

Table 3: The statistics of 80 real networks. Clustering coefficient is denoted by cc.

NetworkName	#nodes	#edges	Avg degree	10% deegree	50% degree	90% degree	Max degree	average cc	global cc	diameter	#triangles	#triplets
blog-BlogCatalog1-ASU	88784	2093195	47.1525	1	5	88	9444	0.353335	0.062379	9	51193389	2410854351
blog-BlogCatalog2-ASU	97884	1668647	34.0944	1	4	48	27849	0.492104	0.0402996	5	40662527	2986356565
blog-BlogCatalog3-ASU	10312	333983	64.7756	4	21	136	3992	0.463196	0.0973218	5	5608664	167281662
ca-Actor-ND	374511	15014839	80.1837	8	36	166	3956	0.778755	0.186664	13	346728049	5225759780
ca-AstroPh-Newman	14845	119652	16.1202	2	8	41	360	0.669618	0.593662	14	754159	3056896
ca-AstroPh-SNAP	17903	196972	22.0044	2	10	55	504	0.632823	0.403196	14	1350014	8694840
ca-CondMat2003-Newman	27519	116181	8.44369	2	5	18	202	0.654605	0.339287	16	228093	1788720
ca-CondMat2005-Newman	36458	171735	9.42098	2	5	20	278	0.656589	0.290323	18	374300	3493465
ca-CondMat-SNAP	21363	91286	8.54618	2	5	18	279	0.641732	0.317189	15	171051	1446763
ca-CS2004to2008-Aminer	434357	1578275	7.26718	2	4	15	723	0.66845	0.370457	27	3451794	24501202
ca-CS2006to2010-Aminer	543452	2066296	7.60434	2	4	16	1082	0.674534	0.293937	25	4372725	40256430
ca-CS2009to2010-Aminer	315263	1059740	6.72229	2	4	14	652	0.698912	0.418126	23	2115515	13063018
ca-CS2011to2012-Aminer	347389	1229716	7.07976	2	4	14	793	0.707269	0.40045	29	2585990	16787160
ca-CS-Aminer	1066379	4594140	8.61634	1	4	18	1983	0.649627	0.187346	24	10312677	154825662
ca-DBLP-SNAP	317080	1049866	6.62209	1	4	14	343	0.632431	0.385017	23	2224385	15107734
ca-GrQc-SNAP	4158	13422	6.45599	1	3	15	81	0.556878	1.08292	17	47779	84582
ca-HepPh-SNAP	11204	117619	20.9959	2	5	47	491	0.621582	1.17681	13	3357890	5202255
ca-HepTh-SNAP	8638	24806	5.74346	1	3	13	65	0.481564	0.345971	18	27869	213790
ca-Hollywood-NetRep	1069126	56306653	105.332	6	31	212	11467	0.766355	0.390047	12	4916220615	32896279137
ca-MathSci-NetRep	332689	820644	4.9334	1	3	11	496	0.41042	0.150396	24	576778	10928378
cit-CiteSeer-KONECT	365154	1721981	9.43153	1	5	19	1739	0.183174	0.0512716	34	1350310	77658938
cit-Cora-KONECT	23166	89157	7.69723	1	5	16	377	0.265963	0.126751	20	78791	1786074
cit-HepPh-d-SNAP	34401	420784	24.4635	3	15	54	846	0.285594	0.161321	14	1276859	22468237
cit-HepTh-d-SNAP	27400	352021	25.695	3	15	57	2468	0.313915	0.129923	15	1478698	32665296
cit-Patents-d-SNAP	3764117	16511740	8.77323	1	6	19	793	0.0758366	0.070289	26	7514922	313229094
comm-CALL-ND	4295638	7893769	3.67525	1	3	7	110	0.217929	0.198538	45	2253963	31804842
comm-EmailEnron-SNAP	33696	180811	10.7319	1	3	19	1383	0.50919	0.0902518	13	725311	23384268
comm-EmailEuAll-SNAP	32430	54397	3.35473	1	1	3	623	0.112681	0.0272651	9	48992	5341634
comm-LinuxKernel-KONECT	10857	76317	14.0586	1	2	24	1927	0.348615	0.118505	13	698240	16977912
comm-Mobile-ND	5324963	10410903	3.91023	1	3	8	22224	0.181133	0.010361	36	2895897	835604293
comm-SMS-ND	2369078	3330086	2.81129	1	2	6	22224	0.0669118	0.00126917	42	326282	770920401
comm-WikiTalk-SNAP	92117	360767	7.8328	1	1	11	1220	0.058909	0.0483317	11	836467	51083880
loc-Brightkite-SNAP	56739	212945	7.50612	1	2	16	1134	0.173379	0.119299	18	494408	11938424
loc-Foursquare-ASU	639014	3214986	10.0623	1	1	19	106218	0.108011	0.00164762	4	21651003	39400700856
loc-Foursquare-NetRep	639014	3214986	10.0623	1	1	19	106218	0.108011	0.00164762	4	21651003	39400700856
loc-Gowalla-SNAP	196591	950327	9.68606	1	3	20	14730	0.236724	0.0238563	16	2273138	283580626
soc-Academia-NetRep	137969	369692	5.35906	1	2	12	702	0.142088	0.0805642	21	220641	7995452
soc-Advogato-KONECT	2716	7773	5.72386	1	3	14	138	0.223285	0.132485	13	5383	116510
soc-BuzzNet-ASU	101163	2763066	54.626	2	14	98	64289	0.232086	0.0108194	5	30919848	854253935
soc-Catster-NetRep	148826	5447464	73.2058	3	22	84	80634	0.387703	0.0110735	10	185462078	50059386906
soc-Delicious-ASU	536108	1365961	5.09584	1	1	10	3216	0.0321746	0.0105882	14	487972	137770815
soc-Digg-ASU	770799	5907132	15.3273	1	2	16	17643	0.0880935	0.048169	18	62710792	3842962151
soc-Dogster-NetRep	426485	8543321	40.0639	2	12	58	46503	0.170996	0.0144068	11	83499345	17303939974
soc-Douban-ASU	154908	327162	4.22395	1	1	5	287	0.0160572	0.0104456	9	40612	11623280
soc-Epinions1-d-SNAP	75877	405739	10.6947	1	2	18	3044	0.13776	0.0686863	15	1624481	69327677
soc-Facebook-MPI	63392	816886	25.7725	1	11	69	1098	0.221807	0.163857	15	3501534	60066075
soc-Flickr-Aminer	214424	9114421	85.0131	2	23	210	10486	0.146362	0.0832344	10	132139697	4630544599
soc-Flickr-ASU	80513	5899882	146.557	5	46	364	5706	0.165226	0.21425	6	271601126	3531448904
soc-Flickr-MPI	1624992	15476835	19.0485	2	19	27236	0.189197	0.121228	24	548646525	13028541364	
soc-Flixter-ASU	2523386	7918801	6.27633	1	1	7	1474	0.0833873	0.0137758	8	7897122	1711880027
soc-Friendster-ASU	5689498	14067887	4.94521	1	1	5	4423	0.050227	0.00476312	9	8722131	5484816732
soc-Friendster-SNAP	65608366	1806067135	55.0560	1	9	148	5214	0.1623	0.0176	37	4173724142	708133792538
soc-GooglePlus-NetRep	78723	319999	8.12975	1	2	19	538	0.198173	0.293434	59	1386340	12787287
soc-Hamsterster-KONECT	2000	16098	16.098	2	9	36	273	0.540091	0.270874	10	52665	530614
soc-Hyves-ASU	1402673	2777419	3.96018	1	1	7	31883	0.0447525	0.0015614	10	752401	1444870827
soc-LastFM-Aminer	135876	1685158	24.8044	1	9	54	3137	0.198304	0.0946368	12	9097399	279291397
soc-LastFM-ASU	1191805	4519330	7.58401	1	2	11	5150	0.0726698	0.0131217	10	3946207	898270114
soc-Libimseti-KONECT	34339	124722	7.26416	1	2	16	613	0.0223815	0.0264884	15	54375	6103992
soc-LinkedIn-Aminer	6725712	19360071	5.75703	2	4	11	869	0.370007	0.286289	32	12862009	121917817
soc-LiveJournal1-d-SNAP	4843953	42845684	17.6904	1	5	42	20333	0.27431	0.127959	20	285688896	6412296576
soc-LiveJournal-Aminer	3017282	85654975	56.7762	4	17	114	910088	0.119576	0.00165411	8	507338233	919635317380
soc-LiveJournal-ASU	2238731	12816184	11.4495	1	2	21	5873	0.127031	0.0229526	8	28204049	3658174479
soc-LiveJournal-MPI	5189809	48688097	18.763	1	6	45	15017	0.274858	0.135185	23	310784143	6586074658
soc-LiveJournal-SNAP	3997962	34681189	17.3494	1	6	42	14815	0.284273	0.13678	21	177820130	3722307805
soc-LiveMocha-ASU	104103	2193083	42.1329	2	13	91	2980	0.0544137	0.0142123	6	3361651	706231197
soc-MySpace-Aminer	853360	5635236	13.2072	1	6	26	25105	0.0433239	0.00223302	14	1256533	1686861075
soc-Orkut-NetRep	2997166	106349209	70.9665	7	42	152	27466	0.170024	0.0439417	9	524643952	35294034217
soc-Orkut-SNAP	3072441	117185083	76.2814	8	45	162	33313	0.166607	0.0424327	9	627584181	43742714028
soc-Pokec-d-SNAP	1632803	22301964	27.3174	1	13	70	14854	0.109379	0.0483297	14	32557458	1988401184
soc-Prosper-d-KONECT	89171	3329970	74.6873	3	34	182	6515	0.00487245	0.00313123	8	1158669	1108949447
soc-Slashdot0811-d-SNAP	77360	469180	12.1298	1	2	25	2539	0.0554991	0.0245528	12	551724	66861129
soc-Slashdot0902-d-SNAP	82168	504230	12.2731	1	2	25	2552	0.0603449	0.0245028	13	602592	73175813
soc-WikiVote-d-SNAP	7066	100736	28.5129	1	4	82	1065	0.141875	0.136934	7	608389	12720410
soc-YouTube-MPI	1134890	2987624	5.26505	1	1	8	28754	0.0808023	0.00624445	24	3056386	1465313402
web-BaiduBaik-KONECT	2107689	16996139	16.1277	1	4	29	97848	0.11706	0.00245242	20	25206270	30809207121
web-BerkStan-SNAP	654782	6581871	20.104	2	8	36	84230	0.606563	0.00694998	28	64520617	27786200608
web-Google-SNAP	855802	4291352	10.0288	1	5	20	6332	0.519032	0.0572384	204	13356298	686679376
web-Hudong-KONECT	1962418	14419760	14.6959	1	5	23	61440	0.0782843	0.00347037	16	21611635	18660819412
web-Stanford-SNAP	255265	1941926	15.215	2	6	29	38625	0.618891	0.00863318	164	11277977	3907779392
web-WWW-ND	325729	1090108	6.69334	1	2	12	10721	0.234624	0.0931161	46	8910005	278151159

Table 4: The statistics of 40 random graphs. Clustering coefficient is denoted by cc.

NetworkName	#nodes	#edges	Avg degree	10% deegree	50% degree	90% degree	Max degree	average cc	global cc	diameter	#triangles	#triplets
random-ba-2	1000000	1999996	3.99999	2	3	7	2727	9.49623e-05	3.23784e-05	11	435	40304220
random-ba-4	1000000	3999984	7.99997	4	5	13	4425	0.000149334	8.60017e-05	8	3933	137191058
random-ba-6	1000000	5999964	11.9999	6	8	20	3727	0.000172191	0.000125056	7	11293	270899331
random-ba-8	1000000	7999936	15.9999	8	11	26	4873	0.000222206	0.000170923	6	27328	479626736
random-ba-10	1000000	9999900	19.9998	10	14	32	6219	0.000257466	0.000214131	6	51315	718878801
random-ba-12	1000000	11999856	23.9997	12	17	39	5643	0.000296218	0.00025087	5	84034	1004827944
random-ba-14	1000000	13999804	27.9996	14	19	45	5937	0.000328807	0.000290042	5	129967	1344161988
random-ba-16	1000000	15999744	31.9995	16	22	51	6242	0.000364914	0.000327629	5	187591	1717526329
random-ba-18	1000000	17999676	35.9994	18	25	57	8386	0.000408617	0.000367943	5	268499	2188921333
random-ba-20	1000000	19999600	39.9992	21	28	64	8023	0.000434395	0.000401221	5	352033	2631857430
random-er-5e-06	993242	2498898	5.0318	2	5	8	19	4.55633e-06	4.80606e-06	16	20	12484231
random-er-1e-05	999945	5001782	10.0041	6	10	14	30	9.46667e-06	9.94949e-06	10	166	50052665
random-er-1.5e-05	1000000	7504667	15.0093	10	15	20	36	1.64157e-05	1.64869e-05	8	619	112634285
random-er-2e-05	1000000	9998180	19.9964	14	20	26	45	2.03746e-05	2.04984e-05	7	1366	199917141
random-er-2.5e-05	1000000	12504290	25.0086	19	25	32	55	2.52958e-05	2.52315e-05	6	2630	312702098
random-er-3e-05	1000000	14998486	29.997	23	30	37	63	3.02917e-05	3.02092e-05	6	4530	449858883
random-er-3.5e-05	1000000	17498938	34.9979	28	35	43	72	3.55665e-05	3.56316e-05	5	7274	612427121
random-er-4e-05	1000000	20002664	40.0053	32	40	48	73	4.00894e-05	4.02244e-05	5	10729	800174659
random-er-4.5e-05	1000000	22499181	44.9984	37	45	54	84	4.48837e-05	4.50309e-05	5	15196	1012356360
random-er-5e-05	1000000	24997692	49.9954	41	50	59	93	4.99732e-05	4.99898e-05	5	20825	1249733430
random-k20-800-600-600-400	1048287	20099931	38.3481	10	29	78	785	0.000111877	0.00010653	7	47331	1332866503
random-k20-847-641-641-072	740760	3559350	9.61	1	3	20	2839	0.000350554	0.000136251	10	11343	249748200
random-k20-900-400-400-600	1047241	8579924	16.3858	6	14	30	167	0.000211027	0.000303956	11	19917	196561115
random-k20-900-600-600-100	717728	3527146	9.82864	1	3	20	3330	0.00060771	0.000255147	12	24180	284289856
random-k20-954-594-594-019	523915	2466409	9.4153	1	3	20	6198	0.00200859	0.000520854	10	62042	357289819
random-k20-987-571-571-049	554986	2884877	10.3962	1	3	22	6975	0.00279302	0.000833568	10	131738	473991798
random-k20-999-245-245-691	1003562	2929395	5.838	2	5	11	78	0.00524374	0.00705397	20	56717	24064578
random-k20-999-271-271-587	870759	1810525	4.1585	1	3	9	116	0.00186209	0.00375072	23	16253	12983663
random-k20-999-307-307-574	962241	3130762	6.50723	1	4	14	204	0.0010087	0.00197218	18	25714	39090320
random-k20-999-437-437-484	1040130	14000384	26.9205	4	17	61	1335	0.000211629	0.000537051	11	169897	948885915
random-ws-8-0.2	1000000	4000000	8	7	8	9	16	0.334584	0.408076	12	3071207	19507015
random-ws-8-0.8	1000000	4000000	8	6	8	11	21	0.00512609	0.00484153	9	48121	29769537
random-ws-12-0.2	1000000	6000000	12	10	12	14	20	0.353159	0.445857	10	7684734	44022926
random-ws-12-0.8	1000000	6000000	12	9	12	15	27	0.00541391	0.00525446	7	120214	68515178
random-ws-16-0.2	1000000	8000000	16	14	16	18	25	0.361895	0.464397	8	1435463	78375140
random-ws-16-0.8	1000000	8000000	16	13	16	20	32	0.00558243	0.00547359	7	225119	123159468
random-ws-20-0.2	1000000	10000000	20	18	20	22	30	0.365997	0.473886	7	23023926	122732295
random-ws-20-0.8	1000000	10000000	20	16	20	24	37	0.00564478	0.00556381	6	359942	193720514
random-ws-24-0.2	1000000	12000000	24	21	24	27	35	0.369374	0.481381	7	33788586	176784043
random-ws-24-0.8	1000000	12000000	24	20	24	28	44	0.00573615	0.00567426	6	530929	280173038