

Table 1: Results for parametric reachability and parametric expected rewards.

	type	#states	#trans	PRISM		PARAM		PROPhESY		
				verif	total	verif	total	verif	total	
reachability	brp	(128, 2)	5381	6915	19	21 ^b	2	2 ^a	< 1	1 ^g
		(128, 5)	10376	13827	215	218 ^f	7	7 ^j	2	3 ^k
		(256, 2)	10757	13827	119	123 ^b	7	8 ^a	1	2 ^g
		(256, 5)	20744	27651	1237	1242 ^f	32	33 ^j	8	10 ^k
	crowds	(5, 5)	8653	14953	4	7 ^l	< 1 [*]	1 ^{*j}	< 1	1 ^e
		(10, 5)	111294	261444	257	265 ^d	3 [*]	8 ^{*j}	< 1	9 ^j
		(15, 5)	592060	1754860	TO	TO	18 [*]	48 ^{*j}	1	46 ^g
	nand	(20, 5)	2061951	7374951	TO	TO	75 [*]	194 ^{*j}	4	165 ^f
		(10, 2)	14322	21567	19	23 ^k	2	2 ^c	1	2 ^f
		(10, 5)	35112	52647	67	73 ^k	9	10 ^c	3	5 ^g
		(20, 2)	154942	239832	886	901 ^k	44	48 ^k	16	22 ^f
		(20, 5)	384772	594792	TO	TO	319	328 ^k	89	104 ^g
exp. rewards	egi	(5, 2)	33790	34813	3	7 ^b	-*	-*	< 1	2 ^g
		(5, 4)	74750	75773	5	11 ^c	-*	-*	< 1	5 ^f
		(8, 2)	3342334	3407869	194	345 ^b	-	-	3	269 ^f
		(8, 4)	7536638	7602173	543	910 ^c	-	-	10	612 ^b
	nand	(10, 2)	14322	21567	39	43 ^b	12	14 ^g	< 1	1 ^b
		(10, 5)	35112	52647	259	264 ^c	78	93 ^g	2	4 ^f
		(20, 2)	154942	239832	TO	TO	1325	2033 ^g	5	12 ^b
		(20, 5)	384772	594792	TO	TO	TO	TO	47	64 ^f
	zeroconf	(1000)	1004	2005	472	474 ^j	2961	2962 ^{*c}	< 1	< 1 ^d
		(10000)	10004	20005	TO	TO	TO [*]	TO [*]	4	4 ^c
		(100000)	100004	200005	TO	TO	TO [*]	TO [*]	255	263 ^g

The entries marked with an asterisk (*) indicate that PARAM computed the incorrect result when using the optimal settings. We therefore list the times of the fastest setup that produced the correct result.

^a best setup is: without bisimulation minimization, eliminate states in forward order

^b best setup is: without bisimulation minimization, eliminate states in forward-reversed order

^c best setup is: without bisimulation minimization, eliminate states in backward order

^d best setup is: without bisimulation minimization, eliminate states in backward-reversed order

^e best setup is: strong bisimulation minimization, eliminate states in forward order

^f best setup is: strong bisimulation minimization, eliminate states in forward-reversed order

^g best setup is: strong bisimulation minimization, eliminate states in backward order

^h best setup is: strong bisimulation minimization, eliminate states in backward-reversed order

ⁱ best setup is: weak bisimulation minimization, eliminate states in forward order

^j best setup is: weak bisimulation minimization, eliminate states in forward-reversed order

^k best setup is: weak bisimulation minimization, eliminate states in backward order

^l best setup is: weak bisimulation minimization, eliminate states in backward-reversed order

For details how to set these options in the tools, please see the text document “experiments.txt” on our website.

Table 2: Results for parametric conditional and numerical conditional experiments.

	type	#states	#trans	PRISM		PARAM		PROPhESY		Baier et al.		
				verif	total	verif	total	verif	total	verif	total	
conditional	brp	(128, 2)	5381	6915	-	-	-	-	< 1	1	-	-
		(128, 5)	10376	13827	-	-	-	-	< 1	1	-	-
		(256, 2)	10757	13827	-	-	-	-	< 1	1	-	-
		(256, 5)	20744	27651	-	-	-	-	1	3	-	-
	crowds	(10, 5, 1)	111294	261444	-	-	-	-	1	9	-	-
		(10, 5, 2)	111294	261444	-	-	-	-	1	9	-	-
		(15, 5, 1)	592060	1754860	-	-	-	-	5	50	-	-
		(15, 5, 2)	592060	1754860	-	-	-	-	5	50	-	-
		(20, 5, 1)	2061951	7374951	-	-	-	-	14	174	-	-
		(20, 5, 2)	2061951	7374951	-	-	-	-	14	174	-	-
		(5, 5, 1)	8653	14953	-	-	-	-	< 1	1	-	-
		(5, 5, 2)	8653	14953	-	-	-	-	< 1	1	-	-
conditional (double)	brp	(128, 10)	18701	25347	8	11	-	-	< 1	< 1	54	58
		(128, 2)	5381	6915	3	6	-	-	< 1	< 1	3	6
		(128, 5)	10376	13827	5	8	-	-	< 1	< 1	11	14
		(256, 10)	37389	50691	16	20	-	-	< 1	1	325	328
		(256, 2)	10757	13827	6	10	-	-	< 1	< 1	13	16
		(256, 5)	20744	27651	10	14	-	-	< 1	< 1	65	69
	crowds	(10, 5, 1)	111294	261444	102	105	-	-	< 1	1	10	15
		(10, 5, 2)	111294	261444	95	99	-	-	< 1	1	11	16
		(15, 5, 1)	592060	1754860	750	753	-	-	< 1	6	59	74
		(15, 5, 2)	592060	1754860	699	702	-	-	< 1	6	69	84
		(20, 5, 1)	2061951	7374951	TO	TO	-	-	1	19	230	285
		(20, 5, 2)	2061951	7374951	TO	TO	-	-	1	19	184	242
		(5, 5, 1)	8653	14953	7	10	-	-	< 1	< 1	1	4
		(5, 5, 2)	8653	14953	6	10	-	-	< 1	< 1	1	4