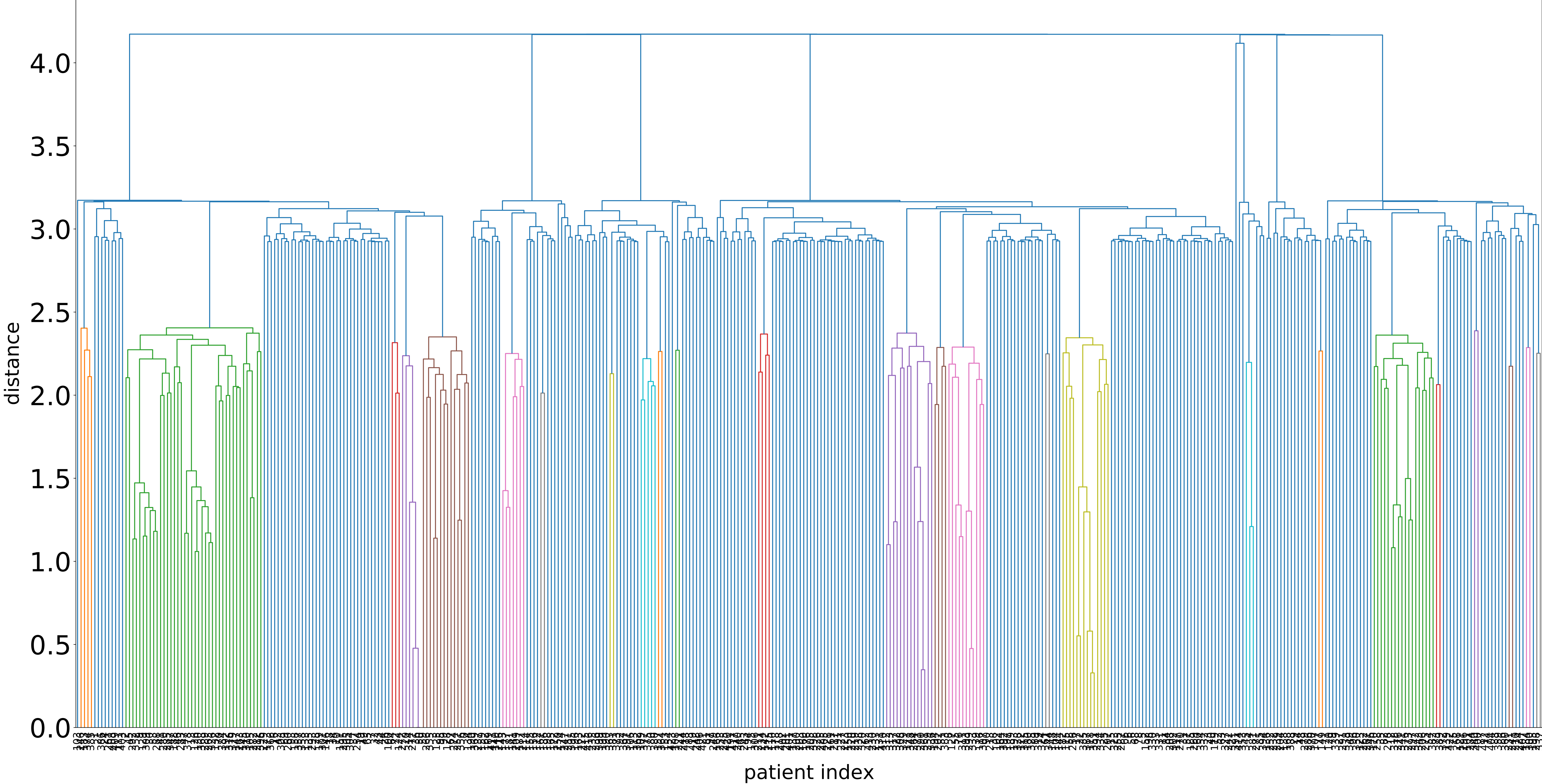Hierarchical Clustering Dendrogram - gap: 0.00, Tp: 0.25, complete link
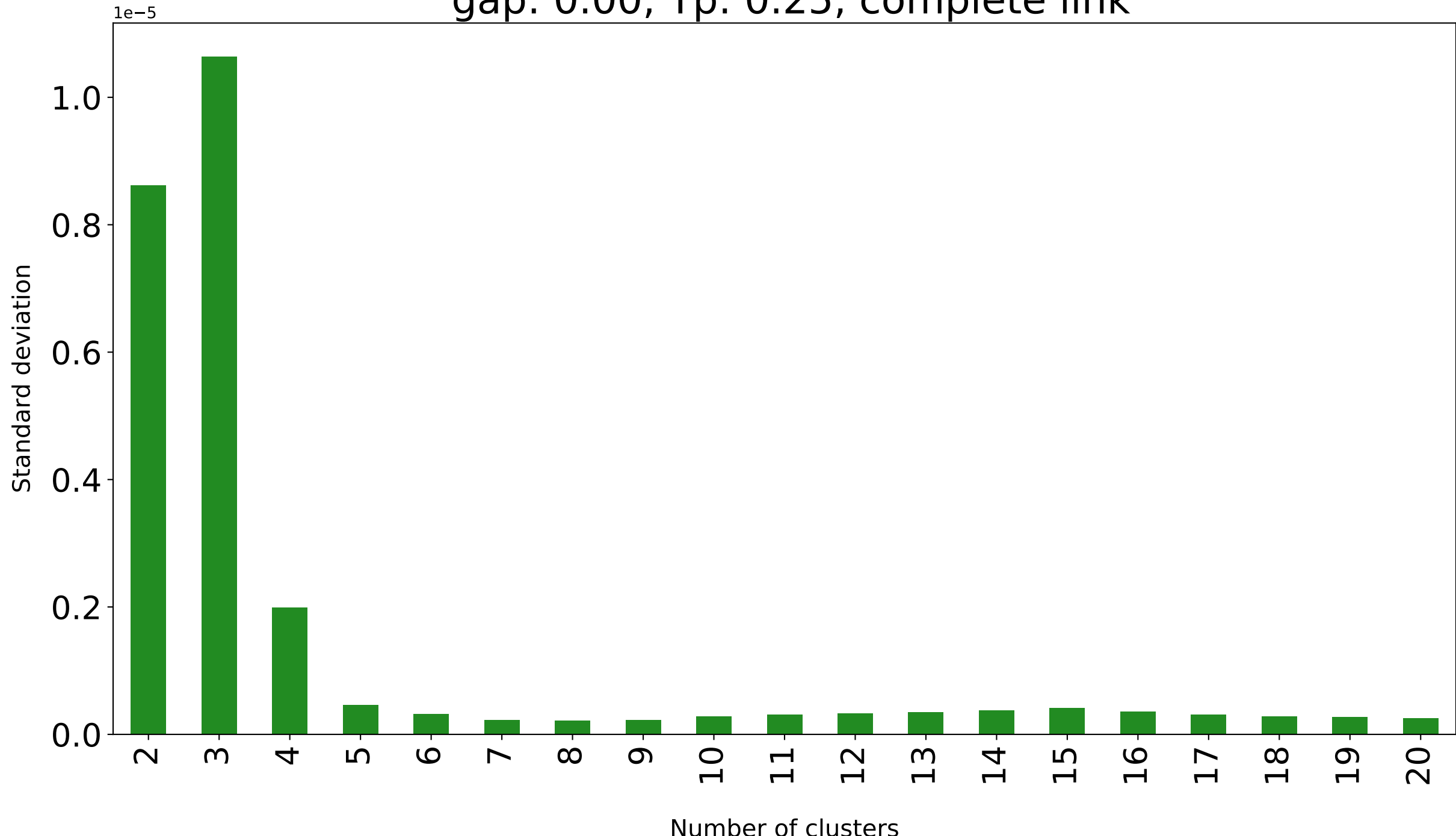
Cophenetic Correlation Coefficient: 0.7115753978445999
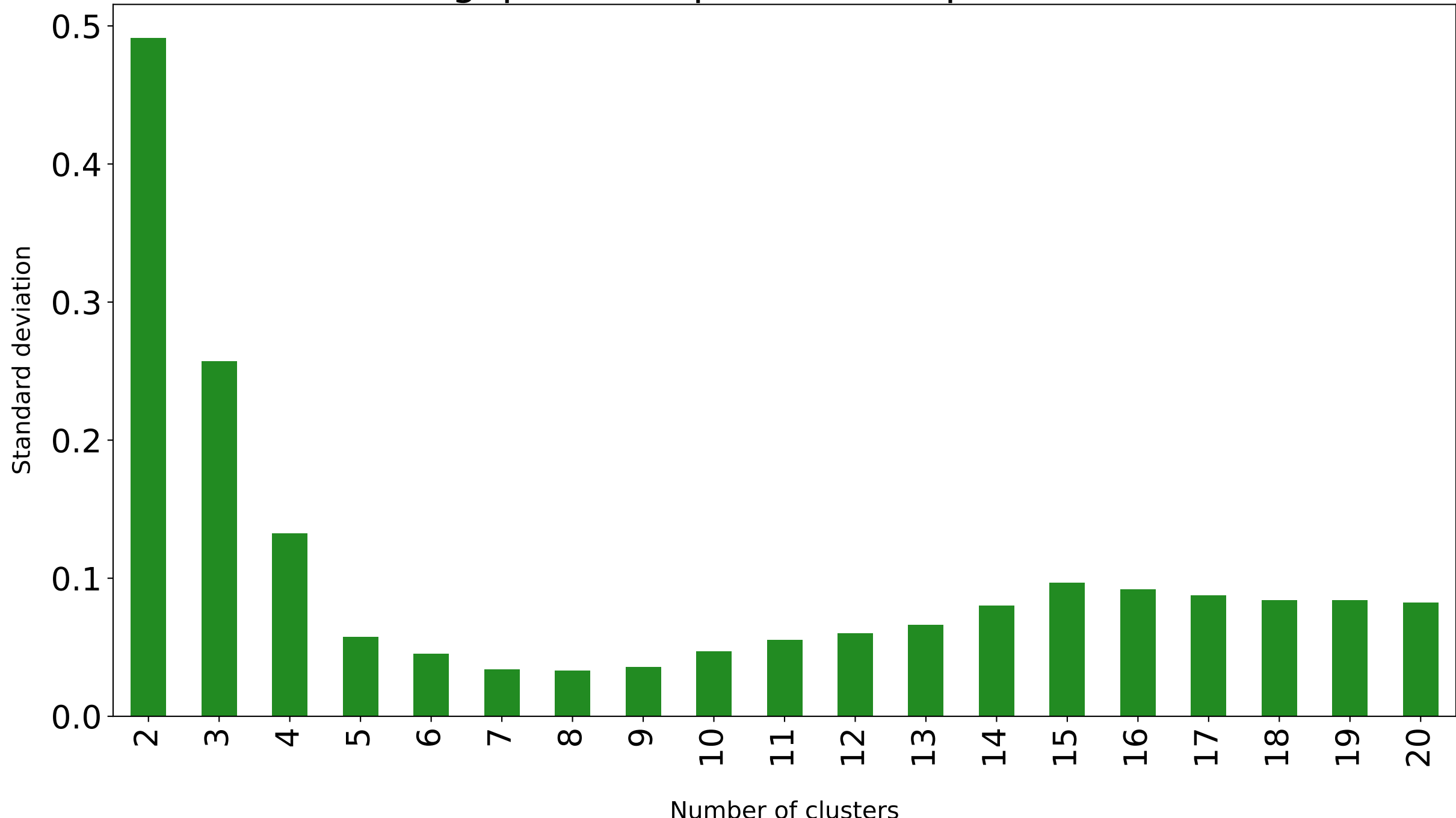
Average values of five clustering indices
gap: 0.00, Tp: 0.25, complete link

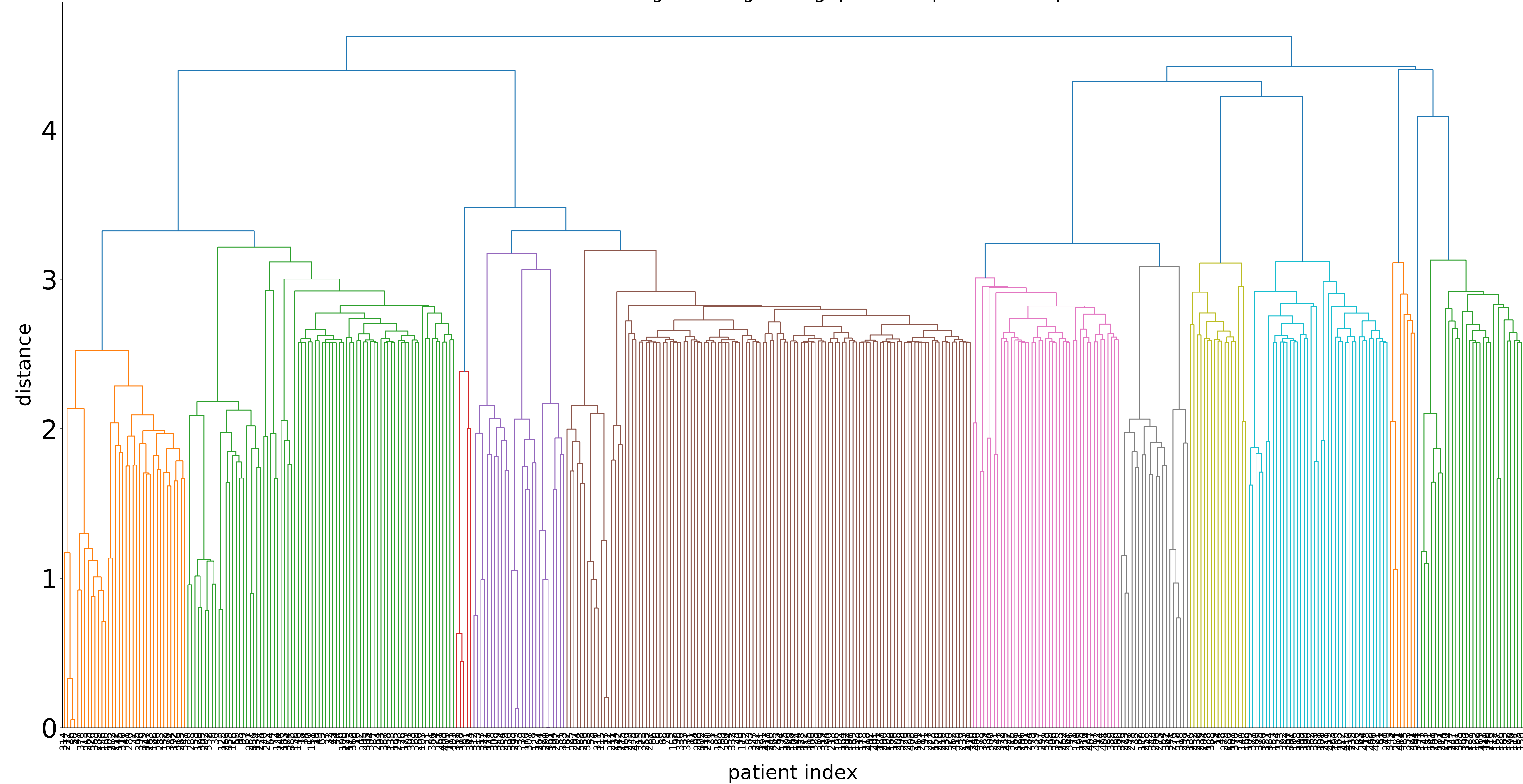| k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99999	0.86452	0.79572	0.59288	0.08231	0.61109	0.86321	0.34884	0.86583	0.0001	0.75469	0.72746	0.03226	0.1442	0.12315
3.0	1.00001	0.8692	0.79565	0.80318	0.08668	0.77539	0.86731	0.31649	0.87114	0.00013	0.82008	0.71581	0.05634	0.13675	0.12318
4.0	1.0	0.88527	0.79988	0.921	0.07886	0.8372	0.88053	0.31021	0.89009	0.00016	0.86802	0.6945	0.1573	0.13938	0.12321
5.0	1.0	0.95207	0.91136	0.93825	0.03118	0.93569	0.95192	0.1728	0.95222	0.00019	0.95292	0.84589	0.1573	0.16779	0.12325
6.0	1.0	0.95437	0.91449	0.9286	0.03391	0.93982	0.95422	0.18421	0.95453	0.0002	0.95703	0.84845	0.44444	0.16356	0.1233
7.0	1.0	0.9812	0.96423	0.97084	0.01126	0.97556	0.98114	0.07548	0.98126	0.00021	0.98297	0.93499	0.47059	0.17314	0.12479
8.0	1.0	0.97985	0.96137	0.96243	0.01123	0.97394	0.97967	0.07548	0.98003	0.00022	0.98181	0.9295	2.0	0.28085	0.16196
9.0	1.0	0.96512	0.93256	0.91855	0.01667	0.9555	0.9643	0.10952	0.96593	0.00022	0.96919	0.87814	2.0	0.35056	0.16201
10.0	1.0	0.95049	0.90615	0.89705	0.02441	0.93744	0.94933	0.15277	0.95166	0.00022	0.9581	0.8357	2.0	0.30896	0.16207
11.0	1.0	0.93968	0.88703	0.88004	0.03858	0.92437	0.93813	0.20874	0.94124	0.00022	0.95048	0.80604	2.0	0.2702	0.16211
12.0	1.0	0.92962	0.86889	0.8569	0.0456	0.9123	0.92742	0.2464	0.93184	0.00022	0.94315	0.77831	2.0	0.23944	0.16213
13.0	1.0	0.91292	0.83919	0.82094	0.05455	0.89237	0.90948	0.29599	0.91639	0.00022	0.93123	0.73397	2.0	0.21857	0.16224
14.0	1.0	0.89474	0.81018	0.8038	0.06406	0.87201	0.89059	0.32645	0.89896	0.00022	0.92315	0.69588	2.0	0.20313	0.16232
15.0	1.0	0.85256	0.74325	0.73902	0.09086	0.82382	0.84587	0.41531	0.85939	0.00022	0.90065	0.60979	2.0	0.19088	0.1624
16.0	1.0	0.82286	0.70302	0.78959	0.10417	0.79312	0.82036	0.46524	0.82538	0.00025	0.90131	0.55461	2.0	0.18039	0.16241
17.0	1.0	0.82812	0.70918	0.85569	0.09889	0.80355	0.82478	0.47603	0.83149	0.00029	0.91467	0.56128	2.0	0.17707	0.16243
18.0	1.0	0.83877	0.72541	0.85148	0.09286	0.81634	0.83615	0.4581	0.84142	0.0003	0.92208	0.58063	2.0	0.17545	0.16246
19.0	1.0	0.84641	0.73771	0.84862	0.08812	0.82542	0.84439	0.43795	0.84845	0.00031	0.9273	0.59619	2.0	0.1628	0.1625
20.0	1.0	0.85264	0.7473	0.84246	0.0846	0.83291	0.85087	0.42252	0.85443	0.00031	0.93156	0.60828	2.0	0.20467	0.16258

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.00, Tp: 0.25, complete link

Standard deviation of Huberts index versus number of clusters
gap: 0.00, Tp: 0.25, complete link

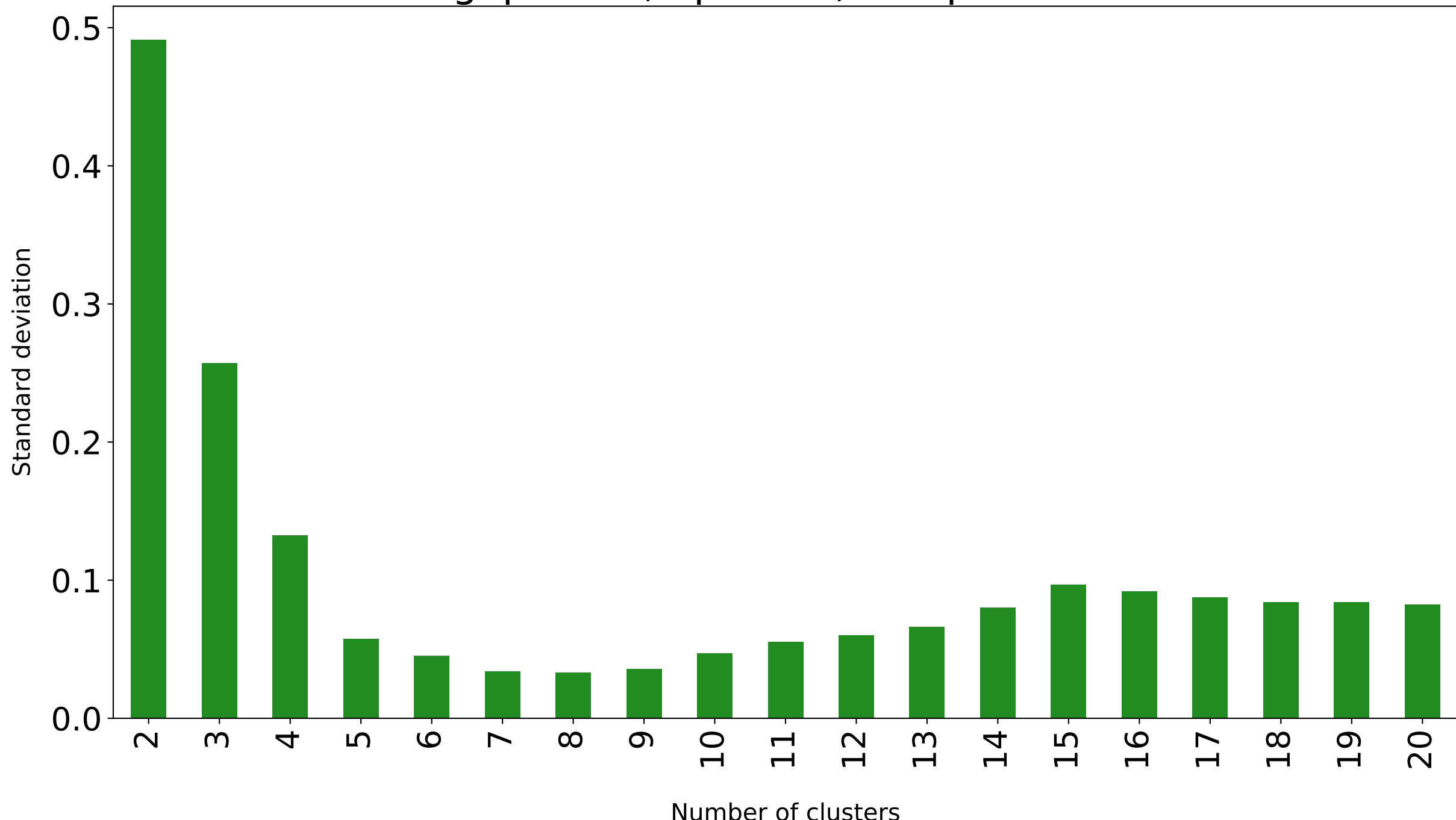Hierarchical Clustering Dendrogram - gap: 0.10, Tp: 0.25, complete link

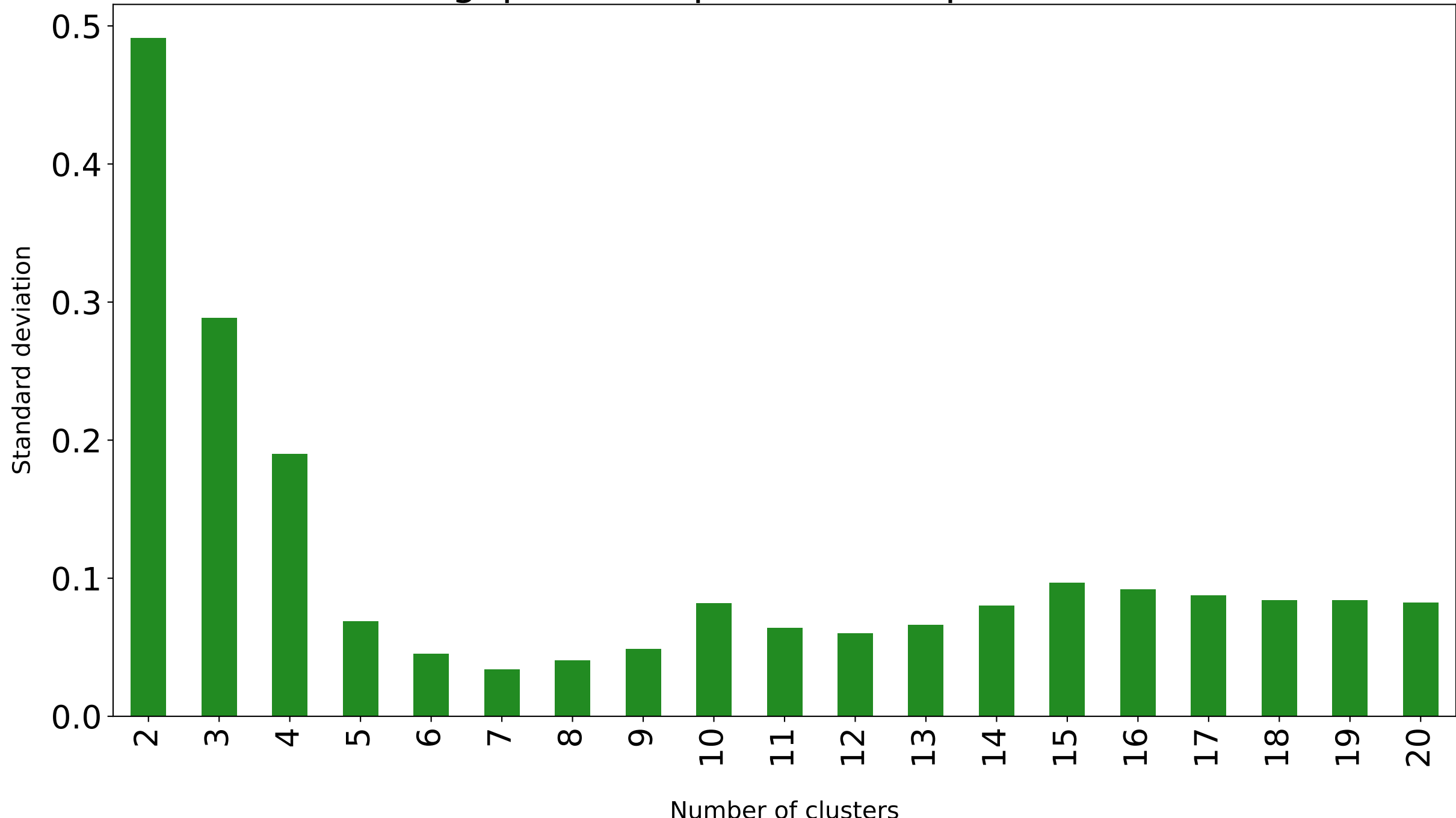Cophenetic Correlation Coefficient: 0.7345821477507194

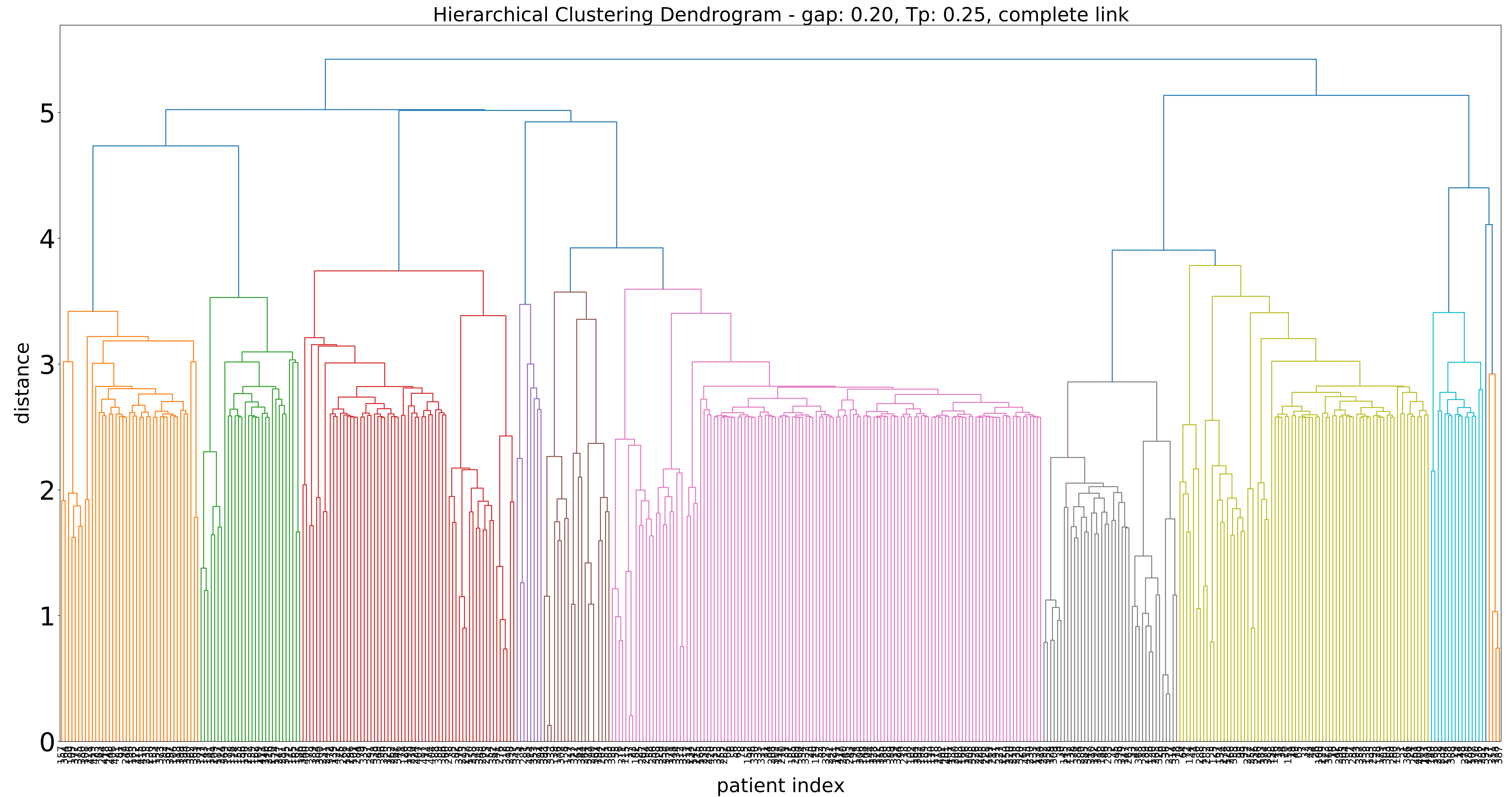## Average values of five clustering indices
gap: 0.10, Tp: 0.25, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99998	0.88111	0.82112	0.75506	0.08975	0.73714	0.88033	0.35376	0.88189	0.00012	0.80771	0.75404	0.0875	0.10963	0.1054
3.0	1.0	0.80312	0.69769	0.61022	0.16768	0.65118	0.80071	0.64958	0.80555	0.0001	0.72604	0.57774	0.09917	0.12569	0.10591
4.0	1.00001	0.7272	0.5682	0.43698	0.20826	0.57803	0.70966	0.76255	0.74537	0.0001	0.64831	0.42365	0.09917	0.17913	0.10603
5.0	1.0	0.88597	0.7956	0.78216	0.0977	0.8451	0.88407	0.39445	0.88787	0.00017	0.88415	0.66747	0.09917	0.19538	0.10784
6.0	1.0	0.95958	0.92361	0.93864	0.03822	0.94697	0.95945	0.19949	0.95971	0.0002	0.96241	0.86266	0.17241	0.19901	0.1104
7.0	1.0	0.97854	0.95895	0.96563	0.01492	0.97215	0.97845	0.10504	0.97862	0.00021	0.9806	0.92474	0.35294	0.21492	0.11395
8.0	1.0	0.96854	0.93973	0.93452	0.01675	0.95972	0.96794	0.11141	0.96914	0.00021	0.97218	0.8919	2.0	0.3121	0.1339
9.0	1.0	0.93797	0.8828	0.86935	0.03303	0.92212	0.93614	0.19206	0.93981	0.00022	0.94833	0.79752	2.0	0.29082	0.14024
10.0	1.0	0.86576	0.76773	0.82102	0.07671	0.83591	0.86449	0.36624	0.86702	0.00022	0.90615	0.63549	2.0	0.24913	0.14025
11.0	1.0	0.85939	0.75578	0.84531	0.08173	0.83261	0.85841	0.41533	0.86038	0.00024	0.91319	0.61462	2.0	0.23575	0.14384
12.0	1.0	0.85614	0.75017	0.82693	0.08754	0.83115	0.85531	0.43986	0.85697	0.00026	0.91778	0.60557	2.0	0.22613	0.14495
13.0	1.0	0.85552	0.74866	0.83854	0.09096	0.83268	0.85487	0.45708	0.85617	0.00028	0.92367	0.6022	2.0	0.21758	0.14589
14.0	1.0	0.90468	0.82652	0.92926	0.07936	0.89108	0.90366	0.37808	0.90571	0.00032	0.95264	0.70938	2.0	0.21405	0.14694
15.0	1.0	0.91141	0.83833	0.92683	0.07865	0.89911	0.91068	0.37843	0.91215	0.00033	0.95714	0.72696	2.0	0.20447	0.14898
16.0	1.0	0.91886	0.85119	0.92611	0.07601	0.90788	0.91835	0.36269	0.91937	0.00034	0.96173	0.74601	2.0	0.20135	0.14946
17.0	1.0	0.92311	0.85805	0.93752	0.07718	0.91313	0.92255	0.36554	0.92367	0.00035	0.96488	0.75572	2.0	0.18486	0.14957
18.0	1.0	0.93146	0.87249	0.94766	0.07574	0.92283	0.93098	0.35325	0.93194	0.00037	0.96947	0.77787	2.0	0.18525	0.14985
19.0	1.0	0.93765	0.88347	0.94369	0.07209	0.9299	0.93742	0.33894	0.93789	0.00037	0.97267	0.79452	2.0	0.18712	0.14991
20.0	1.0	0.94254	0.89208	0.94116	0.06977	0.9355	0.94239	0.32658	0.94269	0.00038	0.97515	0.80793	2.0	0.17871	0.1511

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.10, Tp: 0.25, complete link

Standard deviation of Huberts index versus number of clusters
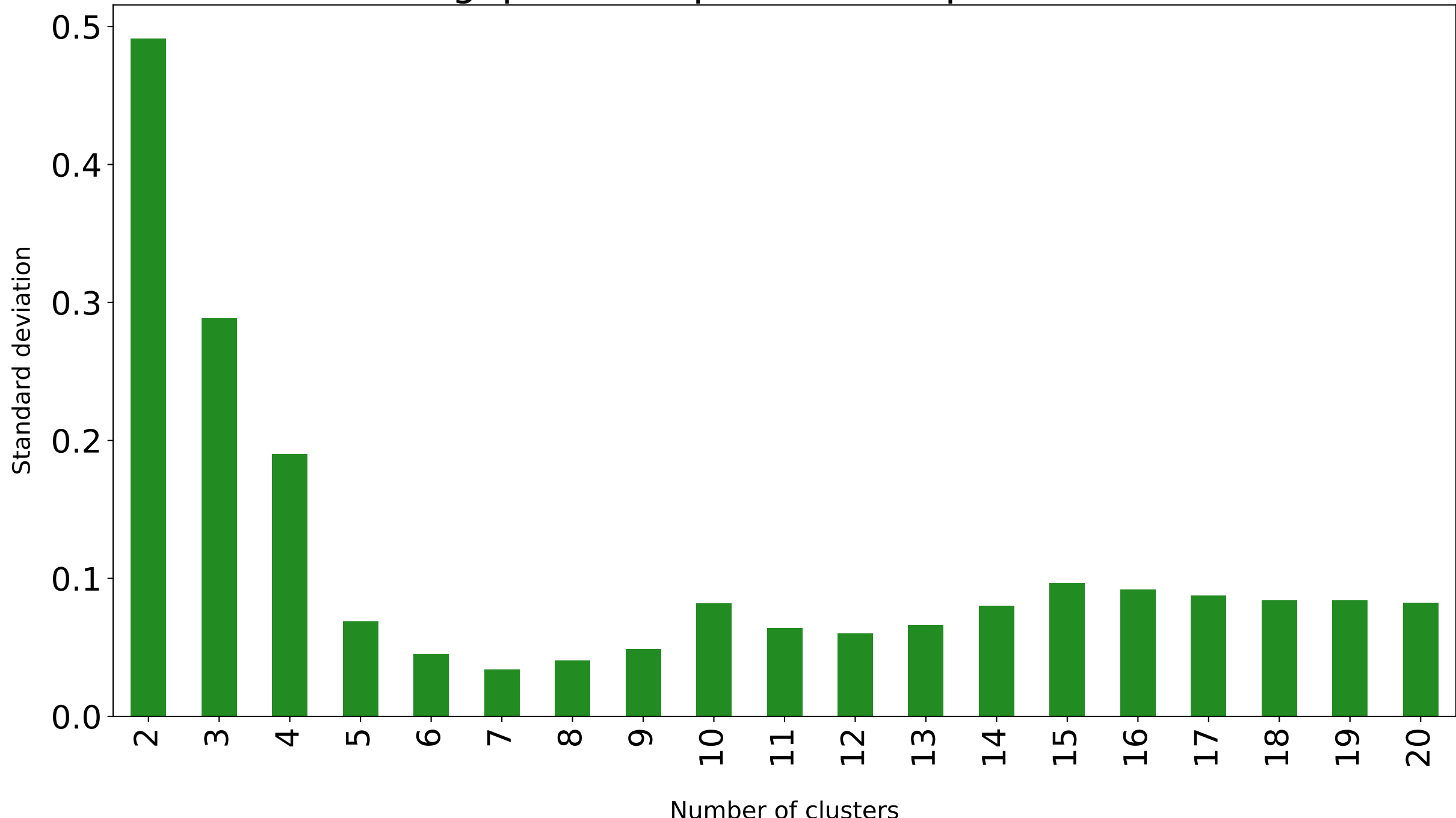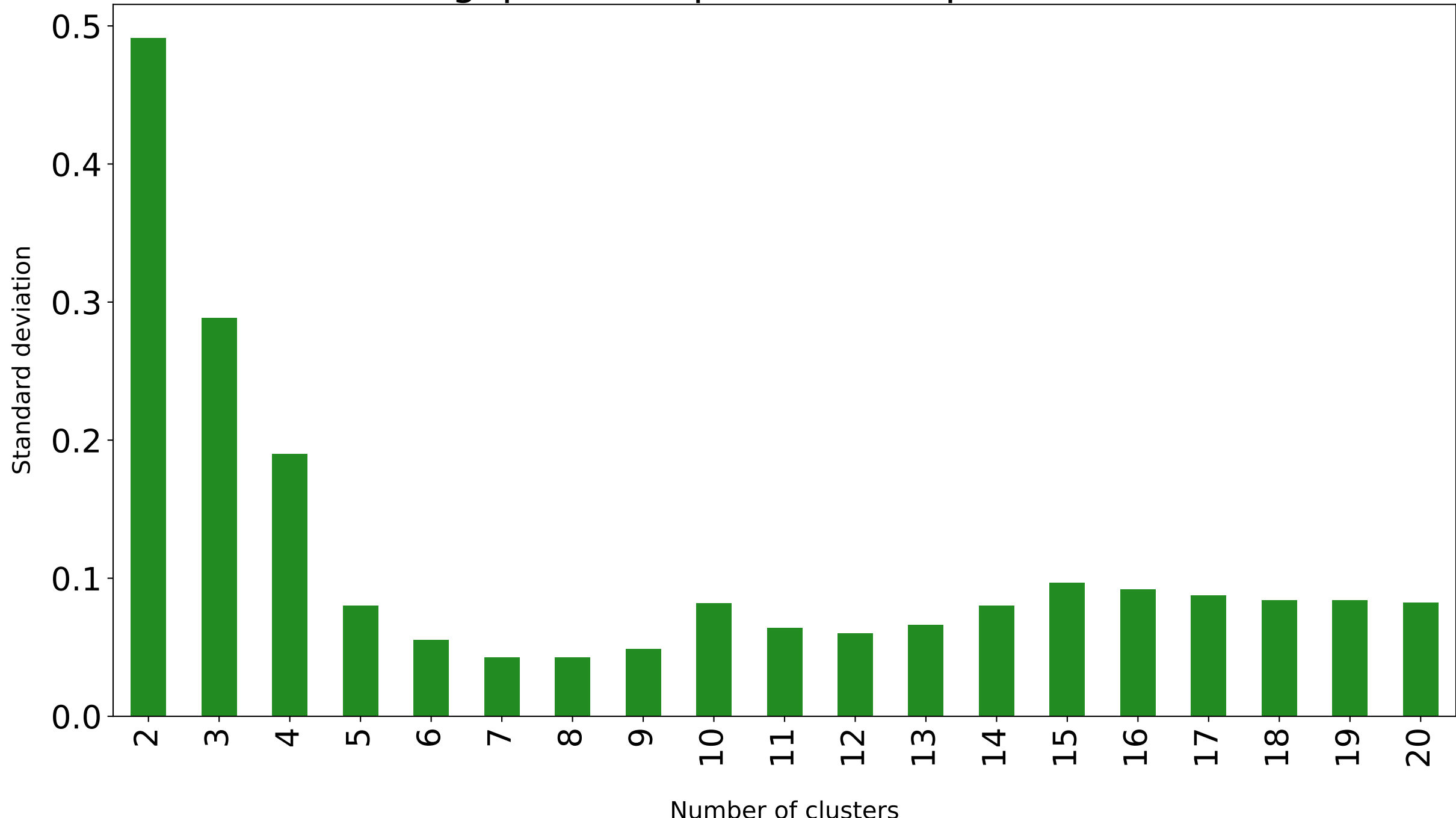gap: 0.10, Tp: 0.25, complete link

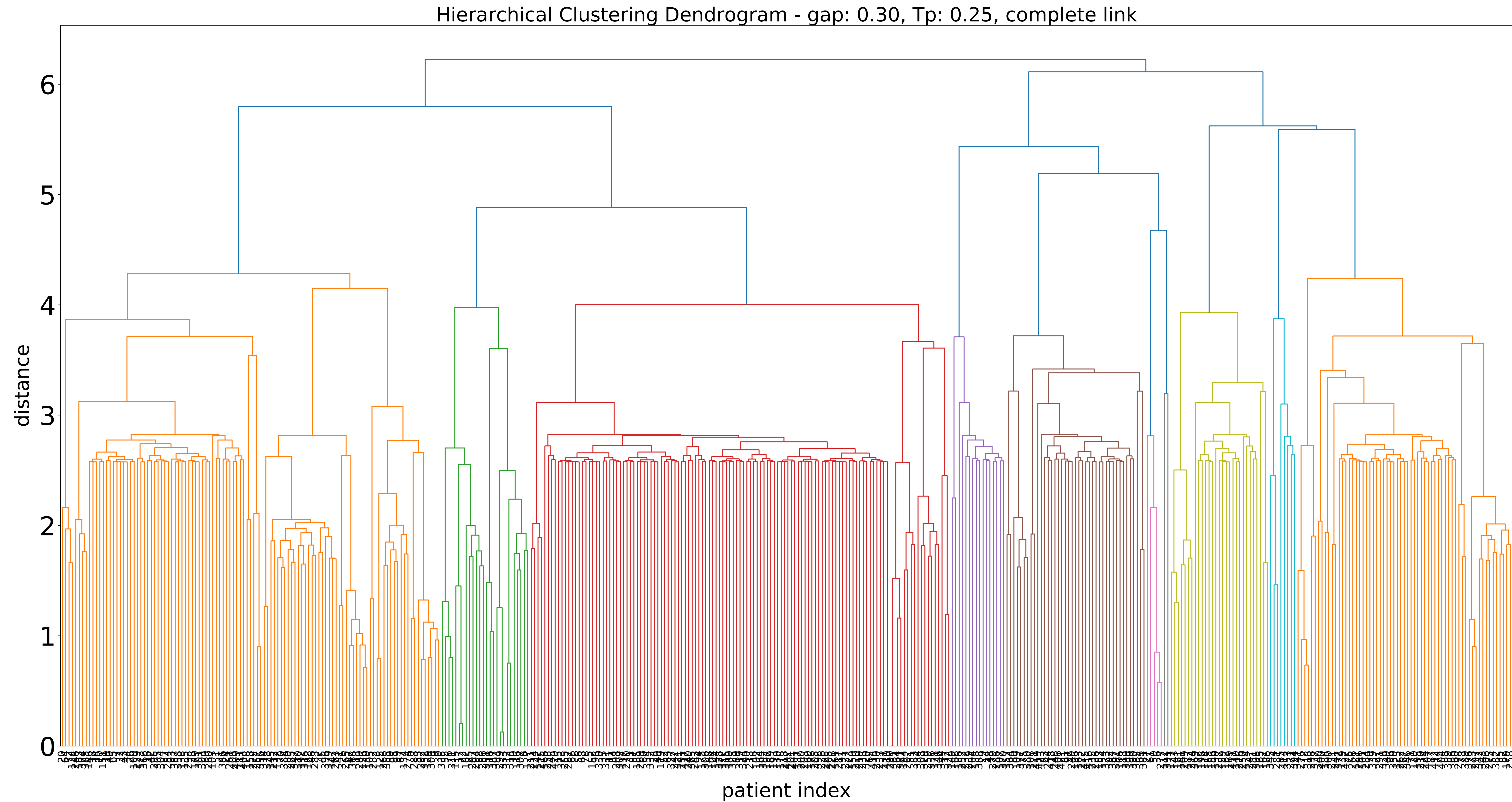Hierarchical Clustering Dendrogram - gap: 0.20, Tp: 0.25, complete link

Cophenetic Correlation Coefficient: 0.7243069112600068

Average values of five clustering indices
gap: 0.20, Tp: 0.25, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99996	0.65252	0.50274	0.2075	0.2639	0.21281	0.65168	0.92841	0.65337	3e-05	0.46294	0.36298	0.02076	0.15661	0.14916
3.0	0.99995	0.70983	0.55049	0.35361	0.18886	0.47542	0.69823	0.73014	0.7217	8e-05	0.57725	0.39775	0.38095	0.18137	0.15254
4.0	1.00001	0.75221	0.60441	0.54064	0.14775	0.62978	0.74631	0.64374	0.75818	0.00011	0.71412	0.44619	0.38095	0.17676	0.15273
5.0	1.0	0.9087	0.83661	0.86701	0.06574	0.87721	0.90811	0.35982	0.9093	0.00018	0.91116	0.72898	0.38095	0.19681	0.15555
6.0	1.0	0.93925	0.88779	0.90561	0.05486	0.92031	0.93894	0.27767	0.93956	0.0002	0.94405	0.8056	0.38095	0.20177	0.16183
7.0	1.0	0.96188	0.92814	0.94938	0.02786	0.95076	0.96172	0.17841	0.96205	0.00021	0.96626	0.87121	0.38095	0.22098	0.17408
8.0	1.0	0.95974	0.92369	0.93038	0.02513	0.9485	0.95924	0.1611	0.96024	0.00021	0.96501	0.86395	0.8	0.22767	0.18645
9.0	1.0	0.92855	0.86529	0.84438	0.03867	0.91015	0.92626	0.2258	0.93086	0.00021	0.93985	0.76908	2.0	0.32936	0.19525
10.0	1.0	0.86654	0.76564	0.78942	0.07775	0.83614	0.86456	0.39213	0.86853	0.00021	0.90355	0.62839	2.0	0.27356	0.19617
11.0	1.0	0.85273	0.74468	0.81488	0.08585	0.82358	0.85198	0.46345	0.85347	0.00024	0.90669	0.59787	2.0	0.26207	0.2025
12.0	1.0	0.84103	0.72693	0.78166	0.09501	0.81162	0.8399	0.5168	0.84216	0.00024	0.90455	0.57596	2.0	0.25307	0.20481
13.0	1.0	0.82853	0.7079	0.76167	0.10515	0.79938	0.82725	0.557	0.8298	0.00025	0.90399	0.55201	2.0	0.24889	0.21311
14.0	1.0	0.86753	0.76776	0.83622	0.09627	0.84702	0.86708	0.49248	0.86798	0.00029	0.93117	0.62768	2.0	0.24757	0.21446
15.0	1.0	0.87367	0.77674	0.82837	0.09447	0.85474	0.87302	0.48163	0.87432	0.0003	0.93577	0.63913	2.0	0.23819	0.21652
16.0	1.0	0.87707	0.78201	0.84836	0.09563	0.85947	0.87671	0.48871	0.87742	0.00031	0.94005	0.64507	2.0	0.23624	0.2171
17.0	1.0	0.88382	0.79257	0.84857	0.09058	0.86763	0.88332	0.47074	0.88432	0.00032	0.9444	0.65953	2.0	0.23251	0.22052
18.0	1.0	0.88643	0.79612	0.83802	0.0888	0.87095	0.88565	0.46711	0.88722	0.00032	0.94632	0.66405	2.0	0.23374	0.2241
19.0	1.0	0.89053	0.80242	0.84037	0.08714	0.87603	0.88971	0.46221	0.89135	0.00033	0.94938	0.67228	2.0	0.22601	0.22471
20.0	1.0	0.89352	0.80672	0.83617	0.08611	0.87964	0.89244	0.45651	0.89461	0.00034	0.95112	0.67806	2.0	0.22367	0.2248

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.20, Tp: 0.25, complete link

Standard deviation of Huberts index versus number of clusters
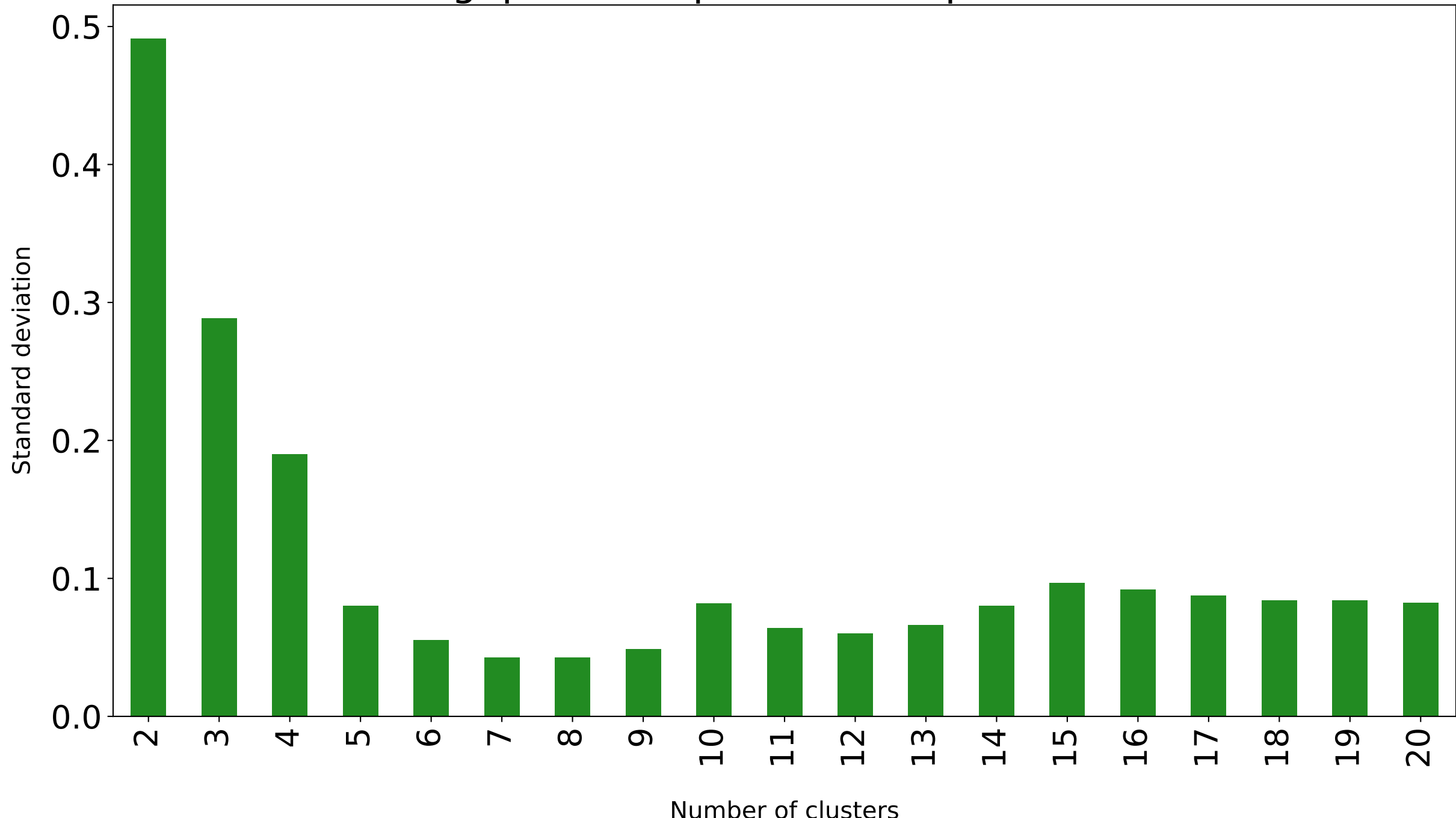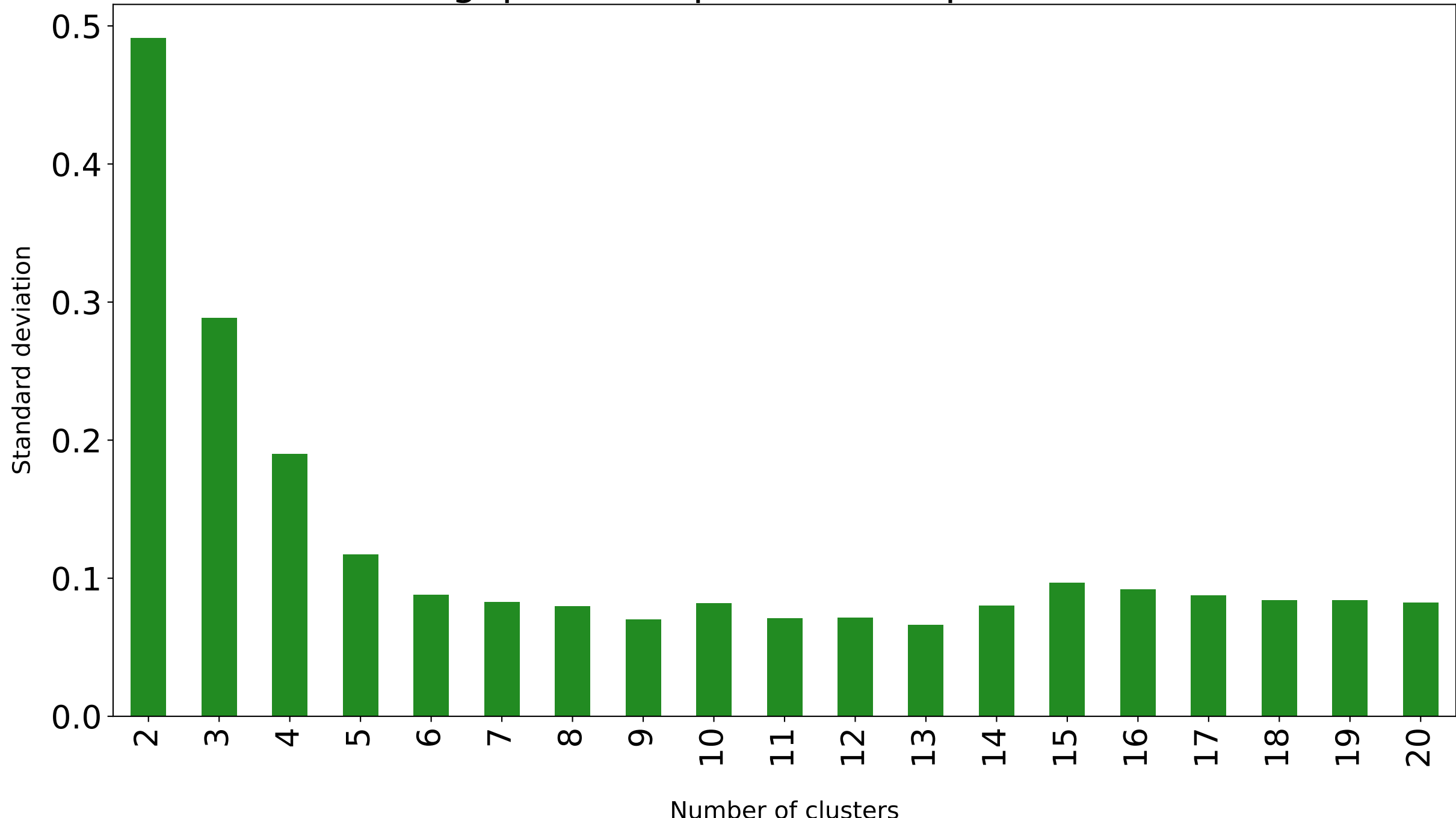gap: 0.20, Tp: 0.25, complete link

Hierarchical Clustering Dendrogram - gap: 0.30, Tp: 0.25, complete link

Cophenetic Correlation Coefficient: 0.7341554163827297

Average values of five clustering indices
gap: 0.30, Tp: 0.25, complete link

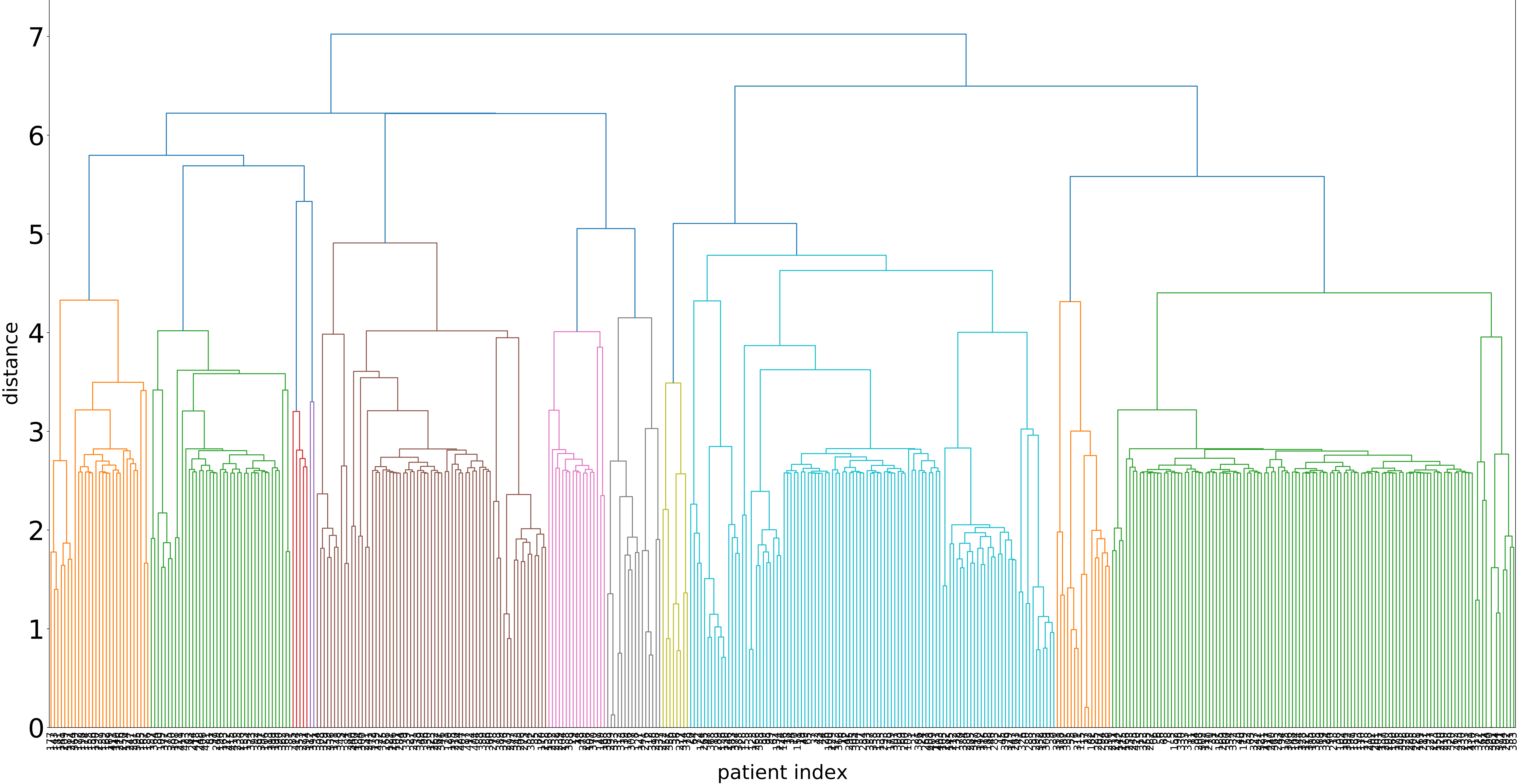| k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99996	0.79016	0.683	0.56091	0.15512	0.54067	0.78903	0.62936	0.79132	9e-05	0.66246	0.56335	0.12195	0.12059	0.19283
3.0	1.00002	0.68206	0.53178	0.41134	0.23097	0.45567	0.67883	0.95258	0.68531	7e-05	0.58992	0.38347	0.3125	0.13552	0.18393
4.0	1.0	0.77552	0.63869	0.74011	0.16511	0.68285	0.77197	0.76545	0.77915	0.00013	0.76669	0.48173	0.3125	0.17741	0.18962
5.0	1.0	0.85908	0.76032	0.83017	0.10623	0.81074	0.85792	0.55712	0.86026	0.00017	0.8671	0.62777	0.3125	0.21201	0.19067
6.0	1.0	0.8878	0.80347	0.83696	0.08642	0.85302	0.88735	0.48745	0.88825	0.00019	0.90017	0.68227	0.3125	0.22076	0.1961
7.0	1.0	0.91114	0.84192	0.86615	0.06094	0.88522	0.9107	0.3864	0.91159	0.0002	0.92357	0.73908	0.33333	0.23512	0.20544
8.0	1.0	0.9099	0.83875	0.84737	0.05684	0.88516	0.90884	0.34894	0.91097	0.0002	0.92482	0.73472	1.14286	0.2284	0.21841
9.0	1.0	0.88668	0.79972	0.87245	0.0736	0.85957	0.88592	0.41672	0.88745	0.00022	0.91586	0.67522	1.14286	0.20518	0.22796
10.0	1.0	0.86634	0.7675	0.80277	0.08429	0.83641	0.86499	0.44617	0.86769	0.00022	0.90583	0.63306	2.0	0.20708	0.2489
11.0	1.0	0.83284	0.7164	0.82551	0.10816	0.80045	0.83177	0.53475	0.83391	0.00023	0.8964	0.56556	2.0	0.19131	0.2514
12.0	1.0	0.83855	0.72554	0.80487	0.10496	0.80913	0.83785	0.53942	0.83925	0.00025	0.90504	0.57725	2.0	0.1821	0.25699
13.0	1.0	0.83739	0.7223	0.79299	0.10577	0.80987	0.83651	0.55742	0.83827	0.00026	0.90961	0.57085	2.0	0.18384	0.26635
14.0	1.0	0.89164	0.80652	0.90205	0.09522	0.87542	0.89073	0.46867	0.89255	0.00031	0.94448	0.6829	2.0	0.17723	0.26796
15.0	1.0	0.90397	0.82653	0.90473	0.08959	0.89006	0.90344	0.4468	0.9045	0.00032	0.95225	0.71002	2.0	0.18251	0.27135
16.0	1.0	0.90847	0.83383	0.9028	0.08874	0.89558	0.90813	0.44329	0.90882	0.00033	0.95562	0.71975	2.0	0.18791	0.27518
17.0	1.0	0.91098	0.83786	0.89126	0.08789	0.89868	0.91065	0.44008	0.91132	0.00033	0.95752	0.72525	2.0	0.19297	0.27574
18.0	1.0	0.91775	0.84902	0.89631	0.0856	0.90673	0.91747	0.4223	0.91803	0.00034	0.96171	0.74127	2.0	0.20045	0.28669
19.0	1.0	0.91214	0.8392	0.88943	0.08872	0.90067	0.91184	0.43786	0.91244	0.00035	0.96004	0.72583	2.0	0.1928	0.28678
20.0	1.0	0.92383	0.85918	0.92273	0.08423	0.91434	0.92359	0.4197	0.92406	0.00037	0.9667	0.75595	2.0	0.18919	0.28726

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.30, Tp: 0.25, complete link

Standard deviation of Huberts index versus number of clusters
gap: 0.30, Tp: 0.25, complete link

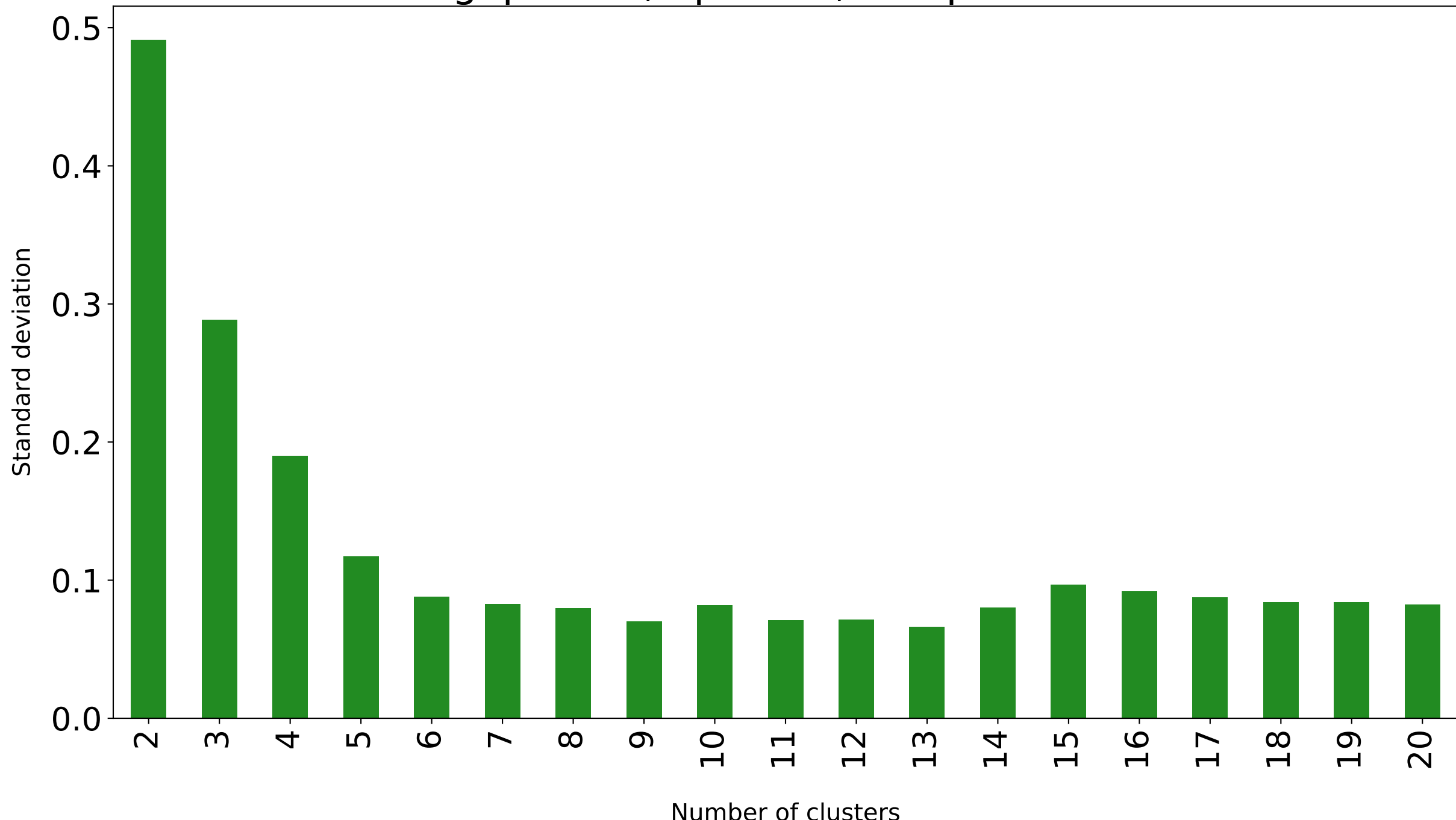Hierarchical Clustering Dendrogram - gap: 0.40, Tp: 0.25, complete link

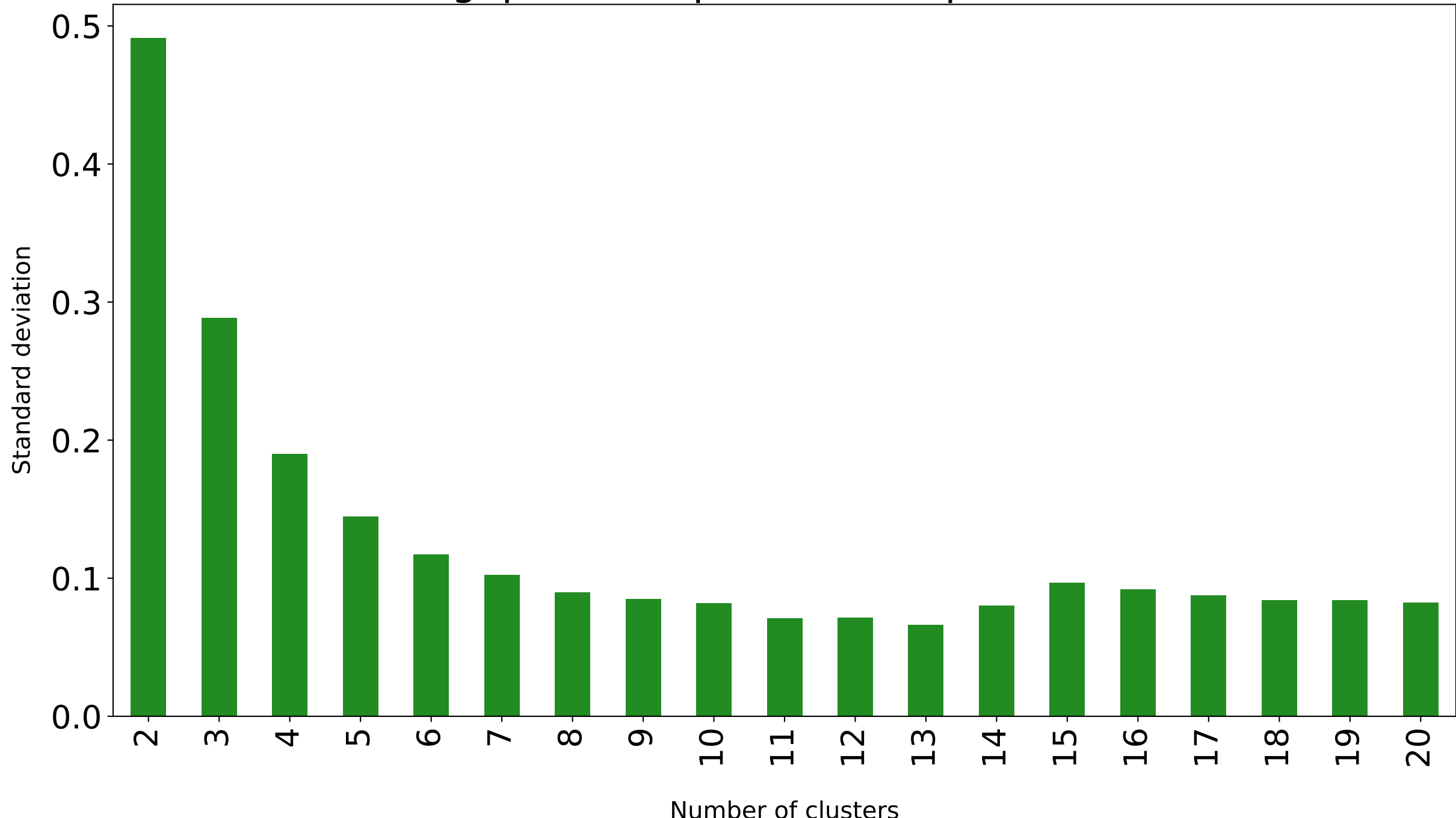Cophenetic Correlation Coefficient: 0.6871868097142786

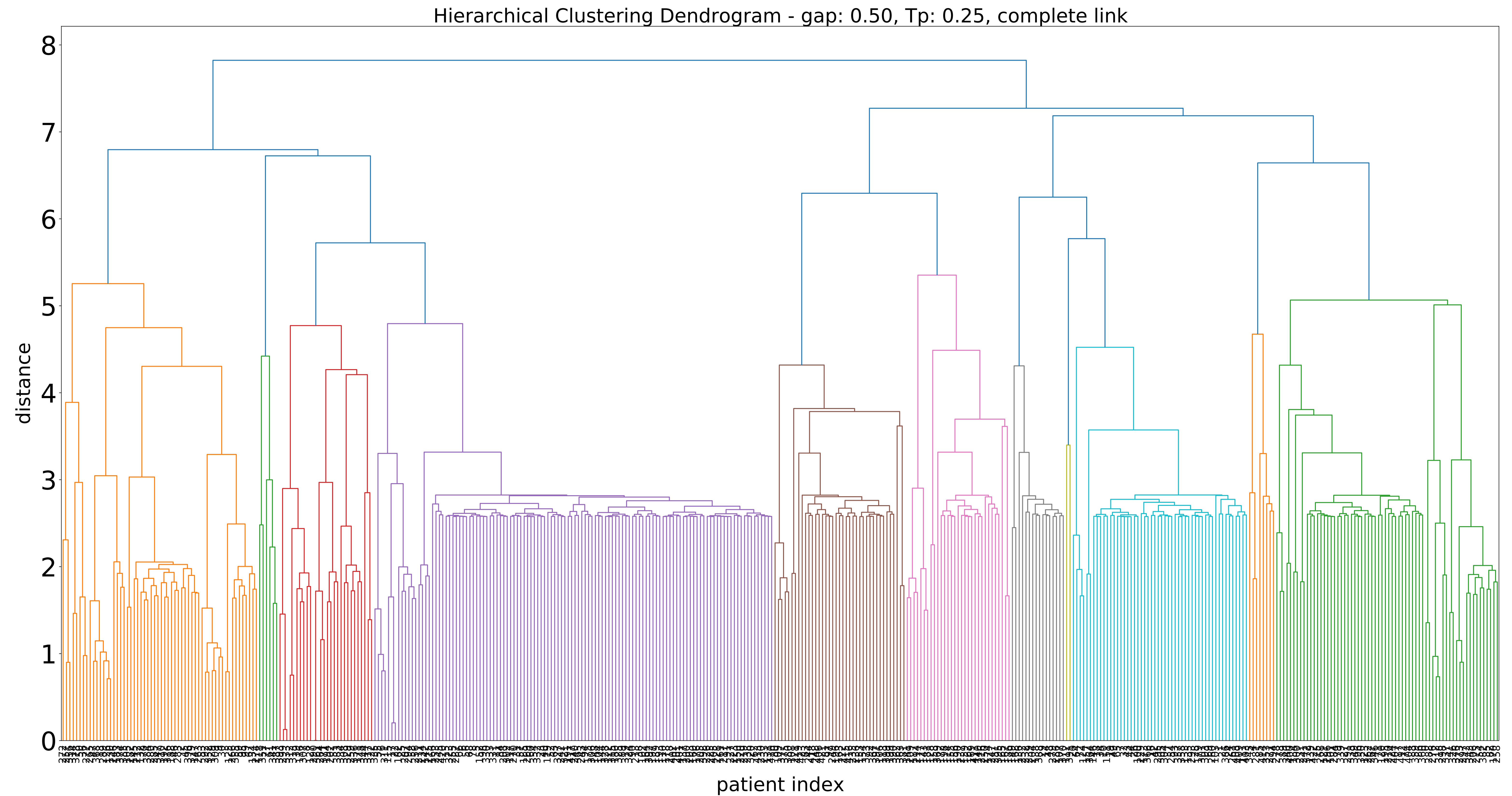## Average values of five clustering indices
gap: 0.40, Tp: 0.25, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99994	0.72932	0.59519	0.43997	0.20125	0.41237	0.72753	0.79021	0.73115	7e-05	0.57197	0.45264	0.13559	0.12046	0.19964
3.0	1.00001	0.67209	0.51599	0.52495	0.21925	0.46987	0.66815	0.91601	0.67609	8e-05	0.60381	0.36466	0.13559	0.19011	0.20842
4.0	1.0	0.72258	0.5702	0.69422	0.18379	0.60905	0.71697	0.88012	0.72833	0.00012	0.71818	0.41176	0.16	0.18519	0.20854
5.0	1.0	0.78274	0.65094	0.77124	0.14745	0.70885	0.77955	0.77574	0.78599	0.00015	0.8006	0.49848	0.24242	0.19519	0.22376
6.0	1.0	0.80754	0.68351	0.79971	0.1273	0.7498	0.80557	0.70976	0.80953	0.00017	0.83643	0.53197	0.25	0.2183	0.22795
7.0	1.0	0.82469	0.70758	0.79557	0.11342	0.77521	0.82361	0.64501	0.82577	0.00018	0.85711	0.55871	0.57143	0.20897	0.23237
8.0	1.0	0.83499	0.72135	0.82539	0.10694	0.79394	0.83379	0.61511	0.8362	0.0002	0.87617	0.5746	0.57143	0.20791	0.24338
9.0	1.0	0.83191	0.71688	0.78312	0.10881	0.79248	0.83107	0.61132	0.83276	0.0002	0.87993	0.56825	2.0	0.21469	0.25402
10.0	1.0	0.81027	0.68379	0.74528	0.12572	0.76937	0.80923	0.6784	0.81131	0.00021	0.87329	0.52585	2.0	0.21598	0.24167
11.0	1.0	0.80819	0.67933	0.7246	0.12299	0.76894	0.8065	0.65467	0.80988	0.00021	0.87608	0.51986	2.0	0.21643	0.24882
12.0	1.0	0.81057	0.68102	0.71455	0.12199	0.77426	0.80803	0.61524	0.81313	0.00022	0.8825	0.52116	2.0	0.20483	0.25531
13.0	1.0	0.81112	0.68217	0.72964	0.13344	0.77804	0.80915	0.66758	0.81309	0.00024	0.89155	0.52179	2.0	0.18613	0.25498
14.0	1.0	0.84249	0.72875	0.80456	0.12117	0.81776	0.84184	0.62985	0.84315	0.00027	0.91756	0.57641	2.0	0.18564	0.26807
15.0	1.0	0.88384	0.79286	0.88348	0.1146	0.8672	0.88333	0.55675	0.88436	0.00031	0.94305	0.66049	2.0	0.17937	0.27264
16.0	1.0	0.88923	0.80163	0.88325	0.11328	0.87376	0.88889	0.54871	0.88957	0.00032	0.94693	0.67229	2.0	0.18625	0.27315
17.0	1.0	0.89326	0.80814	0.87755	0.10809	0.87858	0.89299	0.52606	0.89353	0.00033	0.94955	0.68119	2.0	0.1963	0.2736
18.0	1.0	0.89246	0.80662	0.86764	0.10777	0.87791	0.89216	0.52124	0.89276	0.00033	0.94985	0.67869	2.0	0.20617	0.28441
19.0	1.0	0.88826	0.79952	0.85303	0.10881	0.87344	0.88782	0.52633	0.88871	0.00033	0.9487	0.66864	2.0	0.21262	0.29368
20.0	1.0	0.88549	0.79491	0.84945	0.11077	0.8707	0.88507	0.53475	0.88591	0.00034	0.94865	0.66185	2.0	0.20846	0.29377

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.40, Tp: 0.25, complete link

Standard deviation of Huberts index versus number of clusters
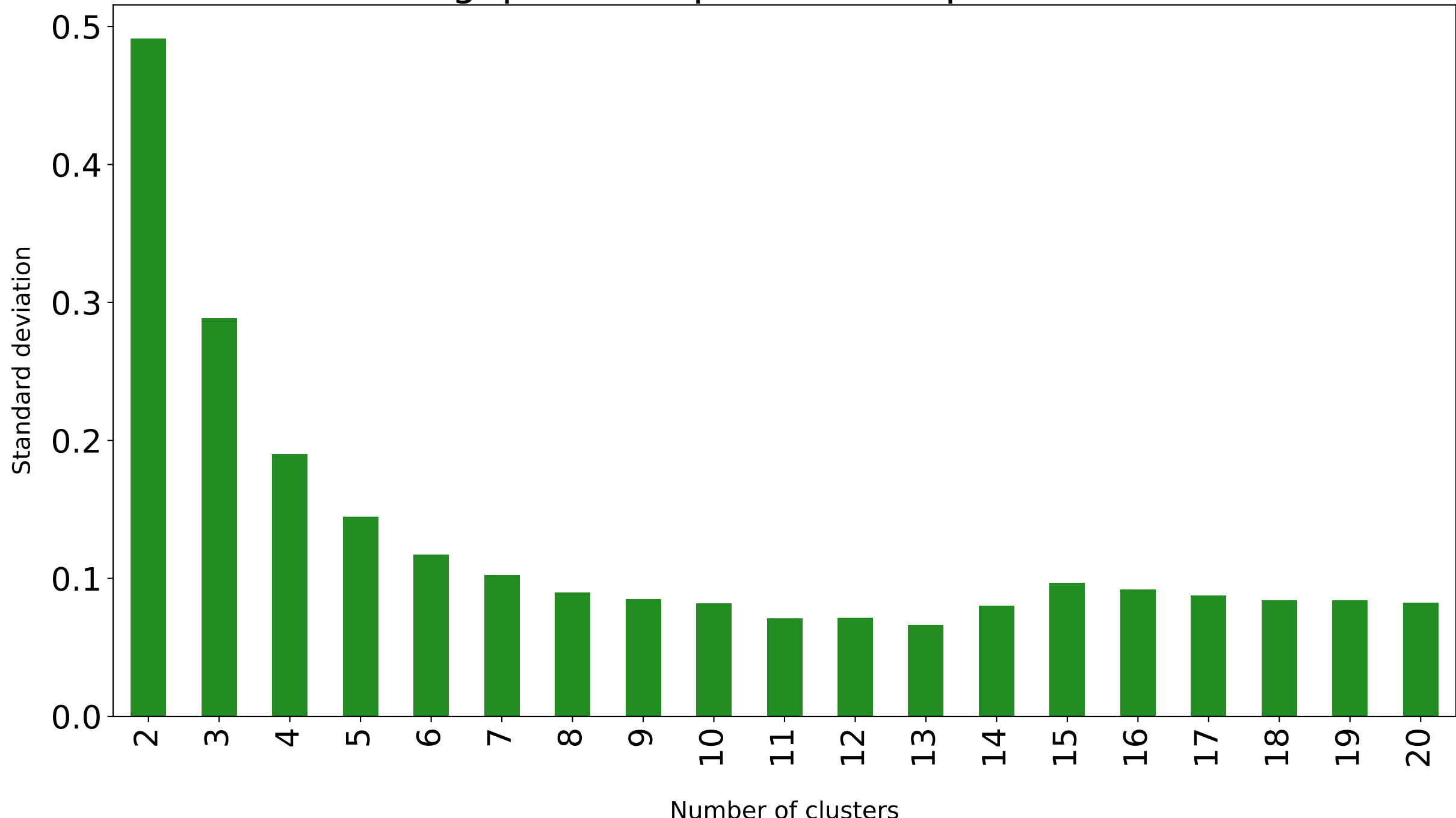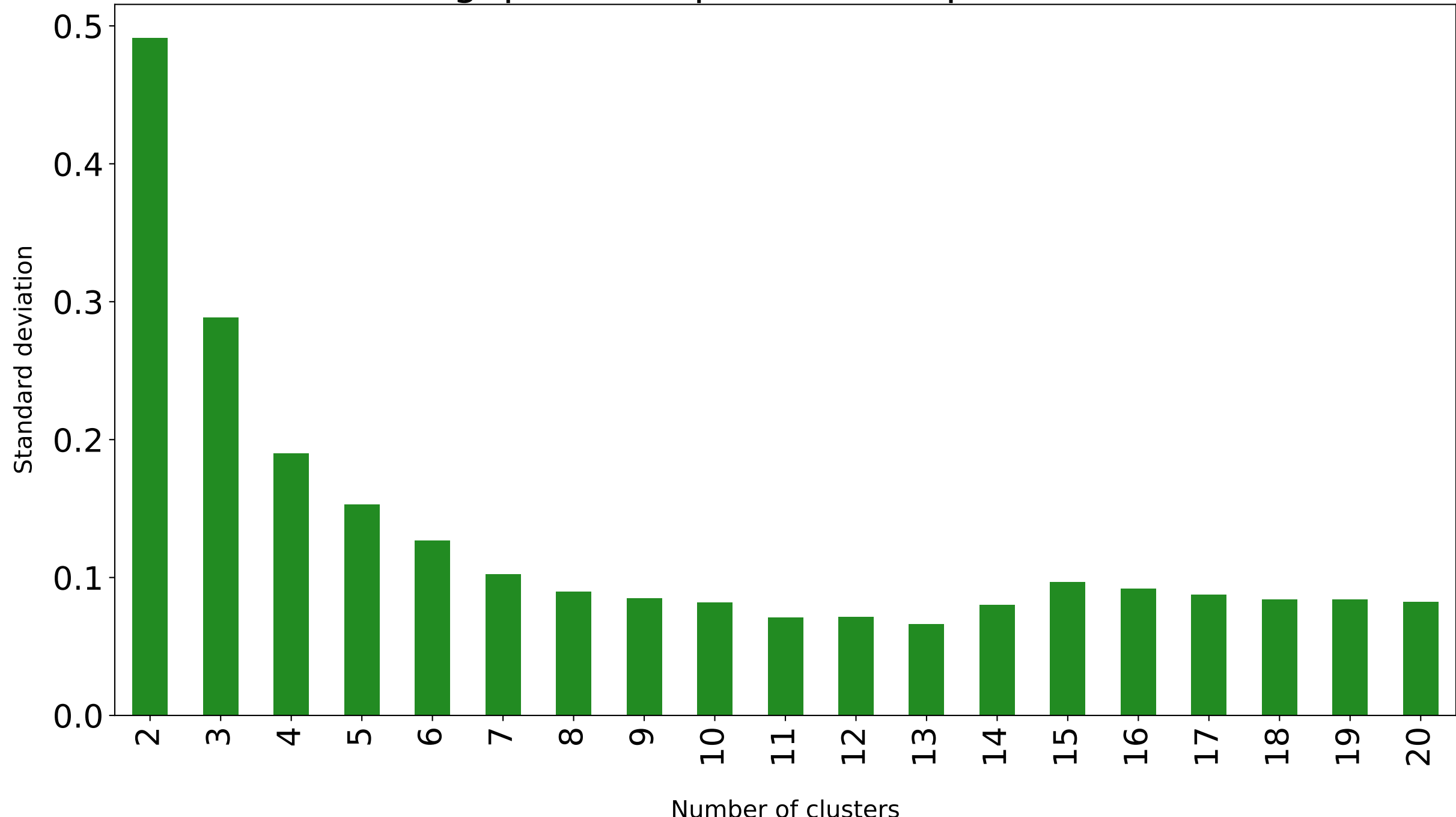gap: 0.40, Tp: 0.25, complete link

Hierarchical Clustering Dendrogram - gap: 0.50, Tp: 0.25, complete link

Cophenetic Correlation Coefficient: 0.6782640995793605

Average values of five clustering indices
gap: 0.50, Tp: 0.25, complete link

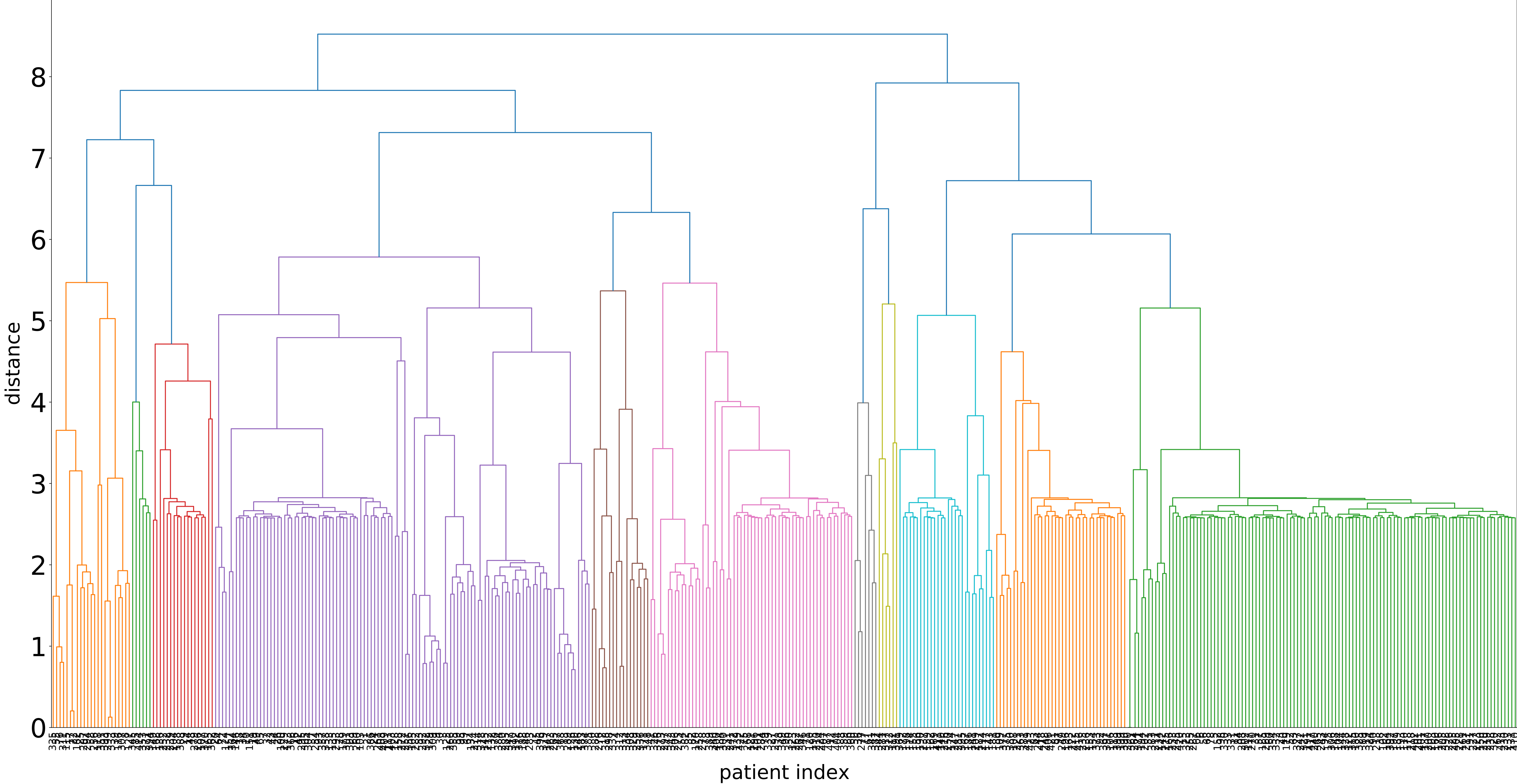| k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99988	0.68279	0.52343	0.33873	0.22429	0.31332	0.67988	0.89775	0.68578	5e-05	0.49856	0.36338	0.09346	0.13752	0.17606
3.0	1.00002	0.6095	0.4444	0.36574	0.29111	0.34974	0.60739	1.19037	0.61163	6e-05	0.52877	0.29327	0.17143	0.15002	0.17818
4.0	1.00001	0.6441	0.47832	0.46298	0.23763	0.47298	0.64167	1.10663	0.64654	9e-05	0.6251	0.31977	0.17143	0.17385	0.18839
5.0	1.0	0.72836	0.57992	0.6993	0.19463	0.63586	0.72464	0.93176	0.73217	0.00014	0.75644	0.42116	0.17143	0.17069	0.19039
6.0	1.0	0.7424	0.59633	0.70431	0.1893	0.66345	0.74027	0.90533	0.74458	0.00015	0.78436	0.43454	0.66667	0.20224	0.19271
7.0	1.0	0.7573	0.61401	0.70212	0.18269	0.68968	0.75648	0.86356	0.75812	0.00016	0.8092	0.44987	0.66667	0.21272	0.2034
8.0	1.0	0.78532	0.65058	0.73988	0.14943	0.73082	0.78444	0.74848	0.78621	0.00018	0.84003	0.48927	0.66667	0.23404	0.20486
9.0	1.0	0.8126	0.68824	0.76387	0.12257	0.76882	0.8117	0.64193	0.8135	0.0002	0.86729	0.53276	0.66667	0.2485	0.22179
10.0	1.0	0.81936	0.69639	0.74418	0.11436	0.77922	0.81802	0.60792	0.8207	0.00021	0.87577	0.54118	2.0	0.231	0.22367
11.0	1.0	0.83235	0.71453	0.84001	0.11759	0.80059	0.831	0.59686	0.8337	0.00024	0.89742	0.56204	2.0	0.20083	0.23917
12.0	1.0	0.83362	0.71728	0.81816	0.12074	0.80337	0.83287	0.61513	0.83438	0.00024	0.90219	0.56525	2.0	0.2105	0.24364
13.0	1.0	0.83638	0.72095	0.80778	0.121	0.80822	0.83567	0.62762	0.8371	0.00025	0.90791	0.56898	2.0	0.20363	0.25272
14.0	1.0	0.83382	0.71667	0.81225	0.12589	0.80752	0.83309	0.63858	0.83455	0.00027	0.91267	0.56309	2.0	0.19883	0.25551
15.0	1.0	0.83358	0.71566	0.79206	0.12157	0.80816	0.83289	0.62853	0.83426	0.00028	0.91507	0.56071	2.0	0.2001	0.267
16.0	1.0	0.87829	0.7838	0.88244	0.10815	0.86124	0.87772	0.54268	0.87886	0.00032	0.94151	0.64786	2.0	0.20957	0.26826
17.0	1.0	0.88937	0.80161	0.89064	0.09951	0.87424	0.88889	0.50539	0.88986	0.00033	0.94781	0.67222	2.0	0.20915	0.26961
18.0	1.0	0.90209	0.8223	0.9151	0.09726	0.8892	0.90148	0.48943	0.9027	0.00034	0.95497	0.7019	2.0	0.2022	0.2739
19.0	1.0	0.90612	0.82922	0.90812	0.09539	0.89392	0.90574	0.47921	0.90651	0.00035	0.95747	0.71164	2.0	0.20747	0.28306
20.0	1.0	0.91547	0.84485	0.91834	0.09166	0.90474	0.91512	0.45155	0.91582	0.00036	0.96241	0.7345	2.0	0.21211	0.28525

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.50, Tp: 0.25, complete link

Standard deviation of Huberts index versus number of clusters
gap: 0.50, Tp: 0.25, complete link

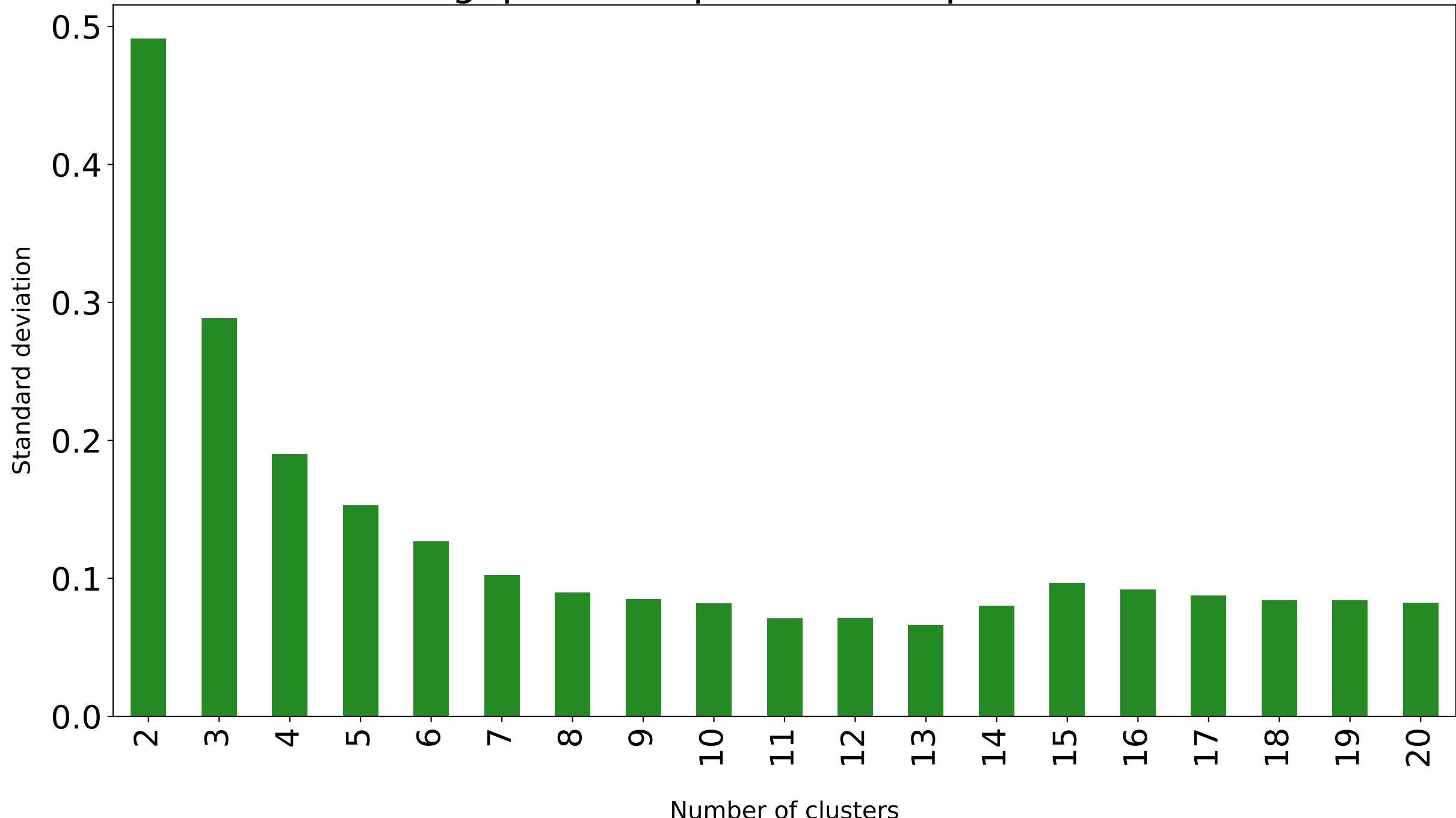Hierarchical Clustering Dendrogram - gap: 0.60, Tp: 0.25, complete link

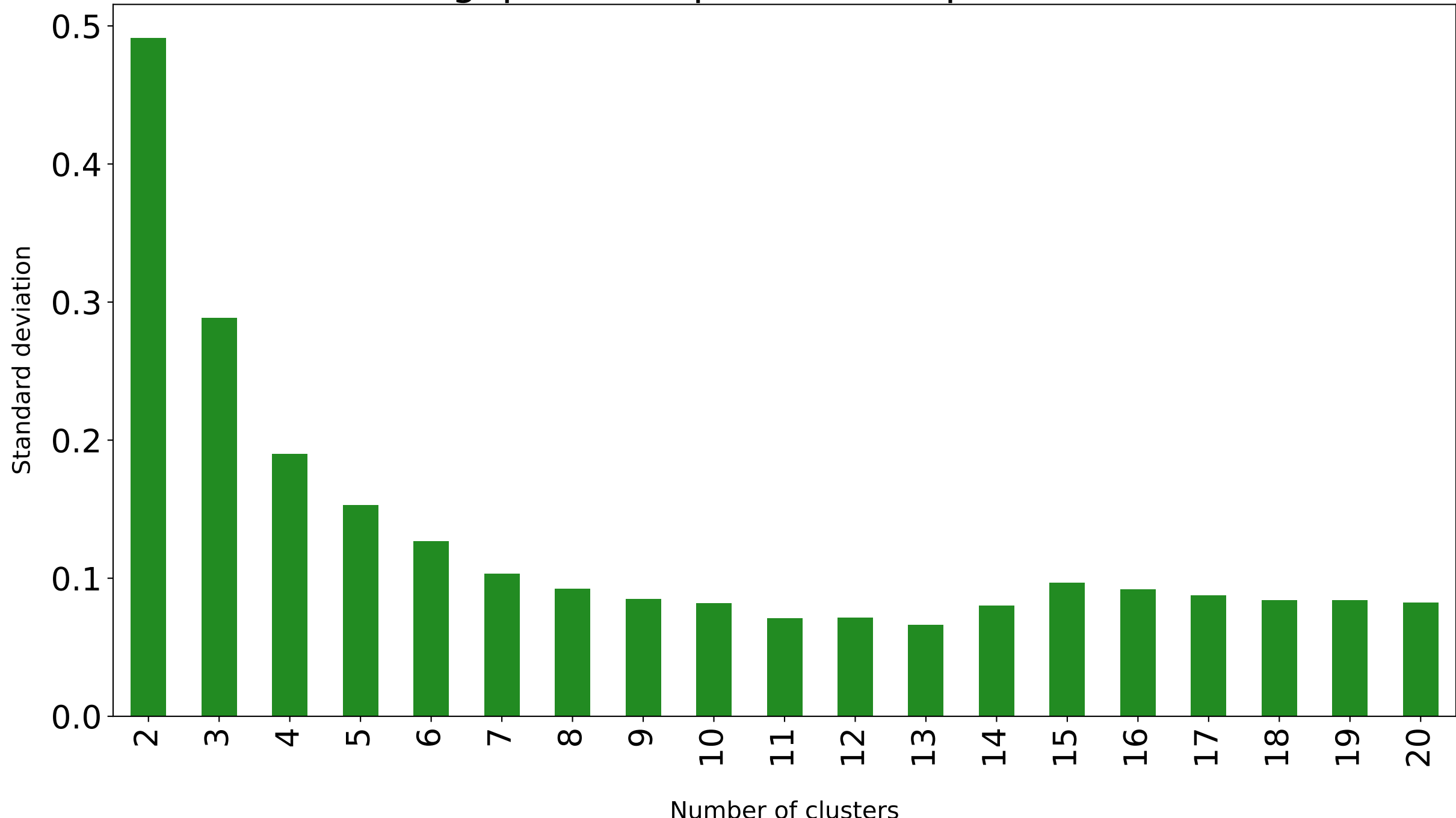Cophenetic Correlation Coefficient: 0.6332444160071892

Average values of five clustering indices
gap: 0.60, Tp: 0.25, complete link

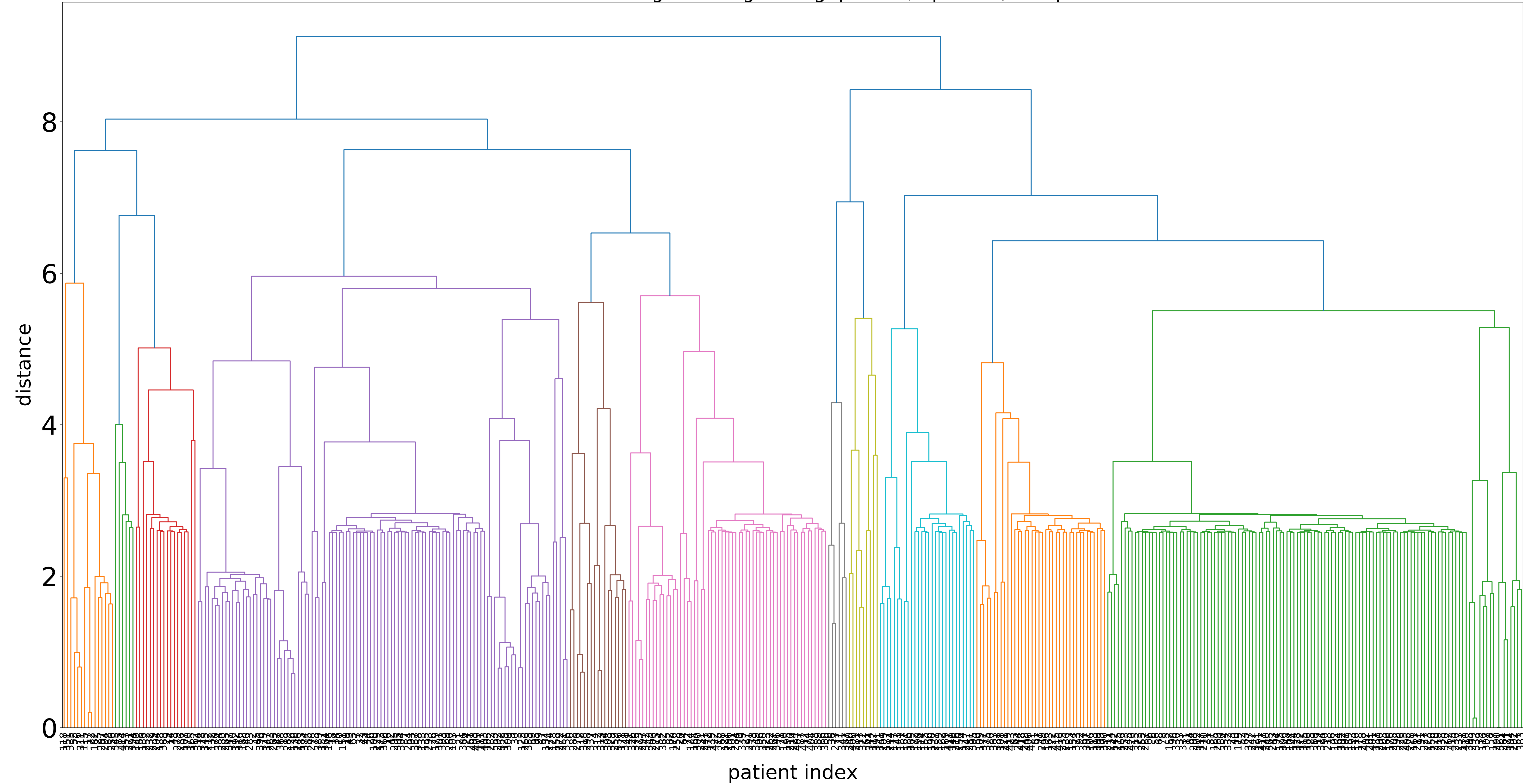| k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99989	0.61092	0.4361	0.12233	0.30239	0.10879	0.60379	1.08058	0.61834	2e-05	0.38741	0.28183	0.08621	0.12412	0.18894
3.0	1.00005	0.56256	0.3924	0.16916	0.3254	0.18022	0.55894	1.30653	0.56624	3e-05	0.42215	0.24785	0.30769	0.1626	0.19114
4.0	1.00001	0.5456	0.37628	0.25919	0.32723	0.28339	0.5424	1.4503	0.54884	5e-05	0.50136	0.23486	0.51064	0.13558	0.20468
5.0	1.00001	0.61331	0.44629	0.45008	0.25497	0.45321	0.61129	1.25958	0.61536	9e-05	0.63244	0.2925	0.51064	0.17589	0.19103
6.0	1.0	0.63101	0.46399	0.45834	0.23406	0.49493	0.62846	1.20164	0.63358	0.0001	0.66804	0.30717	0.66667	0.18539	0.20534
7.0	1.0	0.69185	0.53233	0.58295	0.19797	0.59938	0.6903	1.04005	0.6934	0.00013	0.75089	0.36816	0.66667	0.19265	0.20714
8.0	1.0	0.70414	0.54503	0.57384	0.18542	0.62182	0.70157	0.97997	0.70672	0.00014	0.76956	0.37972	0.66667	0.22505	0.21645
9.0	1.0	0.70362	0.54119	0.55157	0.18342	0.6259	0.69893	0.96026	0.70835	0.00015	0.77504	0.37531	1.33333	0.2337	0.21799
10.0	1.0	0.7065	0.54256	0.54959	0.18421	0.63613	0.70086	0.93841	0.7122	0.00016	0.78876	0.3756	1.33333	0.21578	0.22751
11.0	1.0	0.78679	0.65071	0.71973	0.14526	0.74364	0.78588	0.76073	0.78771	0.00021	0.86551	0.48717	1.33333	0.2166	0.23866
12.0	1.0	0.80913	0.6804	0.82337	0.14062	0.77601	0.80763	0.73439	0.81063	0.00024	0.89179	0.52026	1.33333	0.2042	0.25233
13.0	1.0	0.82036	0.69715	0.8186	0.13116	0.79018	0.81949	0.69887	0.82123	0.00025	0.9011	0.53981	1.33333	0.20232	0.25266
14.0	1.0	0.82576	0.70471	0.82576	0.13151	0.79825	0.8248	0.69136	0.82674	0.00027	0.90855	0.5487	1.33333	0.20882	0.25716
15.0	1.0	0.83935	0.72475	0.81787	0.12496	0.81488	0.83879	0.65473	0.83991	0.00028	0.91822	0.57234	1.33333	0.21759	0.26513
16.0	1.0	0.84773	0.73648	0.80347	0.12179	0.82531	0.84707	0.63633	0.8484	0.00029	0.92431	0.58593	2.0	0.21899	0.26763
17.0	1.0	0.85979	0.75473	0.82778	0.11911	0.84018	0.8594	0.62635	0.86019	0.00031	0.93323	0.60836	2.0	0.21962	0.26768
18.0	1.0	0.89162	0.80523	0.88946	0.11305	0.87733	0.89125	0.56737	0.89198	0.00034	0.95051	0.67687	2.0	0.20894	0.27201
19.0	1.0	0.90015	0.81916	0.89852	0.1096	0.88733	0.89983	0.54241	0.90047	0.00035	0.95536	0.6964	2.0	0.21704	0.27245
20.0	1.0	0.90853	0.83302	0.90463	0.10249	0.89707	0.90828	0.51485	0.90879	0.00036	0.95992	0.71621	2.0	0.2164	0.2746

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.60, Tp: 0.25, complete link

Standard deviation of Huberts index versus number of clusters
gap: 0.60, Tp: 0.25, complete link

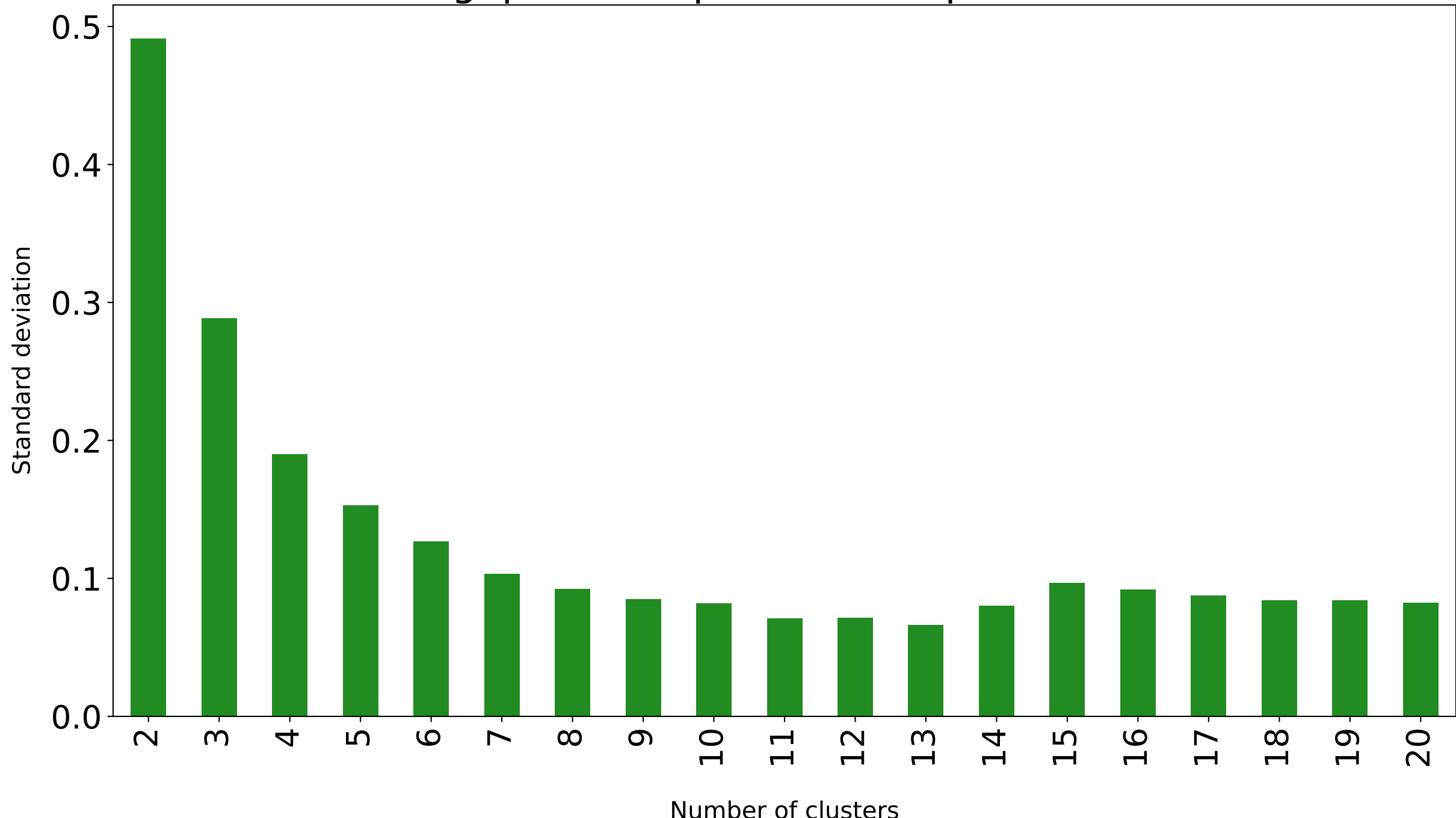Hierarchical Clustering Dendrogram - gap: 0.70, Tp: 0.25, complete link

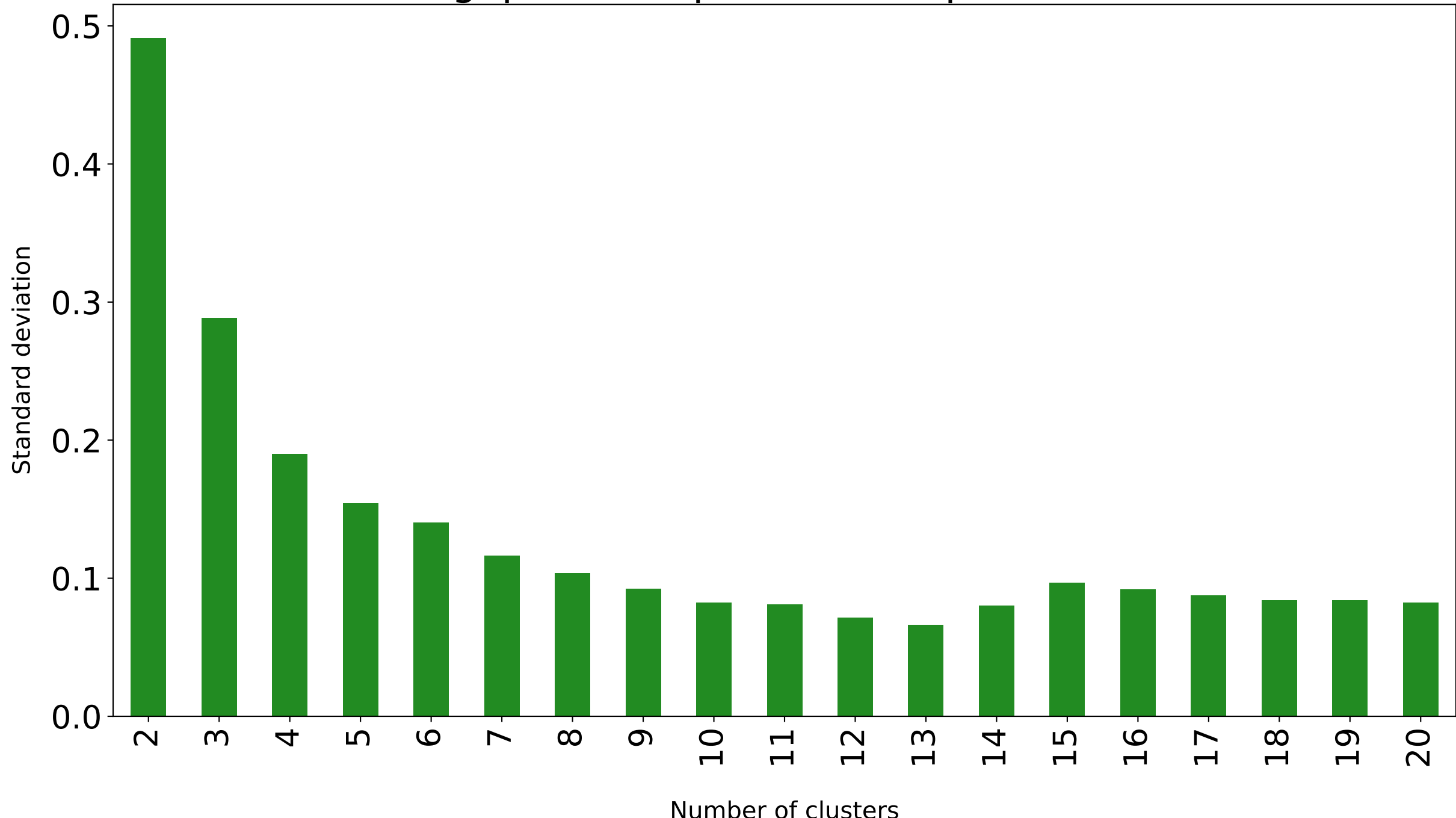Cophenetic Correlation Coefficient: 0.6307419544840157

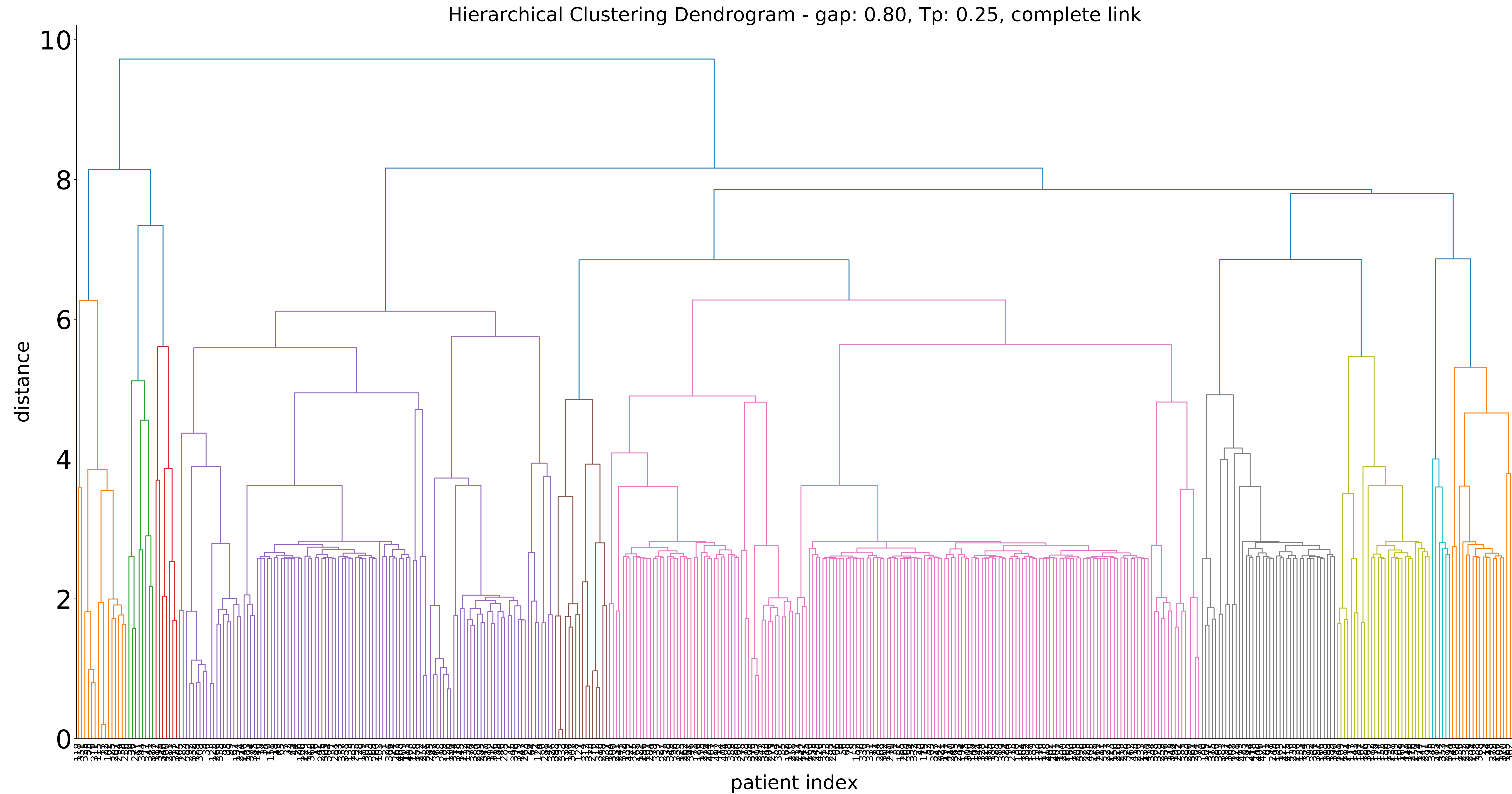## Average values of five clustering indices
gap: 0.70, Tp: 0.25, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99988	0.62526	0.44511	0.10788	0.29025	0.09484	0.61364	1.03365	0.63738	2e-05	0.37908	0.28817	0.05005	0.12552	0.18996
3.0	1.00003	0.57317	0.40185	0.18112	0.31799	0.17515	0.56985	1.28529	0.57655	3e-05	0.41743	0.25397	0.14815	0.15379	0.19912
4.0	1.00002	0.54767	0.37935	0.25245	0.33252	0.25985	0.5452	1.45728	0.55018	4e-05	0.48147	0.2375	0.34188	0.12576	0.20966
5.0	1.00001	0.59768	0.43213	0.42522	0.27282	0.41881	0.59582	1.3456	0.59956	8e-05	0.60594	0.28258	0.34188	0.15871	0.19423
6.0	1.00001	0.61308	0.44619	0.4267	0.24958	0.46068	0.61037	1.27269	0.61581	9e-05	0.64169	0.29328	0.37037	0.19688	0.21077
7.0	1.0	0.65118	0.48681	0.52164	0.2274	0.54117	0.64924	1.17796	0.65314	0.00012	0.71351	0.32762	0.37037	0.20452	0.21323
8.0	1.0	0.6683	0.50323	0.51573	0.21216	0.57266	0.66471	1.11771	0.67193	0.00013	0.7381	0.34165	0.37037	0.22142	0.21886
9.0	1.0	0.67605	0.50876	0.50773	0.19933	0.58799	0.67048	1.06312	0.68169	0.00014	0.74985	0.34547	0.37037	0.24736	0.22662
10.0	1.0	0.67769	0.50912	0.50963	0.19773	0.59647	0.6714	1.03839	0.68407	0.00014	0.76215	0.34509	0.37037	0.23049	0.23025
11.0	1.0	0.76185	0.61829	0.67749	0.15531	0.7123	0.76046	0.84076	0.76326	0.0002	0.84744	0.45357	0.37037	0.23037	0.24833
12.0	1.0	0.77819	0.63852	0.74438	0.15137	0.73759	0.77753	0.83001	0.77885	0.00022	0.87115	0.47217	0.37037	0.21569	0.25217
13.0	1.0	0.78398	0.64572	0.72746	0.1474	0.74583	0.78317	0.80442	0.7848	0.00023	0.87765	0.47953	2.0	0.21581	0.25532
14.0	1.0	0.80749	0.67871	0.76812	0.13839	0.77646	0.80682	0.74628	0.80816	0.00026	0.89819	0.51728	2.0	0.21147	0.25956
15.0	1.0	0.80587	0.6766	0.76855	0.14263	0.77639	0.80524	0.76088	0.80649	0.00027	0.90232	0.51507	2.0	0.21535	0.26356
16.0	1.0	0.81153	0.68409	0.76116	0.13736	0.78363	0.81075	0.74046	0.81231	0.00028	0.90685	0.5233	2.0	0.22614	0.26891
17.0	1.0	0.87397	0.77711	0.89376	0.12726	0.85723	0.87296	0.63497	0.87498	0.00033	0.94179	0.64035	2.0	0.21728	0.27381
18.0	1.0	0.88124	0.78882	0.88986	0.12547	0.8657	0.88065	0.61941	0.88184	0.00033	0.94609	0.65541	2.0	0.21179	0.27455
19.0	1.0	0.89174	0.80575	0.89346	0.12065	0.87787	0.89139	0.5894	0.89209	0.00034	0.95179	0.67826	2.0	0.20014	0.28025
20.0	1.0	0.89946	0.81831	0.89439	0.11438	0.88679	0.89925	0.56058	0.89967	0.00035	0.95588	0.69552	2.0	0.20081	0.28109

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.70, Tp: 0.25, complete link

Standard deviation of Huberts index versus number of clusters
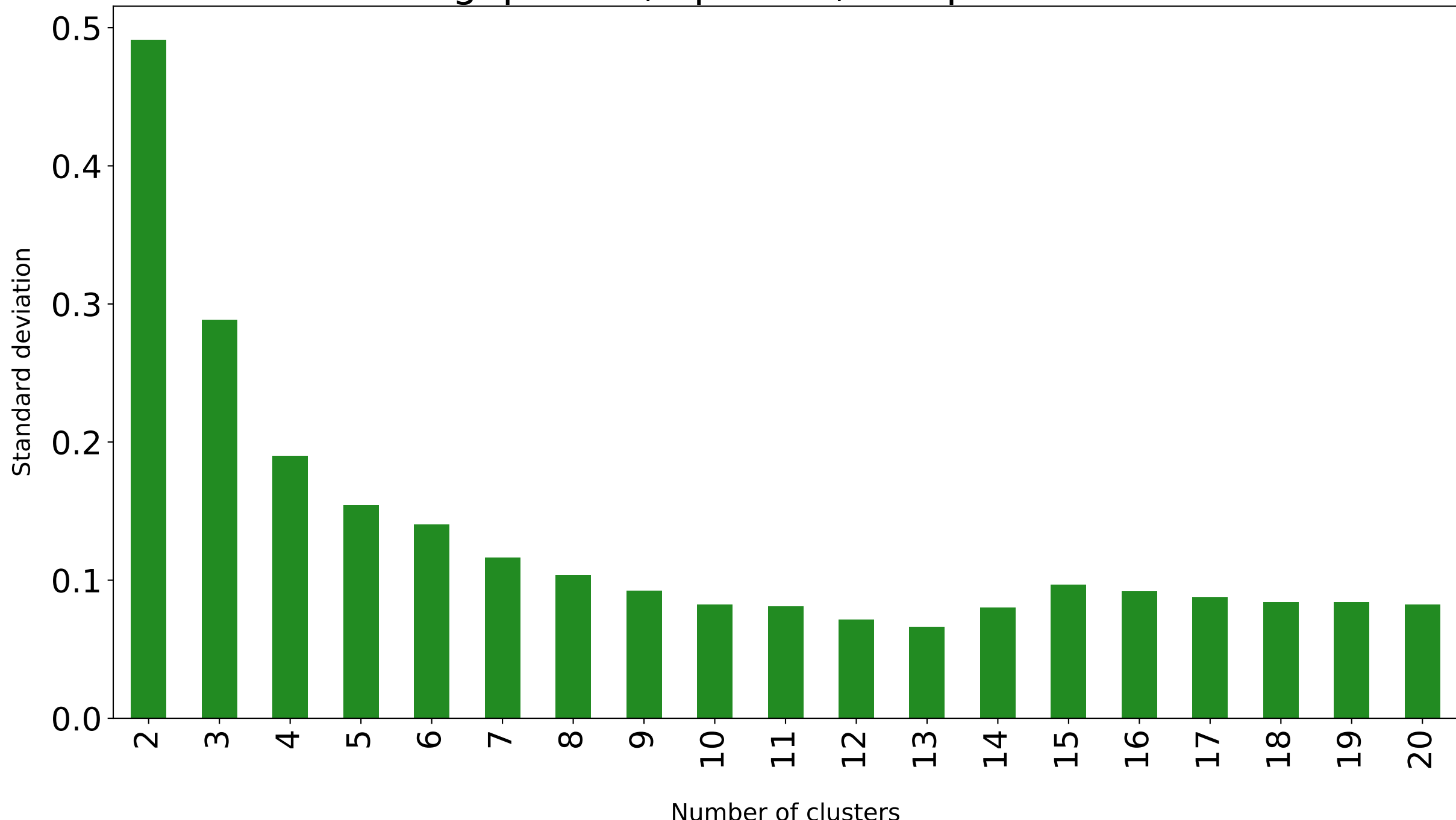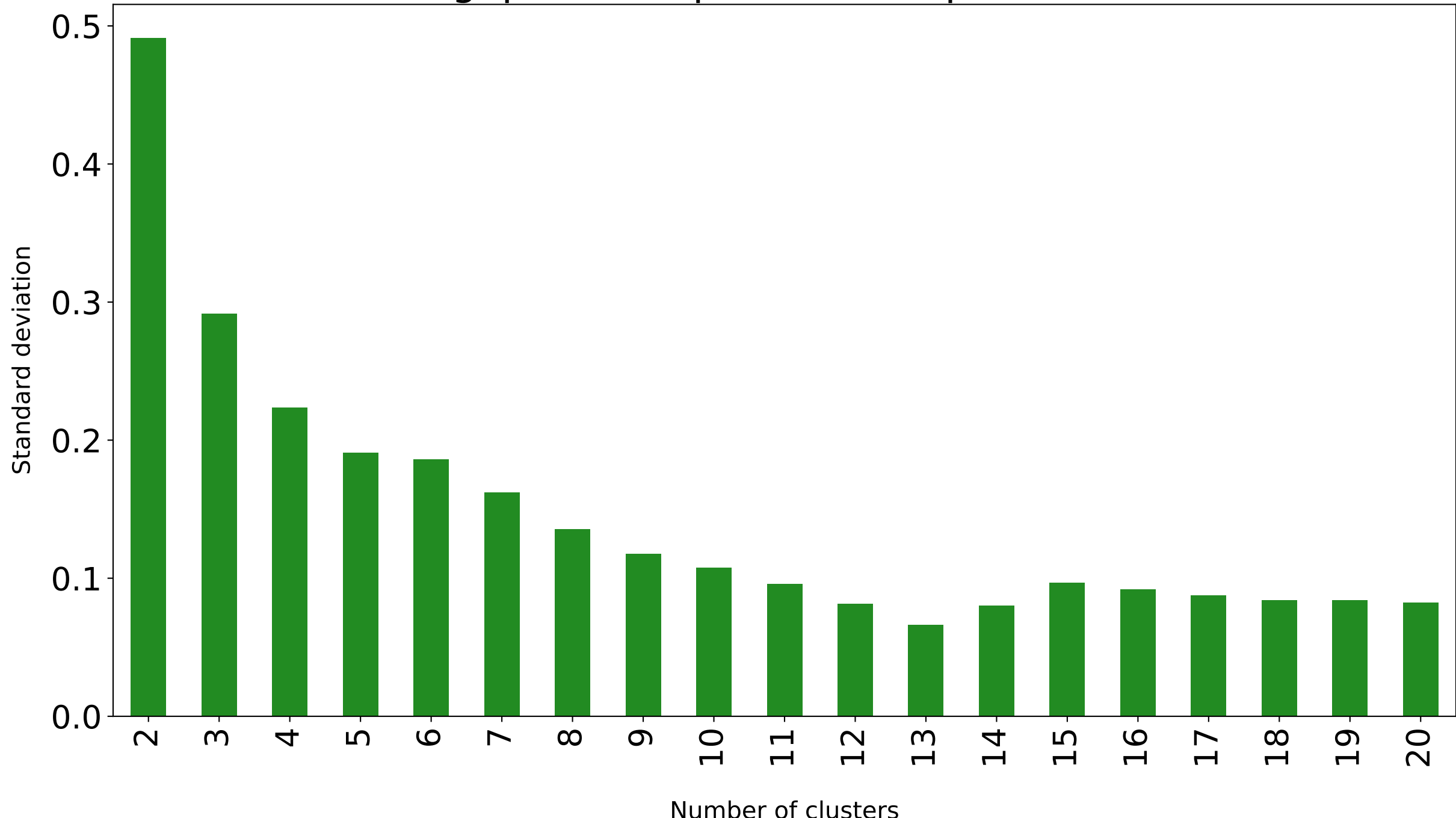gap: 0.70, Tp: 0.25, complete link

Hierarchical Clustering Dendrogram - gap: 0.80, Tp: 0.25, complete link

Cophenetic Correlation Coefficient: 0.6876095268562388

Average values of five clustering indices
gap: 0.80, Tp: 0.25, complete link

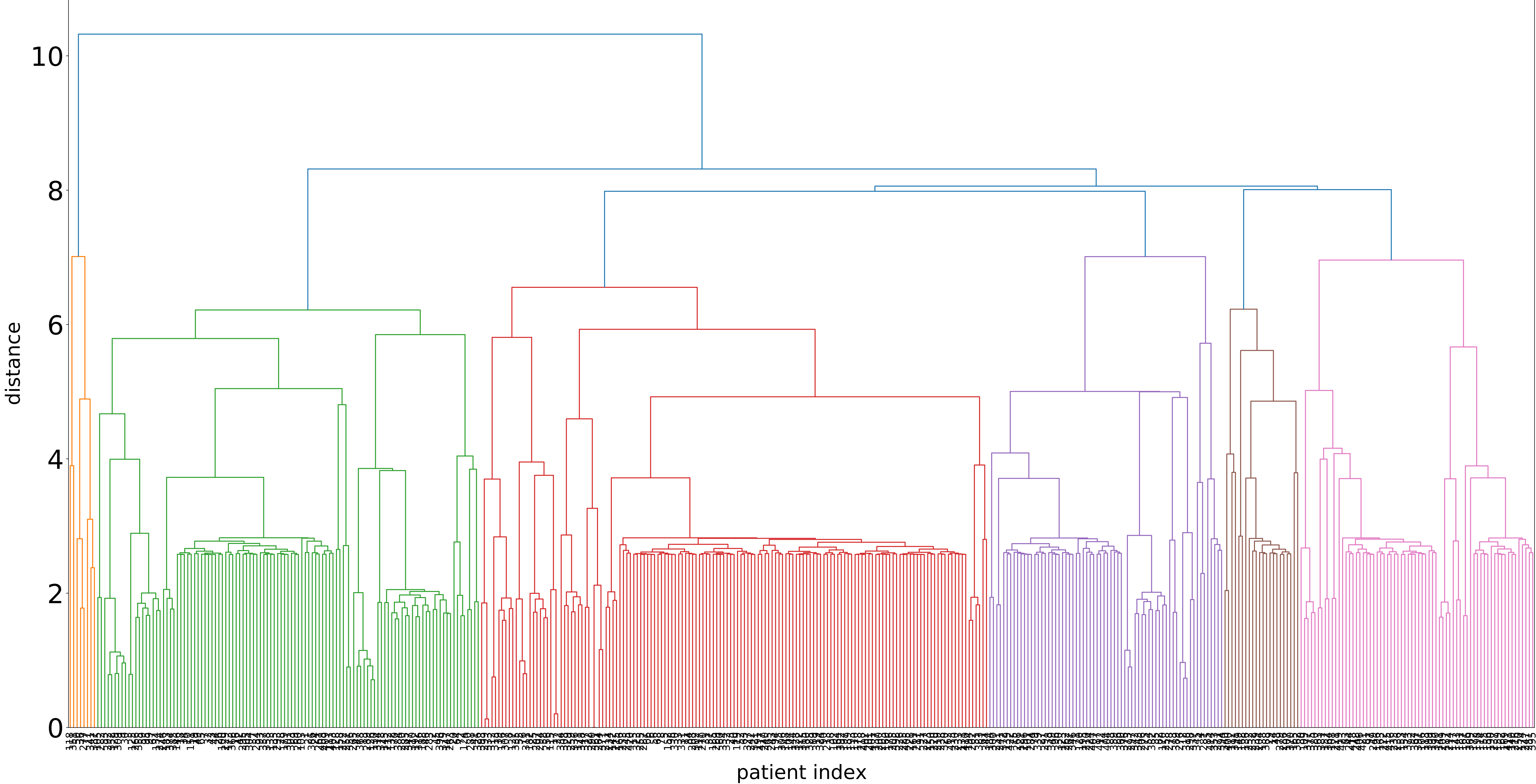| k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.84808	0.7441	0.43175	0.1049	0.29454	0.841	0.51886	0.85534	0.00014	0.63937	0.62229	0.07407	0.13067	0.21284
3.0	0.99983	0.67202	0.52001	0.31171	0.23179	0.31384	0.66938	1.02608	0.67469	5e-05	0.50635	0.37178	0.07407	0.1623	0.21335
4.0	1.00004	0.6156	0.44582	0.23077	0.25728	0.30466	0.60749	1.17227	0.62389	5e-05	0.48336	0.29511	0.2963	0.21088	0.22118
5.0	1.00001	0.64769	0.48972	0.47433	0.24409	0.48134	0.64552	1.12158	0.64989	9e-05	0.63661	0.33766	0.2963	0.19068	0.22282
6.0	1.0	0.67125	0.51629	0.49949	0.22301	0.53902	0.66822	1.04336	0.67431	0.0001	0.6858	0.3638	0.2963	0.19613	0.23663
7.0	1.0	0.68443	0.52474	0.48829	0.21013	0.57155	0.67772	0.99658	0.69124	0.00012	0.7094	0.36926	0.31746	0.20925	0.25314
8.0	1.0	0.67639	0.50702	0.45528	0.21049	0.57173	0.66511	0.99862	0.68792	0.00012	0.71137	0.34869	0.37037	0.24169	0.25329
9.0	1.0	0.67746	0.50353	0.45287	0.18682	0.5821	0.66387	0.92578	0.69141	0.00013	0.72354	0.34286	0.37037	0.25587	0.25367
10.0	1.0	0.68722	0.51742	0.48833	0.18291	0.60451	0.67639	0.90337	0.69827	0.00014	0.75392	0.35592	0.37037	0.24084	0.27042
11.0	1.0	0.79606	0.66616	0.72253	0.12777	0.75293	0.79453	0.68325	0.79759	0.00021	0.86644	0.50984	0.37037	0.23662	0.27064
12.0	1.0	0.79536	0.66183	0.6955	0.12547	0.75422	0.79271	0.66483	0.79804	0.00021	0.8693	0.50214	2.0	0.23598	0.27744
13.0	1.0	0.80826	0.68068	0.76886	0.12973	0.77442	0.80756	0.68817	0.80897	0.00024	0.89092	0.52115	2.0	0.22997	0.28979
14.0	1.0	0.8195	0.69586	0.76395	0.12322	0.78911	0.81852	0.65331	0.82049	0.00025	0.90044	0.5383	2.0	0.23381	0.28051
15.0	1.0	0.85515	0.74906	0.84231	0.1154	0.83301	0.85448	0.57913	0.85582	0.00029	0.92563	0.60437	2.0	0.2203	0.28188
16.0	1.0	0.86567	0.76487	0.8331	0.11185	0.84569	0.86508	0.55828	0.86625	0.0003	0.93246	0.62408	2.0	0.21647	0.28262
17.0	1.0	0.89694	0.81469	0.8998	0.10149	0.88267	0.89643	0.509	0.89745	0.00033	0.95075	0.69235	2.0	0.21605	0.2891
18.0	1.0	0.90264	0.82419	0.90149	0.09828	0.88946	0.90224	0.49299	0.90304	0.00033	0.95439	0.70591	2.0	0.22434	0.2974
19.0	1.0	0.90495	0.82789	0.89346	0.09734	0.8923	0.90465	0.48682	0.90525	0.00034	0.95619	0.71064	2.0	0.22755	0.30875
20.0	1.0	0.903	0.82423	0.87985	0.09901	0.8903	0.90266	0.49097	0.90334	0.00034	0.95588	0.70461	2.0	0.2254	0.3195

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.80, Tp: 0.25, complete link

Standard deviation of Huberts index versus number of clusters
gap: 0.80, Tp: 0.25, complete link

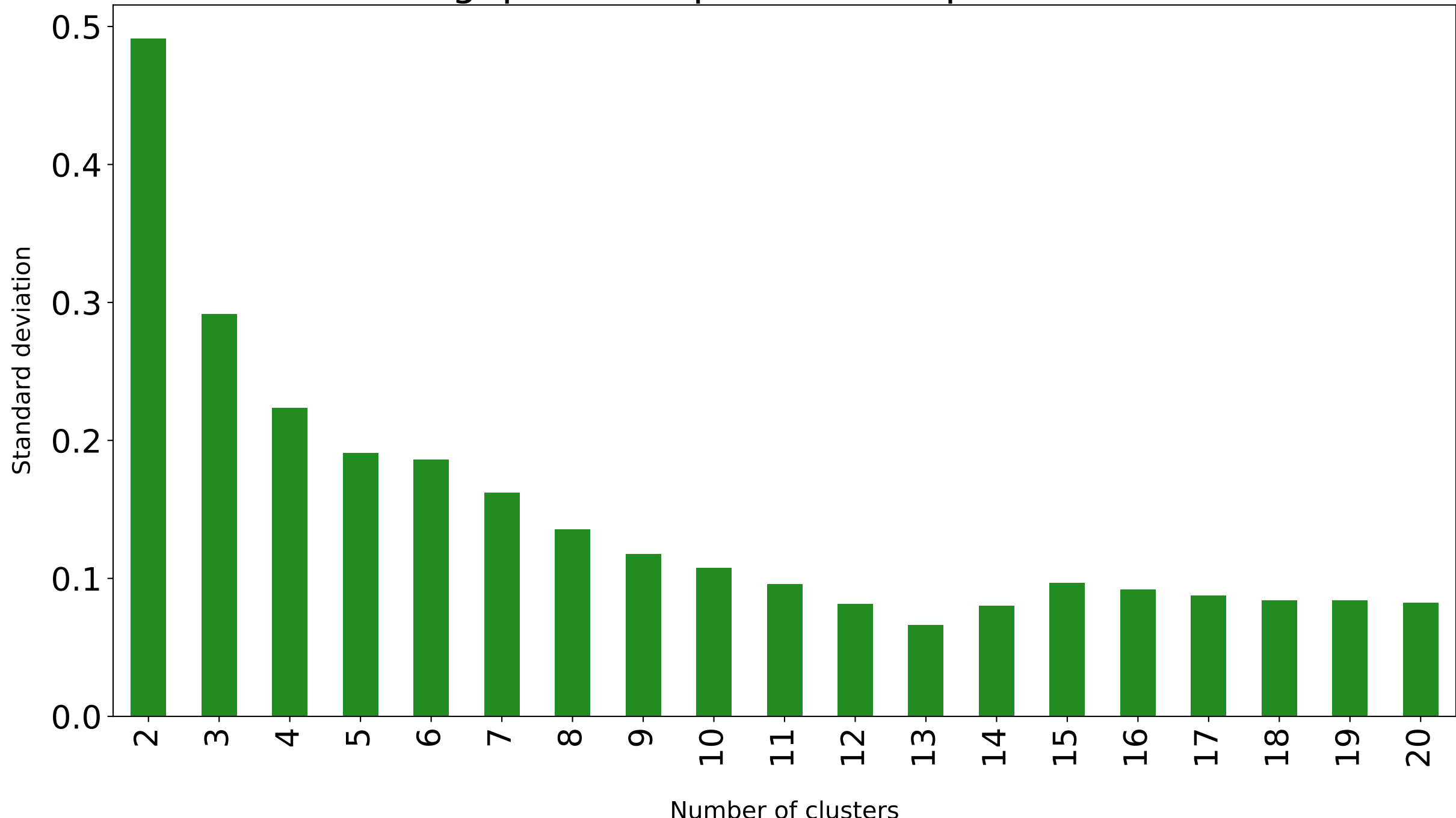Hierarchical Clustering Dendrogram - gap: 0.90, Tp: 0.25, complete link

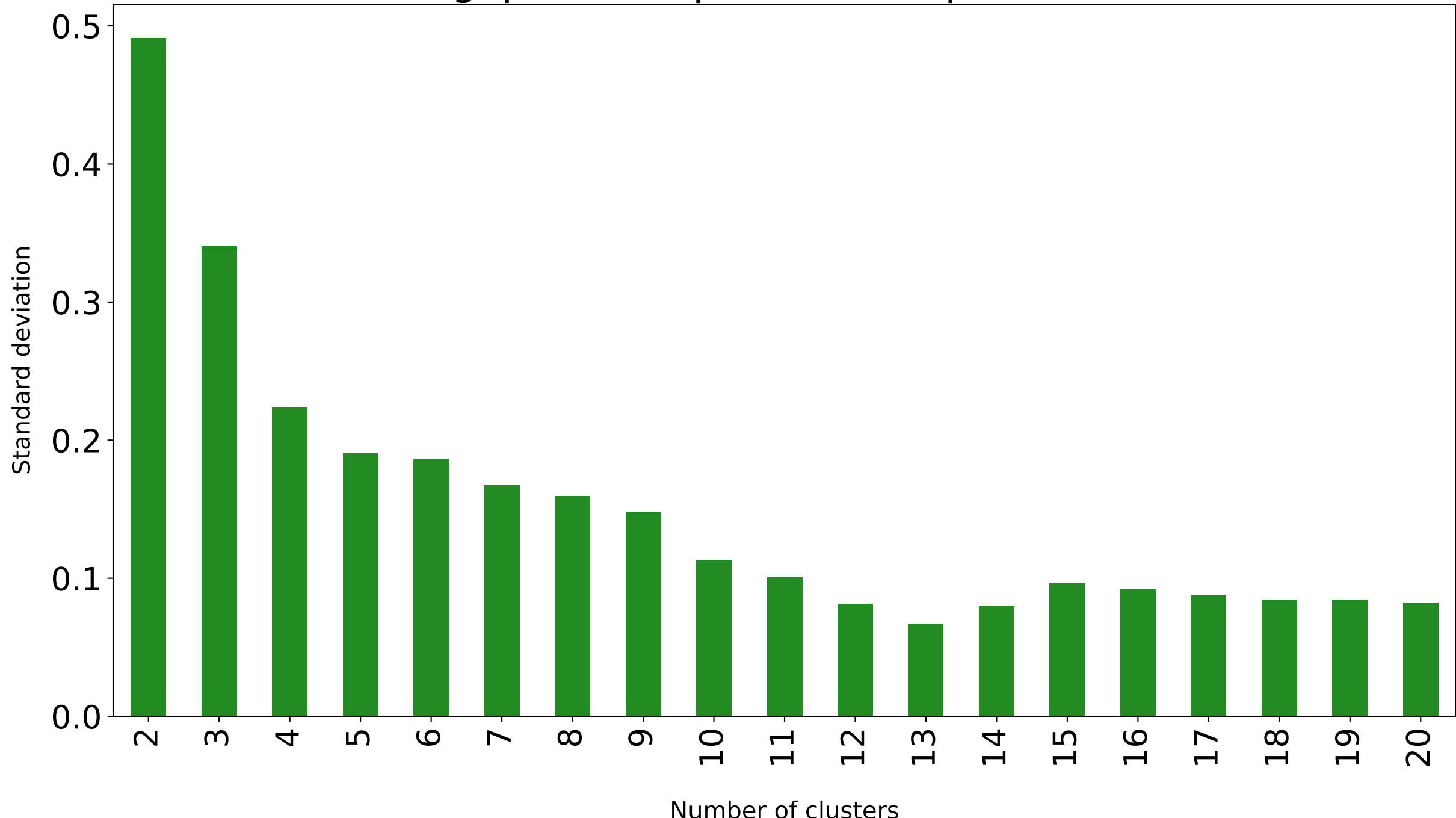Cophenetic Correlation Coefficient: 0.7298357740390699

Average values of five clustering indices
gap: 0.90, Tp: 0.25, complete link

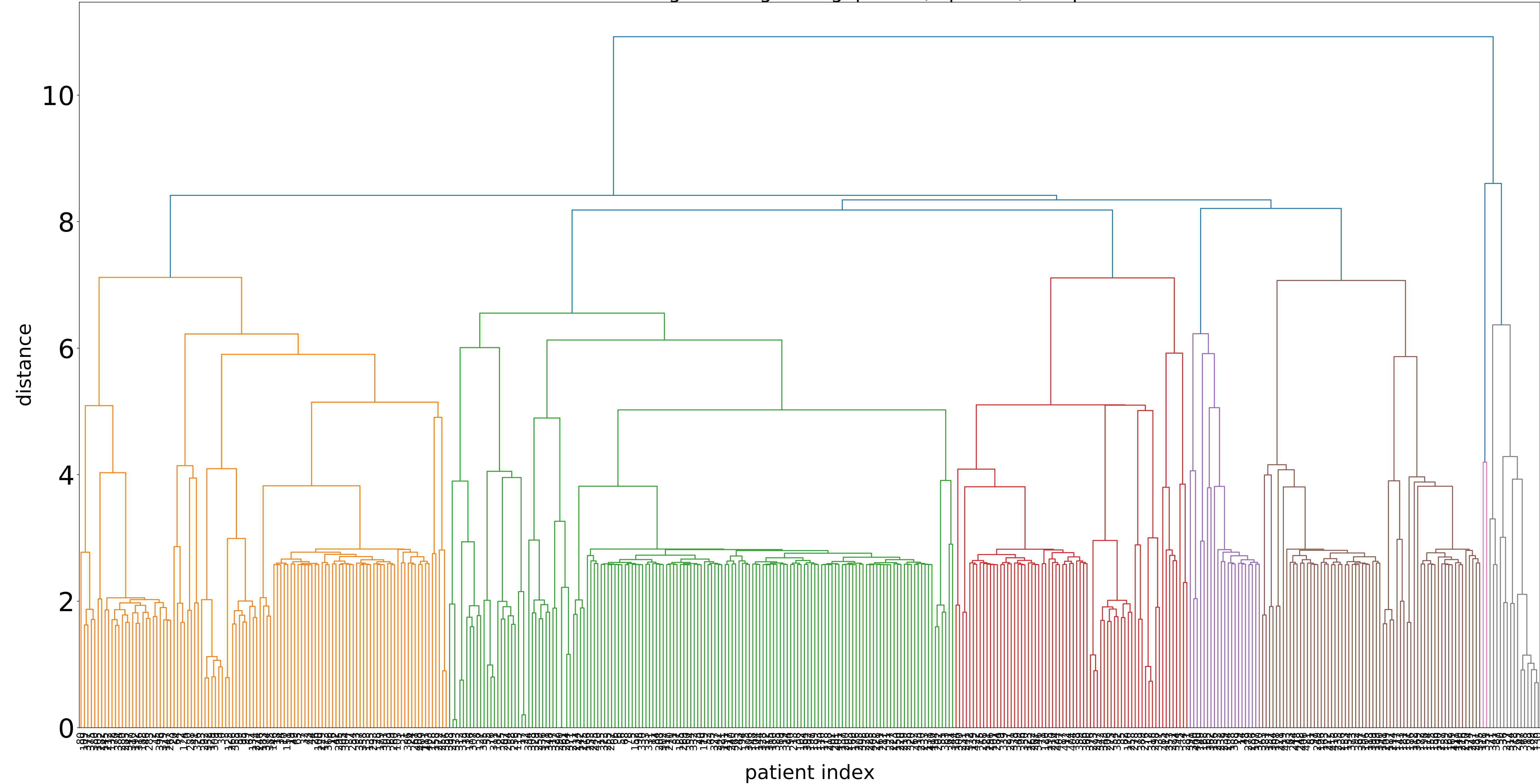| k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.89541	0.81618	0.39542	0.07006	0.48287	0.88595	0.31933	0.90523	0.00044	0.7348	0.72976	0.0	0.34189	0.22096
3.0	0.99997	0.74563	0.61189	0.40615	0.17587	0.40227	0.74115	0.74087	0.75019	7e-05	0.56971	0.47385	0.00729	0.25249	0.22795
4.0	0.99999	0.66714	0.51136	0.47447	0.2207	0.45691	0.6641	0.97166	0.67023	8e-05	0.59724	0.35935	0.04938	0.22295	0.22944
5.0	1.00001	0.67867	0.52284	0.47085	0.20428	0.51689	0.67523	0.94793	0.68215	9e-05	0.64908	0.36851	0.40404	0.21964	0.23015
6.0	1.0	0.74718	0.61035	0.69732	0.16462	0.65852	0.74471	0.83083	0.74969	0.00014	0.77064	0.46198	0.40404	0.22727	0.26205
7.0	1.0	0.76659	0.63596	0.68508	0.15414	0.69068	0.76503	0.78873	0.76815	0.00015	0.7981	0.48878	2.0	0.22751	0.26209
8.0	1.0	0.78033	0.65278	0.68058	0.14695	0.71461	0.77836	0.7492	0.78231	0.00016	0.81846	0.50598	2.0	0.23255	0.26402
9.0	1.0	0.80206	0.68119	0.70294	0.12092	0.74835	0.79986	0.65737	0.80427	0.00018	0.84513	0.5377	2.0	0.24831	0.28037
10.0	1.0	0.80673	0.68404	0.7535	0.11913	0.76143	0.80553	0.6377	0.80793	0.0002	0.86376	0.53434	2.0	0.22923	0.28852
11.0	1.0	0.8159	0.69457	0.73395	0.11204	0.77541	0.81404	0.59467	0.81776	0.00021	0.87462	0.54514	2.0	0.22703	0.28906
12.0	1.0	0.80664	0.67964	0.77463	0.12768	0.76957	0.8058	0.65838	0.80748	0.00023	0.88266	0.52199	2.0	0.21514	0.2979
13.0	1.0	0.8315	0.71417	0.82339	0.12033	0.80239	0.83052	0.6127	0.83248	0.00025	0.90482	0.56194	2.0	0.21448	0.30193
14.0	1.0	0.8486	0.73993	0.82318	0.11353	0.82358	0.84779	0.5774	0.8494	0.00027	0.9173	0.59417	2.0	0.22083	0.28928
15.0	1.0	0.86029	0.75685	0.81926	0.10541	0.83809	0.85947	0.53916	0.8611	0.00028	0.92576	0.61462	2.0	0.22936	0.29012
16.0	1.0	0.88565	0.7968	0.87318	0.09668	0.86871	0.88519	0.49703	0.88612	0.00031	0.94245	0.66777	2.0	0.22905	0.29368
17.0	1.0	0.88937	0.80235	0.86637	0.09567	0.87325	0.88894	0.49025	0.8898	0.00031	0.94506	0.67459	2.0	0.23673	0.29655
18.0	1.0	0.89335	0.80888	0.86573	0.09309	0.87816	0.89292	0.47884	0.89378	0.00032	0.948	0.68403	2.0	0.2421	0.29932
19.0	1.0	0.89266	0.80738	0.85365	0.09325	0.87767	0.89208	0.47831	0.89323	0.00032	0.94838	0.68162	2.0	0.24425	0.33299
20.0	1.0	0.89171	0.80576	0.85165	0.09455	0.87699	0.8911	0.47577	0.89231	0.00033	0.94911	0.67928	2.0	0.23209	0.33482

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.90, Tp: 0.25, complete link

Standard deviation of Huberts index versus number of clusters
gap: 0.90, Tp: 0.25, complete link

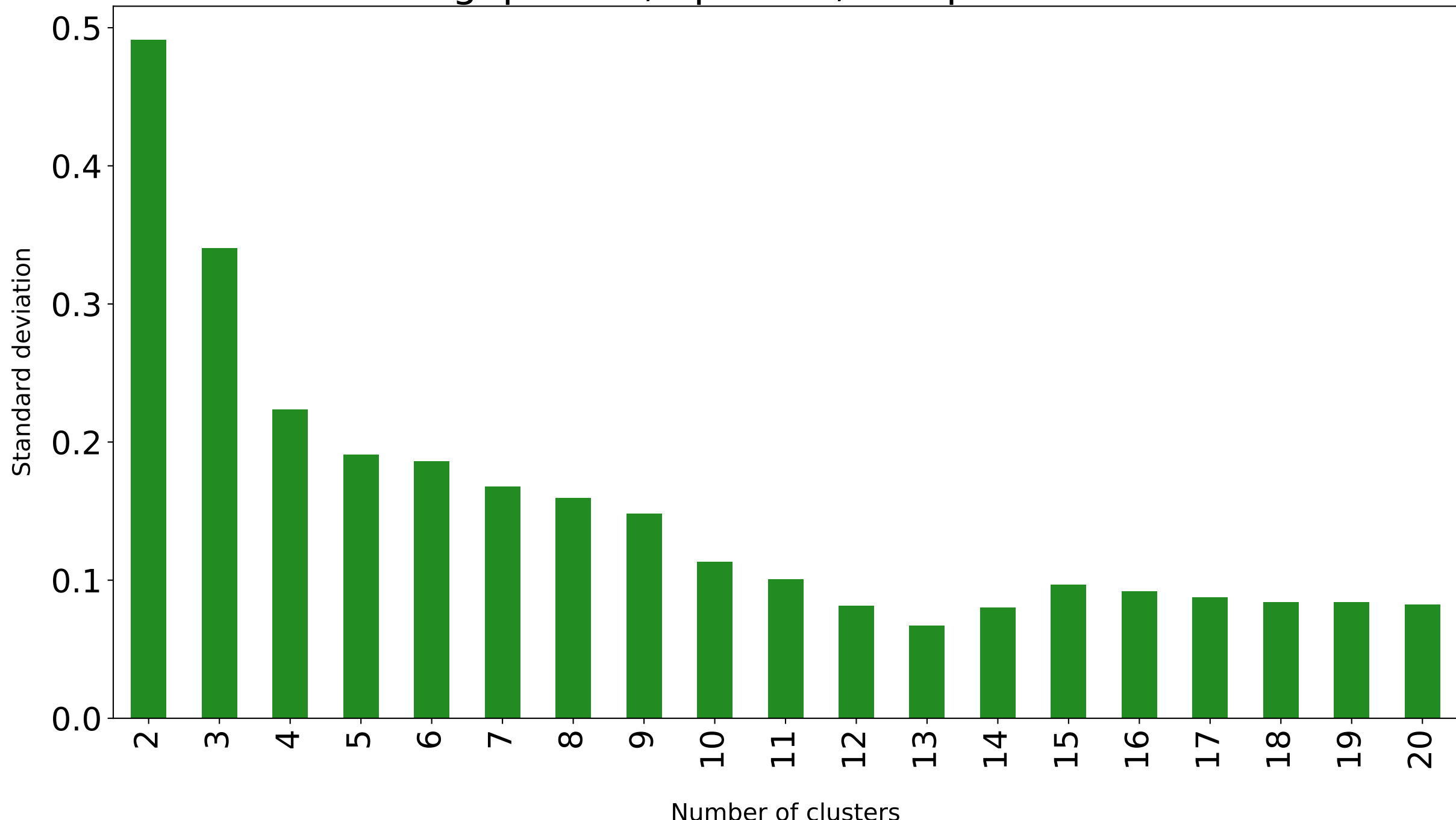Hierarchical Clustering Dendrogram - gap: 1.00, Tp: 0.25, complete link

patient index

Cophenetic Correlation Coefficient: 0.6886325360317476

Average values of five clustering indices
gap: 1.00, Tp: 0.25, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.92155	0.86073	0.59198	0.05471	0.49613	0.91702	0.29134	0.92621	0.00033	0.79052	0.78292	0.13072	0.27114	0.20692
3.0	0.99999	0.77565	0.61954	0.14685	0.15235	0.24856	0.75365	0.66093	0.79873	9e-05	0.49303	0.47227	2.0	0.30032	0.21155
4.0	1.0	0.65789	0.49008	0.25527	0.22321	0.35459	0.64572	0.99002	0.67043	6e-05	0.50305	0.33855	2.0	0.24111	0.21336
5.0	1.00001	0.6741	0.51681	0.45685	0.21331	0.50564	0.66991	0.98453	0.67836	9e-05	0.63925	0.36378	2.0	0.2272	0.21689
6.0	1.00001	0.68968	0.52602	0.4588	0.19534	0.55497	0.68125	0.92724	0.69826	0.00011	0.67558	0.36702	2.0	0.22974	0.21754
7.0	1.0	0.78829	0.66357	0.71857	0.14499	0.72126	0.78703	0.75579	0.78957	0.00016	0.81879	0.51605	2.0	0.2384	0.2501
8.0	1.0	0.7695	0.63531	0.7222	0.15923	0.70511	0.76836	0.81383	0.77066	0.00017	0.81919	0.47943	2.0	0.21442	0.25037
9.0	1.0	0.77655	0.64426	0.71828	0.15635	0.71767	0.77554	0.78223	0.77757	0.00017	0.8314	0.4887	2.0	0.21977	0.25182
10.0	1.0	0.7976	0.67244	0.74221	0.12532	0.74842	0.79651	0.6827	0.79871	0.00019	0.85469	0.52043	2.0	0.23486	0.27165
11.0	1.0	0.79759	0.66699	0.79623	0.12903	0.75616	0.79586	0.68572	0.79935	0.00021	0.87014	0.5089	2.0	0.22337	0.27955
12.0	1.0	0.81088	0.68547	0.77568	0.12351	0.77423	0.80996	0.65913	0.8118	0.00023	0.88405	0.52887	2.0	0.21895	0.28584
13.0	1.0	0.81558	0.69061	0.75726	0.11957	0.78134	0.81438	0.63558	0.81678	0.00023	0.89003	0.53313	2.0	0.21893	0.28603
14.0	1.0	0.82457	0.70264	0.75905	0.11796	0.79397	0.82323	0.62564	0.82592	0.00025	0.89992	0.54631	2.0	0.21882	0.29049
15.0	1.0	0.86994	0.77174	0.84103	0.10708	0.84928	0.86935	0.54654	0.87053	0.00028	0.93082	0.63378	2.0	0.21906	0.2963
16.0	1.0	0.87833	0.78452	0.84174	0.09935	0.85952	0.87775	0.51697	0.87891	0.00029	0.93653	0.65034	2.0	0.22741	0.30065
17.0	1.0	0.87913	0.78546	0.83245	0.09971	0.86075	0.8784	0.51749	0.87985	0.00029	0.93764	0.65145	2.0	0.23625	0.30105
18.0	1.0	0.87793	0.78289	0.8219	0.10096	0.8597	0.87691	0.52032	0.87894	0.0003	0.93767	0.64752	2.0	0.23444	0.30162
19.0	1.0	0.89593	0.813	0.86751	0.0957	0.88119	0.89555	0.48727	0.89632	0.00032	0.94946	0.68963	2.0	0.23683	0.30348
20.0	1.0	0.89702	0.81458	0.86292	0.09167	0.88279	0.89655	0.47042	0.89749	0.00033	0.95091	0.6918	2.0	0.2441	0.34595

Standard deviation of Adjusted Rand versus number of clusters
gap: 1.00, Tp: 0.25, complete link

Standard deviation of Huberts index versus number of clusters
gap: 1.00, Tp: 0.25, complete link