## **INFORMATION CENTRALITY (IC)**

Network name: scale-free

Actors: 200

The IC index, introduced by Stephenson and Zelen (1991), measures the information flow through all paths between actors weighted by strength of tie and distance.

*IC'* is the standardized index (*IC* divided by the sum*IC*).

Warning: To compute this index, SocNetV drops all isolated nodes and symmetrizes (if needed) the adjacency matrix.

Read the Manual for more.

IC range:  $0 \le IC \le \infty$ IC' range:  $0 \le IC' \le 1$ 

Node 🕽	Label‡	IC‡	IC'Ĵ	%ICÎ
•	•	•	0.009448	•
1 2	1 2	1.646366 1.654506	0.009448	0.944842 0.949513
3	3	1.426269	0.009493	0.949313
3 4	<i>3</i>	1.420209	0.008183	0.818329
5	5	0.913403	0.008230	0.823000
6	6	0.894887	0.005242	0.524198
7	7	1.309906	0.003130	0.313372
8	8	0.627191	0.007517	0.751749
9	9	0.895425	0.005339	0.5339942
10	10	1.544880	0.003139	0.886600
11	11	1.227170	0.003800	0.704268
12	12	0.861755	0.007043	0.704208
13	13	1.377152	0.007903	0.790341
14	14	0.888810	0.007903	0.790341
15	15	1.508775	0.008659	0.865879
16	16	0.894887	0.005136	0.503579
17	17	0.913403	0.005130	0.513372
18	18	0.881590	0.005242	0.505941
19	19	1.170136	0.005035	0.671536
20	20	0.905470	0.005196	0.519645
21	21	0.913403	0.005242	0.524198
22	22	0.913403	0.005242	0.524198
23	23	0.889281	0.005104	0.510354
24	24	0.855801	0.003104	0.491140
25	25	0.913403	0.005242	0.524198
26	26	0.913403	0.005242	0.524198
27	27	0.902546	0.005180	0.517967
28	28	0.881929	0.005160	0.506135
29	29	0.901815	0.005175	0.517548
30	30	0.913403	0.005242	0.524198
31	31	0.850513	0.004881	0.488105
32	32	0.913403	0.005242	0.524198
33	33	0.913403	0.005242	0.524198
34	34	0.627191	0.003599	0.359942
35	35	0.913403	0.005242	0.524198
36	36	0.895425	0.005139	0.513880
37	37	0.627191	0.003599	0.359942
38	38	0.905470	0.005196	0.519645
39	39	0.889281	0.005104	0.510354
40	40	0.889281	0.005104	0.510354
41	41	0.865570	0.004967	0.496747
42	42	0.904313	0.005190	0.518981
43	43	0.627191	0.003599	0.359942
44	44	0.626018	0.003593	0.359269
45	45	0.902546	0.005180	0.517967
46	46	0.627191	0.003599	0.359942
47	47	0.627191	0.003599	0.359942

Node 1	Label‡	IC‡	IC'‡	%IC‡
•	•	•	•	•
48 49	48 49	0.893048	0.005125 0.003599	0.512516 0.359942
50	50	0.627191 0.626018	0.003599	0.359269
51	51	0.913403	0.005242	0.524198
52	52	0.913403	0.005242	0.524198
53	53	0.905470	0.005196	0.519645
54	54	0.888810	0.005101	0.510084
55	55	0.905470	0.005196	0.519645
56	56	0.627191	0.003599	0.359942
57	57	0.913403	0.005242	0.524198
58	58	0.627191	0.003599	0.359942
59	59	0.627191	0.003599	0.359942
60	60	0.905470	0.005196	0.519645
61	61	0.853796	0.004900	0.489990
62	62	0.905470	0.005196	0.519645
63	63	0.904313	0.005190	0.518981
64	64	0.913403	0.005242	0.524198
65	65	0.913403	0.005242	0.524198
66	66	0.913403	0.005242	0.524198
67	67	0.902546	0.005180	0.517967
68 69	68 69	0.901815 0.894688	0.005175 0.005135	0.517548 0.513457
70	70	0.627191	0.003133	0.313437
71	71	0.913403	0.005242	0.524198
72	72	0.901815	0.005272	0.517548
73	73	0.913403	0.005242	0.524198
74	74	0.913403	0.005242	0.524198
75	75	0.904313	0.005190	0.518981
76	76	0.627191	0.003599	0.359942
77	77	0.627191	0.003599	0.359942
78	78	0.627191	0.003599	0.359942
79	79	0.627191	0.003599	0.359942
80	80	0.902546	0.005180	0.517967
81	81	0.913403	0.005242	0.524198
82	82	0.904313	0.005190	0.518981
83	83	0.626018	0.003593	0.359269
84	84	0.913403	0.005242	0.524198
85 86	85 86	0.913403 0.626018	0.005242 0.003593	0.524198 0.359269
87	87	0.610762	0.003595	0.359209
88	88	0.871967	0.005503	0.500418
89	89	0.888810	0.005101	0.510084
90	90	0.913403	0.005242	0.524198
91	91	0.863750	0.004957	0.495702
92	92	0.913403	0.005242	0.524198
93	93	0.627191	0.003599	0.359942
94	94	0.901815	0.005175	0.517548
95	95	0.902546	0.005180	0.517967
96	96	0.913403	0.005242	0.524198
97	97	0.626018	0.003593	0.359269
98	98	0.894887	0.005136	0.513572
99	99	0.627191	0.003599	0.359942
100	100	0.894688	0.005135	0.513457
101 102	101 102	0.904313 0.893048	0.005190 0.005125	0.518981 0.512516
102	102	0.894688	0.005125	0.512310
103	103	0.893048	0.005135	0.513437
105	105	0.881929	0.005125	0.506135
106	106	0.894887	0.005136	0.513572
107	107	0.913403	0.005242	0.524198
108	108	0.894887	0.005136	0.513572
109	109	0.626018	0.003593	0.359269
110	110	0.902546	0.005180	0.517967

Node 🕽	Label 🕽	IC‡	IC'Ĵ	%ICÎ
111	111	0.913403	0.005242	•
111	111	0.913403	0.005242	0.524198 0.524198
113	113	0.887681	0.005242	0.509436
114	114	0.894887	0.005136	0.513572
115	115	0.904313	0.005190	0.518981
116	116	0.627191	0.003599	0.359942
117	117	0.913403	0.005242	0.524198
118	118	0.901815	0.005175	0.517548
119	119	0.893048	0.005125	0.512516
120	120	0.913403	0.005242	0.524198
121	121	0.889281	0.005104	0.510354
122	122	0.626018	0.003593	0.359269
123	123	0.626018	0.003593	0.359269
124 125	124 125	0.902546 0.913403	0.005180 0.005242	0.517967 0.524198
126	126	0.904313	0.005242	0.518981
127	127	0.893048	0.005125	0.512516
128	128	0.627191	0.003599	0.359942
129	129	0.905470	0.005196	0.519645
130	130	0.913403	0.005242	0.524198
131	131	0.904313	0.005190	0.518981
132	132	0.913403	0.005242	0.524198
133	133	0.913403	0.005242	0.524198
134	134	0.626018	0.003593	0.359269
135	135	0.913403	0.005242	0.524198
136	136	0.881448	0.005059	0.505859
137 138	137 138	0.894688 0.913403	0.005135 0.005242	0.513457 0.524198
139	139	0.913403	0.005242	0.524198
140	140	0.904313	0.005242	0.518981
141	141	0.627191	0.003599	0.359942
142	142	0.905470	0.005196	0.519645
143	143	0.913403	0.005242	0.524198
144	144	0.627191	0.003599	0.359942
145	145	0.913403	0.005242	0.524198
146	146	0.902546	0.005180	0.517967
147	147	0.905470	0.005196	0.519645
148	148	0.901815	0.005175	0.517548
149 150	149 150	0.913403 0.913403	0.005242 0.005242	0.524198 0.524198
151	151	0.904313	0.005242	0.518981
152	152	0.913403	0.005242	0.524198
153	153	0.627191	0.003599	0.359942
154	154	0.627191	0.003599	0.359942
155	155	0.856620	0.004916	0.491610
156	156	0.895425	0.005139	0.513880
157	157	0.627191	0.003599	0.359942
158	158	0.881590	0.005059	0.505941
159	159	0.913403	0.005242	0.524198
160	160	0.886410 0.913403	0.005087	0.508707 0.524198
161 162	161 162	0.913403	0.005242 0.005014	0.501402
163	163	0.881897	0.005061	0.506116
164	164	0.865466	0.004967	0.496687
165	165	0.905470	0.005196	0.519645
166	166	0.904313	0.005190	0.518981
167	167	0.913403	0.005242	0.524198
168	168	0.888810	0.005101	0.510084
169	169	0.904313	0.005190	0.518981
170	170	0.627191	0.003599	0.359942
171	171	0.881897	0.005061 0.005242	0.506116
172 173	172 173	0.913403 0.901815	0.005242	0.524198 0.517548
L / J	1/3	0.701013	0.005175	0.51/570

Node 🕽	Label‡	IC‡	IC'\$	%IC\$
174	174	0.627191	0.003599	0.359942
175	175	0.902546	0.005180	0.517967
176	176	0.888810	0.005101	0.510084
177	177	0.913403	0.005242	0.524198
178	178	0.893048	0.005125	0.512516
179	179	0.901815	0.005175	0.517548
180	180	0.913403	0.005242	0.524198
181	181	0.913403	0.005242	0.524198
182	182	0.894887	0.005136	0.513572
183	183	0.627191	0.003599	0.359942
184	184	0.627191	0.003599	0.359942
185	185	0.913403	0.005242	0.524198
186	186	0.913403	0.005242	0.524198
187	187	0.913403	0.005242	0.524198
188	188	0.904313	0.005190	0.518981
189	189	0.913403	0.005242	0.524198
190	190	0.904313	0.005190	0.518981
191	191	0.881590	0.005059	0.505941
192	192	0.905470	0.005196	0.519645
193	193	0.627191	0.003599	0.359942
194	194	0.913403	0.005242	0.524198
195	195	0.913403	0.005242	0.524198
196	196	0.905470	0.005196	0.519645
197	197	0.626018	0.003593	0.359269
198	198	0.913403	0.005242	0.524198
199	199	0.913403	0.005242	0.524198
200	200	0.626018	0.003593	0.359269

Max IC' = 0.009495 (node 2)

**Min IC'** = 0.003505 (node 87)

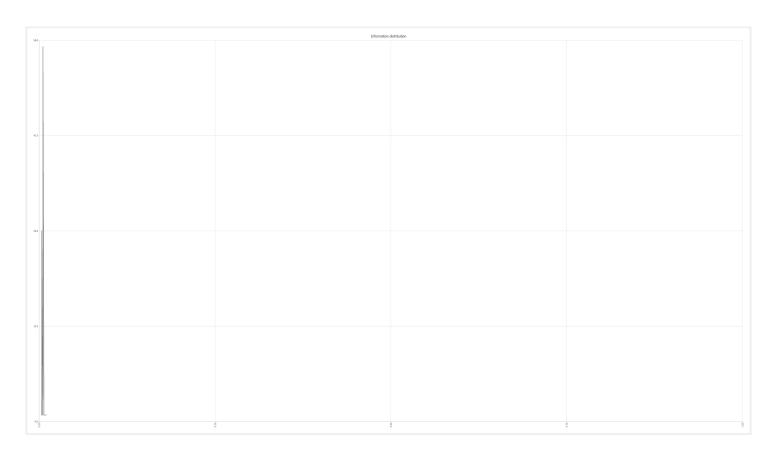
IC classes = 40

**IC' Sum** = 1.000000

**IC' Mean** = 0.005000

**IC' Variance** = 0.000001

## IC' DISTRIBUTION



## **GROUP INFORMATION CENTRALIZATION (GIC)**

Since there is no way to compute Group Information Centralization, you can use Variance as a general centralization index.

## Variance = 0.000001

Variance = 0, when all nodes have the same IC value, i.e. a complete or a circle graph). Larger values of variance suggest larger variability between the IC' values. (Wasserman & Faust, formula 5.20, p. 197)

Information Centrality report, Created by <u>Social Network Visualizer</u> v2.5: Wed, 27.Oct.2021 09:01:18 Computation time: 490 msecs