A Comparative Study of Modern Inference Techniques for Structured Discrete Energy Minimization Problems : Supplementary Material

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1 Evaluation per Model

Table 1: brain-3mm (4 instances)

algorithm	runtime	value	bound	mem	best	opt
α-Exp-pct	9.57 sec	25164182.75	$-\infty$	2.55 GB	1	1
α-Exp-VIEW	126.94 sec	25164077.00	$-\infty$	3.04 GB	1	0
FastPD	2.02 sec	25164518.25	22873801.00	5.16 GB	1	1
FastPD-pct	7.56 sec	25164326.50	$-\infty$	2.55 GB	1	1
ogm-FastPD-LF1	10.51 sec	25164518.25	22873801.00	7.04 GB	1	1
ogm-FastPD-LF2	61.27 sec	25163683.50	22873801.00	7.85 GB	1	1
ogm-ICM	16.60 sec	25425309.50	$-\infty$	2.19 GB	1	0
ogm-LF-1	9.48 sec	25425594.00	$-\infty$	2.87 GB	1	0
ogm-LF-2	83.39 sec	25238328.25	$-\infty$	3.68 GB	1	0
ogm-TRWS-LF1	285.81 sec	25162580.25	25162493.00	3.76 GB	1	1
ogm-TRWS-LF2	343.41 sec	25162535.00	25162493.00	4.56 GB	1	1
$\alpha\beta$-Swap-VIEW	136.43 sec	25164671.25	$-\infty$	3.04 GB	1	0
BPS-TL	644.82 sec	25166078.25	$-\infty$	1.80 GB	1	0
ogm-BPS	2707.16 sec	25177285.75	$-\infty$	12.18 GB	1	0
ogm-LBP-0.5	1930.36 sec	25166874.25	$-\infty$	12.18 GB	1	0
ogm-LBP-0.95	2718.32 sec	25166927.25	$-\infty$	12.17 GB	1	0
ogm-TRBP-0.5	2774.78 sec	25166817.00	$-\infty$	12.60 GB	1	0
ogm-TRBP-0.95	2723.08 sec	25166836.25	$-\infty$	12.60 GB	1	0
ogm-TRBPS	2710.81 sec	25177148.75	$-\infty$	12.60 GB	1	0
ogm-ADSAL	2720.64 sec	25162633.25	25162492.68	5.57 GB	1	1
ogm-BUNDLE-A	2708.90 sec	25166504.00	25162118.75	9.59 GB	1	1
ogm-BUNDLE-H	2705.77 sec	25164211.25	25162402.99	9.60 GB	1	1
ogm-SG-A	2704.54 sec	25169609.25	25162173.83	6.16 GB	1	1
ogm-BUNDLE-A+	2708.06 sec	25167143.75	25161861.94	9.60 GB	1	1
ogm-SG-A+	2709.06 sec	25536961.50	24957377.76	6.17 GB	1	1
ogm-BUNDLE-A-	2707.39 sec	25163766.00	25162483.90	9.58 GB	1	1
ogm-SG-A-	2707.91 sec	25244347.75	25135353.99	6.16 GB	1	1
TRWS-TL	282.73 sec	25162700.50	25162493.00	1.80 GB	1	1
TRWS-pct	40.16 sec	25162648.50	25162493.00	2.55 GB	1	1
MCI-pct	27.35 sec	25162493.00	25162493.00	2.77 GB	4	4
ogm-CombiLP	3874.65 sec	25162580.25	25162493.00	6.84 GB	1	1

Table 2: brain-5mm (4 instances)

algorithm	runtime	value	bound	mem	best	opt
α-Exp-pct	7.02 sec	19088999.75	$-\infty$	1.53 GB	0	0
α-Exp-VIEW	100.66 sec	19089080.00	$-\infty$	1.82 GB	0	0
FastPD	1.32 sec	19089484.75	17052089.25	3.11 GB	0	0
FastPD-pct	4.66 sec	19089255.25	$-\infty$	1.53 GB	0	0
ogm-FastPD-LF1	7.19 sec	19089484.75	17052089.25	4.21 GB	0	0
ogm-FastPD-LF2	48.51 sec	19088812.00	17052089.25	4.59 GB	0	0
ogm-ICM	11.30 sec	19272820.00	$-\infty$	1.31 GB	0	0
ogm-LF-1	6.49 sec	19273079.25	$-\infty$	1.69 GB	0	0
ogm-LF-2	51.81 sec	19140692.25	$-\infty$	2.10 GB	0	0
ogm-TRWS-LF1	125.92 sec	19087665.75	19087612.50	2.24 GB	0	0
ogm-TRWS-LF2	184.22 sec	19087628.00	19087612.50	2.62 GB	0	0
$\alpha\beta$-Swap-VIEW	91.84 sec	19089768.00	$-\infty$	1.83 GB	0	0
BPS-TL	450.43 sec	19090723.25	$-\infty$	1.08 GB	0	0
ogm-BPS	3601.41 sec	19099086.75	$-\infty$	7.29 GB	0	0
ogm-LBP-0.5	1116.27 sec	19091373.75	$-\infty$	7.29 GB	0	0
ogm-LBP-0.95	1574.35 sec	19091228.75	$-\infty$	7.28 GB	0	0
ogm-TRBP-0.5	2948.01 sec	19091291.75	$-\infty$	7.54 GB	0	0
ogm-TRBP-0.95	3463.22 sec	19091178.00	$-\infty$	7.54 GB	0	0
ogm-TRBPS	3602.69 sec	19099313.50	$-\infty$	7.54 GB	0	0
ogm-ADSAL	3610.13 sec	19087679.25	19087612.49	3.37 GB	0	0
ogm-BUNDLE-A	3605.55 sec	19088524.25	19087585.50	5.77 GB	0	0
ogm-BUNDLE-H	3603.13 sec	19088322.25	19087572.17	5.77 GB	0	0
ogm-SG-A	3602.62 sec	19090744.50	19087462.48	3.70 GB	0	0
ogm-BUNDLE-A+	3602.10 sec	19089189.75	19087393.52	5.77 GB	0	0
ogm-SG-A+	3602.34 sec	19300226.00	18969716.96	3.69 GB	0	0
ogm-BUNDLE-A-	3604.02 sec	19088258.25	19087607.03	5.77 GB	0	0
ogm-SG-A-	3603.66 sec	19125604.50	19079576.02	3.70 GB	0	0
TRWS-TL	120.29 sec	19087730.25	19087612.50	1.08 GB	0	0
TRWS-pct	21.93 sec	19087728.50	19087612.50	1.53 GB	0	0
MCI-pct	25.63 sec	19087612.50	19087612.50	1.99 GB	4	4
ogm-CombiLP	2022.87 sec	19087626.75	19087612.50	4.84 GB	3	3

Table 3: brain-9mm (4 instances)

algorithm	runtime	value	bound	mem	best	opt
α-Exp-pct	3.51 sec	9185804.25	$-\infty$	0.85 GB	1	1
α-Exp-VIEW	37.19 sec	9185865.25	$-\infty$	1.04 GB	1	0
FastPD	0.75 sec	9186044.50	8260110.75	1.71 GB	1	1
FastPD-pct	2.63 sec	9185930.25	$-\infty$	0.85 GB	1	1
ogm-FastPD-LF1	3.71 sec	9186044.50	8260110.75	2.33 GB	1	1
ogm-FastPD-LF2	21.41 sec	9185787.25	8260110.75	2.51 GB	1	1
ogm-ICM	5.78 sec	9263471.50	$-\infty$	0.73 GB	1	0
ogm-LF-1	3.24 sec	9263538.00	$-\infty$	0.93 GB	1	0
ogm-LF-2	29.25 sec	9207084.00	$-\infty$	1.13 GB	1	0
ogm-TRWS-LF1	80.76 sec	9185326.75	9185280.75	1.25 GB	1	1
ogm-TRWS-LF2	93.10 sec	9185298.75	9185280.75	1.42 GB	1	1
$\alpha\beta$-Swap-VIEW	43.51 sec	9186218.50	$-\infty$	1.01 GB	1	0
BPS-TL	230.93 sec	9186485.25	$-\infty$	0.60 GB	1	0
ogm-BPS	1698.94 sec	9190052.50	$-\infty$	4.03 GB	1	0
ogm-LBP-0.5	408.82 sec	9186565.25	$-\infty$	4.03 GB	1	0
ogm-LBP-0.95	346.08 sec	9186506.00	$-\infty$	4.03 GB	1	0
ogm-TRBP-0.5	1166.47 sec	9186545.00	$-\infty$	4.16 GB	1	0
ogm-TRBP-0.95	1852.20 sec	9186507.25	$-\infty$	4.17 GB	1	0
ogm-TRBPS	2102.64 sec	9189796.75	$-\infty$	4.16 GB	1	0
ogm-ADSAL	2193.95 sec	9185310.25	9185280.74	1.90 GB	1	1
ogm-BUNDLE-A	2568.53 sec	9185566.25	9185278.59	3.22 GB	1	1
ogm-BUNDLE-H	2566.86 sec	9185559.25	9185271.00	3.22 GB	1	1
ogm-SG-A	2292.96 sec	9186984.25	9185197.48	2.09 GB	1	1
ogm-BUNDLE-A+	2568.56 sec	9185798.75	9185240.43	3.22 GB	1	1
ogm-SG-A+	2468.36 sec	9266873.50	9139457.93	2.09 GB	1	1
ogm-BUNDLE-A-	2581.48 sec	9185626.75	9185277.57	3.22 GB	1	1
ogm-SG-A-	2353.54 sec	9193050.50	9184612.03	2.09 GB	1	1
TRWS-TL	68.40 sec	9185364.75	9185280.75	0.60 GB	1	1
TRWS-pct	14.13 sec	9185347.00	9185280.75	0.85 GB	1	1
MCI-pct	8.32 sec	9185280.75	9185280.75	1.09 GB	4	4
ogm-CombiLP	895.43 sec	9185280.75	9185280.75	2.72 GB	4	4

Table 4: cell-tracking (1 instances)

algorithm	runtime	value	bound	mem	best	opt
ogm-ICM	0.03 sec	40359847.14	$-\infty$	0.03 GB	0	0
ogm-LBP-LF2	62.12 sec	7515575.61	$-\infty$	0.12 GB	0	0
ogm-LF-1	0.04 sec	40359847.14	$-\infty$	0.04 GB	0	0
ogm-LF-2	0.43 sec	14075743.46	$-\infty$	0.06 GB	0	0
ogm-LF-3	1.55 sec	8461693.24	$-\infty$	0.07 GB	0	0
ogm-BPS	60.07 sec	207520418.28	$-\infty$	0.08 GB	0	0
ogm-LBP-0.5	62.01 sec	407516128.01	$-\infty$	0.08 GB	0	0
ogm-LBP-0.95	61.97 sec	307513873.84	$-\infty$	0.08 GB	0	0
ogm-TRBP-0.5	65.94 sec	307511908.51	$-\infty$	0.09 GB	0	0
ogm-TRBP-0.95	65.97 sec	107517017.88	$-\infty$	0.09 GB	0	0
ogm-TRBPS	62.92 sec	307516517.88	$-\infty$	0.09 GB	0	0
ADDD	11.74 sec	34008664296.29	6206883.23	0.08 GB	0	0
MPLP	459.93 sec	107514359.61	7513851.52	0.08 GB	0	0
ogm-BUNDLE-A	532.38 sec	7696631.53	7501985.37	0.18 GB	0	0
ogm-BUNDLE-H	522.32 sec	7748583.42	7501948.96	0.18 GB	0	0
ogm-SG-A	522.89 sec	927583594.52	6899501.32	0.15 GB	0	0
ogm-BUNDLE-A+	527.17 sec	7696631.53	7501985.37	0.17 GB	0	0
ogm-SG-A+	526.20 sec	230126875.07	6899501.32	0.15 GB	0	0
ogm-BUNDLE-A-	531.65 sec	7696631.53	7501985.37	0.17 GB	0	0
ogm-SG-A-	518.55 sec	1819216014.16	6899501.32	0.15 GB	0	0
ogm-LP-LP	4.21 sec	7516359.61	7513851.52	0.51 GB	0	0
ADDD-BB	38698.77 sec	7514421.21	7411393.72	0.10 GB	1	0
ogm-ILP-pct	12.36 sec	7514421.21	7514421.21	1.05 GB	1	1
ogm-ILP	11.99 sec	7514421.21	7514421.21	1.20 GB	1	1

Table 5: color-seg-n4 (9 instances)

algorithm	runtime	value	bound	mem	best	opt
α-Exp-pct	2.98 sec	20034.80	$-\infty$	0.15 GB	0	0
FastPD	0.29 sec	20034.80	13644.72	0.31 GB	0	0
FastPD-pct	1.52 sec	20034.85	$-\infty$	0.32 GB	0	0
mrf-α-Exp-trunc-TL	1.11 sec	20033.56	$-\infty$	0.07 GB	0	0
mrf-$\alpha\beta$-Swap-trunc-TL	0.64 sec	20060.91	$-\infty$	0.07 GB	0	0
ogm-FastPD-LF1	1.07 sec	20034.80	12543.39	0.36 GB	0	0
ogm-FastPD-LF2	6.15 sec	20033.21	12543.39	0.38 GB	0	0
ogm-ICM	1.07 sec	26329.45	$-\infty$	0.11 GB	0	0
ogm-LF-1	0.50 sec	26330.66	$-\infty$	0.11 GB	0	0
ogm-LF-2	7.38 sec	23775.38	$-\infty$	0.12 GB	0	0
ogm-TRWS-LF1	7.58 sec	20012.17	20012.14	0.15 GB	7	7
ogm-TRWS-LF2	9.08 sec	20012.17	20012.14	0.16 GB	7	7
mrf-LBP-TL	39.87 sec	20053.25	$-\infty$	0.09 GB	0	0
mrf-BPS-TL	23.35 sec	20094.03	$-\infty$	0.09 GB	0	0
ogm-BPS	419.65 sec	20377.19	$-\infty$	0.46 GB	0	0
ogm-LBP-0.5	335.15 sec	20054.27	$-\infty$	0.46 GB	0	0
ogm-LBP-0.95	267.45 sec	20058.46	$-\infty$	0.46 GB	0	0
ogm-TRBP-0.5	505.13 sec	20054.07	$-\infty$	0.47 GB	0	0
ogm-TRBP-0.95	371.35 sec	20058.04	$-\infty$	0.47 GB	0	0
ogm-TRBPS	555.27 sec	20370.77	$-\infty$	0.47 GB	0	0
MCR-TC-MTC	440.57 sec	20450.12	19807.10	1.31 GB	7	7
MCR-pct	424.71 sec	20944.63	$-\infty$	1.68 GB	3	3
mrf-TRWS-TL	23.52 sec	20012.18	20012.14	0.09 GB	8	7
ogm-ADSAL	311.96 sec	20012.15	20012.14	0.21 GB	8	7
ogm-BUNDLE-A	224.07 sec	20024.78	20012.01	0.38 GB	7	7
ogm-BUNDLE-H	431.91 sec	20012.44	20012.13	0.38 GB	6	1
ogm-SG-A	391.10 sec	20027.98	20011.56	0.22 GB	6	1
ogm-BUNDLE-A+	404.59 sec	20156.95	19979.39	0.38 GB	3	3
ogm-SG-A+	404.87 sec	20198.96	19892.88	0.22 GB	1	1
ogm-BUNDLE-A-	392.39 sec	20012.19	20012.13	0.38 GB	7	0
ogm-SG-A-	425.47 sec	20055.22	20011.48	0.22 GB	0	0
TRWS-pct	45.62 sec	20012.17	20012.14	0.14 GB	7	7
MCI-TC-MTC-TCI	442.89 sec	20450.11	19807.10	2.66 GB	8	8
MCI-pct	429.54 sec	20889.89	$-\infty$	1.67 GB	8	8
ogm-CombiLP	36.68 sec	20012.14	20012.14	0.38 GB	9	9

Table 6: color-seg-n8 (9 instances)

algorithm	runtime	value	bound	mem	best	opt
α-Exp-pct	5.56 sec	20011.24	$-\infty$	0.23 GB	0	0
α-Exp-VIEW	7.79 sec	20011.13	$-\infty$	0.17 GB	0	0
FastPD	0.45 sec	20011.14	13841.08	0.51 GB	0	0
FastPD-pct	2.79 sec	20011.24	$-\infty$	0.52 GB	0	0
ogm-FastPD-LF1	2.07 sec	20011.13	13121.34	0.60 GB	0	0
ogm-FastPD-LF2	21.51 sec	20010.28	13121.34	0.64 GB	0	0
ogm-ICM	1.98 sec	25302.60	$-\infty$	0.14 GB	0	0
ogm-LF-1	0.93 sec	25306.40	$-\infty$	0.16 GB	0	0
ogm-LF-2	25.21 sec	21129.07	$-\infty$	0.20 GB	0	0
ogm-TRWS-LF1	25.26 sec	19991.28	19991.16	0.23 GB	3	1
ogm-TRWS-LF2	43.80 sec	19991.27	19991.16	0.27 GB	4	1
$\alpha\beta$-Swap-VIEW	9.75 sec	20038.26	$-\infty$	0.17 GB	0	0
BPS-TL	62.69 sec	20120.79	$-\infty$	0.13 GB	0	0
ogm-BPS	878.41 sec	20080.07	$-\infty$	0.79 GB	0	0
ogm-LBP-0.5	850.32 sec	20087.13	$-\infty$	0.79 GB	0	0
ogm-LBP-0.95	786.09 sec	20081.55	$-\infty$	0.79 GB	0	0
ogm-TRBP-0.5	1157.33 sec	20086.99	$-\infty$	0.81 GB	0	0
ogm-TRBP-0.95	1078.86 sec	20081.26	$-\infty$	0.81 GB	0	0
ogm-TRBPS	1146.51 sec	20079.65	$-\infty$	0.81 GB	0	0
MCR-TC-MTC	539.88 sec	20671.38	19713.14	1.73 GB	2	1
MCR-pct	486.38 sec	20988.67	$-\infty$	2.20 GB	3	2
ogm-ADSAL	1320.13 sec	19991.25	19991.16	0.35 GB	5	2
ogm-BUNDLE-A	935.94 sec	20020.56	19990.56	0.80 GB	4	1
ogm-BUNDLE-H	978.44 sec	19991.94	19991.11	0.80 GB	3	0
ogm-SG-A	854.29 sec	20360.63	19979.94	0.38 GB	1	1
ogm-BUNDLE-A+	973.20 sec	20248.63	19857.07	0.80 GB	1	1
ogm-SG-A+	896.80 sec	21203.60	19476.10	0.39 GB	0	0
ogm-BUNDLE-A-	986.69 sec	19991.51	19991.12	0.80 GB	1	0
ogm-SG-A-	913.14 sec	20128.58	19988.55	0.38 GB	0	0
TRWS-TL	24.80 sec	19991.33	19991.16	0.13 GB	2	1
TRWS-pct	91.86 sec	19991.33	19991.16	0.21 GB	1	1
MCI-TC-MTC-TCI	836.33 sec	20670.74	19713.17	4.52 GB	8	8
MCI-pct	534.88 sec	20893.77	$-\infty$	2.55 GB	7	8
ogm-CombiLP	118.53 sec	19991.21	19991.21	0.69 GB	9	9

Table 7: color-seg (3 instances)

algorithm	runtime	value	bound	mem	best	opt
α-Exp-pct	0.82 sec	308472274.33	$-\infty$	0.56 GB	3	0
α-Exp-VIEW	5.98 sec	308472275.67	$-\infty$	0.70 GB	2	0
FastPD	0.31 sec	308472275.00	308420090.33	1.00 GB	2	0
FastPD-pct	0.80 sec	308472274.67	$-\infty$	0.56 GB	2	0
ogm-FastPD-LF1	1.25 sec	308472275.00	308420090.33	1.42 GB	2	0
ogm-FastPD-LF2	8.58 sec	308472275.00	308420090.33	1.51 GB	2	0
ogm-ICM	2.38 sec	311333421.33	$-\infty$	0.47 GB	0	0
ogm-LF-1	1.94 sec	311333771.00	$-\infty$	0.63 GB	0	0
ogm-LF-2	11.82 sec	309850181.00	$-\infty$	0.74 GB	0	0
ogm-TRWS-LF1	104.99 sec	308472294.33	308472270.43	0.83 GB	2	1
ogm-TRWS-LF2	102.44 sec	308472294.33	308472270.43	0.92 GB	2	1
$\alpha\beta$-Swap-VIEW	6.25 sec	308472292.33	$-\infty$	0.70 GB	2	0
BPS-TL	68.24 sec	308733349.67	$-\infty$	0.40 GB	0	0
ogm-BPS	106.57 sec	308494459.00	$-\infty$	2.76 GB	0	0
ogm-LBP-0.5	362.43 sec	308492950.67	$-\infty$	2.76 GB	0	0
ogm-LBP-0.95	117.09 sec	308494213.33	$-\infty$	2.76 GB	0	0
ogm-TRBP-0.5	1245.66 sec	308492909.67	$-\infty$	2.85 GB	0	0
ogm-TRBP-0.95	1237.92 sec	308494370.67	$-\infty$	2.85 GB	0	0
ogm-TRBPS	1009.29 sec	308494514.33	$-\infty$	2.85 GB	0	0
MCR-TC-MTC	89.46 sec	308472274.33	308472274.33	3.76 GB	3	3
MCR-pct	0.82 sec	308472274.33	308472274.33	0.56 GB	3	3
ogm-ADSAL	2156.82 sec	308472289.00	308472273.99	1.19 GB	2	2
ogm-BUNDLE-A	1661.42 sec	308472329.33	308472259.92	2.25 GB	1	0
ogm-BUNDLE-H	1585.35 sec	308472407.67	308472264.89	2.25 GB	1	0
ogm-SG-A	1399.36 sec	308485243.33	308471868.96	1.47 GB	0	0
ogm-BUNDLE-A+	1625.25 sec	308472378.67	308472268.33	2.26 GB	1	1
ogm-SG-A+	1325.76 sec	308736418.67	308454764.27	1.47 GB	0	0
ogm-BUNDLE-A-	1522.39 sec	308472520.67	308472231.05	2.26 GB	0	0
ogm-SG-A-	1389.03 sec	308481954.33	308472044.84	1.46 GB	0	0
TRWS-TL	90.76 sec	308472310.67	308472270.43	0.40 GB	2	1
TRWS-pct	1.07 sec	308472290.67	308472274.33	0.56 GB	2	2
MCI-TC-MTC-TCI	80.19 sec	308472274.33	308472274.33	3.76 GB	3	3
MCI-pct	0.98 sec	308472274.33	308472274.33	0.56 GB	3	3
ogm-CombiLP	483.64 sec	308472274.33	308472274.33	1.84 GB	3	3

Table 8: correlation-clustering (715 instances)

algorithm	runtime	value	bound	mem	best	opt	VI	RI
ogm-ICM	1.28 sec	-585.60	$-\infty$	0.01 GB	0	0	2.6245	0.5154
ogm-LF-1	0.63 sec	-585.60	$-\infty$	0.02 GB	0	0	2.6245	0.5154
MCR-CC	0.12 sec	-626.76	-628.89	0.04 GB	166	98	2.0463	0.8362
MCR-CCFDB	0.08 sec	-626.75	-628.90	0.03 GB	164	98	2.0463	0.8362
MCR-CCFDB-OWC	0.08 sec	-626.77	-628.89	0.03 GB	166	100	2.0460	0.8362
MCI-CCFDB-CCIFD	0.78 sec	-628.16	-628.16	0.08 GB	715	713	2.0406	0.8350
MCI-CCI	1.28 sec	-628.16	-628.17	0.08 GB	715	707	2.0406	0.8350
MCI-CCIFD	1.25 sec	-628.16	-628.16	0.07 GB	715	713	2.0406	0.8350

Table 9: dtf-chinesechar (100 instances)

algorithm	runtime	value	bound	mem	best	opt	PA
LSA-TR (euc.)	0.05 sec	−49548.10	$-\infty$	0.10 GB	30	0	0.6712
LSA-TR (ham.)	0.06 sec	−49536.76	$-\infty$	0.10 GB	1	0	0.6433
ogm-ICM	0.21 sec	−49515.98	$-\infty$	0.12 GB	1	0	0.5723
ogm-LBP-LF2	481.32 sec	−49520.26	$-\infty$	0.91 GB	7	0	0.6393
ogm-LF-1	0.23 sec	−49516.08	$-\infty$	0.16 GB	1	0	0.5725
ogm-LF-2	7.34 sec	−49531.11	$-\infty$	0.25 GB	7	0	0.6003
ogm-LF-3	637.92 sec	−49535.37	$-\infty$	2.29 GB	16	0	0.6119
ogm-TRWS-LF1	84.41 sec	−49505.84	−50119.41	0.23 GB	4	0	0.5747
ogm-TRWS-LF2	83.78 sec	−49519.42	−50119.41	0.31 GB	10	0	0.5945
BPS-TAB	62.69 sec	−49537.08	$-\infty$	0.12 GB	30	0	0.6715
ogm-BPS	456.79 sec	−49497.39	$-\infty$	0.72 GB	11	0	0.6336
ogm-LBP-0.5	482.00 sec	−49509.81	$-\infty$	0.72 GB	12	0	0.6406
ogm-LBP-0.95	479.42 sec	−49506.02	$-\infty$	0.72 GB	11	0	0.6388
ogm-TRBP-0.5	561.98 sec	−49515.07	$-\infty$	0.75 GB	12	0	0.6535
ogm-TRBP-0.95	540.99 sec	−49512.19	$-\infty$	0.75 GB	15	0	0.6514
ogm-TRBPS	466.66 sec	−49497.04	$-\infty$	0.75 GB	9	0	0.6545
ADDD	9.74 sec	−48656.71	−50119.38	0.77 GB	0	0	0.5079
MPLP	516.36 sec	−49040.57	−50119.46	0.94 GB	0	0	0.6064
ogm-ADSAL	730.78 sec	−49524.30	−50119.39	0.31 GB	1	0	0.6445
ogm-BUNDLE-A	445.46 sec	−49471.84	−50125.37	0.72 GB	0	0	0.5806
ogm-BUNDLE-H	454.52 sec	−49489.73	−50120.92	0.72 GB	0	0	0.5890
ogm-SG-A	420.01 sec	−49476.28	−50152.59	0.48 GB	0	0	0.5745
ogm-BUNDLE-A+	443.99 sec	−49469.63	−50211.67	0.72 GB	0	0	0.5867
ogm-SG-A+	417.48 sec	−49457.71	−50666.34	0.48 GB	0	0	0.5795
ogm-BUNDLE-A-	447.56 sec	−49468.24	−50120.76	0.72 GB	0	0	0.5729
ogm-SG-A-	416.33 sec	−49478.46	−50138.29	0.51 GB	0	0	0.5836
ogm-LP-LP	1335.58 sec	−48913.03	−50134.52	3.29 GB	0	0	0.5272
QPBO	0.17 sec	−49501.95	−50119.38	0.13 GB	0	0	0.5520
TRWS-TAB	78.84 sec	−49497.01	−50119.41	0.13 GB	3	0	0.5649
TRWS-pct	4.43 sec	−49496.76	−50119.38	0.13 GB	2	0	0.5636
ogm-ILP-pct	3553.71 sec	−49547.41	−50061.15	1.06 GB	63	0	0.6556
MCBC-pct	2053.89 sec	−49550.10	−49612.38	NaN GB	80	56	0.6624
ogm-ILP	3569.52 sec	−49536.00	−50092.16	7.53 GB	8	0	0.6444
SA	NaN sec	−49533.02	$-\infty$	NaN GB	13	0	0.6541

Table 10: geo-surf-3 (300 instances)

algorithm	runtime	value	bound	mem	best	opt	PA
α-Exp-QPBO	0.00 sec	132.14	$-\infty$	0.01 GB	294	0	0.8255
ogm-ICM	0.00 sec	132.77	$-\infty$	0.01 GB	133	0	0.8194
ogm-LBP-LF1	0.07 sec	132.17	$-\infty$	0.01 GB	272	0	0.8266
ogm-LBP-LF2	0.09 sec	132.17	$-\infty$	0.01 GB	274	0	0.8266
ogm-LF-1	0.00 sec	132.77	$-\infty$	0.01 GB	133	0	0.8194
ogm-LF-2	0.02 sec	132.36	$-\infty$	0.01 GB	207	0	0.8213
ogm-LF-3	0.30 sec	132.21	$-\infty$	0.01 GB	263	0	0.8258
ogm-BPS	0.02 sec	132.17	$-\infty$	0.01 GB	272	0	0.8266
ogm-LBP-0.5	0.07 sec	132.17	$-\infty$	0.01 GB	272	0	0.8266
ogm-LBP-0.95	0.03 sec	132.17	$-\infty$	0.01 GB	272	0	0.8266
ogm-TRBP-0.5	1.14 sec	132.16	$-\infty$	0.01 GB	283	0	0.8264
ogm-TRBP-0.95	0.60 sec	132.17	$-\infty$	0.01 GB	284	0	0.8264
ogm-TRBPS	0.49 sec	132.17	$-\infty$	0.01 GB	286	0	0.8265
ADDD	0.12 sec	132.14	132.14	0.01 GB	294	288	0.8260
MPLP	0.15 sec	132.16	132.14	0.01 GB	294	189	0.8265
MPLP-C	0.16 sec	132.15	132.14	0.01 GB	296	194	0.8245
ogm-BUNDLE-A	21.88 sec	132.14	132.14	0.05 GB	300	200	0.8259
ogm-BUNDLE-H	9.57 sec	132.14	132.14	0.04 GB	300	277	0.8259
ogm-SG-A	22.37 sec	132.14	132.14	0.03 GB	300	185	0.8259
ogm-BUNDLE-A+	2.78 sec	132.14	132.14	0.05 GB	300	300	0.8259
ogm-SG-A+	1.80 sec	132.14	132.14	0.03 GB	300	300	0.8259
ogm-BUNDLE-A-	31.74 sec	132.14	132.09	0.05 GB	296	9	0.8260
ogm-SG-A-	31.06 sec	132.14	131.99	0.03 GB	269	6	0.8261
ogm-LP-LP	0.55 sec	132.14	132.14	0.08 GB	300	300	0.8259
BRAOBB-1	0.66 sec	132.14	$-\infty$	0.14 GB	298	0	0.8260
BRAOBB-2	6.67 sec	132.14	$-\infty$	0.14 GB	299	0	0.8259
BRAOBB-3	17.99 sec	132.14	$-\infty$	2.10 GB	300	0	0.8259
ogm-ILP	0.13 sec	132.14	132.14	0.12 GB	300	300	0.8259

Table 11: geo-surf-7 (300 instances)

algorithm	runtime	value	bound	mem	best	opt	PA
α-Exp-QPBO	0.02 sec	477.83	$-\infty$	0.01 GB	257	0	0.6474
ogm-ICM	0.01 sec	839.28	$-\infty$	0.01 GB	8	0	0.5093
ogm-LBP-LF1	0.60 sec	498.45	$-\infty$	0.01 GB	66	0	0.6988
ogm-LBP-LF2	0.65 sec	498.44	$-\infty$	0.01 GB	66	0	0.6988
ogm-LF-1	0.01 sec	838.32	$-\infty$	0.01 GB	8	0	0.5086
ogm-LF-2	0.12 sec	692.68	$-\infty$	0.01 GB	14	0	0.5696
ogm-LF-3	9.45 sec	620.56	$-\infty$	0.01 GB	27	0	0.6080
ogm-BPS	0.37 sec	498.34	$-\infty$	0.01 GB	69	0	0.7035
ogm-LBP-0.5	0.60 sec	498.45	$-\infty$	0.01 GB	67	0	0.6988
ogm-LBP-0.95	0.33 sec	498.66	$-\infty$	0.01 GB	66	0	0.7039
ogm-TRBP-0.5	8.07 sec	486.42	$-\infty$	0.01 GB	128	0	0.6768
ogm-TRBP-0.95	7.42 sec	495.05	$-\infty$	0.01 GB	120	0	0.6601
ogm-TRBPS	6.85 sec	502.98	$-\infty$	0.01 GB	114	0	0.6605
ADDD	0.55 sec	476.95	476.94	0.03 GB	296	293	0.6531
MPLP	1.31 sec	477.56	476.94	0.02 GB	278	195	0.6529
MPLP-C	1.43 sec	477.34	476.95	0.05 GB	282	198	0.6529
ogm-BUNDLE-A	53.41 sec	477.08	476.10	0.08 GB	261	22	0.6545
ogm-BUNDLE-H	41.45 sec	476.95	476.86	0.07 GB	299	180	0.6529
ogm-SG-A	52.38 sec	479.02	473.05	0.03 GB	164	14	0.6548
ogm-BUNDLE-A+	32.29 sec	476.95	476.91	0.06 GB	298	238	0.6529
ogm-SG-A+	29.96 sec	477.28	476.76	0.03 GB	294	246	0.6532
ogm-BUNDLE-A-	53.63 sec	479.37	470.50	0.08 GB	112	2	0.6547
ogm-SG-A-	52.14 sec	488.41	452.65	0.03 GB	52	1	0.6623
ogm-LP-LP	2.74 sec	476.95	476.94	0.42 GB	299	299	0.6530
BRAOBB-1	973.62 sec	479.82	$-\infty$	17.72 GB	214	0	0.6602
BRAOBB-2	957.11 sec	477.10	$-\infty$	17.28 GB	267	0	0.6532
BRAOBB-3	685.84 sec	477.11	$-\infty$	5.69 GB	269	0	0.6531
ogm-ILP	0.95 sec	476.95	476.95	0.74 GB	300	300	0.6529

Table 12: image-seg-3rdorder (100 instances)

algorithm	runtime	value	bound	mem	best	opt	VI	RI
ogm-ICM	6.30 sec	6030.49	$-\infty$	0.01 GB	0	0	2.7089	0.5031
ogm-LF-1	2.23 sec	6030.29	$-\infty$	0.01 GB	0	0	2.7095	0.5033
MCR-CC	32.56 sec	5822.31	5465.15	0.28 GB	0	0	2.7722	0.7512
MCR-CCFDB	20.85 sec	5823.09	5465.15	0.27 GB	0	0	2.7705	0.7511
MCR-CCFDB-OWC	21.63 sec	5823.59	5465.29	0.27 GB	0	0	2.7705	0.7511
MCI-CCFDB-CCIFD	46.68 sec	5627.52	5627.52	0.68 GB	100	100	2.6586	0.7727
MCI-CCI	70.54 sec	5628.39	5627.49	0.73 GB	99	98	2.6589	0.7721
MCI-CCIFD	50.78 sec	5627.52	5627.52	0.72 GB	99	100	2.6586	0.7727

Table 13: image-seg (100 instances)

algorithm	runtime	value	bound	mem	best	opt	VI	RI
ogm-ICM	3.98 sec	4705.07	$-\infty$	0.01 GB	0	0	2.8580	0.5954
ogm-KL	1.46 sec	4608.49	$-\infty$	0.01 GB	0	0	2.6432	0.6400
ogm-LF-1	1.35 sec	4705.01	$-\infty$	0.01 GB	0	0	2.8583	0.5953
MCR-CC	8.54 sec	4447.14	4442.34	0.15 GB	35	35	2.5471	0.7822
MCR-CCFDB	4.34 sec	4447.14	4442.34	0.06 GB	35	35	2.5469	0.7822
MCR-CCFDB-OWC	4.34 sec	4447.09	4442.34	0.06 GB	35	35	2.5468	0.7822
MCI-CCFDB-CCIFD	4.89 sec	4442.64	4442.64	0.17 GB	100	100	2.5365	0.7821
MCI-CCI	2.43 sec	4442.64	4442.64	0.14 GB	100	100	2.5365	0.7821
MCI-CCIFD	2.24 sec	4442.64	4442.64	0.09 GB	100	100	2.5367	0.7821

Table 14: inclusion (10 instances)

algorithm	runtime	value	bound	mem	best	opt	PA
α-Exp-QPBO	0.04 sec	1587.13	$-\infty$	0.01 GB	0	0	0.6771
ogm-ICM	0.01 sec	1556.20	$-\infty$	0.01 GB	0	0	0.6206
ogm-LBP-LF1	19.33 sec	1400.66	$-\infty$	0.01 GB	4	0	0.9490
ogm-LBP-LF2	19.37 sec	1400.61	$-\infty$	0.02 GB	7	0	0.9495
ogm-LF-1	0.01 sec	1556.20	$-\infty$	0.01 GB	0	0	0.6206
ogm-LF-2	0.09 sec	1476.39	$-\infty$	0.01 GB	0	0	0.7630
ogm-LF-3	1.14 sec	1461.23	$-\infty$	0.01 GB	0	0	0.8011
ogm-BPS	21.42 sec	2200.68	$-\infty$	0.01 GB	6	0	0.9489
ogm-LBP-0.5	19.77 sec	2100.61	$-\infty$	0.01 GB	7	0	0.9487
ogm-LBP-0.95	19.82 sec	2700.74	$-\infty$	0.01 GB	8	0	0.9492
ogm-TRBP-0.5	21.42 sec	1900.84	$-\infty$	0.01 GB	5	0	0.9491
ogm-TRBP-0.95	20.65 sec	2600.73	$-\infty$	0.01 GB	8	0	0.9481
ogm-TRBPS	20.68 sec	2300.80	$-\infty$	0.01 GB	7	0	0.9491
ADDD	6.23 sec	3400.81	1400.31	0.03 GB	1	1	0.9479
MPLP	5.94 sec	4000.44	1400.30	0.02 GB	2	1	0.9479
MPLP-C	3579.25 sec	4200.37	1400.35	0.08 GB	2	1	0.9470
ogm-BUNDLE-A	77.24 sec	4007.73	1392.01	0.02 GB	2	0	0.9391
ogm-BUNDLE-H	73.24 sec	1400.76	1400.32	0.02 GB	3	1	0.9496
ogm-SG-A	78.38 sec	26797.36	1309.23	0.01 GB	0	0	0.8518
ogm-BUNDLE-A+	77.44 sec	3909.68	1389.99	0.02 GB	0	0	0.9336
ogm-SG-A+	77.57 sec	26797.36	1309.23	0.01 GB	0	0	0.8518
ogm-BUNDLE-A-	76.92 sec	1400.69	1400.29	0.02 GB	3	0	0.9499
ogm-SG-A-	75.57 sec	11920.10	1375.81	0.01 GB	2	0	0.9210
ogm-LP-LP	18.27 sec	4100.60	1400.33	0.30 GB	1	1	0.9482
MCI-TC-MTC-TCI	61.46 sec	1400.57	1400.57	0.56 GB	10	10	0.9496
BRAOBB-1	3600.01 sec	Inf	$-\infty$	0.90 GB	0	0	0.3692
BRAOBB-2	3600.01 sec	1401.73	$-\infty$	0.80 GB	0	0	0.9461
BRAOBB-3	3600.01 sec	1401.64	$-\infty$	1.79 GB	0	0	0.9467
ogm-ILP	6.21 sec	1400.57	1400.57	0.74 GB	10	10	0.9496

Table 15: inpainting-n4 (2 instances)

algorithm	runtime	value	bound	mem	best	opt
α-Exp-pct	0.11 sec	454.75	$-\infty$	0.02 GB	1	0
FastPD	0.01 sec	454.75	294.89	0.03 GB	1	0
FastPD-pct	0.07 sec	454.75	$-\infty$	0.03 GB	1	0
mrf-α-Exp-trunc-TL	0.01 sec	454.75	$-\infty$	0.01 GB	1	0
mrf-$\alpha\beta$-Swap-trunc-TL	0.01 sec	454.35	$-\infty$	0.01 GB	2	0
ogm-FastPD-LF1	0.05 sec	454.75	294.89	0.04 GB	1	0
ogm-FastPD-LF2	0.20 sec	454.75	294.89	0.04 GB	1	0
ogm-ICM	0.06 sec	3453.29	$-\infty$	0.02 GB	0	0
ogm-LF-1	0.04 sec	3453.29	$-\infty$	0.02 GB	0	0
ogm-LF-2	0.18 sec	3453.29	$-\infty$	0.03 GB	0	0
ogm-TRWS-LF1	1.32 sec	489.70	448.09	0.02 GB	1	1
ogm-TRWS-LF2	1.45 sec	489.30	448.09	0.03 GB	1	1
mrf-LBP-TL	4.25 sec	475.56	$-\infty$	0.01 GB	1	0
mrf-BPS-TL	1.69 sec	454.35	$-\infty$	0.01 GB	2	0
ogm-BPS	11.99 sec	2042.43	$-\infty$	0.06 GB	1	0
ogm-LBP-0.5	17.10 sec	480.27	$-\infty$	0.06 GB	1	0
ogm-LBP-0.95	14.70 sec	483.41	$-\infty$	0.06 GB	1	0
ogm-TRBP-0.5	20.63 sec	480.27	$-\infty$	0.06 GB	1	0
ogm-TRBP-0.95	17.29 sec	485.38	$-\infty$	0.06 GB	1	0
ogm-TRBPS	13.66 sec	2042.43	$-\infty$	0.06 GB	1	0
MCR-TC-MTC	1386.81 sec	645.89	448.27	0.20 GB	1	1
MCR-pct	1248.88 sec	1179.00	448.27	0.18 GB	0	0
mrf-TRWS-TL	0.97 sec	490.48	448.09	0.01 GB	1	1
ogm-ADSAL	59.91 sec	454.75	448.27	0.03 GB	1	1
ogm-BUNDLE-A	39.98 sec	455.25	448.23	0.04 GB	1	0
ogm-BUNDLE-H	19.13 sec	455.25	448.22	0.04 GB	1	1
ogm-SG-A	21.38 sec	455.25	447.76	0.03 GB	1	1
ogm-BUNDLE-A+	19.49 sec	455.25	447.84	0.04 GB	1	1
ogm-SG-A+	20.25 sec	455.25	441.36	0.03 GB	1	1
ogm-BUNDLE-A-	39.31 sec	455.25	448.08	0.04 GB	1	0
ogm-SG-A-	39.48 sec	454.35	447.89	0.03 GB	2	0
TRWS-pct	2.77 sec	489.30	448.10	0.02 GB	1	1
MCI-TC-MTC-TCI	1812.16 sec	462.60	448.86	0.44 GB	1	1
MCI-pct	1807.10 sec	270479.80	$-\infty$	0.41 GB	1	1
ogm-CombiLP	129.04 sec	461.81	446.66	0.49 GB	1	1

Table 16: inpainting-n8 (2 instances)

algorithm	runtime	value	bound	mem	best	opt
α-Exp-pct	0.24 sec	464.76	$-\infty$	0.04 GB	2	0
α-Exp-VIEW	0.43 sec	465.02	$-\infty$	0.03 GB	1	0
FastPD	0.09 sec	465.02	136.28	0.04 GB	1	0
FastPD-pct	0.17 sec	464.76	$-\infty$	0.04 GB	2	0
ogm-FastPD-LF1	0.17 sec	465.02	−67.89	0.05 GB	1	0
ogm-FastPD-LF2	0.67 sec	465.02	−67.89	0.07 GB	1	0
ogm-ICM	0.09 sec	3451.36	$-\infty$	0.02 GB	0	0
ogm-LF-1	0.06 sec	3451.36	$-\infty$	0.03 GB	0	0
ogm-LF-2	0.56 sec	3451.36	$-\infty$	0.04 GB	0	0
ogm-TRWS-LF1	11.25 sec	499.36	453.96	0.03 GB	1	0
ogm-TRWS-LF2	10.24 sec	499.30	453.96	0.05 GB	1	0
$\alpha\beta$-Swap-VIEW	0.38 sec	465.02	$-\infty$	0.03 GB	1	0
BPS-TL	7.76 sec	468.21	$-\infty$	0.02 GB	1	0
ogm-BPS	9.64 sec	493.96	$-\infty$	0.10 GB	1	0
ogm-LBP-0.5	41.77 sec	495.52	$-\infty$	0.10 GB	1	0
ogm-LBP-0.95	11.67 sec	493.96	$-\infty$	0.10 GB	1	0
ogm-TRBP-0.5	49.98 sec	495.80	$-\infty$	0.10 GB	1	0
ogm-TRBP-0.95	13.36 sec	493.96	$-\infty$	0.10 GB	1	0
ogm-TRBPS	10.58 sec	493.96	$-\infty$	0.10 GB	1	0
MCR-TC-MTC	2073.02 sec	679.26	445.02	0.17 GB	0	0
MCR-pct	1871.11 sec	270610.25	$-\infty$	0.26 GB	0	0
ogm-ADSAL	297.48 sec	467.20	455.48	0.05 GB	1	0
ogm-BUNDLE-A	96.60 sec	465.26	455.43	0.10 GB	1	0
ogm-BUNDLE-H	97.86 sec	465.34	455.43	0.11 GB	0	0
ogm-SG-A	93.27 sec	466.81	454.78	0.06 GB	0	0
ogm-BUNDLE-A+	102.22 sec	465.26	454.31	0.11 GB	1	0
ogm-SG-A+	100.14 sec	465.76	446.05	0.06 GB	0	0
ogm-BUNDLE-A-	99.87 sec	465.26	455.23	0.11 GB	1	0
ogm-SG-A-	86.02 sec	466.81	453.50	0.06 GB	0	0
TRWS-TL	10.15 sec	500.09	453.96	0.02 GB	1	0
TRWS-pct	19.74 sec	467.69	453.97	0.03 GB	1	0
MCI-TC-MTC-TCI	2166.25 sec	534.07	445.02	0.40 GB	1	1
MCI-pct	1879.20 sec	270485.10	$-\infty$	0.26 GB	1	1
ogm-CombiLP	2117.77 sec	465.35	450.06	1.05 GB	1	1

Table 17: knott-3d-150 (8 instances)

algorithm	runtime	value	bound	mem	best	opt	VI	RI
ogm-ICM	2.05 sec	−4179.30	$-\infty$	0.01 GB	0	0	2.3947	0.7811
ogm-KL	0.15 sec	−4431.67	$-\infty$	0.01 GB	0	0	2.0648	0.8085
ogm-LF-1	0.72 sec	−4179.30	$-\infty$	0.01 GB	0	0	2.3947	0.7811
MCR-CC	17.72 sec	−4568.90	−4572.10	0.08 GB	3	3	0.9178	0.9232
MCR-CCFDB	1.87 sec	−4568.90	−4572.10	0.03 GB	3	3	0.9178	0.9232
MCR-CCFDB-OWC	2.00 sec	−4570.87	−4571.86	0.03 GB	7	7	0.9076	0.9236
MCI-CCFDB-CCIFD	1.96 sec	−4571.69	−4571.69	0.03 GB	8	8	0.9063	0.9236
MCI-CCI	0.57 sec	−4571.69	−4571.69	0.04 GB	8	8	0.9063	0.9236
MCI-CCIFD	0.58 sec	−4571.69	−4571.69	0.03 GB	8	8	0.9063	0.9236

Table 18: knott-3d-300 (8 instances)

algorithm	runtime	value	bound	mem	best	opt	VI	RI
ogm-ICM	84.37 sec	−25196.51	$-\infty$	0.01 GB	0	0	4.1365	0.7235
ogm-KL	13.16 sec	−25556.93	$-\infty$	0.01 GB	0	0	4.1318	0.6858
ogm-LF-1	29.08 sec	−25243.76	$-\infty$	0.02 GB	0	0	4.1297	0.7241
MCR-CC	3423.65 sec	−26161.81	−27434.30	0.57 GB	1	1	1.7995	0.8405
MCR-CCFDB	1338.99 sec	−27276.12	−27307.22	0.15 GB	1	1	1.6336	0.8850
MCR-CCFDB-OWC	1367.03 sec	−27287.23	−27309.62	0.15 GB	6	6	1.6342	0.8849
MCI-CCFDB-CCIFD	1261.99 sec	−26826.57	−27308.19	0.37 GB	6	6	1.7010	0.8840
MCI-CCI	220.30 sec	−27302.78	−27305.02	0.28 GB	8	7	1.6352	0.8849
MCI-CCIFD	104.55 sec	−27302.78	−27302.78	0.16 GB	8	8	1.6352	0.8849

Table 19: knott-3d-450 (8 instances)

algorithm	runtime	value	bound	mem	best	opt	VI	RI
ogm-ICM	883.63 sec	−72464.54	$-\infty$	0.03 GB	0	0	4.9342	0.6783
ogm-KL	186.89 sec	−73188.82	$-\infty$	0.03 GB	0	0	4.9270	0.6409
ogm-LF-1	298.07 sec	−72479.60	$-\infty$	0.04 GB	0	0	4.9325	0.6783
MCR-CC	9814.45 sec	−4892.36	−83272.85	0.39 GB	0	0	4.6616	0.0998
MCR-CCFDB	6404.34 sec	−4892.36	−83272.85	0.20 GB	0	0	4.6616	0.0998
MCR-CCFDB-OWC	6455.21 sec	−4892.36	−83272.85	0.19 GB	0	0	4.6616	0.0998
MCI-CCFDB-CCIFD	6404.14 sec	−4892.36	−83272.85	0.19 GB	0	0	4.6616	0.0998
MCI-CCI	1196.62 sec	−78135.34	−78518.55	0.83 GB	7	6	2.0027	0.8653
MCI-CCIFD	1379.90 sec	−78180.20	−78507.25	0.54 GB	7	6	2.0096	0.8643

Table 20: matching (4 instances)

algorithm	runtime	value	bound	mem	best	opt	MPE
α-Exp-QPBO	0.00 sec	1465000000000.00	$-\infty$	0.01 GB	0	0	7.2531
ogm-ICM	0.00 sec	95.73	$-\infty$	0.01 GB	0	0	6.3151
ogm-LBP-LF1	0.00 sec	85.87	$-\infty$	0.01 GB	0	0	6.0827
ogm-LBP-LF2	0.19 sec	38.07	$-\infty$	0.01 GB	1	0	5.4469
ogm-LF-1	0.00 sec	95.73	$-\infty$	0.01 GB	0	0	6.3151
ogm-LF-2	0.29 sec	40.79	$-\infty$	0.01 GB	0	0	5.7689
ogm-LF-3	12.35 sec	39.81	$-\infty$	0.01 GB	0	0	5.6346
ogm-TRWS-LF1	0.03 sec	61.46	15.22	0.01 GB	0	0	3.7921
ogm-TRWS-LF2	0.32 sec	33.31	15.22	0.01 GB	0	0	3.1763
BPS-TAB	0.11 sec	40.26	$-\infty$	0.01 GB	1	0	4.9692
ogm-BPS	0.00 sec	105000000082.06	$-\infty$	0.01 GB	0	0	6.0228
ogm-LBP-0.5	0.00 sec	105000000082.06	$-\infty$	0.01 GB	0	0	6.0228
ogm-LBP-0.95	0.00 sec	105000000082.06	$-\infty$	0.01 GB	0	0	6.0228
ogm-TRBP-0.5	0.00 sec	105000000082.06	$-\infty$	0.01 GB	0	0	6.0228
ogm-TRBP-0.95	0.00 sec	105000000082.06	$-\infty$	0.01 GB	0	0	6.0228
ogm-TRBPS	0.00 sec	105000000082.06	$-\infty$	0.01 GB	0	0	6.0228
ADDD	1.38 sec	105000000039.23	16.35	0.01 GB	0	0	3.2429
MPLP	0.26 sec	65000000041.76	15.16	0.01 GB	0	0	3.1630
MPLP-C	3.51 sec	21.22	21.22	0.03 GB	4	4	0.0907
ogm-ADSAL	1380.55 sec	32.47	15.62	0.01 GB	0	0	2.9236
ogm-BUNDLE-A	1.56 sec	10000000041.82	14.47	0.01 GB	0	0	3.0245
ogm-BUNDLE-H	1.57 sec	7500000053.86	15.91	0.01 GB	0	0	3.5518
ogm-SG-A	1.38 sec	7500000099.44	9.27	0.01 GB	0	0	4.9390
ogm-BUNDLE-A+	1.56 sec	10000000048.72	14.25	0.01 GB	0	0	3.4616
ogm-SG-A+	1.37 sec	7500000101.08	9.27	0.01 GB	0	0	5.1003
ogm-BUNDLE-A-	1.57 sec	10000000048.72	14.49	0.01 GB	0	0	3.4616
ogm-SG-A-	1.32 sec	7500000096.42	9.27	0.01 GB	0	0	5.9589
ogm-LP-LP	21.38 sec	102500000036.76	16.35	0.07 GB	0	0	3.3482
TRWS-TAB	0.03 sec	64.19	15.22	0.01 GB	0	0	3.8159
BRAOBB-1	2.05 sec	21.22	$-\infty$	0.06 GB	4	0	0.0907
BRAOBB-2	8.09 sec	21.22	$-\infty$	0.06 GB	4	0	0.0907
BRAOBB-3	41.69 sec	21.22	$-\infty$	0.81 GB	4	0	0.0907
ADDD-BB	1192.02 sec	37500000029.63	$-\infty$	0.02 GB	3	2	1.4615
ogm-ASTAR	0.80 sec	21.22	21.22	0.05 GB	4	4	0.0907
ogm-CombiLP	314.52 sec	21.22	21.22	0.17 GB	4	4	0.0907
ogm-ILP	402.09 sec	21.22	21.22	0.17 GB	4	4	0.0907

Table 21: modularity-clustering (6 instances)

algorithm	runtime	value	bound	mem	best	opt
ogm-ICM	0.09 sec	0.0000	$-\infty$	0.01 GB	0	0
ogm-KL	0.01 sec	−0.4860	$-\infty$	0.01 GB	3	0
ogm-LF-1	0.03 sec	0.0000	$-\infty$	0.01 GB	0	0
MCR-CC	100.37 sec	−0.4543	−0.5094	0.14 GB	2	1
MCR-CCFDB	2.15 sec	−0.4543	−0.5094	0.03 GB	1	1
MCR-CCFDB-OWC	602.75 sec	−0.4652	−0.4962	0.03 GB	5	5
MCI-CCFDB-CCIFD	601.38 sec	−0.4400	−0.5021	1.58 GB	5	5
MCI-CCI	1207.07 sec	−0.4312	−0.5158	2.69 GB	4	4
MCI-CCIFD	1204.03 sec	−0.4399	−0.5176	3.02 GB	4	4

Table 22: mrf-inpainting (2 instances)

algorithm	runtime	value	bound	mem	best	opt	CE
FastPD	7.72 sec	32939430.00	0.00	4.10 GB	0	0	14.7039
mrf-α-Exp-trunc-TL	42.07 sec	27266168.50	$-\infty$	0.30 GB	0	0	11.5700
mrf-$\alpha\beta$-Swap-trunc-TL	92.06 sec	27055552.00	$-\infty$	0.33 GB	0	0	11.6051
ogm-FastPD-LF1	174.04 sec	27509437.00	−891985522.00	4.14 GB	0	0	13.0723
ogm-FastPD-LF2	7264.73 sec	27209149.50	−891985522.00	4.15 GB	0	0	12.6623
ogm-ICM	229.56 sec	32467486.00	$-\infty$	0.47 GB	0	0	27.8092
ogm-LF-1	75.71 sec	32467900.00	$-\infty$	0.29 GB	0	0	27.8123
ogm-LF-2	3600.18 sec	31188870.50	$-\infty$	0.31 GB	0	0	26.4747
ogm-TRWS-LF1	679.63 sec	26464015.00	26462450.59	0.99 GB	0	0	10.9921
ogm-TRWS-LF2	2404.03 sec	26463829.00	26462450.59	1.01 GB	1	0	10.9923
mrf-LBP-TL	573.91 sec	26597364.50	$-\infty$	0.63 GB	0	0	10.5954
mrf-BPS-TL	593.35 sec	26612532.50	$-\infty$	0.82 GB	0	0	12.0199
ogm-BPS	3677.40 sec	37224573.50	$-\infty$	2.97 GB	0	0	10.9955
ogm-LBP-0.5	3691.83 sec	29749485.50	$-\infty$	2.97 GB	0	0	10.5383
ogm-LBP-0.95	3686.06 sec	32138459.50	$-\infty$	2.97 GB	0	0	10.9303
ogm-TRBP-0.5	3642.96 sec	42541674.50	$-\infty$	2.97 GB	0	0	10.5823
ogm-TRBP-0.95	3643.81 sec	33260789.50	$-\infty$	2.97 GB	0	0	10.9427
ogm-TRBPS	3711.16 sec	37905326.50	$-\infty$	2.97 GB	0	0	10.9502
mrf-TRWS-TL	563.15 sec	26464865.00	26462450.59	0.82 GB	0	0	10.9940
ogm-ADSAL	3892.14 sec	26487768.50	26445564.61	2.46 GB	0	0	10.9601
ogm-BUNDLE-A	3611.21 sec	56032960.00	24444132.61	2.65 GB	0	0	12.9335
ogm-BUNDLE-H	3615.07 sec	56112406.50	24222273.40	2.65 GB	0	0	12.2584
ogm-SG-A	3635.02 sec	47096469.50	24752599.88	0.79 GB	0	0	11.4979
ogm-BUNDLE-A+	3640.03 sec	56032960.00	24453012.25	2.65 GB	0	0	12.9335
ogm-SG-A+	3643.39 sec	37714765.00	23395920.50	0.79 GB	0	0	11.5747
ogm-BUNDLE-A-	3635.32 sec	56032960.00	24383588.44	2.65 GB	0	0	12.9335
ogm-SG-A-	3629.00 sec	56028769.00	24368624.32	0.79 GB	0	0	12.9678
ogm-CombiLP	48723.23 sec	26467926.00	26461874.39	2.09 GB	1	0	10.9993

Table 23: mrf-photomontage (2 instances)

algorithm	runtime	value	bound	mem	best	opt
mrf-α-Exp-trunc-TAB	7.37 sec	168457.00	$-\infty$	0.89 GB	2	0
mrf-$\alpha\beta$-Swap-trunc-TAB	9.77 sec	170858.50	$-\infty$	0.89 GB	0	0
ogm-ICM	1.66 sec	18096281786.50	$-\infty$	0.58 GB	0	0
ogm-LF-1	0.84 sec	18096281786.50	$-\infty$	0.72 GB	0	0
ogm-LF-2	11.15 sec	18096106879.00	$-\infty$	0.81 GB	0	0
ogm-TRWS-LF1	341.22 sec	1239959.00	166827.12	1.37 GB	0	0
ogm-TRWS-LF2	323.48 sec	735193.00	166827.12	1.46 GB	0	0
mrf-LBP-TAB	458.73 sec	438611.00	$-\infty$	0.93 GB	0	0
mrf-BPS-TAB	188.37 sec	2217579.50	$-\infty$	1.36 GB	0	0
ogm-BPS	1244.90 sec	1176748.50	$-\infty$	2.35 GB	0	0
ogm-LBP-0.5	1056.92 sec	457885.50	$-\infty$	2.35 GB	0	0
ogm-LBP-0.95	717.99 sec	454990.50	$-\infty$	2.35 GB	0	0
ogm-TRBP-0.5	1795.88 sec	457885.50	$-\infty$	2.42 GB	0	0
ogm-TRBP-0.95	1508.58 sec	454990.50	$-\infty$	2.42 GB	0	0
ogm-TRBPS	1483.45 sec	1176748.50	$-\infty$	2.42 GB	0	0
mrf-TRWS-TAB	203.79 sec	1243144.00	166827.07	1.36 GB	0	0
ogm-ADSAL	3605.24 sec	185560.00	167274.34	1.09 GB	0	0
ogm-BUNDLE-A	1641.14 sec	676079.00	112183.66	1.78 GB	0	0
ogm-BUNDLE-H	1588.13 sec	599206.00	111100.35	1.79 GB	0	0
ogm-SG-A	1616.05 sec	3846787.00	26005.24	1.26 GB	0	0
ogm-BUNDLE-A+	1631.83 sec	676079.00	112183.66	1.77 GB	0	0
ogm-SG-A+	1624.53 sec	5248670.00	23229.00	1.26 GB	0	0
ogm-BUNDLE-A-	1579.42 sec	707036.50	112227.62	1.78 GB	0	0
ogm-SG-A-	1499.23 sec	3006179.50	96295.35	1.26 GB	0	0
ogm-CombiLP	3707.70 sec	214853.50	165504.72	7.63 GB	0	0

Table 24: mrf-stereo (3 instances)

algorithm	runtime	value	bound	mem	best	opt	PA2	PA4	HD
FastPD	3.11 sec	1614255.00	301059.33	2.55 GB	0	0	0.6828	0.8235	2.7121
mrf-α-Exp-trunc-TAB	17.14 sec	1612676.33	$-\infty$	9.75 GB	1	0	0.6836	0.8232	2.7130
mrf-α-Exp-trunc-TL	11.36 sec	1615349.00	$-\infty$	0.26 GB	0	0	0.6835	0.8235	2.7250
mrf-$\alpha\beta$-Swap-trunc-TAB	16.15 sec	1662173.33	$-\infty$	9.75 GB	0	0	0.6921	0.8294	2.6658
mrf-$\alpha\beta$-Swap-trunc-TL	13.12 sec	1927265.67	$-\infty$	0.26 GB	0	0	0.6781	0.7921	2.7541
ogm-FastPD-LF1	16.84 sec	1613252.00	−33495282.00	2.66 GB	0	0	0.6828	0.8235	2.7121
ogm-FastPD-LF2	156.87 sec	1611484.33	−33495282.00	2.70 GB	0	0	0.6828	0.8234	2.7121
ogm-ICM	5.17 sec	8359199.00	$-\infty$	0.22 GB	0	0	0.2354	0.3543	9.2714
ogm-LF-1	2.07 sec	8355303.67	$-\infty$	0.27 GB	0	0	0.2345	0.3537	9.2853
ogm-LF-2	286.95 sec	7396373.00	$-\infty$	0.30 GB	0	0	0.3491	0.4785	6.2699
ogm-TRWS-LF1	226.77 sec	1587732.67	1584746.53	0.56 GB	0	0	0.6803	0.8228	2.6928
ogm-TRWS-LF2	365.90 sec	1587043.67	1584746.53	0.59 GB	0	0	0.6803	0.8228	2.6930
mrf-LBP-TAB	1892.20 sec	1633306.00	$-\infty$	9.94 GB	0	0	0.6804	0.8261	2.7835
mrf-LBP-TL	242.10 sec	1633343.00	$-\infty$	0.45 GB	0	0	0.6804	0.8261	2.7835
mrf-BPS-TAB	1473.43 sec	1738697.00	$-\infty$	19.62 GB	0	0	0.7051	0.8282	2.7832
mrf-BPS-TL	224.42 sec	1738696.00	$-\infty$	0.56 GB	0	0	0.7051	0.8282	2.7831
ogm-BPS	2387.10 sec	2548773.00	$-\infty$	2.22 GB	0	0	0.6726	0.8268	2.8554
ogm-LBP-0.5	2468.07 sec	1650000.67	$-\infty$	2.22 GB	0	0	0.6728	0.8258	2.8612
ogm-LBP-0.95	2369.21 sec	1656829.67	$-\infty$	2.22 GB	0	0	0.6735	0.8272	2.8465
ogm-TRBP-0.5	3019.34 sec	1656850.00	$-\infty$	2.24 GB	0	0	0.6712	0.8245	2.8775
ogm-TRBP-0.95	3019.90 sec	1656103.33	$-\infty$	2.24 GB	0	0	0.6735	0.8272	2.8542
ogm-TRBPS	2959.70 sec	2551872.67	$-\infty$	2.24 GB	0	0	0.6726	0.8267	2.8532
mrf-TRWS-TAB	1518.01 sec	1587932.00	1584745.90	19.62 GB	0	0	0.6803	0.8229	2.6893
mrf-TRWS-TL	216.41 sec	1587928.67	1584746.53	0.56 GB	0	0	0.6803	0.8228	2.6928
ogm-ADSAL	3163.13 sec	1589318.00	1584664.58	0.98 GB	1	1	0.6814	0.8232	2.6948
ogm-BUNDLE-A	2112.27 sec	1649017.67	1584324.98	1.93 GB	1	1	0.6803	0.8224	2.7086
ogm-BUNDLE-H	2152.15 sec	1645250.33	1584466.49	1.94 GB	1	0	0.6802	0.8226	2.6986
ogm-SG-A	2098.93 sec	1789576.67	1576864.87	0.75 GB	1	0	0.6796	0.8221	2.7329
ogm-BUNDLE-A+	2003.83 sec	1648854.67	1584323.27	1.91 GB	1	1	0.6803	0.8225	2.7075
ogm-SG-A+	2110.78 sec	2500828.67	1402271.83	0.75 GB	0	0	0.6763	0.8259	2.8594
ogm-BUNDLE-A-	2150.49 sec	1648723.33	1584316.40	1.93 GB	0	0	0.6803	0.8225	2.7082
ogm-SG-A-	2100.09 sec	1762200.33	1579674.96	0.75 GB	0	0	0.6783	0.8207	2.7321
ogm-CombiLP	835.92 sec	1587560.67	1584724.04	7.17 GB	2	2	0.6809	0.8229	2.7141

Table 25: object-seg (5 instances)

algorithm	runtime	value	bound	mem	best	opt
α-Exp-pct	0.33 sec	31317.60	$-\infty$	0.08 GB	4	0
FastPD	0.11 sec	31317.60	29611.23	0.17 GB	4	0
FastPD-pct	0.29 sec	31317.60	$-\infty$	0.08 GB	4	0
mrf-α-Exp-trunc-TL	0.40 sec	31317.60	$-\infty$	0.05 GB	4	0
mrf-$\alpha\beta$-Swap-trunc-TL	0.23 sec	31323.23	$-\infty$	0.05 GB	2	0
ogm-FastPD-LF1	0.39 sec	31317.60	24148.97	0.22 GB	4	0
ogm-FastPD-LF2	1.73 sec	31317.60	24148.97	0.23 GB	4	0
ogm-ICM	0.22 sec	65180.15	$-\infty$	0.06 GB	0	0
ogm-LF-1	0.11 sec	65180.15	$-\infty$	0.08 GB	0	0
ogm-LF-2	1.48 sec	64937.24	$-\infty$	0.10 GB	0	0
ogm-TRWS-LF1	3.27 sec	31317.23	31317.23	0.09 GB	5	5
ogm-TRWS-LF2	3.29 sec	31317.23	31317.23	0.09 GB	5	5
mrf-LBP-TL	29.43 sec	32400.01	$-\infty$	0.05 GB	0	0
mrf-BPS-TL	11.19 sec	35775.27	$-\infty$	0.05 GB	0	0
ogm-BPS	137.34 sec	33564.55	$-\infty$	0.31 GB	0	0
ogm-LBP-0.5	110.84 sec	32663.86	$-\infty$	0.31 GB	0	0
ogm-LBP-0.95	61.38 sec	32673.75	$-\infty$	0.31 GB	0	0
ogm-TRBP-0.5	227.29 sec	32663.86	$-\infty$	0.32 GB	0	0
ogm-TRBP-0.95	222.82 sec	32668.92	$-\infty$	0.32 GB	0	0
ogm-TRBPS	180.23 sec	33530.63	$-\infty$	0.32 GB	0	0
MCR-TC-MTC	421.26 sec	32376.56	31317.23	0.86 GB	4	4
MCR-pct	62.36 sec	31674.41	31317.23	0.20 GB	2	2
mrf-TRWS-TL	2.21 sec	31317.23	31317.23	0.05 GB	5	5
ogm-ADSAL	99.50 sec	31317.23	31317.23	0.14 GB	5	5
ogm-BUNDLE-A	128.82 sec	31317.31	31316.93	0.24 GB	4	1
ogm-BUNDLE-H	193.92 sec	31317.23	31316.88	0.27 GB	5	0
ogm-SG-A	185.11 sec	31432.95	31311.80	0.16 GB	2	0
ogm-BUNDLE-A+	196.92 sec	31354.83	31312.49	0.24 GB	1	0
ogm-SG-A+	187.17 sec	39295.40	30371.94	0.16 GB	0	0
ogm-BUNDLE-A-	197.66 sec	31321.98	31315.85	0.24 GB	1	0
ogm-SG-A-	180.46 sec	32137.62	31286.74	0.16 GB	0	0
TRWS-pct	0.96 sec	31317.23	31317.23	0.08 GB	5	5
MCI-TC-MTC-TCI	428.32 sec	31317.23	31317.23	1.81 GB	5	5
MCI-pct	69.84 sec	31317.23	31317.23	0.39 GB	5	5
ogm-CombiLP	32.61 sec	31317.23	31317.23	0.28 GB	5	5

Table 26: protein-folding (21 instances)

algorithm	runtime	value	bound	mem	best	opt
ogm-ICM	0.09 sec	−5446.55	−∞	0.25 GB	0	0
ogm-LBP-LF1	102.71 sec	−5892.69	−∞	0.25 GB	8	0
ogm-LBP-LF2	130.17 sec	−5923.01	−∞	0.25 GB	12	0
ogm-LF-1	0.05 sec	−5447.49	−∞	0.25 GB	0	0
ogm-LF-2	54.54 sec	−5747.56	−∞	0.25 GB	0	0
ogm-LF-3	22422.07 sec	−5780.11	−∞	0.25 GB	4	0
ogm-TRWS-LF1	22.68 sec	−5856.47	−6041.38	0.25 GB	3	1
ogm-TRWS-LF2	54.88 sec	−5897.06	−6041.38	0.25 GB	6	1
BPS-TAB	24.48 sec	−5917.15	−∞	0.25 GB	11	0
ogm-BPS	119.08 sec	−5638.92	−∞	0.25 GB	6	0
ogm-LBP-0.5	106.99 sec	−5846.70	−∞	0.25 GB	13	0
ogm-LBP-0.95	102.34 sec	−5812.01	−∞	0.25 GB	10	0
ogm-TRBP-0.5	145.44 sec	−5810.68	−∞	0.25 GB	9	0
ogm-TRBP-0.95	140.09 sec	−5644.96	−∞	0.25 GB	8	0
ogm-TRBPS	135.42 sec	−5396.82	−∞	0.25 GB	7	0
ADDD	209.19 sec	−4189.61	−10364.42	0.85 GB	0	0
MPLP	510.90 sec	−5611.60	−6033.98	0.62 GB	1	1
MPLP-C	1639.52 sec	−5765.28	−5984.52	11.14 GB	12	9
ogm-ADSAL	1014.89 sec	−5881.47	−6128.90	0.51 GB	4	1
ogm-BUNDLE-A	487.56 sec	−5480.14	−6477.78	0.25 GB	1	0
ogm-BUNDLE-H	479.92 sec	−5486.47	−6413.00	0.25 GB	1	0
ogm-SG-A	474.52 sec	−5210.59	−6706.79	0.25 GB	1	0
ogm-BUNDLE-A+	483.77 sec	−5448.23	−6395.59	0.25 GB	2	1
ogm-SG-A+	463.18 sec	−5479.15	−6494.35	0.25 GB	1	1
ogm-BUNDLE-A-	477.86 sec	−5146.23	−6996.84	0.25 GB	0	0
ogm-SG-A-	473.93 sec	−4806.12	−7670.56	0.25 GB	0	0
TRWS-TAB	22.18 sec	−5771.50	−6041.38	0.25 GB	2	1
BRAOBB-1	NaN sec	NaN	NaN	1.10 GB	0	0
BRAOBB-2	NaN sec	NaN	NaN	1.36 GB	1	0
BRAOBB-3	NaN sec	NaN	NaN	2.68 GB	1	0
ogm-CombiLP	700.10 sec	−5955.77	−5955.77	24.26 GB	20	21

Table 27: protein-prediction (8 instances)

algorithm	runtime	value	bound	mem	best	opt
ogm-ICM	0.03 sec	60414.84	−∞	0.01 GB	0	0
ogm-LBP-LF2	25.03 sec	52942.95	−∞	0.06 GB	1	0
ogm-LF-1	0.03 sec	60427.60	−∞	0.02 GB	0	0
ogm-LF-2	0.70 sec	58682.74	−∞	0.02 GB	0	0
ogm-LF-3	19.08 sec	57944.06	−∞	0.09 GB	0	0
ogm-BPS	27.64 sec	75286.37	−∞	0.05 GB	0	0
ogm-LBP-0.5	24.79 sec	53798.89	−∞	0.05 GB	0	0
ogm-LBP-0.95	33.31 sec	110527.26	−∞	0.05 GB	0	0
ogm-TRBP-0.5	35.60 sec	61386.17	−∞	0.05 GB	0	0
ogm-TRBP-0.95	36.11 sec	70903.40	−∞	0.05 GB	0	0
ogm-TRBPS	28.38 sec	72110.77	−∞	0.05 GB	0	0
ADDD	10.70 sec	106216.86	41124.16	0.05 GB	0	0
MPLP	69.09 sec	101531.75	43123.68	0.05 GB	0	0
ogm-BUNDLE-A	1287.27 sec	81035.49	44090.57	0.28 GB	0	0
ogm-BUNDLE-H	1301.94 sec	81039.93	44092.42	0.28 GB	0	0
ogm-SG-A	1273.32 sec	81587.06	42489.54	0.19 GB	0	0
ogm-BUNDLE-A+	1275.45 sec	81993.85	43819.34	0.28 GB	0	0
ogm-SG-A+	1256.94 sec	82606.85	34907.38	0.19 GB	0	0
ogm-BUNDLE-A-	1300.65 sec	81058.43	44090.07	0.26 GB	0	0
ogm-SG-A-	1312.12 sec	81443.05	42676.66	0.18 GB	0	0
ogm-LP-LP	169.61 sec	102829.40	44347.16	0.24 GB	0	0
ogm-ILP	2263.46 sec	57477.07	44674.02	0.65 GB	7	3

Table 28: scene-decomposition (715 instances)

algorithm	runtime	value	bound	mem	best	opt	PA
α-Exp-QPBO	0.00 sec	−866.85	$-\infty$	0.01 GB	587	0	0.7694
ogm-ICM	0.00 sec	−864.56	$-\infty$	0.01 GB	110	0	0.7649
ogm-LBP-LF1	0.05 sec	−866.76	$-\infty$	0.01 GB	576	0	0.7699
ogm-LBP-LF2	0.06 sec	−866.76	$-\infty$	0.01 GB	576	0	0.7699
ogm-LF-1	0.00 sec	−864.56	$-\infty$	0.01 GB	110	0	0.7649
ogm-LF-2	0.02 sec	−865.81	$-\infty$	0.01 GB	286	0	0.7685
ogm-LF-3	0.45 sec	−866.27	$-\infty$	0.01 GB	420	0	0.7699
ogm-TRWS-LF1	0.00 sec	−866.93	−866.93	0.01 GB	713	712	0.7693
ogm-TRWS-LF2	0.00 sec	−866.93	−866.93	0.01 GB	714	712	0.7693
BPS-TAB	0.10 sec	−866.73	$-\infty$	0.01 GB	566	0	0.7701
ogm-BPS	0.02 sec	−866.77	$-\infty$	0.01 GB	585	0	0.7694
ogm-LBP-0.5	0.05 sec	−866.76	$-\infty$	0.01 GB	576	0	0.7699
ogm-LBP-0.95	0.02 sec	−866.76	$-\infty$	0.01 GB	580	0	0.7696
ogm-TRBP-0.5	0.24 sec	−866.84	$-\infty$	0.01 GB	642	0	0.7704
ogm-TRBP-0.95	0.11 sec	−866.84	$-\infty$	0.01 GB	644	0	0.7708
ogm-TRBPS	0.13 sec	−866.79	$-\infty$	0.01 GB	644	0	0.7705
ADDD	0.06 sec	−866.92	−866.93	0.01 GB	701	697	0.7693
MPLP	0.04 sec	−866.91	−866.93	0.01 GB	700	561	0.7693
MPLP-C	0.04 sec	−866.92	−866.93	0.01 GB	710	567	0.7693
ogm-ADSAL	0.04 sec	−866.93	−866.93	0.01 GB	714	712	0.7693
ogm-BUNDLE-A	0.94 sec	−866.93	−866.93	0.01 GB	714	349	0.7693
ogm-BUNDLE-H	0.26 sec	−866.93	−866.93	0.01 GB	715	673	0.7693
ogm-SG-A	0.96 sec	−866.93	−866.94	0.01 GB	711	223	0.7692
ogm-BUNDLE-A+	0.07 sec	−866.93	−866.93	0.01 GB	715	712	0.7693
ogm-SG-A+	0.07 sec	−866.92	−866.93	0.01 GB	713	708	0.7693
ogm-BUNDLE-A-	1.19 sec	−866.92	−867.13	0.01 GB	683	0	0.7695
ogm-SG-A-	1.08 sec	−866.85	−867.56	0.01 GB	505	0	0.7700
ogm-LP-LP	0.23 sec	−866.92	−866.93	0.05 GB	712	712	0.7693
TRWS-TAB	0.00 sec	−866.93	−866.93	0.01 GB	714	712	0.7693
BRAOBB-1	17.61 sec	−866.90	$-\infty$	0.27 GB	670	0	0.7688
BRAOBB-2	23.40 sec	−866.86	$-\infty$	0.27 GB	625	0	0.7691
BRAOBB-3	27.20 sec	−866.90	$-\infty$	1.16 GB	653	0	0.7693
ADDD-BB	0.11 sec	−866.93	−866.93	0.01 GB	715	715	0.7693
ogm-CombiLP	0.02 sec	−866.93	−866.93	0.03 GB	715	715	0.7693
ogm-ILP	0.17 sec	−866.93	−866.93	0.09 GB	715	715	0.7693

2 Anytime Evaluation per Model

Table 29: brain-3mm (4 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
α-Exp-pct	92058776.50	92058776.50	25164182.75	25164182.75	25164182.75	9.57 sec
α-Exp-VIEW	92058776.50	92058776.50	25178822.25	25164077.00	25164077.00	126.94 sec
FastPD	∞	25164518.25	25164518.25	25164518.25	25164518.25	2.02 sec
FastPD-pct	92058776.50	25164326.50	25164326.50	25164326.50	25164326.50	7.56 sec
ogm-FastPD-LF1	∞	25164518.25	25164518.25	25164518.25	25164518.25	10.51 sec
ogm-FastPD-LF2	∞	25164518.25	25164518.25	25163683.50	25163683.50	61.27 sec
ogm-ICM	92058776.50	92058776.50	25425309.50	25425309.50	25425309.50	16.60 sec
ogm-LF-1	92058776.50	92058776.50	25425594.00	25425594.00	25425594.00	9.48 sec
ogm-LF-2	92058776.50	92058776.50	92058776.50	25238328.25	25238328.25	83.39 sec
ogm-TRWS-LF1	∞	∞	∞	∞	25162580.25	285.81 sec
ogm-TRWS-LF2	∞	∞	∞	∞	25162535.00	343.41 sec
$\alpha\beta$-Swap-VIEW	92058776.50	92058776.50	25327586.25	25164671.25	25164671.25	136.43 sec
BPS-TL	25205321.50	25166078.25	25166078.25	25166078.25	25166078.25	644.82 sec
ogm-BPS	92058776.50	25875088.00	25206515.00	25176849.75	25176740.00	2707.16 sec
ogm-LBP-0.5	92058776.50	25955289.50	25298837.25	25167691.25	25166874.25	1930.36 sec
ogm-LBP-0.95	92058776.50	25872275.50	25207101.00	25166977.50	25166881.75	2718.32 sec
ogm-TRBP-0.5	92058776.50	92058776.50	25363893.00	25168686.75	25166817.00	2774.78 sec
ogm-TRBP-0.95	92058776.50	92058776.50	25246613.00	25166984.75	25166836.25	2723.08 sec
ogm-TRBPS	92058776.50	25874562.75	25222343.00	25176859.00	25176731.75	2710.81 sec
ogm-ADSAL	∞	∞	∞	25163371.25	25162633.25	2720.64 sec
ogm-BUNDLE-A	∞	∞	25813060.00	25224391.00	25166504.00	2708.90 sec
ogm-BUNDLE-H	∞	∞	25808456.75	25185603.00	25164211.25	2705.77 sec
ogm-SG-A	∞	∞	25592601.25	25227633.75	25169609.25	2704.54 sec
ogm-BUNDLE-A+	∞	∞	25813060.00	25224817.00	25167143.75	2708.06 sec
ogm-SG-A+	∞	∞	25630657.25	25579004.00	25536961.50	2709.06 sec
ogm-BUNDLE-A-	∞	∞	25813060.00	25197483.00	25163766.00	2707.39 sec
ogm-SG-A-	∞	∞	25789387.75	25530009.75	25244347.75	2707.91 sec
TRWS-TL	∞	25166520.50	25162889.25	25162670.75	25162670.75	282.73 sec
TRWS-pct	92058776.50	92058776.50	47605961.50	25162648.50	25162648.50	40.16 sec
MCI-pct	92058776.50	92058776.50	25162493.00	25162493.00	25162493.00	27.35 sec
ogm-CombiLP	∞	∞	∞	∞	25162580.25	3874.65 sec

Table 30: brain-5mm (4 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
α-Exp-pct	74057213.75	19088999.75	19088999.75	19088999.75	19088999.75	7.02 sec
α-Exp-VIEW	74057213.75	74057213.75	19089175.50	19089080.00	19089080.00	100.66 sec
FastPD	∞	19089484.75	19089484.75	19089484.75	19089484.75	1.32 sec
FastPD-pct	74057213.75	19089255.25	19089255.25	19089255.25	19089255.25	4.66 sec
ogm-FastPD-LF1	∞	19089484.75	19089484.75	19089484.75	19089484.75	7.19 sec
ogm-FastPD-LF2	∞	19089484.75	19088812.00	19088812.00	19088812.00	48.51 sec
ogm-ICM	74057213.75	74057213.75	19272820.00	19272820.00	19272820.00	11.30 sec
ogm-LF-1	74057213.75	19273079.25	19273079.25	19273079.25	19273079.25	6.49 sec
ogm-LF-2	74057213.75	74057213.75	19140692.25	19140692.25	19140692.25	51.81 sec
ogm-TRWS-LF1	∞	∞	∞	19087665.75	19087665.75	125.92 sec
ogm-TRWS-LF2	∞	∞	∞	19087628.00	19087628.00	184.22 sec
$\alpha\beta$-Swap-VIEW	74057213.75	74057213.75	19089841.25	19089768.00	19089768.00	91.84 sec
BPS-TL	19107324.50	19090723.25	19090723.25	19090723.25	19090723.25	450.43 sec
ogm-BPS	74057213.75	19357379.00	19105637.00	19098965.75	19098965.75	3601.41 sec
ogm-LBP-0.5	74057213.75	19702979.75	19140662.00	19091374.00	19091373.75	1116.27 sec
ogm-LBP-0.95	74057213.75	19559915.25	19100857.25	19091233.25	19091194.75	1574.35 sec
ogm-TRBP-0.5	74057213.75	19705227.50	19156870.25	19091423.50	19091287.25	2948.01 sec
ogm-TRBP-0.95	74057213.75	19630782.25	19106648.00	19091182.50	19091155.25	3463.22 sec
ogm-TRBPS	74057213.75	19633240.50	19108846.50	19098987.50	19098985.00	3602.69 sec
ogm-ADSAL	∞	∞	∞	19087896.25	19087679.25	3610.13 sec
ogm-BUNDLE-A	∞	∞	19424844.25	19108691.25	19088524.25	3605.55 sec
ogm-BUNDLE-H	∞	∞	19438281.50	19093912.75	19088322.25	3603.13 sec
ogm-SG-A	∞	19639958.25	19372672.25	19117000.50	19090744.50	3602.62 sec
ogm-BUNDLE-A+	∞	∞	19424844.25	19110092.75	19089189.75	3602.10 sec
ogm-SG-A+	∞	19639958.25	19419230.50	19328785.25	19300226.00	3602.34 sec
ogm-BUNDLE-A-	∞	∞	19424844.25	19090981.25	19088258.25	3604.02 sec
ogm-SG-A-	∞	19639958.25	19592117.00	19324775.00	19125604.50	3603.66 sec
TRWS-TL	19176098.25	19088592.50	19087807.75	19087727.75	19087727.75	120.29 sec
TRWS-pct	74057213.75	74057213.75	19087728.50	19087728.50	19087728.50	21.93 sec
MCI-pct	74057213.75	74057213.75	19087612.50	19087612.50	19087612.50	25.63 sec
ogm-CombiLP	∞	∞	∞	∞	19087626.75	2022.87 sec

Table 31: brain-9mm (4 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
α-Exp-pct	32703082.50	9185804.25	9185804.25	9185804.25	9185804.25	3.51 sec
α-Exp-VIEW	32703082.50	24922227.00	9185865.25	9185865.25	9185865.25	37.19 sec
FastPD	9186044.50	9186044.50	9186044.50	9186044.50	9186044.50	0.75 sec
FastPD-pct	32703082.50	9185930.25	9185930.25	9185930.25	9185930.25	2.63 sec
ogm-FastPD-LF1	∞	9186044.50	9186044.50	9186044.50	9186044.50	3.71 sec
ogm-FastPD-LF2	∞	9186044.50	9185787.25	9185787.25	9185787.25	21.41 sec
ogm-ICM	32703082.50	9263471.50	9263471.50	9263471.50	9263471.50	5.78 sec
ogm-LF-1	32703082.50	9263538.00	9263538.00	9263538.00	9263538.00	3.24 sec
ogm-LF-2	32703082.50	32703082.50	9207084.00	9207084.00	9207084.00	29.25 sec
ogm-TRWS-LF1	∞	∞	∞	9185326.75	9185326.75	80.76 sec
ogm-TRWS-LF2	∞	∞	∞	9185298.75	9185298.75	93.10 sec
$\alpha\beta$-Swap-VIEW	32703082.50	32703082.50	9186218.50	9186218.50	9186218.50	43.51 sec
BPS-TL	9186804.00	9186485.25	9186485.25	9186485.25	9186485.25	230.93 sec
ogm-BPS	32703082.50	9227185.00	9190336.75	9189963.75	9189963.75	1698.94 sec
ogm-LBP-0.5	32703082.50	9293083.25	9192691.00	9186565.25	9186565.25	408.82 sec
ogm-LBP-0.95	32703082.50	9247096.75	9187037.25	9186506.00	9186506.00	346.08 sec
ogm-TRBP-0.5	32703082.50	9325217.25	9195952.50	9186546.00	9186545.00	1166.47 sec
ogm-TRBP-0.95	32703082.50	9280426.25	9187769.25	9186479.25	9186479.25	1852.20 sec
ogm-TRBPS	32703082.50	9252194.75	9190400.00	9189701.00	9189701.00	2102.64 sec
ogm-ADSAL	∞	∞	9190630.00	9185384.25	9185310.25	2193.95 sec
ogm-BUNDLE-A	∞	9437061.75	9286393.50	9188242.50	9185566.25	2568.53 sec
ogm-BUNDLE-H	∞	9437059.00	9254424.25	9186255.75	9185559.25	2566.86 sec
ogm-SG-A	∞	9399643.25	9265866.25	9189086.75	9186984.25	2292.96 sec
ogm-BUNDLE-A+	∞	9437061.75	9292726.50	9188765.00	9185798.75	2568.56 sec
ogm-SG-A+	∞	9410237.75	9321592.00	9277875.75	9266873.50	2468.36 sec
ogm-BUNDLE-A-	∞	9437061.75	9279901.00	9185980.25	9185626.75	2581.48 sec
ogm-SG-A-	∞	9435592.75	9400388.50	9252103.75	9193050.50	2353.54 sec
TRWS-TL	9198264.00	9185487.50	9185371.50	9185363.25	9185363.25	68.40 sec
TRWS-pct	32703082.50	24760882.50	9185347.00	9185347.00	9185347.00	14.13 sec
MCI-pct	32703082.50	32703082.50	9185280.75	9185280.75	9185280.75	8.32 sec
ogm-CombiLP	∞	∞	∞	∞	9185280.75	895.43 sec

Table 32: cell-tracking (1 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
ogm-ICM	40359847.14	40359847.14	40359847.14	40359847.14	40359847.14	0.03 sec
ogm-LBP-LF2	∞	∞	∞	7515575.61	7515575.61	62.12 sec
ogm-LF-1	40359847.14	40359847.14	40359847.14	40359847.14	40359847.14	0.04 sec
ogm-LF-2	14075743.46	14075743.46	14075743.46	14075743.46	14075743.46	0.43 sec
ogm-LF-3	45364196.24	8461693.24	8461693.24	8461693.24	8461693.24	1.55 sec
ogm-BPS	1207557577.48	107515639.76	107515319.56	107515319.56	107515319.56	60.07 sec
ogm-LBP-0.5	8807557216.69	107522947.52	7520989.51	7520989.51	7520989.51	62.01 sec
ogm-LBP-0.95	2507556975.16	7518377.63	7518377.63	7518377.63	7518377.63	61.97 sec
ogm-TRBP-0.5	16207487147.14	1207526572.16	107518566.78	107518566.78	107518566.78	65.94 sec
ogm-TRBP-0.95	6107511577.69	107519956.23	107517017.88	107517017.88	107517017.88	65.97 sec
ogm-TRBPS	6607520261.74	407521662.88	7528407.72	7528407.72	7528407.72	62.92 sec
ADDD	45364196.24	45364196.24	45364196.24	45364196.24	45364196.24	11.74 sec
MPLP	1248810837307.02	1248810837307.02	1248810837307.02	107514359.61	107514359.61	459.93 sec
ogm-BUNDLE-A	∞	4008557514.22	2007687774.66	7696631.53	7696631.53	532.38 sec
ogm-BUNDLE-H	∞	4508746916.51	2207692125.44	7748583.42	7748583.42	522.32 sec
ogm-SG-A	6215592373.05	1726802266.16	927583594.52	927583594.52	927583594.52	522.89 sec
ogm-BUNDLE-A+	∞	4008557514.22	2007687774.66	7696631.53	7696631.53	527.17 sec
ogm-SG-A+	6215592373.05	529475189.95	230126875.07	230126875.07	230126875.07	526.20 sec
ogm-BUNDLE-A-	∞	4008557514.22	2007687774.66	7696631.53	7696631.53	531.65 sec
ogm-SG-A-	6215592373.05	3023370752.77	2019684226.99	1819216014.16	1819216014.16	518.55 sec
ogm-LP-LP	45364196.24	7516359.61	7516359.61	7516359.61	7516359.61	4.21 sec
ADDD-BB	45364196.24	45364196.24	45364196.24	45364196.24	7514421.21	38698.77 sec
ogm-ILP-pct	45364196.24	45364196.24	7514421.21	7514421.21	7514421.21	12.36 sec
ogm-ILP	45364196.24	45364196.24	7514421.21	7514421.21	7514421.21	11.99 sec

Table 33: color-seg-n4 (9 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
α-Exp-pct	54757.02	20034.80	20034.80	20034.80	20034.80	2.98 sec
FastPD	20034.80	20034.80	20034.80	20034.80	20034.80	0.29 sec
FastPD-pct	54757.02	20034.85	20034.85	20034.85	20034.85	1.52 sec
mrf-α-Exp-trunc-TL	20034.40	20033.56	20033.56	20033.56	20033.56	1.11 sec
mrf-$\alpha\beta$-Swap-trunc-TL	20061.01	20060.91	20060.91	20060.91	20060.91	0.64 sec
ogm-FastPD-LF1	∞	20034.80	20034.80	20034.80	20034.80	1.07 sec
ogm-FastPD-LF2	∞	20033.21	20033.21	20033.21	20033.21	6.15 sec
ogm-ICM	59361.98	26329.45	26329.45	26329.45	26329.45	1.07 sec
ogm-LF-1	26330.66	26330.66	26330.66	26330.66	26330.66	0.50 sec
ogm-LF-2	63093.85	30316.54	23775.38	23775.38	23775.38	7.38 sec
ogm-TRWS-LF1	∞	∞	20012.17	20012.17	20012.17	7.58 sec
ogm-TRWS-LF2	∞	∞	20012.17	20012.17	20012.17	9.08 sec
mrf-LBP-TL	20054.06	20053.19	20053.19	20053.19	20053.19	39.87 sec
mrf-BPS-TL	20094.10	20094.03	20094.03	20094.03	20094.03	23.35 sec
ogm-BPS	21806.66	20410.00	20372.89	20372.87	20372.87	419.65 sec
ogm-LBP-0.5	22042.86	20221.85	20055.62	20054.26	20054.26	335.15 sec
ogm-LBP-0.95	21789.03	20117.88	20058.43	20058.42	20058.42	267.45 sec
ogm-TRBP-0.5	22145.59	20303.28	20059.55	20054.07	20054.06	505.13 sec
ogm-TRBP-0.95	21817.84	20169.44	20058.02	20058.00	20058.00	371.35 sec
ogm-TRBPS	21840.93	20433.84	20367.61	20367.42	20367.42	555.27 sec
MCR-TC-MTC	27589.26	21972.40	21137.95	20621.79	20450.12	440.57 sec
MCR-pct	62394.57	40144.27	32136.67	20944.63	20944.63	424.71 sec
mrf-TRWS-TL	20016.77	20013.16	20012.17	20012.17	20012.17	23.52 sec
ogm-ADSAL	∞	20068.01	20015.00	20012.16	20012.15	311.96 sec
ogm-BUNDLE-A	∞	20792.64	20323.80	20024.78	20024.78	224.07 sec
ogm-BUNDLE-H	∞	20572.43	20064.02	20012.44	20012.44	431.91 sec
ogm-SG-A	21494.76	20561.04	20089.97	20027.98	20027.98	391.10 sec
ogm-BUNDLE-A+	∞	21071.90	20450.02	20156.95	20156.95	404.59 sec
ogm-SG-A+	21676.63	20795.95	20325.79	20198.96	20198.96	404.87 sec
ogm-BUNDLE-A-	∞	20649.30	20058.21	20012.19	20012.19	392.39 sec
ogm-SG-A-	21778.78	21137.37	20530.48	20055.22	20055.22	425.47 sec
TRWS-pct	57704.26	40144.16	20889.89	20012.17	20012.17	45.62 sec
MCI-TC-MTC-TCI	27591.57	21996.35	21188.09	20621.78	20450.11	442.89 sec
MCI-pct	62394.57	49974.51	32135.88	20889.89	20889.89	429.54 sec
ogm-CombiLP	∞	∞	∞	20012.14	20012.14	36.68 sec

Table 34: color-seg-n8 (9 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
α-Exp-pct	62394.68	20900.32	20011.24	20011.24	20011.24	5.56 sec
α-Exp-VIEW	57709.51	20011.13	20011.13	20011.13	20011.13	7.79 sec
FastPD	20011.14	20011.14	20011.14	20011.14	20011.14	0.45 sec
FastPD-pct	57707.85	20011.24	20011.24	20011.24	20011.24	2.79 sec
ogm-FastPD-LF1	∞	20011.13	20011.13	20011.13	20011.13	2.07 sec
ogm-FastPD-LF2	∞	20011.08	20010.28	20010.28	20010.28	21.51 sec
ogm-ICM	61942.65	25302.60	25302.60	25302.60	25302.60	1.98 sec
ogm-LF-1	56991.75	25306.40	25306.40	25306.40	25306.40	0.93 sec
ogm-LF-2	63093.85	58165.60	21129.07	21129.07	21129.07	25.21 sec
ogm-TRWS-LF1	∞	∞	∞	19991.28	19991.28	25.26 sec
ogm-TRWS-LF2	∞	∞	∞	19991.27	19991.27	43.80 sec
$\alpha\beta$-Swap-VIEW	57715.97	20039.32	20038.26	20038.26	20038.26	9.75 sec
BPS-TL	20146.84	20120.78	20120.78	20120.78	20120.78	62.69 sec
ogm-BPS	54929.93	20179.38	20080.07	20079.74	20079.73	878.41 sec
ogm-LBP-0.5	55301.83	20365.28	20102.32	20087.13	20087.10	850.32 sec
ogm-LBP-0.95	54940.09	20198.34	20082.52	20081.48	20081.48	786.09 sec
ogm-TRBP-0.5	55301.77	20436.86	20113.84	20086.99	20086.96	1157.33 sec
ogm-TRBP-0.95	55116.61	20248.91	20083.63	20081.13	20081.13	1078.86 sec
ogm-TRBPS	54930.14	20236.77	20080.74	20079.32	20079.31	1146.51 sec
MCR-TC-MTC	26448.30	23281.06	21413.64	20671.36	20671.36	539.88 sec
MCR-pct	62394.67	44933.76	32134.24	20988.67	20988.67	486.38 sec
ogm-ADSAL	∞	∞	20000.42	19991.31	19991.25	1320.13 sec
ogm-BUNDLE-A	∞	21341.34	20572.29	20049.68	20020.56	935.94 sec
ogm-BUNDLE-H	∞	20916.90	20218.04	19997.28	19991.94	978.44 sec
ogm-SG-A	∞	20922.02	20512.15	20376.65	20360.63	854.29 sec
ogm-BUNDLE-A+	∞	21461.41	21109.98	20382.07	20248.63	973.20 sec
ogm-SG-A+	∞	21207.63	21206.35	21203.83	21203.60	896.80 sec
ogm-BUNDLE-A-	∞	21124.12	20282.12	19993.44	19991.51	986.69 sec
ogm-SG-A-	∞	21200.82	20765.81	20219.82	20128.58	913.14 sec
TRWS-TL	20016.38	19992.10	19991.32	19991.31	19991.31	24.80 sec
TRWS-pct	62394.67	54762.34	40149.49	19991.33	19991.33	91.86 sec
MCI-TC-MTC-TCI	26448.30	26198.68	21413.52	20671.29	20670.74	836.33 sec
MCI-pct	62394.67	59449.29	40149.46	30086.09	20893.77	534.88 sec
ogm-CombiLP	∞	∞	∞	19991.21	19991.21	118.53 sec

Table 35: color-seg (3 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
α-Exp-pct	345351303.33	308472274.33	308472274.33	308472274.33	308472274.33	0.82 sec
α-Exp-VIEW	345351304.67	308472275.67	308472275.67	308472275.67	308472275.67	5.98 sec
FastPD	308472275.00	308472275.00	308472275.00	308472275.00	308472275.00	0.31 sec
FastPD-pct	345351303.67	308472274.67	308472274.67	308472274.67	308472274.67	0.80 sec
ogm-FastPD-LF1	∞	308472275.00	308472275.00	308472275.00	308472275.00	1.25 sec
ogm-FastPD-LF2	∞	308472275.00	308472275.00	308472275.00	308472275.00	8.58 sec
ogm-ICM	345549316.00	311333421.33	311333421.33	311333421.33	311333421.33	2.38 sec
ogm-LF-1	345549665.67	311333771.00	311333771.00	311333771.00	311333771.00	1.94 sec
ogm-LF-2	345719073.00	345399441.67	309850181.00	309850181.00	309850181.00	11.82 sec
ogm-TRWS-LF1	∞	∞	∞	308472294.33	308472294.33	104.99 sec
ogm-TRWS-LF2	∞	∞	∞	308472294.33	308472294.33	102.44 sec
$\alpha\beta$-Swap-VIEW	345351321.33	308472292.33	308472292.33	308472292.33	308472292.33	6.25 sec
BPS-TL	308758625.67	308733349.67	308733349.67	308733349.67	308733349.67	68.24 sec
ogm-BPS	345352413.67	308604967.00	308495577.33	308494459.00	308494459.00	106.57 sec
ogm-LBP-0.5	345353763.67	308651580.00	308507008.00	308492950.67	308492950.67	362.43 sec
ogm-LBP-0.95	345352677.00	308613159.00	308497940.33	308494213.33	308494213.33	117.09 sec
ogm-TRBP-0.5	345354014.67	308667578.33	308509416.00	308492909.67	308492909.67	1245.66 sec
ogm-TRBP-0.95	345353110.67	308647141.67	308500132.00	308494370.67	308494370.67	1237.92 sec
ogm-TRBPS	345352786.33	308628521.67	308497583.67	308494514.33	308494514.33	1009.29 sec
MCR-TC-MTC	328487770.67	309842256.00	308718278.00	308472274.33	308472274.33	89.46 sec
MCR-pct	328323156.00	308472274.33	308472274.33	308472274.33	308472274.33	0.82 sec
ogm-ADSAL	∞	∞	308477694.67	308472407.67	308472289.00	2156.82 sec
ogm-BUNDLE-A	∞	308605794.33	308554883.33	308473557.67	308472329.33	1661.42 sec
ogm-BUNDLE-H	∞	308602001.00	308528112.67	308475047.67	308472407.67	1585.35 sec
ogm-SG-A	∞	308720891.00	308717737.67	308568128.33	308485243.33	1399.36 sec
ogm-BUNDLE-A+	∞	308605613.33	308539575.67	308473286.67	308472378.67	1625.25 sec
ogm-SG-A+	∞	308736418.67	308736418.67	308736418.67	308736418.67	1325.76 sec
ogm-BUNDLE-A-	∞	308605662.67	308539580.00	308473417.33	308472520.67	1522.39 sec
ogm-SG-A-	∞	308591352.00	308529965.33	308495789.33	308481954.33	1389.03 sec
TRWS-TL	308481039.00	308473445.67	308472322.67	308472294.33	308472294.33	90.76 sec
TRWS-pct	345351303.33	308472290.67	308472290.67	308472290.67	308472290.67	1.07 sec
MCI-TC-MTC-TCI	320296118.67	309399034.00	308693040.33	308472274.33	308472274.33	80.19 sec
MCI-pct	345351303.33	308472274.33	308472274.33	308472274.33	308472274.33	0.98 sec
ogm-CombiLP	∞	∞	∞	∞	308472274.33	483.64 sec

Table 36: correlation-clustering (715 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
ogm-ICM	−579.85	−585.60	−585.60	−585.60	−585.60	1.28 sec
ogm-LF-1	−584.76	−585.60	−585.60	−585.60	−585.60	0.63 sec
MCR-CC	−626.90	−626.91	−626.91	−626.91	−626.91	0.12 sec
MCR-CCFDB	−626.91	−626.91	−626.91	−626.91	−626.91	0.08 sec
MCR-CCFDB-OWC	−626.93	−626.93	−626.93	−626.93	−626.93	0.08 sec
MCI-CCFDB-CCIFD	−627.91	−628.12	−628.16	−628.16	−628.16	0.78 sec
MCI-CCI	−626.26	−628.15	−628.16	−628.16	−628.16	1.28 sec
MCI-CCIFD	−626.05	−628.15	−628.16	−628.16	−628.16	1.25 sec

Table 37: dtf-chinesechar (100 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
LSA-TR (euc.)	−49548.10	−49548.10	−49548.10	−49548.10	−49548.10	0.05 sec
LSA-TR (ham.)	−49536.76	−49536.76	−49536.76	−49536.76	−49536.76	0.06 sec
ogm-ICM	−49515.98	−49515.98	−49515.98	−49515.98	−49515.98	0.21 sec
ogm-LBP-LF2	∞	∞	∞	∞	−49520.26	481.32 sec
ogm-LF-1	−49516.08	−49516.08	−49516.08	−49516.08	−49516.08	0.23 sec
ogm-LF-2	−45591.15	−47666.27	−49531.11	−49531.11	−49531.11	7.34 sec
ogm-LF-3	−45591.15	−45602.09	−45602.19	−45992.19	−49535.37	637.92 sec
ogm-TRWS-LF1	∞	∞	∞	−49505.84	−49505.84	84.41 sec
ogm-TRWS-LF2	∞	∞	∞	−49519.42	−49519.42	83.78 sec
BPS-TAB	−49527.72	−49536.05	−49537.77	−49538.16	−49538.16	62.69 sec
ogm-BPS	−49469.46	−49503.03	−49511.09	−49516.46	−49516.46	456.79 sec
ogm-LBP-0.5	−48870.75	−49499.07	−49510.35	−49519.68	−49519.71	482.00 sec
ogm-LBP-0.95	−48872.13	−49503.49	−49513.31	−49520.37	−49520.40	479.42 sec
ogm-TRBP-0.5	−48871.44	−49498.15	−49509.10	−49529.27	−49529.34	561.98 sec
ogm-TRBP-0.95	−48873.61	−49500.01	−49513.58	−49531.36	−49531.45	540.99 sec
ogm-TRBPS	−49471.72	−49497.96	−49512.83	−49523.74	−49523.79	466.66 sec
ADDD	−36020.24	−46417.40	−48565.34	−48656.71	−48656.71	9.74 sec
MPLP	−49434.39	−49442.39	−49445.12	−49445.12	−49445.12	516.36 sec
ogm-ADSAL	∞	−49516.11	−49521.27	−49524.17	−49524.30	730.78 sec
ogm-BUNDLE-A	∞	−49454.71	−49468.59	−49471.84	−49471.84	445.46 sec
ogm-BUNDLE-H	∞	−49486.94	−49487.46	−49489.73	−49489.73	454.52 sec
ogm-SG-A	−49426.72	−49476.22	−49476.24	−49476.28	−49476.28	420.01 sec
ogm-BUNDLE-A+	∞	−49442.23	−49446.44	−49469.23	−49469.63	443.99 sec
ogm-SG-A+	−49427.18	−49453.12	−49457.32	−49457.71	−49457.71	417.48 sec
ogm-BUNDLE-A-	∞	−49462.49	−49462.49	−49468.24	−49468.24	447.56 sec
ogm-SG-A-	∞	−49460.05	−49477.18	−49478.46	−49478.46	416.33 sec
ogm-LP-LP	−36020.24	−36020.24	−36020.24	−40843.15	−48928.96	1335.58 sec
QPBO	−49501.95	−49501.95	−49501.95	−49501.95	−49501.95	0.17 sec
TRWS-TAB	−49499.99	−49512.54	−49514.06	−49514.06	−49514.06	78.84 sec
TRWS-pct	−39258.01	−48384.86	−49496.76	−49496.76	−49496.76	4.43 sec
ogm-ILP-pct	−36020.24	−36020.24	−36020.24	−36020.24	−49547.41	3553.71 sec
MCBC-pct	∞	∞	∞	∞	−49550.10	2053.89 sec
ogm-ILP	−36020.24	−36020.24	−36020.24	−36020.24	−49536.00	3569.52 sec
SA	∞	∞	∞	∞	−49533.02	NaN sec

Table 38: geo-surf-3 (300 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
α-Exp-QPBO	132.14	132.14	132.14	132.14	132.14	0.00 sec
ogm-ICM	132.77	132.77	132.77	132.77	132.77	0.00 sec
ogm-LBP-LF1	132.17	132.17	132.17	132.17	132.17	0.07 sec
ogm-LBP-LF2	132.17	132.17	132.17	132.17	132.17	0.09 sec
ogm-LF-1	132.77	132.77	132.77	132.77	132.77	0.00 sec
ogm-LF-2	132.36	132.36	132.36	132.36	132.36	0.02 sec
ogm-LF-3	132.21	132.21	132.21	132.21	132.21	0.30 sec
ogm-BPS	132.17	132.17	132.17	132.17	132.17	0.02 sec
ogm-LBP-0.5	132.17	132.17	132.17	132.17	132.17	0.07 sec
ogm-LBP-0.95	132.17	132.17	132.17	132.17	132.17	0.03 sec
ogm-TRBP-0.5	132.16	132.16	132.16	132.16	132.16	1.14 sec
ogm-TRBP-0.95	132.16	132.16	132.16	132.16	132.16	0.60 sec
ogm-TRBPS	132.16	132.16	132.16	132.16	132.16	0.49 sec
ADDD	163.99	132.14	132.14	132.14	132.14	0.12 sec
MPLP	132.14	132.14	132.14	132.14	132.14	0.15 sec
MPLP-C	132.14	132.14	132.14	132.14	132.14	0.16 sec
ogm-BUNDLE-A	132.28	132.14	132.14	132.14	132.14	21.88 sec
ogm-BUNDLE-H	132.35	132.14	132.14	132.14	132.14	9.57 sec
ogm-SG-A	132.39	132.14	132.14	132.14	132.14	22.37 sec
ogm-BUNDLE-A+	132.67	132.15	132.14	132.14	132.14	2.78 sec
ogm-SG-A+	132.16	132.14	132.14	132.14	132.14	1.80 sec
ogm-BUNDLE-A-	132.49	132.15	132.14	132.14	132.14	31.74 sec
ogm-SG-A-	133.54	132.32	132.15	132.14	132.14	31.06 sec
ogm-LP-LP	549.17	132.14	132.14	132.14	132.14	0.55 sec
BRAOBB-1	∞	132.14	132.14	132.14	132.14	0.66 sec
BRAOBB-2	∞	132.14	132.14	132.14	132.14	6.67 sec
BRAOBB-3	∞	132.14	132.14	132.14	132.14	17.99 sec
ogm-ILP	132.14	132.14	132.14	132.14	132.14	0.13 sec

Table 39: geo-surf-7 (300 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
α-Exp-QPBO	477.83	477.83	477.83	477.83	477.83	0.02 sec
ogm-ICM	839.28	839.28	839.28	839.28	839.28	0.01 sec
ogm-LBP-LF1	∞	∞	498.45	498.45	498.45	0.60 sec
ogm-LBP-LF2	∞	∞	498.44	498.44	498.44	0.65 sec
ogm-LF-1	838.32	838.32	838.32	838.32	838.32	0.01 sec
ogm-LF-2	692.68	692.68	692.68	692.68	692.68	0.12 sec
ogm-LF-3	688.52	632.48	620.69	620.56	620.56	9.45 sec
ogm-BPS	498.14	498.14	498.14	498.14	498.14	0.37 sec
ogm-LBP-0.5	498.53	498.43	498.43	498.43	498.43	0.60 sec
ogm-LBP-0.95	498.50	498.50	498.50	498.50	498.50	0.33 sec
ogm-TRBP-0.5	488.56	485.87	485.86	485.86	485.86	8.07 sec
ogm-TRBP-0.95	487.10	486.68	486.68	486.68	486.68	7.42 sec
ogm-TRBPS	487.47	487.17	487.17	487.17	487.17	6.85 sec
ADDD	675.32	476.95	476.95	476.95	476.95	0.55 sec
MPLP	482.65	477.05	477.04	477.04	477.04	1.31 sec
MPLP-C	482.65	477.03	477.02	477.02	477.02	1.43 sec
ogm-BUNDLE-A	523.81	482.02	477.35	477.08	477.08	53.41 sec
ogm-BUNDLE-H	517.94	483.34	477.04	476.95	476.95	41.45 sec
ogm-SG-A	513.69	489.06	480.35	479.02	479.02	52.38 sec
ogm-BUNDLE-A+	534.38	489.43	477.00	476.95	476.95	32.29 sec
ogm-SG-A+	522.62	484.47	477.65	477.28	477.28	29.96 sec
ogm-BUNDLE-A-	517.61	488.72	480.43	479.37	479.37	53.63 sec
ogm-SG-A-	530.70	504.29	490.26	488.41	488.41	52.14 sec
ogm-LP-LP	1338.89	545.33	476.95	476.95	476.95	2.74 sec
BRAOBB-1	∞	∞	∞	∞	479.82	973.62 sec
BRAOBB-2	∞	∞	∞	∞	477.10	957.11 sec
BRAOBB-3	∞	∞	∞	∞	477.11	685.84 sec
ogm-ILP	1064.96	476.95	476.95	476.95	476.95	0.95 sec

Table 40: image-seg-3rdorder (100 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
ogm-ICM	7025.90	6131.73	6030.49	6030.49	6030.49	6.30 sec
ogm-LF-1	6508.75	6030.29	6030.29	6030.29	6030.29	2.23 sec
MCR-CC	6467.09	5836.44	5812.73	5812.02	5812.02	32.56 sec
MCR-CCFDB	6408.53	5832.20	5815.58	5815.37	5815.37	20.85 sec
MCR-CCFDB-OWC	6476.91	5832.08	5816.05	5815.31	5815.31	21.63 sec
MCI-CCFDB-CCIFD	6928.83	6268.50	5771.32	5627.52	5627.52	46.68 sec
MCI-CCI	6966.93	6068.11	5633.09	5628.20	5628.11	70.54 sec
MCI-CCIFD	6975.68	6063.25	5633.13	5628.18	5627.52	50.78 sec

Table 41: image-seg (100 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
ogm-ICM	6093.27	4906.92	4705.07	4705.07	4705.07	3.98 sec
ogm-KL	4952.04	4608.52	4608.49	4608.49	4608.49	1.46 sec
ogm-LF-1	5044.70	4705.01	4705.01	4705.01	4705.01	1.35 sec
MCR-CC	5379.29	4652.68	4465.35	4446.69	4446.69	8.54 sec
MCR-CCFDB	5313.23	4575.19	4457.85	4446.57	4446.57	4.34 sec
MCR-CCFDB-OWC	5324.28	4575.14	4457.80	4446.52	4446.52	4.34 sec
MCI-CCFDB-CCIFD	5319.44	4573.18	4453.69	4442.64	4442.64	4.89 sec
MCI-CCI	4518.35	4447.07	4442.64	4442.64	4442.64	2.43 sec
MCI-CCIFD	4922.30	4453.89	4442.64	4442.64	4442.64	2.24 sec

Table 42: inclusion (10 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
α-Exp-QPBO	1587.13	1587.13	1587.13	1587.13	1587.13	0.04 sec
ogm-ICM	1556.20	1556.20	1556.20	1556.20	1556.20	0.01 sec
ogm-LBP-LF1	∞	∞	1400.66	1400.66	1400.66	19.33 sec
ogm-LBP-LF2	∞	∞	1400.61	1400.61	1400.61	19.37 sec
ogm-LF-1	1556.20	1556.20	1556.20	1556.20	1556.20	0.01 sec
ogm-LF-2	1476.39	1476.39	1476.39	1476.39	1476.39	0.09 sec
ogm-LF-3	1462.71	1461.23	1461.23	1461.23	1461.23	1.14 sec
ogm-BPS	1400.66	1400.66	1400.66	1400.66	1400.66	21.42 sec
ogm-LBP-0.5	1400.64	1400.59	1400.59	1400.59	1400.59	19.77 sec
ogm-LBP-0.95	1400.62	1400.58	1400.58	1400.58	1400.58	19.82 sec
ogm-TRBP-0.5	1400.63	1400.61	1400.61	1400.61	1400.61	21.42 sec
ogm-TRBP-0.95	1400.62	1400.58	1400.58	1400.58	1400.58	20.65 sec
ogm-TRBPS	1400.69	1400.64	1400.64	1400.64	1400.64	20.68 sec
ADDD	1771.26	1694.72	1694.72	1694.72	1694.72	6.23 sec
MPLP	3806.14	2201.00	1901.01	1901.01	1901.01	5.94 sec
MPLP-C	3906.30	2201.00	1800.85	1600.79	1600.79	3579.25 sec
ogm-BUNDLE-A	22585.05	22585.05	7314.41	4007.73	4007.73	77.24 sec
ogm-BUNDLE-H	15537.35	1601.27	1400.76	1400.76	1400.76	73.24 sec
ogm-SG-A	26797.36	26797.36	26797.36	26797.36	26797.36	78.38 sec
ogm-BUNDLE-A+	22585.05	22585.05	7514.88	3909.68	3909.68	77.44 sec
ogm-SG-A+	26797.36	26797.36	26797.36	26797.36	26797.36	77.57 sec
ogm-BUNDLE-A-	22585.05	20351.85	1400.71	1400.69	1400.69	76.92 sec
ogm-SG-A-	26484.90	19836.87	13328.28	11920.10	11920.10	75.57 sec
ogm-LP-LP	1771.26	1771.26	1663.97	1663.97	1663.97	18.27 sec
MCI-TC-MTC-TCI	1771.26	1620.73	1483.16	1400.57	1400.57	61.46 sec
BRAOBB-1	∞	∞	∞	∞	Inf	3600.01 sec
BRAOBB-2	∞	∞	∞	∞	1401.73	3600.01 sec
BRAOBB-3	∞	∞	∞	∞	1401.64	3600.01 sec
ogm-ILP	1771.26	1400.57	1400.57	1400.57	1400.57	6.21 sec

Table 43: inpainting-n4 (2 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
α-Exp-pct	454.75	454.75	454.75	454.75	454.75	0.11 sec
FastPD	454.75	454.75	454.75	454.75	454.75	0.01 sec
FastPD-pct	454.75	454.75	454.75	454.75	454.75	0.07 sec
mrf-α-Exp-trunc-TL	454.75	454.75	454.75	454.75	454.75	0.01 sec
mrf-$\alpha\beta$-Swap-trunc-TL	454.35	454.35	454.35	454.35	454.35	0.01 sec
ogm-FastPD-LF1	454.75	454.75	454.75	454.75	454.75	0.05 sec
ogm-FastPD-LF2	454.75	454.75	454.75	454.75	454.75	0.20 sec
ogm-ICM	3453.29	3453.29	3453.29	3453.29	3453.29	0.06 sec
ogm-LF-1	3453.29	3453.29	3453.29	3453.29	3453.29	0.04 sec
ogm-LF-2	3453.29	3453.29	3453.29	3453.29	3453.29	0.18 sec
ogm-TRWS-LF1	∞	489.70	489.70	489.70	489.70	1.32 sec
ogm-TRWS-LF2	∞	489.30	489.30	489.30	489.30	1.45 sec
mrf-LBP-TL	477.91	475.56	475.56	475.56	475.56	4.25 sec
mrf-BPS-TL	454.35	454.35	454.35	454.35	454.35	1.69 sec
ogm-BPS	509.72	497.55	497.55	497.55	497.55	11.99 sec
ogm-LBP-0.5	510.51	480.66	479.09	479.09	479.09	17.10 sec
ogm-LBP-0.95	508.94	482.63	479.49	479.49	479.49	14.70 sec
ogm-TRBP-0.5	540.35	483.41	479.09	479.09	479.09	20.63 sec
ogm-TRBP-0.95	508.55	482.63	479.49	479.49	479.49	17.29 sec
ogm-TRBPS	509.72	497.55	497.55	497.55	497.55	13.66 sec
MCR-TC-MTC	520.04	520.04	499.12	499.12	461.81	1386.81 sec
MCR-pct	541514.00	541514.00	270523.38	270523.38	1179.00	1248.88 sec
mrf-TRWS-TL	454.75	454.75	454.75	454.75	454.75	0.97 sec
ogm-ADSAL	484.98	454.75	454.75	454.75	454.75	59.91 sec
ogm-BUNDLE-A	455.25	455.25	455.25	455.25	455.25	39.98 sec
ogm-BUNDLE-H	455.25	455.25	455.25	455.25	455.25	19.13 sec
ogm-SG-A	455.25	455.25	455.25	455.25	455.25	21.38 sec
ogm-BUNDLE-A+	455.25	455.25	455.25	455.25	455.25	19.49 sec
ogm-SG-A+	455.25	455.25	455.25	455.25	455.25	20.25 sec
ogm-BUNDLE-A-	455.25	455.25	455.25	455.25	455.25	39.31 sec
ogm-SG-A-	455.25	454.35	454.35	454.35	454.35	39.48 sec
TRWS-pct	270479.80	489.30	489.30	489.30	489.30	2.77 sec
MCI-TC-MTC-TCI	520.04	520.04	499.12	499.12	461.81	1812.16 sec
MCI-pct	541514.00	541514.00	270479.80	270479.80	270479.80	1807.10 sec
ogm-CombiLP	∞	461.81	461.81	461.81	461.81	129.04 sec

Table 44: inpainting-n8 (2 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
α-Exp-pct	464.76	464.76	464.76	464.76	464.76	0.24 sec
α-Exp-VIEW	465.02	465.02	465.02	465.02	465.02	0.43 sec
FastPD	465.02	465.02	465.02	465.02	465.02	0.09 sec
FastPD-pct	464.76	464.76	464.76	464.76	464.76	0.17 sec
ogm-FastPD-LF1	465.02	465.02	465.02	465.02	465.02	0.17 sec
ogm-FastPD-LF2	465.02	465.02	465.02	465.02	465.02	0.67 sec
ogm-ICM	3451.36	3451.36	3451.36	3451.36	3451.36	0.09 sec
ogm-LF-1	3451.36	3451.36	3451.36	3451.36	3451.36	0.06 sec
ogm-LF-2	3451.36	3451.36	3451.36	3451.36	3451.36	0.56 sec
ogm-TRWS-LF1	∞	∞	499.36	499.36	499.36	11.25 sec
ogm-TRWS-LF2	∞	500.09	499.30	499.30	499.30	10.24 sec
$\alpha\beta$-Swap-VIEW	465.02	465.02	465.02	465.02	465.02	0.38 sec
BPS-TL	468.21	468.21	468.21	468.21	468.21	7.76 sec
ogm-BPS	515.44	494.20	493.96	493.96	493.96	9.64 sec
ogm-LBP-0.5	627.51	495.58	493.79	493.79	493.79	41.77 sec
ogm-LBP-0.95	567.63	493.96	493.96	493.96	493.96	11.67 sec
ogm-TRBP-0.5	668.25	495.58	493.79	493.79	493.79	49.98 sec
ogm-TRBP-0.95	613.66	494.24	493.96	493.96	493.96	13.36 sec
ogm-TRBPS	541.27	494.20	493.96	493.96	493.96	10.58 sec
MCR-TC-MTC	522.04	522.04	522.04	503.13	497.23	2073.02 sec
MCR-pct	541514.00	541514.00	541514.00	270610.25	270610.25	1871.11 sec
ogm-ADSAL	481.59	481.06	467.20	467.20	467.20	297.48 sec
ogm-BUNDLE-A	473.48	465.40	465.26	465.26	465.26	96.60 sec
ogm-BUNDLE-H	468.37	466.37	465.34	465.34	465.34	97.86 sec
ogm-SG-A	466.81	466.81	466.81	466.81	466.81	93.27 sec
ogm-BUNDLE-A+	478.38	478.38	465.26	465.26	465.26	102.22 sec
ogm-SG-A+	465.76	465.76	465.76	465.76	465.76	100.14 sec
ogm-BUNDLE-A-	466.81	466.81	465.26	465.26	465.26	99.87 sec
ogm-SG-A-	466.81	466.81	466.81	466.81	466.81	86.02 sec
TRWS-TL	468.55	466.80	466.80	466.80	466.80	10.15 sec
TRWS-pct	541514.00	270485.10	467.69	467.69	467.69	19.74 sec
MCI-TC-MTC-TCI	522.04	522.04	522.04	503.13	497.01	2166.25 sec
MCI-pct	541514.00	541514.00	541514.00	270485.10	270485.10	1879.20 sec
ogm-CombiLP	∞	∞	465.35	465.35	465.35	2117.77 sec

Table 45: knott-3d-150 (8 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
ogm-ICM	−3741.57	−4179.30	−4179.30	−4179.30	−4179.30	2.05 sec
ogm-KL	−4431.67	−4431.67	−4431.67	−4431.67	−4431.67	0.15 sec
ogm-LF-1	−4179.30	−4179.30	−4179.30	−4179.30	−4179.30	0.72 sec
MCR-CC	−2226.74	−4561.50	−4568.75	−4568.90	−4568.90	17.72 sec
MCR-CCFDB	−4098.00	−4568.90	−4568.90	−4568.90	−4568.90	1.87 sec
MCR-CCFDB-OWC	−4099.54	−4570.87	−4570.87	−4570.87	−4570.87	2.00 sec
MCI-CCFDB-CCIFD	−4100.35	−4571.69	−4571.69	−4571.69	−4571.69	1.96 sec
MCI-CCI	−4548.31	−4571.69	−4571.69	−4571.69	−4571.69	0.57 sec
MCI-CCIFD	−4571.02	−4571.69	−4571.69	−4571.69	−4571.69	0.58 sec

Table 46: knott-3d-300 (8 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
ogm-ICM	0.00	−632.20	−2305.45	−25196.51	−25196.51	84.37 sec
ogm-KL	−1989.98	−25547.53	−25556.93	−25556.93	−25556.93	13.16 sec
ogm-LF-1	−2088.80	−17634.45	−25243.76	−25243.76	−25243.76	29.08 sec
MCR-CC	−1989.98	−1989.98	−1989.98	−10891.16	−26786.99	3423.65 sec
MCR-CCFDB	−1989.98	−1989.98	−1989.98	−26664.02	−27276.38	1338.99 sec
MCR-CCFDB-OWC	−1989.98	−1989.98	−1989.98	−26492.60	−27287.49	1367.03 sec
MCI-CCFDB-CCIFD	−1989.98	−1989.98	−1989.98	−27077.63	−27280.79	1261.99 sec
MCI-CCI	−1989.98	−24081.39	−27253.30	−27290.39	−27302.78	220.30 sec
MCI-CCIFD	−1989.98	−4253.71	−27274.93	−27302.78	−27302.78	104.55 sec

Table 47: knott-3d-450 (8 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
ogm-ICM	0.00	0.00	0.00	0.00	−72464.54	883.63 sec
ogm-KL	−4892.36	−4892.36	−72145.23	−73188.82	−73188.82	186.89 sec
ogm-LF-1	0.00	0.00	0.00	−72479.60	−72479.60	298.07 sec
MCR-CC	−4892.36	−4892.36	−4892.36	−4892.36	−4892.36	9814.45 sec
MCR-CCFDB	−4892.36	−4892.36	−4892.36	−4892.36	−4892.36	6404.34 sec
MCR-CCFDB-OWC	−4892.36	−4892.36	−4892.36	−4892.36	−4892.36	6455.21 sec
MCI-CCFDB-CCIFD	−4892.36	−4892.36	−4892.36	−4892.36	−4892.36	6404.14 sec
MCI-CCI	−4892.36	−4892.36	−50146.66	−78324.79	−78378.83	1196.62 sec
MCI-CCIFD	−4892.36	−4892.36	−4892.36	−72165.50	−78379.99	1379.90 sec

Table 48: matching (4 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
α-Exp-QPBO	1465000000000.00	1465000000000.00	1465000000000.00	1465000000000.00	1465000000000.00	0.00 sec
ogm-ICM	95.73	95.73	95.73	95.73	95.73	0.00 sec
ogm-LBP-LF1	85.87	85.87	85.87	85.87	85.87	0.00 sec
ogm-LBP-LF2	38.07	38.07	38.07	38.07	38.07	0.19 sec
ogm-LF-1	95.73	95.73	95.73	95.73	95.73	0.00 sec
ogm-LF-2	40.79	40.79	40.79	40.79	40.79	0.29 sec
ogm-LF-3	40.79	39.81	39.81	39.81	39.81	12.35 sec
ogm-TRWS-LF1	61.46	61.46	61.46	61.46	61.46	0.03 sec
ogm-TRWS-LF2	33.31	33.31	33.31	33.31	33.31	0.32 sec
BPS-TAB	33.97	33.97	33.97	33.97	33.97	0.11 sec
ogm-BPS	97500000064.52	97500000064.52	97500000064.52	97500000064.52	97500000064.52	0.00 sec
ogm-LBP-0.5	97500000064.52	97500000064.52	97500000064.52	97500000064.52	97500000064.52	0.00 sec
ogm-LBP-0.95	97500000064.52	97500000064.52	97500000064.52	97500000064.52	97500000064.52	0.00 sec
ogm-TRBP-0.5	97500000064.52	97500000064.52	97500000064.52	97500000064.52	97500000064.52	0.00 sec
ogm-TRBP-0.95	97500000064.52	97500000064.52	97500000064.52	97500000064.52	97500000064.52	0.00 sec
ogm-TRBPS	97500000064.52	97500000064.52	97500000064.52	97500000064.52	97500000064.52	0.00 sec
ADDD	985000000024.74	105000000039.23	105000000039.23	105000000039.23	105000000039.23	1.38 sec
MPLP	32500000039.98	32500000039.98	32500000039.98	32500000039.98	32500000039.98	0.26 sec
MPLP-C	30000000043.26	21.22	21.22	21.22	21.22	3.51 sec
ogm-ADSAL	∞	35.70	34.08	32.47	32.47	1380.55 sec
ogm-BUNDLE-A	10000000044.34	10000000041.82	10000000041.82	10000000041.82	10000000041.82	1.56 sec
ogm-BUNDLE-H	7500000055.96	7500000053.86	7500000053.86	7500000053.86	7500000053.86	1.57 sec
ogm-SG-A	7500000099.44	7500000099.44	7500000099.44	7500000099.44	7500000099.44	1.38 sec
ogm-BUNDLE-A+	10000000051.24	10000000048.72	10000000048.72	10000000048.72	10000000048.72	1.56 sec
ogm-SG-A+	7500000101.08	7500000101.08	7500000101.08	7500000101.08	7500000101.08	1.37 sec
ogm-BUNDLE-A-	10000000051.24	10000000048.72	10000000048.72	10000000048.72	10000000048.72	1.57 sec
ogm-SG-A-	7500000096.42	7500000096.42	7500000096.42	7500000096.42	7500000096.42	1.32 sec
ogm-LP-LP	1465000000000.00	1220000000010.31	102500000036.76	102500000036.76	102500000036.76	21.38 sec
TRWS-TAB	43.38	43.38	43.38	43.38	43.38	0.03 sec
BRAOBB-1	∞	21.22	21.22	21.22	21.22	2.05 sec
BRAOBB-2	∞	21.22	21.22	21.22	21.22	8.09 sec
BRAOBB-3	∞	21.22	21.22	21.22	21.22	41.69 sec
ADDD-BB	1465000000000.00	1465000000000.00	1465000000000.00	1182500000004.84	37500000029.63	1192.02 sec
ogm-ASTAR	∞	21.22	21.22	21.22	21.22	0.80 sec
ogm-CombiLP	34.66	34.66	34.66	21.22	21.22	314.52 sec
ogm-ILP	1465000000000.00	1465000000000.00	1465000000000.00	282500000016.38	21.22	402.09 sec

Table 49: modularity-clustering (6 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
ogm-ICM	0.0000	0.0000	0.0000	0.0000	0.0000	0.09 sec
ogm-KL	−0.4860	−0.4860	−0.4860	−0.4860	−0.4860	0.01 sec
ogm-LF-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.03 sec
MCR-CC	−0.1618	−0.2505	−0.2926	−0.4619	−0.4619	100.37 sec
MCR-CCFDB	−0.3486	−0.4643	−0.4643	−0.4643	−0.4643	2.15 sec
MCR-CCFDB-OWC	−0.3486	−0.4682	−0.4682	−0.4682	−0.4682	602.75 sec
MCI-CCFDB-CCIFD	−0.4204	−0.4613	−0.4613	−0.4613	−0.4613	601.38 sec
MCI-CCI	−0.1518	−0.3994	−0.4279	−0.4279	−0.4312	1207.07 sec
MCI-CCIFD	−0.1633	−0.3519	−0.3521	−0.3685	−0.4399	1204.03 sec

Table 50: mrf-inpainting (2 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
FastPD	∞	∞	32939430.00	32939430.00	32939430.00	7.72 sec
mrf-α-Exp-trunc-TL	682736616.00	27343867.00	27266183.50	27266168.50	27266168.50	42.07 sec
mrf-$\alpha\beta$-Swap-trunc-TL	621974336.50	28340738.50	27066162.00	27055552.00	27055552.00	92.06 sec
ogm-FastPD-LF1	∞	∞	∞	27509437.00	27509437.00	174.04 sec
ogm-FastPD-LF2	∞	∞	∞	32939430.00	27209149.50	7264.73 sec
ogm-ICM	682736616.00	682736616.00	682736616.00	32467486.00	32467486.00	229.56 sec
ogm-LF-1	682736616.00	682736616.00	570317775.00	32467900.00	32467900.00	75.71 sec
ogm-LF-2	682736616.00	682736616.00	682736616.00	682736616.00	31188870.50	3600.18 sec
ogm-TRWS-LF1	∞	∞	∞	∞	26464015.00	679.63 sec
ogm-TRWS-LF2	∞	∞	∞	∞	26463829.00	2404.03 sec
mrf-LBP-TL	30426622.00	26712208.50	26604675.00	26597003.00	26596968.00	573.91 sec
mrf-BPS-TL	28879216.00	26660810.00	26612532.50	26612532.50	26612532.50	593.35 sec
ogm-BPS	682736616.00	682736616.00	606058330.00	50395190.00	37224573.50	3677.40 sec
ogm-LBP-0.5	682736616.00	682736616.00	611827775.00	52416721.50	29746129.50	3691.83 sec
ogm-LBP-0.95	682736616.00	682736616.00	605463651.00	46984317.50	32136405.50	3686.06 sec
ogm-TRBP-0.5	682736616.00	682736616.00	611865767.50	61666463.50	33445889.00	3642.96 sec
ogm-TRBP-0.95	682736616.00	682736616.00	605483118.00	51207279.00	33260789.50	3643.81 sec
ogm-TRBPS	682736616.00	682736616.00	606058058.50	56086207.00	37903121.00	3711.16 sec
mrf-TRWS-TL	26961852.00	26479316.00	26465442.50	26464763.00	26464759.00	563.15 sec
ogm-ADSAL	∞	∞	∞	∞	26487768.50	3892.14 sec
ogm-BUNDLE-A	∞	∞	∞	58328853.50	56032960.00	3611.21 sec
ogm-BUNDLE-H	∞	∞	∞	58328853.50	56112406.50	3615.07 sec
ogm-SG-A	∞	∞	∞	51398361.50	47096469.50	3635.02 sec
ogm-BUNDLE-A+	∞	∞	∞	58328853.50	56032960.00	3640.03 sec
ogm-SG-A+	∞	∞	∞	41504500.50	37714765.00	3643.39 sec
ogm-BUNDLE-A-	∞	∞	∞	58328853.50	56032960.00	3635.32 sec
ogm-SG-A-	∞	∞	∞	58328853.50	56028769.00	3629.00 sec
ogm-CombiLP	∞	∞	∞	∞	26467926.00	48723.23 sec

Table 51: mrf-photomontage (2 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
mrf-α-Exp-trunc-TAB	18886350000.00	168457.00	168457.00	168457.00	168457.00	7.37 sec
mrf-$\alpha\beta$-Swap-trunc-TAB	15885856221.50	171984.00	170858.50	170858.50	170858.50	9.77 sec
ogm-ICM	18886350000.00	18096281786.50	18096281786.50	18096281786.50	18096281786.50	1.66 sec
ogm-LF-1	18096281786.50	18096281786.50	18096281786.50	18096281786.50	18096281786.50	0.84 sec
ogm-LF-2	18886350000.00	18096106879.00	18096106879.00	18096106879.00	18096106879.00	11.15 sec
ogm-TRWS-LF1	∞	∞	∞	1239959.00	1239959.00	341.22 sec
ogm-TRWS-LF2	∞	∞	∞	735193.00	735193.00	323.48 sec
mrf-LBP-TAB	1487005.50	444353.00	438611.00	438611.00	438611.00	458.73 sec
mrf-BPS-TAB	2960515.50	2217579.50	2217579.50	2217579.50	2217579.50	188.37 sec
ogm-BPS	18099911217.50	9241560.00	7342037.50	1146880.50	1146880.50	1244.90 sec
ogm-LBP-0.5	18099911217.50	9285927.50	7338664.50	460337.50	457883.00	1056.92 sec
ogm-LBP-0.95	18099911217.50	9285927.50	7005868.00	454989.00	454989.00	717.99 sec
ogm-TRBP-0.5	18886350000.00	9285927.50	8299253.50	470758.00	457883.00	1795.88 sec
ogm-TRBP-0.95	18886350000.00	9285927.50	7376060.50	454989.00	454989.00	1508.58 sec
ogm-TRBPS	18886350000.00	9241560.00	7342037.50	1146880.50	1146880.50	1483.45 sec
mrf-TRWS-TAB	3753569.00	2766318.50	237464.50	234150.50	234150.50	203.79 sec
ogm-ADSAL	∞	∞	∞	227982.50	185560.00	3605.24 sec
ogm-BUNDLE-A	∞	4834214.00	4155468.00	3031855.50	676079.00	1641.14 sec
ogm-BUNDLE-H	∞	4741151.00	3939884.00	2785483.00	599206.00	1588.13 sec
ogm-SG-A	∞	5248670.00	5248670.00	4350224.00	3846787.00	1616.05 sec
ogm-BUNDLE-A+	∞	4834214.00	4155468.00	3031855.50	676079.00	1631.83 sec
ogm-SG-A+	∞	5248670.00	5248670.00	5248670.00	5248670.00	1624.53 sec
ogm-BUNDLE-A-	∞	4834214.00	4155468.00	3009022.50	707036.50	1579.42 sec
ogm-SG-A-	∞	5248670.00	4223916.50	3980452.50	3006179.50	1499.23 sec
ogm-CombiLP	∞	∞	∞	∞	214853.50	3707.70 sec

Table 52: mrf-stereo (3 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
FastPD	∞	1614255.00	1614255.00	1614255.00	1614255.00	3.11 sec
mrf-α-Exp-trunc-TAB	10027534.33	1613079.00	1612676.33	1612676.33	1612676.33	17.14 sec
mrf-α-Exp-trunc-TL	10027534.33	1615762.33	1615349.00	1615349.00	1615349.00	11.36 sec
mrf-$\alpha\beta$-Swap-trunc-TAB	5012532.00	1696662.00	1662173.33	1662173.33	1662173.33	16.15 sec
mrf-$\alpha\beta$-Swap-trunc-TL	4803266.00	1929772.33	1927265.67	1927265.67	1927265.67	13.12 sec
ogm-FastPD-LF1	∞	∞	1613252.00	1613252.00	1613252.00	16.84 sec
ogm-FastPD-LF2	∞	∞	1611510.33	1611484.33	1611484.33	156.87 sec
ogm-ICM	10027534.33	9141586.33	8359199.00	8359199.00	8359199.00	5.17 sec
ogm-LF-1	9133605.33	8355303.67	8355303.67	8355303.67	8355303.67	2.07 sec
ogm-LF-2	10027534.33	10027534.33	8726116.00	8726116.00	7396373.00	286.95 sec
ogm-TRWS-LF1	∞	∞	∞	1587732.67	1587732.67	226.77 sec
ogm-TRWS-LF2	∞	∞	∞	1587913.33	1587043.67	365.90 sec
mrf-LBP-TAB	8559473.33	3215104.00	1656965.67	1634055.00	1633281.67	1892.20 sec
mrf-LBP-TL	1839357.67	1639193.67	1633282.00	1633281.67	1633281.67	242.10 sec
mrf-BPS-TAB	3575274.00	1775825.67	1738964.00	1738695.67	1738695.67	1473.43 sec
mrf-BPS-TL	1968150.67	1738695.67	1738695.67	1738695.67	1738695.67	224.42 sec
ogm-BPS	10027534.33	7338618.00	3643065.00	2587689.00	2546538.00	2387.10 sec
ogm-LBP-0.5	10027534.33	8802924.33	3191849.33	1728523.33	1649939.33	2468.07 sec
ogm-LBP-0.95	10027534.33	8452225.00	2673491.00	1681252.00	1656538.67	2369.21 sec
ogm-TRBP-0.5	10027534.33	9009951.00	3809355.33	1819825.00	1656827.67	3019.34 sec
ogm-TRBP-0.95	10027534.33	8870275.67	3160349.67	1733102.33	1655865.00	3019.90 sec
ogm-TRBPS	10027534.33	8889829.33	4154319.00	2607587.33	2547961.67	2959.70 sec
mrf-TRWS-TAB	3167309.33	1634740.00	1607148.33	1589762.00	1587269.67	1518.01 sec
mrf-TRWS-TL	1656885.67	1601896.67	1589708.00	1587269.67	1587269.67	216.41 sec
ogm-ADSAL	∞	∞	∞	1606706.67	1589318.00	3163.13 sec
ogm-BUNDLE-A	∞	∞	2370221.33	1929417.67	1649017.67	2112.27 sec
ogm-BUNDLE-H	∞	∞	2377809.67	1901431.00	1645250.33	2152.15 sec
ogm-SG-A	∞	∞	2379223.33	1917664.33	1789576.67	2098.93 sec
ogm-BUNDLE-A+	∞	∞	2370221.33	1929417.67	1648854.67	2003.83 sec
ogm-SG-A+	∞	∞	3246798.33	2716228.33	2500828.67	2110.78 sec
ogm-BUNDLE-A-	∞	∞	2370221.33	1930528.33	1648723.33	2150.49 sec
ogm-SG-A-	∞	∞	2587393.67	1983317.33	1762200.33	2100.09 sec
ogm-CombiLP	∞	∞	∞	∞	1587560.67	835.92 sec

Table 53: object-seg (5 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
α-Exp-pct	31317.60	31317.60	31317.60	31317.60	31317.60	0.33 sec
FastPD	31317.60	31317.60	31317.60	31317.60	31317.60	0.11 sec
FastPD-pct	31317.60	31317.60	31317.60	31317.60	31317.60	0.29 sec
mrf-α-Exp-trunc-TL	31317.60	31317.60	31317.60	31317.60	31317.60	0.40 sec
mrf-$\alpha\beta$-Swap-trunc-TL	31323.23	31323.23	31323.23	31323.23	31323.23	0.23 sec
ogm-FastPD-LF1	31317.60	31317.60	31317.60	31317.60	31317.60	0.39 sec
ogm-FastPD-LF2	31317.60	31317.60	31317.60	31317.60	31317.60	1.73 sec
ogm-ICM	65180.15	65180.15	65180.15	65180.15	65180.15	0.22 sec
ogm-LF-1	65180.15	65180.15	65180.15	65180.15	65180.15	0.11 sec
ogm-LF-2	65054.89	64937.24	64937.24	64937.24	64937.24	1.48 sec
ogm-TRWS-LF1	∞	31317.23	31317.23	31317.23	31317.23	3.27 sec
ogm-TRWS-LF2	∞	31317.23	31317.23	31317.23	31317.23	3.29 sec
mrf-LBP-TL	32430.93	32400.01	32400.01	32400.01	32400.01	29.43 sec
mrf-BPS-TL	35775.27	35775.27	35775.27	35775.27	35775.27	11.19 sec
ogm-BPS	36372.00	33547.88	33418.04	33418.04	33418.04	137.34 sec
ogm-LBP-0.5	37914.09	33486.16	32705.04	32663.86	32663.86	110.84 sec
ogm-LBP-0.95	36835.67	32901.96	32673.75	32673.75	32673.75	61.38 sec
ogm-TRBP-0.5	38125.97	33823.16	32727.55	32663.86	32663.86	227.29 sec
ogm-TRBP-0.95	37230.17	33031.33	32676.56	32668.92	32668.92	222.82 sec
ogm-TRBPS	36945.22	33641.96	33383.95	33383.95	33383.95	180.23 sec
MCR-TC-MTC	38506.33	35236.46	32633.57	32043.04	31375.53	421.26 sec
MCR-pct	47817.10	33956.55	33956.55	31674.41	31674.41	62.36 sec
mrf-TRWS-TL	31349.87	31317.23	31317.23	31317.23	31317.23	2.21 sec
ogm-ADSAL	∞	31751.11	31336.57	31317.23	31317.23	99.50 sec
ogm-BUNDLE-A	40445.37	39555.82	33282.30	31317.31	31317.31	128.82 sec
ogm-BUNDLE-H	40226.39	36897.80	31656.08	31317.23	31317.23	193.92 sec
ogm-SG-A	40512.69	38586.74	32026.22	31432.95	31432.95	185.11 sec
ogm-BUNDLE-A+	40445.37	39854.50	34493.35	31354.83	31354.83	196.92 sec
ogm-SG-A+	40512.69	40512.69	40177.39	39295.40	39295.40	187.17 sec
ogm-BUNDLE-A-	40445.37	36816.37	31428.68	31321.98	31321.98	197.66 sec
ogm-SG-A-	40250.58	36756.37	33018.94	32137.62	32137.62	180.46 sec
TRWS-pct	33877.41	31317.23	31317.23	31317.23	31317.23	0.96 sec
MCI-TC-MTC-TCI	38506.33	35305.03	32633.57	32000.46	31317.23	428.32 sec
MCI-pct	47817.10	33877.41	33877.41	31317.23	31317.23	69.84 sec
ogm-CombiLP	∞	∞	31317.23	31317.23	31317.23	32.61 sec

Table 54: protein-folding (21 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
ogm-ICM	−5446.55	−5446.55	−5446.55	−5446.55	−5446.55	0.09 sec
ogm-LBP-LF1	∞	∞	∞	−5892.69	−5892.69	102.71 sec
ogm-LBP-LF2	∞	∞	∞	−5923.01	−5923.01	130.17 sec
ogm-LF-1	−5447.49	−5447.49	−5447.49	−5447.49	−5447.49	0.05 sec
ogm-LF-2	−4165.04	−5604.62	−5733.35	−5747.56	−5747.56	54.54 sec
ogm-LF-3	−4165.00	−4211.34	−4347.96	−4358.51	−5780.11	22422.07 sec
ogm-TRWS-LF1	∞	∞	∞	−5856.47	−5856.47	22.68 sec
ogm-TRWS-LF2	∞	∞	−5785.19	−5897.06	−5897.06	54.88 sec
BPS-TAB	−5957.94	−5958.72	−5958.72	−5958.72	−5958.72	24.48 sec
ogm-BPS	−4957.71	−5824.23	−5843.39	−5872.91	−5872.91	119.08 sec
ogm-LBP-0.5	−5108.73	−5923.18	−5941.37	−5941.81	−5941.81	106.99 sec
ogm-LBP-0.95	−5184.43	−5939.74	−5946.62	−5949.16	−5949.16	102.34 sec
ogm-TRBP-0.5	−5119.55	−5866.04	−5948.86	−5949.53	−5949.53	145.44 sec
ogm-TRBP-0.95	−5194.44	−5908.87	−5931.57	−5941.09	−5941.09	140.09 sec
ogm-TRBPS	−5064.32	−5759.06	−5834.45	−5881.71	−5881.71	135.42 sec
ADDD	5512.48	929.27	−1403.59	−3859.53	−4189.61	209.19 sec
MPLP	−1007.21	−1165.88	−1315.73	−2593.92	−5626.81	510.90 sec
MPLP-C	−3079.78	−4471.06	−5634.82	−5836.19	−5933.70	1639.52 sec
ogm-ADSAL	∞	∞	∞	∞	−5881.47	1014.89 sec
ogm-BUNDLE-A	∞	−3277.03	−4344.59	−5385.67	−5480.14	487.56 sec
ogm-BUNDLE-H	∞	−2720.04	−3795.50	−5389.67	−5486.47	479.92 sec
ogm-SG-A	∞	−3398.87	−4494.51	−5150.18	−5210.59	474.52 sec
ogm-BUNDLE-A+	∞	−3294.66	−4352.23	−5331.72	−5448.23	483.77 sec
ogm-SG-A+	∞	−3856.25	−4702.67	−5325.17	−5479.15	463.18 sec
ogm-BUNDLE-A-	∞	−2887.23	−4142.93	−5053.26	−5146.23	477.86 sec
ogm-SG-A-	∞	−2584.64	−3324.25	−4708.51	−4806.12	473.93 sec
TRWS-TAB	−5704.63	−5797.52	−5846.86	−5846.86	−5846.86	22.18 sec
BRAOBB-1	∞	∞	∞	∞	*NaN*	*NaN* sec
BRAOBB-2	∞	∞	∞	∞	*NaN*	*NaN* sec
BRAOBB-3	∞	∞	∞	∞	*NaN*	*NaN* sec
ogm-CombiLP	∞	∞	−5807.58	−5896.86	−5955.77	700.10 sec

Table 55: protein-prediction (8 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
ogm-ICM	60414.84	60414.84	60414.84	60414.84	60414.84	0.03 sec
ogm-LBP-LF2	∞	∞	52942.95	52942.95	52942.95	25.03 sec
ogm-LF-1	60427.60	60427.60	60427.60	60427.60	60427.60	0.03 sec
ogm-LF-2	58682.74	58682.74	58682.74	58682.74	58682.74	0.70 sec
ogm-LF-3	127198.56	127173.36	57944.06	57944.06	57944.06	19.08 sec
ogm-BPS	85804.13	74727.16	74673.63	74673.63	74673.63	27.64 sec
ogm-LBP-0.5	54819.12	52985.35	52974.98	52974.98	52974.98	24.79 sec
ogm-LBP-0.95	90346.43	71152.50	71137.01	71137.01	71137.01	33.31 sec
ogm-TRBP-0.5	63572.76	60781.84	60268.84	60268.84	60268.84	35.60 sec
ogm-TRBP-0.95	80412.07	68818.53	68284.15	68284.15	68284.15	36.11 sec
ogm-TRBPS	81367.55	71136.97	71105.65	71105.65	71105.65	28.38 sec
ADDD	128274.77	126562.66	106216.86	106216.86	106216.86	10.70 sec
MPLP	97985.80	96835.43	96806.53	96806.53	96806.53	69.09 sec
ogm-BUNDLE-A	∞	82473.51	82431.53	81283.83	81035.49	1287.27 sec
ogm-BUNDLE-H	∞	82413.75	81927.45	81118.39	81039.93	1301.94 sec
ogm-SG-A	∞	82451.55	81976.53	81636.80	81587.06	1273.32 sec
ogm-BUNDLE-A+	∞	82473.51	82469.04	82217.65	81993.85	1275.45 sec
ogm-SG-A+	∞	82606.85	82606.85	82606.85	82606.85	1256.94 sec
ogm-BUNDLE-A-	∞	82473.51	81828.24	81107.41	81058.43	1300.65 sec
ogm-SG-A-	∞	82567.18	82391.94	81646.26	81443.05	1312.12 sec
ogm-LP-LP	128274.77	128274.77	128274.77	102829.40	102829.40	169.61 sec
ogm-ILP	128274.77	128274.77	126560.76	126560.76	57477.07	2263.46 sec

Table 56: scene-decomposition (715 instances)

algorithm	value					time
	(1 sec)	(10 sec)	(60 sec)	(600 sec)	(end)	(end)
α-Exp-QPBO	−866.85	−866.85	−866.85	−866.85	−866.85	0.00 sec
ogm-ICM	−864.56	−864.56	−864.56	−864.56	−864.56	0.00 sec
ogm-LBP-LF1	−866.76	−866.76	−866.76	−866.76	−866.76	0.05 sec
ogm-LBP-LF2	−866.76	−866.76	−866.76	−866.76	−866.76	0.06 sec
ogm-LF-1	−864.56	−864.56	−864.56	−864.56	−864.56	0.00 sec
ogm-LF-2	−865.81	−865.81	−865.81	−865.81	−865.81	0.02 sec
ogm-LF-3	−866.27	−866.27	−866.27	−866.27	−866.27	0.45 sec
ogm-TRWS-LF1	−866.93	−866.93	−866.93	−866.93	−866.93	0.00 sec
ogm-TRWS-LF2	−866.93	−866.93	−866.93	−866.93	−866.93	0.00 sec
BPS-TAB	−866.73	−866.73	−866.73	−866.73	−866.73	0.10 sec
ogm-BPS	−866.77	−866.77	−866.77	−866.77	−866.77	0.02 sec
ogm-LBP-0.5	−866.76	−866.76	−866.76	−866.76	−866.76	0.05 sec
ogm-LBP-0.95	−866.76	−866.76	−866.76	−866.76	−866.76	0.02 sec
ogm-TRBP-0.5	−866.85	−866.85	−866.85	−866.85	−866.85	0.24 sec
ogm-TRBP-0.95	−866.85	−866.85	−866.85	−866.85	−866.85	0.11 sec
ogm-TRBPS	−866.85	−866.85	−866.85	−866.85	−866.85	0.13 sec
ADDD	−866.92	−866.92	−866.92	−866.92	−866.92	0.06 sec
MPLP	−866.92	−866.92	−866.92	−866.92	−866.92	0.04 sec
MPLP-C	−866.92	−866.92	−866.92	−866.92	−866.92	0.04 sec
ogm-ADSAL	−866.93	−866.93	−866.93	−866.93	−866.93	0.04 sec
ogm-BUNDLE-A	−866.93	−866.93	−866.93	−866.93	−866.93	0.94 sec
ogm-BUNDLE-H	−866.93	−866.93	−866.93	−866.93	−866.93	0.26 sec
ogm-SG-A	−866.93	−866.93	−866.93	−866.93	−866.93	0.96 sec
ogm-BUNDLE-A+	−866.93	−866.93	−866.93	−866.93	−866.93	0.07 sec
ogm-SG-A+	−866.92	−866.92	−866.92	−866.92	−866.92	0.07 sec
ogm-BUNDLE-A-	−866.92	−866.92	−866.92	−866.92	−866.92	1.19 sec
ogm-SG-A-	−866.83	−866.85	−866.85	−866.85	−866.85	1.08 sec
ogm-LP-LP	−866.92	−866.92	−866.92	−866.92	−866.92	0.23 sec
TRWS-TAB	−866.93	−866.93	−866.93	−866.93	−866.93	0.00 sec
BRAOBB-1	∞	∞	∞	∞	−866.90	17.61 sec
BRAOBB-2	∞	∞	∞	∞	−866.86	23.40 sec
BRAOBB-3	∞	∞	∞	−866.90	−866.90	27.20 sec
ADDD-BB	−848.17	−865.23	−866.93	−866.93	−866.93	0.11 sec
ogm-CombiLP	−866.93	−866.93	−866.93	−866.93	−866.93	0.02 sec
ogm-ILP	−866.93	−866.93	−866.93	−866.93	−866.93	0.17 sec

3 Boxplots

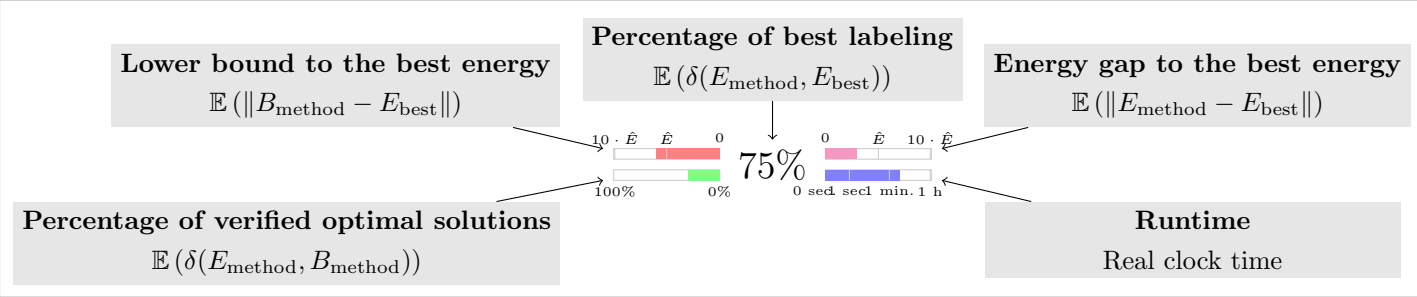

Figure 1: **Legend for the box-plots.** Values are up to numerical precision and averaged over all instances of a model. The bars for energy gap (upper right), gap of the lower bound to the optimal or best available energy (upper left), and runtime (lower right) are scaled piecewise linear between the ticks. The model specific normalization $\hat{E}$,was manually choosen for better visualization and comparability of different datasets.
For numerical reasons we test for a relaxed zero gap using an absolute and relative precision threshold by the test function $\delta(A, B) = \|A - B\| < 10^{-5}$ or $\frac{\|A-B\|}{\|A\|+1} < 10^{-10}$.

Figure 2: **Results for grid structured models with four-pixel neighborhood-system and truncated convex regularization**. See Fig. 1 for the legend. For all models local polytope relaxations give good lower bounds. However, extracting a integer solution from the fractional one can be very difficult, especially for the photomontage instances, where soft constraints renders linear programming relaxation harder. FastPD and α-expansion are the first choice if fast optimization is required. For stereo- and inpainting problems LP-relaxations as obtained by TRWS have given best results – especially when followed by lazy flipping post processing. For some instances we were able to solve them to optimality by CombiLP but often need more than 1 hour.

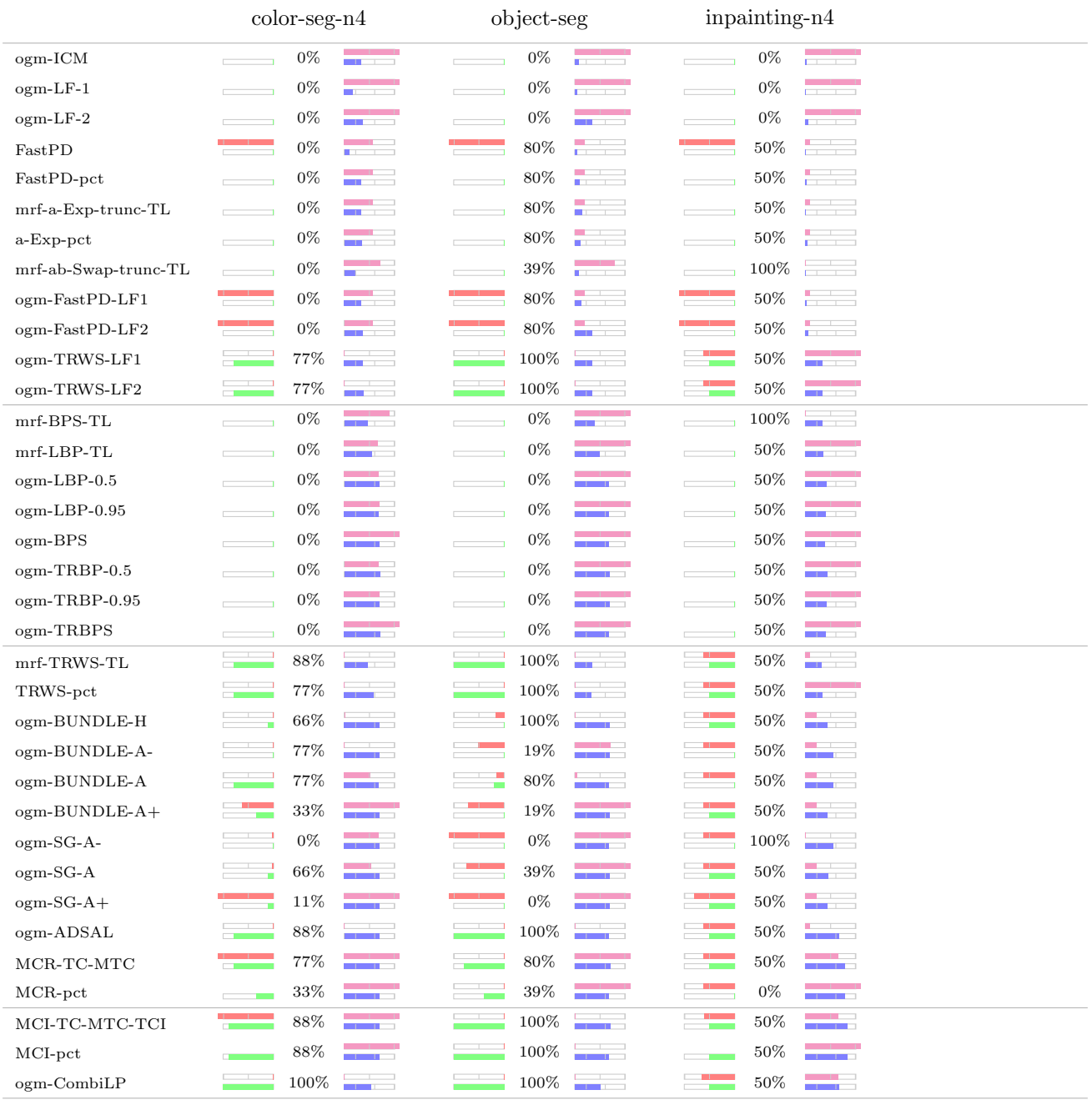

Figure 3: **Results for grid structured models with four-pixel neighborhood-system and Potts regularization.** See Fig. 1 for the legend. For Potts models relaxations over the local polytope are often very tight and multicut relaxations works quite good and efficient. FastPD is the first choice if fast optimization is required. When ever persistence is available to reduce the problem size it helps a lot. In the color-seg-n4 dataset the instance pfau is the hardest one and rises the average runtime. Also the lower bound on the pfau instances produced by MCI within one hour are very weak. The fastest exact solver is here CombiLP. In the inpainting-n4 dataset the inverse instance is designed to be hard and make LP-solvers struggling.

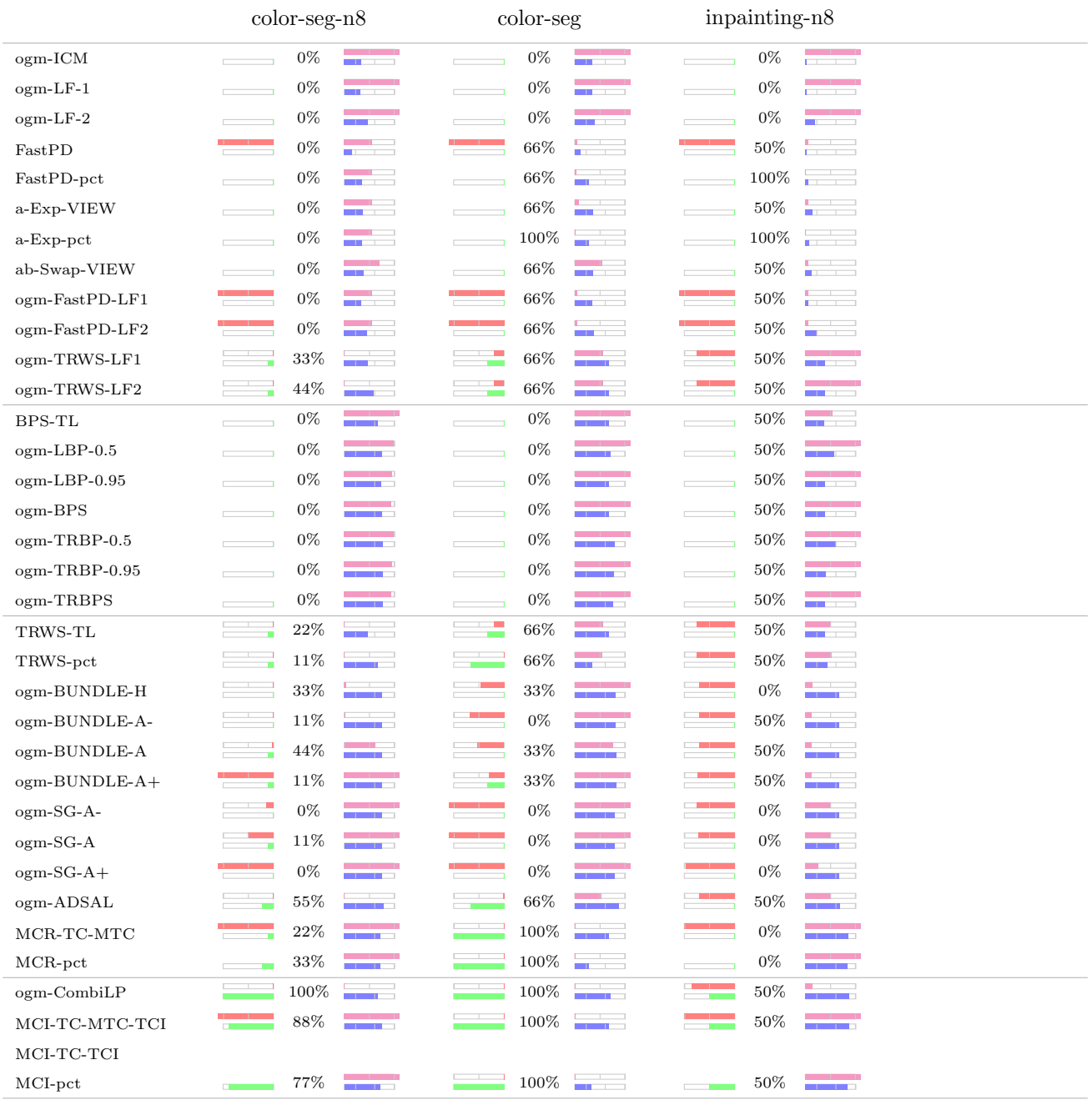

Figure 4: **Results for grid structured models with 8-pixel neighborhood-system and Potts regularization.** See Fig. 1 for the legend. For Potts models relaxations over the local polytope are often very tight and multicut relaxations works quite good and efficient. Compare to the same models with a 4-pixel neighborhood-system, cf. Fig. 3, the local polytope relaxations becomes weaker. FastPD is the first choice if fast optimization is required. When ever persistence is available to reduce the problem size it helps a lot. In the color-seg-n8 dataset the instance pfau is the hardest one and rises the average runtime. Also the lower bound on the pfau instances produced by MCA within 6 hours are very weak. In the inpainting-n8 dataset the inverse instance is designed to be hard and make LP-solvers struggling.

Figure 5: **Results for grid structured models with 3D 6-voxel neighborhood-system and Potts regularization.** See Fig. 1 for the legend. The slice thick is given in millimeters. Thinner slices give larger models. FastPD is the fastest and TRWS the best approximative method. Local polytope relaxations give very good bounds for this models. Exact results are feasible by MCA-pct with runtimes comparable to approximative methods. Without preprocessing (pct) MCA is much slower and requires more than 10 GB of memory for the smallest instance.

Figure 6: **Results for binary models.** See Fig. 1 for the legend. The Chinese character instances include Potts terms with negative coupling strength, that means the models are non-submodular. That why only a small subset of solvers is applicable. The large degree of the structure makes local polytope relaxations week and the remaining rounding problem hard. BPS give good results, but we obtain best results by first using persistence to reduce the problem size and then tightening the relaxation. The cell-tracking and protein-prediction dataset include higher order terms. This render them more challenging and many standard methods are no longer applicable. For cell-tracking ogm-ILP performs best, many other methods violate soft-constraints which causes hight objective values. For the protein-protein dataset ogm-ILP performs best except of 1 instance. This seemed to be caused by numerical problems. For all protein-protein instances LBP, optionally followed by lazy flipping give very good results in reasonable time.

Figure 7: **Results for higher order models.** See Fig. 1 for the legend. For the inclusion instances ogm-ILP give best results, similar to those of LBP. LP relaxations of the local polytope are relatively tight but rounding is not trivial and often violates the inclusion soft-constraints. Adding additional cycle constraints does improve the results only marginally. The geo-surf instances are based on superpixels and therefor much smaller. Fastest and optimal results are produced by ogm-ILP and AD3-BB. Later is non-commercial available under the LGPL.

Figure 8: **Results for unsupervised partition models.** See Fig. 1 for the legend. Over all MCI-CCFDB-CCIFD performs best. The KL-method used outside computer vision does not perform well on sparse computer vision problems and cannot be used for higher order models. Linear programming relaxations give worse results and are not necessary faster than ILP-based methods. The reason for this is, that the separation procedures for non-integer solutions are more complex and time consuming.

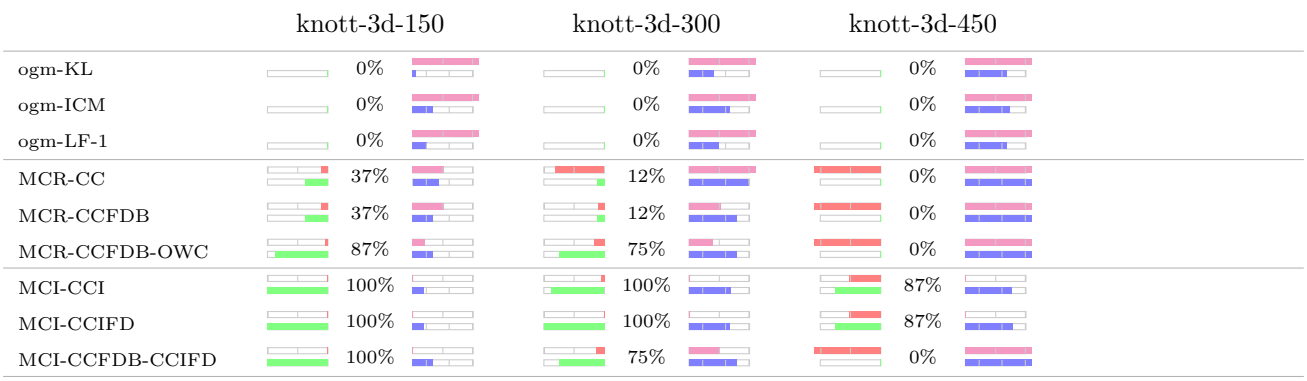

Figure 9: **Evaluation of the 3D neuron segmentation datasets.** See Fig. 1 for the legend. With increasing problem size relaxations (MCR) get worse. Also integer variants (MCI) suffers and separating violated constraints becomes the most time consuming part. Consequently, for large models it is preferable to start directly with integer constraints and not to start with an LP-relaxation first, as done within MCI-CCFDB-CCIFD, because the separation procedure is than to slow.

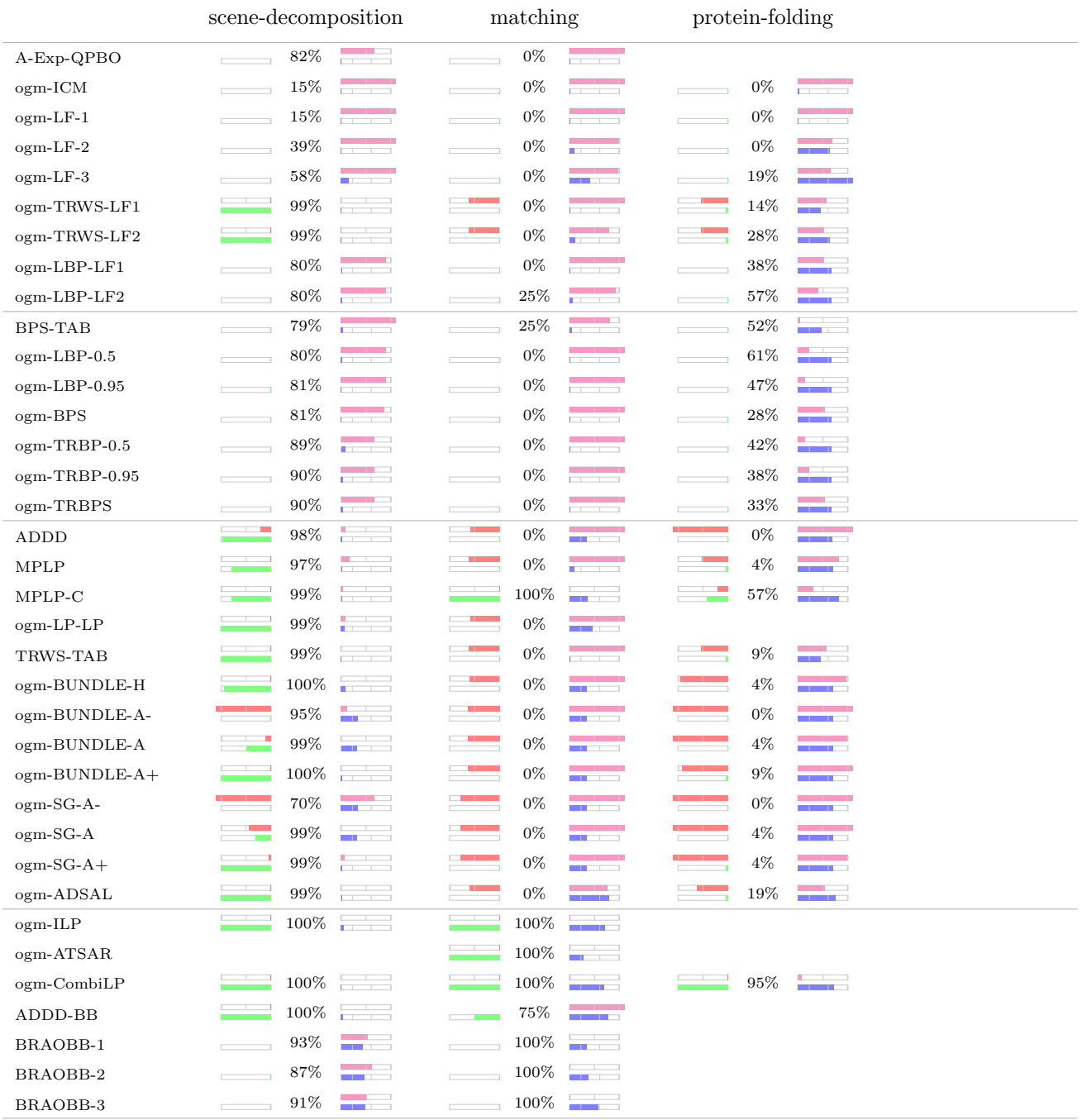

Figure 10: **Evaluation of the second order models with no truncated convex regularizers.** See Fig. 1 for the legend. The scene decomposition instances are based on superpixels, such models are small and combinatorial methods like ogm-ILP or AD3-BB are fast and optimal. Contrary to scene-decomposition for the matching instances the local polytope relaxation is not tight. On can either tighten the relaxation MPLP-C or use alternative methods to obtain bounds ogm-AStar for obtaining fast optimal results. For protein-folding relaxations are weak too and the huge label-space renders the problem hard for many solvers, e.g. ogm-ILP. We obtain the best results by BPS.