

An Analysis of Merge Strategies for Merge-and-Shrink Heuristics: Additional Data

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The following four tables list domain-wise coverage results for the tables of the original paper, in the same order and hence with the same number as they appear there.

Domain (# tasks)	SYMM									
	CGGL	DFP	L	MIASM	RL	CGGL	DFP	L	MIASM	RL
airport (50)	15	18	15	16	18	16	18	16	18	18
barman-2011 (20)	4	4	4	4	4	4	4	4	4	4
barman-2014 (14)	0	0	0	0	0	0	0	0	0	0
blocks (35)	24	26	28	24	25	24	26	28	24	25
childsnaek-2014 (20)	0	0	0	0	0	0	0	0	0	0
depot (22)	7	6	7	9	6	7	7	7	7	7
driverlog (20)	12	12	12	14	12	12	12	12	14	12
elevators-2008 (30)	13	16	11	13	11	14	16	12	14	12
elevators-2011 (20)	10	13	9	10	9	11	13	10	11	10
floortile-2011 (20)	2	4	2	4	4	2	2	2	2	2
floortile-2014 (20)	0	2	0	2	2	0	0	0	0	0
freecell (80)	19	20	19	18	19	19	20	19	18	19
ged-2014 (20)	15	15	15	15	15	15	15	15	15	15
grid (5)	2	2	2	2	2	2	3	2	2	3
gripper (20)	7	19	15	20	19	18	18	18	18	18
hiking-2014 (20)	12	13	12	12	11	12	12	12	12	12
logistics00 (28)	20	20	16	20	20	20	20	16	20	20
logistics98 (35)	5	5	4	5	5	4	4	4	4	4
miconic (150)	72	72	55	72	72	77	77	73	60	77
movie (30)	30	30	30	30	30	30	30	30	30	30
mprime (35)	23	23	23	23	23	23	23	23	23	23
mystery (30)	17	16	17	17	16	17	16	17	17	17
nomystery-2011 (20)	18	18	14	18	18	18	16	14	17	18
openstacks-2008 (30)	20	20	20	20	20	20	20	20	20	20
openstacks-2011 (20)	15	15	15	15	15	15	15	15	15	15
openstacks-2014 (20)	3	3	3	3	3	3	3	3	3	3
openstacks (30)	7	7	7	7	7	7	7	7	7	7
parcprinter-2008 (30)	16	14	16	22	16	16	14	16	22	16
parcprinter-2011 (20)	12	10	12	15	12	12	10	12	15	12
parking-2011 (20)	2	2	0	2	2	7	7	7	5	7
parking-2014 (20)	4	4	0	4	4	6	6	6	5	6
pathways-noneg (30)	4	4	4	4	4	4	4	4	4	4
pegsol-2008 (30)	27	29	27	27	29	27	27	27	27	27
pegsol-2011 (20)	17	19	17	17	19	17	17	17	17	17
pipeworld-notankage (50)	16	16	16	16	16	16	16	16	16	18
pipeworld-tankage (50)	15	14	15	15	15	15	15	15	15	15
psr-small (50)	50	50	50	50	49	50	50	50	50	50
rovers (40)	8	8	8	8	8	8	8	8	8	8
satellite (36)	7	6	6	7	6	6	6	6	6	6
scanalyzer-2008 (30)	12	13	13	13	12	12	12	12	12	12
scanalyzer-2011 (20)	9	10	10	10	9	9	9	9	9	9
sokoban-2008 (30)	26	26	26	26	24	30	30	30	30	30
sokoban-2011 (20)	20	20	20	20	19	20	20	20	20	20
storage (30)	15	15	15	15	15	15	15	15	15	15
tetris-2014 (17)	0	2	0	0	2	2	2	2	2	2
tidybot-2011 (20)	1	1	1	2	1	3	3	4	3	3
tidybot-2014 (20)	0	0	0	0	0	0	0	0	0	0
tpp (30)	6	6	6	10	6	6	6	6	8	6
transport-2008 (30)	11	11	11	11	11	11	11	11	11	11
transport-2011 (20)	6	6	6	6	6	6	6	6	6	6
transport-2014 (20)	6	7	6	6	6	6	6	6	6	6
trucks (30)	7	7	6	8	6	8	8	8	8	8
visitall-2011 (20)	9	9	16	9	9	10	10	11	10	10
visitall-2014 (20)	4	4	12	4	4	6	6	6	6	6
woodworking-2008 (30)	11	13	13	16	11	12	13	14	16	11
woodworking-2011 (20)	6	8	8	10	6	7	8	9	10	6
zenotravel (20)	11	12	9	11	12	10	10	10	12	11
Sum (1667)	710	745	704	757	725	747	752	742	749	749

Table 1: Coverage for merge strategies from the literature.

Domain (# tasks)	Prefer atomic			Prefer composite			Random
	RL	L	RND	RL	L	RND	
airport (50)	18	18	18	18	15	18	18
barman-2011 (20)	4	4	4	4	4	4	4
barman-2014 (14)	0	0	0	0	0	0	0
blocks (35)	21	25	18	26	24	22	21
childsnaek-2014 (20)	0	0	0	0	0	0	0
depot (22)	6	7	7	6	7	7	7
driverlog (20)	12	13	12	12	12	12	12
elevators-2008 (30)	16	17	17	16	13	15	16
elevators-2011 (20)	13	14	14	13	10	12	14
floortile-2011 (20)	2	2	2	4	2	4	2
floortile-2014 (20)	0	0	0	2	0	2	0
freecell (80)	20	19	19	20	19	19	20
ged-2014 (20)	19	15	15	15	15	15	15
grid (5)	2	3	2	2	2	3	2
gripper (20)	7	7	7	19	7	9	7
hiking-2014 (20)	11	12	11	13	12	11	12
logistics00 (28)	21	20	20	20	20	20	20
logistics98 (35)	5	5	5	5	5	5	5
miconic (150)	75	78	77	72	72	56	64
movie (30)	30	30	30	30	30	30	30
mprime (35)	23	23	23	23	23	23	23
mystery (30)	16	16	16	16	17	16	16
nomystery-2011 (20)	18	20	20	18	20	20	18
openstacks-2008 (30)	21	20	20	20	20	20	20
openstacks-2011 (20)	16	15	15	15	15	15	15
openstacks-2014 (20)	3	3	3	3	3	3	3
openstacks (30)	7	7	7	7	7	7	7
parcprinter-2008 (30)	16	16	14	14	16	14	14
parcprinter-2011 (20)	12	12	10	10	12	10	10
parking-2011 (20)	1	6	1	2	2	1	1
parking-2014 (20)	1	4	4	4	4	3	1
pathways-noneg (30)	4	4	4	4	4	4	4
pegsol-2008 (30)	27	28	27	29	27	27	27
pegsol-2011 (20)	17	18	17	19	17	17	17
pipesworld-notankage (50)	15	16	15	16	16	15	15
pipesworld-tankage (50)	14	15	14	14	14	14	14
psr-small (50)	50	49	49	50	50	49	49
rovers (40)	8	8	7	8	8	7	8
satellite (36)	6	6	6	6	6	6	6
scanalyzer-2008 (30)	13	12	12	13	13	12	12
scanalyzer-2011 (20)	10	9	9	10	10	9	9
sokoban-2008 (30)	26	29	27	26	26	24	26
sokoban-2011 (20)	20	20	20	20	20	19	20
storage (30)	15	15	15	15	15	15	15
tetris-2014 (17)	2	2	2	2	0	2	2
tidybot-2011 (20)	1	1	1	1	1	1	1
tidybot-2014 (20)	0	0	0	0	0	0	0
tpp (30)	6	10	7	6	6	6	6
transport-2008 (30)	11	11	11	11	11	11	11
transport-2011 (20)	6	6	6	6	6	6	6
transport-2014 (20)	6	6	6	7	6	6	6
trucks (30)	8	8	8	7	7	8	8
visitall-2011 (20)	9	9	10	9	9	10	10
visitall-2014 (20)	4	4	4	4	4	4	4
woodworking-2008 (30)	13	19	15	13	20	12	14
woodworking-2011 (20)	8	14	9	8	14	7	9
zenotravel (20)	11	10	11	12	11	10	10
Sum (1667)	726	760	723	745	729	697	706

Table 2: Coverage for DFP with different tie-breaking strategies.

Domain (# tasks)	Prefer atomic			Prefer composite			Random
	RL	L	RND	RL	L	RND	
airport (50)	17	17	17	17	17	17	17
barman-2011 (20)	4	4	4	4	4	4	4
barman-2014 (14)	0	0	0	0	0	0	0
blocks (35)	27	28	28	25	28	28	26
childsnaek-2014 (20)	0	0	0	0	0	0	0
depot (22)	9	8	8	9	8	8	9
driverlog (20)	13	12	12	12	12	12	12
elevators-2008 (30)	11	12	13	11	12	17	14
elevators-2011 (20)	9	10	10	9	10	14	12
floortile-2011 (20)	6	4	6	2	2	2	6
floortile-2014 (20)	5	2	5	0	0	0	3
freecell (80)	20	20	20	20	20	20	20
ged-2014 (20)	15	15	15	15	15	15	15
grid (5)	2	3	2	2	3	2	2
gripper (20)	19	18	19	19	7	19	8
hiking-2014 (20)	12	11	11	11	12	11	11
logistics00 (28)	16	18	18	20	16	16	17
logistics98 (35)	4	4	5	5	4	4	5
miconic (150)	65	64	55	72	72	56	56
movie (30)	30	30	30	30	30	30	30
mprime (35)	23	23	23	23	23	23	23
mystery (30)	17	17	17	17	17	17	17
nomystery-2011 (20)	19	19	19	19	19	19	19
openstacks-2008 (30)	21	21	21	21	21	21	21
openstacks-2011 (20)	16	16	16	16	16	16	16
openstacks-2014 (20)	3	3	3	3	3	3	3
openstacks (30)	7	7	7	7	7	7	7
parcprinter-2008 (30)	24	23	24	24	24	24	23
parcprinter-2011 (20)	19	19	19	19	19	19	19
parking-2011 (20)	1	1	1	1	1	1	1
parking-2014 (20)	1	2	1	2	1	0	1
pathways-noneg (30)	4	4	4	4	4	4	4
pegsol-2008 (30)	27	27	27	27	27	27	27
pegsol-2011 (20)	17	17	17	17	17	17	17
pipesworld-notankage (50)	8	12	12	11	9	10	12
pipesworld-tankage (50)	15	15	15	15	10	11	15
psr-small (50)	50	50	50	50	50	50	50
rovers (40)	8	8	8	8	7	7	7
satellite (36)	6	6	6	6	6	6	6
scanalyzer-2008 (30)	13	13	12	12	13	13	12
scanalyzer-2011 (20)	10	10	9	9	10	10	9
sokoban-2008 (30)	28	28	28	28	28	28	28
sokoban-2011 (20)	20	20	20	20	20	20	20
storage (30)	15	15	15	15	15	15	15
tetris-2014 (17)	0	0	0	0	0	0	0
tidybot-2011 (20)	0	1	1	0	0	0	0
tidybot-2014 (20)	0	0	0	0	0	0	0
tpp (30)	8	8	8	8	8	8	7
transport-2008 (30)	11	11	11	11	11	11	11
transport-2011 (20)	6	6	6	6	6	6	6
transport-2014 (20)	6	6	6	6	6	6	6
trucks (30)	7	7	7	7	7	7	7
visitall-2011 (20)	9	9	9	9	9	9	9
visitall-2014 (20)	4	4	4	4	4	4	4
woodworking-2008 (30)	16	16	18	16	15	15	16
woodworking-2011 (20)	11	11	13	11	10	10	11
zenotravel (20)	9	11	10	12	9	11	10
Sum (1667)	743	746	745	747	724	730	726

Table 3: Coverage for DYN-MIASM with different tie-breaking strategies.

Domain (# tasks)	Prefer atomic			Prefer composite			Random
	RL	L	RND	RL	L	RND	
airport (50)	18	18	18	18	15	18	18
barman-2011 (20)	4	4	4	4	4	4	4
barman-2014 (14)	0	0	0	0	0	0	0
blocks (35)	21	25	18	26	24	22	21
childsnaek-2014 (20)	0	0	0	0	0	0	0
depot (22)	7	7	7	6	7	7	7
driverlog (20)	13	12	12	12	12	12	12
elevators-2008 (30)	14	11	11	12	13	14	13
elevators-2011 (20)	12	9	9	10	10	12	11
floortile-2011 (20)	2	2	2	4	2	4	2
floortile-2014 (20)	0	0	0	2	0	2	0
freecell (80)	20	19	19	20	19	19	20
ged-2014 (20)	19	15	15	15	15	15	15
grid (5)	2	3	2	2	2	3	2
gripper (20)	7	7	7	20	7	9	7
hiking-2014 (20)	11	12	11	13	12	11	12
logistics00 (28)	21	20	20	20	20	20	20
logistics98 (35)	5	5	5	5	5	5	5
miconic (150)	78	78	78	78	78	78	80
movie (30)	30	30	30	30	30	30	30
mprime (35)	23	23	23	23	23	23	23
mystery (30)	16	16	16	16	17	16	16
nomystery-2011 (20)	18	18	20	18	18	20	18
openstacks-2008 (30)	21	20	20	20	20	20	20
openstacks-2011 (20)	16	15	15	15	15	15	15
openstacks-2014 (20)	3	3	3	3	3	3	3
openstacks (30)	7	7	7	7	7	7	7
parcprinter-2008 (30)	26	26	26	26	26	26	26
parcprinter-2011 (20)	19	19	19	19	19	19	19
parking-2011 (20)	1	6	1	2	2	1	1
parking-2014 (20)	1	4	4	4	4	3	1
pathways-noneg (30)	4	4	4	4	4	4	4
pegsol-2008 (30)	27	28	27	29	27	27	27
pegsol-2011 (20)	17	18	17	19	17	17	17
pipesworld-notankage (50)	15	16	15	16	16	15	15
pipesworld-tankage (50)	14	15	14	14	14	14	14
psr-small (50)	50	49	49	50	50	49	49
rovers (40)	6	6	6	6	8	7	6
satellite (36)	6	6	6	6	6	6	6
scanalyzer-2008 (30)	13	12	12	13	13	12	12
scanalyzer-2011 (20)	10	9	9	10	10	9	9
sokoban-2008 (30)	26	29	27	26	26	24	26
sokoban-2011 (20)	20	20	20	20	20	19	20
storage (30)	15	15	15	15	15	15	15
tetris-2014 (17)	2	2	2	2	0	2	2
tidybot-2011 (20)	1	1	1	1	1	1	1
tidybot-2014 (20)	0	0	0	0	0	0	0
tpp (30)	10	10	10	8	8	8	8
transport-2008 (30)	11	11	11	11	11	11	11
transport-2011 (20)	6	6	6	6	6	6	6
transport-2014 (20)	6	6	6	6	6	6	6
trucks (30)	8	8	8	7	8	7	8
visitall-2011 (20)	9	9	10	9	9	10	10
visitall-2014 (20)	4	4	4	4	4	4	4
woodworking-2008 (30)	16	19	13	19	19	12	13
woodworking-2011 (20)	10	13	8	13	13	7	8
zenotravel (20)	10	10	10	12	11	11	11
Sum (1667)	751	760	732	776	751	741	736

Table 4: Coverage for SCC-DFP with different tie-breaking strategies.