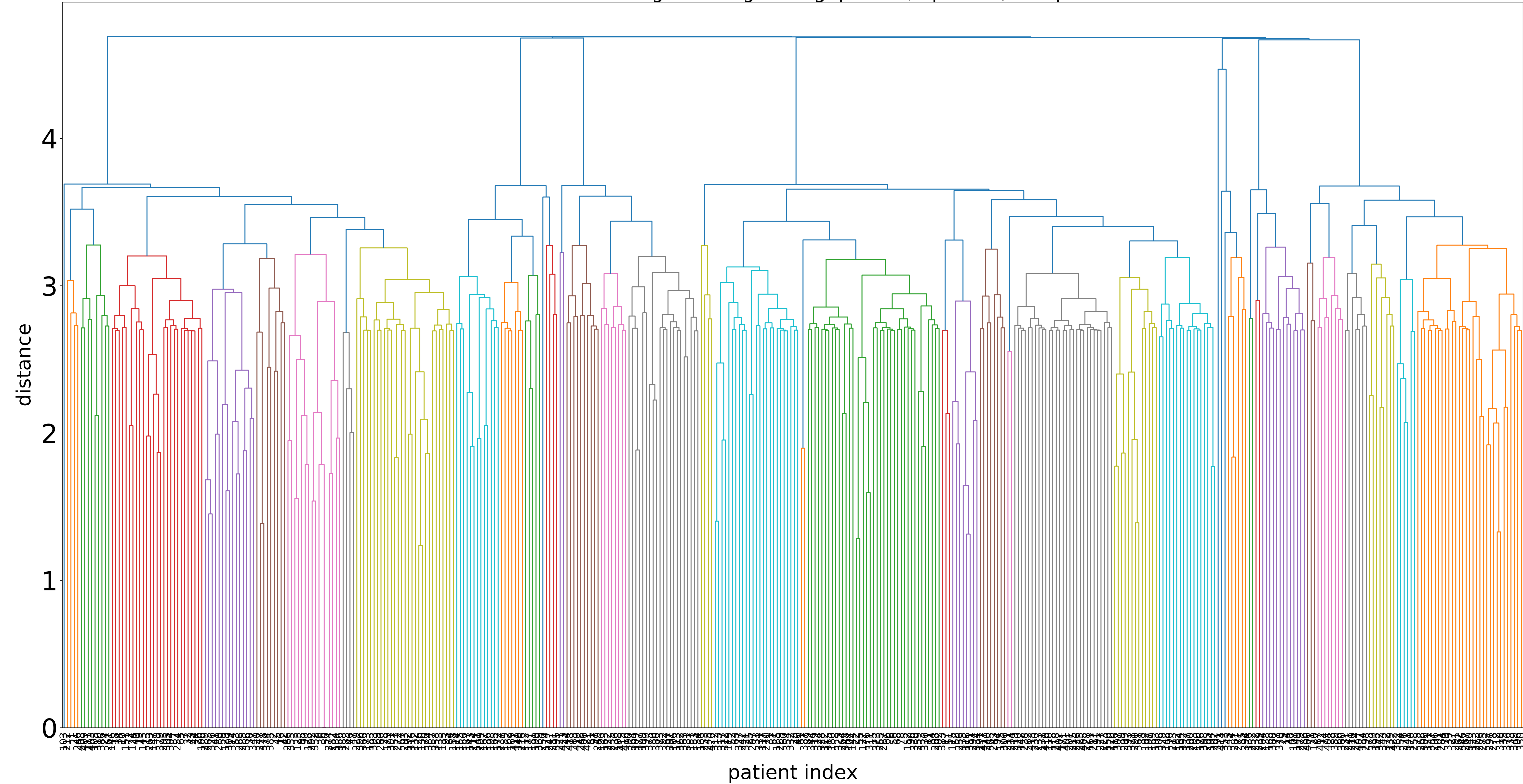


Hierarchical Clustering Dendrogram - gap: 0.00, Tp: 1.00, complete link

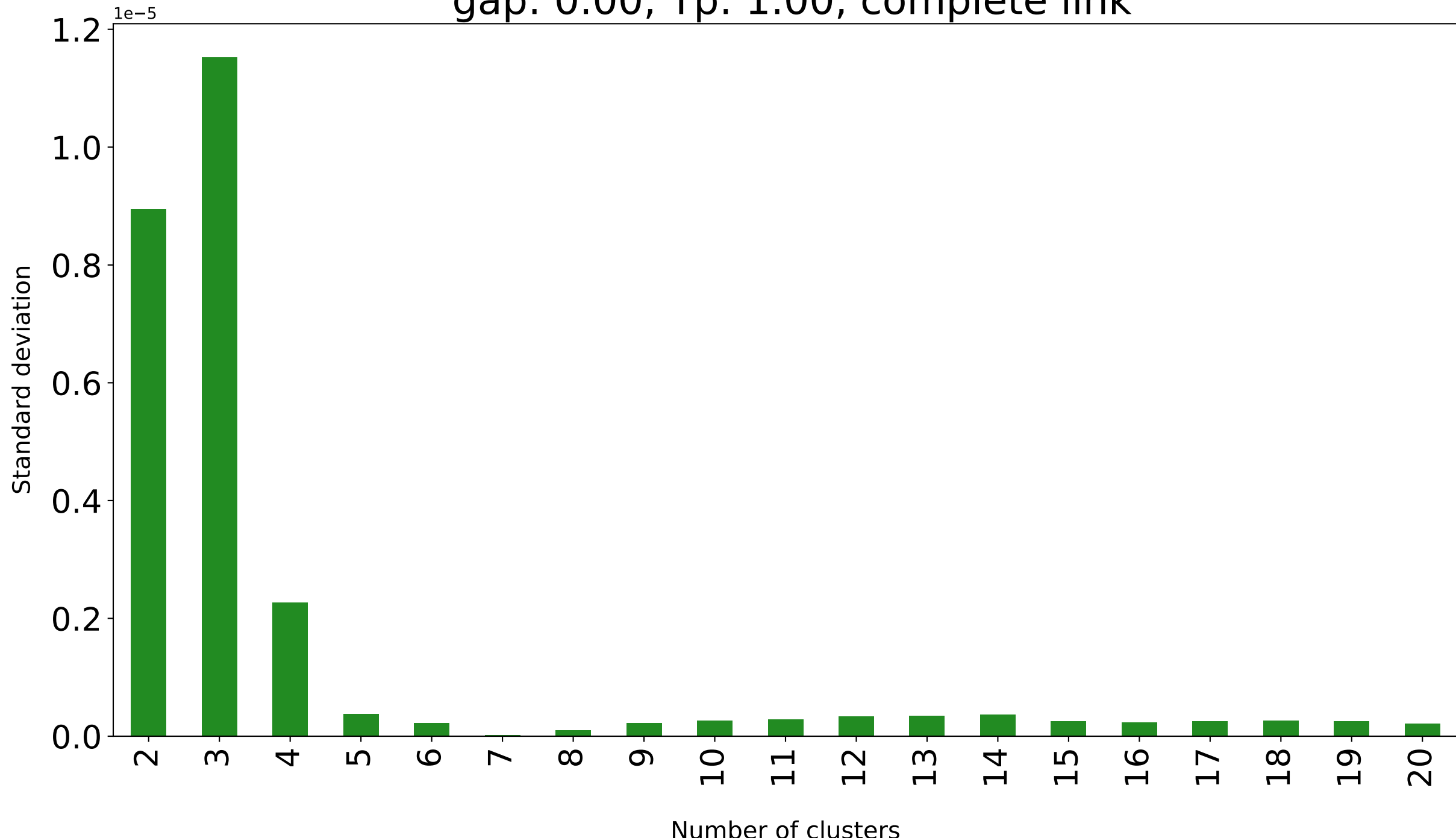


Cophenetic Correlation Coefficient: 0.8398792508489002

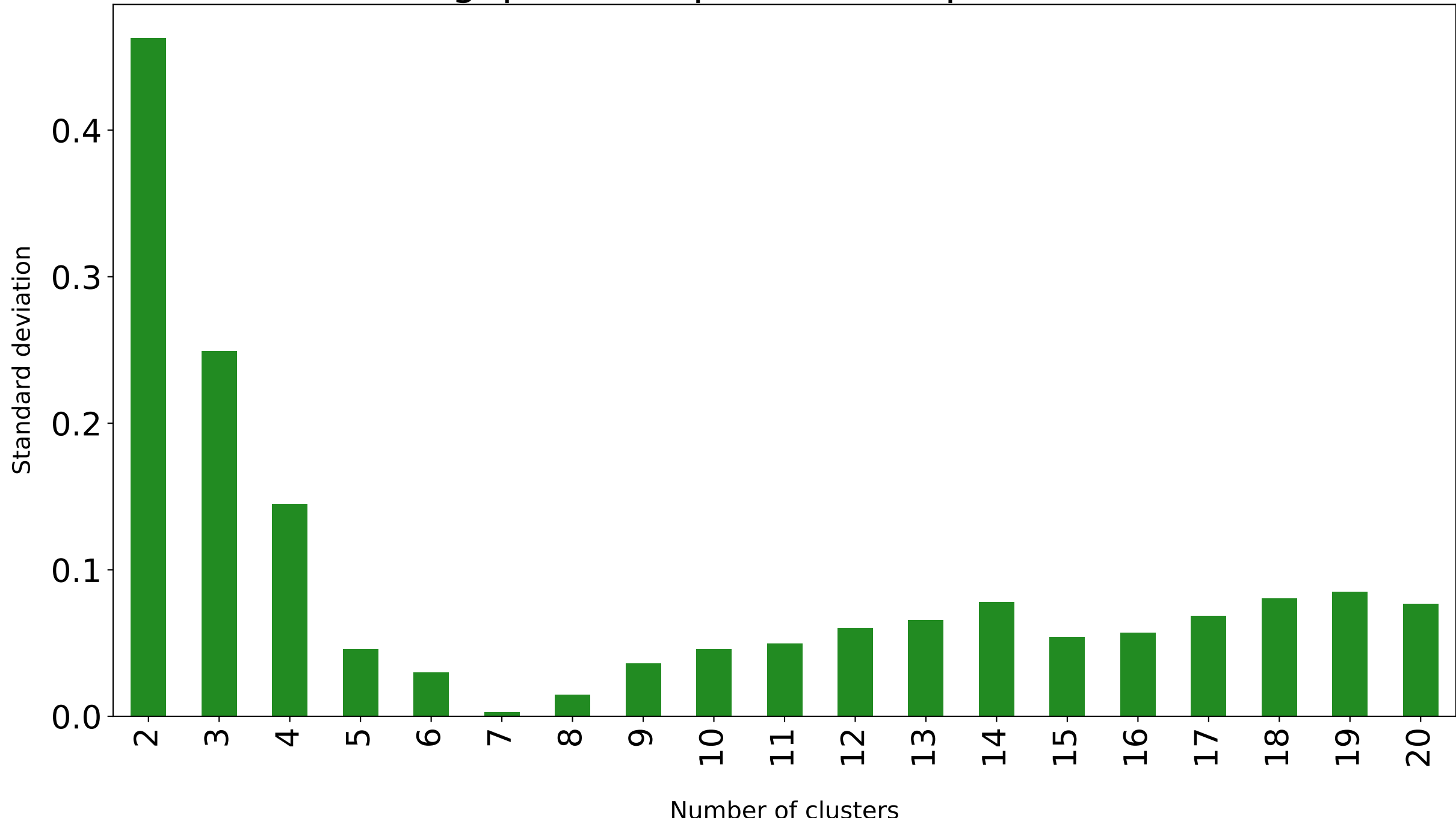
Average values of five clustering indices
gap: 0.00, Tp: 1.00, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99999	0.87191	0.80338	0.61485	0.07869	0.63795	0.8704	0.33835	0.87343	0.0001	0.76547	0.73307	0.01548	0.1657	0.40407
3.0	1.0	0.88978	0.82519	0.85104	0.07279	0.80563	0.88719	0.2842	0.89244	0.00013	0.84034	0.75507	0.02176	0.15855	0.40433
4.0	1.0	0.89588	0.81937	0.93909	0.07284	0.85133	0.89084	0.27346	0.90103	0.00017	0.87774	0.72888	0.06742	0.17787	0.40473
5.0	1.0	0.97256	0.94851	0.96709	0.02005	0.96306	0.97248	0.1027	0.97264	0.0002	0.9726	0.90844	0.06742	0.21051	0.40518
6.0	1.0	0.97633	0.95459	0.96262	0.01999	0.96865	0.97628	0.0992	0.97638	0.00021	0.97721	0.91628	0.22222	0.20717	0.40582
7.0	1.0	0.9991	0.9982	0.99803	0.00098	0.99882	0.9991	0.0074	0.9991	0.00022	0.99916	0.99645	0.22222	0.22078	0.42388
8.0	1.0	0.99561	0.99137	0.989	0.00267	0.99435	0.99553	0.0176	0.99568	0.00022	0.99601	0.98376	2.0	0.3139	0.51343
9.0	1.0	0.98004	0.96133	0.95239	0.00947	0.97462	0.97944	0.05912	0.98065	0.00022	0.98237	0.93027	2.0	0.38127	0.51395
10.0	1.0	0.96618	0.93528	0.9284	0.01779	0.95741	0.96518	0.10634	0.9672	0.00022	0.97131	0.88564	2.0	0.34958	0.51466
11.0	1.0	0.95858	0.92085	0.90545	0.02391	0.94806	0.95715	0.13382	0.96001	0.00022	0.96522	0.86138	2.0	0.3199	0.51508
12.0	1.0	0.94221	0.89092	0.87124	0.03599	0.92808	0.93981	0.1896	0.94465	0.00022	0.95251	0.81399	2.0	0.29241	0.51532
13.0	1.0	0.92122	0.85331	0.83482	0.04812	0.90297	0.91774	0.25186	0.92475	0.00022	0.93795	0.75575	2.0	0.2718	0.5165
14.0	1.0	0.90989	0.83478	0.82212	0.05534	0.89116	0.90546	0.25378	0.91438	0.00023	0.93464	0.73292	2.0	0.25746	0.51829
15.0	1.0	0.84052	0.72373	0.8568	0.09722	0.81246	0.83776	0.41735	0.84331	0.00025	0.90575	0.57234	2.0	0.2403	0.4618
16.0	1.0	0.84638	0.73496	0.82812	0.09481	0.82038	0.84514	0.4254	0.84763	0.00026	0.91375	0.58663	2.0	0.23697	0.46253
17.0	1.0	0.84551	0.7352	0.83762	0.09772	0.8209	0.84433	0.45962	0.84669	0.00027	0.9177	0.58917	2.0	0.22638	0.46294
18.0	1.0	0.82514	0.70633	0.78854	0.10844	0.79846	0.82369	0.4948	0.82659	0.00027	0.91064	0.5555	2.0	0.26758	0.4673
19.0	1.0	0.80202	0.67325	0.74606	0.1173	0.77356	0.79993	0.5314	0.80413	0.00027	0.90376	0.51735	2.0	0.25901	0.46769
20.0	1.0	0.7425	0.59311	0.72382	0.14385	0.71028	0.7408	0.64235	0.74421	0.00028	0.89049	0.42734	2.0	0.24548	0.46806

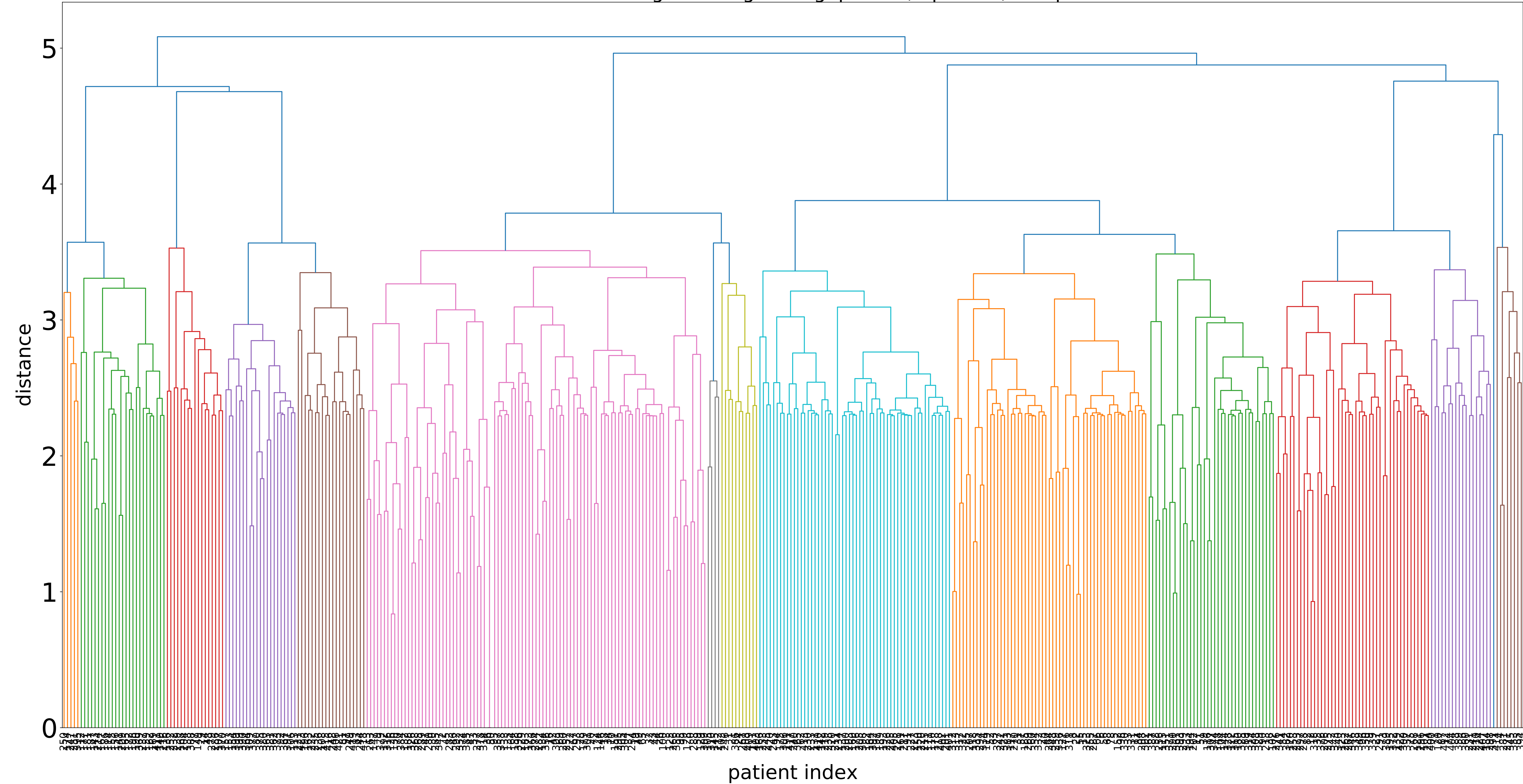
Standard deviation of Adjusted Rand versus number of clusters
gap: 0.00, Tp: 1.00, complete link



Standard deviation of Huberts index versus number of clusters
gap: 0.00, Tp: 1.00, complete link



Hierarchical Clustering Dendrogram - gap: 0.10, Tp: 1.00, complete link

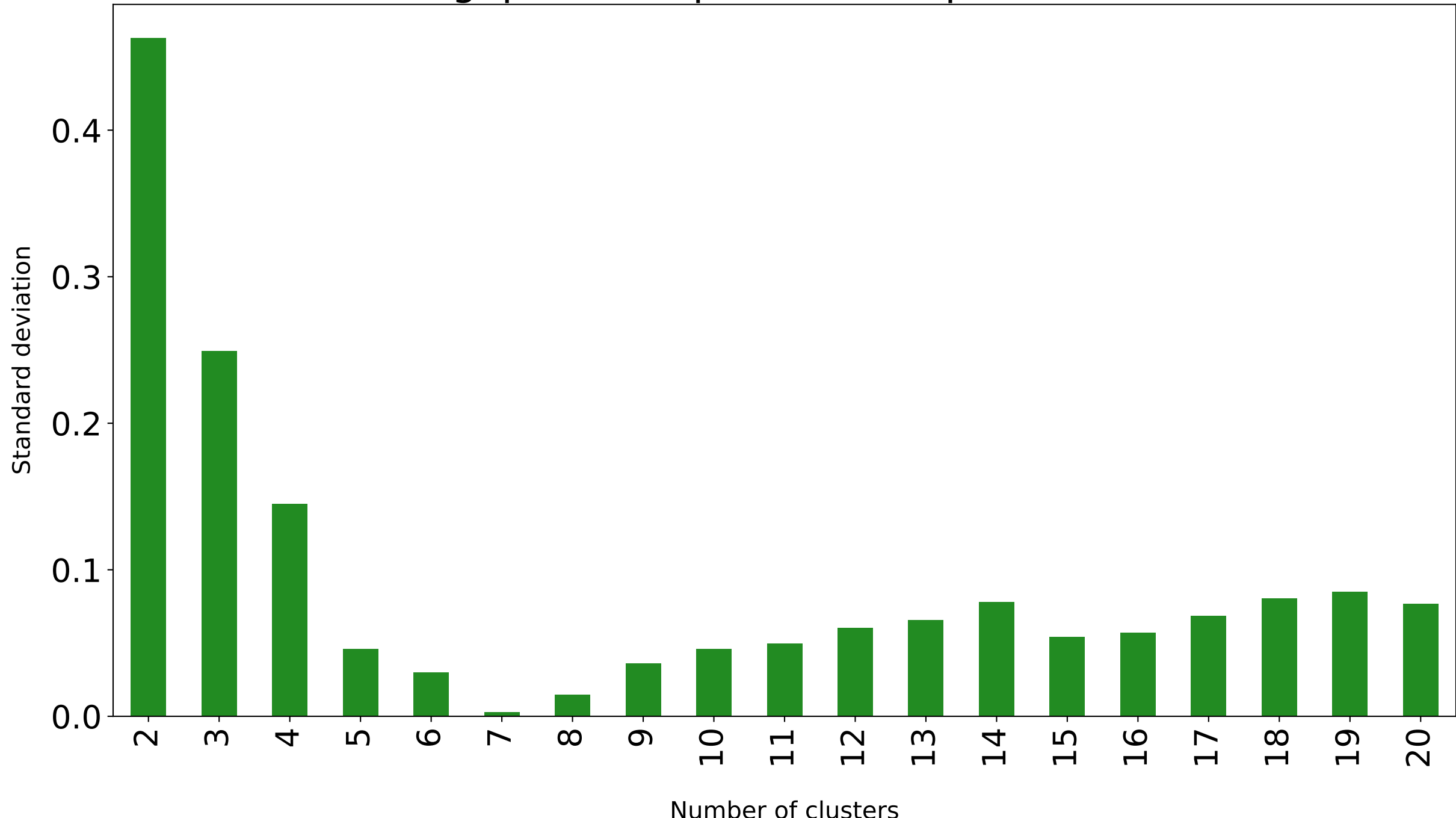


Cophenetic Correlation Coefficient: 0.8584020352113543

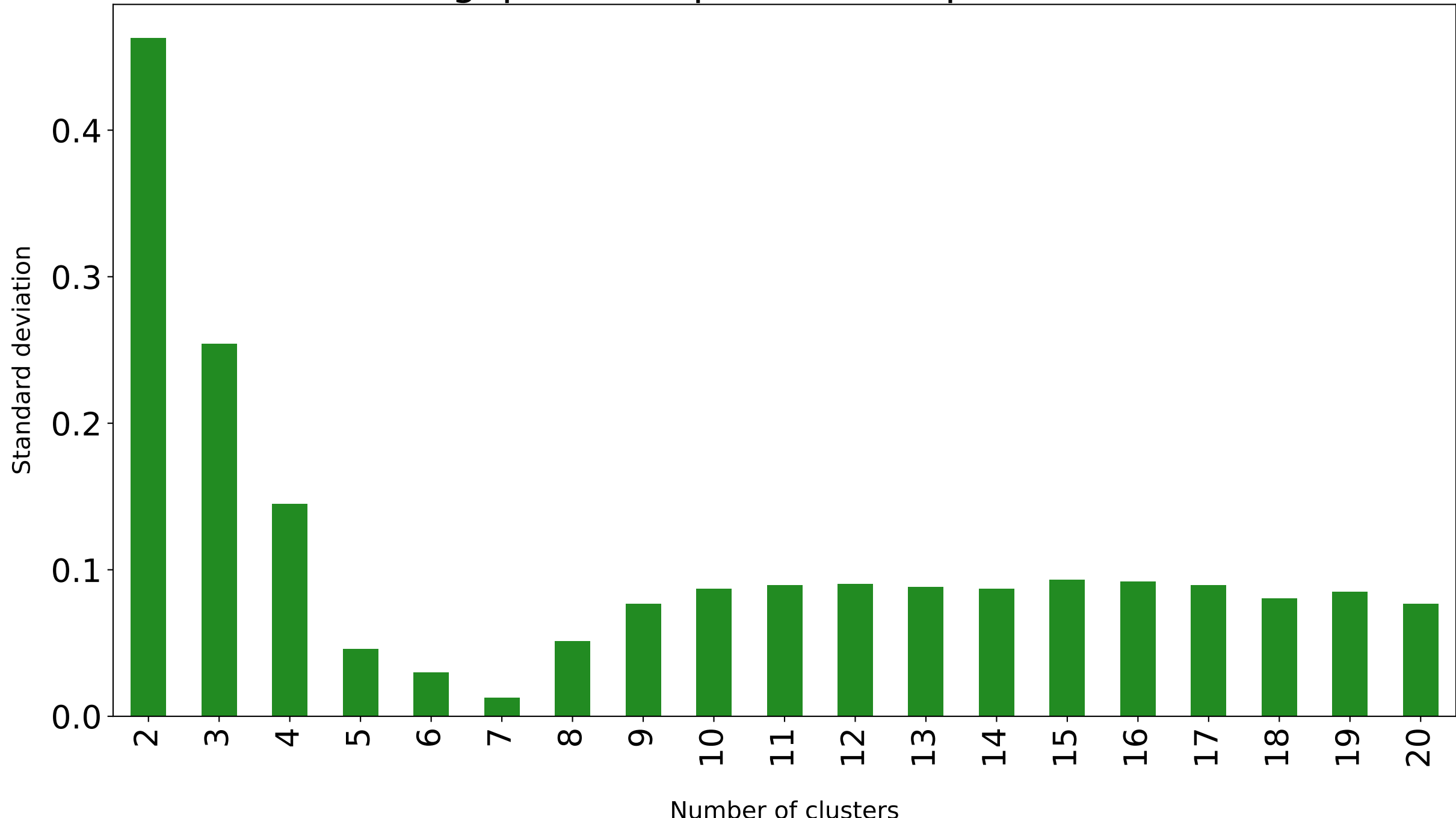
Average values of five clustering indices
gap: 0.10, Tp: 1.00, complete link

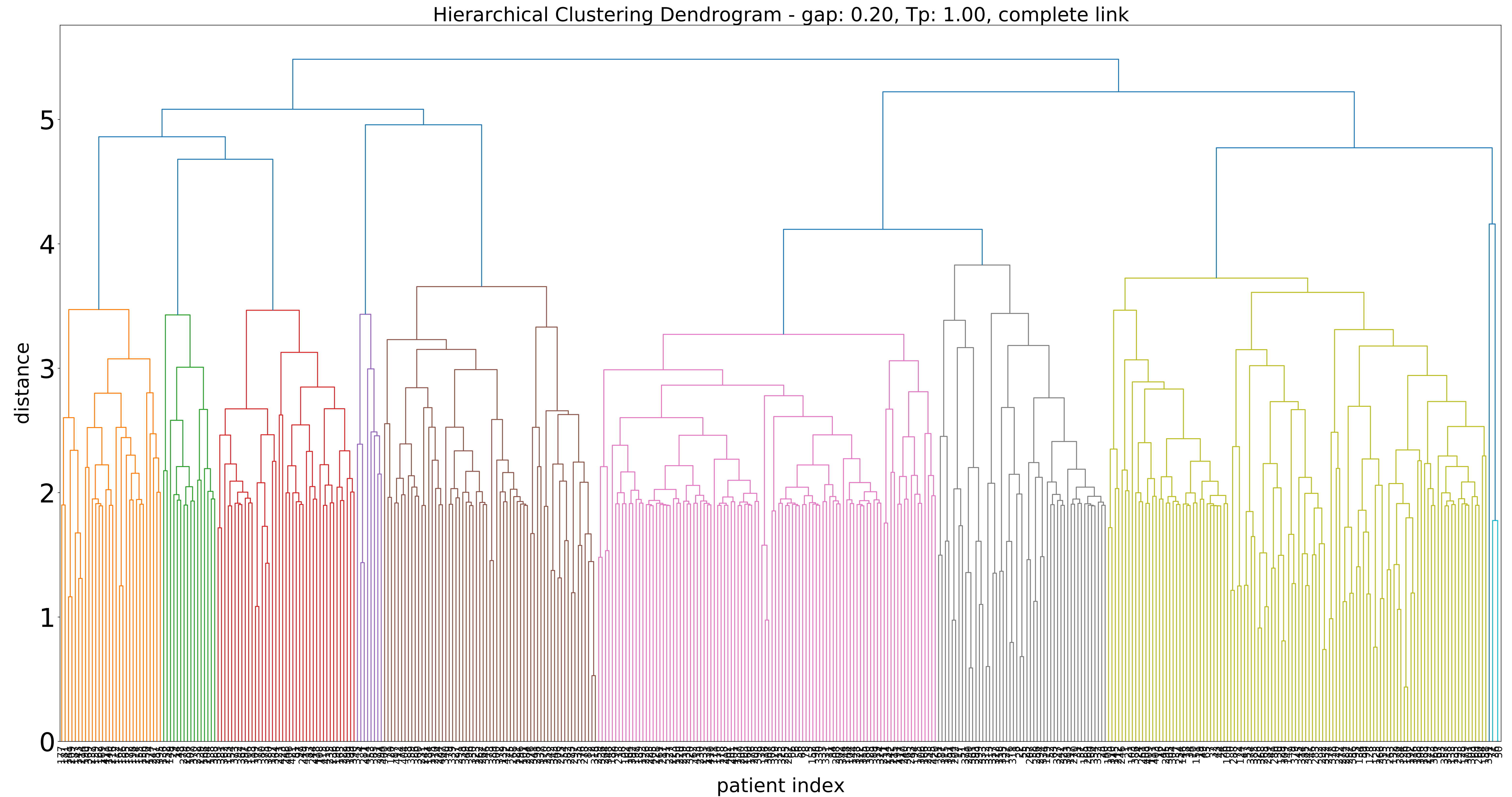
k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99999	0.82352	0.71951	0.52029	0.12764	0.56547	0.82001	0.49973	0.82706	0.0001	0.67589	0.6063	0.01364	0.11741	0.36166
3.0	1.00001	0.82368	0.72715	0.70971	0.10918	0.7085	0.82257	0.41908	0.8248	0.00012	0.77391	0.62233	0.01818	0.18253	0.36567
4.0	1.0	0.9688	0.94149	0.96724	0.02094	0.95702	0.96861	0.12328	0.96898	0.00019	0.9668	0.89603	0.02778	0.22094	0.37482
5.0	1.0	0.96312	0.93	0.937	0.03143	0.95034	0.96298	0.15003	0.96325	0.0002	0.96287	0.87361	0.22222	0.22932	0.37797
6.0	1.0	0.97135	0.94483	0.96508	0.02977	0.96215	0.9713	0.13848	0.9714	0.00021	0.97258	0.89752	0.22222	0.24669	0.381
7.0	1.0	0.99525	0.9907	0.99486	0.00467	0.99379	0.99524	0.02885	0.99526	0.00022	0.99555	0.9822	0.22222	0.26735	0.40861
8.0	1.0	0.97892	0.95999	0.95063	0.01112	0.97357	0.97785	0.05064	0.98	0.00022	0.98188	0.93239	2.0	0.3546	0.45974
9.0	1.0	0.85172	0.74381	0.85877	0.08233	0.81895	0.84948	0.30561	0.85397	0.00022	0.89577	0.60306	2.0	0.30685	0.47097
10.0	1.0	0.82244	0.70286	0.81014	0.09891	0.78798	0.82092	0.38779	0.82397	0.00023	0.88993	0.55323	2.0	0.27215	0.48767
11.0	1.0	0.81058	0.68633	0.7832	0.10665	0.77706	0.80906	0.42729	0.81211	0.00024	0.89137	0.53363	2.0	0.2468	0.49123
12.0	1.0	0.80449	0.67703	0.81577	0.12218	0.77509	0.8023	0.51451	0.80669	0.00027	0.90106	0.52198	2.0	0.22387	0.39599
13.0	1.0	0.80481	0.67831	0.79683	0.12761	0.77664	0.80341	0.53732	0.80622	0.00028	0.90533	0.52304	2.0	0.20405	0.39656
14.0	1.0	0.7974	0.66798	0.76964	0.13404	0.7691	0.79608	0.55696	0.79873	0.00028	0.90466	0.51093	2.0	0.19775	0.39659
15.0	1.0	0.78277	0.64871	0.75162	0.13873	0.75397	0.78127	0.579	0.78428	0.00028	0.90237	0.49064	2.0	0.18585	0.40022
16.0	1.0	0.76269	0.62082	0.70325	0.14614	0.73241	0.76055	0.60775	0.76484	0.00028	0.8967	0.45951	2.0	0.23249	0.4008
17.0	1.0	0.74545	0.59652	0.66175	0.15213	0.71427	0.74206	0.62874	0.74887	0.00029	0.89228	0.43327	2.0	0.22932	0.40294
18.0	1.0	0.71938	0.5647	0.70154	0.16991	0.68996	0.71807	0.71062	0.72069	0.00032	0.89811	0.39845	2.0	0.21846	0.40577
19.0	1.0	0.71904	0.56452	0.68478	0.17208	0.69107	0.71789	0.72521	0.72021	0.00033	0.90257	0.39829	2.0	0.21417	0.41737
20.0	1.0	0.70186	0.54315	0.6934	0.18206	0.67485	0.70067	0.77168	0.70307	0.00035	0.90493	0.37691	2.0	0.20604	0.4198

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.10, Tp: 1.00, complete link



Standard deviation of Huberts index versus number of clusters
gap: 0.10, Tp: 1.00, complete link

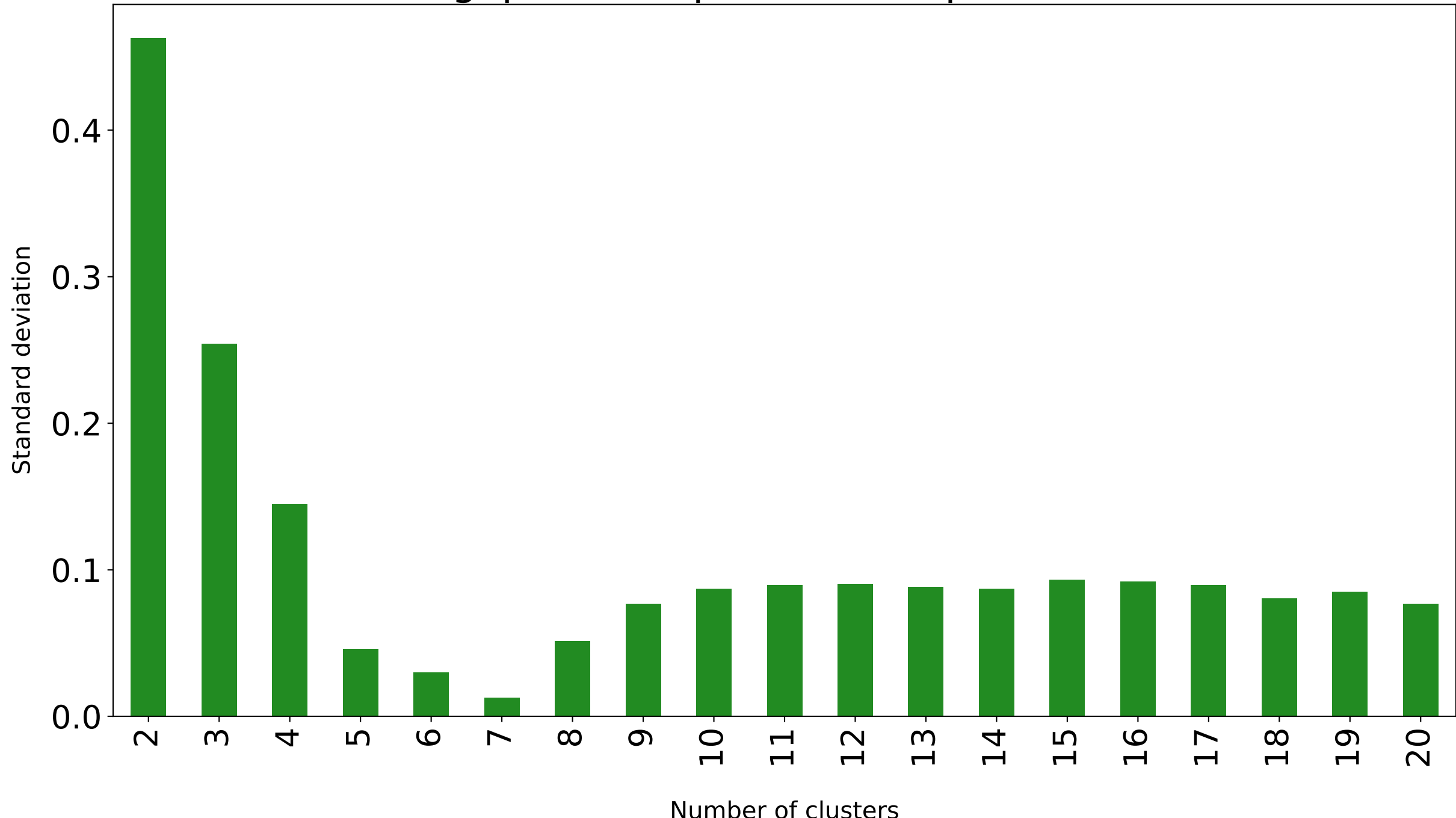




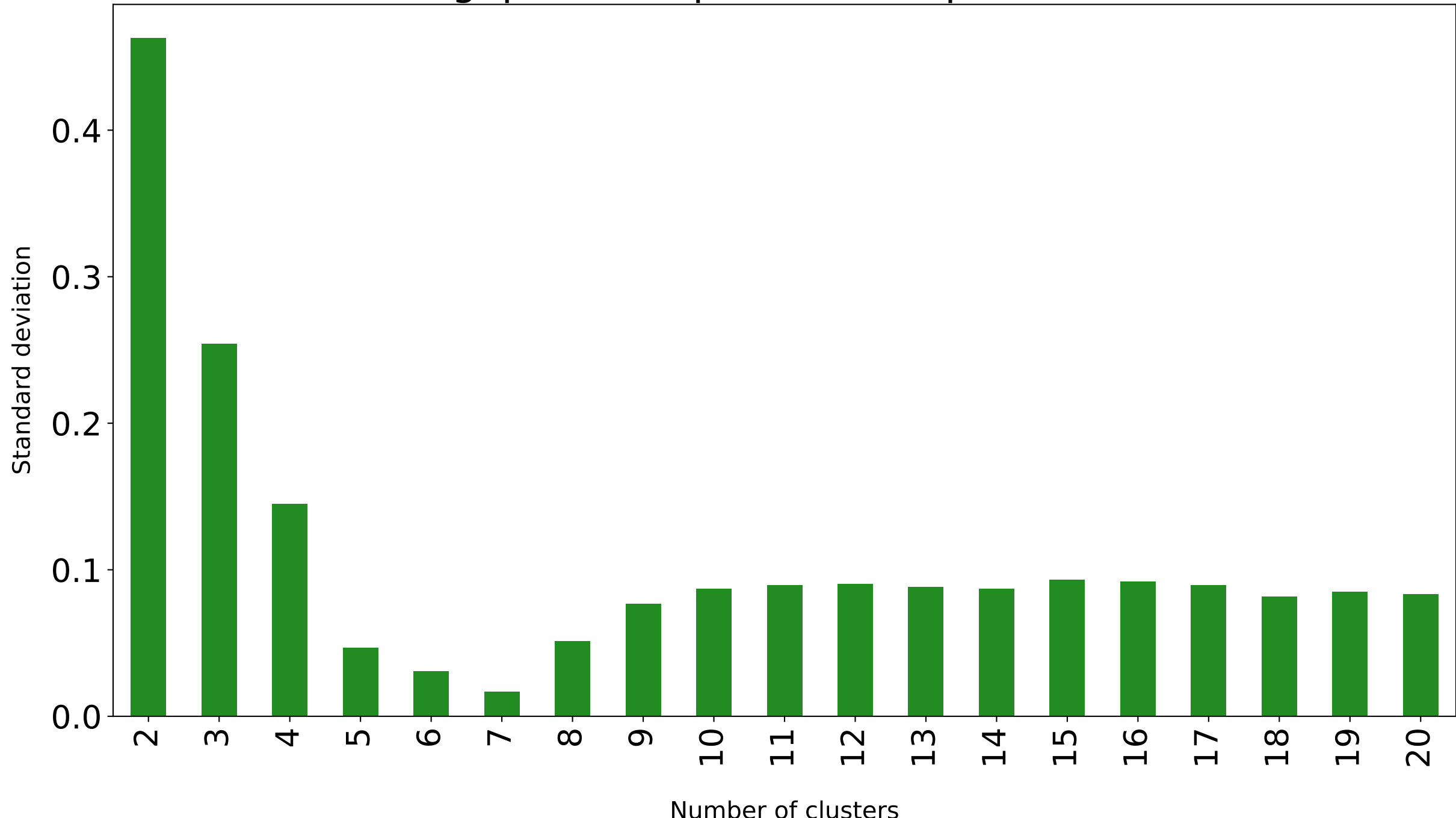
Average values of five clustering indices
gap: 0.20, Tp: 1.00, complete link

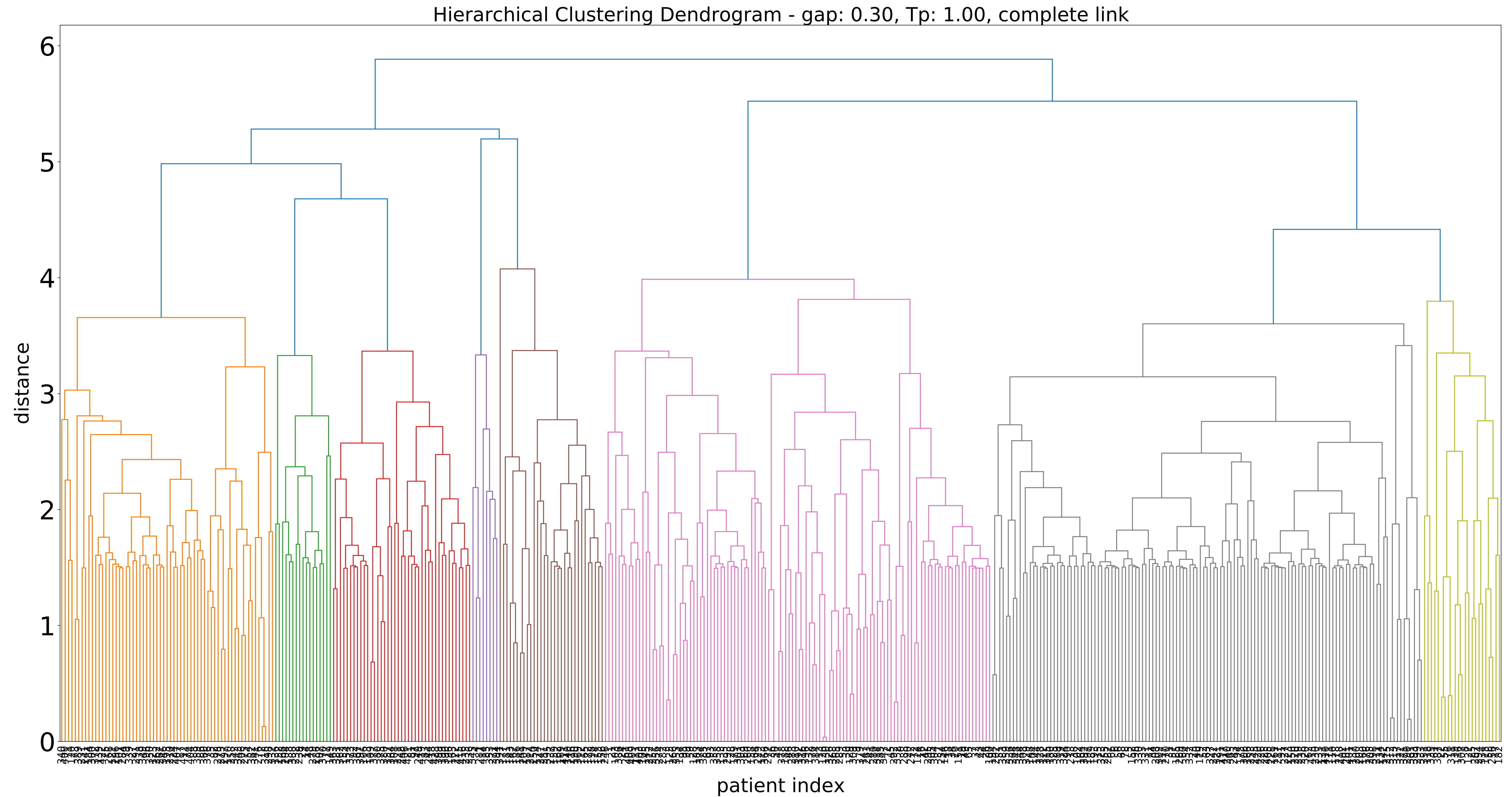
k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99997	0.85522	0.78748	0.68039	0.11175	0.6766	0.85391	0.40488	0.85658	0.00011	0.77216	0.7186	0.01266	0.13532	0.30313
3.0	1.00001	0.83671	0.74195	0.79121	0.11335	0.73903	0.83389	0.40969	0.83957	0.00013	0.79338	0.63911	0.01266	0.24253	0.31151
4.0	1.0	0.96362	0.93356	0.96529	0.02244	0.94915	0.96276	0.13382	0.96451	0.00019	0.95953	0.88783	0.02299	0.25608	0.31935
5.0	1.0	0.96046	0.92517	0.93217	0.03065	0.94655	0.96006	0.16741	0.96087	0.00019	0.9595	0.86587	0.02299	0.27911	0.32568
6.0	1.0	0.9678	0.93845	0.95458	0.03021	0.95744	0.96773	0.159	0.96787	0.0002	0.96925	0.88705	0.06667	0.29737	0.33173
7.0	1.0	0.97617	0.9536	0.95637	0.02601	0.96884	0.97609	0.13198	0.97625	0.00021	0.97776	0.9123	0.5	0.27109	0.19297
8.0	1.0	0.98045	0.96245	0.96195	0.01157	0.97506	0.98	0.0704	0.98091	0.00022	0.98277	0.93248	0.5	0.2883	0.21711
9.0	1.0	0.93376	0.87562	0.85326	0.03272	0.91717	0.93073	0.16319	0.93682	0.00021	0.9443	0.79144	2.0	0.39751	0.21938
10.0	1.0	0.82406	0.70282	0.80833	0.09346	0.78636	0.82246	0.40788	0.82566	0.00021	0.8816	0.54895	2.0	0.34619	0.23581
11.0	1.0	0.78519	0.64758	0.73079	0.11716	0.74252	0.78343	0.53289	0.78695	0.00021	0.86556	0.48399	2.0	0.32733	0.24247
12.0	1.0	0.73272	0.57825	0.71387	0.16838	0.68838	0.73062	0.71058	0.73484	0.00022	0.85653	0.40977	2.0	0.29153	0.247
13.0	1.0	0.71002	0.55138	0.67856	0.18287	0.66668	0.70801	0.76346	0.71205	0.00023	0.85795	0.38424	2.0	0.26535	0.25017
14.0	1.0	0.68845	0.5264	0.67241	0.20362	0.64711	0.68636	0.86652	0.69055	0.00024	0.86219	0.36114	2.0	0.25143	0.26014
15.0	1.0	0.67251	0.50869	0.64308	0.2167	0.63057	0.67067	0.91913	0.67435	0.00025	0.8602	0.34513	2.0	0.23541	0.26053
16.0	1.0	0.66555	0.50121	0.62523	0.22172	0.62416	0.66371	0.94082	0.6674	0.00025	0.86146	0.33872	2.0	0.23469	0.26054
17.0	1.0	0.65842	0.49329	0.62054	0.22255	0.61799	0.65655	0.9558	0.6603	0.00026	0.86382	0.33175	2.0	0.21903	0.26249
18.0	1.0	0.6583	0.49316	0.61174	0.22317	0.61913	0.65628	0.96324	0.66033	0.00026	0.86729	0.33184	2.0	0.22108	0.263
19.0	1.0	0.65401	0.48829	0.59005	0.22576	0.61566	0.65169	0.97556	0.65635	0.00027	0.86922	0.32772	2.0	0.21578	0.26339
20.0	1.0	0.65143	0.48469	0.57558	0.22716	0.6139	0.64832	0.98535	0.65456	0.00027	0.87084	0.32462	2.0	0.21261	0.26676

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.20, Tp: 1.00, complete link



Standard deviation of Huberts index versus number of clusters
gap: 0.20, Tp: 1.00, complete link

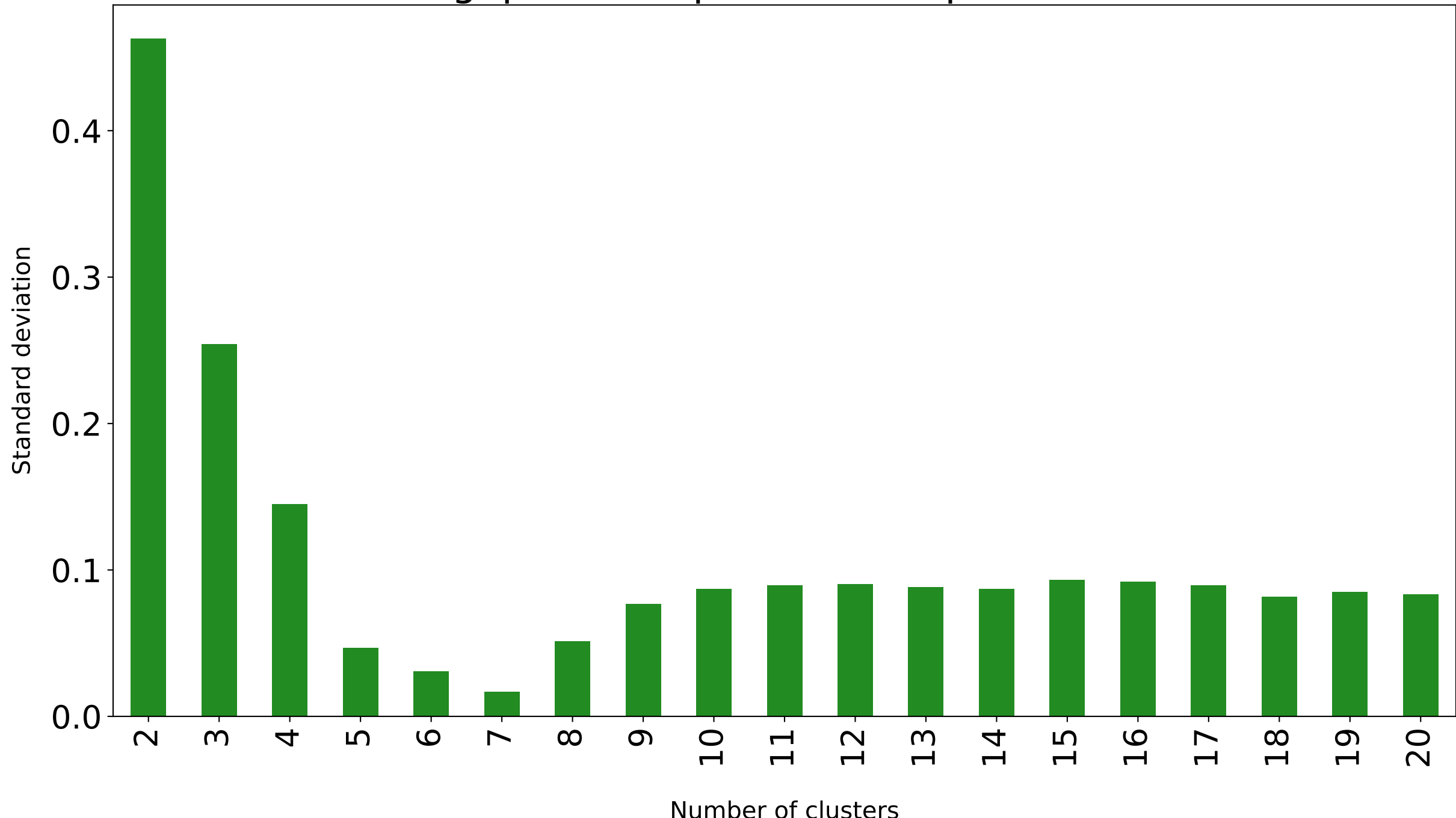




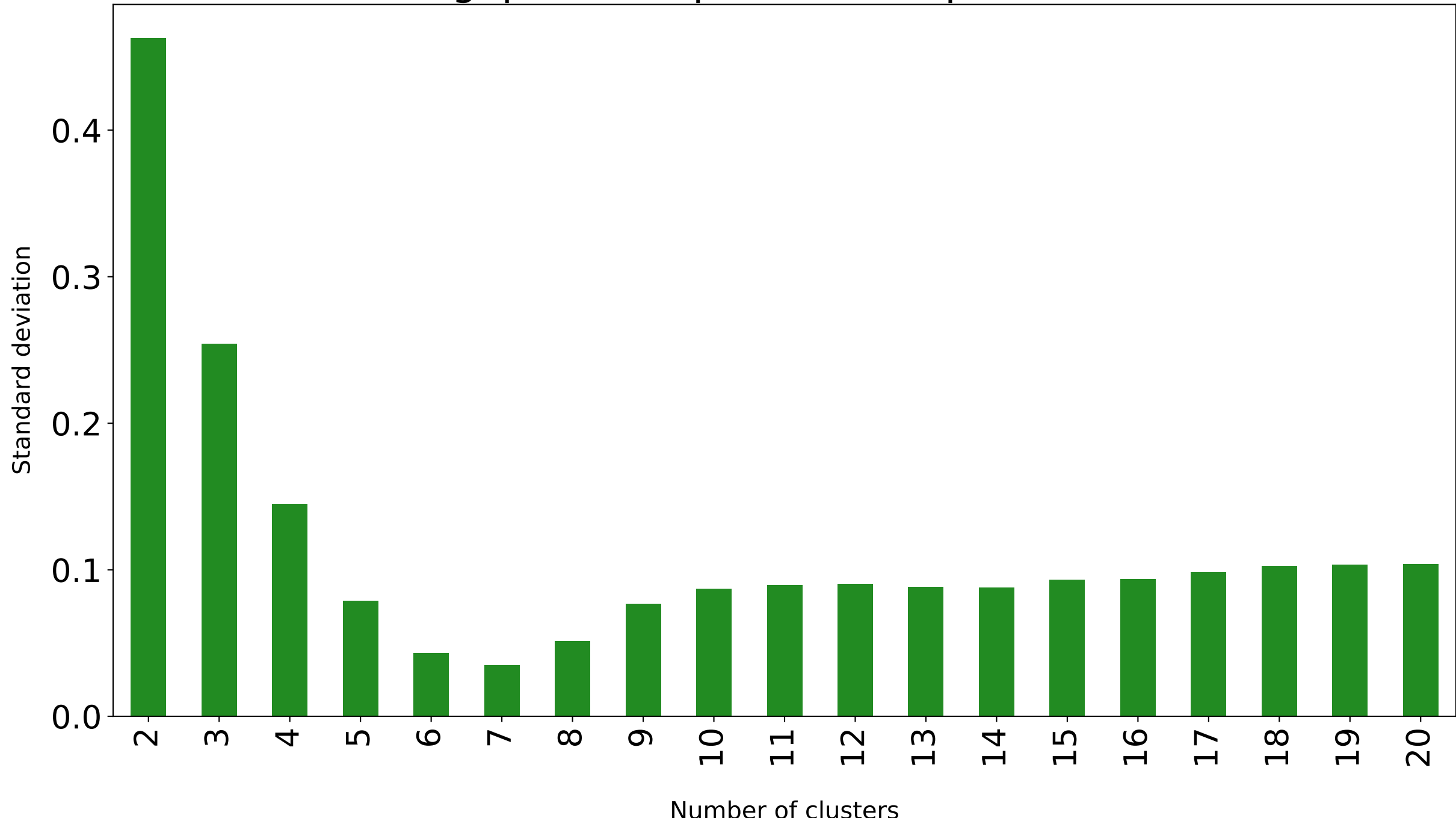
Average values of five clustering indices
gap: 0.30, Tp: 1.00, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99998	0.87697	0.81352	0.71768	0.09076	0.70871	0.8747	0.33357	0.87933	0.00011	0.79382	0.7489	0.025	0.15802	0.25045
3.0	1.00001	0.88665	0.81894	0.85802	0.07677	0.81644	0.88381	0.28791	0.88957	0.00014	0.85235	0.7447	0.025	0.2803	0.26185
4.0	1.0	0.87669	0.78601	0.82363	0.10899	0.82635	0.8753	0.41649	0.87809	0.00016	0.86745	0.66201	0.05128	0.27626	0.26615
5.0	1.0	0.89806	0.81737	0.81535	0.0886	0.8604	0.89671	0.33282	0.89941	0.00017	0.89484	0.70102	0.06452	0.32032	0.27757
6.0	1.0	0.97015	0.94374	0.96186	0.02897	0.96068	0.97008	0.13651	0.97023	0.00021	0.97193	0.89859	0.06452	0.33719	0.29553
7.0	1.0	0.98486	0.97127	0.97733	0.01255	0.9804	0.98474	0.06946	0.98498	0.00022	0.98639	0.94803	0.11765	0.36656	0.31315
8.0	1.0	0.93141	0.87124	0.95436	0.03513	0.91368	0.9303	0.19796	0.93252	0.00022	0.94365	0.77593	0.11765	0.31513	0.31024
9.0	1.0	0.91954	0.85247	0.90798	0.0433	0.89969	0.91856	0.22635	0.92052	0.00022	0.9373	0.75011	2.0	0.38385	0.3172
10.0	1.0	0.83622	0.71746	0.8586	0.10689	0.80211	0.83384	0.45434	0.83861	0.00022	0.89016	0.56328	2.0	0.33175	0.24456
11.0	1.0	0.82421	0.70132	0.84758	0.11889	0.7906	0.82183	0.53929	0.82661	0.00023	0.89058	0.54584	2.0	0.3128	0.118
12.0	1.0	0.80901	0.68151	0.79501	0.12958	0.77407	0.80766	0.5889	0.81037	0.00023	0.88732	0.52278	2.0	0.30388	0.12254
13.0	1.0	0.78564	0.65047	0.75758	0.13733	0.7501	0.78422	0.62665	0.78706	0.00024	0.88406	0.48892	2.0	0.2811	0.12438
14.0	1.0	0.79319	0.66186	0.7748	0.14391	0.76252	0.79166	0.63802	0.79473	0.00026	0.89758	0.50329	2.0	0.28022	0.13122
15.0	1.0	0.78878	0.65624	0.74817	0.1478	0.75858	0.78717	0.65619	0.79041	0.00027	0.89859	0.4975	2.0	0.29027	0.13289
16.0	1.0	0.78322	0.64897	0.73241	0.15652	0.75331	0.78138	0.69167	0.78508	0.00027	0.89892	0.48999	2.0	0.27465	0.13309
17.0	1.0	0.77555	0.63946	0.72878	0.16475	0.74572	0.77371	0.72763	0.77741	0.00028	0.89883	0.48028	2.0	0.26742	0.1331
18.0	1.0	0.76968	0.63225	0.72548	0.16535	0.7404	0.76767	0.74085	0.77171	0.00028	0.89998	0.47352	2.0	0.2507	0.13374
19.0	1.0	0.76887	0.63108	0.7134	0.16522	0.74015	0.76654	0.74363	0.77123	0.00029	0.9013	0.47276	2.0	0.25129	0.13439
20.0	1.0	0.76448	0.62442	0.6943	0.16726	0.73604	0.76128	0.75211	0.76772	0.00029	0.90117	0.46584	2.0	0.24956	0.1346

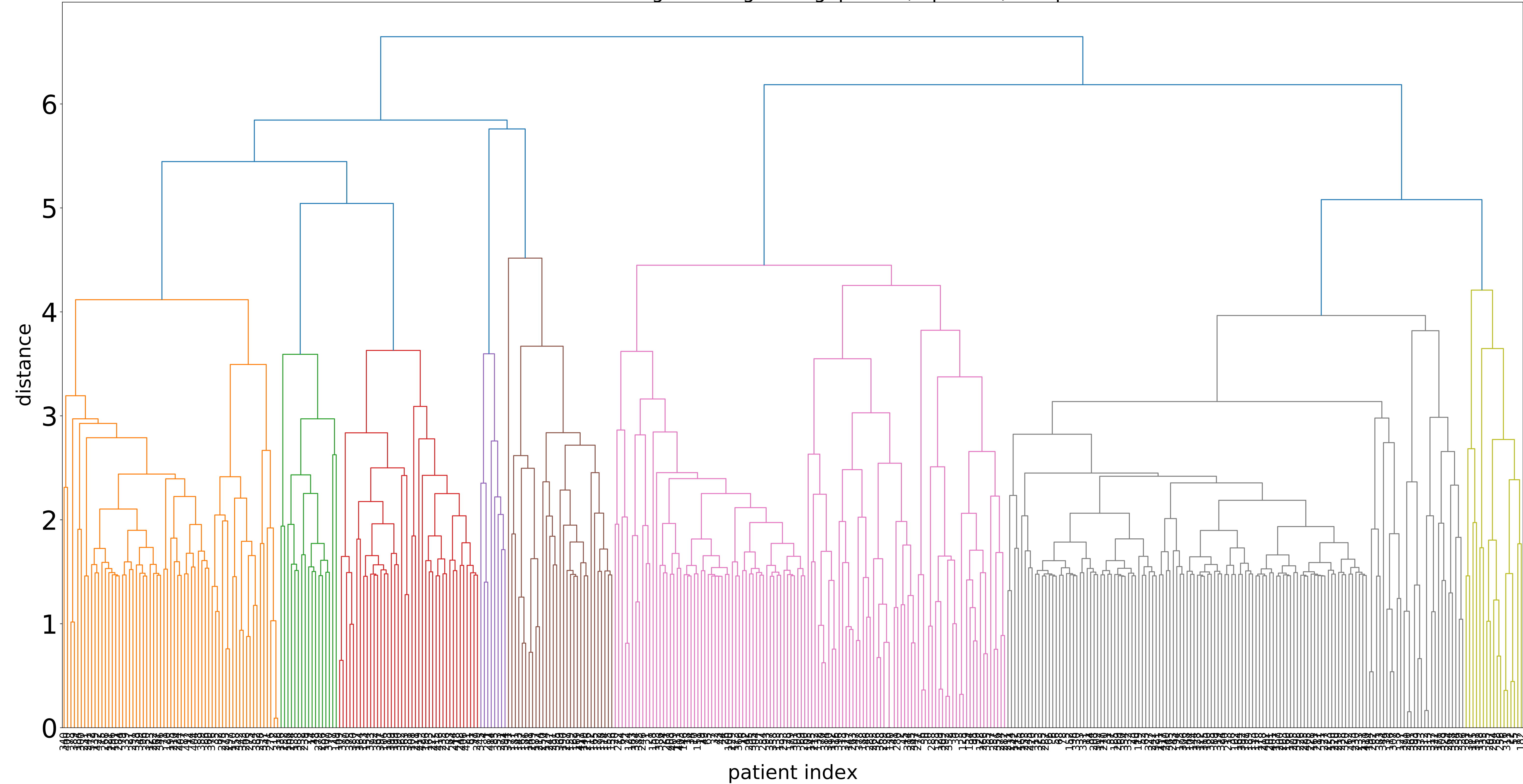
Standard deviation of Adjusted Rand versus number of clusters
gap: 0.30, Tp: 1.00, complete link



Standard deviation of Huberts index versus number of clusters
gap: 0.30, Tp: 1.00, complete link



Hierarchical Clustering Dendrogram - gap: 0.40, Tp: 1.00, complete link

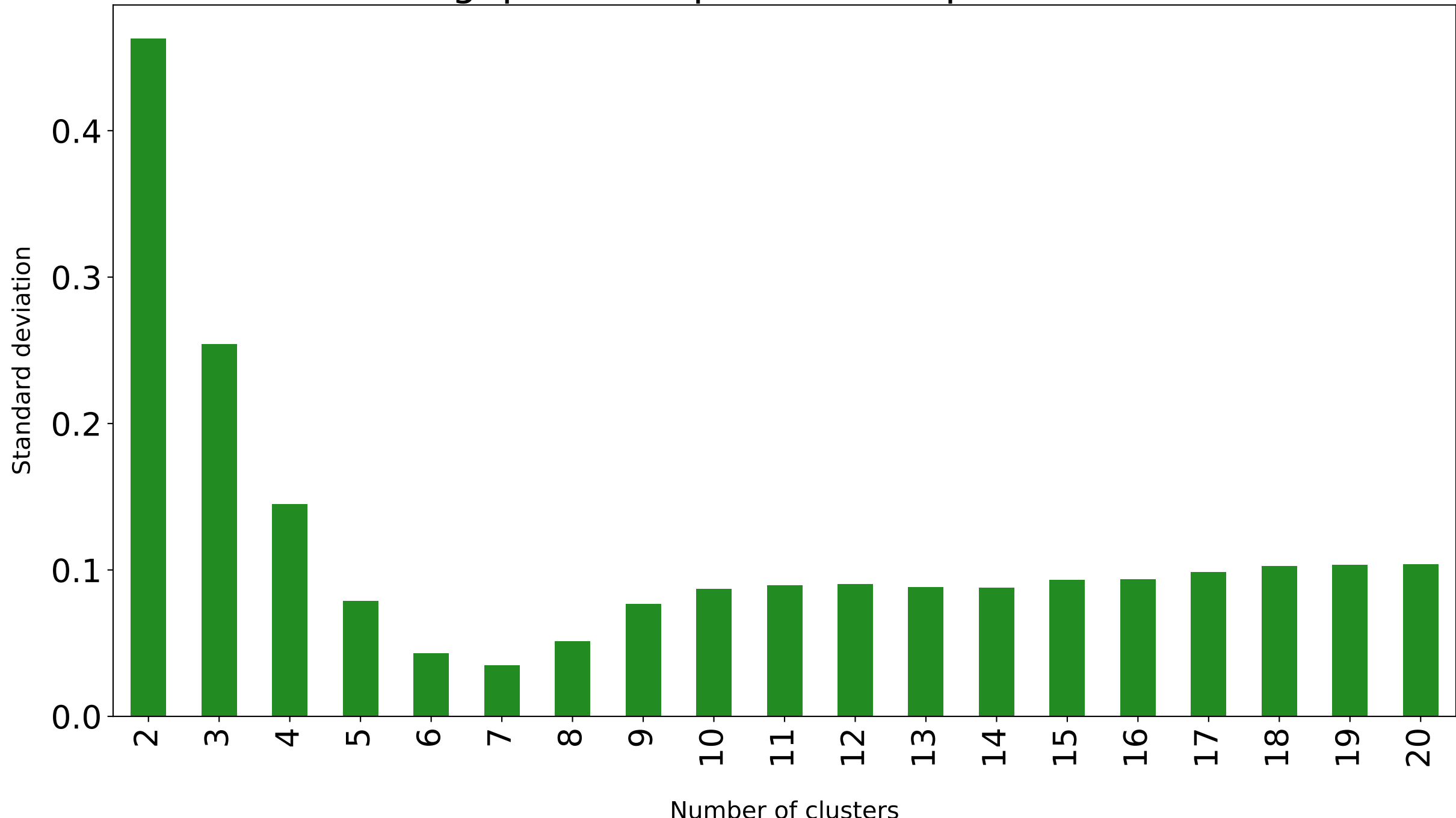


Cophenetic Correlation Coefficient: 0.8017789716899641

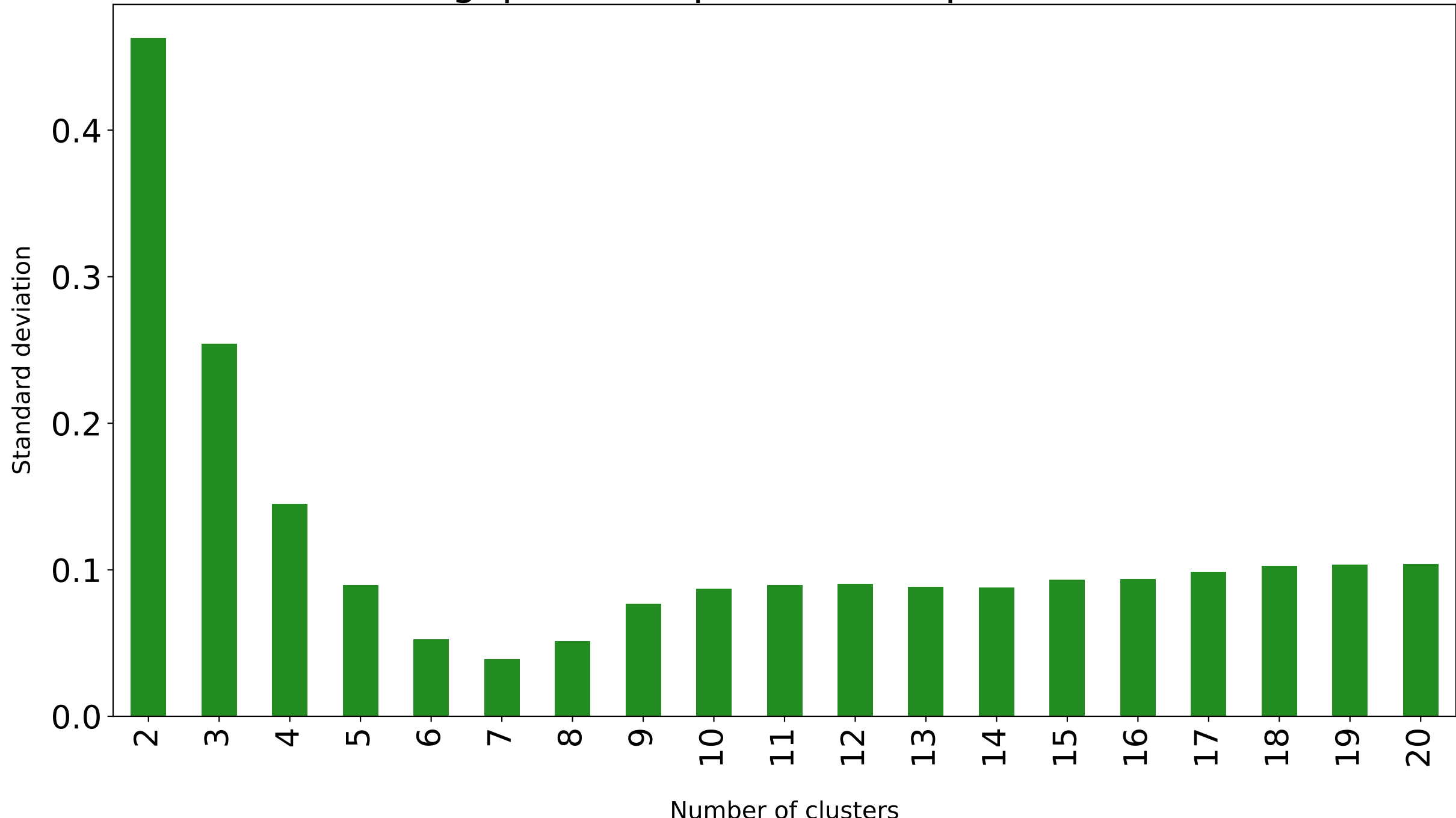
Average values of five clustering indices
gap: 0.40, Tp: 1.00, complete link

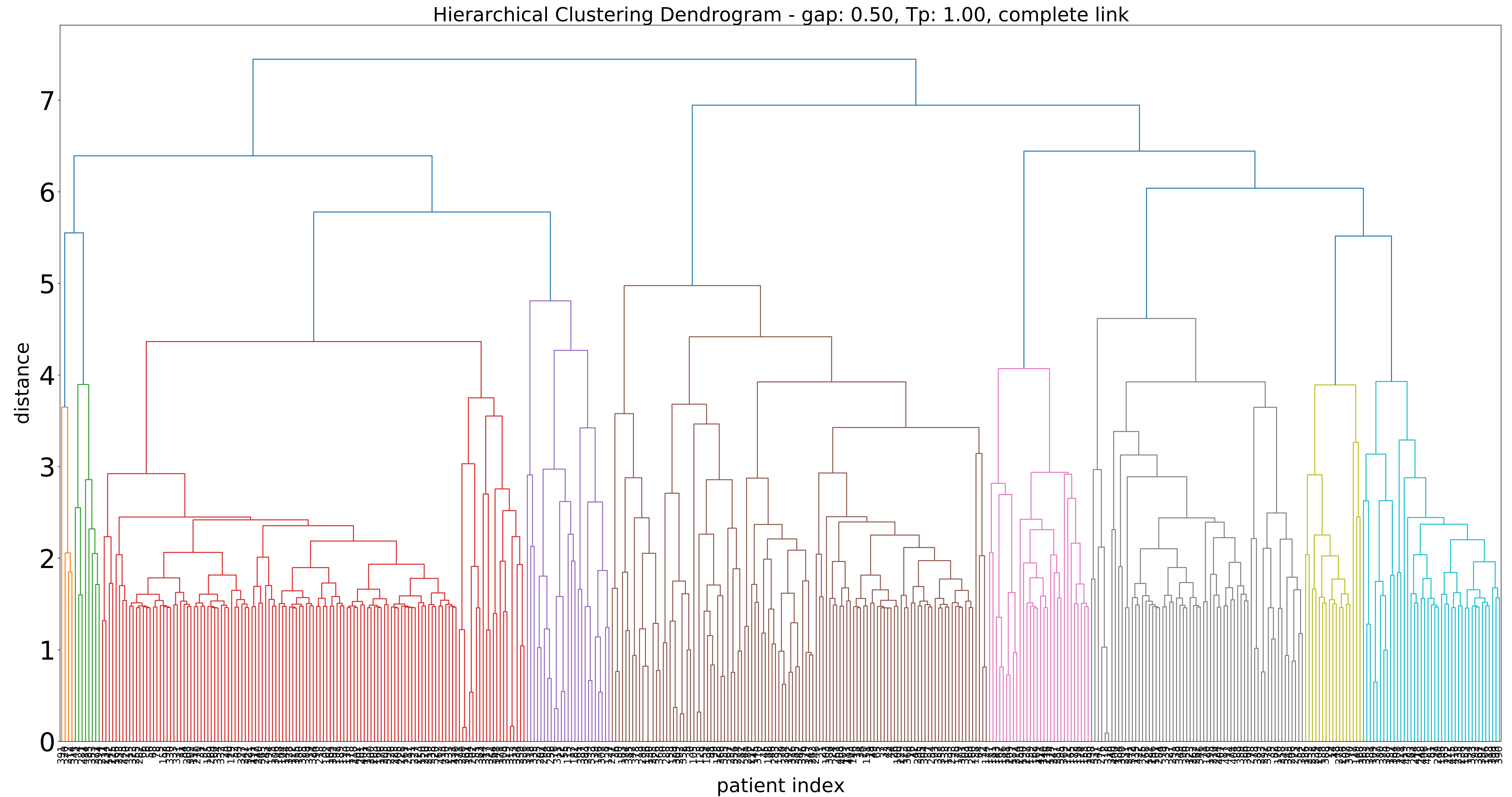
k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99998	0.8788	0.8128	0.69984	0.08828	0.69486	0.87522	0.33039	0.88253	0.00011	0.7869	0.74573	0.025	0.16531	0.24995
3.0	1.00001	0.88887	0.8199	0.87515	0.07309	0.8199	0.88523	0.28528	0.89261	0.00014	0.85128	0.74391	0.025	0.2876	0.26451
4.0	1.0	0.87694	0.78789	0.83312	0.10457	0.82557	0.87523	0.40901	0.87869	0.00016	0.86621	0.66789	0.05128	0.28304	0.26843
5.0	1.0	0.90501	0.83031	0.82981	0.08099	0.86957	0.90376	0.30762	0.90627	0.00017	0.90168	0.72294	0.06452	0.32865	0.2839
6.0	1.0	0.96448	0.93359	0.95601	0.02856	0.9531	0.96422	0.14191	0.96474	0.0002	0.96633	0.88284	0.06452	0.34606	0.30436
7.0	1.0	0.92995	0.86946	0.94068	0.04339	0.91009	0.92933	0.23802	0.93056	0.00021	0.93924	0.77262	0.06452	0.3052	0.24756
8.0	1.0	0.94887	0.90312	0.95647	0.02864	0.9352	0.94838	0.17297	0.94936	0.00022	0.95721	0.82708	0.11765	0.33992	0.27638
9.0	1.0	0.92908	0.86893	0.89407	0.03847	0.9113	0.92809	0.21114	0.93007	0.00022	0.94375	0.77588	2.0	0.40532	0.28061
10.0	1.0	0.86891	0.76837	0.89156	0.08666	0.84038	0.86714	0.37366	0.87068	0.00022	0.90841	0.62956	2.0	0.36166	0.234
11.0	1.0	0.85407	0.74653	0.8703	0.09732	0.82448	0.85255	0.47108	0.8556	0.00023	0.90468	0.60187	2.0	0.35013	0.2256
12.0	1.0	0.83652	0.72165	0.81446	0.10713	0.80476	0.83564	0.521	0.83741	0.00023	0.89845	0.57107	2.0	0.33231	0.23066
13.0	1.0	0.82595	0.70619	0.79437	0.10649	0.79496	0.82499	0.53306	0.82691	0.00024	0.89945	0.55245	2.0	0.30983	0.23949
14.0	1.0	0.85325	0.74516	0.86898	0.10424	0.83054	0.85178	0.51042	0.85473	0.00028	0.923	0.59959	2.0	0.29984	0.24839
15.0	1.0	0.86508	0.76487	0.86004	0.1011	0.84481	0.86438	0.4917	0.86578	0.00029	0.93154	0.6259	2.0	0.31795	0.24866
16.0	1.0	0.86754	0.76861	0.847	0.10299	0.84819	0.86683	0.49991	0.86826	0.0003	0.93426	0.63078	2.0	0.3145	0.25876
17.0	1.0	0.86764	0.76857	0.83782	0.10689	0.84893	0.86682	0.51358	0.86846	0.00031	0.93604	0.6307	2.0	0.30021	0.26036
18.0	1.0	0.8705	0.77261	0.82653	0.10784	0.85262	0.86951	0.51387	0.87149	0.00031	0.93843	0.63572	2.0	0.28481	0.23398
19.0	1.0	0.87023	0.77233	0.83431	0.10924	0.85292	0.86946	0.52147	0.87101	0.00032	0.94025	0.63486	2.0	0.26766	0.23456
20.0	1.0	0.87796	0.78472	0.84455	0.10667	0.86214	0.87722	0.50558	0.87871	0.00033	0.94506	0.65192	2.0	0.25984	0.23608

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.40, Tp: 1.00, complete link



Standard deviation of Huberts index versus number of clusters
gap: 0.40, Tp: 1.00, complete link

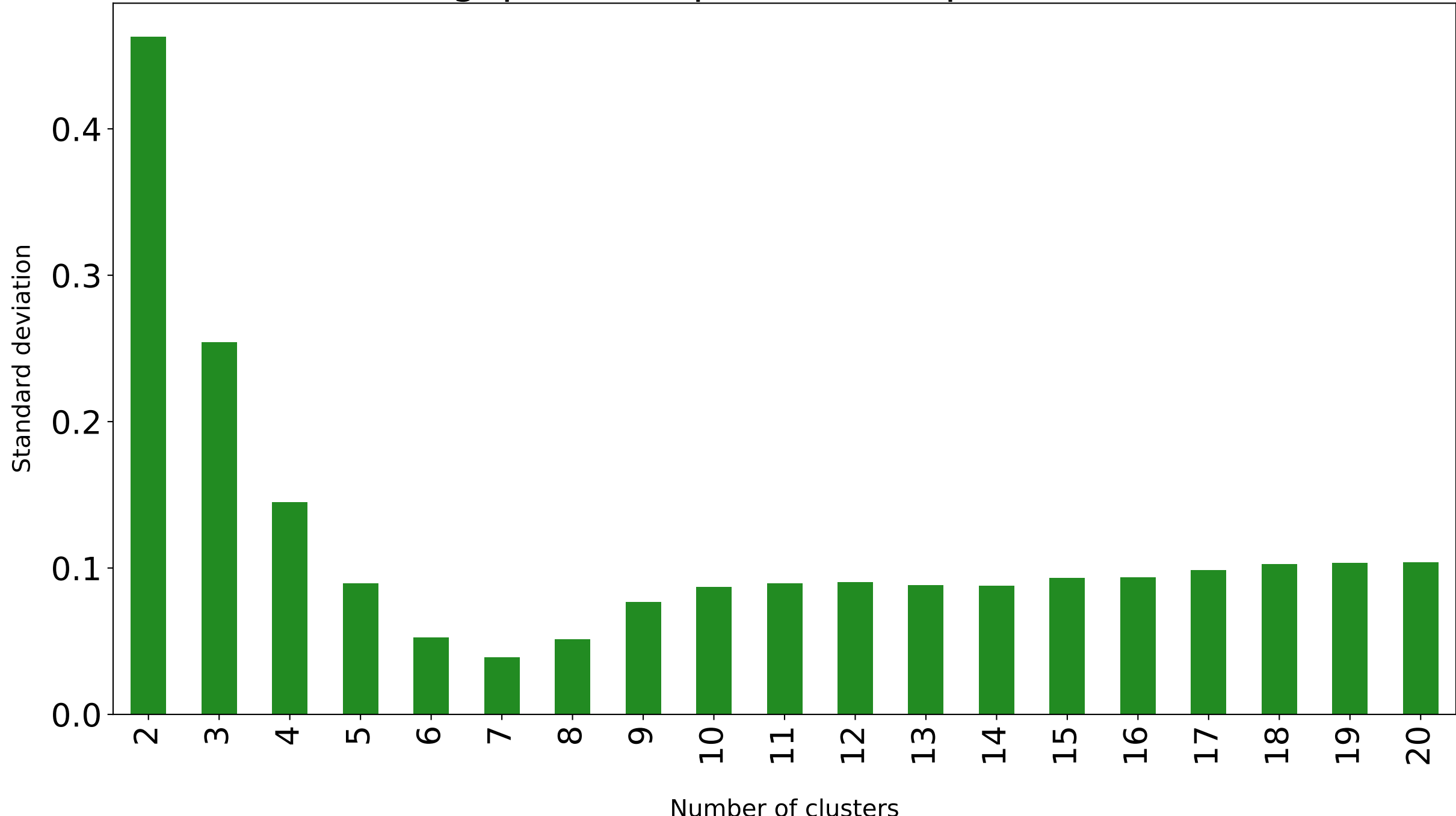




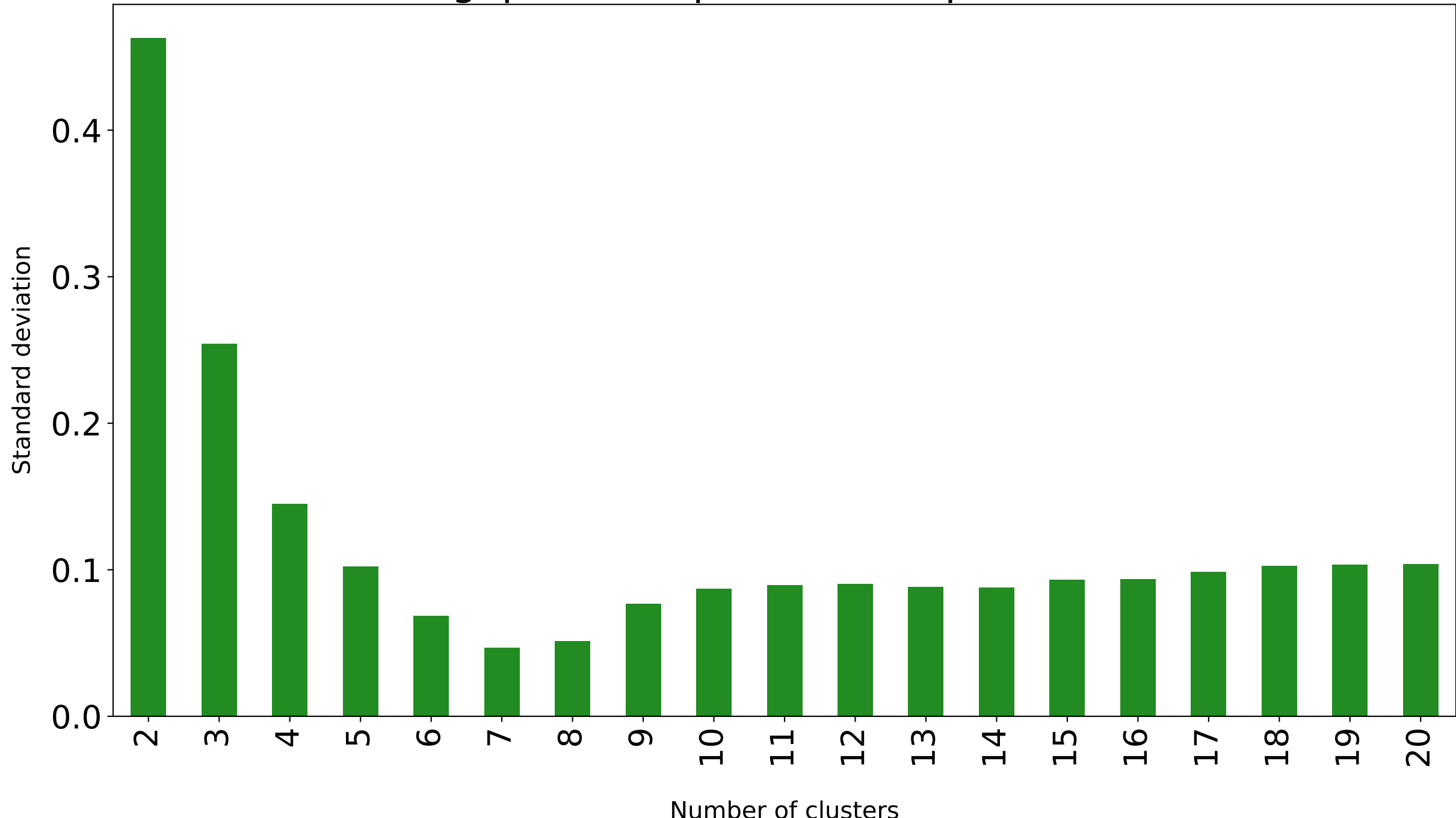
Average values of five clustering indices
gap: 0.50, Tp: 1.00, complete link

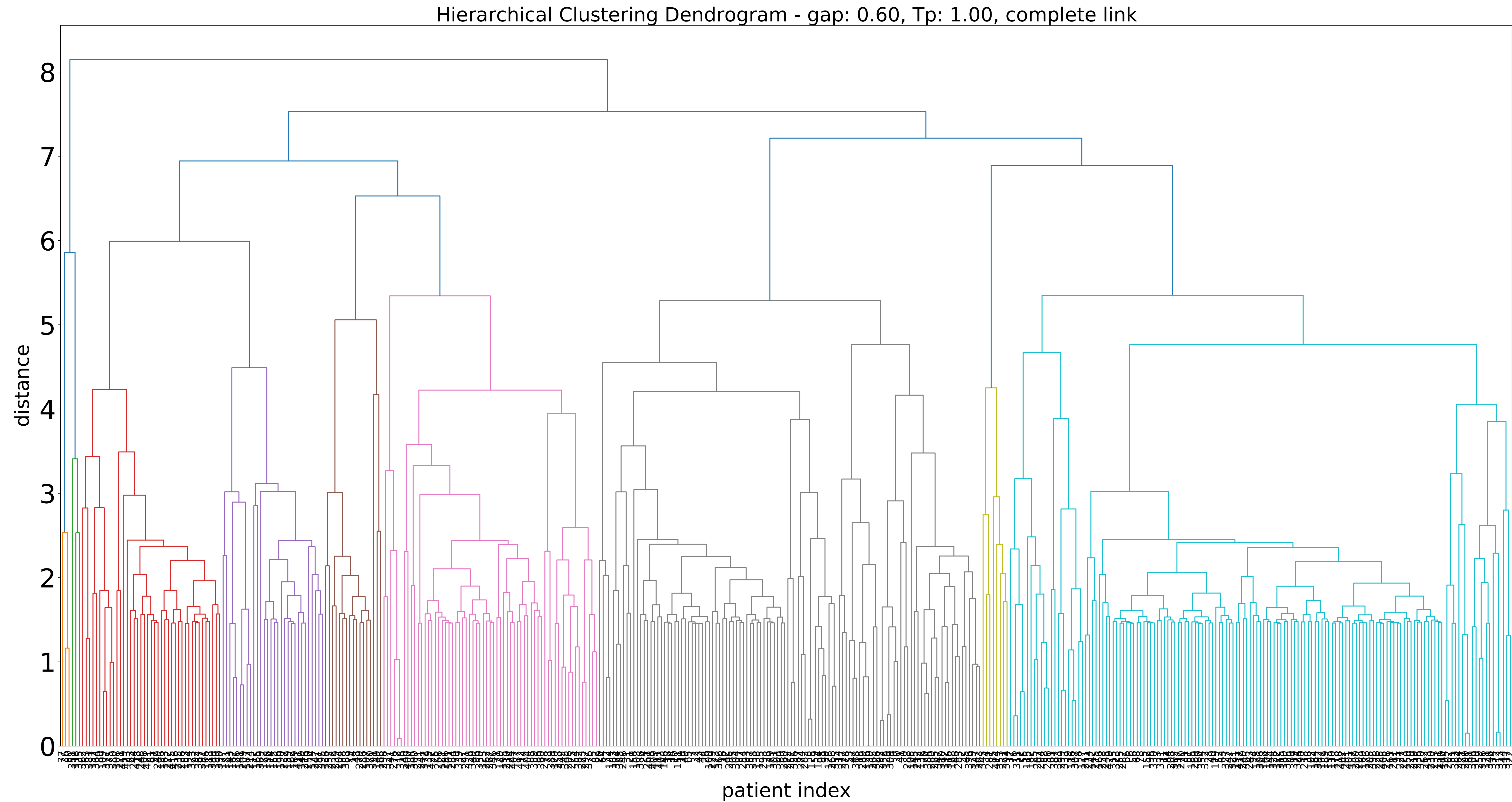
k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99995	0.69131	0.5424	0.30642	0.22328	0.2944	0.68758	0.82311	0.69519	5e-05	0.50432	0.39924	0.05556	0.21687	0.15773
3.0	1.00001	0.84504	0.74375	0.81457	0.09868	0.7508	0.84059	0.44959	0.84963	0.00013	0.79313	0.62275	0.05556	0.27598	0.17001
4.0	1.0	0.84066	0.73165	0.7554	0.11831	0.77232	0.83921	0.53284	0.84212	0.00015	0.82741	0.5909	0.05556	0.31846	0.17137
5.0	1.0	0.87681	0.78617	0.80026	0.10186	0.83074	0.87588	0.4237	0.87775	0.00017	0.87544	0.66088	0.83333	0.27653	0.18141
6.0	1.0	0.93908	0.88861	0.93022	0.04843	0.91974	0.93868	0.24814	0.93948	0.0002	0.94341	0.8093	0.83333	0.30452	0.18955
7.0	1.0	0.90543	0.82648	0.94396	0.06105	0.87999	0.90376	0.32584	0.9071	0.00021	0.92056	0.70883	0.83333	0.25549	0.19733
8.0	1.0	0.90942	0.83431	0.92279	0.05764	0.88556	0.90857	0.31021	0.91028	0.00021	0.92617	0.72	2.0	0.25446	0.19858
9.0	1.0	0.91675	0.8474	0.91958	0.04527	0.89635	0.91595	0.2585	0.91756	0.00022	0.93572	0.74104	2.0	0.29332	0.22016
10.0	1.0	0.89846	0.81681	0.91338	0.0585	0.87575	0.89721	0.31857	0.89972	0.00023	0.92708	0.69737	2.0	0.28688	0.22779
11.0	1.0	0.88167	0.79072	0.85601	0.07189	0.85635	0.88085	0.36911	0.88249	0.00023	0.9194	0.66136	2.0	0.27322	0.20558
12.0	1.0	0.85827	0.75334	0.80374	0.08749	0.82971	0.85707	0.44368	0.85948	0.00023	0.90823	0.61065	2.0	0.26162	0.21486
13.0	1.0	0.83827	0.72328	0.80449	0.10509	0.80903	0.83736	0.5273	0.83918	0.00024	0.90495	0.57168	2.0	0.25548	0.21744
14.0	1.0	0.85383	0.74568	0.8687	0.10562	0.83075	0.85242	0.51279	0.85525	0.00028	0.92204	0.59974	2.0	0.24257	0.22233
15.0	1.0	0.86428	0.76258	0.86222	0.10309	0.84351	0.86347	0.49795	0.86509	0.00029	0.92988	0.62175	2.0	0.24227	0.23321
16.0	1.0	0.86058	0.75704	0.84868	0.11114	0.83989	0.85989	0.52744	0.86128	0.00029	0.92997	0.61442	2.0	0.23245	0.24156
17.0	1.0	0.84986	0.7405	0.83255	0.12081	0.82834	0.84918	0.56889	0.85054	0.0003	0.92702	0.59263	2.0	0.21135	0.24184
18.0	1.0	0.87389	0.77643	0.89339	0.10931	0.85718	0.87274	0.51997	0.87504	0.00033	0.94172	0.63886	2.0	0.20128	0.24185
19.0	1.0	0.89262	0.80522	0.93717	0.10058	0.87921	0.89071	0.48902	0.89455	0.00035	0.95178	0.67876	2.0	0.19444	0.24357
20.0	1.0	0.89929	0.81663	0.93485	0.0972	0.88684	0.89787	0.4745	0.90072	0.00036	0.95545	0.69441	2.0	0.20044	0.24389

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.50, Tp: 1.00, complete link



Standard deviation of Huberts index versus number of clusters
gap: 0.50, Tp: 1.00, complete link

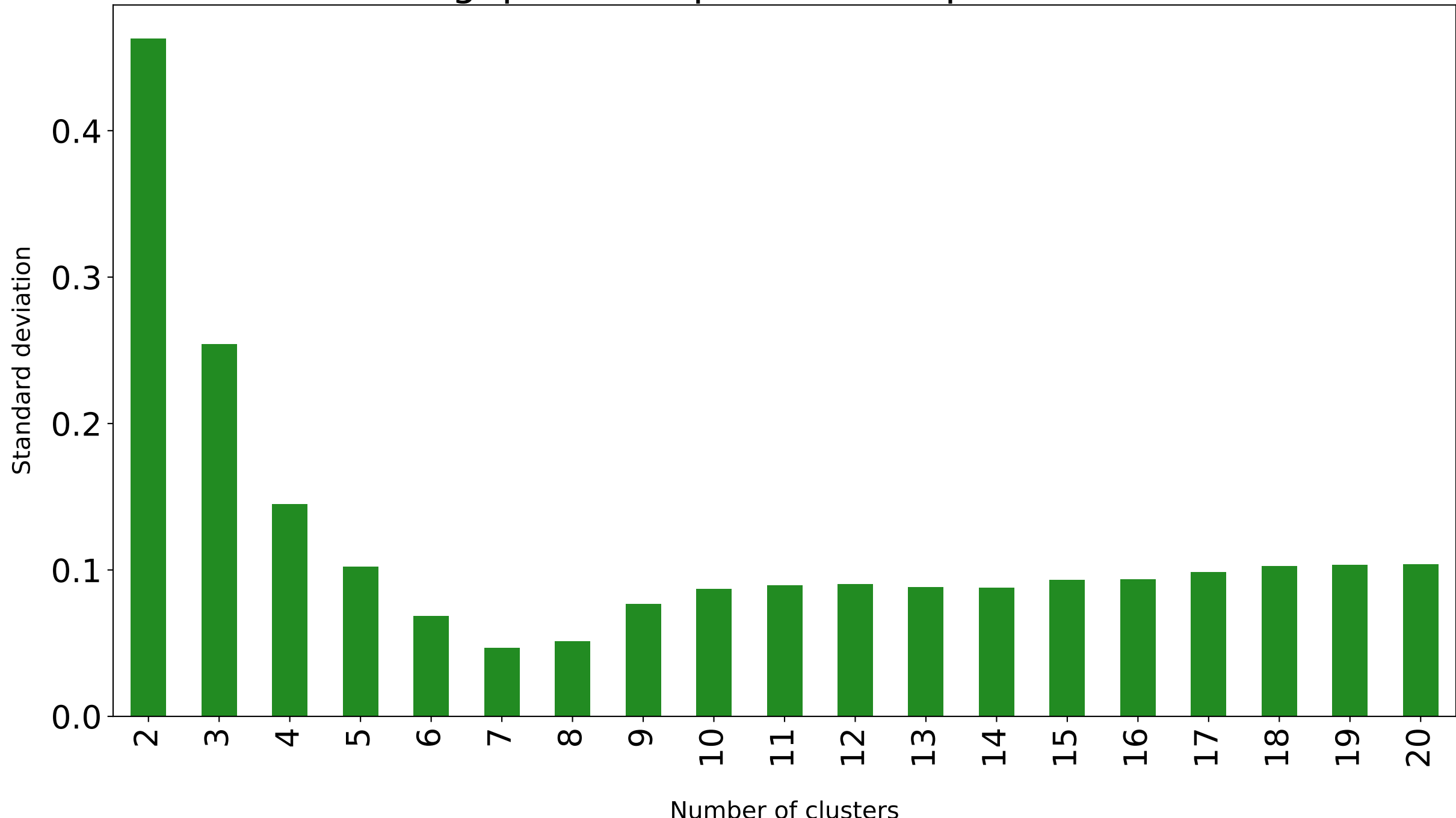




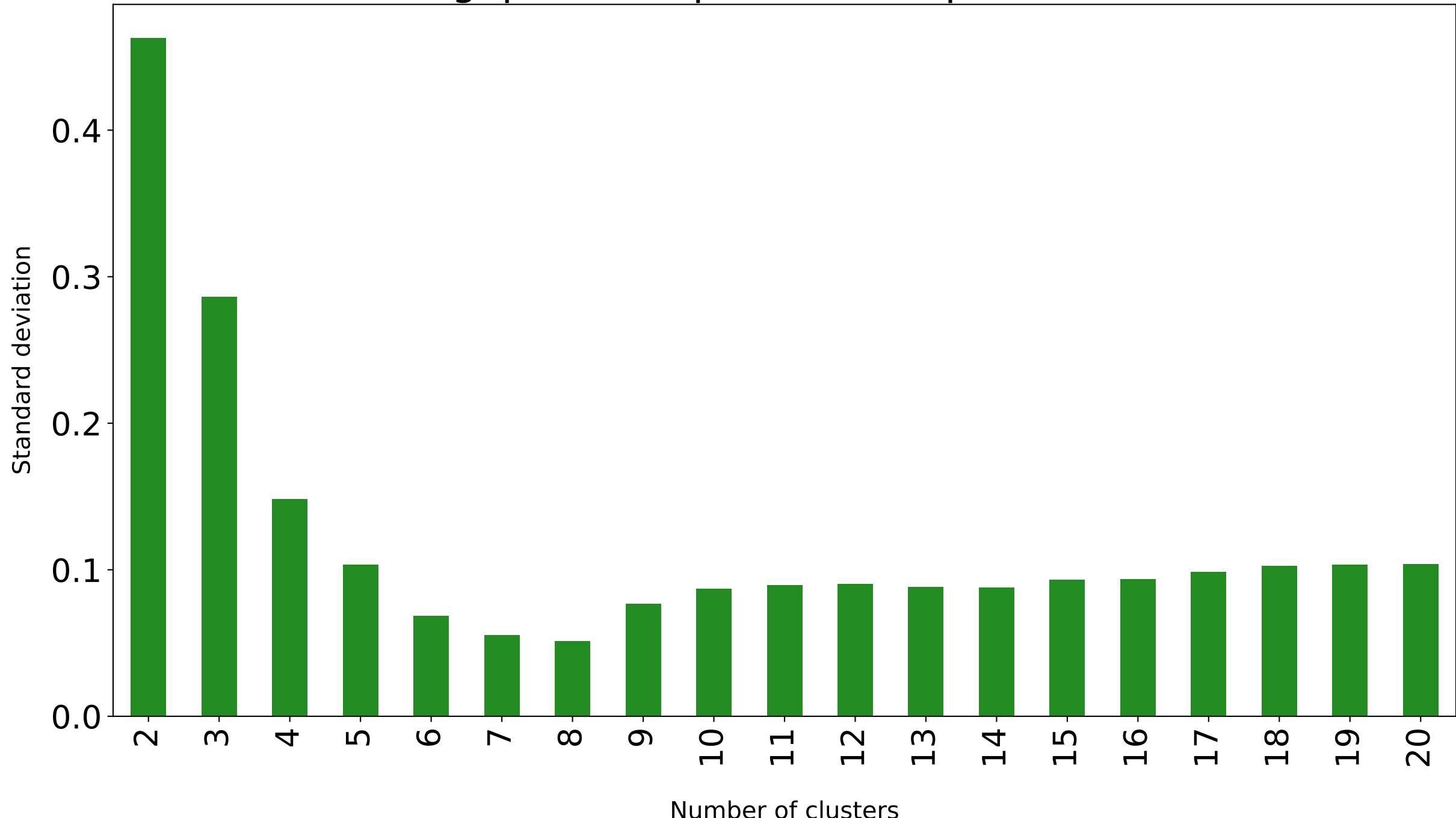
Average values of five clustering indices
gap: 0.60, Tp: 1.00, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.8464	0.73612	0.27671	0.10439	0.32691	0.82999	0.42476	0.86353	0.00039	0.63582	0.63213	1.07143	0.24865	0.13936
3.0	0.9974	0.6844	0.52409	0.30046	0.22835	0.3784	0.67649	0.812	0.69248	6e-05	0.53194	0.3716	1.07143	0.16859	0.14541
4.0	1.0	0.8063	0.68151	0.69317	0.12897	0.70962	0.80345	0.54108	0.80918	0.00013	0.7729	0.53242	1.07143	0.23104	0.15109
5.0	1.0	0.87929	0.78973	0.84303	0.0832	0.83403	0.87789	0.42535	0.88071	0.00017	0.87679	0.66579	1.07143	0.25453	0.15221
6.0	1.0	0.91331	0.84297	0.86759	0.06921	0.88479	0.91264	0.34411	0.91399	0.00019	0.91758	0.73639	1.07143	0.27411	0.1607
7.0	1.0	0.94218	0.89253	0.90013	0.04982	0.92473	0.94156	0.2353	0.9428	0.0002	0.94741	0.81337	1.07143	0.29921	0.17511
8.0	1.0	0.95517	0.91561	0.92463	0.03113	0.9427	0.95467	0.1709	0.95567	0.00021	0.96138	0.8507	1.07143	0.33579	0.17904
9.0	1.0	0.94796	0.90114	0.88664	0.02934	0.93446	0.94648	0.17201	0.94944	0.00022	0.9561	0.82741	1.71429	0.3722	0.19613
10.0	1.0	0.90487	0.82872	0.88624	0.0531	0.88204	0.90413	0.28352	0.90562	0.00022	0.9285	0.71577	1.71429	0.31678	0.19635
11.0	1.0	0.87132	0.77435	0.81786	0.07274	0.84239	0.87001	0.37276	0.87264	0.00022	0.90871	0.64057	1.71429	0.3011	0.19841
12.0	1.0	0.84566	0.73507	0.84356	0.09548	0.81573	0.84439	0.47936	0.84693	0.00024	0.90351	0.58904	1.71429	0.28273	0.20741
13.0	1.0	0.84119	0.7283	0.80309	0.09903	0.8118	0.84008	0.50105	0.84231	0.00024	0.90475	0.57985	2.0	0.24561	0.22005
14.0	1.0	0.84419	0.73109	0.78364	0.09836	0.8172	0.84264	0.50657	0.84575	0.00025	0.91068	0.58146	2.0	0.23226	0.22017
15.0	1.0	0.87878	0.78539	0.87846	0.09267	0.86011	0.87796	0.45972	0.87961	0.00029	0.93672	0.65241	2.0	0.22045	0.2247
16.0	1.0	0.88417	0.79385	0.87356	0.09064	0.86679	0.88352	0.45089	0.88482	0.0003	0.94088	0.66322	2.0	0.22239	0.23052
17.0	1.0	0.8848	0.79498	0.87036	0.09427	0.86808	0.88422	0.46125	0.88537	0.00031	0.94291	0.66489	2.0	0.22838	0.23368
18.0	1.0	0.87877	0.78511	0.85793	0.10053	0.86164	0.87815	0.48616	0.87939	0.00031	0.94134	0.65096	2.0	0.22313	0.24679
19.0	1.0	0.87272	0.77534	0.83864	0.10384	0.85504	0.87202	0.50127	0.87342	0.00031	0.93932	0.63747	2.0	0.2295	0.24807
20.0	1.0	0.86645	0.76531	0.83345	0.10761	0.84844	0.86581	0.51858	0.86709	0.00032	0.93808	0.62351	2.0	0.2127	0.24835

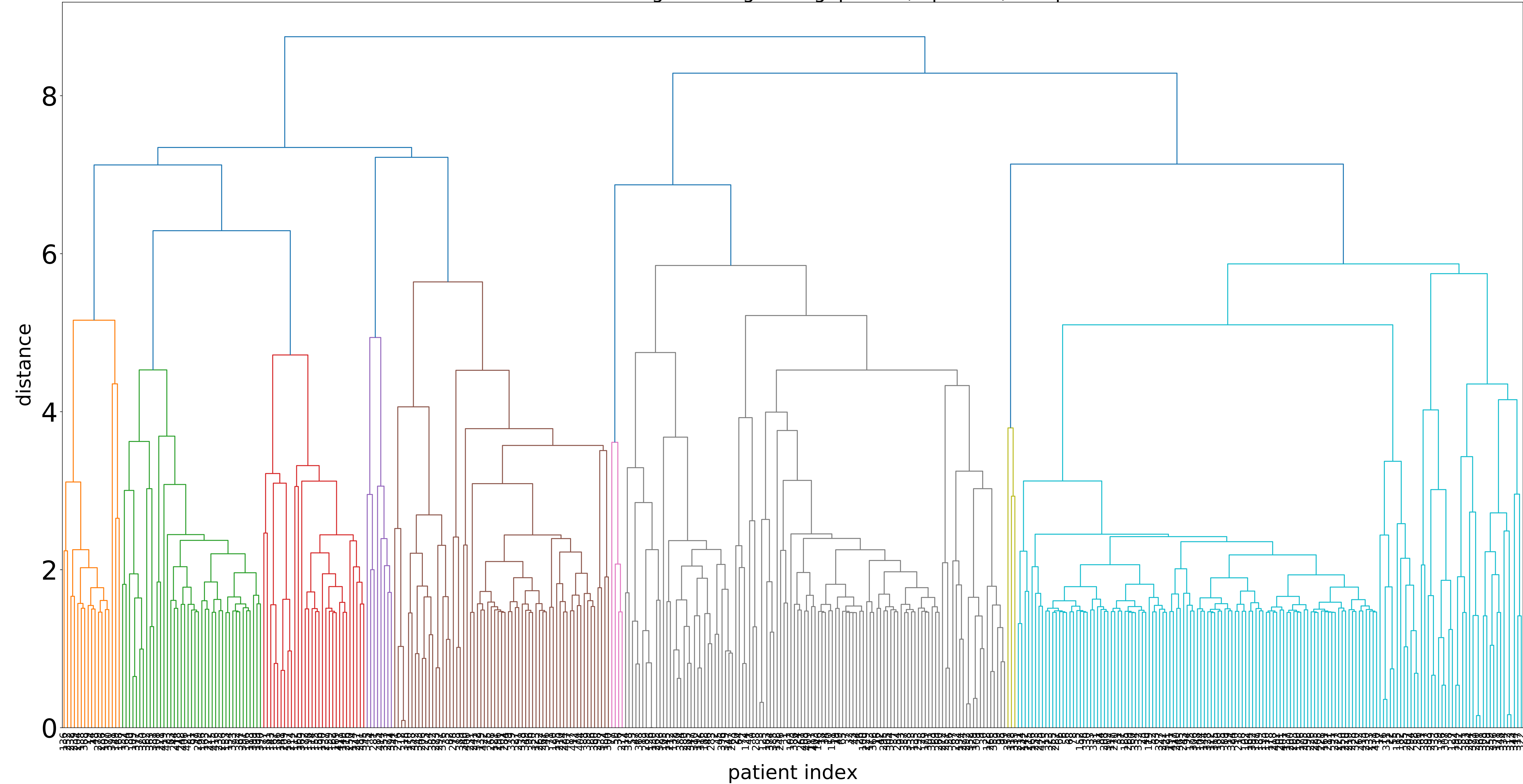
Standard deviation of Adjusted Rand versus number of clusters
gap: 0.60, Tp: 1.00, complete link



Standard deviation of Huberts index versus number of clusters
gap: 0.60, Tp: 1.00, complete link



Hierarchical Clustering Dendrogram - gap: 0.70, Tp: 1.00, complete link

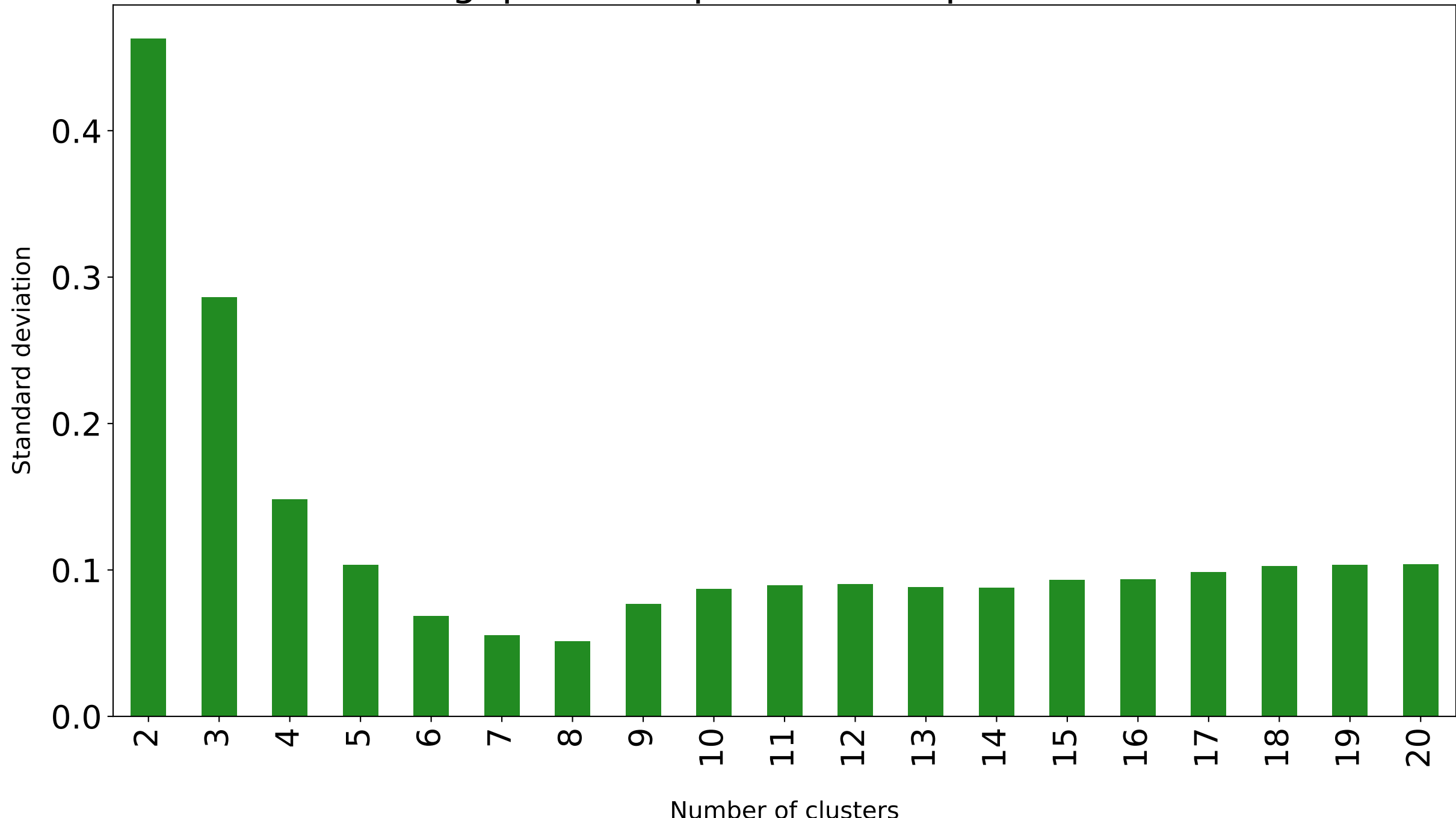


Cophenetic Correlation Coefficient: 0.7418306069198484

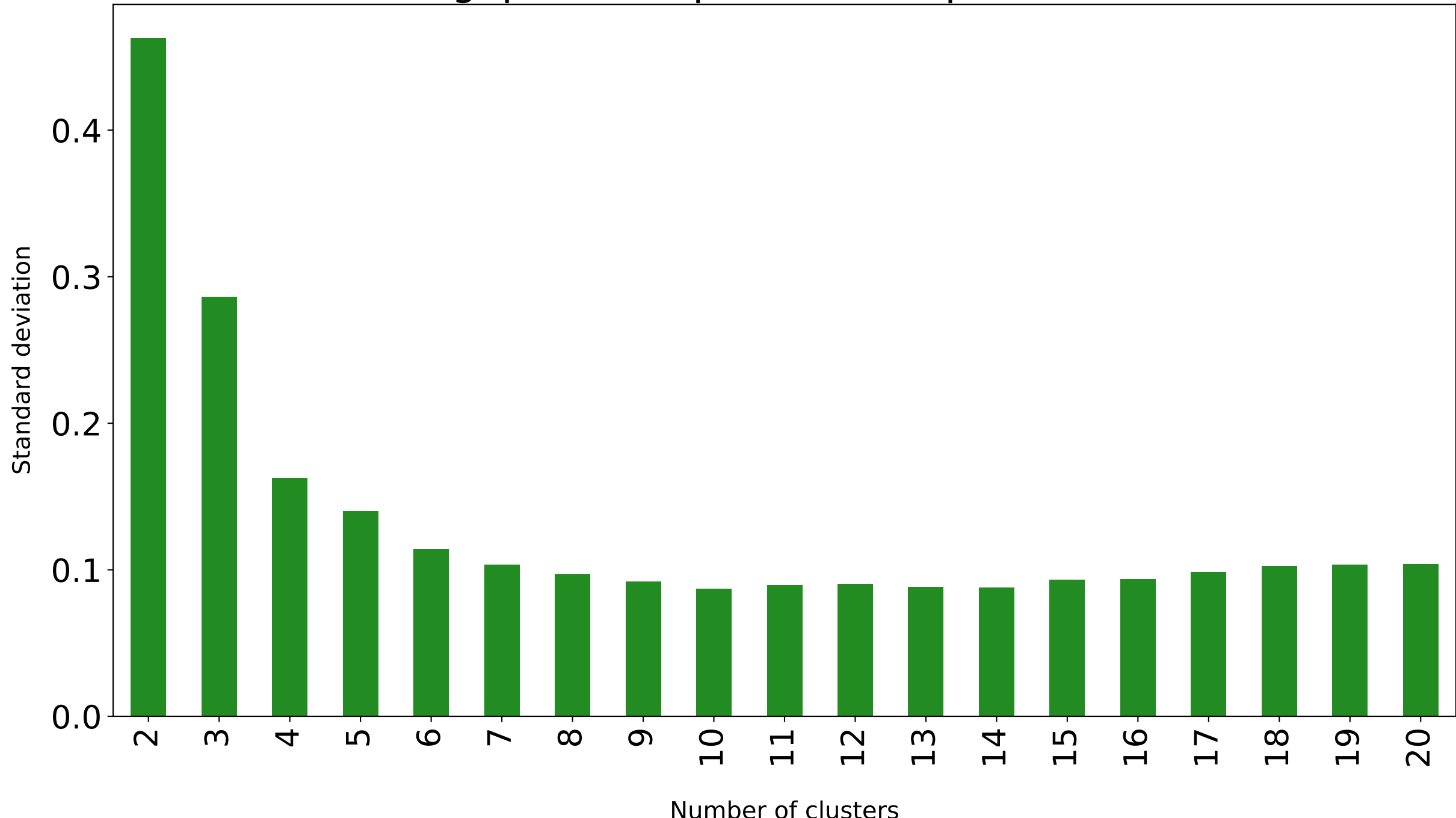
Average values of five clustering indices
gap: 0.70, Tp: 1.00, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99998	0.71998	0.56903	0.1841	0.20171	0.22673	0.70797	0.69994	0.73249	3e-05	0.48907	0.4325	0.01348	0.16659	0.22281
3.0	1.00001	0.80403	0.68063	0.83804	0.13345	0.6682	0.79056	0.49104	0.81805	0.00012	0.71118	0.56209	0.01348	0.28212	0.25134
4.0	1.0	0.82561	0.70979	0.86435	0.10808	0.74974	0.81874	0.47711	0.83263	0.00014	0.80167	0.57983	0.02435	0.3001	0.25568
5.0	1.0	0.87335	0.78526	0.85401	0.07984	0.82433	0.87116	0.39131	0.87558	0.00017	0.86906	0.67141	0.02435	0.32062	0.25874
6.0	1.0	0.89746	0.8214	0.83996	0.06939	0.86206	0.8963	0.35425	0.89863	0.00018	0.90128	0.71394	1.71429	0.3137	0.16131
7.0	1.0	0.90736	0.83708	0.84808	0.06779	0.87835	0.90643	0.34	0.9083	0.00019	0.9163	0.73497	1.71429	0.32841	0.16722
8.0	1.0	0.90617	0.83339	0.82991	0.07248	0.87869	0.9047	0.34191	0.90764	0.0002	0.9181	0.72792	1.71429	0.32878	0.18265
9.0	1.0	0.9188	0.85449	0.84961	0.04801	0.89701	0.91722	0.26521	0.92038	0.00021	0.93287	0.76089	1.71429	0.35734	0.19573
10.0	1.0	0.87585	0.78302	0.86055	0.06963	0.84719	0.875	0.36001	0.8767	0.00022	0.91072	0.65367	1.71429	0.30672	0.1964
11.0	1.0	0.83705	0.7201	0.85878	0.09852	0.80461	0.83516	0.48846	0.83894	0.00023	0.89535	0.5678	1.71429	0.28404	0.19994
12.0	1.0	0.83722	0.72176	0.82968	0.10122	0.80626	0.83633	0.51628	0.83811	0.00024	0.90044	0.56965	1.71429	0.26842	0.20363
13.0	1.0	0.83394	0.71664	0.82472	0.10443	0.80449	0.833	0.5345	0.83489	0.00025	0.90398	0.56301	1.71429	0.26292	0.22025
14.0	1.0	0.83981	0.72512	0.82097	0.10491	0.81308	0.83911	0.54437	0.84051	0.00026	0.9119	0.5726	1.71429	0.26023	0.22277
15.0	1.0	0.84175	0.72764	0.80071	0.10562	0.81621	0.84109	0.54698	0.84242	0.00027	0.91526	0.57507	2.0	0.23076	0.22532
16.0	1.0	0.87624	0.78091	0.87565	0.09723	0.85777	0.87561	0.48322	0.87687	0.0003	0.93727	0.64488	2.0	0.22692	0.23264
17.0	1.0	0.87577	0.78025	0.86223	0.0983	0.85752	0.87528	0.48965	0.87626	0.0003	0.93802	0.64373	2.0	0.23526	0.24197
18.0	1.0	0.87659	0.78143	0.8595	0.09762	0.85897	0.87608	0.4893	0.87709	0.00031	0.93986	0.64514	2.0	0.22636	0.24355
19.0	1.0	0.87639	0.78094	0.85432	0.09829	0.85919	0.8759	0.49282	0.87688	0.00032	0.94108	0.64407	2.0	0.2236	0.25372
20.0	1.0	0.87562	0.77944	0.85454	0.09786	0.85888	0.87518	0.49437	0.87606	0.00032	0.94239	0.64125	2.0	0.20793	0.25381

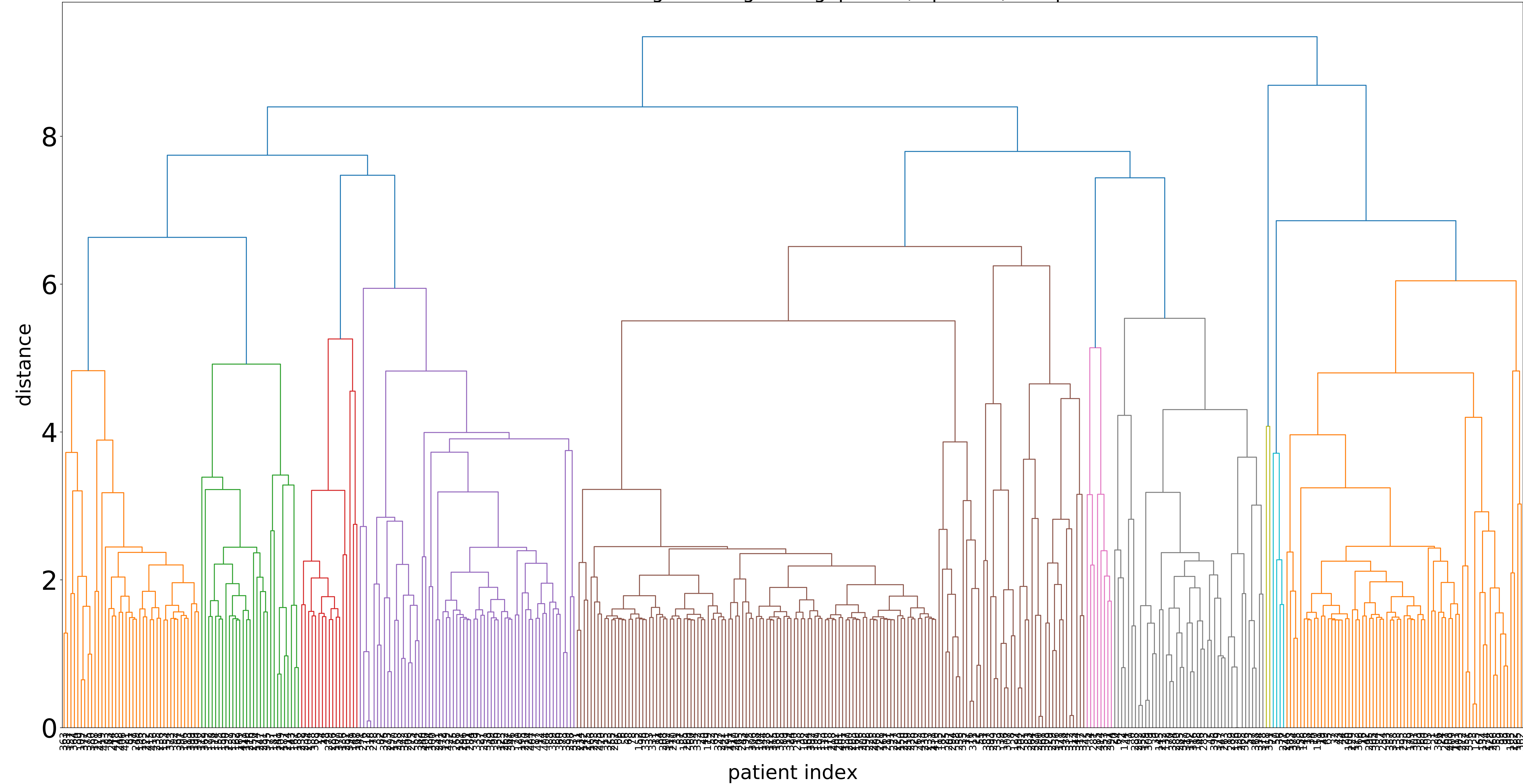
Standard deviation of Adjusted Rand versus number of clusters
gap: 0.70, Tp: 1.00, complete link



Standard deviation of Huberts index versus number of clusters
gap: 0.70, Tp: 1.00, complete link



Hierarchical Clustering Dendrogram - gap: 0.80, Tp: 1.00, complete link

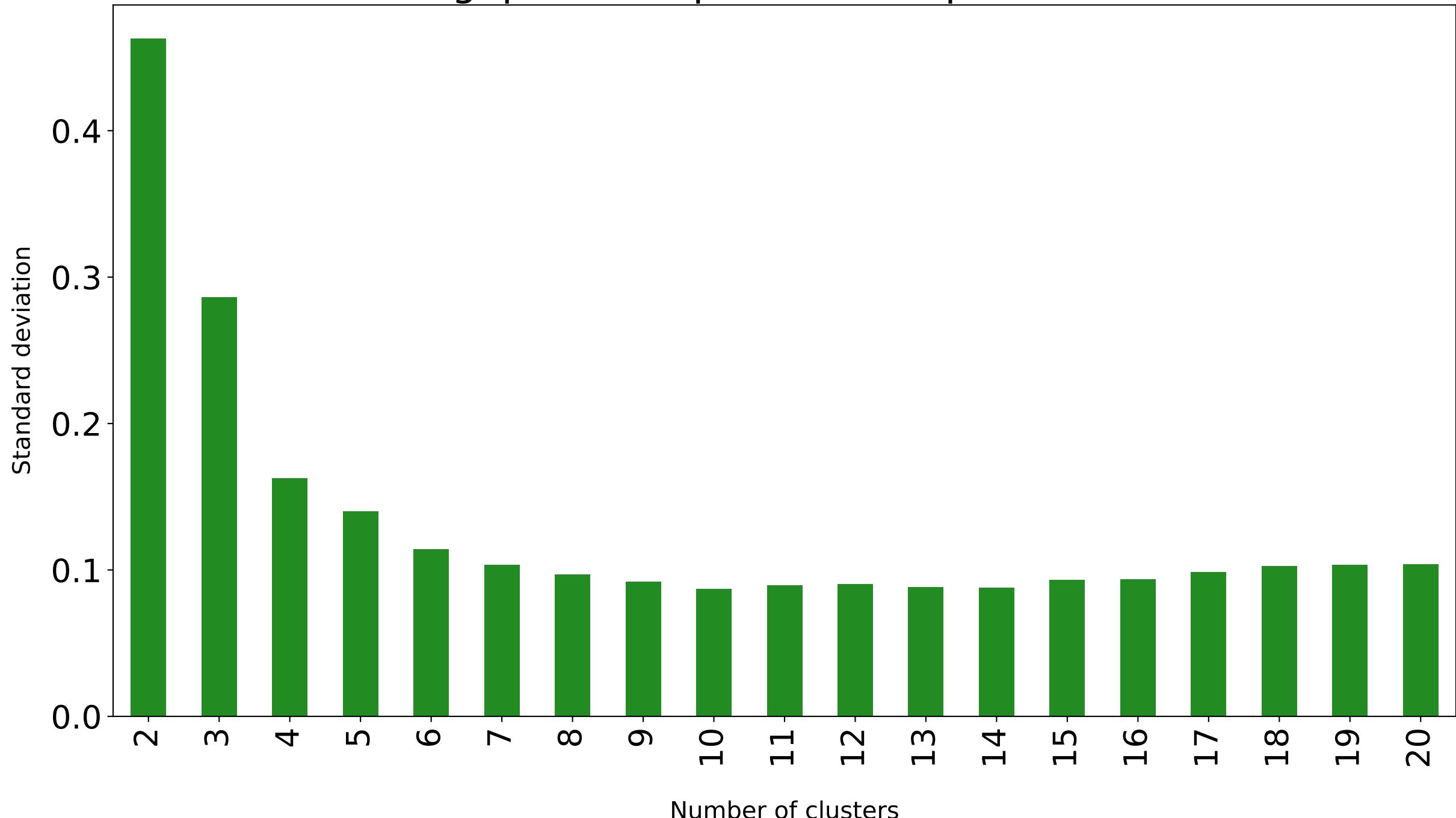


Cophenetic Correlation Coefficient: 0.6727003867708636

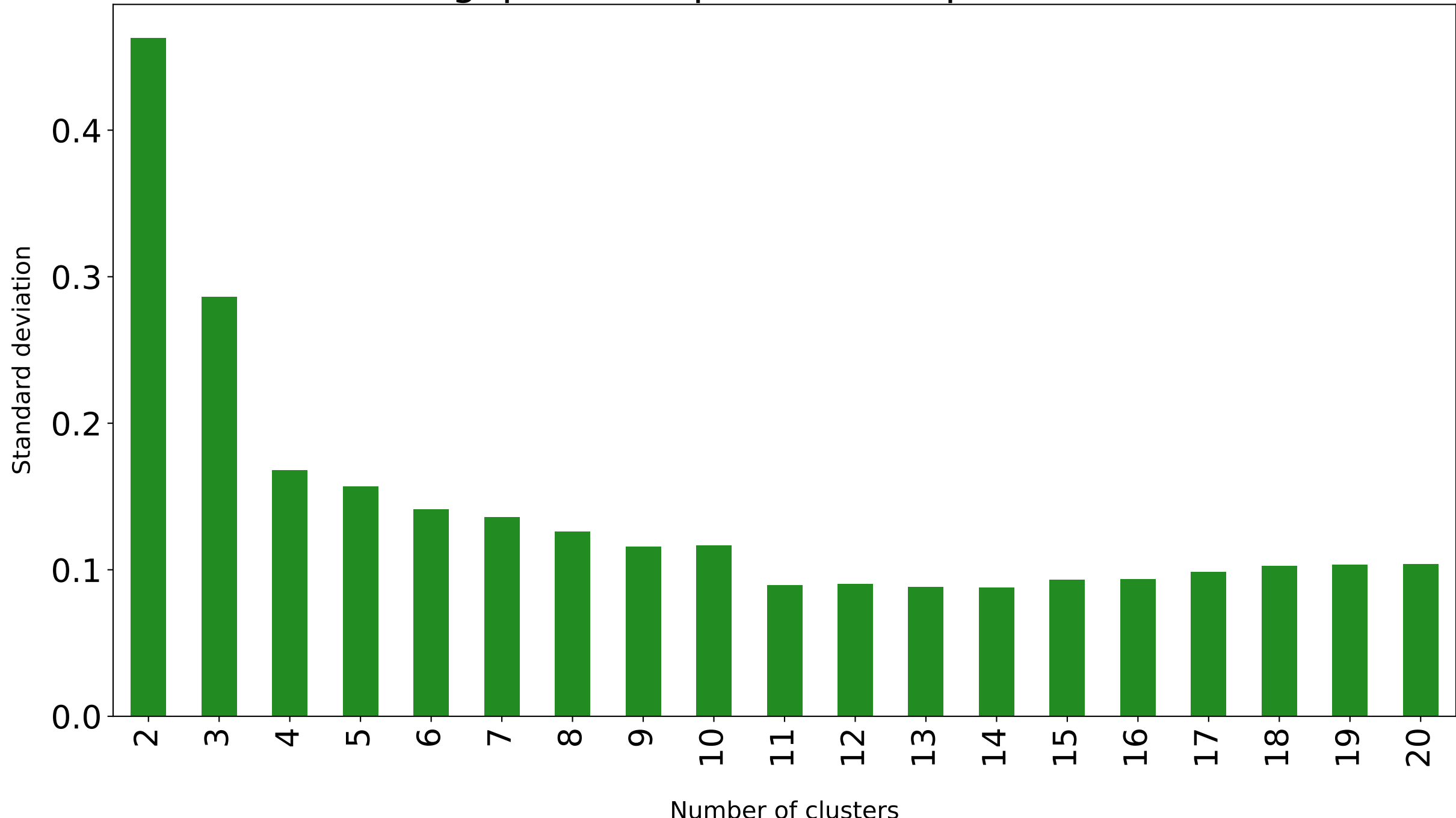
Average values of five clustering indices
gap: 0.80, Tp: 1.00, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99999	0.76713	0.62161	0.20245	0.14832	0.10061	0.76016	0.69489	0.77417	3e-05	0.49284	0.46045	0.11429	0.21397	0.18006
3.0	0.99997	0.72779	0.56716	0.24634	0.19055	0.36228	0.71375	0.84902	0.74247	6e-05	0.50737	0.40885	1.92857	0.28396	0.18633
4.0	1.00001	0.62009	0.45405	0.37674	0.26373	0.397	0.61738	1.11212	0.62284	7e-05	0.56423	0.30056	1.92857	0.24338	0.20073
5.0	1.0	0.698	0.54364	0.56446	0.21396	0.57333	0.69617	0.89933	0.69984	0.00011	0.70312	0.38277	1.92857	0.22094	0.20205
6.0	1.0	0.76528	0.62793	0.73689	0.16228	0.69005	0.76311	0.7558	0.76748	0.00015	0.79605	0.47007	1.92857	0.24082	0.20938
7.0	1.0	0.7987	0.67422	0.77649	0.1374	0.73961	0.7973	0.63936	0.80012	0.00017	0.83416	0.52249	1.92857	0.27936	0.21036
8.0	1.0	0.80668	0.68525	0.76842	0.13154	0.75336	0.80592	0.6008	0.80744	0.00018	0.84759	0.53452	1.92857	0.29241	0.22816
9.0	1.0	0.80402	0.68016	0.74555	0.13403	0.75267	0.80329	0.59844	0.80475	0.00018	0.8509	0.52687	1.92857	0.29058	0.23591
10.0	1.0	0.82693	0.7134	0.77084	0.10203	0.78527	0.82601	0.51397	0.82784	0.0002	0.87527	0.56849	1.92857	0.31947	0.2404
11.0	1.0	0.81371	0.68627	0.83795	0.11219	0.7769	0.81133	0.56043	0.81611	0.00022	0.88165	0.52815	1.92857	0.27902	0.25045
12.0	1.0	0.82222	0.69977	0.82722	0.1076	0.78842	0.8208	0.5609	0.82364	0.00023	0.89127	0.54423	1.92857	0.26638	0.25499
13.0	1.0	0.831	0.71285	0.81783	0.10553	0.8003	0.82999	0.55445	0.83201	0.00024	0.90052	0.55962	1.92857	0.23918	0.21653
14.0	1.0	0.83706	0.72172	0.80706	0.10525	0.80877	0.83614	0.5535	0.83798	0.00025	0.90746	0.57025	1.92857	0.25311	0.2324
15.0	1.0	0.84901	0.73935	0.80724	0.10129	0.82389	0.84809	0.53342	0.84994	0.00027	0.91681	0.59187	1.92857	0.25281	0.23385
16.0	1.0	0.88983	0.8036	0.89199	0.09151	0.87295	0.88916	0.45851	0.8905	0.0003	0.94268	0.67844	1.92857	0.2504	0.24474
17.0	1.0	0.89165	0.807	0.88182	0.09489	0.87533	0.8912	0.46834	0.89211	0.0003	0.94465	0.68352	2.0	0.22714	0.2504
18.0	1.0	0.88693	0.79951	0.86365	0.09936	0.8702	0.88648	0.48545	0.88737	0.00031	0.94323	0.67315	2.0	0.23737	0.26166
19.0	1.0	0.88106	0.78999	0.85135	0.10286	0.86392	0.88055	0.50173	0.88157	0.00031	0.94166	0.65983	2.0	0.23461	0.26648
20.0	1.0	0.87435	0.77878	0.83996	0.10687	0.85687	0.87379	0.51586	0.87491	0.00032	0.94018	0.64348	2.0	0.22163	0.2667

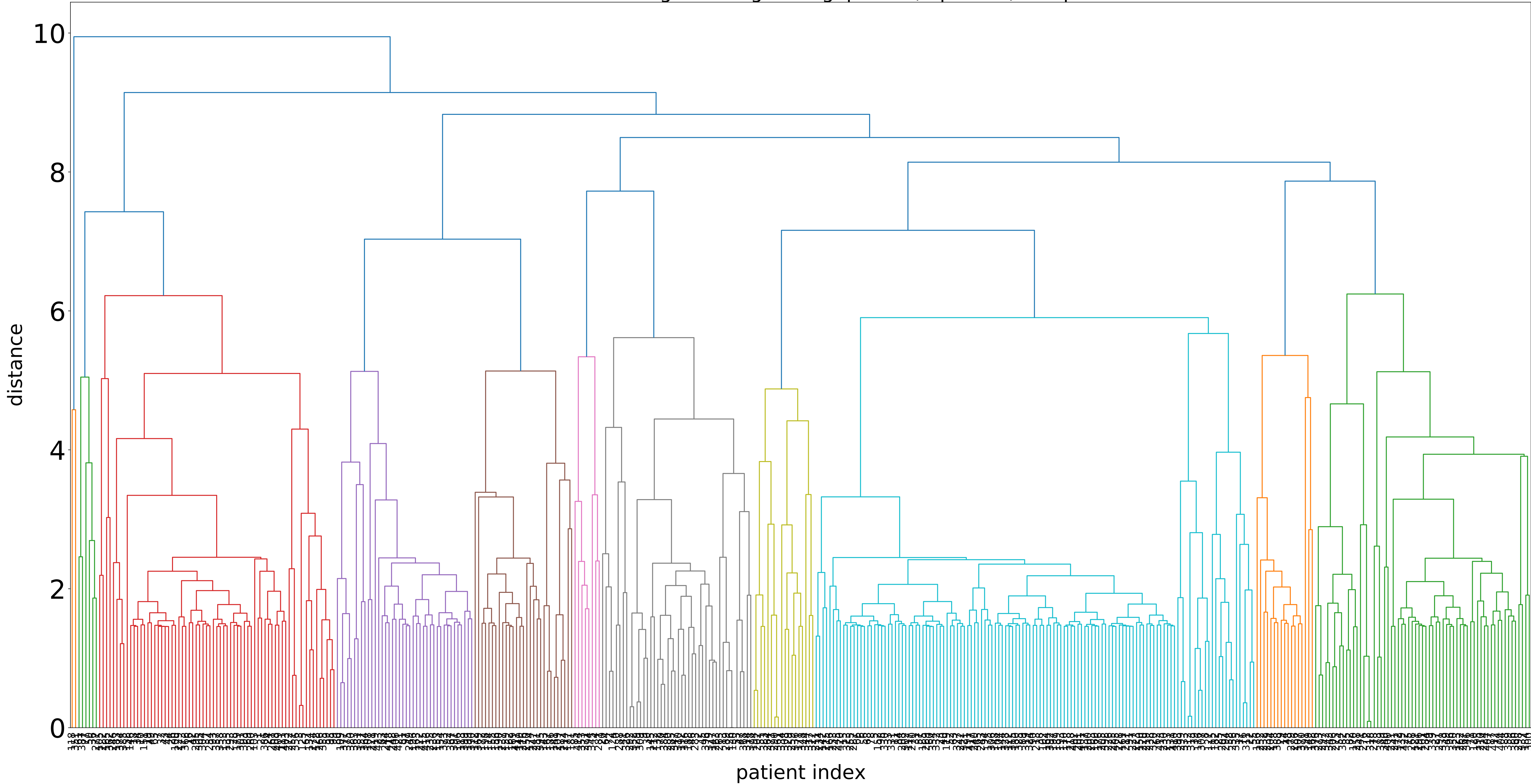
Standard deviation of Adjusted Rand versus number of clusters
gap: 0.80, Tp: 1.00, complete link



Standard deviation of Huberts index versus number of clusters
gap: 0.80, Tp: 1.00, complete link



Hierarchical Clustering Dendrogram - gap: 0.90, Tp: 1.00, complete link

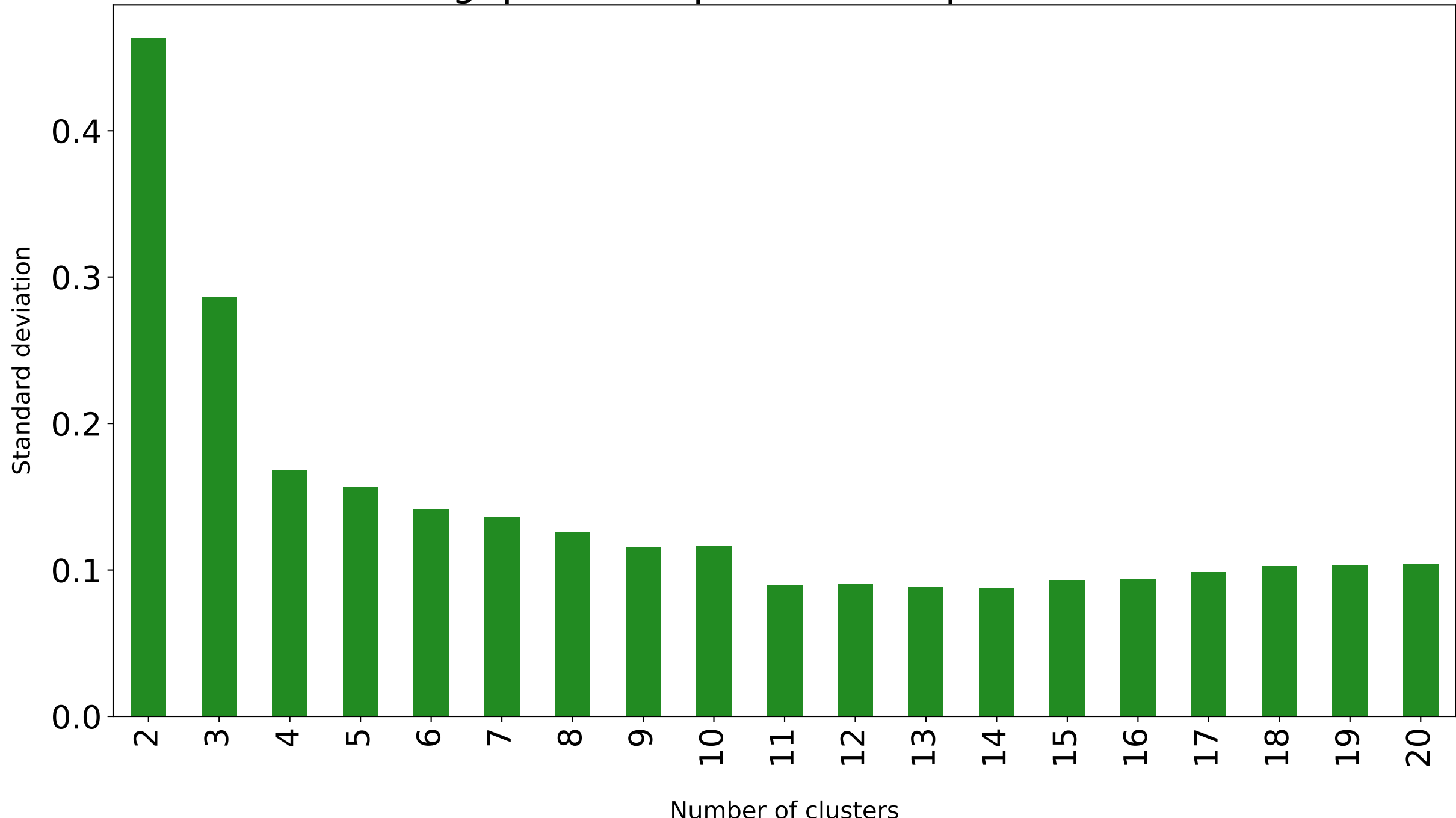


Cophenetic Correlation Coefficient: 0.6805834355420981

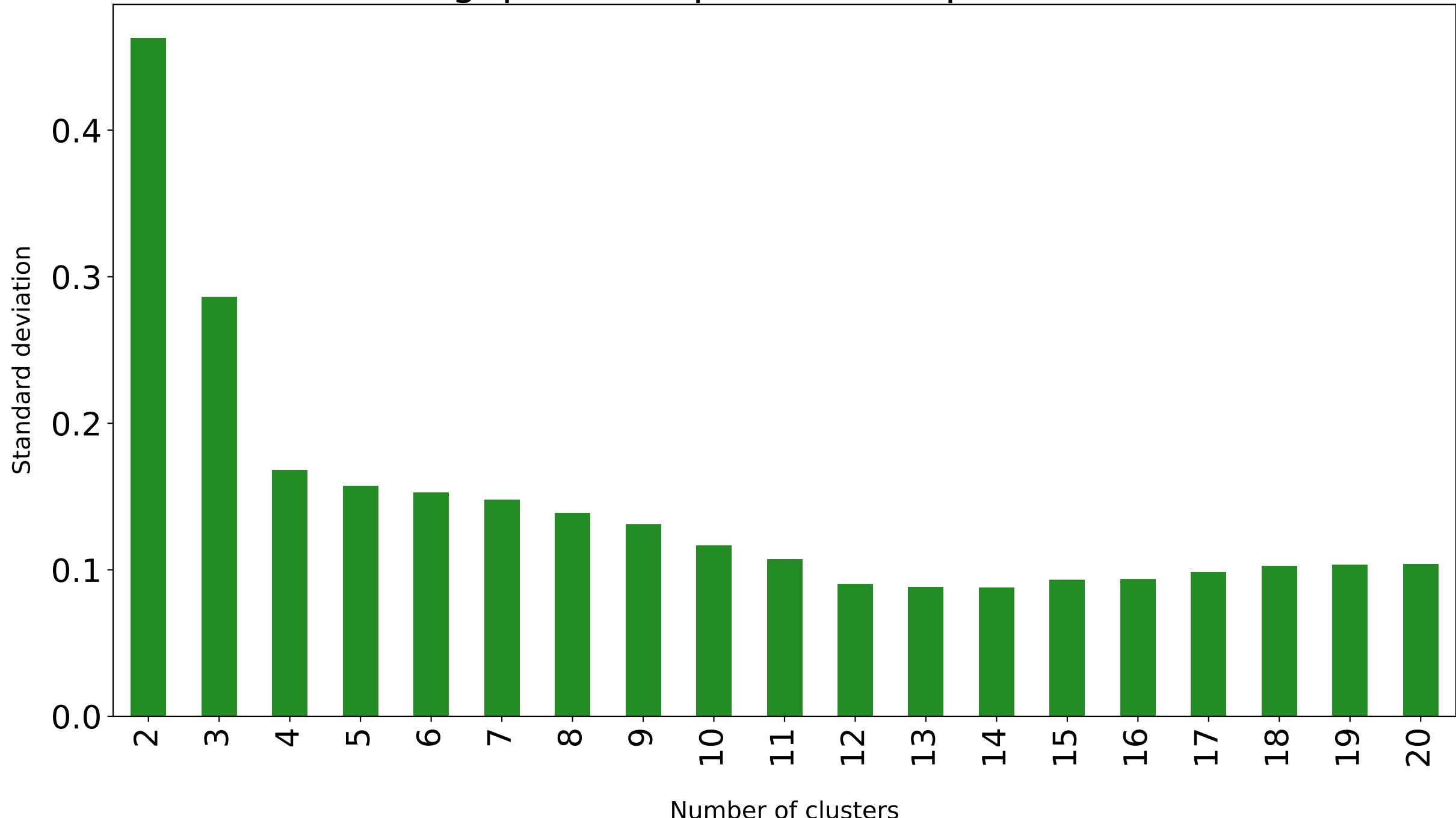
Average values of five clustering indices
gap: 0.90, Tp: 1.00, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.92044	0.856	0.20802	0.05075	0.35854	0.91352	0.25373	0.92765	0.00076	0.77892	0.77769	1.92857	0.39602	0.36111
3.0	0.99998	0.73611	0.58025	0.23942	0.18165	0.3328	0.72654	0.85518	0.74598	6e-05	0.50954	0.41895	1.92857	0.26468	0.18854
4.0	1.00021	0.57773	0.40519	0.2068	0.26731	0.25829	0.57076	1.20173	0.58487	4e-05	0.46122	0.2588	1.92857	0.25109	0.19594
5.0	1.00001	0.61896	0.44937	0.37442	0.23582	0.43363	0.61379	1.08706	0.6242	8e-05	0.59863	0.2953	1.92857	0.21116	0.20449
6.0	1.0	0.73652	0.59195	0.70256	0.1785	0.65177	0.73387	0.8401	0.73921	0.00014	0.77323	0.43394	1.92857	0.23626	0.21158
7.0	1.0	0.76971	0.63603	0.74338	0.15348	0.70215	0.76785	0.7299	0.77159	0.00016	0.81229	0.48158	1.92857	0.27488	0.21552
8.0	1.0	0.77553	0.64327	0.73336	0.14815	0.71307	0.77426	0.68739	0.77681	0.00017	0.82386	0.48809	1.92857	0.28693	0.22415
9.0	1.0	0.78335	0.65332	0.72643	0.14492	0.72664	0.78231	0.64954	0.7844	0.00018	0.83683	0.49885	1.92857	0.26318	0.2325
10.0	1.0	0.7704	0.63123	0.74952	0.14702	0.71788	0.76881	0.67465	0.77201	0.00019	0.84187	0.46997	1.92857	0.23207	0.23341
11.0	1.0	0.80664	0.68267	0.8005	0.11027	0.76617	0.80501	0.55952	0.8083	0.00021	0.87403	0.53185	1.92857	0.26311	0.26292
12.0	1.0	0.80756	0.68216	0.79215	0.11187	0.77075	0.80633	0.57181	0.80879	0.00023	0.88315	0.52782	1.92857	0.26175	0.26392
13.0	1.0	0.8101	0.68468	0.77276	0.10977	0.7756	0.80892	0.57048	0.81128	0.00024	0.88913	0.52922	1.92857	0.23571	0.23494
14.0	1.0	0.86393	0.76175	0.90121	0.09818	0.84274	0.86164	0.4825	0.86624	0.00029	0.92715	0.62422	1.92857	0.22027	0.2444
15.0	1.0	0.87796	0.78443	0.90087	0.08968	0.85951	0.87647	0.44932	0.87945	0.0003	0.93668	0.65374	1.92857	0.23313	0.247
16.0	1.0	0.89458	0.8111	0.91266	0.08474	0.87928	0.89362	0.42675	0.89555	0.00031	0.94725	0.6895	1.92857	0.2328	0.21925
17.0	1.0	0.89736	0.81581	0.90604	0.0855	0.88269	0.89665	0.4261	0.89808	0.00032	0.94946	0.69567	2.0	0.21199	0.22003
18.0	1.0	0.89747	0.81608	0.89313	0.08668	0.88305	0.89694	0.43244	0.898	0.00032	0.95039	0.69567	2.0	0.22367	0.22881
19.0	1.0	0.89665	0.81451	0.88632	0.08913	0.88249	0.89617	0.44417	0.89712	0.00033	0.95117	0.69279	2.0	0.22315	0.22905
20.0	1.0	0.89758	0.81592	0.88769	0.08932	0.88398	0.89709	0.44303	0.89807	0.00034	0.95283	0.69454	2.0	0.21237	0.22927

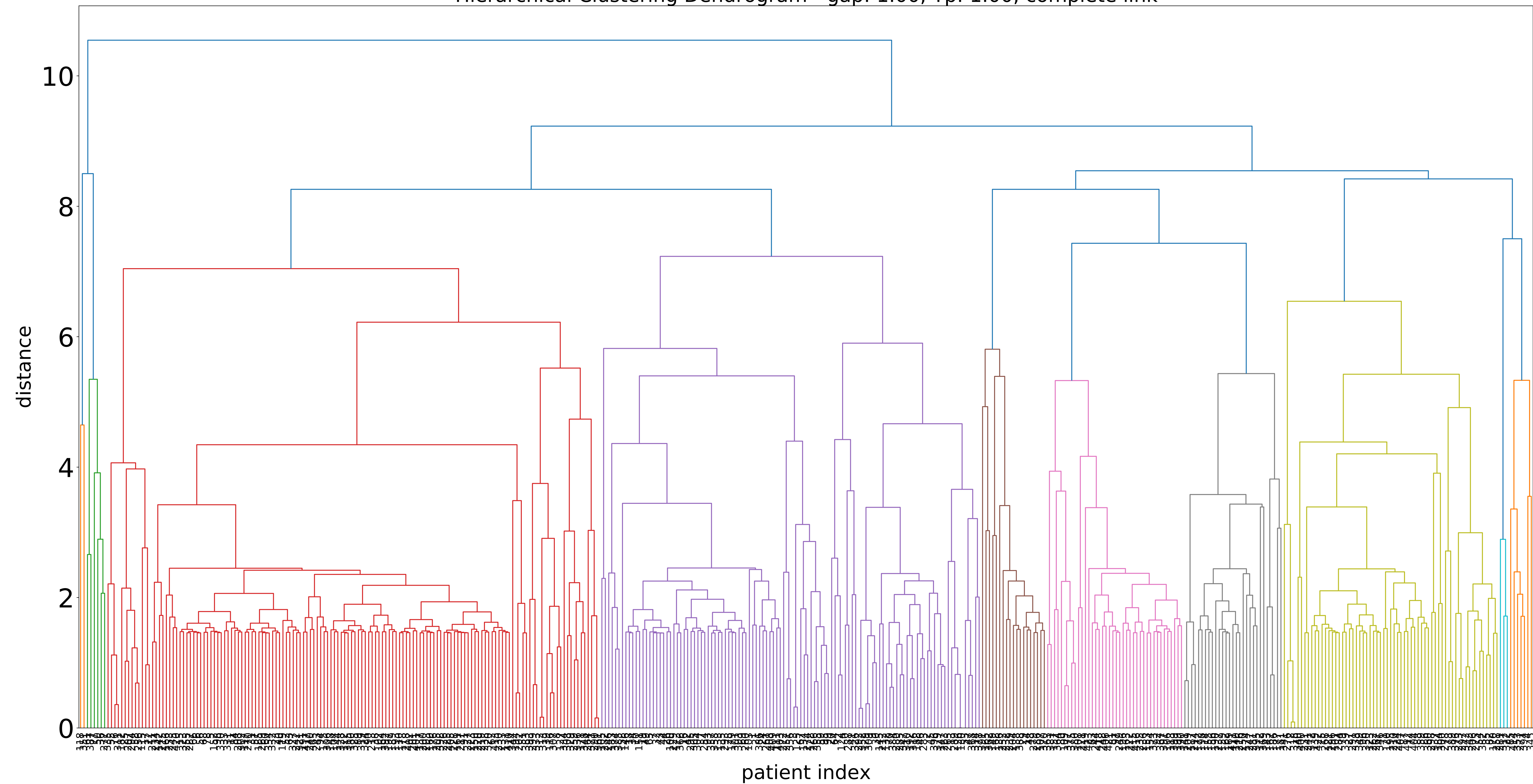
Standard deviation of Adjusted Rand versus number of clusters
gap: 0.90, Tp: 1.00, complete link



Standard deviation of Huberts index versus number of clusters
gap: 0.90, Tp: 1.00, complete link



Hierarchical Clustering Dendrogram - gap: 1.00, Tp: 1.00, complete link

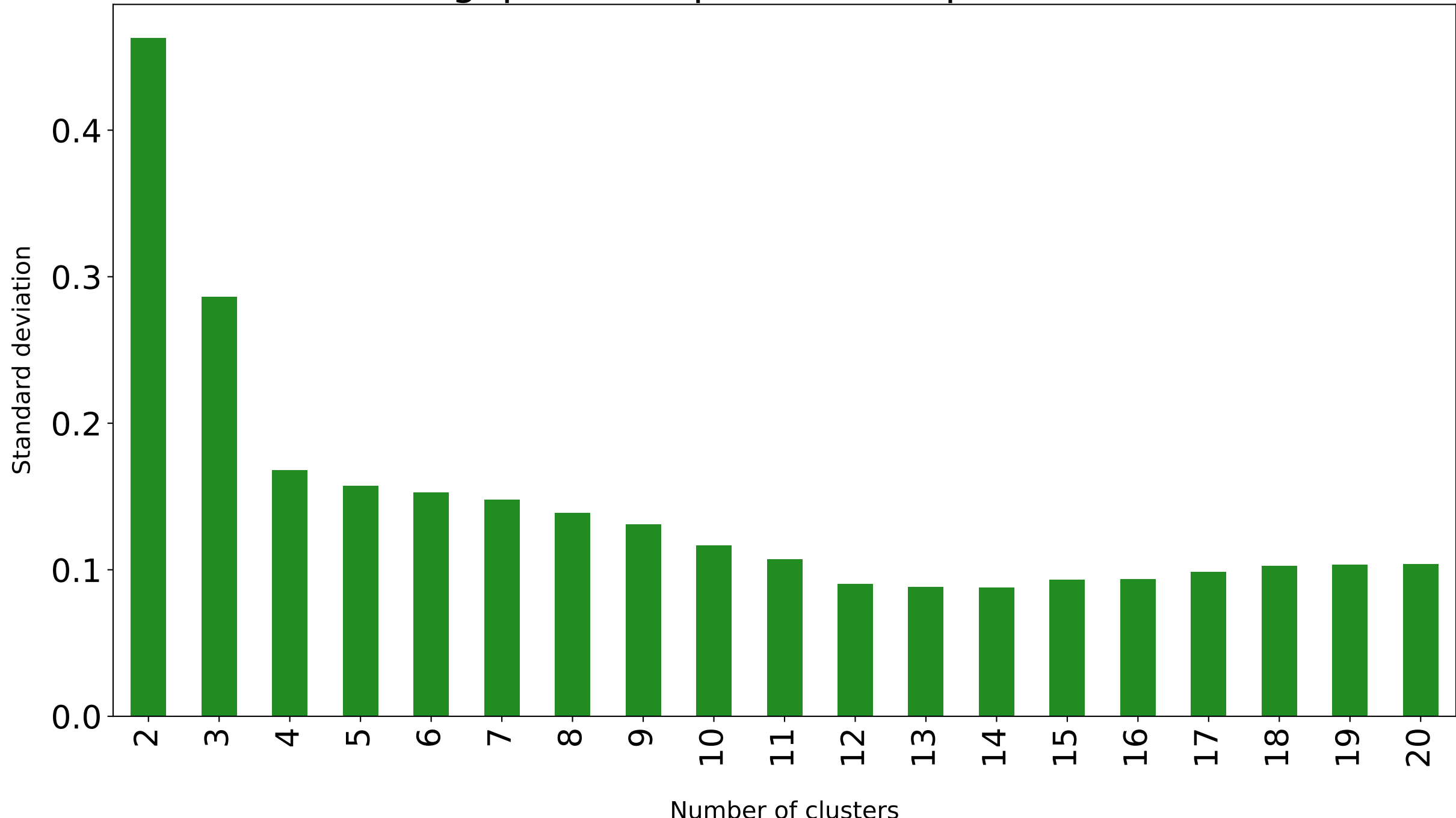


Cophenetic Correlation Coefficient: 0.7120187419925529

Average values of five clustering indices
gap: 1.00, Tp: 1.00, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.94253	0.89526	0.47151	0.03767	0.46264	0.93929	0.22377	0.94588	0.00053	0.83318	0.83051	1.04651	0.30181	0.20623
3.0	0.99966	0.67181	0.52182	0.30312	0.24121	0.28768	0.66762	0.8993	0.67612	5e-05	0.49613	0.38256	1.04651	0.17324	0.21604
4.0	1.00003	0.6297	0.47744	0.34957	0.24891	0.36626	0.62634	1.02067	0.63311	6e-05	0.54206	0.33984	1.04651	0.21011	0.21716
5.0	1.00001	0.63716	0.47279	0.34095	0.23773	0.42592	0.62714	0.99212	0.64746	7e-05	0.57238	0.32881	1.88372	0.23472	0.21924
6.0	1.00001	0.61998	0.43872	0.30296	0.24446	0.43111	0.60203	1.02405	0.63864	8e-05	0.56978	0.28895	1.88372	0.23381	0.22349
7.0	1.0	0.80473	0.68637	0.72645	0.13021	0.73866	0.80279	0.63011	0.8067	0.00016	0.82338	0.54513	1.88372	0.25437	0.22349
8.0	1.0	0.81922	0.70686	0.74549	0.12292	0.76339	0.81744	0.59579	0.82102	0.00017	0.84548	0.57013	1.88372	0.26121	0.24606
9.0	1.0	0.8147	0.69689	0.71317	0.12567	0.76074	0.8121	0.60214	0.81733	0.00017	0.8463	0.55401	1.88372	0.29338	0.24837
10.0	1.0	0.82745	0.71653	0.73324	0.10068	0.78066	0.82494	0.5247	0.82997	0.00019	0.86359	0.58036	1.88372	0.31791	0.25526
11.0	1.0	0.8023	0.67837	0.74716	0.11742	0.75596	0.801	0.59264	0.8036	0.0002	0.86125	0.52715	1.88372	0.29865	0.25054
12.0	1.0	0.82281	0.70548	0.79295	0.10921	0.78611	0.82168	0.55956	0.82394	0.00022	0.88545	0.55787	1.88372	0.29351	0.2697
13.0	1.0	0.82404	0.70414	0.76498	0.10689	0.79008	0.8227	0.55744	0.82538	0.00023	0.89162	0.55189	1.88372	0.30529	0.27029
14.0	1.0	0.86944	0.77189	0.87479	0.09725	0.84736	0.86823	0.48335	0.87066	0.00027	0.92635	0.63771	1.88372	0.28442	0.28501
15.0	1.0	0.88559	0.79762	0.88201	0.09075	0.86707	0.88487	0.45932	0.88632	0.00029	0.93781	0.67178	1.88372	0.28207	0.21904
16.0	1.0	0.8936	0.81058	0.87603	0.08958	0.87693	0.89304	0.45348	0.89417	0.0003	0.94373	0.68971	1.88372	0.28646	0.21949
17.0	1.0	0.89622	0.8145	0.86509	0.09099	0.88037	0.89555	0.45067	0.89689	0.0003	0.94613	0.69489	2.0	0.26438	0.23099
18.0	1.0	0.89446	0.81071	0.85083	0.0915	0.87881	0.89362	0.45562	0.8953	0.00031	0.94639	0.6882	2.0	0.26474	0.23458
19.0	1.0	0.89102	0.80424	0.83856	0.09485	0.87527	0.88995	0.46815	0.8921	0.00031	0.94559	0.67789	2.0	0.26687	0.23501
20.0	1.0	0.9024	0.82362	0.86756	0.08856	0.8889	0.90179	0.44535	0.90301	0.00033	0.95329	0.70568	2.0	0.25953	0.23611

Standard deviation of Adjusted Rand versus number of clusters
gap: 1.00, Tp: 1.00, complete link



Standard deviation of Huberts index versus number of clusters
gap: 1.00, Tp: 1.00, complete link

