.01
				800-1600-4.lp	800	1,600	54,526,853.96	0.00%	66.61
				800-1600-5.lp	800	1,600	52,782,251.10	0.00%	50.06
				1200-600.0-1.lp	1,200	600	777,360,485.05	0.00%	251.83
				1200-600.0-2.lp	1,200	600	699,487,529.00	0.00%	80.42
				1200-600.0-3.lp	1,200	600	704,533,100.45	0.00%	48.13
				1200-600.0-4.lp	1,200	600	646,978,728.70	0.00%	73.35
				1200-600.0-5.lp	1,200	600	660,690,614.59	0.00%	150.12
				1200-1200-1.lp	1,200	1,200	311,250,265.21	0.00%	96.92
				1200-1200-2.lp	1,200	1,200	269,386,537.10	0.00%	75.09
				1200-1200-3.lp	1,200	1,200	287,771,371.73	0.00%	105.65
				1200-1200-4.lp	1,200	1,200	275,858,343.59	0.00%	81.87
				1200-1200-5.lp	1,200	1,200	261,733,795.04	0.00%	537.70
				1200-1800.0-1.lp	1,200	1,800	153,099,083.32	0.00%	86.69
				1200-1800.0-2.lp	1,200	1,800	179,659,445.94	0.00%	92.97
				1200-1800.0-3.lp	1,200	1,800	187,881,975.81	0.00%	104.94
				1200-1800.0-4.lp	1,200	1,800	187,593,105.40	0.00%	198.15
				1200-1800.0-5.lp	1,200	1,800	172,340,544.21	0.00%	105.18
				1200-2400-1.lp	1,200	2,400	128,782,536.34	0.00%	216.64
				1200-2400-2.lp	1,200	2,400	128,038,350.06	0.00%	228.51
				1200-2400-3.lp	1,200	2,400	132,560,786.22	0.00%	151.92
				1200-2400-4.lp	1,200	2,400	122,942,965.58	0.00%	193.68
				1200-2400-5.lp	1,200	2,400	120,692,591.62	0.00%	96.26
				1600-800.0-1.lp	1,600	800	1,157,369,149.20	0.00%	87.49
				1600-800.0-2.lp	1,600	800	1,116,597,771.77	0.00%	395.21
				1600-800.0-3.lp	1,600	800	1,116,382,739.34	0.00%	99.23
				1600-800.0-4.lp	1,600	800	1,140,353,834.54	0.00%	79.58
				1600-800.0-5.lp	1,600	800	1,198,189,465.94	0.00%	105.34
				1600-1600-1.lp	1,600	1,600	458,644,705.46	0.00%	149.21

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	Continuous	2	N-O-10^2	1600-1600-2.lp	1,600	1,600	449,319,206.01	0.00%	197.17
				1600-1600-3.lp	1,600	1,600	468,119,069.92	0.00%	452.52
				1600-1600-4.lp	1,600	1,600	405,531,572.40	0.00%	186.89
				1600-1600-5.lp	1,600	1,600	426,042,981.22	0.00%	158.52
				1600-2400.0-1.lp	1,600	2,400	296,073,249.19	0.00%	736.68
				1600-2400.0-2.lp	1,600	2,400	345,519,630.17	0.00%	171.90
				1600-2400.0-3.lp	1,600	2,400	316,910,735.91	0.00%	342.81
				1600-2400.0-4.lp	1,600	2,400	309,641,443.67	0.00%	390.14
				1600-2400.0-5.lp	1,600	2,400	308,428,598.29	0.00%	654.83
				1600-3200-1.lp	1,600	3,200	206,738,274.14	0.00%	342.91
				1600-3200-2.lp	1,600	3,200	237,100,083.19	0.00%	339.39
				1600-3200-3.lp	1,600	3,200	237,494,826.13	0.00%	314.42
				1600-3200-4.lp	1,600	3,200	214,004,791.60	0.00%	2,218.49
				1600-3200-5.lp	1,600	3,200	245,322,989.78	0.00%	316.17
				2000-1000.0-1.lp	2,000	1,000	1,633,038,123.79	0.00%	224.45
				2000-1000.0-2.lp	2,000	1,000	1,543,884,892.42	0.00%	245.87
				2000-1000.0-3.lp	2,000	1,000	1,526,771,314.36	0.00%	87.41
				2000-1000.0-4.lp	2,000	1,000	1,664,635,158.53	0.00%	333.33
				2000-1000.0-5.lp	2,000	1,000	1,653,439,299.76	0.00%	155.28
				2000-2000-1.lp	2,000	2,000	685,896,547.08	0.00%	647.15
				2000-2000-2.lp	2,000	2,000	744,327,439.52	0.00%	1,101.27
				2000-2000-3.lp	2,000	2,000	836,878,819.65	0.00%	670.17
				2000-2000-4.lp	2,000	2,000	662,453,270.14	0.00%	564.48
				2000-2000-5.lp	2,000	2,000	691,677,236.11	0.00%	957.67
				2000-3000.0-1.lp	2,000	3,000	522,013,113.08	0.00%	1,109.35
				2000-3000.0-2.lp	2,000	3,000	471,430,736.08	0.00%	705.12
				2000-3000.0-3.lp	2,000	3,000	442,372,104.96	0.00%	414.74
				2000-3000.0-4.lp	2,000	3,000	473,791,006.70	0.00%	3,369.38
				2000-3000.0-5.lp	2,000	3,000	453,969,361.91	0.00%	2,947.10
				2000-4000-1.lp	2,000	4,000	392,423,702.04	0.00%	1,137.13

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*2*	*N-O-10²*	2000-4000-2.lp	2,000	4,000	347,081,016.49	0.00%	979.29
				2000-4000-3.lp	2,000	4,000	349,460,750.52	0.00%	555.40
				2000-4000-4.lp	2,000	4,000	351,981,809.04	-0.00%	3,600.00
				2000-4000-5.lp	2,000	4,000	342,077,036.09	0.00%	1,160.61
			N-O-10⁴	400-200.0-1.lp	400	200	83,303,343.93	0.00%	9.34
				400-200.0-2.lp	400	200	101,574,105.47	0.00%	14.21
				400-200.0-3.lp	400	200	98,434,710.81	0.00%	7.58
				400-200.0-4.lp	400	200	93,255,820.61	0.00%	16.50
				400-200.0-5.lp	400	200	97,289,863.97	0.00%	10.31
				400-400-1.lp	400	400	26,244,679.07	0.00%	8.96
				400-400-2.lp	400	400	27,965,043.24	0.00%	9.53
				400-400-3.lp	400	400	35,379,226.81	0.00%	8.61
				400-400-4.lp	400	400	34,665,395.90	0.00%	7.62
				400-400-5.lp	400	400	27,782,653.33	0.00%	12.88
				400-600.0-1.lp	400	600	14,164,456.01	0.00%	11.00
				400-600.0-2.lp	400	600	17,125,526.52	0.00%	8.43
				400-600.0-3.lp	400	600	15,578,982.19	0.00%	12.50
				400-600.0-4.lp	400	600	17,892,251.36	0.00%	9.86
				400-600.0-5.lp	400	600	17,946,644.08	0.00%	9.50
				400-800-1.lp	400	800	9,799,541.00	0.00%	4.83
				400-800-2.lp	400	800	11,332,085.66	0.00%	15.33
				400-800-3.lp	400	800	12,622,484.96	0.00%	10.07
				400-800-4.lp	400	800	13,323,394.37	0.00%	9.69
				400-800-5.lp	400	800	12,524,476.23	0.00%	12.83
				800-400.0-1.lp	800	400	348,836,736.04	0.00%	17.00
				800-400.0-2.lp	800	400	329,556,557.40	0.00%	12.48
				800-400.0-3.lp	800	400	337,113,210.94	0.00%	14.49
				800-400.0-4.lp	800	400	347,021,883.17	0.00%	15.38
				800-400.0-5.lp	800	400	371,226,017.09	0.00%	30.21
				800-800-1.lp	800	800	138,411,879.46	0.00%	19.92

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	Continuous	2	N-O-10^4	800-800-2.lp	800	800	128,657,112.58	0.00%	24.32
				800-800-3.lp	800	800	118,501,596.62	0.00%	25.20
				800-800-4.lp	800	800	124,946,638.72	0.00%	27.34
				800-800-5.lp	800	800	123,963,920.30	0.00%	25.21
				800-1200.0-1.lp	800	1,200	89,743,362.74	0.00%	57.05
				800-1200.0-2.lp	800	1,200	65,203,983.47	0.00%	43.45
				800-1200.0-3.lp	800	1,200	74,163,398.64	0.00%	28.61
				800-1200.0-4.lp	800	1,200	78,183,875.80	0.00%	28.48
				800-1200.0-5.lp	800	1,200	88,347,232.00	0.00%	36.16
				800-1600-1.lp	800	1,600	51,805,045.71	0.00%	42.87
				800-1600-2.lp	800	1,600	57,044,118.92	0.00%	76.17
				800-1600-3.lp	800	1,600	57,066,193.02	0.00%	51.42
				800-1600-4.lp	800	1,600	54,526,856.29	0.00%	36.08
				800-1600-5.lp	800	1,600	52,782,253.51	0.00%	36.85
				1200-600.0-1.lp	1,200	600	777,360,485.20	0.00%	31.14
				1200-600.0-2.lp	1,200	600	699,487,529.21	0.00%	35.90
				1200-600.0-3.lp	1,200	600	704,533,100.77	0.00%	31.52
				1200-600.0-4.lp	1,200	600	646,978,729.24	0.00%	27.46
				1200-600.0-5.lp	1,200	600	660,690,614.78	0.00%	32.48
				1200-1200-1.lp	1,200	1,200	311,250,268.16	0.00%	53.35
				1200-1200-2.lp	1,200	1,200	269,386,538.24	0.00%	62.19
				1200-1200-3.lp	1,200	1,200	287,771,372.29	0.00%	95.22
				1200-1200-4.lp	1,200	1,200	275,858,344.98	0.00%	50.57
				1200-1200-5.lp	1,200	1,200	261,733,795.04	0.00%	95.91
				1200-1800.0-1.lp	1,200	1,800	153,099,085.90	0.00%	89.78
				1200-1800.0-2.lp	1,200	1,800	179,659,446.79	0.00%	83.07
				1200-1800.0-3.lp	1,200	1,800	187,881,976.15	0.00%	54.67
				1200-1800.0-4.lp	1,200	1,800	187,593,124.62	0.00%	209.07
				1200-1800.0-5.lp	1,200	1,800	172,340,544.77	0.00%	77.02
				1200-2400-1.lp	1,200	2,400	128,782,538.52	0.00%	86.53

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*2*	*N-O*-10^4	1200-2400-2.lp	1,200	2,400	128,038,351.21	0.00%	176.37
				1200-2400-3.lp	1,200	2,400	132,560,786.47	0.00%	119.50
				1200-2400-4.lp	1,200	2,400	122,942,966.35	0.00%	122.37
				1200-2400-5.lp	1,200	2,400	120,692,593.88	0.00%	107.23
				1600-800.0-1.lp	1,600	800	1,157,369,164.10	0.00%	424.32
				1600-800.0-2.lp	1,600	800	1,116,597,774.59	0.00%	137.14
				1600-800.0-3.lp	1,600	800	1,116,382,739.28	0.00%	956.18
				1600-800.0-4.lp	1,600	800	1,140,353,839.48	0.00%	107.59
				1600-800.0-5.lp	1,600	800	1,198,189,466.07	0.00%	149.99
				1600-1600-1.lp	1,600	1,600	458,644,706.24	0.00%	109.48
				1600-1600-2.lp	1,600	1,600	441,948,745.15	0.00%	36.27
				1600-1600-3.lp	1,600	1,600	468,119,069.89	0.00%	139.67
				1600-1600-4.lp	1,600	1,600	405,531,573.25	0.00%	235.24
				1600-1600-5.lp	1,600	1,600	426,042,981.39	0.00%	108.72
				1600-2400.0-1.lp	1,600	2,400	296,073,249.88	0.00%	200.32
				1600-2400.0-2.lp	1,600	2,400	345,519,630.66	0.00%	278.97
				1600-2400.0-3.lp	1,600	2,400	316,910,736.70	0.00%	375.13
				1600-2400.0-4.lp	1,600	2,400	309,641,446.55	0.00%	298.68
				1600-2400.0-5.lp	1,600	2,400	308,428,599.78	0.00%	301.82
				1600-3200-1.lp	1,600	3,200	206,738,274.96	0.00%	199.32
				1600-3200-2.lp	1,600	3,200	237,100,083.18	0.00%	287.30
				1600-3200-3.lp	1,600	3,200	237,494,827.37	0.00%	231.74
				1600-3200-4.lp	1,600	3,200	214,004,791.73	0.00%	376.77
				1600-3200-5.lp	1,600	3,200	245,322,989.97	0.00%	276.70
				2000-1000.0-1.lp	2,000	1,000	1,633,038,144.35	0.00%	241.72
				2000-1000.0-2.lp	2,000	1,000	1,543,884,895.97	0.00%	180.02
				2000-1000.0-3.lp	2,000	1,000	1,526,771,317.77	0.00%	177.25
				2000-1000.0-4.lp	2,000	1,000	1,664,635,158.66	0.00%	317.06
				2000-1000.0-5.lp	2,000	1,000	1,653,439,302.63	0.00%	274.32
				2000-2000-1.lp	2,000	2,000	685,896,549.48	0.00%	404.57

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*2*	*N-O*-10^4	2000-2000-2.lp	2,000	2,000	744,327,439.66	0.00%	207.17
				2000-2000-3.lp	2,000	2,000	836,878,820.59	0.00%	367.45
				2000-2000-4.lp	2,000	2,000	662,453,270.13	0.00%	256.39
				2000-2000-5.lp	2,000	2,000	691,677,236.17	0.00%	338.68
				2000-3000.0-1.lp	2,000	3,000	522,013,113.60	0.00%	396.38
				2000-3000.0-2.lp	2,000	3,000	471,430,738.38	0.00%	227.17
				2000-3000.0-3.lp	2,000	3,000	442,372,107.40	0.00%	353.69
				2000-3000.0-4.lp	2,000	3,000	473,791,007.46	0.00%	238.07
				2000-3000.0-5.lp	2,000	3,000	453,969,362.05	0.00%	468.88
				2000-4000-1.lp	2,000	4,000	392,423,702.16	0.00%	481.15
				2000-4000-2.lp	2,000	4,000	347,081,017.36	0.00%	871.45
				2000-4000-3.lp	2,000	4,000	349,460,750.77	0.00%	1,004.15
				2000-4000-4.lp	2,000	4,000	351,981,809.04	0.00%	742.86
				2000-4000-5.lp	2,000	4,000	342,077,036.89	0.00%	362.79
		3	GRB SOCP	400-200.0-1.lp	400	200	962,841,900,566.33	0.00%	0.15
				400-200.0-2.lp	400	200	1,696,230,594,407.81	0.00%	0.14
				400-200.0-3.lp	400	200	985,843,468,394.32	0.00%	0.15
				400-200.0-4.lp	400	200	1,961,631,860,080.60	0.00%	0.15
				400-200.0-5.lp	400	200	1,351,299,211,905.38	0.00%	0.14
				400-400-1.lp	400	400	170,867,066,567.29	0.00%	0.38
				400-400-2.lp	400	400	392,169,936,350.64	0.00%	0.41
				400-400-3.lp	400	400	254,294,598,045.85	0.00%	0.38
				400-400-4.lp	400	400	249,559,544,519.79	0.00%	0.39
				400-400-5.lp	400	400	273,293,229,992.59	0.00%	0.43
				400-600.0-1.lp	400	600	139,989,093,157.66	0.00%	0.77
				400-600.0-2.lp	400	600	93,975,896,580.13	0.00%	0.83
				400-600.0-3.lp	400	600	116,608,173,235.25	0.00%	0.71
				400-600.0-4.lp	400	600	149,542,241,501.10	0.00%	0.71
				400-600.0-5.lp	400	600	122,665,758,941.39	0.00%	0.74
				400-800-1.lp	400	800	70,471,390,129.06	0.00%	1.31

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*3*	*GRB SOCP*	400-800-2.lp	400	800	67,632,674,345.36	0.00%	1.30
				400-800-3.lp	400	800	64,881,165,965.85	0.00%	1.18
				400-800-4.lp	400	800	51,324,584,459.69	0.00%	1.24
				400-800-5.lp	400	800	93,693,640,258.70	0.00%	1.38
				800-400.0-3.lp	800	400	8,953,645,019,476.89	0.00%	0.80
				800-400.0-4.lp	800	400	8,009,395,546,791.64	0.00%	0.74
				800-400.0-5.lp	800	400	9,960,193,020,967.86	0.00%	0.72
				800-400.0-1.lp	800	400	*Error: unable to satisfy optimality tolerances*		
				800-400.0-2.lp	800	400	*Error: unable to satisfy optimality tolerances*		
				800-800-1.lp	800	800	1,971,994,180,830.70	0.00%	2.44
				800-800-2.lp	800	800	2,110,919,701,434.93	0.00%	2.44
				800-800-3.lp	800	800	1,887,612,125,206.71	0.00%	2.66
				800-800-4.lp	800	800	2,340,455,331,256.68	0.00%	2.45
				800-800-5.lp	800	800	2,430,314,309,350.44	0.00%	2.57
				800-1200.0-2.lp	800	1,200	1,255,215,891,126.95	0.00%	5.67
				800-1200.0-3.lp	800	1,200	967,348,242,410.76	0.00%	5.73
				800-1200.0-4.lp	800	1,200	943,522,821,995.41	0.00%	5.97
				800-1200.0-5.lp	800	1,200	940,798,052,499.91	0.00%	5.47
				800-1200.0-1.lp	800	1,200	*Error: unable to satisfy optimality tolerances*		
				800-1600-1.lp	800	1,600	687,790,291,091.91	0.00%	11.39
				800-1600-2.lp	800	1,600	603,948,806,688.21	0.00%	10.39
				800-1600-3.lp	800	1,600	632,847,277,216.46	0.00%	11.12
				800-1600-4.lp	800	1,600	562,614,485,391.81	0.00%	10.23
				800-1600-5.lp	800	1,600	656,902,414,855.05	0.00%	10.75
				1200-600.0-1.lp	1,200	600	29,911,204,016,070.43	0.00%	2.42
				1200-600.0-2.lp	1,200	600	35,710,408,304,071.06	0.00%	2.99
				1200-600.0-3.lp	1,200	600	34,715,669,270,039.43	0.00%	2.62
				1200-600.0-4.lp	1,200	600	35,365,654,168,820.29	0.00%	2.61
				1200-600.0-5.lp	1,200	600	28,234,804,713,642.34	0.00%	2.24
				1200-1200-1.lp	1,200	1,200	7,310,352,393,008.36	0.00%	9.73

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	Continuous	3	GRB SOCP	1200-1200-2.lp	1,200	1,200	7,028,555,357,582.07	0.00%	9.35
				1200-1200-3.lp	1,200	1,200	6,547,334,803,378.03	0.00%	9.40
				1200-1200-4.lp	1,200	1,200	7,117,556,678,692.75	0.00%	9.48
				1200-1200-5.lp	1,200	1,200	5,620,881,105,759.29	0.00%	9.04
				1200-1800.0-1.lp	1,200	1,800	3,331,003,119,314.19	0.00%	21.64
				1200-1800.0-2.lp	1,200	1,800	3,705,365,732,857.87	0.00%	22.01
				1200-1800.0-3.lp	1,200	1,800	3,726,727,255,874.83	0.00%	22.03
				1200-1800.0-4.lp	1,200	1,800	4,103,673,325,907.69	0.00%	23.01
				1200-1800.0-5.lp	1,200	1,800	3,379,538,960,721.25	0.00%	22.31
				1200-2400-1.lp	1,200	2,400	2,227,740,944,700.34	0.00%	41.20
				1200-2400-2.lp	1,200	2,400	2,090,727,842,422.79	0.00%	36.76
				1200-2400-3.lp	1,200	2,400	2,169,365,062,648.57	0.00%	40.04
				1200-2400-4.lp	1,200	2,400	2,113,445,482,110.58	0.00%	41.09
				1200-2400-5.lp	1,200	2,400	1,960,411,599,253.64	0.00%	43.87
				1600-800.0-1.lp	1,600	800	48,089,448,546,747.92	0.00%	7.37
				1600-800.0-2.lp	1,600	800	55,571,997,799,769.66	0.00%	6.50
				1600-800.0-3.lp	1,600	800	61,189,910,013,583.68	0.00%	8.04
				1600-800.0-5.lp	1,600	800	76,542,367,515,262.45	0.00%	6.63
				1600-800.0-4.lp	1,600	800	Error: unable to satisfy optimality tolerances		
				1600-1600-1.lp	1,600	1,600	19,599,280,116,643.84	0.00%	25.38
				1600-1600-2.lp	1,600	1,600	19,315,388,389,124.66	0.00%	24.90
				1600-1600-3.lp	1,600	1,600	18,895,307,626,987.93	0.00%	27.17
				1600-1600-5.lp	1,600	1,600	16,480,230,095,831.82	0.00%	25.14
				1600-1600-4.lp	1,600	1,600	Error: unable to satisfy optimality tolerances		
				1600-2400.0-1.lp	1,600	2,400	8,441,055,163,365.51	0.00%	54.71
				1600-2400.0-3.lp	1,600	2,400	7,728,938,031,843.60	0.00%	54.55
				1600-2400.0-4.lp	1,600	2,400	8,023,934,532,187.96	0.00%	52.25
				1600-2400.0-5.lp	1,600	2,400	8,618,687,281,955.07	0.00%	53.19
				1600-2400.0-2.lp	1,600	2,400	Error: unable to satisfy optimality tolerances		
				1600-3200-1.lp	1,600	3,200	5,421,386,251,156.49	0.00%	98.40

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	Continuous	3	GRB SOCP	1600-3200-2.lp	1,600	3,200	5,116,678,051,165.26	0.00%	94.14
				1600-3200-3.lp	1,600	3,200	5,463,895,246,810.14	0.00%	107.01
				1600-3200-5.lp	1,600	3,200	5,613,921,179,278.20	0.00%	101.70
				1600-3200-4.lp	1,600	3,200	Error: unable to satisfy optimality tolerances		
				2000-1000.0-1.lp	2,000	1,000	96,731,323,066,189.86	0.00%	13.37
				2000-1000.0-3.lp	2,000	1,000	112,967,825,795,645.38	0.00%	15.50
				2000-1000.0-4.lp	2,000	1,000	97,276,606,563,582.50	0.00%	14.23
				2000-1000.0-5.lp	2,000	1,000	109,720,156,767,344.00	0.00%	20.67
				2000-1000.0-2.lp	2,000	1,000	Error: unable to satisfy optimality tolerances		
				2000-2000-4.lp	2,000	2,000	29,296,019,573,400.30	0.00%	52.53
				2000-2000-1.lp	2,000	2,000	Error: unable to satisfy optimality tolerances		
				2000-2000-2.lp	2,000	2,000	Error: unable to satisfy optimality tolerances		
				2000-2000-3.lp	2,000	2,000	Error: unable to satisfy optimality tolerances		
				2000-2000-5.lp	2,000	2,000	Error: unable to satisfy optimality tolerances		
				2000-3000.0-1.lp	2,000	3,000	13,578,929,367,888.03	0.00%	113.30
				2000-3000.0-2.lp	2,000	3,000	14,870,206,441,660.59	0.00%	115.96
				2000-3000.0-3.lp	2,000	3,000	16,423,722,639,792.02	0.00%	116.50
				2000-3000.0-5.lp	2,000	3,000	16,413,044,179,384.89	0.00%	125.43
				2000-3000.0-4.lp	2,000	3,000	Error: unable to satisfy optimality tolerances		
				2000-4000-2.lp	2,000	4,000	11,361,020,083,352.26	0.00%	197.39
				2000-4000-3.lp	2,000	4,000	10,872,156,965,521.48	0.00%	198.89
				2000-4000-5.lp	2,000	4,000	9,794,622,831,402.99	0.00%	180.02
				2000-4000-1.lp	2,000	4,000	Error: unable to satisfy optimality tolerances		
				2000-4000-4.lp	2,000	4,000	Error: unable to satisfy optimality tolerances		
			N-O-10^0	400-200.0-1.lp	400	200	962,841,849,775.34	0.00%	15.16
				400-200.0-2.lp	400	200	1,696,229,129,387.47	0.00%	17.95
				400-200.0-3.lp	400	200	985,841,032,000.00	0.00%	26.30
				400-200.0-4.lp	400	200	1,961,630,194,973.21	0.00%	16.25
				400-200.0-5.lp	400	200	1,351,295,955,547.03	0.00%	23.23
				400-400-1.lp	400	400	170,866,923,292.86	0.00%	89.59

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*3*	*N-O*-10⁰	400-400-2.lp	400	400	392,169,787,130.32	0.00%	171.69
				400-400-3.lp	400	400	254,294,363,874.21	0.00%	20.76
				400-400-4.lp	400	400	249,559,178,189.50	0.00%	748.60
				400-400-5.lp	400	400	273,293,194,938.21	0.00%	401.09
				400-600.0-1.lp	400	600	139,988,571,280.00	0.00%	32.39
				400-600.0-2.lp	400	600	93,975,785,509.70	0.00%	507.12
				400-600.0-3.lp	400	600	116,607,965,474.00	0.00%	357.81
				400-600.0-4.lp	400	600	149,542,058,287.32	0.00%	25.54
				400-600.0-5.lp	400	600	122,665,729,927.44	0.00%	27.73
				400-800-1.lp	400	800	70,471,065,096.00	0.00%	31.68
				400-800-2.lp	400	800	67,632,636,446.76	0.00%	38.27
				400-800-3.lp	400	800	64,881,008,621.58	0.00%	41.37
				400-800-4.lp	400	800	51,324,186,214.71	0.00%	29.47
				400-800-5.lp	400	800	93,693,530,304.51	0.00%	326.19
				800-400.0-1.lp	800	400	9,660,291,204,491.36	0.00%	84.88
				800-400.0-2.lp	800	400	11,581,637,637,600.77	0.00%	66.62
				800-400.0-3.lp	800	400	8,953,641,813,244.31	0.00%	168.42
				800-400.0-4.lp	800	400	8,009,393,260,347.82	0.00%	70.34
				800-400.0-5.lp	800	400	9,960,192,256,009.46	0.00%	90.99
				800-800-1.lp	800	800	1,971,992,751,592.50	0.00%	1,419.65
				800-800-2.lp	800	800	2,110,917,808,313.11	0.00%	900.54
				800-800-3.lp	800	800	1,887,610,302,976.35	0.00%	1,253.61
				800-800-4.lp	800	800	2,340,454,144,361.12	0.00%	124.51
				800-800-5.lp	800	800	2,430,313,579,924.65	0.00%	80.42
				800-1200.0-1.lp	800	1,200	1,124,794,084,428.35	0.00%	153.36
				800-1200.0-2.lp	800	1,200	1,255,212,625,610.89	0.00%	152.27
				800-1200.0-3.lp	800	1,200	967,347,918,680.00	0.00%	130.00
				800-1200.0-4.lp	800	1,200	943,519,973,409.00	0.00%	113.01
				800-1200.0-5.lp	800	1,200	940,797,189,720.00	0.00%	159.27
				800-1600-1.lp	800	1,600	687,788,910,510.00	0.00%	1,687.43

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*3*	*N-O*-10^0	800-1600-2.lp	800	1,600	603,948,330,321.19	0.00%	161.76
				800-1600-3.lp	800	1,600	632,846,450,299.86	0.00%	157.67
				800-1600-4.lp	800	1,600	562,613,402,988.81	0.00%	328.64
				800-1600-5.lp	800	1,600	656,901,346,042.76	0.00%	195.20
				1200-600.0-1.lp	1,200	600	29,911,194,444,115.31	0.00%	2,014.07
				1200-600.0-2.lp	1,200	600	35,710,403,433,207.98	0.00%	532.40
				1200-600.0-3.lp	1,200	600	34,715,663,794,224.03	0.00%	2,792.79
				1200-600.0-4.lp	1,200	600	35,365,625,975,927.82	0.00%	1,015.11
				1200-600.0-5.lp	1,200	600	28,234,796,185,939.02	0.00%	794.95
				1200-1200-1.lp	1,200	1,200	7,310,349,577,686.97	0.00%	291.14
				1200-1200-2.lp	1,200	1,200	7,028,554,634,393.91	0.00%	606.63
				1200-1200-3.lp	1,200	1,200	6,547,302,616,356.11	0.75%	3,600.00
				1200-1200-4.lp	1,200	1,200	7,117,555,094,866.64	0.00%	164.23
				1200-1200-5.lp	1,200	1,200	5,620,880,558,715.27	0.00%	3,171.37
				1200-1800.0-1.lp	1,200	1,800	3,331,002,301,573.84	0.00%	410.45
				1200-1800.0-2.lp	1,200	1,800	3,682,337,674,272.68	16.26%	3,600.00
				1200-1800.0-3.lp	1,200	1,800	3,706,797,135,616.06	15.71%	3,600.00
				1200-1800.0-4.lp	1,200	1,800	4,103,671,893,040.83	0.00%	413.75
				1200-1800.0-5.lp	1,200	1,800	3,368,762,908,604.00	23.39%	3,600.00
				1200-2400-1.lp	1,200	2,400	2,227,740,986,542.28	0.00%	552.87
				1200-2400-2.lp	1,200	2,400	2,090,727,830,173.32	0.00%	3,591.32
				1200-2400-3.lp	1,200	2,400	2,169,027,991,152.14	1.35%	3,600.00
				1200-2400-4.lp	1,200	2,400	2,113,444,150,321.30	0.00%	526.55
				1200-2400-5.lp	1,200	2,400	1,941,001,873,942.43	11.72%	3,600.00
				1600-800.0-1.lp	1,600	800	48,088,838,171,045.00	0.02%	3,600.00
				1600-800.0-2.lp	1,600	800	55,571,997,096,984.48	0.00%	2,063.84
				1600-800.0-3.lp	1,600	800	61,189,907,136,665.73	0.00%	1,320.61
				1600-800.0-4.lp	1,600	800	56,255,550,226,804.34	0.00%	1,303.54
				1600-800.0-5.lp	1,600	800	76,542,363,594,482.72	0.00%	2,058.50
				1600-1600-1.lp	1,600	1,600	19,599,276,871,735.33	0.00%	1,152.01

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*3*	*N-O*-10^0	1600-1600-2.lp	1,600	1,600	19,315,388,607,824.30	0.00%	854.94
				1600-1600-3.lp	1,600	1,600	18,895,305,988,348.41	0.00%	530.56
				1600-1600-4.lp	1,600	1,600	15,767,657,458,144.62	10.37%	3,600.00
				1600-1600-5.lp	1,600	1,600	16,480,228,719,883.72	0.00%	1,005.84
				1600-2400.0-1.lp	1,600	2,400	8,385,036,764,380.97	4.66%	3,600.00
				1600-2400.0-2.lp	1,600	2,400	8,232,921,424,624.46	0.00%	1,161.43
				1600-2400.0-3.lp	1,600	2,400	7,682,595,427,815.50	12.65%	3,600.00
				1600-2400.0-4.lp	1,600	2,400	7,940,043,652,719.82	9.72%	3,600.00
				1600-2400.0-5.lp	1,600	2,400	8,618,687,205,593.13	0.00%	1,097.30
				1600-3200-1.lp	1,600	3,200	5,421,385,918,665.04	0.00%	951.88
				1600-3200-2.lp	1,600	3,200	5,116,679,289,858.25	0.00%	1,883.28
				1600-3200-3.lp	1,600	3,200	5,463,279,924,449.74	0.61%	3,600.00
				1600-3200-4.lp	1,600	3,200	5,054,961,762,615.26	0.00%	1,260.04
				1600-3200-5.lp	1,600	3,200	5,599,743,981,845.89	15.11%	3,600.00
				2000-1000.0-1.lp	2,000	1,000	96,730,789,620,755.98	0.01%	3,600.00
				2000-1000.0-2.lp	2,000	1,000	112,796,508,767,639.55	24.11%	3,600.00
				2000-1000.0-3.lp	2,000	1,000	112,951,155,182,962.70	0.16%	3,600.00
				2000-1000.0-4.lp	2,000	1,000	86,151,279,302,414.09	31.81%	3,600.00
				2000-1000.0-5.lp	2,000	1,000	109,720,120,965,470.23	0.00%	3,591.30
				2000-2000-1.lp	2,000	2,000	29,942,088,422,499.98	0.00%	3,600.00
				2000-2000-2.lp	2,000	2,000	29,950,817,190,822.00	0.44%	3,600.00
				2000-2000-3.lp	2,000	2,000	32,716,138,373,881.26	36.69%	3,600.00
				2000-2000-4.lp	2,000	2,000	28,635,165,027,216.67	23.13%	3,600.00
				2000-2000-5.lp	2,000	2,000	24,627,011,649,891.05	54.40%	3,600.00
				2000-3000.0-1.lp	2,000	3,000	10,575,334,349,289.00	56.34%	3,600.00
				2000-3000.0-2.lp	2,000	3,000	14,797,291,280,308.52	15.88%	3,600.00
				2000-3000.0-3.lp	2,000	3,000	16,346,289,107,095.84	7.08%	3,600.00
				2000-3000.0-4.lp	2,000	3,000	15,292,785,980,385.01	0.00%	2,248.32
				2000-3000.0-5.lp	2,000	3,000	16,413,041,436,360.02	0.00%	1,871.49
				2000-4000-1.lp	2,000	4,000	11,935,226,033,033.67	0.00%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*3*	N-O-10^0	2000-4000-2.lp	2,000	4,000	11,361,015,462,639.03	0.00%	1,417.91
				2000-4000-3.lp	2,000	4,000	10,719,815,465,338.99	27.52%	3,600.00
				2000-4000-4.lp	2,000	4,000	10,677,478,345,917.61	0.00%	2,142.38
				2000-4000-5.lp	2,000	4,000	8,004,113,152,424.63	43.80%	3,600.00
			N-O-10^2	400-200.0-1.lp	400	200	962,841,901,014.64	0.00%	477.87
				400-200.0-2.lp	400	200	1,696,230,667,596.07	0.00%	2,066.25
				400-200.0-3.lp	400	200	985,843,516,168.44	0.00%	2,608.71
				400-200.0-4.lp	400	200	1,961,624,234,883.44	0.00%	3,600.00
				400-200.0-5.lp	400	200	1,351,299,223,654.00	0.00%	254.49
				400-400-1.lp	400	400	170,867,063,373.00	0.00%	124.73
				400-400-2.lp	400	400	392,169,939,511.37	0.00%	1,004.65
				400-400-3.lp	400	400	254,294,620,695.24	0.00%	525.09
				400-400-4.lp	400	400	249,559,573,279.49	0.00%	155.11
				400-400-5.lp	400	400	273,293,238,886.46	0.00%	1,246.28
				400-600.0-1.lp	400	600	139,989,095,078.41	0.00%	3,194.23
				400-600.0-2.lp	400	600	93,975,904,904.45	0.00%	344.15
				400-600.0-3.lp	400	600	116,608,171,812.43	0.00%	2,896.64
				400-600.0-4.lp	400	600	149,542,261,315.14	0.00%	1,758.36
				400-600.0-5.lp	400	600	122,665,480,331.54	0.00%	3,600.00
				400-800-1.lp	400	800	70,471,390,395.96	0.00%	180.86
				400-800-2.lp	400	800	67,632,678,567.10	0.00%	3,591.29
				400-800-3.lp	400	800	64,881,166,107.78	0.00%	2,005.76
				400-800-4.lp	400	800	51,324,597,424.47	0.00%	1,342.53
				400-800-5.lp	400	800	93,693,675,272.51	0.00%	545.66
				800-400.0-1.lp	800	400	9,660,295,512,978.81	0.00%	1,213.67
				800-400.0-2.lp	800	400	10,984,505,327,984.63	0.00%	134.91
				800-400.0-3.lp	800	400	8,953,644,049,907.37	0.00%	3,591.28
				800-400.0-4.lp	800	400	8,009,395,831,130.29	0.00%	3,408.73
				800-400.0-5.lp	800	400	9,960,192,475,253.20	0.00%	3,591.29
				800-800-1.lp	800	800	1,971,994,174,870.92	0.00%	3,591.29

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*3*	*N-O*-10^2	800-800-2.lp	800	800	2,110,919,735,587.89	0.00%	3,591.28
				800-800-3.lp	800	800	1,887,612,239,616.31	0.00%	3,309.26
				800-800-4.lp	800	800	2,340,455,333,112.41	0.00%	3,150.64
				800-800-5.lp	800	800	2,430,314,510,602.68	0.00%	849.32
				800-1200.0-1.lp	800	1,200	1,124,794,062,410.94	0.00%	3,600.00
				800-1200.0-2.lp	800	1,200	1,255,215,801,078.32	0.00%	3,591.20
				800-1200.0-3.lp	800	1,200	967,348,265,986.04	0.00%	1,035.81
				800-1200.0-4.lp	800	1,200	943,522,829,943.95	0.00%	2,753.05
				800-1200.0-5.lp	800	1,200	940,798,181,542.93	0.00%	817.30
				800-1600-1.lp	800	1,600	687,790,334,396.48	0.00%	2,168.80
				800-1600-2.lp	800	1,600	603,948,857,666.11	0.00%	1,325.49
				800-1600-3.lp	800	1,600	632,847,307,158.21	0.00%	3,591.27
				800-1600-4.lp	800	1,600	562,614,501,010.35	0.00%	2,795.33
				800-1600-5.lp	800	1,600	656,614,337,407.36	8.88%	3,600.00
				1200-600.0-1.lp	1,200	600	29,911,204,066,529.89	0.00%	3,591.31
				1200-600.0-2.lp	1,200	600	35,710,338,024,892.33	0.01%	3,600.00
				1200-600.0-3.lp	1,200	600	34,658,705,059,581.18	6.06%	3,600.00
				1200-600.0-4.lp	1,200	600	35,365,655,205,555.34	0.00%	1,293.18
				1200-600.0-5.lp	1,200	600	28,234,649,339,975.42	0.04%	3,600.00
				1200-1200-1.lp	1,200	1,200	7,310,309,465,357.84	0.00%	3,600.00
				1200-1200-2.lp	1,200	1,200	7,028,521,410,159.49	0.00%	3,600.00
				1200-1200-3.lp	1,200	1,200	6,547,333,999,187.52	0.00%	3,600.00
				1200-1200-4.lp	1,200	1,200	7,117,556,729,264.24	0.00%	1,081.23
				1200-1200-5.lp	1,200	1,200	5,620,881,400,117.95	0.00%	2,570.85
				1200-1800.0-1.lp	1,200	1,800	3,330,356,572,463.15	0.18%	3,600.00
				1200-1800.0-2.lp	1,200	1,800	3,701,180,926,809.25	3.86%	3,600.00
				1200-1800.0-3.lp	1,200	1,800	3,726,545,575,662.72	0.05%	3,600.00
				1200-1800.0-4.lp	1,200	1,800	4,103,294,481,987.77	0.16%	3,600.00
				1200-1800.0-5.lp	1,200	1,800	3,379,538,117,231.56	0.00%	3,600.00
				1200-2400-1.lp	1,200	2,400	2,227,741,031,323.87	-0.00%	3,591.35

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*3*	*N-O*-10^2	1200-2400-2.lp	1,200	2,400	2,090,205,739,085.87	0.10%	3,600.00
				1200-2400-3.lp	1,200	2,400	2,167,984,656,117.66	5.98%	3,600.00
				1200-2400-4.lp	1,200	2,400	2,110,757,263,868.88	8.46%	3,600.00
				1200-2400-5.lp	1,200	2,400	727,293,127,989.27	0.00%	206.70
				1600-800.0-1.lp	1,600	800	48,089,449,838,534.95	0.00%	3,591.28
				1600-800.0-2.lp	1,600	800	55,562,645,885,900.25	0.05%	3,600.00
				1600-800.0-3.lp	1,600	800	61,184,886,159,084.18	0.05%	3,600.00
				1600-800.0-4.lp	1,600	800	56,202,424,115,533.34	0.00%	2,391.30
				1600-800.0-5.lp	1,600	800	76,542,362,271,129.36	0.00%	3,591.29
				1600-1600-1.lp	1,600	1,600	19,598,875,666,557.71	0.10%	3,600.00
				1600-1600-2.lp	1,600	1,600	19,314,990,562,829.93	0.02%	3,600.00
				1600-1600-3.lp	1,600	1,600	18,895,311,305,459.29	0.00%	3,052.90
				1600-1600-4.lp	1,600	1,600	15,731,356,457,470.66	14.72%	3,600.00
				1600-1600-5.lp	1,600	1,600	16,435,838,995,997.69	10.90%	3,600.00
				1600-2400.0-1.lp	1,600	2,400	8,330,935,903,914.42	9.68%	3,600.00
				1600-2400.0-2.lp	1,600	2,400	8,155,418,422,333.68	11.58%	3,600.00
				1600-2400.0-3.lp	1,600	2,400	7,728,936,967,590.94	0.00%	3,591.37
				1600-2400.0-4.lp	1,600	2,400	8,023,935,856,241.10	0.00%	3,591.32
				1600-2400.0-5.lp	1,600	2,400	8,618,557,281,379.54	0.01%	3,600.00
				1600-3200-1.lp	1,600	3,200	5,400,315,895,330.20	6.32%	3,600.00
				1600-3200-2.lp	1,600	3,200	5,116,301,595,247.31	0.19%	3,600.00
				1600-3200-3.lp	1,600	3,200	5,463,879,748,116.88	0.01%	3,600.00
				1600-3200-4.lp	1,600	3,200	5,054,962,417,548.24	0.00%	3,591.32
				1600-3200-5.lp	1,600	3,200	5,613,921,030,150.90	0.00%	3,591.32
				2000-1000.0-1.lp	2,000	1,000	96,730,476,919,188.89	0.00%	2,021.92
				2000-1000.0-2.lp	2,000	1,000	109,386,998,481,375.00	25.29%	3,600.00
				2000-1000.0-3.lp	2,000	1,000	112,947,331,950,815.36	0.00%	3,600.00
				2000-1000.0-4.lp	2,000	1,000	96,861,576,472,917.50	12.49%	3,600.00
				2000-1000.0-5.lp	2,000	1,000	109,720,143,809,543.03	0.00%	3,600.00
				2000-2000-1.lp	2,000	2,000	29,938,809,140,467.66	0.26%	3,600.00

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	Continuous	3	N-O-10^2	2000-2000-2.lp	2,000	2,000	29,933,773,853,619.80	18.86%	3,600.00
				2000-2000-3.lp	2,000	2,000	30,613,505,224,988.03	17.02%	3,600.00
				2000-2000-4.lp	2,000	2,000	27,333,200,651,187.75	25.91%	3,600.00
				2000-2000-5.lp	2,000	2,000	31,550,509,691,834.66	0.06%	3,600.00
				2000-3000.0-1.lp	2,000	3,000	13,578,658,824,242.66	0.02%	3,600.00
				2000-3000.0-2.lp	2,000	3,000	14,711,308,427,266.16	20.25%	3,600.00
				2000-3000.0-3.lp	2,000	3,000	16,390,562,372,722.82	11.15%	3,600.00
				2000-3000.0-4.lp	2,000	3,000	15,292,583,423,480.79	0.02%	3,600.00
				2000-3000.0-5.lp	2,000	3,000	15,850,609,910,229.87	14.07%	3,600.00
				2000-4000-1.lp	2,000	4,000	10,804,242,069,393.58	37.38%	3,600.00
				2000-4000-2.lp	2,000	4,000	11,325,225,189,366.99	0.76%	3,600.00
				2000-4000-3.lp	2,000	4,000	10,805,099,943,185.36	18.42%	3,600.00
				2000-4000-4.lp	2,000	4,000	10,677,075,737,289.12	0.76%	3,600.00
				2000-4000-5.lp	2,000	4,000	9,666,678,968,076.34	30.13%	3,600.00
			N-O-10^4	400-200.0-1.lp	400	200	962,841,901,161.84	0.00%	2,794.87
				400-200.0-2.lp	400	200	1,696,206,008,406.33	0.00%	684.80
				400-200.0-3.lp	400	200	985,843,518,074.09	0.00%	3,591.29
				400-200.0-4.lp	400	200	1,961,631,867,471.64	0.00%	1,535.11
				400-200.0-5.lp	400	200	1,351,299,033,634.74	0.00%	3,600.00
				400-400-1.lp	400	400	170,867,068,085.20	0.00%	1,861.69
				400-400-2.lp	400	400	392,169,939,655.88	0.00%	1,534.72
				400-400-3.lp	400	400	254,294,622,674.66	0.00%	1,452.90
				400-400-4.lp	400	400	249,559,572,508.11	0.00%	3,591.29
				400-400-5.lp	400	400	273,293,239,831.58	0.00%	3,078.60
				400-600.0-1.lp	400	600	139,989,085,346.28	0.00%	3,591.28
				400-600.0-2.lp	400	600	93,975,904,794.90	0.00%	3,591.30
				400-600.0-3.lp	400	600	116,608,169,333.93	0.00%	3,591.29
				400-600.0-4.lp	400	600	149,542,264,949.80	0.00%	1,893.76
				400-600.0-5.lp	400	600	122,665,775,085.54	0.00%	3,435.27
				400-800-1.lp	400	800	70,471,390,625.16	0.00%	1,152.86

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	Continuous	3	N-O-10^4	400-800-2.lp	400	800	67,632,156,488.01	0.00%	510.98
				400-800-3.lp	400	800	64,881,166,265.84	0.00%	3,591.29
				400-800-4.lp	400	800	51,324,600,756.37	0.00%	867.35
				400-800-5.lp	400	800	93,693,677,281.08	0.00%	726.39
				800-400.0-1.lp	800	400	9,660,208,078,601.72	0.00%	3,600.00
				800-400.0-2.lp	800	400	11,581,219,870,042.28	0.00%	1,393.22
				800-400.0-3.lp	800	400	8,953,513,207,528.66	0.05%	3,600.00
				800-400.0-4.lp	800	400	8,009,395,777,002.82	0.00%	3,591.28
				800-400.0-5.lp	800	400	9,960,193,153,649.41	0.00%	3,591.28
				800-800-1.lp	800	800	1,971,993,521,230.92	0.00%	3,600.00
				800-800-2.lp	800	800	2,110,919,801,613.99	0.00%	1,856.16
				800-800-3.lp	800	800	1,887,612,242,864.14	0.00%	2,445.45
				800-800-4.lp	800	800	2,340,455,333,308.58	0.00%	2,074.55
				800-800-5.lp	800	800	2,430,314,515,928.28	0.00%	3,591.28
				800-1200.0-1.lp	800	1,200	1,118,336,930,973.91	7.49%	3,600.00
				800-1200.0-2.lp	800	1,200	1,255,215,230,731.73	0.00%	780.59
				800-1200.0-3.lp	800	1,200	955,672,205,001.38	0.00%	311.04
				800-1200.0-4.lp	800	1,200	943,522,837,927.87	0.00%	2,680.72
				800-1200.0-5.lp	800	1,200	901,686,813,608.33	0.00%	441.06
				800-1600-1.lp	800	1,600	283,894,955,224.29	0.00%	93.40
				800-1600-2.lp	800	1,600	603,948,858,033.16	0.00%	3,591.29
				800-1600-3.lp	800	1,600	632,847,308,330.26	0.00%	3,002.59
				800-1600-4.lp	800	1,600	562,614,464,481.99	0.00%	3,591.30
				800-1600-5.lp	800	1,600	656,902,101,778.37	0.00%	3,591.30
				1200-600.0-1.lp	1,200	600	29,911,202,726,356.91	0.00%	3,591.28
				1200-600.0-2.lp	1,200	600	35,710,404,180,394.26	0.00%	3,600.00
				1200-600.0-3.lp	1,200	600	34,715,664,794,967.76	0.00%	3,591.31
				1200-600.0-4.lp	1,200	600	35,348,337,935,035.38	0.00%	817.93
				1200-600.0-5.lp	1,200	600	28,234,806,382,070.08	0.00%	3,339.16
				1200-1200-1.lp	1,200	1,200	7,304,081,578,995.77	0.00%	1,036.86

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	Continuous	3	N-O-10^4	1200-1200-2.lp	1,200	1,200	6,976,957,242,695.67	1.44%	3,600.00
				1200-1200-3.lp	1,200	1,200	6,542,315,530,499.18	0.24%	3,600.00
				1200-1200-4.lp	1,200	1,200	7,117,273,429,929.93	0.01%	3,600.00
				1200-1200-5.lp	1,200	1,200	5,620,366,512,440.92	0.00%	2,024.72
				1200-1800.0-1.lp	1,200	1,800	3,330,990,078,893.84	0.00%	3,600.00
				1200-1800.0-2.lp	1,200	1,800	3,705,365,788,406.99	0.00%	3,591.32
				1200-1800.0-3.lp	1,200	1,800	3,726,394,100,600.46	0.01%	3,600.00
				1200-1800.0-4.lp	1,200	1,800	4,074,487,129,520.09	0.00%	745.10
				1200-1800.0-5.lp	1,200	1,800	3,373,013,099,875.23	2.92%	3,600.00
				1200-2400-1.lp	1,200	2,400	2,227,741,030,076.20	0.00%	3,591.29
				1200-2400-2.lp	1,200	2,400	2,090,727,233,348.77	0.00%	3,600.00
				1200-2400-3.lp	1,200	2,400	2,169,256,141,018.00	0.02%	3,600.00
				1200-2400-4.lp	1,200	2,400	2,113,445,586,876.37	0.00%	3,600.00
				1200-2400-5.lp	1,200	2,400	1,959,861,940,041.10	0.00%	2,808.38
				1600-800.0-1.lp	1,600	800	48,089,449,007,183.21	0.00%	3,591.31
				1600-800.0-2.lp	1,600	800	55,571,978,405,371.30	0.00%	3,591.30
				1600-800.0-3.lp	1,600	800	60,710,632,665,370.17	1.49%	3,600.00
				1600-800.0-4.lp	1,600	800	56,199,593,069,711.56	3.15%	3,600.00
				1600-800.0-5.lp	1,600	800	76,541,186,849,616.72	0.33%	3,600.00
				1600-1600-1.lp	1,600	1,600	19,599,269,619,278.60	0.00%	3,591.30
				1600-1600-2.lp	1,600	1,600	19,315,378,573,208.98	0.00%	3,600.00
				1600-1600-3.lp	1,600	1,600	18,895,208,808,529.73	0.00%	3,600.00
				1600-1600-4.lp	1,600	1,600	15,767,860,870,659.59	0.12%	3,600.00
				1600-1600-5.lp	1,600	1,600	16,480,227,349,106.89	0.00%	3,600.00
				1600-2400.0-1.lp	1,600	2,400	7,938,732,787,421.40	17.92%	3,600.00
				1600-2400.0-2.lp	1,600	2,400	7,823,331,014,715.89	0.00%	1,932.96
				1600-2400.0-3.lp	1,600	2,400	7,657,252,485,759.89	20.83%	3,600.00
				1600-2400.0-4.lp	1,600	2,400	7,893,939,152,931.01	18.38%	3,600.00
				1600-2400.0-5.lp	1,600	2,400	8,228,238,200,602.09	14.92%	3,600.00
				1600-3200-1.lp	1,600	3,200	5,421,022,030,845.65	0.01%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*3*	*N-O*-10^4	1600-3200-2.lp	1,600	3,200	4,395,427,031,955.28	29.23%	3,600.00
				1600-3200-3.lp	1,600	3,200	4,496,070,615,441.09	31.05%	3,600.00
				1600-3200-4.lp	1,600	3,200	5,039,909,924,185.52	8.29%	3,600.00
				1600-3200-5.lp	1,600	3,200	5,379,736,995,413.74	19.95%	3,600.00
				2000-1000.0-1.lp	2,000	1,000	96,640,531,619,223.61	0.34%	3,600.00
				2000-1000.0-2.lp	2,000	1,000	114,091,530,751,297.44	0.00%	3,600.00
				2000-1000.0-3.lp	2,000	1,000	112,940,720,500,510.86	2.69%	3,600.00
				2000-1000.0-4.lp	2,000	1,000	97,100,333,055,204.47	9.30%	3,600.00
				2000-1000.0-5.lp	2,000	1,000	109,719,721,044,215.61	0.01%	3,600.00
				2000-2000-1.lp	2,000	2,000	29,060,543,143,748.97	16.53%	3,600.00
				2000-2000-2.lp	2,000	2,000	29,798,203,851,937.07	0.00%	2,533.94
				2000-2000-3.lp	2,000	2,000	32,813,942,202,157.70	0.00%	3,600.00
				2000-2000-4.lp	2,000	2,000	29,295,932,746,742.16	0.01%	3,600.00
				2000-2000-5.lp	2,000	2,000	31,361,388,132,574.27	9.10%	3,600.00
				2000-3000.0-1.lp	2,000	3,000	13,578,164,976,474.46	0.03%	3,600.00
				2000-3000.0-2.lp	2,000	3,000	14,868,964,994,133.63	0.02%	3,600.00
				2000-3000.0-3.lp	2,000	3,000	16,423,721,199,899.90	0.00%	3,600.00
				2000-3000.0-4.lp	2,000	3,000	15,290,983,211,453.88	-0.01%	3,591.33
				2000-3000.0-5.lp	2,000	3,000	16,374,100,322,608.47	1.39%	3,600.00
				2000-4000-1.lp	2,000	4,000	11,915,458,012,484.12	1.86%	3,600.00
				2000-4000-2.lp	2,000	4,000	9,953,311,355,447.51	38.00%	3,600.00
				2000-4000-3.lp	2,000	4,000	10,814,796,825,496.60	44.09%	3,600.00
				2000-4000-4.lp	2,000	4,000	10,677,190,683,604.75	0.02%	3,600.00
				2000-4000-5.lp	2,000	4,000	9,036,560,809,757.87	38.75%	3,600.00
		4	GRB SOCP	400-200.0-1.lp	400	200	32,790,322,258,960,696.00	0.00%	0.10
				400-200.0-2.lp	400	200	30,773,115,836,217,000.00	0.00%	0.09
				400-200.0-3.lp	400	200	58,998,900,888,153,784.00	0.00%	0.09
				400-200.0-4.lp	400	200	20,443,296,594,825,752.00	0.00%	0.09
				400-200.0-5.lp	400	200	13,130,418,951,155,408.00	0.00%	0.10
				400-400-1.lp	400	400	2,862,823,704,687,825.00	0.00%	0.28

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*4*	*GRB SOCP*	400-400-2.lp	400	400	3,823,557,269,088,389.00	0.00%	0.28
				400-400-3.lp	400	400	4,354,695,654,145,824.00	0.00%	0.27
				400-400-4.lp	400	400	2,629,949,270,954,631.50	0.00%	0.28
				400-400-5.lp	400	400	2,758,036,886,210,843.00	0.00%	0.28
				400-600.0-1.lp	400	600	938,114,976,521,985.12	0.00%	0.55
				400-600.0-2.lp	400	600	569,476,665,481,836.88	0.00%	0.52
				400-600.0-3.lp	400	600	559,576,371,713,085.31	0.00%	0.55
				400-600.0-4.lp	400	600	706,688,210,917,897.62	0.00%	0.58
				400-600.0-5.lp	400	600	1,160,429,950,290,530.50	0.00%	0.56
				400-800-1.lp	400	800	277,482,377,700,720.94	0.00%	1.00
				400-800-2.lp	400	800	315,883,003,491,141.06	0.00%	0.97
				400-800-3.lp	400	800	606,823,594,583,269.12	0.00%	0.88
				400-800-4.lp	400	800	650,382,583,199,365.88	0.00%	0.87
				400-800-5.lp	400	800	501,486,289,072,830.81	0.00%	0.94
				800-400.0-1.lp	800	400	378,449,058,142,509,376.00	0.00%	0.54
				800-400.0-2.lp	800	400	399,246,396,298,544,896.00	0.00%	0.53
				800-400.0-3.lp	800	400	231,407,734,531,208,064.00	0.00%	0.55
				800-400.0-4.lp	800	400	464,757,058,812,558,080.00	0.00%	0.53
				800-400.0-5.lp	800	400	400,188,540,166,185,792.00	0.00%	0.51
				800-800-1.lp	800	800	39,790,951,702,251,304.00	0.00%	1.76
				800-800-2.lp	800	800	42,259,720,394,755,888.00	0.00%	1.84
				800-800-3.lp	800	800	42,222,208,773,867,440.00	0.00%	1.91
				800-800-4.lp	800	800	36,555,436,834,621,224.00	0.00%	1.90
				800-800-5.lp	800	800	50,137,274,018,518,120.00	0.00%	1.90
				800-1200.0-1.lp	800	1,200	20,074,164,473,024,144.00	0.00%	4.56
				800-1200.0-2.lp	800	1,200	15,975,851,045,396,368.00	0.00%	4.30
				800-1200.0-3.lp	800	1,200	16,193,016,568,187,784.00	0.00%	4.22
				800-1200.0-4.lp	800	1,200	17,856,747,877,053,458.00	0.00%	4.32
				800-1200.0-5.lp	800	1,200	23,702,433,268,906,136.00	0.00%	4.24
				800-1600-1.lp	800	1,600	9,013,861,033,167,806.00	0.00%	7.64

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*4*	*GRB SOCP*	800-1600-2.lp	800	1,600	8,985,954,832,598,054.00	0.00%	8.05
				800-1600-3.lp	800	1,600	9,158,307,728,926,402.00	0.00%	7.96
				800-1600-4.lp	800	1,600	9,112,632,168,279,886.00	0.00%	7.88
				800-1600-5.lp	800	1,600	9,927,712,064,337,732.00	0.00%	8.69
				1200-600.0-1.lp	1,200	600	1,711,893,316,389,640,704.00	0.00%	1.82
				1200-600.0-2.lp	1,200	600	1,513,716,649,524,607,488.00	0.00%	1.91
				1200-600.0-3.lp	1,200	600	1,090,410,081,017,229,056.00	0.00%	1.90
				1200-600.0-4.lp	1,200	600	1,390,873,752,180,274,176.00	0.00%	1.71
				1200-600.0-5.lp	1,200	600	1,377,604,947,112,678,912.00	0.00%	1.85
				1200-1200-1.lp	1,200	1,200	159,352,737,053,250,816.00	0.00%	8.60
				1200-1200-2.lp	1,200	1,200	185,462,922,707,221,280.00	0.00%	8.33
				1200-1200-3.lp	1,200	1,200	217,095,479,314,041,152.00	0.00%	8.43
				1200-1200-4.lp	1,200	1,200	264,062,223,230,666,144.00	0.00%	7.90
				1200-1200-5.lp	1,200	1,200	237,725,229,894,555,520.00	0.00%	8.04
				1200-1800.0-1.lp	1,200	1,800	94,382,195,098,732,944.00	0.00%	22.59
				1200-1800.0-2.lp	1,200	1,800	88,287,361,022,337,488.00	0.00%	22.49
				1200-1800.0-3.lp	1,200	1,800	80,558,044,787,239,408.00	0.00%	23.79
				1200-1800.0-5.lp	1,200	1,800	73,970,833,944,441,792.00	0.00%	20.85
				1200-1800.0-4.lp	1,200	1,800	*Error: unable to satisfy optimality tolerances*		
				1200-2400-2.lp	1,200	2,400	54,091,133,234,674,952.00	0.00%	37.04
				1200-2400-3.lp	1,200	2,400	47,275,368,408,083,632.00	0.00%	36.65
				1200-2400-4.lp	1,200	2,400	52,572,732,118,140,296.00	0.00%	34.99
				1200-2400-5.lp	1,200	2,400	41,811,529,027,417,792.00	0.00%	34.09
				1200-2400-1.lp	1,200	2,400	*Error: unable to satisfy optimality tolerances*		
				1600-800.0-1.lp	1,600	800	5,089,870,841,613,104,128.00	0.00%	6.17
				1600-800.0-2.lp	1,600	800	4,413,598,575,181,572,096.00	0.00%	4.89
				1600-800.0-3.lp	1,600	800	3,514,527,237,288,538,624.00	0.00%	6.31
				1600-800.0-4.lp	1,600	800	4,043,065,395,137,171,456.00	0.00%	5.17
				1600-800.0-5.lp	1,600	800	3,672,167,098,798,360,576.00	0.00%	5.26
				1600-1600-1.lp	1,600	1,600	668,351,004,487,878,016.00	0.00%	23.14

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*4*	*GRB SOCP*	1600-1600-3.lp	1,600	1,600	954,075,494,863,781,888.00	0.00%	25.68
				1600-1600-4.lp	1,600	1,600	618,575,803,015,381,376.00	0.00%	22.60
				1600-1600-5.lp	1,600	1,600	703,088,613,837,956,480.00	0.00%	23.98
				1600-1600-2.lp	1,600	1,600	*Error: unable to satisfy optimality tolerances*		
				1600-2400.0-1.lp	1,600	2,400	314,994,463,296,164,224.00	0.00%	60.11
				1600-2400.0-2.lp	1,600	2,400	310,602,507,733,983,232.00	0.00%	60.51
				1600-2400.0-3.lp	1,600	2,400	328,084,558,610,500,672.00	0.00%	54.60
				1600-2400.0-4.lp	1,600	2,400	312,357,553,328,614,720.00	0.00%	51.18
				1600-2400.0-5.lp	1,600	2,400	340,002,861,105,603,712.00	0.00%	55.64
				1600-3200-1.lp	1,600	3,200	148,311,008,570,607,936.00	0.00%	85.68
				1600-3200-2.lp	1,600	3,200	139,519,093,378,874,336.00	0.00%	91.03
				1600-3200-3.lp	1,600	3,200	164,125,737,819,839,680.00	0.00%	97.90
				1600-3200-4.lp	1,600	3,200	170,671,878,794,810,080.00	0.00%	97.81
				1600-3200-5.lp	1,600	3,200	202,685,311,276,170,208.00	0.00%	97.95
				2000-1000.0-2.lp	2,000	1,000	6,980,351,506,075,638,784.00	0.00%	12.60
				2000-1000.0-3.lp	2,000	1,000	8,069,221,906,028,563,456.00	0.00%	14.11
				2000-1000.0-5.lp	2,000	1,000	9,651,456,522,789,937,152.00	0.00%	15.30
				2000-1000.0-1.lp	2,000	1,000	*Error: unable to satisfy optimality tolerances*		
				2000-1000.0-4.lp	2,000	1,000	*Error: unable to satisfy optimality tolerances*		
				2000-2000-1.lp	2,000	2,000	1,543,384,423,251,611,392.00	0.00%	57.27
				2000-2000-2.lp	2,000	2,000	1,553,480,943,180,740,352.00	0.00%	50.81
				2000-2000-3.lp	2,000	2,000	1,629,335,730,068,948,480.00	0.00%	57.15
				2000-2000-4.lp	2,000	2,000	1,758,271,116,801,395,968.00	0.00%	58.47
				2000-2000-5.lp	2,000	2,000	1,504,911,610,980,535,808.00	0.00%	56.96
				2000-3000.0-1.lp	2,000	3,000	617,562,971,078,650,240.00	0.00%	113.61
				2000-3000.0-2.lp	2,000	3,000	858,207,163,478,610,304.00	0.00%	119.28
				2000-3000.0-3.lp	2,000	3,000	736,913,274,196,693,248.00	0.00%	111.67
				2000-3000.0-4.lp	2,000	3,000	756,001,722,498,311,552.00	0.00%	111.94
				2000-3000.0-5.lp	2,000	3,000	*Error: unable to satisfy optimality tolerances*		
				2000-4000-1.lp	2,000	4,000	367,587,000,526,952,896.00	0.00%	194.67

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*4*	*GRB SOCP*	2000-4000-3.lp	2,000	4,000	421,126,117,174,814,592.00	0.00%	195.38
				2000-4000-5.lp	2,000	4,000	379,736,703,212,819,968.00	0.00%	198.92
				2000-4000-2.lp	2,000	4,000	*Error: unable to satisfy optimality tolerances*		
				2000-4000-4.lp	2,000	4,000	*Error: unable to satisfy optimality tolerances*		
			N-O-10^0	400-200.0-1.lp	400	200	32,790,281,444,469,772.00	0.00%	3,381.21
				400-200.0-2.lp	400	200	30,695,516,019,392,032.00	0.00%	833.52
				400-200.0-3.lp	400	200	58,998,855,766,206,592.00	0.00%	3,600.00
				400-200.0-4.lp	400	200	20,443,017,674,413,256.00	0.07%	3,600.00
				400-200.0-5.lp	400	200	13,130,413,803,151,350.00	0.00%	2,209.65
				400-400-1.lp	400	400	2,862,819,967,029,934.00	0.00%	3,600.00
				400-400-2.lp	400	400	3,823,555,161,428,325.50	0.00%	1,572.68
				400-400-3.lp	400	400	4,354,588,847,185,062.50	0.02%	3,600.00
				400-400-4.lp	400	400	2,629,948,329,821,524.00	0.00%	3,591.29
				400-400-5.lp	400	400	2,758,034,168,991,516.00	0.00%	3,600.00
				400-600.0-1.lp	400	600	938,109,450,997,056.12	0.03%	3,600.00
				400-600.0-2.lp	400	600	569,457,514,774,302.38	0.01%	3,600.00
				400-600.0-3.lp	400	600	559,573,383,589,919.81	0.00%	3,600.00
				400-600.0-4.lp	400	600	706,686,979,645,437.75	0.00%	3,167.28
				400-600.0-5.lp	400	600	1,160,408,566,151,204.75	0.01%	3,600.00
				400-800-1.lp	400	800	277,477,560,231,872.25	0.03%	3,600.00
				400-800-2.lp	400	800	315,881,608,035,840.00	0.00%	3,086.11
				400-800-3.lp	400	800	606,823,427,745,161.25	0.00%	2,853.09
				400-800-4.lp	400	800	650,258,483,843,034.12	0.10%	3,600.00
				400-800-5.lp	400	800	501,484,419,135,978.94	0.00%	3,600.00
				800-400.0-1.lp	800	400	377,852,164,797,431,040.00	0.00%	3,600.00
				800-400.0-2.lp	800	400	399,242,486,444,654,272.00	0.07%	3,600.00
				800-400.0-3.lp	800	400	230,871,657,924,717,792.00	2.83%	3,600.00
				800-400.0-4.lp	800	400	464,485,682,992,450,752.00	2.38%	3,600.00
				800-400.0-5.lp	800	400	400,188,522,051,909,760.00	0.00%	2,817.08
				800-800-1.lp	800	800	37,016,567,030,805,096.00	0.00%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*4*	*N-O-*10^0	800-800-2.lp	800	800	42,257,196,644,544,144.00	0.04%	3,600.00
				800-800-3.lp	800	800	41,928,895,641,539,032.00	6.54%	3,600.00
				800-800-4.lp	800	800	36,555,075,425,711,672.00	0.04%	3,600.00
				800-800-5.lp	800	800	50,137,250,665,762,784.00	0.01%	3,600.00
				800-1200.0-1.lp	800	1,200	20,064,751,574,588,276.00	2.06%	3,600.00
				800-1200.0-2.lp	800	1,200	15,975,201,225,753,122.00	0.08%	3,600.00
				800-1200.0-3.lp	800	1,200	16,187,411,587,327,856.00	2.18%	3,600.00
				800-1200.0-4.lp	800	1,200	17,853,253,393,399,026.00	0.24%	3,600.00
				800-1200.0-5.lp	800	1,200	23,685,093,244,349,496.00	1.84%	3,600.00
				800-1600-1.lp	800	1,600	9,006,941,834,512,833.00	1.03%	3,600.00
				800-1600-2.lp	800	1,600	8,961,446,747,192,683.00	2.63%	3,600.00
				800-1600-3.lp	800	1,600	9,153,219,499,687,092.00	3.22%	3,600.00
				800-1600-4.lp	800	1,600	9,112,122,278,006,314.00	0.21%	3,600.00
				800-1600-5.lp	800	1,600	9,693,437,198,807,048.00	10.62%	3,600.00
				1200-600.0-1.lp	1,200	600	1,705,867,367,029,911,296.00	18.99%	3,600.00
				1200-600.0-2.lp	1,200	600	1,507,513,404,662,060,288.00	5.90%	3,600.00
				1200-600.0-3.lp	1,200	600	1,089,812,071,753,187,200.00	1.81%	3,600.00
				1200-600.0-4.lp	1,200	600	1,390,816,824,229,014,528.00	0.28%	3,600.00
				1200-600.0-5.lp	1,200	600	1,375,206,431,918,073,344.00	17.63%	3,600.00
				1200-1200-1.lp	1,200	1,200	156,149,095,032,404,704.00	7.85%	3,600.00
				1200-1200-2.lp	1,200	1,200	184,590,216,552,555,264.00	8.51%	3,600.00
				1200-1200-3.lp	1,200	1,200	211,372,572,031,636,576.00	16.44%	3,600.00
				1200-1200-4.lp	1,200	1,200	88,413,500,286,791,808.00	0.00%	225.48
				1200-1200-5.lp	1,200	1,200	236,214,184,280,636,480.00	7.20%	3,600.00
				1200-1800.0-1.lp	1,200	1,800	93,080,113,633,309,744.00	65.55%	3,600.00
				1200-1800.0-2.lp	1,200	1,800	85,710,903,129,163,968.00	49.66%	3,600.00
				1200-1800.0-3.lp	1,200	1,800	80,092,941,124,655,856.00	44.42%	3,600.00
				1200-1800.0-4.lp	1,200	1,800	95,736,539,014,758,528.00	66.78%	3,600.00
				1200-1800.0-5.lp	1,200	1,800	71,740,847,641,661,416.00	50.21%	3,600.00
				1200-2400-1.lp	1,200	2,400	39,096,411,742,674,536.00	51.77%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*4*	*N-O*-10^0	1200-2400-2.lp	1,200	2,400	48,237,153,253,436,992.00	46.44%	3,600.00
				1200-2400-3.lp	1,200	2,400	40,531,774,016,082,640.00	40.17%	3,600.00
				1200-2400-4.lp	1,200	2,400	51,109,731,324,417,688.00	29.06%	3,600.00
				1200-2400-5.lp	1,200	2,400	27,621,907,237,587,964.00	61.66%	3,600.00
				1600-800.0-1.lp	1,600	800	5,084,591,085,024,109,568.00	1.00%	3,600.00
				1600-800.0-2.lp	1,600	800	4,408,074,919,812,935,168.00	4.41%	3,600.00
				1600-800.0-3.lp	1,600	800	3,493,609,713,663,012,864.00	24.24%	3,600.00
				1600-800.0-4.lp	1,600	800	3,738,063,917,595,664,896.00	19.39%	3,600.00
				1600-800.0-5.lp	1,600	800	3,664,192,111,670,419,968.00	1.55%	3,600.00
				1600-1600-1.lp	1,600	1,600	499,265,703,915,135,808.00	56.69%	3,600.00
				1600-1600-2.lp	1,600	1,600	632,929,142,747,389,824.00	43.13%	3,600.00
				1600-1600-3.lp	1,600	1,600	699,476,155,214,767,232.00	56.25%	3,600.00
				1600-1600-4.lp	1,600	1,600	489,260,578,479,873,600.00	57.56%	3,600.00
				1600-1600-5.lp	1,600	1,600	542,683,576,900,963,712.00	58.19%	3,600.00
				1600-2400.0-1.lp	1,600	2,400	304,283,645,368,280,000.00	29.61%	3,600.00
				1600-2400.0-2.lp	1,600	2,400	181,516,014,379,535,328.00	68.51%	3,600.00
				1600-2400.0-3.lp	1,600	2,400	114,173,104,178,879,904.00	80.19%	3,600.00
				1600-2400.0-4.lp	1,600	2,400	104,513,009,010,738,000.00	82.56%	3,600.00
				1600-2400.0-5.lp	1,600	2,400	338,427,560,815,362,496.00	41.29%	3,600.00
				1600-3200-1.lp	1,600	3,200	144,311,192,548,646,368.00	49.93%	3,600.00
				1600-3200-2.lp	1,600	3,200	118,676,351,258,460,256.00	57.09%	3,600.00
				1600-3200-3.lp	1,600	3,200	73,779,101,043,626,272.00	74.40%	3,600.00
				1600-3200-4.lp	1,600	3,200	117,080,781,658,602,272.00	73.25%	3,600.00
				1600-3200-5.lp	1,600	3,200	69,841,175,707,746,736.00	83.84%	3,600.00
				2000-1000.0-1.lp	2,000	1,000	5,392,282,398,330,871,808.00	76.79%	3,600.00
				2000-1000.0-2.lp	2,000	1,000	6,910,577,095,257,544,704.00	30.55%	3,600.00
				2000-1000.0-3.lp	2,000	1,000	2,929,163,164,436,026,880.00	84.12%	3,600.00
				2000-1000.0-4.lp	2,000	1,000	6,524,919,170,526,668,800.00	64.63%	3,600.00
				2000-1000.0-5.lp	2,000	1,000	8,894,574,423,974,738,944.00	44.89%	3,600.00
				2000-2000-1.lp	2,000	2,000	1,542,250,761,818,600,448.00	10.03%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	Continuous	4	N-O-10^0	2000-2000-2.lp	2,000	2,000	530,410,256,028,571,712.00	88.50%	3,600.00
				2000-2000-3.lp	2,000	2,000	905,023,532,417,992,192.00	80.37%	3,600.00
				2000-2000-4.lp	2,000	2,000	1,380,410,025,346,908,928.00	70.07%	3,600.00
				2000-2000-5.lp	2,000	2,000	1,461,563,495,613,107,712.00	62.51%	3,600.00
				2000-3000.0-1.lp	2,000	3,000	439,846,702,200,734,720.00	70.87%	3,600.00
				2000-3000.0-2.lp	2,000	3,000	796,138,950,508,080,512.00	50.58%	3,600.00
				2000-3000.0-3.lp	2,000	3,000	436,920,194,654,740,288.00	70.29%	3,600.00
				2000-3000.0-4.lp	2,000	3,000	342,663,003,884,973,824.00	82.00%	3,600.00
				2000-3000.0-5.lp	2,000	3,000	524,303,819,994,118,976.00	78.44%	3,600.00
				2000-4000-1.lp	2,000	4,000	127,011,909,879,201,248.00	93.76%	3,600.00
				2000-4000-2.lp	2,000	4,000	255,610,239,457,360,224.00	69.03%	3,600.00
				2000-4000-3.lp	2,000	4,000	139,041,637,444,869,120.00	91.55%	3,600.00
				2000-4000-4.lp	2,000	4,000	284,334,545,938,421,824.00	55.35%	3,600.00
				2000-4000-5.lp	2,000	4,000	136,812,510,589,524,096.00	88.03%	3,600.00
			N-O-10^2	400-200.0-1.lp	400	200	32,783,189,936,696,308.00	0.04%	3,600.00
				400-200.0-2.lp	400	200	30,773,038,013,568,180.00	0.02%	3,600.00
				400-200.0-3.lp	400	200	51,647,464,306,583,240.00	0.01%	3,600.00
				400-200.0-4.lp	400	200	20,435,736,898,952,024.00	0.34%	3,600.00
				400-200.0-5.lp	400	200	13,130,411,179,867,014.00	0.00%	3,600.00
				400-400-1.lp	400	400	2,860,743,419,241,984.50	2.24%	3,600.00
				400-400-2.lp	400	400	3,823,454,305,035,356.50	0.15%	3,600.00
				400-400-3.lp	400	400	4,339,205,519,477,866.50	14.59%	3,600.00
				400-400-4.lp	400	400	2,629,754,500,569,724.50	1.98%	3,600.00
				400-400-5.lp	400	400	2,756,801,177,797,942.50	2.16%	3,600.00
				400-600.0-1.lp	400	600	937,167,384,965,187.12	0.00%	3,190.34
				400-600.0-2.lp	400	600	569,474,849,312,727.62	0.02%	3,600.00
				400-600.0-3.lp	400	600	559,556,094,106,527.75	0.04%	3,600.00
				400-600.0-4.lp	400	600	705,754,800,958,586.00	2.10%	3,600.00
				400-600.0-5.lp	400	600	1,158,895,329,612,588.25	2.35%	3,600.00
				400-800-1.lp	400	800	277,319,120,800,823.09	0.89%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*4*	*N-O*-10^2	400-800-2.lp	400	800	315,821,123,612,562.38	0.58%	3,600.00
				400-800-3.lp	400	800	606,725,848,254,415.25	0.12%	3,600.00
				400-800-4.lp	400	800	650,343,389,570,032.75	0.08%	3,600.00
				400-800-5.lp	400	800	501,483,153,852,917.62	0.02%	3,600.00
				800-400.0-1.lp	800	400	377,471,900,290,716,160.00	23.92%	3,600.00
				800-400.0-2.lp	800	400	396,937,750,347,173,952.00	7.04%	3,600.00
				800-400.0-3.lp	800	400	231,319,247,445,485,376.00	0.62%	3,600.00
				800-400.0-4.lp	800	400	464,627,129,318,680,192.00	0.61%	3,600.00
				800-400.0-5.lp	800	400	387,572,090,679,462,464.00	13.28%	3,600.00
				800-800-1.lp	800	800	39,681,950,714,108,824.00	7.65%	3,600.00
				800-800-2.lp	800	800	39,856,906,976,590,976.00	0.37%	3,600.00
				800-800-3.lp	800	800	42,072,955,378,615,184.00	12.89%	3,600.00
				800-800-4.lp	800	800	36,491,346,712,837,680.00	12.10%	3,600.00
				800-800-5.lp	800	800	49,173,043,640,751,032.00	0.45%	3,600.00
				800-1200.0-1.lp	800	1,200	19,790,149,414,541,376.00	45.24%	3,600.00
				800-1200.0-2.lp	800	1,200	15,225,241,343,361,560.00	51.54%	3,600.00
				800-1200.0-3.lp	800	1,200	16,034,830,126,911,482.00	4.06%	3,600.00
				800-1200.0-4.lp	800	1,200	17,245,209,635,695,844.00	57.35%	3,600.00
				800-1200.0-5.lp	800	1,200	23,080,182,228,967,560.00	0.68%	3,600.00
				800-1600-1.lp	800	1,600	8,961,627,026,250,981.00	8.03%	3,600.00
				800-1600-2.lp	800	1,600	8,780,314,779,624,601.00	39.22%	3,600.00
				800-1600-3.lp	800	1,600	9,129,112,539,170,538.00	3.22%	3,600.00
				800-1600-4.lp	800	1,600	9,020,799,092,959,178.00	17.33%	3,600.00
				800-1600-5.lp	800	1,600	9,402,128,846,787,894.00	45.68%	3,600.00
				1200-600.0-1.lp	1,200	600	1,707,489,428,372,251,136.00	9.91%	3,600.00
				1200-600.0-2.lp	1,200	600	1,510,695,744,060,658,944.00	6.68%	3,600.00
				1200-600.0-3.lp	1,200	600	1,065,296,580,414,713,600.00	36.86%	3,600.00
				1200-600.0-4.lp	1,200	600	1,379,609,779,002,564,096.00	11.15%	3,600.00
				1200-600.0-5.lp	1,200	600	1,375,946,416,292,903,424.00	3.23%	3,600.00
				1200-1200-1.lp	1,200	1,200	156,789,203,832,772,096.00	47.59%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	Continuous	4	N-O-10²	1200-1200-2.lp	1,200	1,200	181,806,386,555,206,240.00	37.19%	3,600.00
				1200-1200-3.lp	1,200	1,200	213,143,377,166,783,392.00	16.37%	3,600.00
				1200-1200-4.lp	1,200	1,200	261,586,111,980,714,944.00	32.38%	3,600.00
				1200-1200-5.lp	1,200	1,200	231,082,834,085,647,744.00	70.13%	3,600.00
				1200-1800.0-1.lp	1,200	1,800	82,949,102,452,828,064.00	54.26%	3,600.00
				1200-1800.0-2.lp	1,200	1,800	64,925,089,877,467,000.00	66.43%	3,600.00
				1200-1800.0-3.lp	1,200	1,800	55,548,287,696,436,552.00	71.28%	3,600.00
				1200-1800.0-4.lp	1,200	1,800	53,292,789,184,940,104.00	77.37%	3,600.00
				1200-1800.0-5.lp	1,200	1,800	58,545,965,405,027,648.00	39.46%	3,600.00
				1200-2400-1.lp	1,200	2,400	36,833,351,490,450,808.00	49.22%	3,600.00
				1200-2400-2.lp	1,200	2,400	24,838,805,635,492,996.00	74.32%	3,600.00
				1200-2400-3.lp	1,200	2,400	44,693,201,487,411,560.00	37.32%	3,600.00
				1200-2400-4.lp	1,200	2,400	21,558,608,328,858,928.00	77.71%	3,600.00
				1200-2400-5.lp	1,200	2,400	38,218,121,118,495,760.00	47.31%	3,600.00
				1600-800.0-1.lp	1,600	800	5,085,859,634,202,481,664.00	47.00%	3,600.00
				1600-800.0-2.lp	1,600	800	4,403,595,931,143,711,232.00	64.43%	3,600.00
				1600-800.0-3.lp	1,600	800	3,198,459,822,999,996,928.00	39.37%	3,600.00
				1600-800.0-4.lp	1,600	800	4,032,286,408,116,695,040.00	61.37%	3,600.00
				1600-800.0-5.lp	1,600	800	1,192,997,214,200,731,392.00	90.36%	3,600.00
				1600-1600-1.lp	1,600	1,600	550,262,106,411,060,160.00	76.68%	3,600.00
				1600-1600-2.lp	1,600	1,600	239,211,170,798,840,320.00	79.80%	3,600.00
				1600-1600-3.lp	1,600	1,600	629,507,013,622,962,688.00	0.85%	3,600.00
				1600-1600-4.lp	1,600	1,600	526,120,198,467,657,856.00	36.52%	3,600.00
				1600-1600-5.lp	1,600	1,600	643,934,063,280,149,760.00	45.64%	3,600.00
				1600-2400.0-1.lp	1,600	2,400	251,044,041,817,772,800.00	67.55%	3,600.00
				1600-2400.0-2.lp	1,600	2,400	303,976,216,551,276,160.00	60.71%	3,600.00
				1600-2400.0-3.lp	1,600	2,400	198,259,064,303,069,824.00	74.38%	3,600.00
				1600-2400.0-4.lp	1,600	2,400	180,632,042,412,817,504.00	83.76%	3,600.00
				1600-2400.0-5.lp	1,600	2,400	116,247,362,152,163,056.00	89.70%	3,600.00
				1600-3200-1.lp	1,600	3,200	130,025,050,722,255,472.00	61.82%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*4*	N-O-10^2	1600-3200-2.lp	1,600	3,200	110,901,175,697,778,144.00	65.50%	3,600.00
				1600-3200-3.lp	1,600	3,200	145,687,574,569,393,344.00	50.41%	3,600.00
				1600-3200-4.lp	1,600	3,200	152,341,255,216,366,496.00	68.39%	3,600.00
				1600-3200-5.lp	1,600	3,200	175,920,075,299,178,848.00	65.94%	3,600.00
				2000-1000.0-1.lp	2,000	1,000	11,101,871,717,515,292,672.00	45.52%	3,600.00
				2000-1000.0-2.lp	2,000	1,000	2,627,039,628,064,734,720.00	80.93%	3,600.00
				2000-1000.0-3.lp	2,000	1,000	7,310,441,474,364,959,744.00	44.76%	3,600.00
				2000-1000.0-4.lp	2,000	1,000	9,166,624,654,690,503,680.00	48.43%	3,600.00
				2000-1000.0-5.lp	2,000	1,000	9,249,843,537,351,135,232.00	44.21%	3,600.00
				2000-2000-1.lp	2,000	2,000	938,268,644,024,822,144.00	70.16%	3,600.00
				2000-2000-2.lp	2,000	2,000	530,410,256,028,571,648.00	87.37%	3,600.00
				2000-2000-3.lp	2,000	2,000	561,014,793,235,865,216.00	85.11%	3,600.00
				2000-2000-4.lp	2,000	2,000	912,530,181,422,962,944.00	83.69%	3,600.00
				2000-2000-5.lp	2,000	2,000	985,713,021,642,124,800.00	74.64%	3,600.00
				2000-3000.0-1.lp	2,000	3,000	513,785,590,236,090,048.00	54.21%	3,600.00
				2000-3000.0-2.lp	2,000	3,000	436,706,462,287,683,008.00	86.37%	3,600.00
				2000-3000.0-3.lp	2,000	3,000	248,786,690,090,989,536.00	83.25%	3,600.00
				2000-3000.0-4.lp	2,000	3,000	243,888,193,872,411,296.00	90.67%	3,600.00
				2000-3000.0-5.lp	2,000	3,000	558,282,674,162,408,832.00	54.35%	3,600.00
				2000-4000-1.lp	2,000	4,000	127,011,909,879,201,248.00	86.09%	3,600.00
				2000-4000-2.lp	2,000	4,000	145,411,547,822,463,456.00	88.18%	3,600.00
				2000-4000-3.lp	2,000	4,000	139,041,637,444,869,136.00	93.46%	3,600.00
				2000-4000-4.lp	2,000	4,000	134,450,187,972,330,080.00	90.05%	3,600.00
				2000-4000-5.lp	2,000	4,000	136,812,510,589,524,128.00	92.20%	3,600.00
			N-O-10^4	400-200.0-1.lp	400	200	32,453,178,228,187,468.00	10.49%	3,600.00
				400-200.0-2.lp	400	200	30,338,771,432,433,552.00	27.93%	3,600.00
				400-200.0-3.lp	400	200	57,555,190,935,667,264.00	15.08%	3,600.00
				400-200.0-4.lp	400	200	20,412,442,097,233,696.00	17.87%	3,600.00
				400-200.0-5.lp	400	200	13,129,566,421,737,928.00	0.07%	3,600.00
				400-400-1.lp	400	400	2,783,762,298,454,218.00	65.69%	3,600.00

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*4*	*N-O*-10^4	400-400-2.lp	400	400	3,690,391,704,803,773.00	24.99%	3,600.00
				400-400-3.lp	400	400	4,217,149,652,447,559.00	48.02%	3,600.00
				400-400-4.lp	400	400	2,601,160,180,746,314.50	0.01%	3,600.00
				400-400-5.lp	400	400	2,756,117,793,633,078.00	1.93%	3,600.00
				400-600.0-1.lp	400	600	933,328,177,396,266.38	5.38%	3,600.00
				400-600.0-2.lp	400	600	555,851,977,988,118.62	19.76%	3,600.00
				400-600.0-3.lp	400	600	490,377,234,228,217.12	0.00%	968.21
				400-600.0-4.lp	400	600	706,222,061,025,257.50	1.90%	3,600.00
				400-600.0-5.lp	400	600	1,158,413,566,416,892.50	11.29%	3,600.00
				400-800-1.lp	400	800	276,847,072,506,837.06	3.60%	3,600.00
				400-800-2.lp	400	800	314,488,487,585,807.75	3.38%	3,600.00
				400-800-3.lp	400	800	605,178,631,387,928.88	8.26%	3,600.00
				400-800-4.lp	400	800	646,259,491,833,282.25	11.29%	3,600.00
				400-800-5.lp	400	800	492,620,166,120,862.19	4.74%	3,600.00
				800-400.0-1.lp	800	400	359,166,133,615,730,176.00	30.83%	3,600.00
				800-400.0-2.lp	800	400	387,278,151,640,106,176.00	44.96%	3,600.00
				800-400.0-3.lp	800	400	231,242,348,536,750,720.00	21.35%	3,600.00
				800-400.0-4.lp	800	400	458,907,327,499,836,160.00	36.31%	3,600.00
				800-400.0-5.lp	800	400	396,776,378,370,558,720.00	6.97%	3,600.00
				800-800-1.lp	800	800	38,731,002,379,814,808.00	51.74%	3,600.00
				800-800-2.lp	800	800	41,509,507,118,745,400.00	68.02%	3,600.00
				800-800-3.lp	800	800	38,090,126,074,555,808.00	70.66%	3,600.00
				800-800-4.lp	800	800	33,654,604,813,415,336.00	59.36%	3,600.00
				800-800-5.lp	800	800	49,057,940,340,929,360.00	39.07%	3,600.00
				800-1200.0-1.lp	800	1,200	16,234,786,142,287,838.00	49.97%	3,600.00
				800-1200.0-2.lp	800	1,200	15,914,496,436,795,646.00	9.75%	3,600.00
				800-1200.0-3.lp	800	1,200	14,653,266,359,547,398.00	42.41%	3,600.00
				800-1200.0-4.lp	800	1,200	15,812,870,062,788,852.00	8.94%	3,600.00
				800-1200.0-5.lp	800	1,200	21,654,612,379,377,120.00	9.62%	3,600.00
				800-1600-1.lp	800	1,600	8,863,728,722,004,390.00	39.42%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*4*	*N-O*-10^4	800-1600-2.lp	800	1,600	5,087,049,486,619,697.00	0.00%	2,304.47
				800-1600-3.lp	800	1,600	9,055,842,445,135,178.00	21.68%	3,600.00
				800-1600-4.lp	800	1,600	8,477,674,662,486,916.00	0.01%	3,600.00
				800-1600-5.lp	800	1,600	5,890,583,368,767,247.00	1.15%	3,600.00
				1200-600.0-1.lp	1,200	600	1,646,157,036,150,904,320.00	20.74%	3,600.00
				1200-600.0-2.lp	1,200	600	1,462,894,964,585,986,048.00	40.65%	3,600.00
				1200-600.0-3.lp	1,200	600	996,935,582,157,236,224.00	60.79%	3,600.00
				1200-600.0-4.lp	1,200	600	1,298,878,339,104,793,856.00	52.40%	3,600.00
				1200-600.0-5.lp	1,200	600	1,340,509,213,937,286,400.00	35.46%	3,600.00
				1200-1200-1.lp	1,200	1,200	149,479,774,794,195,008.00	60.03%	3,600.00
				1200-1200-2.lp	1,200	1,200	74,787,380,606,009,216.00	85.60%	3,600.00
				1200-1200-3.lp	1,200	1,200	164,280,358,193,942,848.00	67.92%	3,600.00
				1200-1200-4.lp	1,200	1,200	257,735,159,093,205,120.00	55.26%	3,600.00
				1200-1200-5.lp	1,200	1,200	135,692,386,127,747,024.00	73.87%	3,600.00
				1200-1800.0-1.lp	1,200	1,800	64,903,710,933,194,104.00	67.89%	3,600.00
				1200-1800.0-2.lp	1,200	1,800	81,905,330,552,716,736.00	57.07%	3,600.00
				1200-1800.0-3.lp	1,200	1,800	65,825,755,564,121,880.00	58.13%	3,600.00
				1200-1800.0-4.lp	1,200	1,800	88,071,081,093,610,640.00	49.41%	3,600.00
				1200-1800.0-5.lp	1,200	1,800	67,378,228,290,089,440.00	35.04%	3,600.00
				1200-2400-1.lp	1,200	2,400	41,569,069,589,902,816.00	67.98%	3,600.00
				1200-2400-2.lp	1,200	2,400	34,524,973,850,387,032.00	82.27%	3,600.00
				1200-2400-3.lp	1,200	2,400	34,002,216,317,764,576.00	73.81%	3,600.00
				1200-2400-4.lp	1,200	2,400	22,469,826,955,729,744.00	82.69%	3,600.00
				1200-2400-5.lp	1,200	2,400	26,834,624,879,494,708.00	79.33%	3,600.00
				1600-800.0-1.lp	1,600	800	4,082,231,462,859,360,768.00	50.86%	3,600.00
				1600-800.0-2.lp	1,600	800	3,508,344,816,641,082,880.00	63.78%	3,600.00
				1600-800.0-3.lp	1,600	800	2,568,502,430,851,912,192.00	70.82%	3,600.00
				1600-800.0-4.lp	1,600	800	3,170,438,509,893,941,248.00	67.21%	3,600.00
				1600-800.0-5.lp	1,600	800	1,830,182,102,342,195,200.00	77.97%	3,600.00
				1600-1600-1.lp	1,600	1,600	649,565,969,723,947,648.00	37.45%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*4*	*N-O*-10^4	1600-1600-2.lp	1,600	1,600	310,722,082,465,588,800.00	81.57%	3,600.00
				1600-1600-3.lp	1,600	1,600	902,242,141,764,959,616.00	56.56%	3,600.00
				1600-1600-4.lp	1,600	1,600	412,472,404,731,555,968.00	79.28%	3,600.00
				1600-1600-5.lp	1,600	1,600	698,682,592,088,888,960.00	49.35%	3,600.00
				1600-2400.0-1.lp	1,600	2,400	120,680,001,105,692,048.00	83.20%	3,600.00
				1600-2400.0-2.lp	1,600	2,400	228,113,128,421,608,320.00	67.09%	3,600.00
				1600-2400.0-3.lp	1,600	2,400	224,206,876,317,285,344.00	82.54%	3,600.00
				1600-2400.0-4.lp	1,600	2,400	167,161,891,928,124,192.00	79.36%	3,600.00
				1600-2400.0-5.lp	1,600	2,400	172,765,069,924,457,536.00	77.03%	3,600.00
				1600-3200-1.lp	1,600	3,200	134,898,441,976,582,160.00	45.65%	3,600.00
				1600-3200-2.lp	1,600	3,200	54,040,074,838,494,992.00	79.18%	3,600.00
				1600-3200-3.lp	1,600	3,200	101,606,723,196,006,560.00	83.83%	3,600.00
				1600-3200-4.lp	1,600	3,200	104,143,568,206,557,744.00	82.51%	3,600.00
				1600-3200-5.lp	1,600	3,200	90,519,952,353,953,920.00	89.50%	3,600.00
				2000-1000.0-1.lp	2,000	1,000	8,816,191,024,327,488,512.00	71.97%	3,600.00
				2000-1000.0-2.lp	2,000	1,000	6,075,881,125,987,288,064.00	56.25%	3,600.00
				2000-1000.0-3.lp	2,000	1,000	7,250,421,806,917,670,912.00	57.82%	3,600.00
				2000-1000.0-4.lp	2,000	1,000	9,113,199,097,677,677,568.00	72.58%	3,600.00
				2000-1000.0-5.lp	2,000	1,000	7,162,744,042,944,779,264.00	78.45%	3,600.00
				2000-2000-1.lp	2,000	2,000	529,274,217,447,419,392.00	89.74%	3,600.00
				2000-2000-2.lp	2,000	2,000	1,119,531,304,000,545,152.00	67.39%	3,600.00
				2000-2000-3.lp	2,000	2,000	776,046,492,023,318,656.00	76.45%	3,600.00
				2000-2000-4.lp	2,000	2,000	586,840,813,691,194,752.00	84.86%	3,600.00
				2000-2000-5.lp	2,000	2,000	1,377,164,803,086,422,272.00	58.66%	3,600.00
				2000-3000.0-1.lp	2,000	3,000	216,363,539,283,412,256.00	89.58%	3,600.00
				2000-3000.0-2.lp	2,000	3,000	530,077,742,726,361,152.00	82.39%	3,600.00
				2000-3000.0-3.lp	2,000	3,000	654,496,589,419,457,536.00	20.70%	3,600.00
				2000-3000.0-4.lp	2,000	3,000	243,888,193,872,411,296.00	88.26%	3,600.00
				2000-3000.0-5.lp	2,000	3,000	511,869,307,409,057,024.00	0.00%	619.48
				2000-4000-1.lp	2,000	4,000	127,011,909,879,201,248.00	88.26%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Max	*Continuous*	*4*	*N-O*-10^4	2000-4000-2.lp	2,000	4,000	145,411,547,822,463,456.00	92.97%	3,600.00
				2000-4000-3.lp	2,000	4,000	139,041,637,444,869,120.00	93.94%	3,600.00
				2000-4000-4.lp	2,000	4,000	265,779,924,689,378,144.00	74.82%	3,600.00
				2000-4000-5.lp	2,000	4,000	136,812,510,589,524,096.00	92.88%	3,600.00
Min	Continuous	2	GRB Nonconvex	100-50.0-1.lp	100	50	652,115.75	0.00%	167.60
				100-50.0-2.lp	100	50	181,165.11	0.00%	2.90
				100-50.0-3.lp	100	50	109,403.15	0.00%	6.01
				100-50.0-4.lp	100	50	97,903.41	0.00%	6.08
				100-50.0-5.lp	100	50	52,313.41	0.00%	4.07
				100-100-1.lp	100	100	26,327.28	0.00%	6.07
				100-100-2.lp	100	100	40,454.81	0.00%	14.11
				100-100-3.lp	100	100	14,271.56	0.00%	0.09
				100-100-4.lp	100	100	22,986.98	0.00%	3.84
				100-100-5.lp	100	100	18,317.87	0.00%	4.33
				100-150.0-1.lp	100	150	5,837.77	0.00%	3.51
				100-150.0-2.lp	100	150	9,642.04	0.00%	9.46
				100-150.0-3.lp	100	150	10,787.01	0.00%	3.74
				100-150.0-4.lp	100	150	14,818.37	0.00%	4.71
				100-150.0-5.lp	100	150	14,570.86	0.00%	3.93
				100-200-1.lp	100	200	7,737.74	0.00%	3.52
				100-200-2.lp	100	200	5,566.19	0.00%	8.36
				100-200-3.lp	100	200	7,555.90	0.00%	4.98
				100-200-4.lp	100	200	5,950.81	0.00%	4.38
				100-200-5.lp	100	200	5,310.37	0.00%	6.50
				200-100.0-1.lp	200	100	212,754.40	0.00%	22.72
				200-100.0-2.lp	200	100	309,568.82	0.00%	27.18
				200-100.0-3.lp	200	100	408,058.09	0.00%	0.14
				200-100.0-4.lp	200	100	301,090.50	0.00%	26.91
				200-100.0-5.lp	200	100	850,104.16	0.00%	168.17
				200-200-1.lp	200	200	111,803.56	0.00%	22.72

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*2*	*GRB Nonconvex*	200-200-2.lp	200	200	97,228.92	0.00%	23.86
				200-200-3.lp	200	200	83,128.57	0.00%	17.88
				200-200-4.lp	200	200	89,324.27	0.00%	17.14
				200-200-5.lp	200	200	135,641.87	0.00%	17.83
				200-300.0-1.lp	200	300	37,113.47	0.00%	25.99
				200-300.0-2.lp	200	300	41,009.18	0.00%	25.88
				200-300.0-3.lp	200	300	35,961.70	0.00%	25.77
				200-300.0-4.lp	200	300	52,559.04	0.00%	25.11
				200-300.0-5.lp	200	300	43,966.57	0.00%	31.48
				200-400-1.lp	200	400	30,638.33	0.00%	30.55
				200-400-2.lp	200	400	33,542.63	0.00%	26.87
				200-400-3.lp	200	400	24,974.42	0.00%	42.08
				200-400-4.lp	200	400	32,183.57	0.00%	36.75
				200-400-5.lp	200	400	38,984.01	0.00%	27.34
				300-150.0-1.lp	300	150	635,799.71	0.00%	99.10
				300-150.0-2.lp	300	150	809,861.59	0.00%	137.75
				300-150.0-3.lp	300	150	546,266.67	0.00%	75.41
				300-150.0-4.lp	300	150	623,579.31	0.00%	65.71
				300-150.0-5.lp	300	150	451,217.01	0.00%	83.74
				300-300-1.lp	300	300	129,558.89	0.00%	51.60
				300-300-2.lp	300	300	145,402.67	0.00%	54.39
				300-300-3.lp	300	300	164,768.37	0.00%	80.02
				300-300-4.lp	300	300	186,109.44	0.00%	76.76
				300-300-5.lp	300	300	190,269.08	0.00%	51.48
				300-450.0-1.lp	300	450	149,846.27	0.00%	86.13
				300-450.0-2.lp	300	450	100,223.07	0.00%	91.56
				300-450.0-3.lp	300	450	96,378.52	0.00%	79.52
				300-450.0-4.lp	300	450	121,854.29	0.00%	86.69
				300-450.0-5.lp	300	450	137,409.75	0.00%	70.78
				300-600-1.lp	300	600	58,433.18	0.00%	86.45

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	Continuous	2	GRB Nonconvex	300-600-2.lp	300	600	74,542.61	0.00%	75.37
				300-600-3.lp	300	600	58,141.11	0.00%	114.53
				300-600-4.lp	300	600	72,143.44	0.00%	73.63
				300-600-5.lp	300	600	77,312.52	0.00%	92.54
				400-200.0-1.lp	400	200	1,163,964.50	0.00%	2,211.95
				400-200.0-2.lp	400	200	876,368.61	0.00%	149.18
				400-200.0-3.lp	400	200	851,074.40	0.00%	165.53
				400-200.0-4.lp	400	200	875,176.21	0.00%	2,085.11
				400-200.0-5.lp	400	200	959,033.46	0.00%	2,187.27
				400-400-1.lp	400	400	333,855.01	0.00%	217.02
				400-400-2.lp	400	400	349,519.14	0.00%	144.41
				400-400-3.lp	400	400	400,767.49	0.00%	197.74
				400-400-4.lp	400	400	391,365.12	0.00%	201.33
				400-400-5.lp	400	400	346,165.89	0.00%	163.90
				400-600.0-1.lp	400	600	196,576.08	0.00%	199.61
				400-600.0-2.lp	400	600	237,595.92	0.00%	213.00
				400-600.0-3.lp	400	600	203,047.07	0.00%	205.53
				400-600.0-4.lp	400	600	197,926.51	0.00%	256.93
				400-600.0-5.lp	400	600	208,772.94	0.00%	185.30
				400-800-1.lp	400	800	138,702.65	0.00%	222.56
				400-800-2.lp	400	800	131,451.60	0.00%	238.60
				400-800-3.lp	400	800	133,786.96	0.00%	207.11
				400-800-4.lp	400	800	152,134.65	0.00%	274.81
				400-800-5.lp	400	800	167,833.13	0.00%	227.15
				500-250.0-1.lp	500	250	1,649,376.56	100.00%	3,600.00
				500-250.0-2.lp	500	250	1,970,777.81	100.00%	3,600.00
				500-250.0-3.lp	500	250	1,829,460.96	100.00%	3,600.00
				500-250.0-4.lp	500	250	2,228,388.07	100.00%	3,600.00
				500-250.0-5.lp	500	250	1,534,184.14	100.00%	3,600.00
				500-500-1.lp	500	500	473,058.59	0.00%	177.41

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*2*	*GRB Nonconvex*	500-500-2.lp	500	500	569,456.60	0.00%	208.71
				500-500-3.lp	500	500	670,550.04	0.00%	322.72
				500-500-4.lp	500	500	479,603.85	0.00%	230.32
				500-500-5.lp	500	500	633,085.96	0.00%	345.33
				500-750.0-1.lp	500	750	325,688.77	0.00%	345.30
				500-750.0-2.lp	500	750	305,708.56	0.00%	284.71
				500-750.0-3.lp	500	750	315,221.19	0.00%	487.65
				500-750.0-4.lp	500	750	312,918.99	0.00%	242.92
				500-750.0-5.lp	500	750	393,617.36	0.00%	294.46
				500-1000-1.lp	500	1,000	196,984.15	0.00%	414.46
				500-1000-2.lp	500	1,000	201,230.11	0.00%	240.71
				500-1000-3.lp	500	1,000	236,227.61	0.00%	273.87
				500-1000-4.lp	500	1,000	285,154.56	0.00%	351.10
				500-1000-5.lp	500	1,000	178,047.21	0.00%	264.69
			N-O-Imm-10^0	100-50.0-1.lp	100	50	653,934.00	0.00%	0.21
				100-50.0-2.lp	100	50	182,534.94	0.00%	0.21
				100-50.0-3.lp	100	50	110,489.51	0.00%	0.22
				100-50.0-4.lp	100	50	98,645.71	0.00%	0.26
				100-50.0-5.lp	100	50	53,088.91	0.00%	0.25
				100-100-1.lp	100	100	27,085.55	0.00%	0.33
				100-100-2.lp	100	100	40,462.91	0.00%	0.23
				100-100-3.lp	100	100	14,779.06	0.00%	0.28
				100-100-4.lp	100	100	23,372.65	0.00%	0.24
				100-100-5.lp	100	100	18,611.27	0.00%	0.20
				100-150.0-1.lp	100	150	5,999.98	0.00%	0.24
				100-150.0-2.lp	100	150	9,654.28	0.00%	0.36
				100-150.0-3.lp	100	150	10,798.13	0.00%	0.25
				100-150.0-4.lp	100	150	14,835.85	0.00%	0.39
				100-150.0-5.lp	100	150	14,646.40	0.00%	0.30
				100-200-1.lp	100	200	7,899.88	0.00%	0.45

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	Continuous	2	N-O-Imm-10^0	100-200-2.lp	100	200	5,586.27	0.00%	0.33
				100-200-3.lp	100	200	7,825.30	0.00%	0.45
				100-200-4.lp	100	200	6,062.43	0.00%	0.36
				100-200-5.lp	100	200	5,318.52	0.00%	0.28
				200-100.0-1.lp	200	100	212,866.97	0.00%	0.61
				200-100.0-2.lp	200	100	309,585.80	0.00%	0.39
				200-100.0-3.lp	200	100	408,759.63	0.00%	0.47
				200-100.0-4.lp	200	100	301,362.03	0.00%	0.39
				200-100.0-5.lp	200	100	852,002.69	0.00%	0.62
				200-200-1.lp	200	200	112,050.11	0.00%	0.49
				200-200-2.lp	200	200	97,607.17	0.00%	0.45
				200-200-3.lp	200	200	83,742.18	0.00%	0.62
				200-200-4.lp	200	200	89,415.09	0.00%	0.48
				200-200-5.lp	200	200	135,846.35	0.00%	0.72
				200-300.0-1.lp	200	300	37,181.73	0.00%	0.82
				200-300.0-2.lp	200	300	41,801.52	0.00%	0.89
				200-300.0-3.lp	200	300	36,480.00	0.00%	0.69
				200-300.0-4.lp	200	300	52,709.26	0.00%	0.85
				200-300.0-5.lp	200	300	43,977.54	0.00%	1.15
				200-400-1.lp	200	400	31,124.86	0.00%	1.38
				200-400-2.lp	200	400	33,550.12	0.00%	0.84
				200-400-3.lp	200	400	25,050.42	0.00%	1.24
				200-400-4.lp	200	400	32,201.43	0.00%	1.61
				200-400-5.lp	200	400	38,985.10	0.00%	1.00
				300-150.0-1.lp	300	150	636,945.49	0.00%	1.19
				300-150.0-2.lp	300	150	810,267.24	0.00%	1.45
				300-150.0-3.lp	300	150	549,257.28	0.00%	0.92
				300-150.0-4.lp	300	150	623,688.60	0.00%	0.84
				300-150.0-5.lp	300	150	451,451.76	0.00%	1.23
				300-300-1.lp	300	300	129,559.84	0.00%	1.93

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*2*	*N-O-Imm-*10^0	300-300-2.lp	300	300	145,440.69	0.00%	1.37
				300-300-3.lp	300	300	164,956.90	0.00%	1.18
				300-300-4.lp	300	300	187,285.71	0.00%	1.15
				300-300-5.lp	300	300	190,344.86	0.00%	1.86
				300-450.0-1.lp	300	450	149,958.80	0.00%	2.09
				300-450.0-2.lp	300	450	100,658.58	0.00%	1.80
				300-450.0-3.lp	300	450	96,431.48	0.00%	1.67
				300-450.0-4.lp	300	450	121,876.66	0.00%	1.68
				300-450.0-5.lp	300	450	138,501.02	0.00%	2.13
				300-600-1.lp	300	600	58,440.31	0.00%	3.57
				300-600-2.lp	300	600	74,943.79	0.00%	2.16
				300-600-3.lp	300	600	58,598.03	0.00%	5.74
				300-600-4.lp	300	600	72,596.16	0.00%	2.34
				300-600-5.lp	300	600	77,892.77	0.00%	2.10
				400-200.0-1.lp	400	200	1,165,878.08	0.00%	1.55
				400-200.0-2.lp	400	200	876,687.75	0.00%	2.71
				400-200.0-3.lp	400	200	851,283.78	0.00%	1.40
				400-200.0-4.lp	400	200	876,463.02	0.00%	2.01
				400-200.0-5.lp	400	200	961,418.54	0.00%	1.77
				400-400-1.lp	400	400	334,448.79	0.00%	2.42
				400-400-2.lp	400	400	349,589.44	0.00%	2.69
				400-400-3.lp	400	400	401,053.23	0.00%	2.15
				400-400-4.lp	400	400	392,074.66	0.00%	2.85
				400-400-5.lp	400	400	346,387.50	0.00%	2.75
				400-600.0-1.lp	400	600	196,631.14	0.00%	3.29
				400-600.0-2.lp	400	600	237,678.60	0.00%	5.54
				400-600.0-3.lp	400	600	203,214.17	0.00%	5.04
				400-600.0-4.lp	400	600	198,347.98	0.00%	4.67
				400-600.0-5.lp	400	600	208,774.26	0.00%	5.13
				400-800-1.lp	400	800	138,784.65	0.00%	4.35

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*2*	*N-O-Imm*-10^0	400-800-2.lp	400	800	131,563.23	0.00%	4.16
				400-800-3.lp	400	800	134,250.55	0.00%	4.12
				400-800-4.lp	400	800	152,157.56	0.00%	4.19
				400-800-5.lp	400	800	168,775.76	0.00%	3.87
				500-250.0-1.lp	500	250	1,643,924.11	0.00%	2.44
				500-250.0-2.lp	500	250	1,959,614.56	0.00%	2.63
				500-250.0-3.lp	500	250	1,826,928.90	0.00%	3.09
				500-250.0-4.lp	500	250	1,995,732.01	0.00%	2.97
				500-250.0-5.lp	500	250	1,535,763.89	0.00%	1.65
				500-500-1.lp	500	500	477,275.45	0.00%	4.59
				500-500-2.lp	500	500	569,526.00	0.00%	4.65
				500-500-3.lp	500	500	671,030.96	0.00%	5.82
				500-500-4.lp	500	500	479,676.66	0.00%	5.56
				500-500-5.lp	500	500	633,302.95	0.00%	4.07
				500-750.0-1.lp	500	750	325,696.79	0.00%	7.60
				500-750.0-2.lp	500	750	305,713.58	0.00%	6.71
				500-750.0-3.lp	500	750	315,404.81	0.00%	4.55
				500-750.0-4.lp	500	750	313,048.36	0.00%	6.30
				500-750.0-5.lp	500	750	393,943.88	0.00%	5.13
				500-1000-1.lp	500	1,000	197,321.91	0.00%	6.03
				500-1000-2.lp	500	1,000	201,708.12	0.00%	10.82
				500-1000-3.lp	500	1,000	236,445.03	0.00%	9.90
				500-1000-4.lp	500	1,000	285,633.94	0.00%	7.66
				500-1000-5.lp	500	1,000	178,082.68	0.00%	6.04
			N-O-Imm-10^2	100-50.0-1.lp	100	50	652,116.41	0.00%	1.53
				100-50.0-2.lp	100	50	181,172.51	0.00%	1.10
				100-50.0-3.lp	100	50	109,405.30	0.00%	0.77
				100-50.0-4.lp	100	50	97,911.35	0.00%	0.81
				100-50.0-5.lp	100	50	52,315.47	0.00%	0.69
				100-100-1.lp	100	100	26,327.60	0.00%	0.66

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*2*	*N-O-Imm-10²*	100-100-2.lp	100	100	40,455.31	0.00%	0.65
				100-100-3.lp	100	100	14,272.37	0.00%	0.64
				100-100-4.lp	100	100	22,988.61	0.00%	0.60
				100-100-5.lp	100	100	18,318.69	0.00%	0.67
				100-150.0-1.lp	100	150	5,837.83	0.00%	0.67
				100-150.0-2.lp	100	150	9,643.06	0.00%	0.56
				100-150.0-3.lp	100	150	10,787.23	0.00%	0.65
				100-150.0-4.lp	100	150	14,818.48	0.00%	0.54
				100-150.0-5.lp	100	150	14,571.29	0.00%	0.47
				100-200-1.lp	100	200	7,737.75	0.00%	0.47
				100-200-2.lp	100	200	5,566.30	0.00%	0.83
				100-200-3.lp	100	200	7,556.20	0.00%	0.67
				100-200-4.lp	100	200	5,953.98	0.00%	0.63
				100-200-5.lp	100	200	5,310.47	0.00%	0.70
				200-100.0-1.lp	200	100	212,755.64	0.00%	0.99
				200-100.0-2.lp	200	100	309,571.65	0.00%	1.40
				200-100.0-3.lp	200	100	408,071.63	0.00%	0.92
				200-100.0-4.lp	200	100	301,092.07	0.00%	1.23
				200-100.0-5.lp	200	100	850,107.37	0.00%	1.04
				200-200-1.lp	200	200	111,806.69	0.00%	0.97
				200-200-2.lp	200	200	97,229.71	0.00%	1.66
				200-200-3.lp	200	200	83,132.51	0.00%	1.47
				200-200-4.lp	200	200	89,324.65	0.00%	1.66
				200-200-5.lp	200	200	135,642.39	0.00%	0.87
				200-300.0-1.lp	200	300	37,113.86	0.00%	2.03
				200-300.0-2.lp	200	300	41,010.55	0.00%	1.28
				200-300.0-3.lp	200	300	35,965.53	0.00%	1.61
				200-300.0-4.lp	200	300	52,559.80	0.00%	2.09
				200-300.0-5.lp	200	300	43,967.37	0.00%	1.86
				200-400-1.lp	200	400	30,640.83	0.00%	2.50

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*2*	*N-O-Imm*-10^2	200-400-2.lp	200	400	33,542.98	0.00%	2.18
				200-400-3.lp	200	400	24,975.10	0.00%	2.06
				200-400-4.lp	200	400	32,183.95	0.00%	2.02
				200-400-5.lp	200	400	38,984.70	0.00%	2.43
				300-150.0-1.lp	300	150	635,803.22	0.00%	1.76
				300-150.0-2.lp	300	150	809,862.44	0.00%	1.52
				300-150.0-3.lp	300	150	546,274.79	0.00%	1.67
				300-150.0-4.lp	300	150	623,579.52	0.00%	1.09
				300-150.0-5.lp	300	150	451,222.95	0.00%	1.09
				300-300-1.lp	300	300	129,559.19	0.00%	2.62
				300-300-2.lp	300	300	145,403.76	0.00%	2.59
				300-300-3.lp	300	300	164,769.45	0.00%	2.78
				300-300-4.lp	300	300	186,115.92	0.00%	2.76
				300-300-5.lp	300	300	190,270.05	0.00%	2.74
				300-450.0-1.lp	300	450	149,846.70	0.00%	4.01
				300-450.0-2.lp	300	450	100,223.44	0.00%	3.83
				300-450.0-3.lp	300	450	96,379.72	0.00%	3.66
				300-450.0-4.lp	300	450	121,855.62	0.00%	4.34
				300-450.0-5.lp	300	450	137,411.05	0.00%	3.74
				300-600-1.lp	300	600	58,433.61	0.00%	5.03
				300-600-2.lp	300	600	74,543.07	0.00%	5.78
				300-600-3.lp	300	600	58,142.18	0.00%	4.06
				300-600-4.lp	300	600	72,144.15	0.00%	4.78
				300-600-5.lp	300	600	77,312.93	0.00%	3.27
				400-200.0-1.lp	400	200	1,163,968.96	0.00%	3.34
				400-200.0-2.lp	400	200	876,369.50	0.00%	2.34
				400-200.0-3.lp	400	200	851,078.16	0.00%	2.07
				400-200.0-4.lp	400	200	875,177.72	0.00%	2.24
				400-200.0-5.lp	400	200	959,037.78	0.00%	3.55
				400-400-1.lp	400	400	333,855.77	0.00%	9.08

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*2*	*N-O-Imm*-10^2	400-400-2.lp	400	400	349,521.41	0.00%	6.09
				400-400-3.lp	400	400	400,767.74	0.00%	5.19
				400-400-4.lp	400	400	391,366.76	0.00%	5.17
				400-400-5.lp	400	400	346,166.03	0.00%	5.38
				400-600.0-1.lp	400	600	196,577.09	0.00%	7.68
				400-600.0-2.lp	400	600	237,597.91	0.00%	4.65
				400-600.0-3.lp	400	600	203,047.95	0.00%	6.28
				400-600.0-4.lp	400	600	197,927.46	0.00%	5.71
				400-600.0-5.lp	400	600	208,773.30	0.00%	6.24
				400-800-1.lp	400	800	138,702.75	0.00%	6.40
				400-800-2.lp	400	800	131,453.92	0.00%	7.99
				400-800-3.lp	400	800	133,789.30	0.00%	6.73
				400-800-4.lp	400	800	152,134.79	0.00%	8.69
				400-800-5.lp	400	800	167,834.73	0.00%	5.86
				500-250.0-1.lp	500	250	1,643,565.41	0.00%	4.57
				500-250.0-2.lp	500	250	1,959,467.11	0.00%	2.66
				500-250.0-3.lp	500	250	1,826,526.68	0.00%	3.80
				500-250.0-4.lp	500	250	1,995,655.38	0.00%	3.19
				500-250.0-5.lp	500	250	1,534,190.10	0.00%	4.27
				500-500-1.lp	500	500	473,060.47	0.00%	7.18
				500-500-2.lp	500	500	569,457.95	0.00%	5.03
				500-500-3.lp	500	500	670,554.20	0.00%	7.51
				500-500-4.lp	500	500	479,605.09	0.00%	12.71
				500-500-5.lp	500	500	633,091.35	0.00%	4.56
				500-750.0-1.lp	500	750	325,689.53	0.00%	9.91
				500-750.0-2.lp	500	750	305,709.73	0.00%	11.21
				500-750.0-3.lp	500	750	315,229.56	0.00%	10.73
				500-750.0-4.lp	500	750	312,920.50	0.00%	10.82
				500-750.0-5.lp	500	750	393,618.48	0.00%	14.37
				500-1000-1.lp	500	1,000	196,984.55	0.00%	8.37

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*2*	*N-O-Imm*-10^2	500-1000-2.lp	500	1,000	201,231.90	0.00%	11.72
				500-1000-3.lp	500	1,000	236,228.18	0.00%	13.39
				500-1000-4.lp	500	1,000	285,155.85	0.00%	16.16
				500-1000-5.lp	500	1,000	178,047.57	0.00%	9.18
			N-O-Imm-10^4	100-50.0-1.lp	100	50	652,115.82	0.00%	3.19
				100-50.0-2.lp	100	50	181,165.19	0.00%	4.96
				100-50.0-3.lp	100	50	109,403.19	0.00%	7.10
				100-50.0-4.lp	100	50	97,903.43	0.00%	2.32
				100-50.0-5.lp	100	50	52,313.42	0.00%	3.61
				100-100-1.lp	100	100	26,327.29	0.00%	11.49
				100-100-2.lp	100	100	40,454.81	0.00%	6.90
				100-100-3.lp	100	100	14,271.57	0.00%	1.91
				100-100-4.lp	100	100	22,986.99	0.00%	3.31
				100-100-5.lp	100	100	18,317.87	0.00%	1.98
				100-150.0-1.lp	100	150	5,837.77	0.00%	1.64
				100-150.0-2.lp	100	150	9,642.06	0.00%	4.47
				100-150.0-3.lp	100	150	10,787.01	0.00%	3.55
				100-150.0-4.lp	100	150	14,818.38	0.00%	2.20
				100-150.0-5.lp	100	150	14,570.87	0.00%	5.98
				100-200-1.lp	100	200	7,737.74	0.00%	6.80
				100-200-2.lp	100	200	5,566.19	0.00%	13.76
				100-200-3.lp	100	200	7,555.90	0.00%	3.69
				100-200-4.lp	100	200	5,950.82	0.00%	5.07
				100-200-5.lp	100	200	5,310.38	0.00%	5.68
				200-100.0-1.lp	200	100	212,754.42	0.00%	33.29
				200-100.0-2.lp	200	100	309,568.82	0.00%	5.36
				200-100.0-3.lp	200	100	408,058.27	0.00%	4.91
				200-100.0-4.lp	200	100	301,090.52	0.00%	3.47
				200-100.0-5.lp	200	100	850,104.28	0.00%	3.64
				200-200-1.lp	200	200	111,803.56	0.00%	9.71

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*2*	*N-O-Imm-*10^4	200-200-2.lp	200	200	97,228.92	0.00%	7.03
				200-200-3.lp	200	200	83,128.60	0.00%	8.98
				200-200-4.lp	200	200	89,324.29	0.00%	8.70
				200-200-5.lp	200	200	135,641.89	0.00%	34.69
				200-300.0-1.lp	200	300	37,113.47	0.00%	3.42
				200-300.0-2.lp	200	300	41,009.19	0.00%	3.78
				200-300.0-3.lp	200	300	35,961.72	0.00%	2.56
				200-300.0-4.lp	200	300	52,559.04	0.00%	2.63
				200-300.0-5.lp	200	300	43,966.57	0.00%	2.55
				200-400-1.lp	200	400	30,638.35	0.00%	2.60
				200-400-2.lp	200	400	33,542.63	0.00%	2.58
				200-400-3.lp	200	400	24,974.43	0.00%	2.04
				200-400-4.lp	200	400	32,183.57	0.00%	3.53
				200-400-5.lp	200	400	38,984.01	0.00%	2.94
				300-150.0-1.lp	300	150	635,799.75	0.00%	12.14
				300-150.0-2.lp	300	150	809,861.63	0.00%	21.76
				300-150.0-3.lp	300	150	546,266.71	0.00%	8.89
				300-150.0-4.lp	300	150	623,579.31	0.00%	9.27
				300-150.0-5.lp	300	150	451,217.04	0.00%	8.04
				300-300-1.lp	300	300	129,558.89	0.00%	3.39
				300-300-2.lp	300	300	145,402.67	0.00%	2.88
				300-300-3.lp	300	300	164,768.38	0.00%	4.86
				300-300-4.lp	300	300	186,109.44	0.00%	4.50
				300-300-5.lp	300	300	190,269.08	0.00%	4.44
				300-450.0-1.lp	300	450	149,846.27	0.00%	5.45
				300-450.0-2.lp	300	450	100,223.08	0.00%	6.00
				300-450.0-3.lp	300	450	96,378.53	0.00%	3.22
				300-450.0-4.lp	300	450	121,854.30	0.00%	3.61
				300-450.0-5.lp	300	450	137,409.80	0.00%	4.43
				300-600-1.lp	300	600	58,433.19	0.00%	4.95

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	Continuous	2	N-O-Imm-10^4	300-600-2.lp	300	600	74,542.62	0.00%	5.08
				300-600-3.lp	300	600	58,141.11	0.00%	3.89
				300-600-4.lp	300	600	72,143.44	0.00%	3.67
				300-600-5.lp	300	600	77,312.52	0.00%	5.82
				400-200.0-1.lp	400	200	1,163,964.54	0.00%	2.86
				400-200.0-2.lp	400	200	876,368.61	0.00%	4.17
				400-200.0-3.lp	400	200	851,074.42	0.00%	3.04
				400-200.0-4.lp	400	200	875,176.22	0.00%	3.82
				400-200.0-5.lp	400	200	959,033.61	0.00%	3.56
				400-400-1.lp	400	400	333,855.02	0.00%	6.28
				400-400-2.lp	400	400	349,519.14	0.00%	13.93
				400-400-3.lp	400	400	400,767.49	0.00%	3.31
				400-400-4.lp	400	400	391,365.13	0.00%	4.57
				400-400-5.lp	400	400	346,165.89	0.00%	4.88
				400-600.0-1.lp	400	600	196,576.08	0.00%	5.22
				400-600.0-2.lp	400	600	237,595.93	0.00%	5.46
				400-600.0-3.lp	400	600	203,047.07	0.00%	5.34
				400-600.0-4.lp	400	600	197,926.51	0.00%	7.66
				400-600.0-5.lp	400	600	208,772.94	0.00%	8.30
				400-800-1.lp	400	800	138,702.65	0.00%	6.45
				400-800-2.lp	400	800	131,451.63	0.00%	18.78
				400-800-3.lp	400	800	133,787.00	0.00%	9.35
				400-800-4.lp	400	800	152,134.65	0.00%	23.47
				400-800-5.lp	400	800	167,833.14	0.00%	9.06
				500-250.0-1.lp	500	250	1,643,559.00	0.00%	5.64
				500-250.0-2.lp	500	250	1,959,447.41	0.00%	7.33
				500-250.0-3.lp	500	250	1,826,521.11	0.00%	5.73
				500-250.0-4.lp	500	250	1,995,651.09	0.00%	5.39
				500-250.0-5.lp	500	250	1,534,184.22	0.00%	4.25
				500-500-1.lp	500	500	473,058.61	0.00%	19.61

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*2*	N-O-Imm-10^4	500-500-2.lp	500	500	569,456.60	0.00%	8.87
				500-500-3.lp	500	500	670,550.06	0.00%	13.07
				500-500-4.lp	500	500	479,603.85	0.00%	6.18
				500-500-5.lp	500	500	633,086.00	0.00%	8.58
				500-750.0-1.lp	500	750	325,688.77	0.00%	9.66
				500-750.0-2.lp	500	750	305,708.56	0.00%	12.49
				500-750.0-3.lp	500	750	315,221.19	0.00%	8.95
				500-750.0-4.lp	500	750	312,919.01	0.00%	26.06
				500-750.0-5.lp	500	750	393,617.36	0.00%	13.72
				500-1000-1.lp	500	1,000	196,984.15	0.00%	12.20
				500-1000-2.lp	500	1,000	201,230.11	0.00%	13.94
				500-1000-3.lp	500	1,000	236,227.62	0.00%	12.84
				500-1000-4.lp	500	1,000	285,154.58	0.00%	11.69
				500-1000-5.lp	500	1,000	178,047.22	0.00%	9.06
		3	GRB Nonconvex	100-50.0-1.lp	100	50	144,522,026.75	0.00%	62.04
				100-50.0-2.lp	100	50	319,528,229.16	0.00%	100.90
				100-50.0-3.lp	100	50	465,653,974.03	0.00%	273.01
				100-50.0-4.lp	100	50	757,123,874.03	0.00%	304.18
				100-50.0-5.lp	100	50	272,661,494.01	0.00%	364.24
				100-100-1.lp	100	100	32,154,186.79	0.00%	2.42
				100-100-2.lp	100	100	54,721,376.22	0.00%	204.41
				100-100-3.lp	100	100	24,136,770.75	0.00%	46.89
				100-100-4.lp	100	100	41,553,598.75	0.00%	86.81
				100-100-5.lp	100	100	18,107,115.14	0.00%	1.35
				100-150.0-1.lp	100	150	6,718,973.81	0.00%	71.12
				100-150.0-2.lp	100	150	4,873,994.70	0.00%	53.68
				100-150.0-3.lp	100	150	12,091,896.60	0.00%	133.32
				100-150.0-4.lp	100	150	20,671,318.93	0.00%	35.37
				100-150.0-5.lp	100	150	16,778,557.66	0.00%	69.02
				100-200-1.lp	100	200	7,109,982.76	0.00%	63.17

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*3*	*GRB Nonconvex*	100-200-2.lp	100	200	5,025,581.01	0.00%	216.50
				100-200-3.lp	100	200	12,176,948.16	0.00%	128.07
				100-200-4.lp	100	200	8,092,344.54	0.00%	88.37
				100-200-5.lp	100	200	4,882,014.66	0.00%	94.90
				200-100.0-1.lp	200	100	11,245,045,142.67	0.00%	538.26
				200-100.0-2.lp	200	100	1,888,980,865.17	0.00%	977.35
				200-100.0-3.lp	200	100	3,885,377,032.63	0.00%	723.28
				200-100.0-4.lp	200	100	5,274,000,404.66	0.00%	975.68
				200-100.0-5.lp	200	100	5,563,270,221.90	0.00%	3,470.64
				200-200-1.lp	200	200	544,877,843.33	0.00%	546.23
				200-200-2.lp	200	200	130,606,522.00	0.00%	831.52
				200-200-3.lp	200	200	162,446,769.33	0.00%	513.16
				200-200-4.lp	200	200	221,950,312.74	0.00%	563.50
				200-200-5.lp	200	200	209,105,375.20	0.00%	583.79
				200-300.0-1.lp	200	300	131,815,715.57	0.00%	1,365.69
				200-300.0-2.lp	200	300	165,254,359.26	0.00%	467.12
				200-300.0-3.lp	200	300	191,278,968.97	0.00%	1,185.07
				200-300.0-4.lp	200	300	139,980,188.09	0.00%	629.51
				200-300.0-5.lp	200	300	109,843,029.41	0.00%	419.02
				200-400-1.lp	200	400	98,482,949.92	0.00%	1,447.48
				200-400-2.lp	200	400	63,375,859.38	0.00%	842.97
				200-400-3.lp	200	400	60,807,375.89	0.00%	1,076.25
				200-400-4.lp	200	400	49,096,813.24	0.00%	634.91
				200-400-5.lp	200	400	32,561,842.04	0.00%	412.50
				300-150.0-1.lp	300	150	9,670,842,655.29	0.00%	3,554.24
				300-150.0-2.lp	300	150	5,351,509,995.12	100.00%	3,600.00
				300-150.0-3.lp	300	150	6,125,657,842.99	13.70%	3,600.00
				300-150.0-4.lp	300	150	6,183,678,896.96	8.39%	3,600.00
				300-150.0-5.lp	300	150	10,568,115,479.61	100.00%	3,600.00
				300-300-1.lp	300	300	775,691,860.51	95.00%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*3*	*GRB Nonconvex*	300-300-2.lp	300	300	920,320,316.62	0.00%	2,048.38
				300-300-3.lp	300	300	1,118,718,708.38	0.00%	3,600.00
				300-300-4.lp	300	300	1,558,344,398.14	0.00%	2,918.40
				300-300-5.lp	300	300	1,112,790,921.54	0.00%	2,081.79
				300-450.0-1.lp	300	450	565,360,007.29	85.80%	3,600.00
				300-450.0-2.lp	300	450	571,991,288.80	0.00%	3,600.00
				300-450.0-3.lp	300	450	400,250,629.88	0.00%	3,567.73
				300-450.0-4.lp	300	450	551,984,723.04	0.00%	3,066.34
				300-450.0-5.lp	300	450	316,412,443.77	0.00%	2,981.59
				300-600-1.lp	300	600	235,069,985.92	0.00%	3,422.64
				300-600-2.lp	300	600	285,298,948.48	31.20%	3,600.00
				300-600-3.lp	300	600	402,757,681.37	0.00%	3,294.85
				300-600-4.lp	300	600	274,494,499.13	0.00%	3,243.72
				300-600-5.lp	300	600	285,440,391.78	0.00%	3,086.78
				400-200.0-1.lp	400	200	11,088,698,154.82	29.60%	3,600.00
				400-200.0-2.lp	400	200	25,546,607,875.86	100.00%	3,600.00
				400-200.0-3.lp	400	200	24,526,090,286.73	100.00%	3,600.00
				400-200.0-4.lp	400	200	13,765,661,653.19	100.00%	3,600.00
				400-200.0-5.lp	400	200	18,819,134,043.38	100.00%	3,600.00
				400-400-1.lp	400	400	3,063,688,451.17	100.00%	3,600.00
				400-400-2.lp	400	400	2,096,309,963.54	0.00%	1,968.15
				400-400-3.lp	400	400	1,764,232,811.44	100.00%	3,600.00
				400-400-4.lp	400	400	1,994,006,421.81	0.00%	2,891.04
				400-400-5.lp	400	400	2,810,616,155.44	100.00%	3,600.00
				400-600.0-1.lp	400	600	955,315,577.37	100.00%	3,600.00
				400-600.0-2.lp	400	600	1,205,622,115.50	100.00%	3,600.00
				400-600.0-3.lp	400	600	1,102,872,767.08	100.00%	3,600.00
				400-600.0-4.lp	400	600	1,570,814,817.19	100.00%	3,600.00
				400-600.0-5.lp	400	600	1,332,334,563.07	100.00%	3,600.00
				400-800-1.lp	400	800	619,923,407.51	80.50%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*3*	*GRB Nonconvex*	400-800-2.lp	400	800	795,361,877.32	100.00%	3,600.00
				400-800-3.lp	400	800	735,114,365.93	100.00%	3,600.00
				400-800-4.lp	400	800	592,801,009.30	91.50%	3,600.00
				400-800-5.lp	400	800	644,613,580.36	100.00%	3,600.00
				500-250.0-1.lp	500	250	37,770,947,545.36	100.00%	3,600.00
				500-250.0-2.lp	500	250	33,584,747,351.84	100.00%	3,600.00
				500-250.0-3.lp	500	250	36,023,584,949.80	100.00%	3,600.00
				500-250.0-4.lp	500	250	46,350,370,670.66	100.00%	3,600.00
				500-250.0-5.lp	500	250	25,304,850,413.61	100.00%	3,600.00
				500-500-1.lp	500	500	6,371,550,680.55	100.00%	3,600.00
				500-500-2.lp	500	500	5,434,928,410.97	100.00%	3,600.00
				500-500-3.lp	500	500	5,317,799,576.30	100.00%	3,600.00
				500-500-4.lp	500	500	4,937,140,906.18	100.00%	3,600.00
				500-500-5.lp	500	500	5,479,128,180.33	100.00%	3,600.00
				500-750.0-1.lp	500	750	2,110,561,025.25	100.00%	3,600.00
				500-750.0-2.lp	500	750	2,032,188,283.72	100.00%	3,600.00
				500-750.0-3.lp	500	750	2,750,145,428.31	100.00%	3,600.00
				500-750.0-4.lp	500	750	2,281,861,441.96	100.00%	3,600.00
				500-750.0-5.lp	500	750	3,151,529,725.14	100.00%	3,600.00
				500-1000-1.lp	500	1,000	1,434,721,394.07	100.00%	3,600.00
				500-1000-2.lp	500	1,000	1,970,477,284.12	100.00%	3,600.00
				500-1000-3.lp	500	1,000	1,522,027,899.36	100.00%	3,600.00
				500-1000-4.lp	500	1,000	1,939,615,682.73	100.00%	3,600.00
				500-1000-5.lp	500	1,000	1,480,717,275.63	100.00%	3,600.00
			N-O-Imm-10^0	100-50.0-1.lp	100	50	146,363,341.65	0.00%	1.24
				100-50.0-2.lp	100	50	320,357,164.56	0.00%	1.54
				100-50.0-3.lp	100	50	470,044,344.00	0.00%	1.35
				100-50.0-4.lp	100	50	757,581,778.05	0.00%	1.48
				100-50.0-5.lp	100	50	273,099,208.00	0.00%	1.62
				100-100-1.lp	100	100	32,284,803.69	0.00%	1.14

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*3*	*N-O-Imm*-10^0	100-100-2.lp	100	100	55,034,891.08	0.00%	1.44
				100-100-3.lp	100	100	24,174,086.66	0.00%	1.05
				100-100-4.lp	100	100	41,578,722.13	0.00%	1.27
				100-100-5.lp	100	100	18,281,810.46	0.00%	1.23
				100-150.0-1.lp	100	150	6,825,740.85	0.00%	0.82
				100-150.0-2.lp	100	150	4,880,849.02	0.00%	0.81
				100-150.0-3.lp	100	150	12,110,707.44	0.00%	1.13
				100-150.0-4.lp	100	150	20,969,268.02	0.00%	1.22
				100-150.0-5.lp	100	150	17,123,526.00	0.00%	1.43
				100-200-1.lp	100	200	7,240,709.61	0.00%	1.09
				100-200-2.lp	100	200	5,034,628.58	0.00%	1.17
				100-200-3.lp	100	200	12,369,134.21	0.00%	1.37
				100-200-4.lp	100	200	8,269,066.00	0.00%	2.83
				100-200-5.lp	100	200	4,934,018.18	0.00%	1.82
				200-100.0-1.lp	200	100	11,311,279,070.00	0.00%	3.16
				200-100.0-2.lp	200	100	1,889,351,680.00	0.00%	2.27
				200-100.0-3.lp	200	100	3,885,669,785.67	0.00%	2.63
				200-100.0-4.lp	200	100	5,275,372,067.98	0.00%	2.32
				200-100.0-5.lp	200	100	5,564,052,060.00	0.00%	3.19
				200-200-1.lp	200	200	544,965,600.00	0.00%	4.14
				200-200-2.lp	200	200	131,366,830.27	0.00%	2.11
				200-200-3.lp	200	200	163,694,504.66	0.00%	2.64
				200-200-4.lp	200	200	223,686,752.91	0.00%	3.16
				200-200-5.lp	200	200	211,460,949.00	0.00%	2.80
				200-300.0-1.lp	200	300	132,133,456.00	0.00%	5.55
				200-300.0-2.lp	200	300	165,404,400.00	0.00%	2.80
				200-300.0-3.lp	200	300	192,366,909.21	0.00%	3.23
				200-300.0-4.lp	200	300	140,051,474.41	0.00%	2.52
				200-300.0-5.lp	200	300	109,916,322.83	0.00%	3.17
				200-400-1.lp	200	400	98,499,633.38	0.00%	3.89

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*3*	*N-O-Imm*-10^0	200-400-2.lp	200	400	63,629,612.69	0.00%	3.85
				200-400-3.lp	200	400	60,812,559.29	0.00%	3.91
				200-400-4.lp	200	400	49,307,474.02	0.00%	4.08
				200-400-5.lp	200	400	32,613,265.12	0.00%	3.52
				300-150.0-1.lp	300	150	9,675,788,304.00	0.00%	4.43
				300-150.0-2.lp	300	150	5,359,881,120.00	0.00%	4.14
				300-150.0-3.lp	300	150	6,127,967,148.00	0.00%	6.21
				300-150.0-4.lp	300	150	6,171,053,796.00	0.00%	4.09
				300-150.0-5.lp	300	150	10,568,478,935.00	0.00%	6.38
				300-300-1.lp	300	300	773,954,862.65	0.00%	5.62
				300-300-2.lp	300	300	920,990,750.00	0.00%	5.12
				300-300-3.lp	300	300	1,118,823,680.00	0.00%	4.64
				300-300-4.lp	300	300	1,559,422,290.04	0.00%	6.79
				300-300-5.lp	300	300	1,112,967,326.00	0.00%	5.60
				300-450.0-1.lp	300	450	563,686,652.61	0.00%	12.84
				300-450.0-2.lp	300	450	572,376,721.08	0.00%	8.28
				300-450.0-3.lp	300	450	400,362,880.15	0.00%	7.30
				300-450.0-4.lp	300	450	553,456,951.94	0.00%	8.66
				300-450.0-5.lp	300	450	317,336,466.20	0.00%	7.94
				300-600-1.lp	300	600	235,116,964.15	0.00%	7.78
				300-600-2.lp	300	600	283,923,241.65	0.00%	7.20
				300-600-3.lp	300	600	402,912,993.84	0.00%	9.89
				300-600-4.lp	300	600	275,019,425.56	0.00%	8.92
				300-600-5.lp	300	600	285,757,800.00	0.00%	9.95
				400-200.0-1.lp	400	200	10,847,163,740.35	0.00%	6.94
				400-200.0-2.lp	400	200	25,572,540,400.00	0.00%	8.89
				400-200.0-3.lp	400	200	21,541,401,310.00	0.00%	6.47
				400-200.0-4.lp	400	200	13,767,093,524.54	0.00%	9.23
				400-200.0-5.lp	400	200	13,927,370,688.00	0.00%	9.33
				400-400-1.lp	400	400	2,768,672,837.54	0.00%	12.75

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	Continuous	3	N-O-Imm-10^0	400-400-2.lp	400	400	2,100,124,113.88	0.00%	23.31
				400-400-3.lp	400	400	1,765,240,515.85	0.00%	13.70
				400-400-4.lp	400	400	1,995,026,266.31	0.00%	9.48
				400-400-5.lp	400	400	2,746,718,667.00	0.00%	11.17
				400-600.0-1.lp	400	600	871,637,841.27	0.00%	14.80
				400-600.0-2.lp	400	600	1,180,411,276.82	0.00%	12.30
				400-600.0-3.lp	400	600	1,049,157,881.88	0.00%	10.32
				400-600.0-4.lp	400	600	1,394,262,810.00	0.00%	13.75
				400-600.0-5.lp	400	600	1,332,861,063.33	0.00%	12.68
				400-800-1.lp	400	800	619,901,857.02	0.00%	13.94
				400-800-2.lp	400	800	793,901,175.00	0.00%	18.00
				400-800-3.lp	400	800	579,685,516.77	0.00%	15.92
				400-800-4.lp	400	800	592,545,400.00	0.00%	16.18
				400-800-5.lp	400	800	645,723,822.92	0.00%	13.99
				500-250.0-1.lp	500	250	37,311,645,888.87	0.00%	13.45
				500-250.0-2.lp	500	250	33,514,093,827.98	0.00%	11.33
				500-250.0-3.lp	500	250	35,301,924,000.00	0.00%	11.69
				500-250.0-4.lp	500	250	27,529,605,493.50	0.00%	13.57
				500-250.0-5.lp	500	250	25,181,444,836.00	0.00%	13.01
				500-500-1.lp	500	500	6,344,546,832.00	0.00%	18.37
				500-500-2.lp	500	500	5,444,115,300.00	0.00%	17.97
				500-500-3.lp	500	500	5,296,586,603.90	0.00%	17.84
				500-500-4.lp	500	500	4,831,070,131.77	0.00%	18.80
				500-500-5.lp	500	500	5,434,343,234.00	0.00%	15.18
				500-750.0-1.lp	500	750	1,906,492,669.22	0.00%	24.20
				500-750.0-2.lp	500	750	1,986,794,191.22	0.00%	26.54
				500-750.0-3.lp	500	750	2,752,934,190.88	0.00%	29.14
				500-750.0-4.lp	500	750	2,216,238,000.00	0.00%	31.79
				500-750.0-5.lp	500	750	3,151,982,588.77	0.00%	22.68
				500-1000-1.lp	500	1,000	1,287,504,372.00	0.00%	17.22

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*3*	*N-O-Imm*-10^0	500-1000-2.lp	500	1,000	1,900,758,696.59	0.00%	23.03
				500-1000-3.lp	500	1,000	1,521,694,957.06	0.00%	29.19
				500-1000-4.lp	500	1,000	1,883,617,234.50	0.00%	32.95
				500-1000-5.lp	500	1,000	1,405,871,896.00	0.00%	35.15
			N-O-Imm-10^2	100-50.0-1.lp	100	50	144,536,024.01	0.00%	5.91
				100-50.0-2.lp	100	50	319,529,769.62	0.00%	6.28
				100-50.0-3.lp	100	50	465,661,084.17	0.00%	5.54
				100-50.0-4.lp	100	50	757,127,395.41	0.00%	10.28
				100-50.0-5.lp	100	50	272,674,149.42	0.00%	12.98
				100-100-1.lp	100	100	32,154,823.51	0.00%	6.17
				100-100-2.lp	100	100	54,724,664.10	0.00%	5.29
				100-100-3.lp	100	100	24,137,135.78	0.00%	5.55
				100-100-4.lp	100	100	41,553,977.25	0.00%	8.38
				100-100-5.lp	100	100	18,107,168.21	0.00%	4.54
				100-150.0-1.lp	100	150	6,719,358.34	0.00%	5.24
				100-150.0-2.lp	100	150	4,874,096.94	0.00%	5.55
				100-150.0-3.lp	100	150	12,092,212.41	0.00%	10.21
				100-150.0-4.lp	100	150	20,671,704.31	0.00%	7.51
				100-150.0-5.lp	100	150	16,779,276.79	0.00%	5.98
				100-200-1.lp	100	200	7,110,422.46	0.00%	5.10
				100-200-2.lp	100	200	5,025,671.84	0.00%	5.91
				100-200-3.lp	100	200	12,177,438.24	0.00%	7.89
				100-200-4.lp	100	200	8,093,104.36	0.00%	4.08
				100-200-5.lp	100	200	4,882,150.29	0.00%	4.41
				200-100.0-1.lp	200	100	11,246,338,225.10	0.00%	9.22
				200-100.0-2.lp	200	100	1,888,983,224.41	0.00%	22.08
				200-100.0-3.lp	200	100	3,885,380,536.19	0.00%	15.38
				200-100.0-4.lp	200	100	5,274,075,275.76	0.00%	32.00
				200-100.0-5.lp	200	100	5,563,275,579.21	0.00%	16.43
				200-200-1.lp	200	200	544,878,579.45	0.00%	18.33

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	Continuous	3	N-O-Imm-10^2	200-200-2.lp	200	200	130,608,238.84	0.00%	6.74
				200-200-3.lp	200	200	162,454,322.04	0.00%	9.79
				200-200-4.lp	200	200	221,950,734.12	0.00%	20.15
				200-200-5.lp	200	200	209,109,007.11	0.00%	13.11
				200-300.0-1.lp	200	300	131,817,066.74	0.00%	16.81
				200-300.0-2.lp	200	300	165,256,349.73	0.00%	9.06
				200-300.0-3.lp	200	300	191,279,490.86	0.00%	13.71
				200-300.0-4.lp	200	300	139,980,580.69	0.00%	11.72
				200-300.0-5.lp	200	300	109,844,512.35	0.00%	9.77
				200-400-1.lp	200	400	98,483,155.03	0.00%	12.24
				200-400-2.lp	200	400	63,376,105.23	0.00%	11.58
				200-400-3.lp	200	400	60,808,389.62	0.00%	8.58
				200-400-4.lp	200	400	49,097,056.81	0.00%	9.31
				200-400-5.lp	200	400	32,562,052.45	0.00%	8.34
				300-150.0-1.lp	300	150	9,670,857,290.25	0.00%	20.66
				300-150.0-2.lp	300	150	5,350,970,642.37	0.00%	19.42
				300-150.0-3.lp	300	150	6,125,710,041.31	0.00%	14.62
				300-150.0-4.lp	300	150	6,170,017,783.14	0.00%	16.84
				300-150.0-5.lp	300	150	10,568,119,148.63	0.00%	34.22
				300-300-1.lp	300	300	773,914,642.22	0.00%	26.89
				300-300-2.lp	300	300	920,322,168.42	0.00%	13.07
				300-300-3.lp	300	300	1,118,718,482.81	0.00%	29.50
				300-300-4.lp	300	300	1,558,346,141.65	0.00%	22.25
				300-300-5.lp	300	300	1,112,791,939.65	0.00%	24.76
				300-450.0-1.lp	300	450	563,151,208.93	0.00%	48.41
				300-450.0-2.lp	300	450	571,991,526.20	0.00%	33.42
				300-450.0-3.lp	300	450	400,251,831.74	0.00%	13.39
				300-450.0-4.lp	300	450	551,986,436.14	0.00%	20.71
				300-450.0-5.lp	300	450	316,414,009.33	0.00%	15.44
				300-600-1.lp	300	600	235,070,078.50	0.00%	22.91

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	Continuous	3	N-O-Imm-10^2	300-600-2.lp	300	600	283,918,928.03	0.00%	24.35
				300-600-3.lp	300	600	402,758,656.75	0.00%	24.85
				300-600-4.lp	300	600	274,494,900.16	0.00%	23.41
				300-600-5.lp	300	600	285,441,074.70	0.00%	23.52
				400-200.0-1.lp	400	200	10,842,123,506.73	0.00%	43.07
				400-200.0-2.lp	400	200	25,523,459,823.84	0.00%	44.26
				400-200.0-3.lp	400	200	21,514,192,952.98	0.00%	41.51
				400-200.0-4.lp	400	200	13,765,658,483.88	0.00%	18.28
				400-200.0-5.lp	400	200	13,926,095,468.51	0.00%	21.49
				400-400-1.lp	400	400	2,768,599,266.90	0.00%	52.07
				400-400-2.lp	400	400	2,096,340,021.80	0.00%	25.72
				400-400-3.lp	400	400	1,764,235,714.01	0.00%	45.29
				400-400-4.lp	400	400	1,994,007,074.84	0.00%	17.47
				400-400-5.lp	400	400	2,745,595,760.56	0.00%	41.46
				400-600.0-1.lp	400	600	870,829,118.09	0.00%	35.24
				400-600.0-2.lp	400	600	1,180,340,732.03	0.00%	29.88
				400-600.0-3.lp	400	600	1,048,880,725.64	0.00%	33.87
				400-600.0-4.lp	400	600	1,393,951,533.10	0.00%	49.80
				400-600.0-5.lp	400	600	1,332,316,765.35	0.00%	45.12
				400-800-1.lp	400	800	619,783,082.83	0.00%	50.97
				400-800-2.lp	400	800	793,141,990.89	0.00%	143.00
				400-800-3.lp	400	800	577,933,624.81	0.00%	33.98
				400-800-4.lp	400	800	592,286,258.60	0.00%	34.83
				400-800-5.lp	400	800	644,616,213.10	0.00%	65.08
				500-250.0-1.lp	500	250	37,290,597,335.47	0.00%	38.82
				500-250.0-2.lp	500	250	33,513,017,650.34	0.00%	28.31
				500-250.0-3.lp	500	250	35,300,768,438.74	0.00%	36.89
				500-250.0-4.lp	500	250	27,493,424,062.45	0.00%	39.18
				500-250.0-5.lp	500	250	25,177,056,430.03	0.00%	34.98
				500-500-1.lp	500	500	6,340,970,538.38	0.00%	234.91

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*3*	*N-O-Imm-10^2*	500-500-2.lp	500	500	5,434,948,681.75	0.00%	32.62
				500-500-3.lp	500	500	5,285,551,001.83	0.00%	50.26
				500-500-4.lp	500	500	4,824,886,579.27	0.00%	47.27
				500-500-5.lp	500	500	5,433,392,243.64	0.00%	63.07
				500-750.0-1.lp	500	750	1,906,417,280.74	0.00%	52.18
				500-750.0-2.lp	500	750	1,986,413,282.49	0.00%	37.94
				500-750.0-3.lp	500	750	2,750,050,583.70	0.00%	50.73
				500-750.0-4.lp	500	750	2,216,181,173.07	0.00%	33.35
				500-750.0-5.lp	500	750	3,151,530,399.49	0.00%	51.30
				500-1000-1.lp	500	1,000	1,286,891,308.60	0.00%	52.81
				500-1000-2.lp	500	1,000	1,899,010,053.40	0.00%	49.45
				500-1000-3.lp	500	1,000	1,521,423,898.90	0.00%	44.03
				500-1000-4.lp	500	1,000	1,883,434,888.78	0.00%	59.41
				500-1000-5.lp	500	1,000	1,405,266,370.93	0.00%	52.42
			N-O-Imm-10^4	100-50.0-1.lp	100	50	144,522,069.55	0.00%	18.28
				100-50.0-2.lp	100	50	319,528,268.23	0.00%	27.29
				100-50.0-3.lp	100	50	465,654,410.70	0.00%	31.52
				100-50.0-4.lp	100	50	757,123,883.15	0.00%	31.41
				100-50.0-5.lp	100	50	272,661,499.74	0.00%	30.92
				100-100-1.lp	100	100	32,154,197.45	0.00%	21.94
				100-100-2.lp	100	100	54,721,388.14	0.00%	21.25
				100-100-3.lp	100	100	24,136,783.70	0.00%	28.31
				100-100-4.lp	100	100	41,553,603.25	0.00%	39.59
				100-100-5.lp	100	100	18,107,115.67	0.00%	16.24
				100-150.0-1.lp	100	150	6,718,977.86	0.00%	28.95
				100-150.0-2.lp	100	150	4,873,995.91	0.00%	22.12
				100-150.0-3.lp	100	150	12,091,897.66	0.00%	28.63
				100-150.0-4.lp	100	150	20,671,320.37	0.00%	45.06
				100-150.0-5.lp	100	150	16,778,557.89	0.00%	27.72
				100-200-1.lp	100	200	7,109,985.01	0.00%	26.11

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*3*	*N-O-Imm*-10^4	100-200-2.lp	100	200	5,025,581.60	0.00%	23.16
				100-200-3.lp	100	200	12,176,951.15	0.00%	26.87
				100-200-4.lp	100	200	8,092,349.26	0.00%	26.84
				100-200-5.lp	100	200	4,882,017.61	0.00%	26.96
				200-100.0-1.lp	200	100	11,245,056,693.66	0.00%	41.41
				200-100.0-2.lp	200	100	1,888,980,876.52	0.00%	62.90
				200-100.0-3.lp	200	100	3,885,377,069.26	0.00%	57.67
				200-100.0-4.lp	200	100	5,274,000,835.15	0.00%	89.77
				200-100.0-5.lp	200	100	5,563,270,515.34	0.00%	54.04
				200-200-1.lp	200	200	544,877,858.69	0.00%	426.85
				200-200-2.lp	200	200	130,606,564.70	0.00%	22.19
				200-200-3.lp	200	200	162,446,770.59	0.00%	32.06
				200-200-4.lp	200	200	221,950,315.97	0.00%	46.63
				200-200-5.lp	200	200	209,105,414.30	0.00%	45.92
				200-300.0-1.lp	200	300	131,815,725.39	0.00%	51.52
				200-300.0-2.lp	200	300	165,254,373.67	0.00%	40.53
				200-300.0-3.lp	200	300	192,053,007.51	0.00%	53.33
				200-300.0-4.lp	200	300	139,980,190.45	0.00%	46.88
				200-300.0-5.lp	200	300	109,843,040.30	0.00%	51.24
				200-400-1.lp	200	400	98,482,950.75	0.00%	51.52
				200-400-2.lp	200	400	63,375,860.61	0.00%	41.58
				200-400-3.lp	200	400	60,807,378.84	0.00%	50.74
				200-400-4.lp	200	400	49,096,819.08	0.00%	31.95
				200-400-5.lp	200	400	32,561,848.69	0.00%	44.23
				300-150.0-1.lp	300	150	9,670,842,759.52	0.00%	96.15
				300-150.0-2.lp	300	150	5,350,946,682.74	0.00%	59.48
				300-150.0-3.lp	300	150	6,125,658,199.56	0.00%	48.66
				300-150.0-4.lp	300	150	6,169,986,592.80	0.00%	313.68
				300-150.0-5.lp	300	150	10,568,115,403.51	0.00%	460.98
				300-300-1.lp	300	300	776,186,596.54	0.00%	23.40

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*3*	*N-O-Imm*-10^4	300-300-2.lp	300	300	920,320,358.77	0.00%	40.48
				300-300-3.lp	300	300	1,118,718,345.03	0.00%	88.28
				300-300-4.lp	300	300	1,558,344,479.43	0.00%	1,917.08
				300-300-5.lp	300	300	1,112,790,932.67	0.00%	58.92
				300-450.0-1.lp	300	450	563,148,208.65	0.00%	824.76
				300-450.0-2.lp	300	450	571,991,292.77	0.00%	77.33
				300-450.0-3.lp	300	450	400,250,631.32	0.00%	78.28
				300-450.0-4.lp	300	450	551,984,740.87	0.00%	95.73
				300-450.0-5.lp	300	450	316,412,450.37	0.00%	94.00
				300-600-1.lp	300	600	235,072,602.48	0.00%	3,600.00
				300-600-2.lp	300	600	283,916,858.87	0.00%	74.64
				300-600-3.lp	300	600	402,757,687.14	0.00%	70.67
				300-600-4.lp	300	600	274,494,504.95	0.00%	63.69
				300-600-5.lp	300	600	285,440,394.18	0.00%	67.22
				400-200.0-1.lp	400	200	10,842,115,618.10	0.00%	103.08
				400-200.0-2.lp	400	200	25,523,453,190.78	0.00%	188.36
				400-200.0-3.lp	400	200	21,514,063,498.03	0.00%	101.81
				400-200.0-4.lp	400	200	13,765,644,170.39	0.00%	46.94
				400-200.0-5.lp	400	200	13,926,050,284.63	0.00%	83.36
				400-400-1.lp	400	400	2,768,598,100.45	0.00%	95.77
				400-400-2.lp	400	400	2,096,310,102.23	0.00%	104.65
				400-400-3.lp	400	400	1,764,232,826.84	0.00%	61.39
				400-400-4.lp	400	400	1,994,006,447.83	0.00%	60.79
				400-400-5.lp	400	400	2,745,594,349.28	0.00%	128.45
				400-600.0-1.lp	400	600	870,826,746.52	0.00%	123.80
				400-600.0-2.lp	400	600	1,180,338,009.75	0.00%	145.96
				400-600.0-3.lp	400	600	1,048,880,662.26	0.00%	3,591.31
				400-600.0-4.lp	400	600	1,393,927,462.30	0.00%	128.29
				400-600.0-5.lp	400	600	1,332,316,279.34	0.00%	109.64
				400-800-1.lp	400	800	619,778,327.48	0.00%	140.27

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*3*	*N-O-Imm*-10^4	400-800-2.lp	400	800	793,140,039.31	0.00%	188.74
				400-800-3.lp	400	800	577,933,217.10	0.00%	65.55
				400-800-4.lp	400	800	592,282,154.34	0.00%	108.10
				400-800-5.lp	400	800	644,613,613.96	0.00%	134.13
				500-250.0-1.lp	500	250	37,290,586,788.08	0.00%	168.36
				500-250.0-2.lp	500	250	33,513,005,164.44	0.00%	754.91
				500-250.0-3.lp	500	250	35,300,758,989.76	0.00%	59.75
				500-250.0-4.lp	500	250	27,492,955,149.38	0.00%	1,709.77
				500-250.0-5.lp	500	250	25,177,049,842.74	0.00%	98.16
				500-500-1.lp	500	500	6,340,966,247.09	0.00%	149.76
				500-500-2.lp	500	500	5,434,928,530.07	0.00%	117.78
				500-500-3.lp	500	500	5,285,542,282.01	0.00%	136.11
				500-500-4.lp	500	500	4,824,879,780.44	0.00%	2,498.38
				500-500-5.lp	500	500	5,433,381,271.83	0.00%	572.71
				500-750.0-1.lp	500	750	1,906,416,390.20	0.00%	140.10
				500-750.0-2.lp	500	750	1,986,418,325.27	0.00%	3,600.00
				500-750.0-3.lp	500	750	2,750,047,317.66	0.00%	715.52
				500-750.0-4.lp	500	750	2,216,179,034.64	0.00%	186.49
				500-750.0-5.lp	500	750	3,151,529,730.67	0.00%	781.50
				500-1000-1.lp	500	1,000	1,286,882,365.53	0.00%	169.35
				500-1000-2.lp	500	1,000	1,899,003,353.44	0.00%	213.39
				500-1000-3.lp	500	1,000	1,521,414,838.07	0.00%	197.72
				500-1000-4.lp	500	1,000	1,883,433,518.89	0.00%	549.79
				500-1000-5.lp	500	1,000	1,405,265,705.32	0.00%	188.03
		4	GRB Nonconvex	100-50.0-1.lp	100	50	1,179,722,218,050.49	16.50%	3,600.00
				100-50.0-2.lp	100	50	1,257,314,929,061.79	0.00%	0.88
				100-50.0-3.lp	100	50	295,431,387,004.63	0.00%	228.41
				100-50.0-4.lp	100	50	7,861,196,473,877.45	0.00%	1.55
				100-50.0-5.lp	100	50	1,282,505,333,921.09	0.00%	1,163.01
				100-100-1.lp	100	100	30,144,314,472.50	0.29%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*4*	*GRB Nonconvex*	100-100-2.lp	100	100	121,639,514,106.33	1.07%	3,600.00
				100-100-3.lp	100	100	45,003,472,902.78	0.35%	3,600.00
				100-100-4.lp	100	100	102,083,440,721.17	0.00%	171.75
				100-100-5.lp	100	100	103,255,938,057.86	0.00%	335.26
				100-150.0-1.lp	100	150	9,975,544,699.73	0.00%	333.31
				100-150.0-2.lp	100	150	16,989,044,967.98	0.00%	2,280.00
				100-150.0-3.lp	100	150	36,364,767,712.68	0.00%	1,698.07
				100-150.0-4.lp	100	150	13,771,503,874.33	0.00%	1,685.48
				100-150.0-5.lp	100	150	23,648,263,049.49	0.00%	1,156.78
				100-200-1.lp	100	200	7,489,486,410.14	0.00%	580.11
				100-200-2.lp	100	200	5,156,317,618.08	0.00%	3.01
				100-200-3.lp	100	200	15,091,500,220.00	0.00%	1,557.28
				100-200-4.lp	100	200	6,037,438,984.96	0.00%	793.54
				100-200-5.lp	100	200	5,263,047,273.65	0.00%	166.32
				200-100.0-1.lp	200	100	326,488,104,249,172.81	0.00%	323.14
				200-100.0-2.lp	200	100	18,242,107,361,631.59	38.40%	3,600.00
				200-100.0-3.lp	200	100	51,930,760,021,395.37	6.12%	3,600.00
				200-100.0-4.lp	200	100	18,731,147,318,632.37	0.89%	3,600.00
				200-100.0-5.lp	200	100	88,339,658,163,797.17	100.00%	3,600.00
				200-200-1.lp	200	200	1,264,810,353,339.86	65.10%	3,600.00
				200-200-2.lp	200	200	1,762,246,506,744.22	100.00%	3,600.00
				200-200-3.lp	200	200	651,209,548,121.86	0.00%	802.53
				200-200-4.lp	200	200	1,872,275,011,658.13	97.80%	3,600.00
				200-200-5.lp	200	200	1,094,960,172,760.60	100.00%	3,600.00
				200-300.0-1.lp	200	300	353,697,477,793.17	100.00%	3,600.00
				200-300.0-2.lp	200	300	368,864,652,184.40	22.90%	3,600.00
				200-300.0-3.lp	200	300	200,809,709,958.51	11.50%	3,600.00
				200-300.0-4.lp	200	300	434,136,619,141.04	18.80%	3,600.00
				200-300.0-5.lp	200	300	295,752,242,468.56	100.00%	3,600.00
				200-400-1.lp	200	400	218,294,447,600.86	100.00%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*4*	*GRB Nonconvex*	200-400-2.lp	200	400	168,369,200,724.99	91.70%	3,600.00
				200-400-3.lp	200	400	158,998,912,540.59	100.00%	3,600.00
				200-400-4.lp	200	400	245,795,073,751.10	0.00%	3,600.00
				200-400-5.lp	200	400	191,334,891,333.71	99.10%	3,600.00
				300-150.0-1.lp	300	150	121,415,033,426,815.02	100.00%	3,600.00
				300-150.0-2.lp	300	150	52,507,808,158,940.54	0.00%	3.40
				300-150.0-3.lp	300	150	125,050,502,336,339.00	0.00%	7.31
				300-150.0-4.lp	300	150	349,771,943,492,106.31	0.00%	186.61
				300-150.0-5.lp	300	150	206,638,339,889,185.41	99.80%	3,600.00
				300-300-1.lp	300	300	5,651,061,697,343.79	99.40%	3,600.00
				300-300-2.lp	300	300	8,362,441,315,147.19	100.00%	3,600.00
				300-300-3.lp	300	300	4,245,149,492,124.90	100.00%	3,600.00
				300-300-4.lp	300	300	7,392,775,185,368.64	100.00%	3,600.00
				300-300-5.lp	300	300	9,347,517,920,252.53	100.00%	3,600.00
				300-450.0-1.lp	300	450	1,993,644,177,148.43	100.00%	3,600.00
				300-450.0-2.lp	300	450	2,559,875,311,073.24	100.00%	3,600.00
				300-450.0-3.lp	300	450	1,987,294,255,787.25	100.00%	3,600.00
				300-450.0-4.lp	300	450	1,925,531,640,922.70	99.60%	3,600.00
				300-450.0-5.lp	300	450	2,489,413,820,540.51	100.00%	3,600.00
				300-600-1.lp	300	600	1,141,594,452,302.07	99.90%	3,600.00
				300-600-2.lp	300	600	2,205,203,394,025.46	100.00%	3,600.00
				300-600-3.lp	300	600	1,677,356,189,371.75	100.00%	3,600.00
				300-600-4.lp	300	600	1,143,691,522,394.25	100.00%	3,600.00
				300-600-5.lp	300	600	1,179,411,154,654.14	100.00%	3,600.00
				400-200.0-1.lp	400	200	196,050,424,316,734.38	100.00%	3,600.00
				400-200.0-2.lp	400	200	284,868,892,295,979.19	0.00%	601.10
				400-200.0-3.lp	400	200	235,537,392,511,441.53	0.00%	2,395.02
				400-200.0-4.lp	400	200	309,976,394,931,109.19	0.00%	422.19
				400-200.0-5.lp	400	200	393,280,321,312,078.88	13.90%	3,600.00
				400-400-1.lp	400	400	27,251,898,040,750.77	100.00%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*4*	*GRB Nonconvex*	400-400-2.lp	400	400	26,975,837,836,332.78	100.00%	3,600.00
				400-400-3.lp	400	400	30,164,103,174,574.40	99.20%	3,600.00
				400-400-4.lp	400	400	17,689,664,842,534.18	100.00%	3,600.00
				400-400-5.lp	400	400	20,357,099,359,525.96	100.00%	3,600.00
				400-600.0-1.lp	400	600	10,558,863,113,145.01	100.00%	3,600.00
				400-600.0-2.lp	400	600	9,251,820,098,595.88	100.00%	3,600.00
				400-600.0-3.lp	400	600	8,074,886,232,251.39	100.00%	3,600.00
				400-600.0-4.lp	400	600	6,574,501,624,072.78	100.00%	3,600.00
				400-600.0-5.lp	400	600	9,091,667,959,891.44	100.00%	3,600.00
				400-800-1.lp	400	800	5,379,353,404,516.57	100.00%	3,600.00
				400-800-2.lp	400	800	4,515,986,038,255.82	100.00%	3,600.00
				400-800-3.lp	400	800	5,144,036,854,940.92	100.00%	3,600.00
				400-800-4.lp	400	800	3,281,893,500,607.50	100.00%	3,600.00
				400-800-5.lp	400	800	4,595,676,510,586.87	100.00%	3,600.00
				500-250.0-1.lp	500	250	679,760,992,584,371.00	0.00%	3,028.20
				500-250.0-2.lp	500	250	454,527,356,334,350.44	100.00%	3,600.00
				500-250.0-3.lp	500	250	350,979,777,589,183.19	100.00%	3,600.00
				500-250.0-4.lp	500	250	1,021,452,740,812,559.12	100.00%	3,600.00
				500-250.0-5.lp	500	250	730,259,142,137,190.50	100.00%	3,600.00
				500-500-1.lp	500	500	98,109,334,560,122.39	98.40%	3,600.00
				500-500-2.lp	500	500	43,465,776,620,468.75	100.00%	3,600.00
				500-500-3.lp	500	500	92,604,320,407,872.12	100.00%	3,600.00
				500-500-4.lp	500	500	66,669,371,353,234.75	100.00%	3,600.00
				500-500-5.lp	500	500	43,553,684,656,757.80	100.00%	3,600.00
				500-750.0-1.lp	500	750	28,461,150,037,540.71	0.00%	27.27
				500-750.0-2.lp	500	750	32,166,272,121,792.02	100.00%	3,600.00
				500-750.0-3.lp	500	750	25,787,768,458,307.53	100.00%	3,600.00
				500-750.0-4.lp	500	750	24,092,217,017,727.72	100.00%	3,600.00
				500-750.0-5.lp	500	750	16,843,542,624,109.77	100.00%	3,600.00
				500-1000-1.lp	500	1,000	10,816,588,866,309.36	100.00%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*4*	*GRB Nonconvex*	500-1000-2.lp	500	1,000	13,163,081,189,786.38	100.00%	3,600.00
				500-1000-3.lp	500	1,000	12,155,557,773,161.39	100.00%	3,600.00
				500-1000-4.lp	500	1,000	21,974,529,603,192.70	100.00%	3,600.00
				500-1000-5.lp	500	1,000	20,758,892,470,845.74	100.00%	3,600.00
			N-O-Imm-10^0	100-50.0-1.lp	100	50	1,150,356,571,407.97	0.00%	127.19
				100-50.0-2.lp	100	50	1,047,020,721,083.54	0.00%	10.63
				100-50.0-3.lp	100	50	297,597,787,836.00	0.00%	8.46
				100-50.0-4.lp	100	50	4,975,532,012,569.88	0.00%	13.26
				100-50.0-5.lp	100	50	1,298,480,139,317.00	0.00%	64.36
				100-100-1.lp	100	100	30,666,730,626.00	0.00%	7.23
				100-100-2.lp	100	100	122,000,364,655.75	0.00%	14.14
				100-100-3.lp	100	100	46,135,666,648.00	0.00%	7.31
				100-100-4.lp	100	100	102,361,729,536.00	0.00%	21.79
				100-100-5.lp	100	100	105,251,581,540.85	0.00%	45.58
				100-150.0-1.lp	100	150	10,022,868,493.49	0.00%	13.65
				100-150.0-2.lp	100	150	17,070,956,910.90	0.00%	51.03
				100-150.0-3.lp	100	150	36,619,735,152.00	0.00%	9.31
				100-150.0-4.lp	100	150	13,820,124,997.21	0.00%	8.60
				100-150.0-5.lp	100	150	23,793,192,893.88	0.00%	47.95
				100-200-1.lp	100	200	7,505,578,259.47	0.00%	7.38
				100-200-2.lp	100	200	4,979,327,789.04	0.00%	18.81
				100-200-3.lp	100	200	15,201,053,650.35	0.00%	13.04
				100-200-4.lp	100	200	6,057,058,611.21	0.00%	6.39
				100-200-5.lp	100	200	5,256,776,448.00	0.00%	8.11
				200-100.0-1.lp	200	100	326,461,767,237,508.31	0.00%	1,657.40
				200-100.0-2.lp	200	100	18,208,799,873,370.25	0.00%	23.93
				200-100.0-3.lp	200	100	51,930,577,439,998.61	0.00%	16.58
				200-100.0-4.lp	200	100	18,723,044,116,728.93	0.00%	28.87
				200-100.0-5.lp	200	100	85,541,321,689,524.27	0.00%	202.89
				200-200-1.lp	200	200	1,265,110,984,605.75	0.00%	18.35

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*4*	*N-O-Imm*-10⁰	200-200-2.lp	200	200	1,762,429,412,016.00	0.00%	21.40
				200-200-3.lp	200	200	646,431,649,709.14	0.00%	16.88
				200-200-4.lp	200	200	1,792,058,908,885.94	0.00%	19.35
				200-200-5.lp	200	200	1,010,888,971,643.43	0.00%	18.83
				200-300.0-1.lp	200	300	340,133,659,517.19	0.00%	44.96
				200-300.0-2.lp	200	300	367,978,056,575.52	0.00%	21.50
				200-300.0-3.lp	200	300	200,652,603,527.99	0.00%	15.11
				200-300.0-4.lp	200	300	431,951,387,008.20	0.00%	15.37
				200-300.0-5.lp	200	300	294,048,543,418.28	0.00%	170.09
				200-400-1.lp	200	400	218,254,016,915.21	0.00%	20.92
				200-400-2.lp	200	400	166,018,839,999.99	0.00%	29.14
				200-400-3.lp	200	400	160,081,345,800.00	0.00%	23.42
				200-400-4.lp	200	400	246,258,023,110.00	0.00%	23.22
				200-400-5.lp	200	400	188,811,830,396.74	0.00%	95.68
				300-150.0-1.lp	300	150	120,981,628,516,675.67	0.00%	30.54
				300-150.0-2.lp	300	150	36,663,876,411,693.77	0.00%	311.63
				300-150.0-3.lp	300	150	123,681,869,530,529.48	0.00%	39.11
				300-150.0-4.lp	300	150	349,136,679,675,969.44	0.00%	53.09
				300-150.0-5.lp	300	150	204,283,588,268,164.81	0.00%	28.95
				300-300-1.lp	300	300	5,649,872,379,613.16	0.00%	39.72
				300-300-2.lp	300	300	8,349,381,154,514.69	0.00%	36.92
				300-300-3.lp	300	300	3,877,584,045,665.78	0.00%	30.41
				300-300-4.lp	300	300	7,332,010,481,977.17	0.00%	36.56
				300-300-5.lp	300	300	9,157,094,944,849.12	0.00%	45.75
				300-450.0-1.lp	300	450	1,986,907,558,943.99	0.00%	44.86
				300-450.0-2.lp	300	450	2,560,873,614,492.84	0.00%	62.28
				300-450.0-3.lp	300	450	1,931,364,637,387.11	0.00%	52.54
				300-450.0-4.lp	300	450	1,913,101,231,479.42	0.00%	73.26
				300-450.0-5.lp	300	450	2,405,628,040,402.05	0.00%	70.05
				300-600-1.lp	300	600	1,135,102,356,800.78	0.00%	64.78

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*4*	*N-O-Imm*-10^0	300-600-2.lp	300	600	2,190,881,045,384.02	0.00%	233.77
				300-600-3.lp	300	600	1,554,913,184,677.76	0.00%	121.54
				300-600-4.lp	300	600	1,135,232,885,335.15	0.00%	131.08
				300-600-5.lp	300	600	1,166,883,838,469.77	0.00%	833.89
				400-200.0-1.lp	400	200	180,839,282,888,980.81	0.00%	324.34
				400-200.0-2.lp	400	200	284,556,537,831,094.31	0.00%	84.17
				400-200.0-3.lp	400	200	235,497,096,276,138.62	0.00%	44.36
				400-200.0-4.lp	400	200	271,950,950,658,637.06	0.00%	54.86
				400-200.0-5.lp	400	200	390,773,731,889,871.56	0.00%	102.27
				400-400-1.lp	400	400	26,694,753,741,069.82	0.00%	77.06
				400-400-2.lp	400	400	26,814,711,987,602.91	0.00%	134.82
				400-400-3.lp	400	400	30,021,240,043,122.82	0.00%	93.42
				400-400-4.lp	400	400	17,590,936,417,594.90	0.00%	171.52
				400-400-5.lp	400	400	20,325,035,752,559.56	0.00%	87.45
				400-600.0-1.lp	400	600	10,356,674,728,112.10	0.00%	230.13
				400-600.0-2.lp	400	600	9,191,847,223,572.05	0.00%	87.01
				400-600.0-3.lp	400	600	8,070,591,863,172.82	0.00%	110.31
				400-600.0-4.lp	400	600	6,583,927,282,478.60	0.00%	97.00
				400-600.0-5.lp	400	600	9,093,503,910,522.22	0.00%	86.96
				400-800-1.lp	400	800	5,191,674,156,832.79	0.00%	77.35
				400-800-2.lp	400	800	4,512,995,641,175.31	0.00%	125.05
				400-800-3.lp	400	800	5,128,640,786,004.26	0.00%	111.44
				400-800-4.lp	400	800	3,258,400,877,669.70	0.00%	79.18
				400-800-5.lp	400	800	4,549,526,112,409.44	0.00%	2,759.25
				500-250.0-1.lp	500	250	664,051,357,731,212.38	0.00%	155.19
				500-250.0-2.lp	500	250	451,315,689,555,041.38	0.00%	130.74
				500-250.0-3.lp	500	250	348,491,248,676,341.88	0.00%	631.47
				500-250.0-4.lp	500	250	1,018,051,121,783,795.88	0.00%	113.25
				500-250.0-5.lp	500	250	729,536,700,754,299.75	0.00%	125.54
				500-500-1.lp	500	500	97,503,832,415,427.16	0.00%	157.07

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*4*	N-O-Imm-10^0	500-500-2.lp	500	500	37,879,037,060,003.60	0.00%	153.09
				500-500-3.lp	500	500	90,696,072,596,218.83	0.00%	127.66
				500-500-4.lp	500	500	65,405,909,967,433.90	0.00%	164.70
				500-500-5.lp	500	500	42,918,242,672,448.29	0.18%	3,600.00
				500-750.0-1.lp	500	750	22,551,246,510,470.14	0.00%	141.36
				500-750.0-2.lp	500	750	31,404,044,517,624.11	0.00%	873.45
				500-750.0-3.lp	500	750	25,676,527,010,129.32	0.00%	208.21
				500-750.0-4.lp	500	750	18,011,224,603,931.62	0.00%	236.75
				500-750.0-5.lp	500	750	16,310,823,838,428.99	0.00%	1,003.04
				500-1000-1.lp	500	1,000	10,817,578,437,120.12	0.00%	176.59
				500-1000-2.lp	500	1,000	13,108,556,027,736.09	0.00%	182.13
				500-1000-3.lp	500	1,000	12,143,469,354,994.00	0.00%	205.17
				500-1000-4.lp	500	1,000	19,258,318,510,066.45	0.00%	302.57
				500-1000-5.lp	500	1,000	19,519,123,886,340.04	0.00%	227.60
			N-O-Imm-10^2	100-50.0-1.lp	100	50	1,144,879,897,341.31	0.02%	3,600.00
				100-50.0-2.lp	100	50	1,046,222,247,244.91	0.00%	106.07
				100-50.0-3.lp	100	50	295,446,312,070.49	0.00%	53.37
				100-50.0-4.lp	100	50	4,851,624,488,846.68	0.03%	3,600.00
				100-50.0-5.lp	100	50	1,282,556,932,821.99	0.00%	525.58
				100-100-1.lp	100	100	30,146,143,490.68	0.00%	325.29
				100-100-2.lp	100	100	121,642,893,204.64	0.00%	54.54
				100-100-3.lp	100	100	45,006,370,369.75	0.00%	734.97
				100-100-4.lp	100	100	102,087,878,329.95	0.00%	96.92
				100-100-5.lp	100	100	103,274,404,897.42	0.00%	73.90
				100-150.0-1.lp	100	150	9,976,088,897.40	0.00%	68.97
				100-150.0-2.lp	100	150	16,990,111,218.46	0.00%	60.42
				100-150.0-3.lp	100	150	36,364,866,543.28	0.00%	672.43
				100-150.0-4.lp	100	150	13,773,191,591.68	0.00%	812.94
				100-150.0-5.lp	100	150	23,649,275,447.78	0.00%	1,201.90
				100-200-1.lp	100	200	7,489,585,288.52	0.00%	386.31

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*4*	*N-O-Imm-*10^2	100-200-2.lp	100	200	4,941,503,164.20	0.00%	3,600.00
				100-200-3.lp	100	200	15,092,113,341.30	0.00%	65.35
				100-200-4.lp	100	200	6,038,024,700.99	0.00%	1,774.88
				100-200-5.lp	100	200	5,252,952,291.15	0.00%	54.03
				200-100.0-1.lp	200	100	326,329,087,483,226.44	0.03%	3,600.00
				200-100.0-2.lp	200	100	18,205,922,888,862.10	0.00%	130.95
				200-100.0-3.lp	200	100	51,935,581,124,051.30	0.03%	3,600.00
				200-100.0-4.lp	200	100	18,721,106,155,909.35	0.00%	1,142.83
				200-100.0-5.lp	200	100	85,397,703,815,865.69	0.00%	193.30
				200-200-1.lp	200	200	1,264,251,909,487.14	0.01%	3,600.00
				200-200-2.lp	200	200	1,755,222,178,788.41	0.00%	933.32
				200-200-3.lp	200	200	646,037,630,677.85	0.00%	1,406.51
				200-200-4.lp	200	200	1,787,983,143,149.72	0.00%	925.98
				200-200-5.lp	200	200	1,010,134,048,350.37	0.01%	3,600.00
				200-300.0-1.lp	200	300	339,503,581,081.51	0.00%	2,544.97
				200-300.0-2.lp	200	300	367,775,618,819.29	0.00%	569.66
				200-300.0-3.lp	200	300	200,592,567,403.85	0.00%	2,497.97
				200-300.0-4.lp	200	300	431,845,369,445.18	0.02%	3,600.00
				200-300.0-5.lp	200	300	305,535,715,665.82	8.08%	3,600.00
				200-400-1.lp	200	400	218,178,313,617.65	0.00%	3,600.00
				200-400-2.lp	200	400	165,848,502,963.15	0.01%	3,600.00
				200-400-3.lp	200	400	158,639,778,706.82	0.00%	1,137.27
				200-400-4.lp	200	400	245,795,930,335.64	0.00%	1,176.81
				200-400-5.lp	200	400	187,387,847,634.91	0.00%	111.54
				300-150.0-1.lp	300	150	120,978,691,261,459.70	0.00%	2,419.00
				300-150.0-2.lp	300	150	36,660,352,082,421.45	0.04%	3,600.00
				300-150.0-3.lp	300	150	123,671,448,820,680.39	0.00%	3,591.28
				300-150.0-4.lp	300	150	349,161,333,591,823.50	0.32%	3,600.00
				300-150.0-5.lp	300	150	204,342,809,461,426.34	0.06%	3,600.00
				300-300-1.lp	300	300	5,647,807,300,685.68	0.04%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	Continuous	4	N-O-Imm-10²	300-300-2.lp	300	300	8,341,288,194,162.59	0.02%	3,600.00
				300-300-3.lp	300	300	3,851,956,251,130.80	0.01%	3,600.00
				300-300-4.lp	300	300	7,331,324,848,802.30	0.00%	3,600.00
				300-300-5.lp	300	300	9,155,755,358,790.21	0.00%	3,335.42
				300-450.0-1.lp	300	450	1,987,073,052,158.14	0.04%	3,600.00
				300-450.0-2.lp	300	450	2,559,895,583,151.94	0.00%	2,569.19
				300-450.0-3.lp	300	450	1,920,103,231,069.01	0.00%	3,600.00
				300-450.0-4.lp	300	450	1,912,994,502,197.62	0.00%	3,387.45
				300-450.0-5.lp	300	450	2,405,270,890,025.80	0.01%	3,600.00
				300-600-1.lp	300	600	1,135,359,200,549.20	0.00%	1,611.00
				300-600-2.lp	300	600	2,190,395,785,879.93	0.00%	2,587.04
				300-600-3.lp	300	600	1,554,544,885,741.46	0.00%	3,600.00
				300-600-4.lp	300	600	1,134,491,895,154.96	0.00%	206.27
				300-600-5.lp	300	600	1,165,591,223,306.54	0.00%	250.35
				400-200.0-1.lp	400	200	183,756,261,028,882.31	100.00%	3,600.00
				400-200.0-2.lp	400	200	284,551,290,137,693.44	0.00%	3,600.00
				400-200.0-3.lp	400	200	235,481,999,981,505.31	0.00%	3,600.00
				400-200.0-4.lp	400	200	281,790,531,340,797.81	100.00%	3,600.00
				400-200.0-5.lp	400	200	390,772,768,655,135.69	0.00%	2,629.33
				400-400-1.lp	400	400	26,689,977,934,833.21	0.01%	3,600.00
				400-400-2.lp	400	400	27,314,495,885,572.79	100.00%	3,600.00
				400-400-3.lp	400	400	30,019,192,481,449.49	0.00%	3,600.00
				400-400-4.lp	400	400	17,589,325,504,862.91	0.00%	2,138.99
				400-400-5.lp	400	400	20,324,815,367,361.97	0.05%	3,600.00
				400-600.0-1.lp	400	600	10,357,092,810,384.92	0.26%	3,600.00
				400-600.0-2.lp	400	600	9,189,891,443,782.03	0.00%	275.63
				400-600.0-3.lp	400	600	8,174,223,733,053.65	100.00%	3,600.00
				400-600.0-4.lp	400	600	6,628,283,096,076.34	100.00%	3,600.00
				400-600.0-5.lp	400	600	9,163,814,261,701.63	3.06%	3,600.00
				400-800-1.lp	400	800	5,191,742,471,983.31	0.03%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*4*	*N-O-Imm*-10^2	400-800-2.lp	400	800	4,569,954,888,834.23	3.12%	3,600.00
				400-800-3.lp	400	800	5,127,683,895,802.20	0.00%	3,435.11
				400-800-4.lp	400	800	3,264,509,097,453.23	100.00%	3,600.00
				400-800-5.lp	400	800	4,547,561,788,170.26	0.00%	397.20
				500-250.0-1.lp	500	250	663,817,375,683,671.88	0.00%	313.49
				500-250.0-2.lp	500	250	451,297,471,501,978.31	0.02%	3,600.00
				500-250.0-3.lp	500	250	353,173,685,940,101.88	36.98%	3,600.00
				500-250.0-4.lp	500	250	1,019,734,277,964,730.38	0.31%	3,600.00
				500-250.0-5.lp	500	250	747,777,730,936,636.88	99.96%	3,600.00
				500-500-1.lp	500	500	97,463,275,743,282.91	0.03%	3,600.00
				500-500-2.lp	500	500	37,863,600,896,346.59	0.01%	3,600.00
				500-500-3.lp	500	500	91,639,799,590,850.05	100.00%	3,600.00
				500-500-4.lp	500	500	65,402,336,366,167.83	0.01%	3,600.00
				500-500-5.lp	500	500	43,106,376,293,426.75	1.35%	3,600.00
				500-750.0-1.lp	500	750	22,547,722,619,757.94	0.00%	3,416.15
				500-750.0-2.lp	500	750	31,749,394,610,326.84	100.00%	3,600.00
				500-750.0-3.lp	500	750	25,639,626,009,910.80	0.02%	3,600.00
				500-750.0-4.lp	500	750	17,985,659,134,496.78	0.02%	3,600.00
				500-750.0-5.lp	500	750	16,332,589,800,310.51	0.17%	3,600.00
				500-1000-1.lp	500	1,000	10,835,379,043,814.79	0.22%	3,600.00
				500-1000-2.lp	500	1,000	13,752,540,733,833.35	24.89%	3,600.00
				500-1000-3.lp	500	1,000	12,292,768,500,569.42	94.00%	3,600.00
				500-1000-4.lp	500	1,000	19,252,270,698,920.12	2.34%	3,600.00
				500-1000-5.lp	500	1,000	19,492,730,976,112.30	0.00%	3,456.41
			N-O-Imm-10^4	100-50.0-1.lp	100	50	1,145,679,540,031.98	0.13%	3,600.00
				100-50.0-2.lp	100	50	1,046,630,954,115.79	0.06%	3,600.00
				100-50.0-3.lp	100	50	295,599,624,208.28	0.75%	3,600.00
				100-50.0-4.lp	100	50	4,851,148,423,129.18	0.03%	3,600.00
				100-50.0-5.lp	100	50	1,282,503,761,906.39	0.00%	3,591.29
				100-100-1.lp	100	100	30,149,597,186.92	0.02%	3,600.00

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*4*	*N-O-Imm*-10^4	100-100-2.lp	100	100	121,764,781,024.68	0.00%	3,591.29
				100-100-3.lp	100	100	45,004,579,974.68	0.07%	3,600.00
				100-100-4.lp	100	100	102,148,358,004.73	0.00%	3,368.97
				100-100-5.lp	100	100	103,256,058,839.07	0.00%	3,600.00
				100-150.0-1.lp	100	150	9,975,567,732.42	0.00%	3,600.00
				100-150.0-2.lp	100	150	17,120,294,424.33	2.44%	3,600.00
				100-150.0-3.lp	100	150	36,372,337,205.69	0.00%	3,591.29
				100-150.0-4.lp	100	150	13,771,518,305.80	0.00%	3,600.00
				100-150.0-5.lp	100	150	23,648,925,282.93	0.00%	3,600.00
				100-200-1.lp	100	200	7,489,510,060.23	0.00%	3,600.00
				100-200-2.lp	100	200	4,944,466,032.60	0.85%	3,600.00
				100-200-3.lp	100	200	15,091,528,185.70	0.00%	3,600.00
				100-200-4.lp	100	200	6,037,683,795.67	0.00%	3,600.00
				100-200-5.lp	100	200	5,252,949,721.17	0.03%	3,600.00
				200-100.0-1.lp	200	100	328,637,354,137,010.00	3.16%	3,600.00
				200-100.0-2.lp	200	100	18,229,189,482,207.55	0.18%	3,600.00
				200-100.0-3.lp	200	100	52,771,310,511,527.02	99.87%	3,600.00
				200-100.0-4.lp	200	100	18,736,779,294,412.40	0.23%	3,600.00
				200-100.0-5.lp	200	100	85,394,977,855,660.20	0.00%	3,591.28
				200-200-1.lp	200	200	1,264,252,702,331.70	0.00%	3,600.00
				200-200-2.lp	200	200	1,755,966,927,483.37	0.00%	2,408.05
				200-200-3.lp	200	200	646,107,275,053.82	0.00%	2,429.65
				200-200-4.lp	200	200	–	∞	3,600.00
				200-200-5.lp	200	200	1,162,181,597,625.97	100.00%	3,600.00
				200-300.0-1.lp	200	300	342,755,539,709.59	100.00%	3,600.00
				200-300.0-2.lp	200	300	368,654,694,124.81	0.00%	949.58
				200-300.0-3.lp	200	300	200,750,435,280.48	0.15%	3,600.00
				200-300.0-4.lp	200	300	–	∞	3,600.00
				200-300.0-5.lp	200	300	293,998,415,573.32	0.57%	3,600.00
				200-400-1.lp	200	400	218,256,737,580.97	0.06%	3,600.00

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Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*4*	*N-O-Imm*-10^4	200-400-2.lp	200	400	167,172,347,946.63	0.04%	3,600.00
				200-400-3.lp	200	400	158,650,758,530.49	0.00%	3,341.94
				200-400-4.lp	200	400	245,814,127,454.20	0.00%	1,731.04
				200-400-5.lp	200	400	187,387,056,582.41	0.00%	3,591.29
				300-150.0-1.lp	300	150	–	∞	3,600.00
				300-150.0-2.lp	300	150	37,077,237,745,204.73	57.26%	3,600.00
				300-150.0-3.lp	300	150	123,671,448,588,460.98	0.00%	3,591.29
				300-150.0-4.lp	300	150	360,999,770,835,472.88	3.64%	3,600.00
				300-150.0-5.lp	300	150	204,395,701,844,355.31	0.18%	3,600.00
				300-300-1.lp	300	300	5,724,005,955,316.11	100.00%	3,600.00
				300-300-2.lp	300	300	8,708,878,172,040.22	100.00%	3,600.00
				300-300-3.lp	300	300	3,852,669,139,356.40	0.68%	3,600.00
				300-300-4.lp	300	300	7,351,724,027,831.01	5.48%	3,600.00
				300-300-5.lp	300	300	9,241,469,562,229.51	14.27%	3,600.00
				300-450.0-1.lp	300	450	1,986,380,796,430.36	0.02%	3,600.00
				300-450.0-2.lp	300	450	2,565,528,655,956.36	5.48%	3,600.00
				300-450.0-3.lp	300	450	–	∞	3,600.00
				300-450.0-4.lp	300	450	1,913,042,047,147.17	0.00%	3,600.00
				300-450.0-5.lp	300	450	2,493,052,840,635.80	5.43%	3,600.00
				300-600-1.lp	300	600	1,141,874,669,403.88	83.74%	3,600.00
				300-600-2.lp	300	600	2,212,424,805,623.60	28.27%	3,600.00
				300-600-3.lp	300	600	1,554,577,926,856.70	0.00%	3,600.00
				300-600-4.lp	300	600	1,157,982,792,283.32	4.68%	3,600.00
				300-600-5.lp	300	600	1,169,173,152,998.19	1.03%	3,600.00
				400-200.0-1.lp	400	200	180,839,846,856,177.81	0.39%	3,600.00
				400-200.0-2.lp	400	200	285,044,657,936,988.19	11.06%	3,600.00
				400-200.0-3.lp	400	200	235,889,677,319,723.09	0.46%	3,600.00
				400-200.0-4.lp	400	200	273,671,499,538,805.59	100.00%	3,600.00
				400-200.0-5.lp	400	200	397,358,505,943,927.19	37.13%	3,600.00
				400-400-1.lp	400	400	–	∞	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*4*	*N-O-Imm*-10^4	400-400-2.lp	400	400	27,634,484,348,297.49	100.00%	3,600.00
				400-400-3.lp	400	400	30,224,048,678,727.35	8.25%	3,600.00
				400-400-4.lp	400	400	17,942,141,965,827.90	10.67%	3,600.00
				400-400-5.lp	400	400	22,763,320,023,627.39	100.00%	3,600.00
				400-600.0-1.lp	400	600	11,406,707,644,292.10	100.00%	3,600.00
				400-600.0-2.lp	400	600	9,406,417,125,323.05	12.17%	3,600.00
				400-600.0-3.lp	400	600	8,090,585,484,112.51	100.00%	3,600.00
				400-600.0-4.lp	400	600	6,747,526,811,286.12	2.66%	3,600.00
				400-600.0-5.lp	400	600	9,099,772,319,291.72	0.10%	3,600.00
				400-800-1.lp	400	800	5,191,675,743,447.85	0.02%	3,600.00
				400-800-2.lp	400	800	4,613,643,682,864.41	67.80%	3,600.00
				400-800-3.lp	400	800	5,143,902,241,942.14	1.64%	3,600.00
				400-800-4.lp	400	800	3,259,713,490,706.01	0.15%	3,600.00
				400-800-5.lp	400	800	4,547,961,692,675.57	0.02%	3,600.00
				500-250.0-1.lp	500	250	689,405,707,994,840.88	100.00%	3,600.00
				500-250.0-2.lp	500	250	451,927,923,722,978.94	0.31%	3,600.00
				500-250.0-3.lp	500	250	352,471,949,653,361.94	40.03%	3,600.00
				500-250.0-4.lp	500	250	1,018,396,264,454,953.88	1.21%	3,600.00
				500-250.0-5.lp	500	250	733,113,959,148,312.12	95.30%	3,600.00
				500-500-1.lp	500	500	99,493,153,709,340.45	100.00%	3,600.00
				500-500-2.lp	500	500	45,516,159,097,699.40	100.00%	3,600.00
				500-500-3.lp	500	500	90,832,471,585,679.11	0.22%	3,600.00
				500-500-4.lp	500	500	65,439,271,624,538.31	0.07%	3,600.00
				500-500-5.lp	500	500	42,884,329,113,422.26	0.91%	3,600.00
				500-750.0-1.lp	500	750	22,633,993,466,290.17	0.51%	3,600.00
				500-750.0-2.lp	500	750	31,456,517,162,598.99	0.00%	3,443.82
				500-750.0-3.lp	500	750	25,793,211,174,312.94	7.85%	3,600.00
				500-750.0-4.lp	500	750	18,214,189,711,295.84	84.74%	3,600.00
				500-750.0-5.lp	500	750	18,358,976,843,236.55	100.00%	3,600.00
				500-1000-1.lp	500	1,000	10,885,135,155,083.49	100.00%	3,600.00

Direction	Variables	# Objectives	Solution approach	Instance	# Variables	# Constraints	Objective value	Relative gap	Solve time (s)
Min	*Continuous*	*4*	*N-O-Imm*-10^4	500-1000-2.lp	500	1,000	13,135,361,646,292.39	0.29%	3,600.00
				500-1000-3.lp	500	1,000	13,199,398,991,170.00	100.00%	3,600.00
				500-1000-4.lp	500	1,000	22,959,731,687,060.46	76.75%	3,600.00
				500-1000-5.lp	500	1,000	19,650,344,145,313.43	1.06%	3,600.00