

Table 1: Benchmark data for ADAM a synthesis tool for reactive systems with multiple independent processes based on Petri games.

<i>Ben.</i>	<i>Par.</i>	<i>#Tok</i>	<i>#Var</i>	<i>#P</i>	<i>#T</i>	<i>cp</i>	<i>t (wall)</i>	<i>t (CPU)</i>	<i>t_p1 (wall)</i>	<i>t_p2 (wall)</i>	<i>t_fg (wall)</i>	<i>t_pg (wall)</i>	<i>mem. (RSS)</i>	<i># P_s</i>	<i>#T_s</i>
CM	2/1	6	66	13	10	0	625	1387	42	300.9	15	7.6	305388.8	14	8
	2/2	7	96	18	16	0	609	1246	85.5	209.9	8.6	0.9	292341.2	-	-
	2/3	8	126	23	22	0	796	1737	221.3	224.9	7.1	0.9	303954	-	-
	2/4	9	156	28	28	0	2215	3166	936.9	900	7.8	0.9	376253.2	-	-
	2/5	10	186	33	34	0	13133	14912	8311.2	4397	9.3	1	841867.2	-	-
	2/6	11	216	38	40	0	202739	206534	106006.2	96206.3	24.6	1	5425855.6	-	-
	3/1	8	92	18	15	0	625	1304	84.5	230.7	9.9	3.7	295610.8	26	12
	3/2	9	132	25	24	0	955	2063	245.3	338.3	12.2	5.5	303582	36	18
	3/3	10	172	32	33	0	2354	3306	569.6	1384.2	12.3	1	377606.4	-	-
	3/4	11	212	39	42	0	9955	11623	5489.8	3978.9	14.6	1	803084.8	-	-
	3/5	12	252	46	51	0	177106	180931	100823	75619.9	43.8	1.1	5428217.2	-	-
	4/1	10	120	23	20	0	864	1609	170.2	347.2	15.7	4.5	292369.6	42	16
	4/2	11	172	32	32	0	2903	3914	453.5	1969.8	22.8	7.3	381091.6	55	24
	4/3	12	224	41	44	0	12776	14407	4407.6	7798.9	55.1	13.2	796968.8	68	32
	4/4	13	276	50	56	0	152058	155332	83503.5	66546.1	1377.7	1	4270993.2	-	-
	5/1	12	146	28	25	0	3065	3992	337.2	2357.1	18.5	6	378678.8	62	20
	5/2	13	208	39	40	0	22815	24314	3615.2	18690.2	58	11.2	795725.6	78	30
	5/3	14	270	50	55	0	464292	468309	165687.2	297836.3	181.9	17	3503488	94	40
6/1	14	172	33	30	0	17801	19560	1901.2	15488.3	33.4	8.4	800204.8	86	24	
6/2	15	244	46	48	0	1040260	1042210	87901.7	951645.5	162.7	15.2	2518305.2	105	36	
JP	2	3	46	12	13	0	530	1140	25.1	170.4	15.5	12.1	305273.2	16	13
	3	4	76	18	23	0	765	1810	42.8	398.3	13.8	8.8	309105.6	34	28
	4	5	112	25	35	0	700	1453	68.2	254	16.6	11.7	294045.6	62	50
	5	6	160	33	49	0	963	1990	96.9	432.8	22.3	22.1	305897.6	102	80
	6	7	218	42	65	0	2237	3388	172.7	1547.3	47.6	37.9	405886.4	156	119
	7	8	290	52	83	0	5251	6834	174.5	4458.7	62.5	61	556306	226	168
	8	9	380	63	103	0	14825	16787	369.6	13708.8	108.2	94.8	953798	314	228
	9	10	486	75	125	0	52581	55259	868.3	50557.6	164.7	171	2852029.6	422	300
	10	11	612	88	149	0	142719	146904	2434.2	138842.1	277.1	270.5	5428754	552	385
	11	12	762	102	175	0	426051	434824	5765.7	417938.7	463.1	471.8	16616437.2	706	484
	SR	2/1	5	86	18	17	0	623	1262	81.1	214	11.6	5.4	290841.6	32
2/2		6	116	24	26	0	829	1571	113.4	374.7	9.8	1	293277.6	-	-

	2/3	7	144	30	35	0	3244	4375	355.7	2517.7	14	1	388022.4	-	-
	2/4	8	174	36	44	0	40953	42702	1338	39010	40.2	0.9	797451.6	-	-
	3/1	6	204	34	49	0	1150390	1155569	37995.9	1110592.1	1006.3	15.8	10053966.8	79.7	45
DW	1	3	46	12	10	0	497	984	26.3	175.4	12.2	6.9	252277.2	10	6
	2	4	72	19	16	0	746	1825	47.9	392.8	9.3	4.3	303431.6	22	15
	3	5	98	26	22	0	720	1452	75.6	316	15.1	7.6	294868	40	28
	4	6	124	33	28	0	1281	1959	91.7	834	16.7	12.5	286463.6	64	45
	5	7	148	40	34	0	2571	3603	129.9	2026.7	24.6	16.1	386001.6	94	66
	6	8	172	47	40	0	5059	6232	209	4399	38.6	23.8	476864	130	91
	7	9	198	54	46	0	9419	11326	217.3	8517.9	269.7	31.2	692558	172	120
	8	10	224	61	52	0	17279	18285	211.5	16502.8	79.9	40.4	834345.6	220	153
	9	11	248	68	58	0	34752	35752	267.4	33835.6	104.9	53.7	1469312	274	190
	10	12	272	75	64	0	67079	69142	343.3	66071.7	147.2	64.5	1544756	334	231
	11	13	296	82	70	0	123285	124955	473.1	122052.3	180.3	81.9	2422920	400	276
	12	14	320	89	76	0	181783	183825	549.4	180168.7	257.6	97.1	2351717.6	472	325
	13	15	344	96	82	0	268447	274061	914.6	266550.2	287.3	111.2	4234098.4	550	378
	14	16	368	103	88	0	357894	363703	1000.2	355768.7	381.2	141	4234301.6	634	435
	15	17	394	110	94	0	494146	504932	1157.6	491415.4	437.5	155.4	7640896.8	724	496
	16	18	420	117	100	0	636941	644785	1783.7	633707.1	575.9	182.1	8995887.6	820	561
	17	19	444	124	106	0	816292	824190	1984.1	812679.9	690.8	211.2	8866034	922	630
	18	20	468	131	112	0	1071700	1087670	2114.3	1067752.9	827.4	238.6	11878006.4	1030	703
	19	21	492	138	118	0	1389374	1411840	2349.6	1357372.2	28166.8	305.8	15928015.2	1144	780
	20	22	516	145	124	0	1711230	1734649	2813.4	1705283.6	1178.7	313.1	15850055.6	1264	861
DWs	1	3	36	11	6	1	426	798	16.1	79.75	14.8	2.85	308238.2	8	3
	2	5	70	21	12	1	688.5	1601	34.8	240.7	35.35	6.95	312583.4	23	10
	3	7	102	31	18	1	701.5	1443	60.95	178.05	47.7	5.3	299541.4	46	21
	4	9	136	41	24	1	1091	2288	85.55	446.35	80.9	9.6	313448	77	36
	5	11	168	51	30	1	2776.5	4243.5	155.55	1926.45	160	18.4	452251.2	116	55
	6	13	200	61	36	1	5120.5	7427	143.8	4286.8	178.65	27.4	567900	163	78
	7	15	232	71	42	1	6788	8862	149.5	5831.75	252.8	40.1	574297.2	218	105
	8	17	266	81	48	1	13218	15969.5	183.7	12074.35	324.2	49	900787.2	281	136
	9	19	298	91	54	1	25260.5	27745	223.4	23909.4	373.75	55.8	1335247.4	352	171
	10	21	330	101	60	1	44806	47665	379.45	43241.7	407.1	75.6	1531973.6	431	210
	11	23	362	111	66	1	81639	85485	489.65	79841.6	433.9	89.2	2999683.6	518	253
	12	25	394	121	72	1	120888.5	124408.5	653.8	118641	462.75	110.2	3016874.4	613	300
	13	27	426	131	78	1	194244	200505.5	1098.4	191133.75	673.75	147.5	5340460.6	716	351
	14	29	458	141	84	1	268157.5	273595	1168.35	264831.6	606.6	172.7	5620537.2	827	406
	15	31	490	151	90	1	395456.5	405802.5	1458.75	390932.2	1012.75	205.3	7805322.8	946	465

	16	33	524	161	96	1	536164.5	547698	2215.35	531198.15	1095.45	258.2	9073688	1073	528
	17	35	556	171	102	1	772039	789135	2504.45	765832.25	1717.8	308.6	12022440.4	1208	595
	18	37	588	181	108	1	1009517	1027323	2812.75	1003115.4	1339.75	362.35	11943639.4	1351	666
	19	39	620	191	114	1	1426204.5	1451895	3002.5	1418008.85	2015.2	445.95	15988371.8	1502	741
PH_G	2	5	90	20	14	1	774	1858	44.5	312.6	18.9	2.3	310714.8	16	6
	3	7	136	30	21	1	1077	2319	98.1	479.1	29.7	3.9	314980.4	24	9
	4	9	180	40	28	1	3098	4431	168.6	2380.1	44.9	5.4	454906.8	32	12
	5	11	226	50	35	1	10939	13298	211.1	10125.9	58.8	7.8	844727.6	40	15
	6	13	270	60	42	1	28647	30485	230.3	27785.1	77.3	10.3	1464201.6	48	18
	7	15	314	70	49	1	73470	75312	277.7	72404.7	100.2	14	2618709.6	56	21
	8	17	358	80	56	1	167932	173608	502.3	166466	124.7	18.4	5255477.6	64	24
	9	19	404	90	63	1	390107	400038	1009.9	388016.3	148	24.3	7980225.2	72	27
	10	21	448	100	70	1	828749	843165	1444.3	825910.4	171.7	30.2	16251412.8	80	30
PH	2	4	62	14	10	1	591	1332	36	183.9	9.8	4.2	313914	7	3
	3	6	100	21	15	1	1897	2584	95.9	1384.8	10.8	2.3	306471.2	7	3
	4	8	138	28	20	1	34823	35728	132.9	34198.1	20	3	847899.6	7	3
	5	10	176	35	25	1	402958	403828	289.6	402101.2	42.6	4.1	2740628	7	3
	6	12	214	42	30	1	1612755	1612323	204.5	1611946.1	64.7	5.2	9791008.8	7	3

'-' means no winning strategy exists.

Par. – the parameters of the examples.

#Tok – number of groups used for the distribution of the places.

#Var – number of BDD variables needed to code the problem.

#P – number of places of the input Petri game.

#T – number of transitions of the input Petri game.

cp – 1 if the net is concurrency-preserving, 0 otherwise.

t (wall) – elapsed wall time in milliseconds to solve the problem.

t (CPU) – elapsed CPU time in milliseconds to solve the problem.

t-p1 (wall) – elapsed wall time in milliseconds to calculate phase 1.

t-p2 (wall) – elapsed wall time in milliseconds to calculate phase 2.

t_fg (wall) – elapsed wall time in milliseconds to calculate the winning strategy of the finite graph game.

t_pg (wall) – elapsed wall time in milliseconds to calculate the winning strategy of the Petri game.

mem. (RSS) – the 'memory' in KB needed to solve the problem.

P_s – number of places of the winning strategy of the Petri game if existent.

T_s – number of transitions of the winning strategy of the Petri game if existent.