

$ \Delta  +  \Delta_c $	SMODIC	PDS	Result1	Total1	Symbolic PDS	Result2	Total2
10 + 3	<b>0.08s &amp; 2MB</b>	0.15s & 3MB	0.00s	0.15s	0.10s & 2MB	0.00s	0.10s
13 + 3	<b>0.10s &amp; 2MB</b>	0.15s & 3MB	0.00s	0.15s	0.10s & 2MB	0.00s	0.10s
13 + 3	<b>0.12s &amp; 2MB</b>	0.15s & 3MB	0.00s	0.15s	0.10s & 2MB	0.00s	0.10s
43 + 7	<b>0.24s &amp; 3MB</b>	3.44s & 4MB	0.02s	3.46s	4.80s & 5MB	0.01s	4.81s
110 + 10	<b>0.38s &amp; 7MB</b>	5.15s & 6MB	0.01s	5.16s	2.71s & 8MB	0.00s	2.71s
120 + 10	<b>0.42s &amp; 11MB</b>	5.20s & 15MB	0.01s	5.21s	2.79s & 10MB	0.01s	2.80s
255 + 8	<b>0.65s &amp; 15MB</b>	295.41s & 86MB	0.05s	295.46s	21.41s & 76MB	0.02s	21.43s
1009 + 10	<b>1.49s &amp; 97MB</b>	11504.2s & 117MB	2.46s	11506.66s	14.10s & 471MB	1.74s	15.84s
1899 + 7	<b>2.98s &amp; 210MB</b>	6538s & 171MB	4.09s	6542.09s	124.10s & 558MB	2.71s	173.71s
2059 + 8	<b>3.82s &amp; 423MB</b>	19525.1s & 113MB	4.19s	19529.29s	20.70s & 713MB	error	-
2099 + 8	<b>4.05s &amp; 32MB</b>	19031s & 192MB	4.19s	19035.19s	124.12s & 757MB	error	-
2099 + 9	<b>7.08s &amp; 252MB</b>	29742s & 198MB	4.28s	29746.28s	128.12s & 760MB	error	-
3060 + 9	<b>11.36s &amp; 282MB</b>	29993.05s & 241MB	18.72s	30011.77s	261.07s & 610MB	error	-
3160 + 9	<b>11.99s &amp; 285MB</b>	29252.05s & 257MB	26.15s	29278.2s	162.55s & 611MB	error	-
4058 + 7	<b>18.06s &amp; 332MB</b>	81408.51s & 307MB	92.68s	81501.19s	802.07s & 1013MB	error	-
4058 + 8	<b>19.42s &amp; 397MB</b>	82812.51s & 399MB	91.91s	82904.42s	899.07s & 1020MB	error	-
4158 + 8	<b>21.68s &amp; 491MB</b>	83112.51s & 401MB	97.68s	83210.19	899.19s & 1021MB	error	-
5050 + 8	<b>23.26s &amp; 499MB</b>	93912.51s & 298MB	118.12	94030.63s	205.12s & 375MB	error	-

TABLE III  
SMODIC VS. STANDARD *pre*\* ALGORITHMS OF PDSS

$ \Delta  +  \Delta_c $	SMODIC	PDS	Result1	Total1	Symbolic PDS	Result2	Total2
10 + 3	<b>0.12s &amp; 2MB</b>	0.15s & 3MB	0.00s	0.15s	0.10s & 2MB	0.00s	0.10s
13 + 3	<b>0.12s &amp; 2MB</b>	0.15s & 3MB	0.00s	0.15s	0.10s & 2MB	0.00s	0.10s
43 + 7	<b>0.28s &amp; 2MB</b>	3.44s & 4MB	0.04s	3.48s	4.80s & 5MB	0.02s	4.82s
110 + 10	<b>0.36s &amp; 8MB</b>	5.15s & 6MB	0.01s	5.16s	2.71s & 8MB	0.00s	2.71s
120 + 10	<b>0.39s &amp; 13MB</b>	5.20s & 15MB	0.01s	5.21s	2.79s & 10MB	0.01s	2.80s
255 + 8	<b>0.44s &amp; 15MB</b>	295.41s & 86MB	0.05s	295.46s	21.41s & 76MB	0.02s	21.43s
1009 + 10	<b>1.48s &amp; 97MB</b>	11504.2s & 117MB	2.56s	11506.76s	14.10s & 471MB	1.75s	15.85s
1899 + 7	<b>3.47s &amp; 212MB</b>	6538s & 171MB	3.89s	6541.89s	124.10s & 558MB	2.71s	126.81s
2059 + 8	<b>4.03s &amp; 323MB</b>	19525.1s & 113MB	3.99s	19528.99s	20.70s & 713MB	error	-
2099 + 8	<b>4.15s &amp; 332MB</b>	19031s & 192MB	3.99s	19034.99s	124.12s & 757MB	error	-
2099 + 9	<b>4.95s &amp; 352MB</b>	29742s & 198MB	4.18s	29746.18s	128.12s & 760MB	error	-
3060 + 9	<b>5.71s &amp; 388MB</b>	29993.05s & 241MB	18.12s	30011.17s	261.07s & 610MB	error	-
3160 + 9	<b>5.79s &amp; 415MB</b>	29252.05s & 257MB	26.10s	29278.15s	162.55s & 611MB	error	-
4058 + 7	<b>7.56s &amp; 364MB</b>	81408.51s & 307MB	91.68s	81500.19s	802.07s & 1013MB	error	-
4058 + 8	<b>9.76s &amp; 387MB</b>	82812.51s & 399MB	91.71s	82904.22s	899.07s & 1020MB	error	-
4158 + 8	<b>11.85s &amp; 487MB</b>	83112.51s & 401MB	97.28s	83209.79s	899.19s & 1021MB	error	-
5050 + 8	<b>13.04s &amp; 498MB</b>	93912.51s & 498MB	112.53s	94025.04s	205.12s & 375MB	error	-

TABLE IV  
SMODIC VS. STANDARD *post*\* ALGORITHMS OF PDSS

	$ \Delta  +  \Delta_c $	formula size	SMODIC time (s)	To PDS	PDS	Total Time	Result1	Result2
CTL Model Checking	5 + 2	2	<b>0.27s</b>	0.09s	0.25s	0.34s	Y	Y
	5 + 3	2	<b>0.29s</b>	0.09s	0.36s	0.45s	N	N
	6 + 4	5	<b>0.36s</b>	0.21s	0.45s	0.66s	Y	Y
	8 + 4	12	<b>2.88s</b>	0.35s	3.41s	3.76s	Y	Y
	10 + 4	18	<b>3.71s</b>	0.39s	3.85s	4.24s	Y	Y
	20 + 4	15	<b>3.84s</b>	0.62s	3.94s	4.56s	N	N
	30 + 4	8	<b>4.01s</b>	2.20s	4.79s	6.99s	Y	Y
	35 + 4	20	<b>5.13s</b>	2.36s	6.53s	8.89s	Y	Y
	50 + 8	6	<b>7.86s</b>	4.92s	8.04s	12.96s	N	N
	80 + 8	15	<b>8.46s</b>	5.06s	10.31s	15.37s	Y	Y
	80 + 8	20	<b>9.57s</b>	5.06s	10.79s	15.85s	Y	Y
	110 + 8	6	<b>8.83s</b>	5.25s	11.42s	16.64s	N	N
	110 + 8	15	<b>9.01s</b>	5.25s	12.98s	18.13s	N	N
	110 + 8	20	<b>10.24s</b>	5.25s	13.44s	18.69s	Y	Y
	120 + 10	10	<b>9.59s</b>	5.70s	12.32s	18.02s	N	N
	120 + 10	20	<b>11.48s</b>	5.70s	14.87s	20.57s	Y	Y
	250 + 8	6	<b>13.22s</b>	9.13s	18.94s	28.07s	N	N
	250 + 8	15	<b>18.37s</b>	9.13s	21.11s	30.24s	Y	Y
	500 + 8	6	<b>20.51s</b>	17.02s	29.25s	46.27s	N	N
	600 + 9	8	<b>23.34s</b>	295.24s	57.79s	353.03s	Y	Y
	600 + 9	15	<b>28.88s</b>	295.24s	63.16s	358.40s	Y	Y
	600 + 9	25	<b>35.39s</b>	295.24s	69.82s	365.06s	Y	Y
	1000 + 10	6	<b>35.11s</b>	3251.02s	7127.41s	10378.43s	N	N
	1100 + 10	8	<b>37.34s</b>	3251.02s	7319.82s	10570.84s	Y	Y
	1100 + 10	45	<b>83.63s</b>	3251.02s	-	-	N	-
	1500 + 8	30	<b>60.71s</b>	2182.78s	13821.34s	16004.12s	N	N
	2000 + 10	18	<b>49.48s</b>	5529.30s	-	-	Y	-
	2000 + 10	36	<b>61.13s</b>	5529.30s	-	-	N	-
	2100 + 10	15	<b>60.74s</b>	5544.69s	-	-	Y	-
	2500 + 8	30	<b>68.55s</b>	3981.93s	-	-	N	-
	3000 + 7	10	<b>65.84s</b>	5167.27s	-	-	Y	-
	3000 + 7	22	<b>78.51s</b>	5167.27s	-	-	N	-
	3500 + 8	6	<b>70.83s</b>	6105.60s	-	-	N	-
	3500 + 8	20	<b>83.14s</b>	6105.60s	-	-	Y	-
	3500 + 10	6	<b>75.91s</b>	9219.18s	-	-	N	-
	3500 + 10	20	<b>93.37s</b>	9219.18s	-	-	Y	-
	3800 + 10	30	<b>99.06s</b>	9295.24s	-	-	N	-
	3850 + 10	8	<b>93.20s</b>	9308.01s	-	-	Y	-
	3850 + 10	30	<b>115.52s</b>	9308.01s	-	-	N	-
	4000 + 10	8	<b>113.34s</b>	10002.28s	-	-	Y	-
	4000 + 10	20	<b>125.81s</b>	10002.28s	-	-	N	-
	4200 + 8	15	<b>121.16s</b>	9599.37s	-	-	Y	-
	4500 + 8	23	<b>136.72s</b>	9881.85s	-	-	Y	-
	4500 + 11	5	<b>139.95s</b>	40290.27s	-	-	Y	-
	4800 + 11	10	<b>142.13s</b>	42184.85s	-	-	Y	-
	4800 + 11	15	<b>153.22s</b>	42184.85s	-	-	Y	-
	5500 + 10	20	<b>196.46s</b>	45745.44s	-	-	Y	-

TABLE V  
SMODIC VS. STANDARD ALGORITHMS FOR PDSs FOR CTL MODEL CHECKING

Example	Size	Result	cost	Example	Size	Result	cost	Example	Size	Result	cost
Tanatos.b	12315	Yes	16.261s	Netsky.c	45	Yes	0.002s	Win32.Happy	23	Yes	0.042s
Netsky.a	45	Yes	0.047s	Mydoom.c	155	Yes	0.014s	MyDoom-N	16980	Yes	30.231s
Mydoom.y	26902	Yes	12.462s	Mydoom.j	22355	Yes	11.262s	klez-N	6281	Yes	3.252s
klez.c	30	Yes	0.039s	Mydoom.v	5965	Yes	3.971s	Netsky.b	45	Yes	0.057s
Repah.b	221	Yes	2.428s	Gibe.b	5358	Yes	4.229s	Magistr.b	4670	Yes	3.699s
Netsky.d	45	Yes	0.083s	Ardurk.d	1913	Yes	0.482s	klez.f	27	Yes	0.054s
Kelino.l	495	Yes	0.326s	Kipis.t	20378	Yes	25.345s	klez.d	31	Yes	0.085s
Kelino.g	470	Yes	0.672s	Plage.b	395	Yes	0.291s	Urbe.a	123	Yes	0.376s
klez.e	27	Yes	0.094s	Magistr.b	4670	Yes	3.987s	Magistr.a.poly	36989	Yes	49.863s
Mydoom.M@mm	5965	Yes	5.633s	MyDoom.54464	5935	Yes	5.939s	MyDoom.N!worm	5970	Yes	6.152s
Win32.Ronouce	51678	Yes	92.692s	Win32.Chur.A	51895	Yes	98.161s	Win32.CNHacker	51095	Yes	94.952s
Win32.Mydoom!O	215	Yes	0.481s	Mydoom.o@MM	257	Yes	0.298s	W.Mydoom.kZ2L	228	Yes	0.729s
Mydoom-EG [Trj]	230	Yes	0.242s	Email.Worm!c	220	Yes	0.249s	W32.Mydoom.L	235	Yes	0.288s
Worm.Mydoom-5	228	Yes	0.307s	Mydoom.CJZD	225	Yes	0.392s	Mydoom.DN	220	Yes	0.299s
Win32.Mydoom.R	230	Yes	0.322s	Mydoom.dlnpqi	235	Yes	0.296s	Mydoom.o@MM	235	Yes	0.403s
Sramota.avf	240	Yes	0.383s	Mydoom	238	Yes	0.278s	Mydoom.288	248	Yes	0.410s
Mydoom.ACQ	19210	Yes	39.662s	Mydoom.ba	19423	Yes	38.269s	Mydoom.ftde	19495	Yes	39.583s
Worm.Anarxy	210	Yes	1.913s	Malware!15bf	220	Yes	2.017s	Anar.A.2	140	Yes	1.993s
Win32.Anar.a	215	Yes	1.631s	nar.24576	240	Yes	2.738s	Anar.S	155	Yes	2.093s
HLLW.NewApt	4230	Yes	6.954s	Win32.Worm.km	4405	Yes	7.396s	Newapt.Efbh	4550	Yes	7.254s
NewApt!generic	4815	Yes	9.002s	NewApt.A@mm	4485	Yes	8.159s	Newapt.Win32.1	4155	Yes	7.885s
W32.W.Newapt.A	5015	Yes	8.925s	Worm.NewApt.a	51550	Yes	9.083s	malicious.154966	5155	Yes	9.291s
Win32.Yanz	2250	Yes	4.357s	Yanzi.QTQX-0894	2120	Yes	4.109s	Win32.Yanz.a	2410	Yes	4.465s
Win32.Skybag	4180	Yes	6.891s	Skybag.A	4310	Yes	6.205s	Netsky.ah@MM	4480	Yes	6.991s
Skybag.b	4955	Yes	6.892s	Worm.Skybag-1	4820	Yes	7.119s	Win32.Agent.R	4490	Yes	7.898s
Skybag [Wrm]	4985	Yes	7.482s	Skybag.Dvgb	4830	Yes	7.564s	Netsky.CI.worm	4550	Yes	7.180s
Agent.xpro	533	Yes	0.352s	Vilse.lhb	15036	Yes	4.972s	Generic.2026199	433	Yes	3.489s
Vilse.lhb	15036	Yes	26.962s	Generic.DF	5358	Yes	7.821s	LdPinch.aq	7695	Yes	6.290s
Jorik	837	Yes	4.159s	Bugbear-B	9278	Yes	17.737s	Tanatos.O	9284	Yes	21.481s
Gen.2	1510	Yes	5.632s	Gibe.b	5358	Yes	9.615s	Generic26.AXCN	837	Yes	3.792s
Androm	95	Yes	0.028s	Ardurk.d	1913	Yes	3.679s	Generic.12861	30183	Yes	72.264s
LdPinch.by	970	Yes	4.092s	Generic.2026199	433	Yes	2.402s	LdPinch.arr	1250	Yes	1.848s
Generic.12861	30183	Yes	88.294s	Generic.18017273	267	Yes	0.192s	LdPinch.mg	5957	Yes	9.297s
Script.489524	522	Yes	1.458s	Generic.DF	5358	Yes	8.291s	Zafi	433	Yes	1.028s
GenericKD4047	3495	Yes	4.646s	Win32.Agent.es	3500	Yes	6.083s	W32.HfsAutoB.	3398	Yes	5.092s
Trojan.Sivis-1	5351	Yes	7.029s	Win32.Siggen.28	5440	Yes	6.998s	Trojan/Cosmu.isk.	5345	Yes	6.273s
Trojan.17482-4	381	Yes	1.495s	Delphi.Gen	375	Yes	1.948s	Trojan.b5ac.	370	Yes	2.089s
Delfobfus	798	Yes	3.909s	Troj.Undef	790	Yes	4.068s	Trojan-Ransom.	805	Yes	5.119s
LDPinch.400	1783	Yes	4.893s	PSW.LdPinch.plt	1808	Yes	5.088s	PSW.Pinch.1	1905	Yes	5.757s
LdPinch.BX.DLL	2010	Yes	6.965s	LdPinch.fmye	1845	Yes	6.194s	LdPinch.5558	2015	Yes	6.907s
Lydra.a	3450	Yes	8.289s	Trojan.StartPage	2985	Yes	5.982s	PSW.Troj.LdPinch	2985	Yes	6.198s
LdPinch-21	3180	Yes	6.917s	LdPinch-R	3025	Yes	7.005s	LdPinch.Gen.2	2990	Yes	6.992s
Graftor.46303	3230	Yes	5.898s	LdPinch-AIH [Trj]	3010	Yes	6.095s	Win32.Heur.k	2970	Yes	5.950s
LdPinch-15	580	Yes	1.008s	LdPinch.e	578	Yes	1.185s	Win32/Toga!rfn	590	Yes	2.023s
PSW.LdPinch.mj	595	Yes	1.078s	Gaobot.DIH.worm	590	Yes	1.482s	LDPinch.DF	588	Yes	1.736s
TrojanSpy.Zbot	610	Yes	1.610s	LDPinch.10639	605	Yes	1.185s	SillyProxy.AM	590	Yes	1.882s
LdPinch.mj!c	590	Yes	4.5345s	LdPinch.H.gen	605	Yes	3.955s	Generic!BT	615	Yes	2.085s
LdPnch-Fam	195	Yes	1.440s	Troj.LdPinch.er	205	Yes	2.529s	LdPinch.Gen.3	210	Yes	1.482s
Win32.Malware.wsc	150	Yes	2.843s	malicious.7aa9fd	185	Yes	2.189s	WS.LDPinch.400	195	Yes	1.898s

TABLE VI  
MALWARE DETECTION USING SMODIC: PART 1

Example	Size	Result	cost	Example	Size	Result	cost	Example	Size	Result	cost
calculation	9952	No	18.352s	cisvc.exe	4105	No	3.631s	simple.exe	52	No	0.001s
shutdown.exe	2529	No	0.397s	loop.exe	529	No	9.249s	cmd.exe	1324	No	13.466s
notepad.exe	10529	No	24.583s	java.exe	800	No	15.852s	java.exe	21324	No	42.373s
sort.exe	8529	No	29.789s	bibDesk.exe	32800	No	50.279s	interface.exe	1005	No	8.462s
ipv4.exe	968	No	4.186s	TextWrangler	14675	No	45.221s	sogou.exe	45219	No	55.259s
game.exe	34325	No	82.424s	cycle.tex	9014	No	42.555s	calender.exe	892	No	35.039s
SdBot.zk	3430	Yes	23.242s	Virus.Gen	661	Yes	9.437s	AutoRun.PR	240	Yes	4.181s
Adon.1703	37	Yes	0.358s	Adon.1559	37	Yes	0.255s	Spam.Tedroo.AB	487	Yes	0.924s
Akez	273	Yes	0.136s	Alcaul.d	845	Yes	0.165s	Alaul.c	355	Yes	0.109s
Virus.klk	5235	Yes	15.863s	Virus.Agent	5340	Yes	15.968s	Hoax.Gen	5455	Yes	13.569s
eHeur.Virus02	420	Yes	4.985s	Akez.11255	440	Yes	3.985s	Akez.Win32.1	455	Yes	4.008s
Weird.10240.C	430	Yes	3.929s	PEAKEZ.A	450	Yes	2.998s	Virus.Weird.c	473	Yes	3.302s
W95/Kuang	435	Yes	2.985s	Radar01.Gen	465	Yes	4.005s	Akez.Win32.5	490	Yes	3.958s
Haharin.A	210	Yes	1.462s	fsAutoB.F026	245	Yes	1.698s	Haharin.dr	235	Yes	1.558s
NGVCK1	329	Yes	0.933s	NGVCK2	455	Yes	1.109s	NGVCK3	2300	Yes	1.388s
NGVCK4	550	Yes	1.149s	NGVCK5	1555	Yes	1.825s	NGVCK6	1698	Yes	1.689s
NGVCK7	6902	Yes	14.524s	NGVCK8	2355	Yes	4.254s	NGVCK9	281	Yes	13.301s
NGVCK10	2980	Yes	9.262s	NGVCK11	5965	Yes	11.456s	NGVCK12	4529	Yes	10.094s
NGVCK13	2210	Yes	8.902s	NGVCK14	5358	Yes	10.294s	NGVCK15	970	Yes	1.912s
NGVCK16	658	Yes	0.935s	NGVCK17	913	Yes	1.392s	NGVCK18	90	Yes	0.094s
NGVCK19	1295	Yes	6.958s	NGVCK20	4378	Yes	15.449s	NGVCK21	31	Yes	0.097s
NGVCK22	370	Yes	0.898s	NGVCK23	3955	Yes	9.498s	NGVCK24	6924	Yes	11.983s
NGVCK25	8127	Yes	15.018s	NGVCK26	4970	Yes	9.982s	NGVCK27	7989	Yes	13.197s
NGVCK28	227	Yes	0.098s	NGVCK29	960	Yes	0.692s	NGVCK30	89	Yes	0.088s
NGVCK31	550	Yes	0.875s	NGVCK32	60	Yes	0.059s	NGVCK33	65	Yes	0.069s
NGVCK34	5990	Yes	9.848s	NGVCK35	4590	Yes	10.178s	NGVCK36	825	Yes	2.934s
NGVCK37	80	Yes	0.998s	NGVCK38	150	Yes	1.093s	NGVCK39	395	Yes	1.048s
NGVCK40	40	Yes	0.921s	NGVCK41	950	Yes	0.704s	NGVCK42	8290	Yes	15.085s
NGVCK43	6220	Yes	2.930s	NGVCK44	5215	Yes	11.006s	NGVCK45	9290	Yes	14.595s
NGVCK46	320	Yes	0.928s	NGVCK47	834	Yes	2.958s	NGVCK48	9810	Yes	14.696s
NGVCK49	12320	Yes	25.395s	NGVCK50	8810	Yes	19.969s	NGVCK51	39810	Yes	68.283s
NGVCK52	520	Yes	0.289s	NGVCK53	15	Yes	0.089s	NGVCK54	8883	Yes	11.393s
NGVCK55	12520	Yes	38.768s	NGVCK56	6218	Yes	15.489s	NGVCK57	32562	Yes	83.482s
NGVCK58	9520	Yes	23.658s	NGVCK59	818	Yes	2.592s	NGVCK60	12962	Yes	38.025s
NGVCK61	10020	Yes	24.976s	NGVCK62	8818	Yes	19.299s	NGVCK63	2068	Yes	3.662s
NGVCK64	273	Yes	1.987s	NGVCK65	5855	Yes	8.995s	NGVCK66	68	Yes	1.002s
NGVCK69	4150	Yes	8.052s	NGVCK70	9860	Yes	24.199s	NGVCK71	3240	Yes	7.951s
NGVCK72	31	Yes	0.591s	NGVCK73	549	Yes	1.052s	NGVCK74	9078	Yes	29.078s
NGVCK75	90	Yes	1.002s	NGVCK76	5890	Yes	10.128s	NGVCK77	1958	Yes	9.559s
NGVCK78	33468	Yes	75.098s	NGVCK79	4735	Yes	10.980s	NGVCK80	45273	Yes	82.396s
NGVCK66	777	Yes	0.198s	NGVCK67	895	Yes	0.223s	NGVCK81	6939	Yes	2.726s
NGVCK82	2931	Yes	0.463s	NGVCK83	8759	Yes	10.316s	NGVCK84	34563	Yes	53.244s
NGVCK85	19024	Yes	29.220s	NGVCK86	1026	Yes	0.572s	NGVCK87	7929	Yes	5.671s
NGVCK88	6126	Yes	8.682s	NGVCK89	580	Yes	2.036s	NGVCK90	27843	Yes	17.353s
NGVCK91	20	Yes	0.001s	NGVCK92	59	Yes	0.903s	NGVCK93	98	Yes	0.021s
NGVCK94	150	Yes	0.146s	NGVCK95	1679	Yes	0.294s	NGVCK96	6299	Yes	5.196s
NGVCK97	4496	Yes	5.272s	NGVCK98	428	Yes	0.329s	NGVCK99	158	Yes	1.153s
NGVCK100	895	Yes	0.961s	NGVCK101	745	Yes	1.117s	NGVCK102	704	Yes	0.269s
NGVCK103	86	Yes	0.282s	NGVCK104	145	Yes	0.998s	NGVCK105	24124	Yes	68.816s

TABLE VII  
MALWARE DETECTION USING SMODIC: PART 2

Example	Size	Result	cost	Example	Size	Result	cost	Example	Size	Result	cost
calculation.exe	9952	No	76.34s	cisvc.exe	4105	No	31.22s	simple.exe	52	No	3.17s
shutdown.exe	2529	No	23.52s	loop.exe	529	No	11.78s	cmd.exe	1324	No	19.36s
notepad.exe	10529	No	68.77s	java.exe	800	No	19.17s	java.exe	21324	No	122.07s
sort.exe	8529	No	74.12s	bibDesk.exe	32800	No	243.79s	interface.exe	1005	No	18.25s
ipv4.exe	968	No	24.43s	TextWrangler.exe	14675	No	65.09s	sogou.exe	45219	No	301.14s
game.exe	34325	No	234.14s	cycle.tex	9014	No	75.44s	calender.exe	892	No	25.39s
Adson.1651	39	Yes	0.44s	Adson.1734	42	Yes	0.43s	Alcaul.d	40	Yes	0.48s
Adon.1703	37	Yes	0.39s	Adon.1559	37	Yes	0.35s	Alcaul.i	48	Yes	0.44s
Alcaul.o	33	Yes	0.29s	Alcaul.d	845	Yes	0.165s	Alaul.c	355	Yes	0.109s
Alcaul.j	45	Yes	0.56s	Alcaul.m	23	Yes	0.19s	Evol.a	53	Yes	7.09s
Alcaul.e	32	Yes	1.93s	Alcaul.h	34	Yes	3.95s	Alcaul.g	25	Yes	4.18s
Alcaul.b	19	Yes	0.12s	Alcaul.f	23	Yes	1.99s	Alcaul.k	28	Yes	2.31s
Alcaul.l	27	Yes	0.95s	Klinge	45	Yes	64.15s	Akez.Win32.5	490	Yes	53.18s
Oroch.3982	31	Yes	1.49s	Anara	22	Yes	1.27s	Anar.b	25	Yes	1.58s
Bagle.dp	235	Yes	3.52s	Bagle.dv	175	Yes	6.14s	Bagle.ds	328	Yes	7.29s
Bagle.e	30	Yes	1.52s	Bagle.eb	185	Yes	3.87s	Bagle.ee	198	Yes	3.88s
Bagle.dn	198	Yes	6.07s	Bagle.ej	188	Yes	5.11s	Bagle.ff	355	Yes	8.07s
Bagle.ex	197	Yes	5.96s	Bagle.ev	183	Yes	6.50s	Bagle.en	192	Yes	9.99s
Predec.h	2650	Yes	58.34s	Predec.i	2855	Yes	63.58s	Predec.j	2835	Yes	62.37s
Predec.b	2830	Yes	61.77s	Predec.c	2858	Yes	64.02s	Predec.d	2826	Yes	61.11s
Predec.e	2850	Yes	67.97s	Predec.f	2895	Yes	69.50s	Predec.g	2829	Yes	66.59s
Haharin	355	Yes	13.52s	Ditex.a	25	Yes	1.46s	Oroch.5420	75	Yes	9.42s
Netsky.a	45	Yes	19.12s	Mydoom.c	155	Yes	4.14s	MyDoom-N	16980	Yes	343.93s
Netsky.x	55	Yes	21.85s	Netsky.y	68	Yes	29.06s	Netsky.z	115	Yes	43.37s
Netsky.gen	5508	Yes	59.24s	Netsky.p	6015	Yes	76.32s	Netsky.m	6805	Yes	73.77s
Netsky.r	230	Yes	8.83s	Netsky.k	6115	Yes	79.79s	Netsky.e	6245	Yes	79.44s
Mydoom.y	26902	Yes	452.77s	Mydoom.j	22355	Yes	211.93s	klez-N	6281	Yes	63.07s
klez.c	30	Yes	2.79s	Mydoom.v	5965	Yes	283.11s	Netsky.b	45	Yes	29.51s
Repah.b	221	Yes	12.76s	Gibe.b	5358	Yes	37.01s	Magistr.b	4670	Yes	43.59s
Netsky.d	45	Yes	1.87s	Ardurk.d	1913	Yes	12.08s	klez.f	27	Yes	0.73s
Kelino.l	495	Yes	21.01s	Kipis.t	20378	Yes	121.11s	klez.d	31	Yes	0.95s
Kelino.g	470	Yes	22.08s	Plage.b	395	Yes	1.96s	Urbe.a	123	Yes	9.17s
klez.e	27	Yes	3.94s	Magistr.b	4670	Yes	231.97s	Magistr.a.poly	36989	Yes	469.63s
Mydoom.M	5965	Yes	75.19s	MyDoom.54464	5935	Yes	45.78s	Mydoom.e	138	Yes	46.53s
Mydoom.R	230	Yes	30.22s	Mydoom.dlnpqj	235	Yes	1.99s	Mydoom.o	235	Yes	2.01s
Sramota.avf	240	Yes	11.01s	Mydoom	238	Yes	2.01s	Mydoom.288	248	Yes	3.12s
Mydoom.ACQ	19210	Yes	439.57s	Mydoom.ba	19423	Yes	238.77s	Mydoom.ftde	19495	Yes	339.29s
LdPinch.by	970	Yes	42.92s	Generic.2026199	433	Yes	32.83s	LdPinch.arr	1250	Yes	49.84s
Generic.12861	30183	Yes	188.94s	Generic.18017273	267	Yes	9.19s	LdPinch.mg	5957	Yes	69.77s
LDPinch.400	1783	Yes	54.93s	PSW.LdPinch.plt	1808	Yes	55.88s	PSW.Pinch.l	1905	Yes	57.07s
Newapt.F	11785	Yes	211.24s	Newapt.A	11715	Yes	205.79s	Newapt.E	11797	Yes	252.49s
LdPinch.bb	8145	Yes	63.13s	LdPinch.br	3645	Yes	33.52s	LdPinch.hb	1645	Yes	21.08s
LdPinch.v	7235	Yes	51.69s	LdPinch.fk	4906	Yes	47.11s	LdPinch.awp	195	Yes	17.97s
LdPinch.aaz	4145	Yes	41.05s	LdPinch.c0	8230	Yes	65.17s	LdPinch.ee	6501	Yes	71.30s
Bagle.m	5111	Yes	39.92s	Bagle.k	35	Yes	1.92s	Bagle.t	3345	Yes	45.64s
Newapt.C	11730	Yes	924.92s	Krynos.b	18370	Yes	893.45s	Jeans.a	6490	Yes	188.36s
Atak.f	2005	Yes	11.35s	Atak.g	2498	Yes	16.69s	Atak.l	1914	Yes	10.37s
Bagle.ab	5690	Yes	89.42s	Bagle.ef	995	Yes	54.11s	Bagle.eg	380	Yes	25.49s

TABLE VIII  
MALWARE DETECTION USING SMODIC: PART 3