Detailed description of the instance set

For each network, we report the bibliographic source from which it was collected, the number of its nodes, the number of its edges, the different selected value for k, as well as the associated sizes of the network (nodes and edges) after pre-processing and, finally, the selected values for the budget b.

network	#nodes	#edges	k	#nodes after pre-processing	#edges after pre-processing	budget
adjnoun [6]	112	425	5	63	298	{3}
			4	79	359	{3, 4, 5}
			3	89	389	{3, 4, 5}
			2	102	415	{3, 4, 5}
as-22july06 [7]	22963	48436	15	168	3115	{3, 4, 5}
			10	322	4845	{3, 4, 5}
			5	1087	9493	{3, 4, 5}
astro-ph [5]	16706	121251	42	400	10552	{3, 4, 5}
			32	936	23433	{3, 4, 5}
			28	1393	32375	{3, 4, 5}
cond-mat [5]	16726	47594	9	943	6573	{3, 4, 5}
			8	1487	9544	{3, 4, 5}
			7	2227	13280	{3, 4, 5}
			6	3442	18713	{3, 4, 5}
cond-mat-2003 [5]	31163	120029	13	1132	12732	{3, 4, 5}
			12	1609	17327	{3, 4, 5}
			10	2901	28339	{3, 4, 5}
			9	4071	36920	{3, 4, 5}
cond-mat-2005 [5]	40421	175692	14	1793	24595	{3, 4, 5}
			13	2151	28640	{3, 4, 5}
			12	2808	35214	{3, 4, 5}
			11	3555	42346	{3, 4, 5}
dolphins [4]	62	159	4	36	109	{3}
			3	45	135	{3, 4, 5}
			2	53	150	{3, 4, 5}
football [1]	115	613	8	114	606	{3, 4, 5}
			7	115	613	{3, 4, 5}
hep-th [5]	8361	15751	7	137	885	{3, 4, 5}
			6	358	1847	{3, 4, 5}
			5	851	3775	{3, 4, 5}
			4	1735	6552	{3, 4, 5}
karate [9]	34	78	2	33	77	{3, 4, 5}
lesmis [2]	77	254	6	38	186	{3, 4, 5}
			4	41	197	{3, 4, 5}
			3	48	215	{3, 4, 5}
			2	59	236	{3, 4, 5}
netscience [6]	1589	2742	5	247	976	{3, 4, 5}
			4	470	1511	{3, 4, 5}
			3	751	2045	{3, 4, 5}
			2	1141	2535	{3, 4, 5}
polbooks [3]	105	441	5	65	300	{3, 4}
			4	98	422	{3, 4, 5}
			3	103	437	{3, 4, 5}
			2	105	441	{3, 4, 5}
power [8]	4941	6594	4	36	106	{3, 4, 5}
			3	231	479	{3, 4, 5}
			2	3353	5006	{3, 4, 5}

References

[1] M. Girvan and M. E. J. Newman. Community structure in social and biological networks. *Proceedings of the National Academy of Sciences*, 99(12):7821–7826, 2002.

[2] Donald E Knuth. *The Stanford GraphBase: A Platform for Combinatorial Computing*. Addison-Wesley Educational, Boston, MA, November 1993.

[3] V. Krebs. The Social Life of Books Visualizing Communities of Interest via Purchase Patterns on the WWW, 1999. http://orgnet.com/booknet.html [Accessed: 27.10.2022].

[4] D Lusseau, K Schneider, O J Boisseau, P Haase, E Slooten, and S M Dawson. The bottlenose dolphin community of doubtful sound features a large proportion of long-lasting associations - can geographic isolation explain this unique trait? *Behavioral Ecology and Sociobiology*, 54:396–405, 2003.

[5] M. E. J. Newman. The structure of scientific collaboration networks. *Proceedings of the National Academy of Sciences*, 98(2):404–409, 2001.

[6] M. E. J. Newman. Finding community structure in networks using the eigenvectors of matrices. *Physical Review E*, 74:036104, Sep 2006.

[7] University of Oregon. Route views archive project, 2004. http://routeviews.org/ [Accessed: 27.10.2022].

[8] Duncan J. Watts and Steven H. Strogatz. Collective dynamics of 'small-world' networks. *Nature*, 393(6684):440–442, Jun 1998.

[9] Wayne W. Zachary. An information flow model for conflict and fission in small groups. *Journal of Anthropological Research*, 33(4):452–473, 1977.