The results are reported for four benchmark datasets used in our experiments.In this table, $|V'|$ and $|E'|$ represent the number of vertices and edges of the graph after applying the reduction rules but before the removal of the independent set. These values indicate the size of the reduced instance at the end of the preprocessing phase, allowing us to assess the impact of the reduction procedures on graph size.

Table 1: Network Repository

Graph	$|V|$	$|E|$	Avg $|V'|$	Avg $|E'|$	Avg $|V'|/|V|$	Avg $|E'|/|E|$	Avg / Min ans
soc-karate	34	78	29.2	68.8	85.88%	88.21%	5 / 5
soc-dolphins	62	159	36.0	109.0	58.06%	68.55%	5 / 5
rt-retweet	96	117	96.0	117.0	100.00%	100.00%	4 / 4
ia-infect-hyper	113	2196	100.5	2033.5	88.94%	92.60%	16 / 16
scc_infect-hyper	113	6222	113.0	6222.0	100.00%	100.00%	106 / 106
ia-enron-only	143	623	17.0	100.0	11.89%	16.05%	8 / 8
scc_enron-only	151	9828	148.0	9571.1	98.01%	97.39%	120 / 120
ca-netscience	379	914	30.7	107.7	8.10%	11.78%	9 / 9
ia-infect-dublin	410	2765	70.8	696.6	17.27%	25.19%	16 / 16
bio-celegans	453	2025	56.8	409.5	12.54%	20.22%	9 / 9
bio-diseasome	516	1188	112.0	281.6	21.71%	23.70%	11 / 11
web-polblogs	643	2280	49.0	443.0	7.62%	19.43%	9.9 / 9
rt-twitter-copen	761	1029	80.4	219.5	10.57%	21.33%	4 / 4
soc-wiki-Vote	889	2914	199.7	1212.2	22.46%	41.60%	7 / 7
scc_fb-forum	897	71011	152.1	13727.7	16.96%	19.33%	266 / 266
ia-email-univ	1133	5451	416.3	2873.6	36.74%	52.72%	12 / 12
ia-fb-messages	1266	6451	666.0	5219.0	52.61%	80.90%	6 / 6
web-google	1299	2773	422.5	1067.7	32.53%	38.50%	18 / 18
bio-yeast	1458	1948	239.0	380.0	16.39%	19.51%	6 / 6
scc_rt_voteonedirection	1833	5	3.0	3.0	0.16%	60.00%	3 / 3
ca-CSphd	1882	1740	113.0	133.0	6.00%	7.64%	3 / 3
scc_fb-messages	1899	531893	1899.0	531893.0	100.00%	100.00%	707 / 707
scc_rt_assad	2035	96	19.1	66.4	0.94%	69.17%	8 / 8
tech-routers-rf	2113	6632	463.9	1717.2	21.95%	25.89%	16 / 16
scc_rt_damascus	2962	41	602.4	26.9	20.34%	65.61%	5 / 5
web-edu	3031	6474	645.5	1774.5	21.30%	27.41%	30 / 30
scc_rt_obama	3040	4	8.0	4.0	0.26%	100.00%	2 / 2
scc_rt_occupy	3090	60	8.0	20.0	0.26%	33.33%	5 / 5
scc_rt_lebanon	3370	5	10.0	5.0	0.30%	100.00%	2 / 2
scc_rt_tlot	3513	8	13.0	8.0	0.37%	100.00%	2 / 2
scc_rt_occupywallstnyc	3594	931	1459.2	603.2	40.60%	64.79%	18 / 18
scc_rt_israel	3686	12	1487.6	12.0	40.36%	100.00%	2 / 2
scc_rt_gop	3716	7	13.0	7.0	0.35%	100.00%	2 / 2
scc_rt_alwefaq	4157	355	1684.5	305.5	40.52%	86.06%	16 / 16
ca-GrQc	4158	13422	1348.7	5793.2	32.44%	43.16%	44 / 44
scc_rt_oman	4452	13	7.6	7.4	0.17%	56.92%	3 / 3
scc_rt_tcot	4506	18	454.2	6.3	10.08%	35.00%	3 / 3
scc_rt_bahrain	4659	129	10.6	42.2	0.23%	32.71%	8 / 8
scc_rt_uae	4757	12	479.9	4.8	10.09%	40.00%	3 / 3
web-spam	4767	37375	740.6	15920.4	15.54%	42.60%	20 / 20
scc_rt_p2	4785	15	2405.5	15.0	50.27%	100.00%	2 / 2
inf-power	4941	6594	526.8	736.1	10.66%	11.16%	6 / 6
scc_rt_libya	5021	26	512.0	15.6	10.20%	60.00%	3 / 3
scc_rt_http	5691	6	5.0	6.0	0.09%	100.00%	3 / 3
scc_rt_ksa	5775	23	7.5	15.8	0.13%	68.70%	6 / 6
scc_rt_dash	5968	39	604.0	21.9	10.12%	56.15%	6 / 6
ca-Erdos992	6100	7515	33.7	151.8	0.55%	2.02%	8 / 8
socfb-MIT	6402	251230	3936.0	218216.0	61.48%	86.86%	37.4 / 37
socfb-CMU	6621	249959	3228.2	181774.9	48.76%	72.72%	45 / 45
scc_rt_qatif	6718	11	6718.0	11.0	100.00%	100.00%	3 / 3
scc_rt_saudi	6805	91	2058.9	88.4	30.26%	97.14%	8 / 8
scc_reality	6809	4714485	3939.1	2691237.0	57.85%	57.08%	1236 / 1236
ia-reality	6809	7680	132.0	533.0	1.94%	6.94%	5 / 5
bio-dmela	7393	25569	2035.3	14189.6	27.53%	55.50%	7 / 7
tech-WHOIS	7476	56943	282.8	17507.5	3.78%	30.75%	58 / 58
scc_rt_onedirection	7704	368	1567.3	366.8	20.34%	99.67%	27 / 27
scc_rt_mittromney	7850	108	30.6	61.5	0.39%	56.94%	5 / 5
scc_rt_gmanews	8330	1078	881.2	643.1	10.58%	59.66%	22 / 22
scc_twitter-copen	8580	473614	440.3	126876.6	5.13%	26.79%	581 / 581
scc_rt_justinbieber	9364	442	2836.5	387.2	30.29%	87.60%	17 / 17
scc_rt_barackobama	9551	226	978.3	154.8	10.24%	68.50%	10 / 10
scc_rt_lolgop	9742	4510	37.6	778.6	0.39%	17.26%	42 / 42
socfb-Duke14	9885	506437	7013.0	465047.0	70.95%	91.83%	40 / 40
scc_infect-dublin	10972	175573	5579.8	91534.8	50.85%	52.13%	84 / 84
ca-HepPh	11204	117619	10107.5	108701.2	90.21%	92.42%	239 / 239
web-indochina-2004	11358	47606	4573.2	19777.4	40.26%	41.54%	50 / 50
socfb-Stanford3	11586	568309	6199.7	475055.8	53.51%	83.59%	51 / 51
web-BerkStan	12305	19500	2551.4	4435.6	20.73%	22.75%	29 / 29
socfb-UCSB37	14917	482215	1262.5	68995.0	8.46%	14.31%	53 / 53
web-webbase-2001	16062	25593	3284.1	5956.2	20.45%	23.27%	33 / 33
socfb-UConn	17206	604867	5957.3	303055.7	34.62%	50.10%	50 / 50
ca-AstroPh	17903	196972	1852.8	21447.6	10.35%	10.89%	57 / 57
scc_retweet	18469	65990	206.0	18575.3	1.12%	28.15%	166 / 166
socfb-UCLA	20453	747604	8319.9	487180.2	40.68%	65.17%	51 / 51
ca-CondMat	21363	91286	4343.1	19074.7	20.33%	20.90%	26 / 26

Graph	$|V|$	$|E|$	Avg $|V'|$	Avg $|E'|$	Avg $|V'|/|V|$	Avg $|E'|/|E|$	Avg / Min ans
socfb-Berkeley13	22900	852419	11126.0	617272.0	48.59%	72.41%	42.1 / 42
socfb-Wisconsin87	23831	835946	13325.0	638423.0	55.91%	76.37%	38 / 38
tech-as-caida2007	26475	53381	185.7	2726.8	0.70%	5.11%	16 / 16
soc-epinions	26588	100120	1430.0	30353.0	5.38%	30.32%	16.8 / 16
socfb-Indiana	29732	1305757	15574.2	955523.0	52.38%	73.18%	48 / 48
socfb-UIllinois	30795	1264421	10948.0	683383.0	35.55%	54.05%	57 / 57
ia-email-EU	32430	54397	605.0	9581.0	1.87%	17.61%	13 / 13
ia-enron-large	33696	180811	2276.0	68430.0	6.75%	37.85%	24 / 24
socfb-UF	35111	1465654	12496.0	820553.0	35.59%	55.99%	56.8 / 56
socfb-Texas84	36364	1590651	16086.0	1046859.0	44.24%	65.81%	52.2 / 52
tech-internet-as	40164	85123	211.5	3413.2	0.53%	4.01%	16 / 16
socfb-Penn94	41536	1362220	16444.8	825415.3	39.59%	60.59%	44 / 44
sc-nasasrb	54870	1311227	53269.0	1283956.0	97.08%	97.92%	29.2 / 29
soc-brightkite	56739	212945	257.8	10213.4	0.45%	4.80%	37 / 37
tech-p2p-gnutella	62561	147878	19765.0	86829.0	31.59%	58.72%	5 / 5
socfb-OR	63392	816886	8913.0	340268.0	14.06%	41.66%	31 / 31
soc-slashdot	70068	358647	2808.0	85760.0	4.01%	23.91%	29 / 29
sc-pkustk11	87804	2565054	40908.0	1340238.0	46.59%	52.25%	36 / 36
soc-BlogCatalog	88784	2093195	13833.0	1511343.0	15.58%	72.20%	75.9 / 75
rec-amazon	91813	125704	91813.0	125704.0	100.00%	100.00%	5 / 5
ia-wiki-Talk	92117	360767	5623.0	168151.0	6.10%	46.61%	25 / 25
sc-pkustk13	94893	3260967	92083.0	3180903.0	97.04%	97.54%	38 / 38
soc-buzznet	101163	2763066	30876.7	2118080.2	30.52%	76.66%	49.7 / 49
soc-LiveMocha	104103	2193083	47553.5	1852925.9	45.68%	84.49%	25.9 / 25
web-sk-2005	121422	334419	121422.0	334419.0	100.00%	100.00%	82 / 82
web-uk-2005	129632	11744049	129632.0	11744049.0	100.00%	100.00%	500 / 500
sc-shipsec1	140385	1707759	7877.6	163314.4	5.61%	9.56%	24 / 24
soc-douban	154908	327162	5636.5	69689.5	3.64%	21.30%	11 / 11
web-arabic-2005	163598	1747269	98217.2	1051187.4	60.04%	60.16%	102 / 102
sc-shipsec5	179104	2200076	9665.0	194207.0	5.40%	8.83%	25 / 25
tech-RL-caida	190914	607610	3214.5	61242.5	1.68%	10.08%	17 / 17
soc-gowalla	196591	950327	4377.0	143243.1	2.23%	15.07%	29 / 29
sc-pwtk	217891	5653221	216137.0	5625330.0	99.20%	99.51%	30.2 / 30
ca-dblp-2010	226413	716460	135877.8	430986.0	60.01%	60.15%	75 / 75
ca-citeseer	227320	814134	45604.4	168294.4	20.06%	20.67%	87 / 87
ca-dblp-2012	317080	1049866	158861.5	530973.3	50.04%	50.58%	114 / 114
ca-MathSciNet	332689	820644	99844.9	246631.5	30.01%	30.05%	25 / 25
soc-twitter-follows	404719	713319	17000.2	200720.0	4.20%	28.14%	6 / 6
sc-msdoor	415863	9378650	404664.0	9376555.0	97.31%	99.98%	31 / 31
soc-youtube	495957	1936748	23212.0	599031.0	4.68%	30.93%	22.8 / 22
web-it-2004	509338	7178413	509338.0	7178413.0	100.00%	100.00%	432 / 432
soc-flickr	513969	3190452	11581.3	1339294.1	2.25%	41.98%	93.7 / 93
soc-delicious	536108	1365961	3823.1	76359.9	0.71%	5.59%	21 / 21
ca-coauthors-dblp	540486	15245729	540486.0	15245729.0	100.00%	100.00%	337 / 337
soc-FourSquare	639014	3214966	21670.0	814525.0	3.39%	25.34%	31 / 31
soc-digg	770799	5907132	23873.0	2968218.0	3.10%	50.25%	54.9 / 54
sc-ldoor	952203	20770807	909407.0	20768557.0	95.51%	99.99%	31 / 31
ca-hollywood-2009	1069126	56306653	1069126.0	56306653.0	100.00%	100.00%	2209 / 2209
inf-roadNet-PA	1087562	1541514	544239.0	771502.5	50.04%	50.05%	4 / 4
rt-retweet-crawl	1112702	2278852	24700.0	313906.8	2.22%	13.77%	13 / 13
scc_retweet-crawl	1131801	24015	226392.2	5153.9	20.00%	21.46%	20 / 20
soc-youtube-snap	1134890	2987624	24515.0	670033.0	2.16%	22.43%	23 / 23
soc-lastfm	1191805	4519330	71244.0	1584849.0	5.98%	35.07%	19.5 / 19
soc-pokec	1632803	22301964	287999.0	9024139.0	17.64%	40.46%	29 / 29
tech-as-skitter	1694616	11094209	4515.1	324274.3	0.27%	2.92%	67 / 67
web-wikipedia2009	1864433	4507315	1264.1	51858.3	0.07%	1.15%	31 / 31
inf-roadNet-CA	1957027	2760388	1761760.7	2485088.5	90.02%	90.03%	4 / 4
soc-flixster	2523386	7918801	33562.0	1240777.0	1.33%	15.67%	34.7 / 34
socfb-B-anon	2937612	20959854	333866.6	12857768.7	11.37%	61.34%	24.5 / 24
soc-orkut	2997166	106349209	866989.5	58381477.3	28.93%	54.90%	66.9 / 66
socfb-A-anon	3097165	23667394	369073.6	14024905.4	11.92%	59.26%	26.3 / 26
soc-livejournal	4033137	27933062	3226581.6	22354697.4	80.00%	80.03%	214 / 214
inf-road-usa	23947347	28854312	23947347.0	28854312.0	100.00%	100.00%	4 / 4
socfb-uci-uni	58790782	92208195	499697.0	3049800.0	0.85%	3.31%	6 / 6

Table 2: SNAP

Graph	$|V|$	$|E|$	Avg $|V'|$	Avg $|E'|$	Avg $|V'|/|V|$	Avg $|E'|/|E|$	Avg / Min ans
musae_PTBR_edges	1912	31299	811.6	22240.2	42.45%	71.06%	19 / 19
tvshow_edges	3892	17239	2439.7	12361.2	62.68%	71.70%	57 / 57
musae_RU_edges	4385	37304	1018.0	18115.0	23.22%	48.56%	15 / 15
musae_ES_edges	4648	59382	1522.0	37198.0	32.75%	62.64%	18 / 18
politician_edges	5908	41706	565.6	11259.4	9.57%	27.00%	21 / 21
p2p-Gnutella08	6301	20777	2541.0	13489.0	40.33%	64.92%	6 / 6
musae_FR_edges	6549	112666	3370.0	89175.0	51.46%	79.15%	18 / 18
government_edges	7057	89429	1048.1	30544.2	14.85%	34.15%	28 / 28
musae_ENGB_edges	7126	35324	1138.4	12610.6	15.98%	35.70%	11 / 11
lastfm_asia_edges	7624	27806	120.7	1577.2	1.58%	5.67%	15 / 15
p2p-Gnutella09	8114	26013	3259.0	17111.0	40.17%	65.78%	6 / 6
wiki-Vote	8297	100762	2262.0	83400.0	27.26%	82.77%	22 / 22

Graph	$|V|$	$|E|$	Avg $|V'|$	Avg $|E'|$	Avg $|V'|/|V|$	Avg $|E'|/|E|$	Avg / Min ans
p2p-Gnutella06	8717	31525	4888.0	25213.0	56.07%	79.98%	5 / 5
p2p-Gnutella05	8846	31839	4994.0	25421.0	56.45%	79.84%	5 / 5
musae_DE_edges	9498	153138	3576.0	103923.0	37.65%	67.86%	22 / 22
p2p-Gnutella04	10879	39994	6089.0	32159.0	55.97%	80.41%	5 / 5
public_figure_edges	11565	67038	603.8	17423.0	5.22%	25.99%	21 / 21
athletes_edges	13866	86811	39.5	722.8	0.28%	0.83%	29 / 29
company_edges	14113	52126	1482.2	6126.0	10.50%	11.75%	21 / 21
musae_facebook_edges	22470	170823	432.5	12528.2	1.92%	7.33%	55 / 55
p2p-Gnutella25	22687	54705	7892.0	32673.0	34.79%	59.73%	5 / 5
p2p-Gnutella24	26518	65369	9271.0	39778.0	34.96%	60.85%	5 / 5
new_sites_edges	27917	205964	36.0	615.0	0.13%	0.30%	31 / 31
deezer_europe_edges	28281	92752	408.6	3349.3	1.44%	3.61%	11 / 11
p2p-Gnutella30	36682	88328	12097.0	53039.0	32.98%	60.05%	5 / 5
Email-Enron	36692	183831	2276.0	68430.0	6.20%	37.22%	23.9 / 23
musae_git_edges	37700	289003	4870.9	104214.2	12.92%	36.06%	24 / 24
RO_edges	41773	125826	1339.8	6530.0	3.21%	5.19%	7 / 7
HU_edges	47538	222887	2345.0	15473.8	4.93%	6.94%	12 / 12
artist_edges	50515	819090	17877.0	590952.0	35.39%	72.15%	20 / 20
HR_edges	54573	498202	20419.0	299083.0	37.42%	60.03%	13 / 13
p2p-Gnutella31	62586	147892	19765.0	86829.0	31.58%	58.71%	5 / 5
soc-Epinions1	75888	405740	4782.0	205204.0	6.30%	50.58%	28.2 / 28
soc-Slashdot0811	77360	469180	4777.0	164336.0	6.18%	35.03%	29 / 29
Slashdot0902	82168	504230	4767.0	168499.0	5.80%	33.42%	30 / 30
large_twitch_edges	168114	6797557	13474.3	1712329.0	8.02%	25.19%	109 / 109
Amazon0302	262111	899792	131198.5	450371.0	50.05%	50.05%	7 / 7
Email-EuAll	265214	364481	1570.0	40386.0	0.59%	11.08%	18.2 / 18
web-Stanford	281903	1992636	1348.2	77244.6	0.48%	3.88%	61 / 61
web-NotreDame	325729	1090108	1366.8	107252.8	0.42%	9.84%	155 / 155
Amazon0312	400727	2349869	400727.0	2349869.0	100.00%	100.00%	11 / 11
Amazon0601	403394	2443408	403394.0	2443408.0	100.00%	100.00%	11 / 11
Amazon0505	410236	2439437	410236.0	2439437.0	100.00%	100.00%	11 / 11
web-BerkStan	685230	6649470	392.0	40535.0	0.06%	0.61%	201 / 201
web-Google	916428	4322051	101.1	2581.1	0.01%	0.06%	44 / 44
soc-pokec-relationships	1632803	22301964	287999.0	9024139.0	17.64%	40.46%	29 / 29
WikiTalk	2394385	4659565	14888.0	771358.0	0.62%	16.55%	48.8 / 48
soc-LiveJournal1	4847571	42851237	404.0	77082.3	0.01%	0.18%	321 / 321
cit-Patents	6009554	16518947	210721.3	2387072.9	3.51%	14.45%	11 / 11
Cit-HepTh	9912293	352285	6370.0	178708.0	0.06%	50.73%	24 / 24
Cit-HepPh	9912553	420877	8491.0	188429.0	0.09%	44.77%	19 / 19

Table 3: Dimacs10

Graph	$|V|$	$|E|$	Avg $|V'|$	Avg $|E'|$	Avg $|V'|/|V|$	Avg $|E'|/|E|$	Avg / Min ans
karate	34	78	29.2	68.8	85.88%	88.21%	5 / 5
chesapeake	39	170	33.0	152.0	84.62%	89.41%	5 / 5
dolphins	62	159	36.0	109.0	58.06%	68.55%	5 / 5
lesmis	77	476	15.0	97.0	19.48%	20.38%	11 / 11
polbooks	105	441	51.3	234.4	48.86%	53.15%	6 / 6
adjnoun	112	425	76.8	349.9	68.57%	82.33%	5 / 5
football	115	613	114.1	606.7	99.22%	98.97%	9 / 9
jazz	198	2742	139.9	2109.2	70.66%	76.92%	30 / 30
celegansneural	297	3520	227.1	2934.1	76.46%	83.36%	13 / 13
celegans_metabolic	453	2025	56.8	409.5	12.54%	20.22%	9 / 9
delaunay_n10	1024	3056	1010.0	3014.0	98.63%	98.63%	4.8 / 4
email	1133	5451	416.3	2873.6	36.74%	52.72%	12 / 12
polblogs	1490	33040	1067.0	31041.0	71.61%	93.95%	15 / 15
netscience	1589	5421	797.5	3442.0	50.19%	63.49%	5 / 5
delaunay_n11	2048	6127	2024.0	6055.0	98.83%	98.82%	5 / 5
delaunay_n12	4096	12264	4046.0	12114.0	98.78%	98.78%	5 / 5
power	4941	6594	526.8	736.1	10.66%	11.16%	6 / 6
delaunay_n13	8192	24547	8106.0	24289.0	98.95%	98.95%	5 / 5
hep-th	8361	31456	5221.0	24645.0	62.44%	78.35%	5 / 5
vsp_data_and_seymourl	9167	55866	6663.0	44898.0	72.68%	80.37%	7 / 7
vsp_p0291_seymourl_iiasa	10498	53868	6338.0	43524.0	60.37%	80.80%	6 / 6
PGPgiantcompo	10680	24316	126.0	2326.0	1.18%	9.57%	25 / 25
vsp_c-30_data_data	11023	62184	5935.0	48406.0	53.84%	77.84%	7 / 7
vsp_befref_fxm_2_4_air02	14109	98224	8583.0	73692.0	60.83%	75.02%	8 / 8
delaunay_n14	16384	49122	16200.0	48570.0	98.88%	98.88%	5 / 5
astro-ph	16706	241740	7105.6	162891.2	42.53%	67.38%	17 / 17
cond-mat	16726	95112	13614.1	85707.9	81.39%	90.11%	6 / 6
vsp_msc10848_300sep_100in_1Kout	21996	1221028	18264.0	1040590.0	83.03%	85.22%	63 / 63
as-22july06	22963	48436	121.6	2357.6	0.53%	4.87%	17 / 17
cond-mat-2003	31163	239034	12672.2	135681.8	40.66%	56.76%	12 / 12
vsp_barth5_1Ksep_50in_5Kout	32212	101805	32211.0	101804.0	100.00%	100.00%	5 / 5
rgg_n_2_15_s0	32768	293959	16524.0	157802.0	50.43%	53.68%	12 / 12
delaunay_n15	32768	98274	32403.0	97179.0	98.89%	98.89%	5 / 5
vsp_south31_slptsk	39668	189914	3347.0	72190.0	8.44%	38.01%	11.4 / 11
vsp_sctap1-2b_and_seymourl	40174	140831	25169.0	107660.0	62.65%	76.45%	6 / 6
cond-mat-2005	40421	350298	16714.9	207810.2	41.35%	59.32%	12 / 12
vsp_model1_crew1_cr42_south31	45101	189976	16448.0	103825.0	36.47%	54.65%	7.1 / 7

Graph	$|V|$	$|E|$	Avg $|V'|$	Avg $|E'|$	Avg $|V'|/|V|$	Avg $|E'|/|E|$	Avg / Min ans
vsp_bump2_e18_aa01_model1_crew1	56438	300801	39982.0	249561.0	70.84%	82.97%	9 / 9
vsp_bcsstk30_500sep_10in_1Kout	58348	3960204	58206.0	3958922.0	99.76%	99.97%	28.2 / 28
kron_g500-simple-logn16	65536	4909223	41122.7	4727281.3	62.75%	96.29%	36.8 / 36
kron_g500-logn16	65536	4909550	41060.4	4726300.6	62.65%	96.27%	36.3 / 36
rgg_n_2_16_s0	65536	652571	51825.0	531323.2	79.08%	81.42%	14 / 14
delaunay_n16	65536	196575	64732.0	194163.0	98.77%	98.77%	5 / 5
vsp_vibrobox_scagr7-2c_rlfddd	77328	435586	1375.0	25221.0	1.78%	5.79%	18 / 18
vsp_c-60_data_cti_cs4	85830	241080	8763.0	69781.0	10.21%	28.95%	6.2 / 6
smallworld	100000	499998	99982.0	499908.0	99.98%	99.98%	7 / 7
preferentialAttachment	100000	499985	100000.0	499985.0	100.00%	100.00%	6 / 6
G_n_pin_pout	100000	991988	99993.0	991972.0	99.99%	100.00%	8 / 8
vsp_mod2_pgp2_slptsk	101364	389368	5648.0	104148.0	5.57%	26.75%	11.2 / 11
luxembourg.osm	114599	119666	105959.4	111026.4	92.46%	92.78%	3 / 3
kron_g500-logn17	131072	10225348	75456.2	9798825.3	57.57%	95.83%	36 / 36
kron_g500-simple-logn17	131072	10224958	75080.6	9791386.0	57.28%	95.76%	36.3 / 36
delaunay_n17	131072	393176	129557.0	388631.0	98.84%	98.84%	5 / 5
rgg_n_2_17_s0	131072	1076962	39345.4	323272.0	30.02%	30.02%	15 / 15
vsp_finan512_scagr7-2c_rlfddd	139752	552020	63341.0	309316.0	45.32%	56.03%	6 / 6
caidaRouterLevel	192244	609066	3330.5	62909.1	1.73%	10.33%	17 / 17
coAuthorsCiteseer	227320	814134	45604.4	168294.4	20.06%	20.67%	87 / 87
kron_g500-simple-logn18	262144	21162303	158073.0	20533633.7	60.30%	97.03%	36.6 / 36
rgg_n_2_18_s0	262144	2826718	142484.0	1671254.6	54.35%	59.12%	15 / 15
kron_g500-logn18	262144	21162839	157496.5	20522605.6	60.08%	96.97%	36.6 / 36
delaunay_n18	262144	786396	259164.0	777456.0	98.86%	98.86%	5 / 5
citationCiteseer	268495	1156647	10753.8	113191.7	4.01%	9.79%	13 / 13
coAuthorsDBLP	299067	977676	239311.3	784918.5	80.02%	80.28%	115 / 115
cnr-2000	325557	2738969	162847.3	1372403.5	50.02%	50.11%	84 / 84
coPapersCiteseer	434102	16036702	434102.0	16036720.0	100.00%	100.00%	845 / 845
af_shell9	504855	8542010	504855.0	8542010.0	100.00%	100.00%	20 / 20
kron_g500-logn19	524288	43558600	295170.4	42208135.9	56.30%	96.90%	38.6 / 38
rgg_n_2_19_s0	524288	6503194	524275.0	6503138.0	100.00%	100.00%	8 / 8
delaunay_n19	524288	1572823	518196.0	1554547.0	98.84%	98.84%	5 / 5
kron_g500-simple-logn19	524288	43557909	296608.9	42232404.2	56.57%	96.96%	38.3 / 38
coPapersDBLP	540486	15245729	540486.0	15245729.0	100.00%	100.00%	337 / 337
eu-2005	862664	16138468	366.8	73511.3	0.04%	0.46%	387 / 387
audikw1	943695	38354076	936015.0	38130072.0	99.19%	99.42%	41.7 / 41
ldoor	952203	22785136	952203.0	22785136.0	100.00%	100.00%	32 / 32
ecology2	999999	1997996	999999.0	1997996.0	100.00%	100.00%	2 / 2
ecology1	1000000	1998000	1000000.0	1998000.0	100.00%	100.00%	2 / 2
NACA0015	1039183	3114818	1039183.0	3114818.0	100.00%	100.00%	5 / 5
delaunay_n20	1048576	3145686	1036596.0	3109746.0	98.86%	98.86%	5 / 5
er-fact1.5-scale20	1048576	10904496	1048576.0	10904496.0	100.00%	100.00%	8 / 8
rgg_n_2_20_s0	1048576	10487361	91.0	1005.0	0.01%	0.01%	17 / 17
thermal2	1227087	3676134	1227078.0	3676116.0	100.00%	100.00%	5 / 5
in-2004	1382908	13930871	1382908.0	13930871.0	100.00%	100.00%	489 / 489
belgium.osm	1441295	1549970	5.0	8.0	0.00%	0.00%	3 / 3
af_shell10	1508065	25582130	1508045.0	25581890.0	100.00%	100.00%	15 / 15
G3_circuit	1585478	3037674	1585162.0	3037358.0	99.98%	99.99%	3 / 3
kkt_power	2063494	6482320	1098.0	7930.0	0.05%	0.12%	11 / 11
rgg_n_2_21_s0	2097152	24539864	82237.5	1132390.9	3.92%	4.61%	18 / 18
er-fact1.5-scale21	2097152	22901945	2097152.0	22901945.0	100.00%	100.00%	9 / 9
delaunay_n21	2097152	6291408	2073022.0	6219018.0	98.85%	98.85%	5 / 5
packing-500x100x100-b050	2145852	30835179	2144266.0	30827626.0	99.93%	99.98%	10.9 / 10
netherlands.osm	2216688	2441238	12.0	20.0	0.00%	0.00%	4 / 4
M6	3501776	10501936	3415283.0	10242603.0	97.53%	97.53%	5 / 5
nlpkkt120	3542400	46651696	3542400.0	46651696.0	100.00%	100.00%	2 / 2
333SP	3712815	11108633	2261408.0	6759248.0	60.91%	60.85%	5 / 5
AS365	3799275	11368076	3733245.0	11175050.0	98.26%	98.30%	5 / 5
venturiLevel3	4026819	8054237	3331961.0	6665314.0	82.74%	82.76%	4 / 4
NLR	4163763	12487976	4014048.0	12039454.0	96.40%	96.41%	5 / 5
er-fact1.5-scale22	4194304	47983225	4194304.0	47983225.0	100.00%	100.00%	9 / 9
delaunay_n22	4194304	12582869	4146202.0	12438563.0	98.85%	98.85%	5 / 5
rgg_n_2_22_s0	4194304	60591354	4193679.0	60586284.5	99.99%	99.99%	11 / 11
hugetrace-00000	4588484	6879133	4588484.0	6879133.0	100.00%	100.00%	3 / 3
channel-500x100x100-b050	4802000	42681372	4802000.0	42681372.0	100.00%	100.00%	4 / 4
cage15	5154859	47022346	5134115.0	46958002.0	99.60%	99.86%	12.6 / 12
hugetric-00000	5824554	8733523	5824554.0	8733523.0	100.00%	100.00%	3 / 3
hugetric-00010	6592765	9885854	6592765.0	9885854.0	100.00%	100.00%	3 / 3
italy.osm	6686493	7013978	34.0	54.0	0.00%	0.00%	3 / 3
adaptive	6815744	13624320	6815744.0	13624320.0	100.00%	100.00%	2 / 2
hugetric-00020	7122792	10680777	7122792.0	10680777.0	100.00%	100.00%	3 / 3
great-britain.osm	7733822	8156517	72.0	132.0	0.00%	0.00%	3 / 3
nlpkkt160	8345600	110586256	8345600.0	110586256.0	100.00%	100.00%	2 / 2
rgg_n_2_23_s0	8388608	111905084	521.5	5393.0	0.01%	0.00%	19 / 19
delaunay_n23	8388608	25165784	8292439.0	24877277.0	98.85%	98.85%	5 / 5
germany.osm	11548845	12369181	81.0	131.0	0.00%	0.00%	4 / 4
asia.osm	11950757	12711603	4780338.8	5084698.8	40.00%	40.00%	4 / 4
hugetrace-00010	12057441	18082179	12057441.0	18082179.0	100.00%	100.00%	3 / 3
road_central	14081816	16933413	12673854.9	15240421.6	90.00%	90.00%	4 / 4
hugetrace-00020	16002413	23998813	16002413.0	23998813.0	100.00%	100.00%	3 / 3
nlpkkt200	16240000	215992816	16240000.0	215992816.0	100.00%	100.00%	2 / 2
delaunay_n24	16777216	50331601	16584963.0	49754842.0	98.85%	98.85%	5 / 5
rgg_n_2_24_s0	16777216	180218452	3355585.0	36045364.7	20.00%	20.00%	21 / 21
hugebubbles-00000	18318143	27470081	18318143.0	27470081.0	100.00%	100.00%	3 / 3
uk-2002	18520486	262017783	18520486.0	262017783.0	100.00%	100.00%	944 / 944

Graph	$|V|$	$|E|$	Avg $|V'|$	Avg $|E'|$	Avg $|V'|/|V|$	Avg $|E'|/|E|$	Avg / Min ans
hugebubbles-00010	19458087	29179764	19458087.0	29179764.0	100.00%	100.00%	3 / 3
hugebubbles-00020	21198119	31790179	21198119.0	31790179.0	100.00%	100.00%	3 / 3
road_usa	23947347	28854312	23947347.0	28854312.0	100.00%	100.00%	4 / 4
nlpkkt240	27993600	373239376	27993600.0	373239376.0	100.00%	100.00%	2 / 2
europe.osm	50912018	54054660	25456293.5	27027815.0	50.00%	50.00%	4 / 4

Table 4: Dimacs2

Graph	$|V|$	$|E|$	Avg $|V'|$	Avg $|E'|$	Avg $|V'|/|V|$	Avg $|E'|/|E|$	Avg / Min ans
C125.9	125	6963	125.0	6963.0	100.00%	100.00%	46 / 46
keller4	171	9435	171.0	9435.0	100.00%	100.00%	15 / 15
gen200_p0.9_55	200	17910	200.0	17910.0	100.00%	100.00%	61 / 61
brock200_2	200	9876	200.0	9876.0	100.00%	100.00%	27.6 / 27
gen200_p0.9_44	200	17910	200.0	17910.0	100.00%	100.00%	46 / 45
brock200_4	200	13089	200.0	13089.0	100.00%	100.00%	38.5 / 38
C250.9	250	27984	250.0	27984.0	100.00%	100.00%	81.5 / 81
hamming8-4	256	20864	256.0	20864.0	100.00%	100.00%	16 / 16
p_hat300-2	300	21928	300.0	21928.0	100.00%	100.00%	39 / 39
p_hat300-1	300	10933	300.0	10933.0	100.00%	100.00%	20 / 20
p_hat300-3	300	33390	300.0	33390.0	100.00%	100.00%	64.7 / 64
MANN_a27	378	70551	378.0	70551.0	100.00%	100.00%	135.2 / 135
gen400_p0.9_65	400	71820	400.0	71820.0	100.00%	100.00%	79.8 / 75
brock400_2	400	59786	400.0	59786.0	100.00%	100.00%	84.2 / 84
gen400_p0.9_55	400	71820	400.0	71820.0	100.00%	100.00%	58.8 / 58
brock400_4	400	59765	400.0	59765.0	100.00%	100.00%	84.3 / 84
gen400_p0.9_75	400	71820	400.0	71820.0	100.00%	100.00%	95.6 / 93
C500.9	500	112332	500.0	112332.0	100.00%	100.00%	151.4 / 151
DSJC500.5	500	62624	500.0	62624.0	100.00%	100.00%	61 / 61
p_hat700-1	700	60999	700.0	60999.0	100.00%	100.00%	39 / 39
p_hat700-3	700	183010	700.0	183010.0	100.00%	100.00%	135.5 / 135
p_hat700-2	700	121728	700.0	121728.0	100.00%	100.00%	81.8 / 81
keller5	776	225990	776.0	225990.0	100.00%	100.00%	31 / 31
brock800_4	800	207643	800.0	207643.0	100.00%	100.00%	124.8 / 124
brock800_2	800	208166	800.0	208166.0	100.00%	100.00%	124.9 / 124
DSJC1000.5	1000	249826	1000.0	249826.0	100.00%	100.00%	109.3 / 109
C1000.9	1000	450079	1000.0	450079.0	100.00%	100.00%	278.7 / 278
hamming10-4	1024	434176	1024.0	434176.0	100.00%	100.00%	78.9 / 77
MANN_a45	1035	533115	1035.0	533115.0	100.00%	100.00%	361.9 / 361
p_hat1500-1	1500	284923	1500.0	284923.0	100.00%	100.00%	73.1 / 73
p_hat1500-2	1500	568960	1500.0	568960.0	100.00%	100.00%	156.4 / 156
p_hat1500-3	1500	847244	1500.0	847244.0	100.00%	100.00%	264 / 263
C2000.5	2000	999836	2000.0	999836.0	100.00%	100.00%	198.4 / 198
C2000.9	2000	1799532	2000.0	1799532.0	100.00%	100.00%	514.1 / 512
MANN_a81	3321	5506380	3321.0	5506380.0	100.00%	100.00%	1140 / 1140
C4000.5	4000	4000268	4000.0	4000268.0	100.00%	100.00%	362.7 / 362