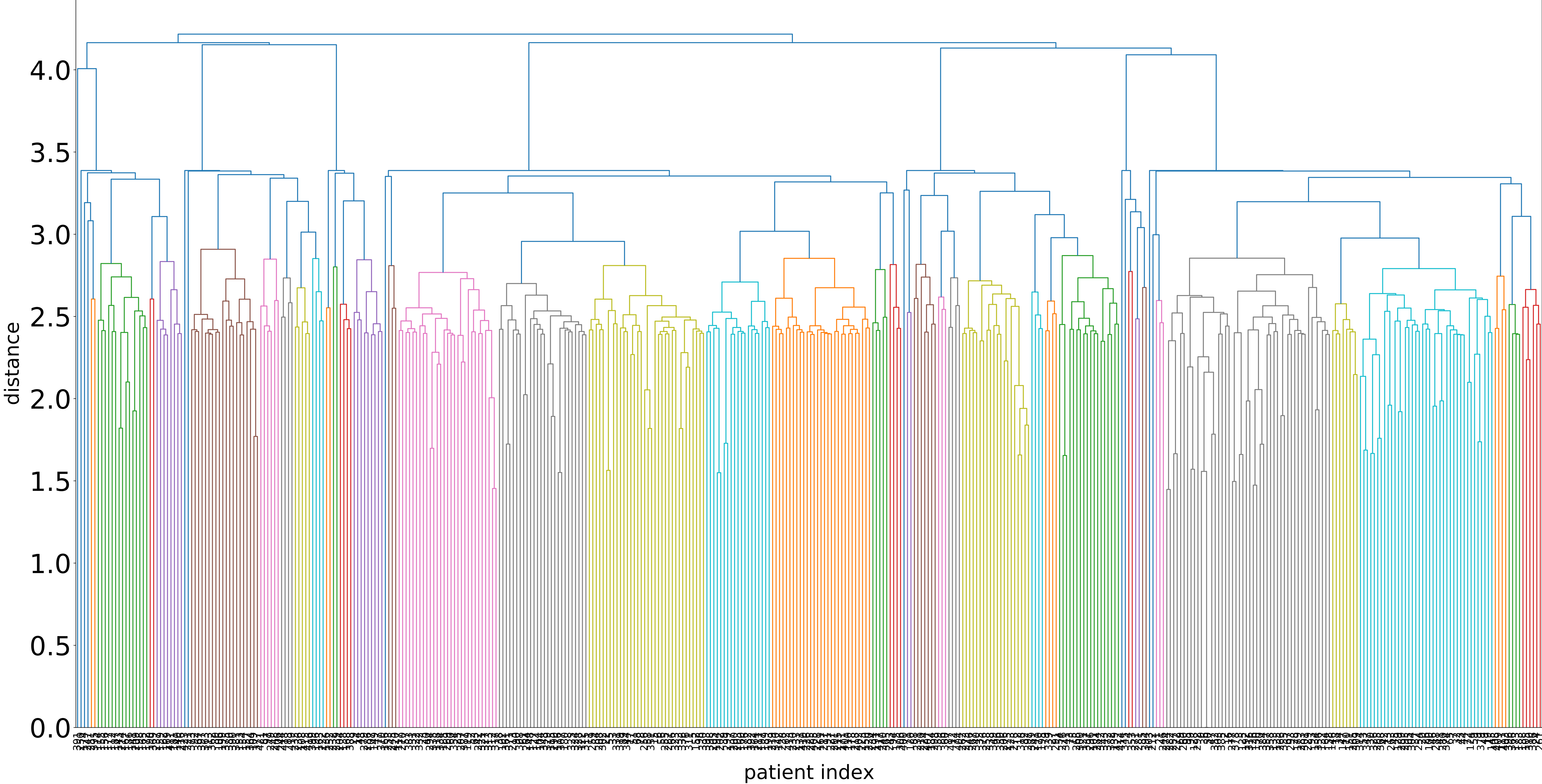


Hierarchical Clustering Dendrogram - gap: 0.00, Tp: 2.00, average link

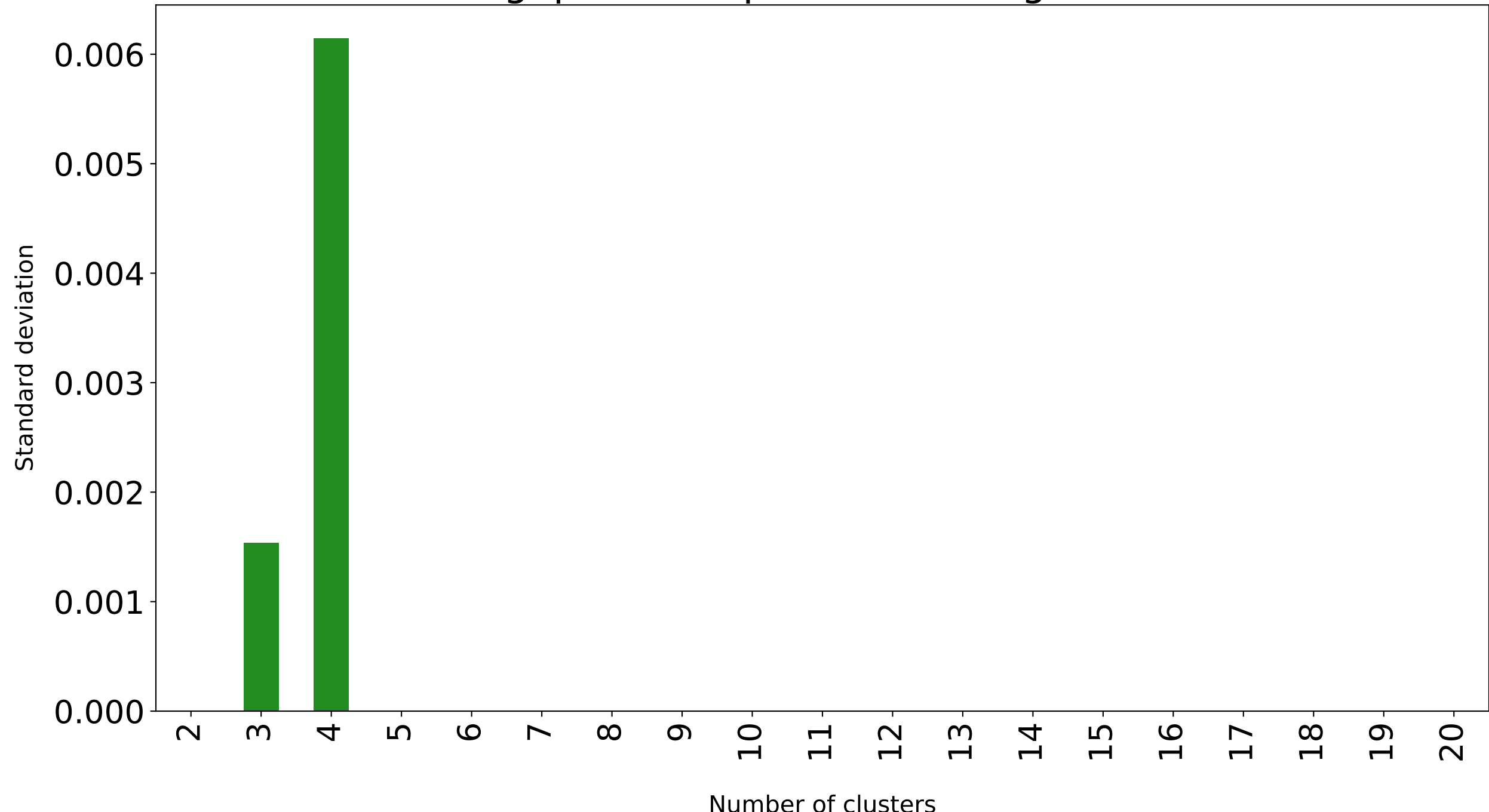


Cophenetic Correlation Coefficient: 0.8557180590838085

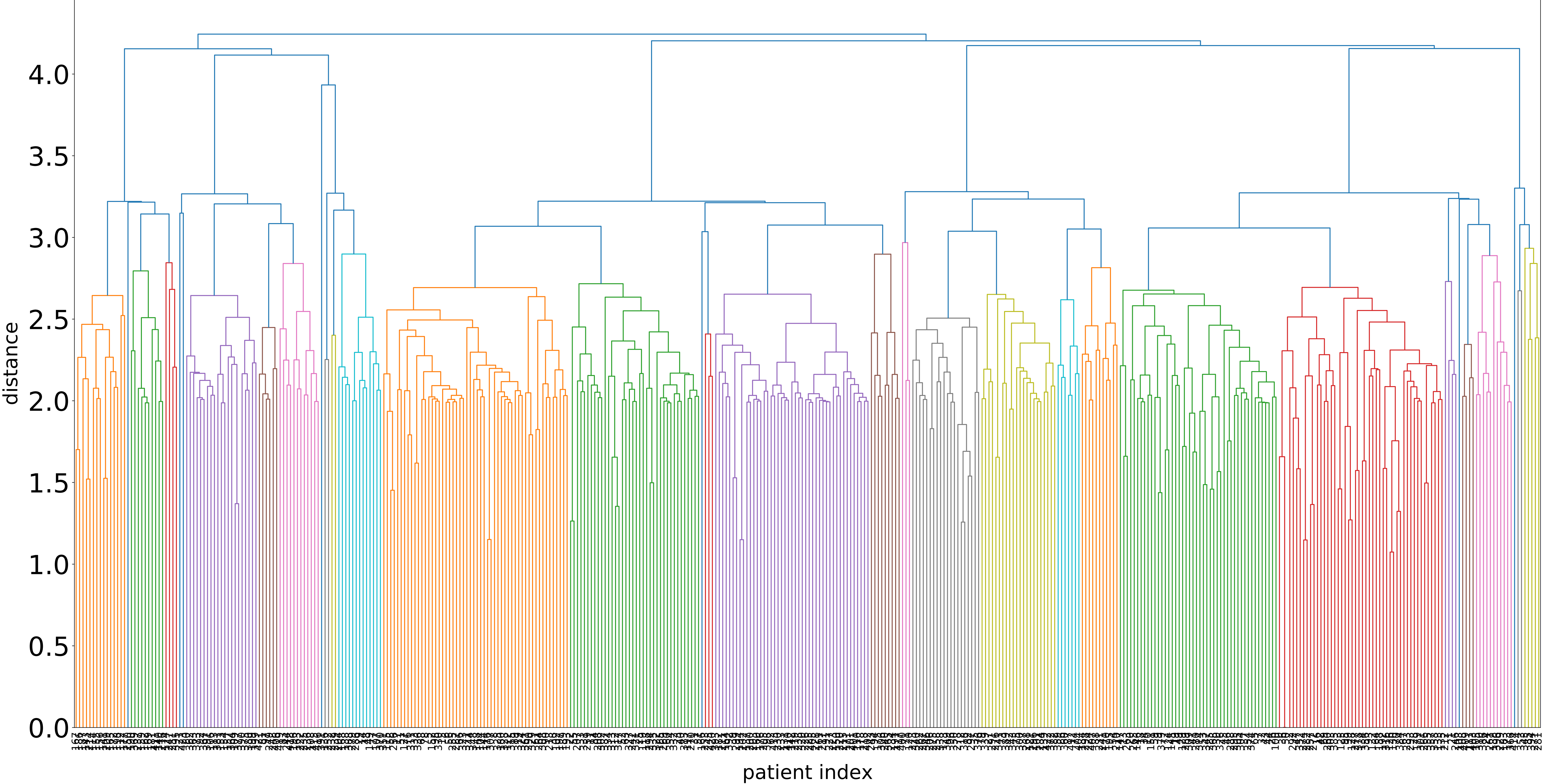
Average values of five clustering indices
gap: 0.00, Tp: 2.00, average link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.9806	0.96333	0.96652	0.01381	0.93333	0.98019	-0.11173	0.98102	0.00017	0.94961	0.93573	0.0	0.09817	0.59664
3.0	0.99987	0.8036	0.6768	0.87684	0.13905	0.64547	0.78506	-0.3026	0.82302	0.00011	0.67734	0.56521	0.01081	0.14937	0.45118
4.0	1.0004	0.92805	0.87815	0.94142	0.05654	0.88238	0.92375	-1.50136	0.93254	0.00015	0.89605	0.81936	0.01081	0.17743	0.45118
5.0	1.0	0.93763	0.89084	0.87407	0.03777	0.91114	0.93529	-2.47219	0.94	0.00017	0.92885	0.83187	0.01081	0.20591	0.45118
6.0	1.0	0.98241	0.9678	0.99106	0.00987	0.97613	0.98174	-3.86147	0.98309	0.00021	0.98133	0.9474	0.01639	0.22314	0.44813
7.0	1.0	0.99837	0.99676	0.9993	0.00128	0.99787	0.99837	-4.56944	0.99838	0.00022	0.99846	0.99364	0.35	0.22496	0.44813
8.0	1.0	0.99786	0.99577	0.99652	0.00134	0.99722	0.99785	-5.98086	0.99787	0.00022	0.99802	0.9918	2.0	0.30844	0.58042
9.0	1.0	0.98802	0.97647	0.98088	0.00725	0.98445	0.98798	-6.99278	0.98805	0.00022	0.98905	0.95478	2.0	0.26956	0.58042
10.0	1.0	0.98618	0.97287	0.97555	0.00904	0.98208	0.98613	-8.36836	0.98622	0.00022	0.98741	0.94799	2.0	0.25591	0.58042
11.0	1.0	0.98779	0.97594	0.99094	0.00877	0.98421	0.98774	-9.80891	0.98783	0.00022	0.98895	0.95359	2.0	0.23046	0.58042
12.0	1.0	0.98863	0.97761	0.98952	0.00833	0.98531	0.9886	-11.28816	0.98867	0.00022	0.98975	0.95677	2.0	0.28289	0.58042
13.0	1.0	0.98997	0.98023	0.98704	0.00752	0.98707	0.98993	-12.796	0.99	0.00022	0.99102	0.96186	2.0	0.32987	0.58042
14.0	1.0	0.99082	0.9819	0.98588	0.00728	0.9882	0.99076	-14.13633	0.99087	0.00022	0.99184	0.96515	2.0	0.36876	0.58042
15.0	1.0	0.98799	0.97632	0.97519	0.00828	0.98463	0.98788	-15.60631	0.9881	0.00022	0.98942	0.9547	2.0	0.40238	0.58042
16.0	1.0	0.98017	0.96135	0.95511	0.01374	0.97488	0.97977	-17.09827	0.98058	0.00022	0.98295	0.92836	2.0	0.4399	0.58042
17.0	1.0	0.97399	0.94957	0.94705	0.02021	0.96724	0.97347	-17.71398	0.97451	0.00023	0.97819	0.90735	2.0	0.42495	0.58042
18.0	1.0	0.96238	0.92811	0.92067	0.03021	0.95313	0.9612	-19.25152	0.96358	0.00023	0.96935	0.87268	2.0	0.40771	0.58042
19.0	1.0	0.94372	0.89455	0.89603	0.04257	0.93064	0.94176	-20.59614	0.94571	0.00023	0.95626	0.81957	2.0	0.39342	0.58042
20.0	1.0	0.92477	0.8611	0.84861	0.05092	0.90862	0.92076	-22.26396	0.92884	0.00023	0.94357	0.77305	2.0	0.38363	0.58042

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.00, Tp: 2.00, average link



Hierarchical Clustering Dendrogram - gap: 0.10, Tp: 2.00, average link

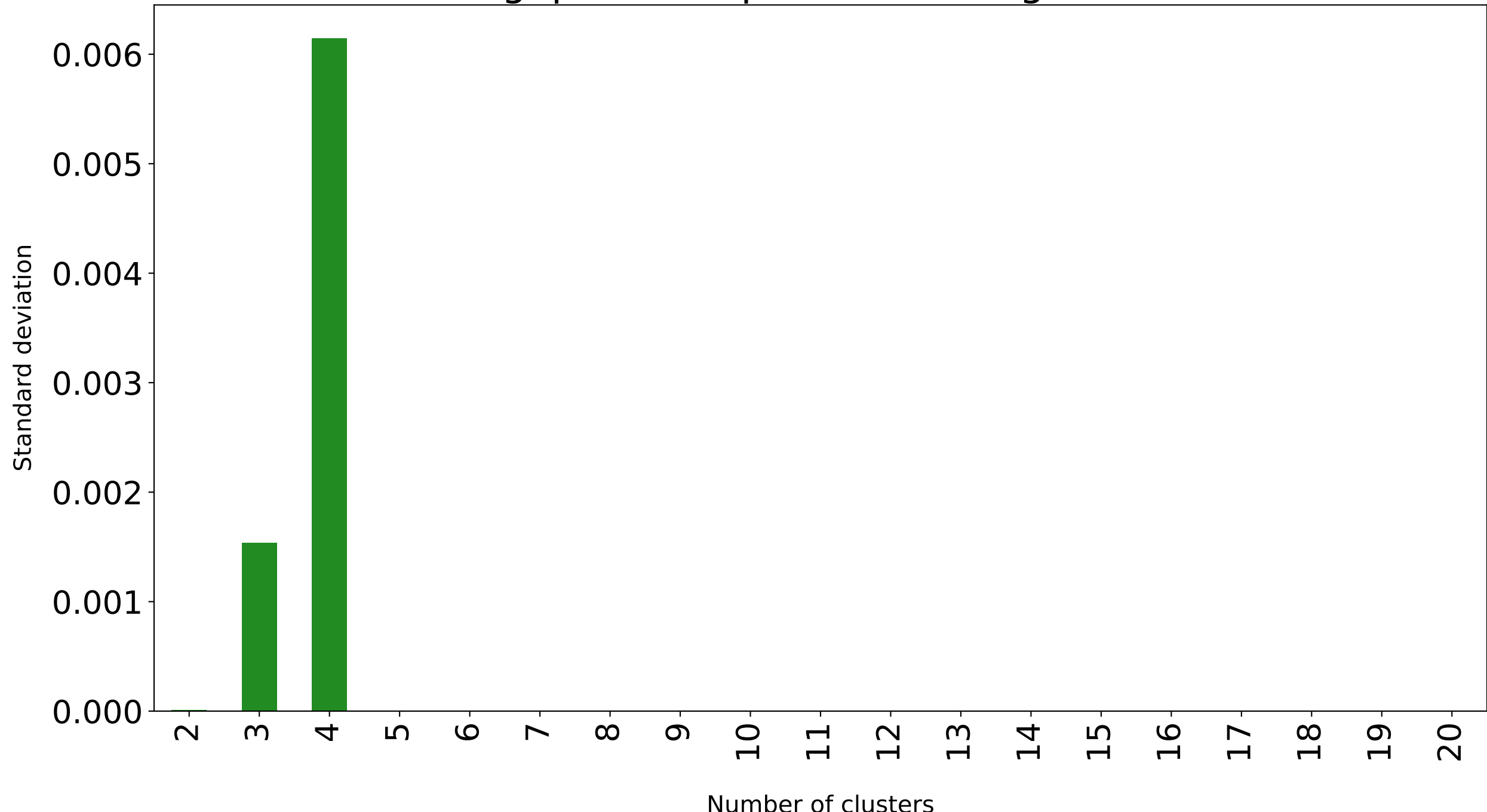


Cophenetic Correlation Coefficient: 0.8383404932948394

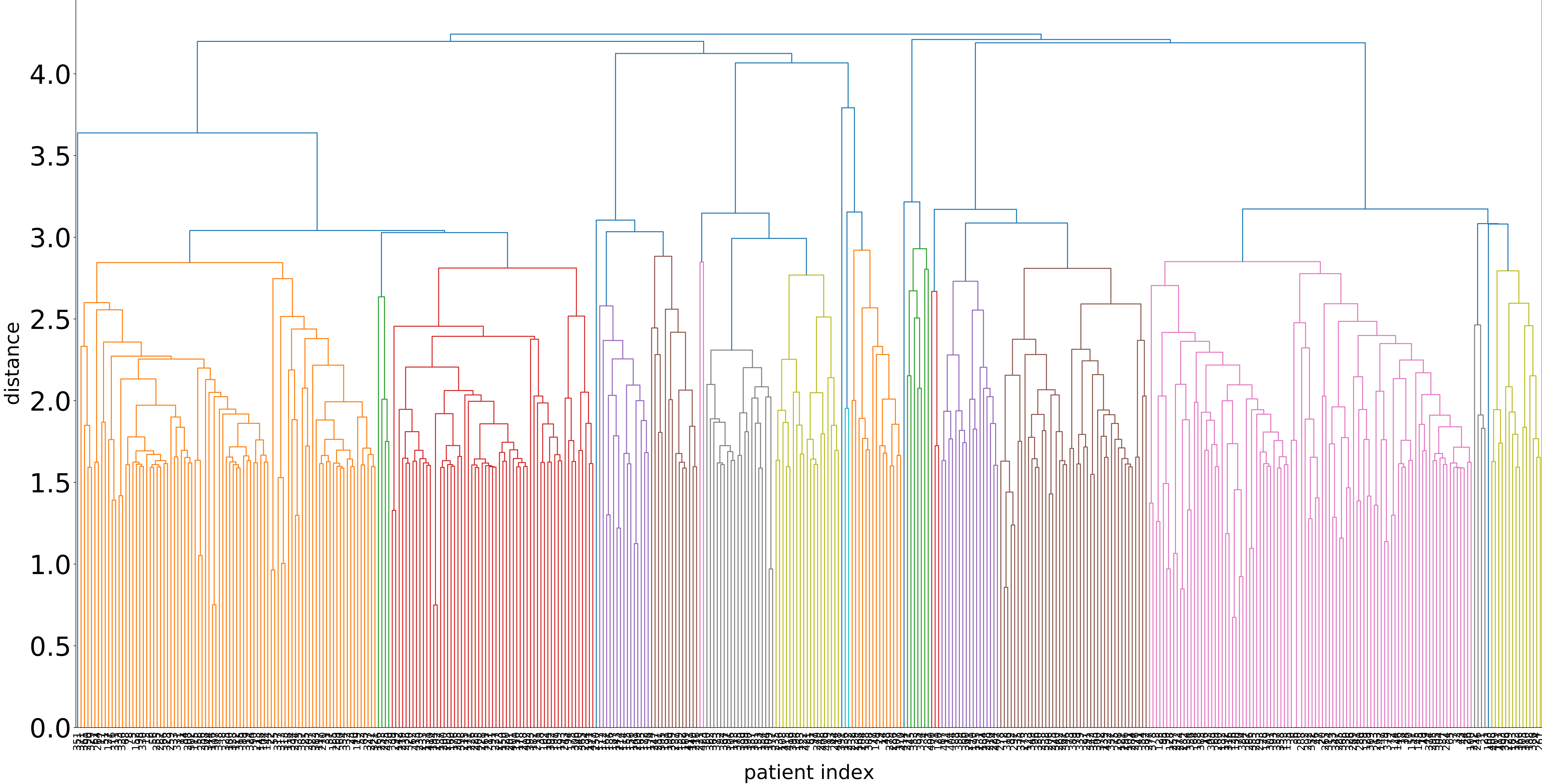
Average values of five clustering indices
gap: 0.10, Tp: 2.00, average link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.90188	0.84367	0.68156	0.06728	0.67857	0.89892	0.00824	0.90489	0.00012	0.80255	0.77988	0.0	0.11799	0.49368
3.0	1.00001	0.90768	0.84581	0.93332	0.06016	0.83912	0.90098	-0.67192	0.91467	0.00014	0.85538	0.78274	0.01081	0.17805	0.3969
4.0	1.0	0.90907	0.83951	0.94779	0.05506	0.86985	0.90544	-1.46254	0.91279	0.00017	0.89331	0.75105	0.01639	0.22725	0.35412
5.0	1.0	0.949	0.90665	0.93945	0.03538	0.93011	0.94839	-2.08355	0.94961	0.00019	0.94672	0.84184	0.25	0.23882	0.36136
6.0	1.0	0.97851	0.95903	0.97891	0.01966	0.97146	0.97835	-3.35444	0.97866	0.00021	0.97906	0.92561	0.25	0.25231	0.37678
7.0	1.0	0.99885	0.99771	0.99851	0.0017	0.9985	0.99885	-4.58532	0.99885	0.00022	0.99893	0.99545	0.25	0.26655	0.39357
8.0	1.0	0.99748	0.99501	0.99402	0.00167	0.99674	0.99746	-5.98705	0.99751	0.00022	0.99769	0.99038	2.0	0.34224	0.43997
9.0	1.0	0.98621	0.97291	0.96559	0.00843	0.98225	0.98598	-7.33791	0.98645	0.00022	0.98746	0.94918	2.0	0.38914	0.43997
10.0	1.0	0.97154	0.94464	0.93724	0.01737	0.96345	0.97112	-8.36046	0.97195	0.00022	0.97456	0.89765	2.0	0.35365	0.43997
11.0	1.0	0.97472	0.95085	0.98602	0.0207	0.96783	0.97445	-9.22492	0.97499	0.00023	0.97825	0.90856	2.0	0.31907	0.43997
12.0	1.0	0.97349	0.9489	0.97095	0.02372	0.9665	0.97318	-10.79484	0.97379	0.00023	0.97785	0.90602	2.0	0.31125	0.43997
13.0	1.0	0.9634	0.93122	0.94335	0.03078	0.95443	0.96258	-12.36457	0.96424	0.00023	0.97088	0.87943	2.0	0.28165	0.43997
14.0	1.0	0.94257	0.89415	0.89581	0.04348	0.92969	0.94019	-13.19655	0.94499	0.00023	0.95634	0.8243	2.0	0.27812	0.43997
15.0	1.0	0.92742	0.86907	0.87737	0.0502	0.91218	0.9244	-14.54048	0.93049	0.00023	0.94792	0.78988	2.0	0.27046	0.43997
16.0	1.0	0.90013	0.8214	0.81439	0.0616	0.88015	0.89499	-16.03481	0.90536	0.00023	0.92995	0.72173	2.0	0.31615	0.43997
17.0	1.0	0.90147	0.82248	0.94101	0.06191	0.884	0.89767	-17.99046	0.90533	0.00028	0.93831	0.71568	2.0	0.30216	0.45432
18.0	1.0	0.91266	0.84199	0.9369	0.05812	0.89773	0.90995	-19.93905	0.91541	0.00029	0.94757	0.74235	2.0	0.29451	0.45432
19.0	1.0	0.92103	0.85597	0.9249	0.05415	0.90789	0.91931	-21.99416	0.92278	0.0003	0.95433	0.75944	2.0	0.33141	0.45432
20.0	1.0	0.93738	0.88457	0.92674	0.04925	0.92748	0.93677	-24.11231	0.938	0.00031	0.96598	0.80083	2.0	0.32354	0.45432

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.10, Tp: 2.00, average link



Hierarchical Clustering Dendrogram - gap: 0.20, Tp: 2.00, average link

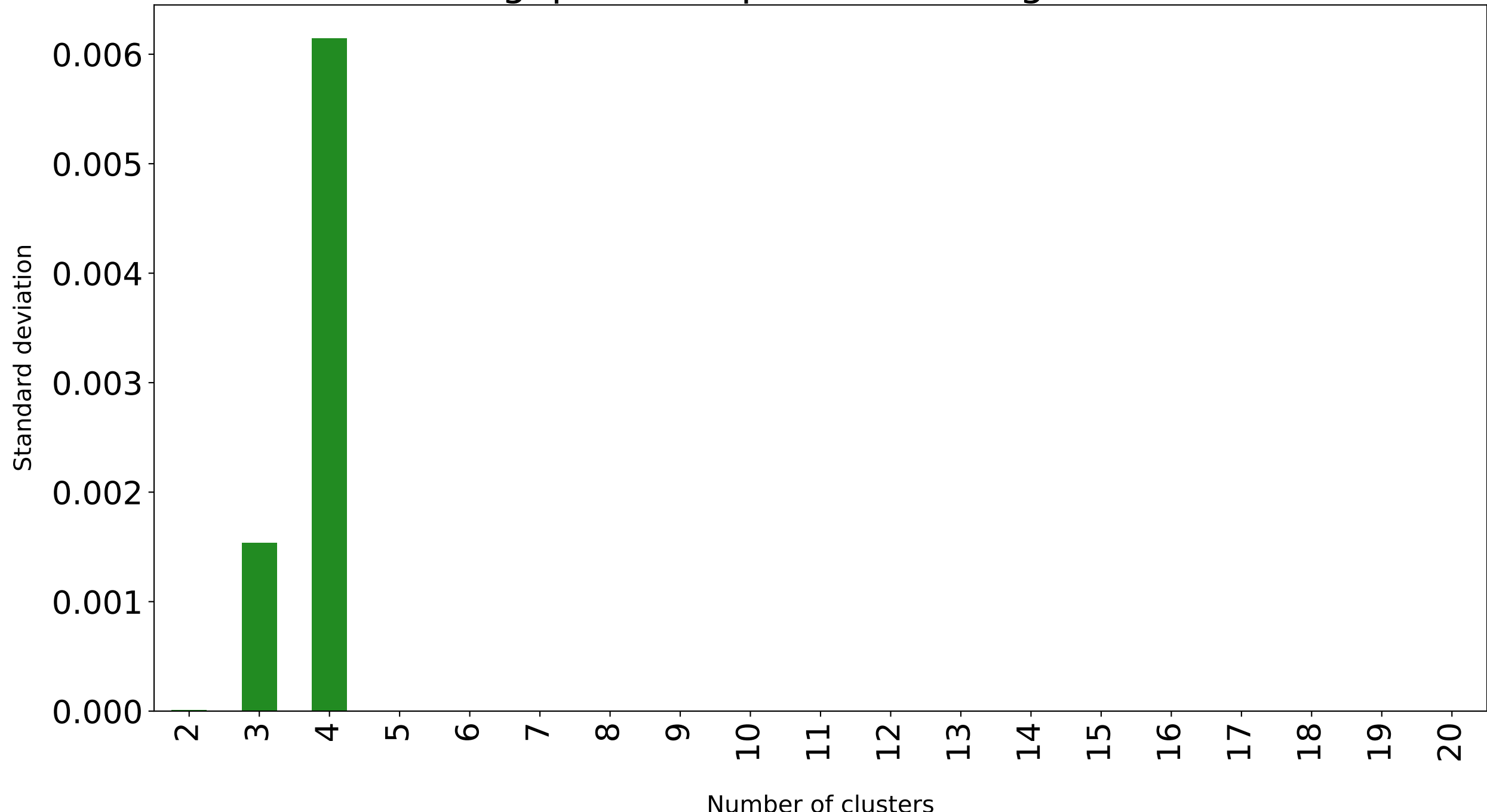


Cophenetic Correlation Coefficient: 0.8141287240603226

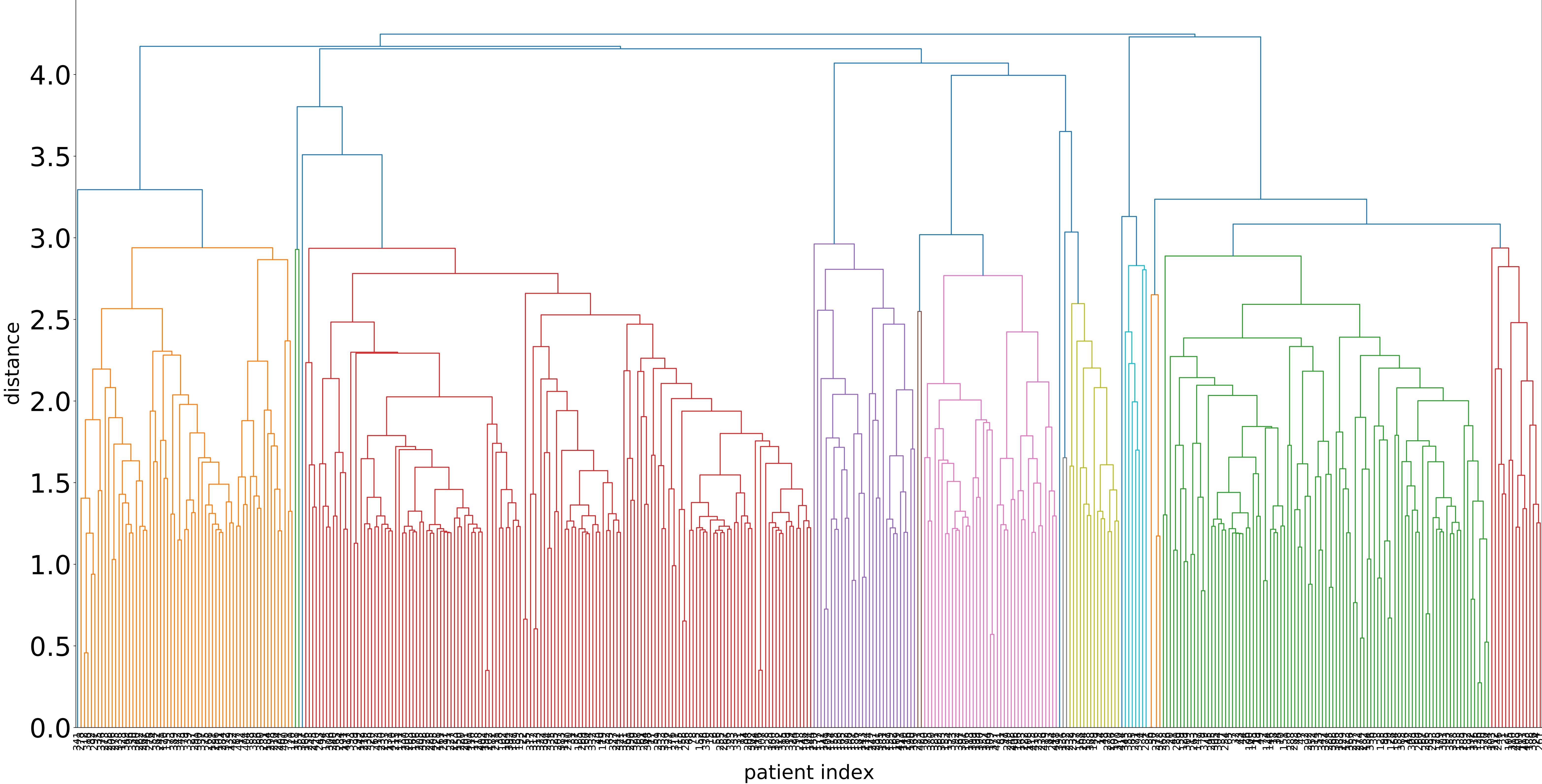
Average values of five clustering indices
gap: 0.20, Tp: 2.00, average link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99999	0.79667	0.67842	0.50829	0.14545	0.45507	0.78615	0.07831	0.80764	7e-05	0.61749	0.56803	0.00865	0.16902	0.33061
3.0	1.0	0.7888	0.66677	0.54374	0.14297	0.59021	0.78418	-0.23604	0.79348	9e-05	0.67668	0.53491	0.25	0.21313	0.33061
4.0	1.0	0.82497	0.71468	0.70931	0.10436	0.73349	0.82207	-1.00093	0.8279	0.00013	0.79078	0.58717	0.25	0.23218	0.35428
5.0	1.0	0.97101	0.9472	0.9692	0.01814	0.96014	0.97053	-2.21059	0.97148	0.00019	0.96939	0.91145	0.25	0.27935	0.2907
6.0	1.0	0.98302	0.96763	0.98413	0.01599	0.97747	0.98293	-3.41062	0.98312	0.00021	0.98351	0.94121	0.25	0.29526	0.31402
7.0	1.0	0.99891	0.99783	0.99895	0.00145	0.99857	0.99891	-4.59152	0.99891	0.00022	0.99898	0.99572	0.25	0.31245	0.3414
8.0	1.0	0.99747	0.99499	0.99413	0.00165	0.99672	0.99746	-5.99219	0.99749	0.00022	0.99766	0.99027	2.0	0.37898	0.35696
9.0	1.0	0.99095	0.98219	0.98011	0.0053	0.98832	0.99085	-7.39037	0.99106	0.00022	0.99177	0.96613	2.0	0.43713	0.35696
10.0	1.0	0.97832	0.9576	0.94815	0.01262	0.97222	0.97792	-8.74302	0.97872	0.00022	0.9806	0.92133	2.0	0.46725	0.35696
11.0	1.0	0.97362	0.9491	0.97855	0.01798	0.9665	0.97339	-9.57672	0.97386	0.00023	0.9776	0.90609	2.0	0.42687	0.35696
12.0	1.0	0.97271	0.94729	0.96967	0.02195	0.96552	0.97254	-10.82206	0.97288	0.00023	0.97735	0.90208	2.0	0.40071	0.35696
13.0	1.0	0.96957	0.94133	0.95356	0.02575	0.96175	0.96932	-12.37465	0.96982	0.00023	0.9752	0.8916	2.0	0.39393	0.35696
14.0	1.0	0.95909	0.9225	0.92533	0.0326	0.94927	0.95825	-13.96699	0.95995	0.00023	0.96797	0.86237	2.0	0.3653	0.35696
15.0	1.0	0.94669	0.89993	0.89666	0.04095	0.93447	0.94497	-15.52102	0.94844	0.00023	0.95912	0.82754	2.0	0.39995	0.35696
16.0	1.0	0.93761	0.88537	0.88932	0.0425	0.92439	0.93524	-16.96111	0.94002	0.00023	0.95492	0.81003	2.0	0.38766	0.35696
17.0	1.0	0.91321	0.84225	0.83766	0.05553	0.89571	0.90904	-17.77302	0.91744	0.00023	0.93887	0.74679	2.0	0.38183	0.35696
18.0	1.0	0.8858	0.79431	0.77938	0.06801	0.86369	0.87926	-19.2418	0.89244	0.00023	0.92097	0.67899	2.0	0.41632	0.35696
19.0	1.0	0.88373	0.79461	0.91542	0.07406	0.86363	0.88007	-21.30565	0.88743	0.00028	0.93009	0.67659	2.0	0.4031	0.37629
20.0	1.0	0.89943	0.82119	0.91239	0.06552	0.88272	0.89696	-23.416	0.90192	0.00029	0.94209	0.71243	2.0	0.3978	0.37629

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.20, Tp: 2.00, average link



Hierarchical Clustering Dendrogram - gap: 0.30, Tp: 2.00, average link

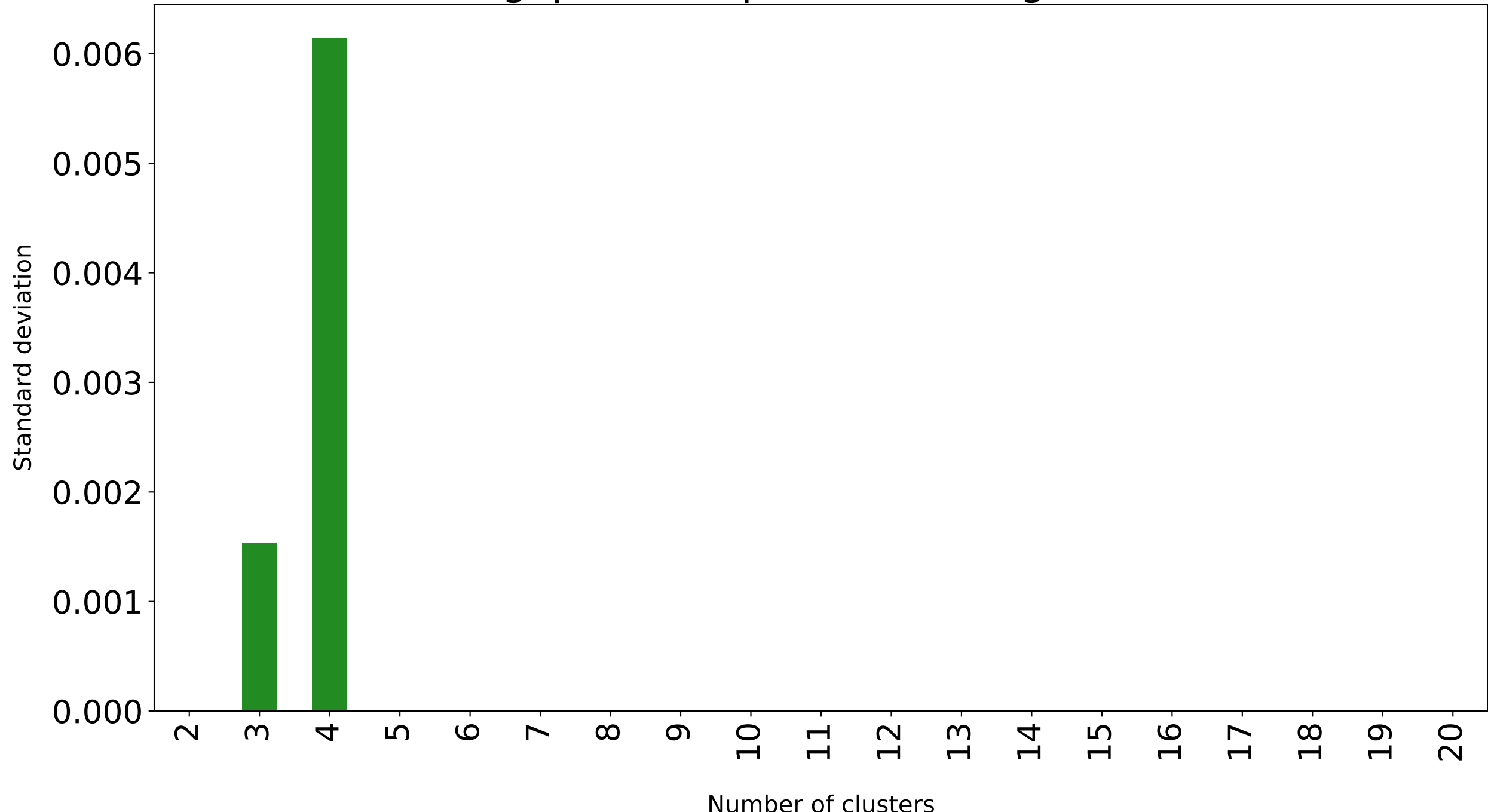


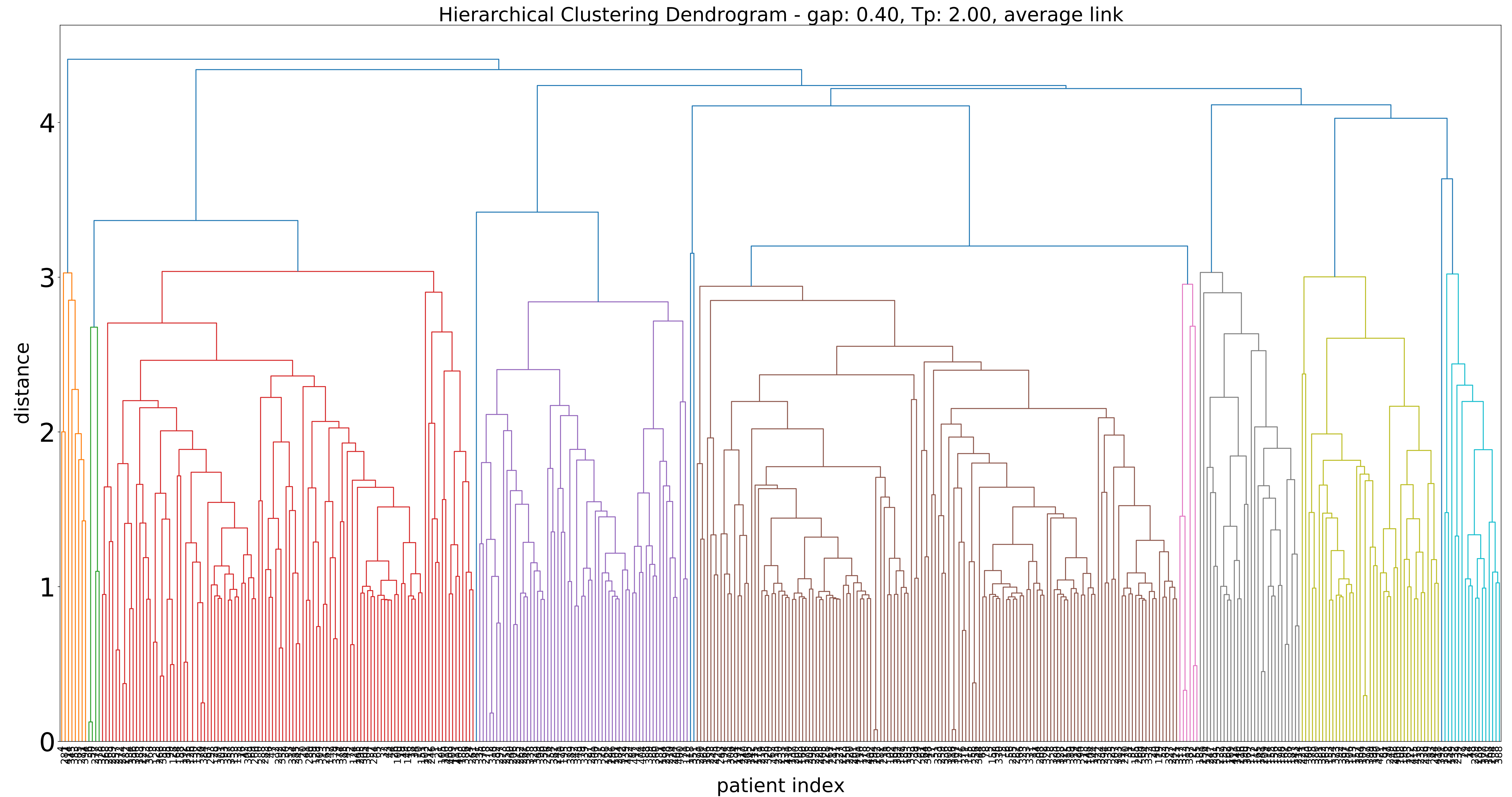
Cophenetic Correlation Coefficient: 0.7983532810466023

Average values of five clustering indices
gap: 0.30, Tp: 2.00, average link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99999	0.83804	0.72949	0.6124	0.10079	0.46003	0.82794	0.05299	0.84843	9e-05	0.64632	0.61887	0.01639	0.24352	0.20128
3.0	1.00003	0.88025	0.80557	0.68424	0.06894	0.74684	0.87603	-0.45175	0.88453	0.00012	0.79702	0.72446	0.25	0.28985	0.20128
4.0	1.00001	0.81199	0.70251	0.64558	0.10228	0.69978	0.80802	-1.06676	0.81603	0.00012	0.76162	0.58825	0.25	0.31772	0.20128
5.0	1.0	0.97624	0.95716	0.97726	0.0145	0.96724	0.9758	-2.23816	0.97669	0.0002	0.97477	0.92947	0.25	0.32229	0.23843
6.0	1.0	0.98345	0.96842	0.98506	0.0156	0.97802	0.98335	-3.41139	0.98354	0.00021	0.9839	0.94267	0.25	0.34124	0.25838
7.0	1.0	0.99891	0.99782	0.99905	0.00132	0.99857	0.9989	-4.58753	0.99891	0.00022	0.99897	0.99569	0.25	0.36216	0.27767
8.0	1.0	0.9965	0.99305	0.99704	0.00243	0.99544	0.99649	-5.98514	0.99651	0.00022	0.99676	0.98637	1.9	0.33852	0.27767
9.0	1.0	0.99554	0.99114	0.99029	0.00288	0.99421	0.99551	-7.40232	0.99556	0.00022	0.9959	0.9827	2.0	0.39266	0.27767
10.0	1.0	0.99011	0.98048	0.98057	0.00552	0.98724	0.99004	-8.81712	0.99018	0.00022	0.99106	0.96243	2.0	0.44505	0.27767
11.0	1.0	0.98374	0.96804	0.9639	0.00879	0.97912	0.98355	-10.23772	0.98392	0.00022	0.98548	0.9394	2.0	0.48314	0.27767
12.0	1.0	0.97378	0.94919	0.95296	0.01455	0.9665	0.97357	-11.31977	0.97399	0.00022	0.97724	0.90557	2.0	0.46358	0.25265
13.0	1.0	0.96525	0.93289	0.92997	0.01969	0.95579	0.96483	-12.71755	0.96567	0.00022	0.97015	0.87687	2.0	0.48424	0.25265
14.0	1.0	0.97022	0.9424	0.9656	0.01992	0.96242	0.97006	-13.72545	0.97039	0.00023	0.97541	0.8928	2.0	0.46184	0.25265
15.0	1.0	0.96952	0.94102	0.95384	0.02137	0.96169	0.96933	-15.3253	0.96971	0.00023	0.97519	0.89033	2.0	0.45707	0.25265
16.0	1.0	0.96547	0.93331	0.9409	0.02403	0.95676	0.96518	-16.92308	0.96576	0.00023	0.97221	0.8769	2.0	0.43239	0.25265
17.0	1.0	0.9593	0.92167	0.92237	0.0288	0.94923	0.95882	-18.51142	0.95977	0.00023	0.96763	0.85698	2.0	0.45883	0.25265
18.0	1.0	0.95724	0.91818	0.93408	0.02979	0.94699	0.95693	-19.9723	0.95755	0.00024	0.96714	0.85091	2.0	0.44613	0.25265
19.0	1.0	0.9556	0.9151	0.92241	0.0301	0.94517	0.95515	-21.4833	0.95606	0.00024	0.96625	0.84608	2.0	0.47345	0.25265
20.0	1.0	0.95698	0.91812	0.93234	0.03205	0.94735	0.95641	-23.28371	0.95755	0.00024	0.96846	0.85286	2.0	0.4636	0.25265

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.30, Tp: 2.00, average link

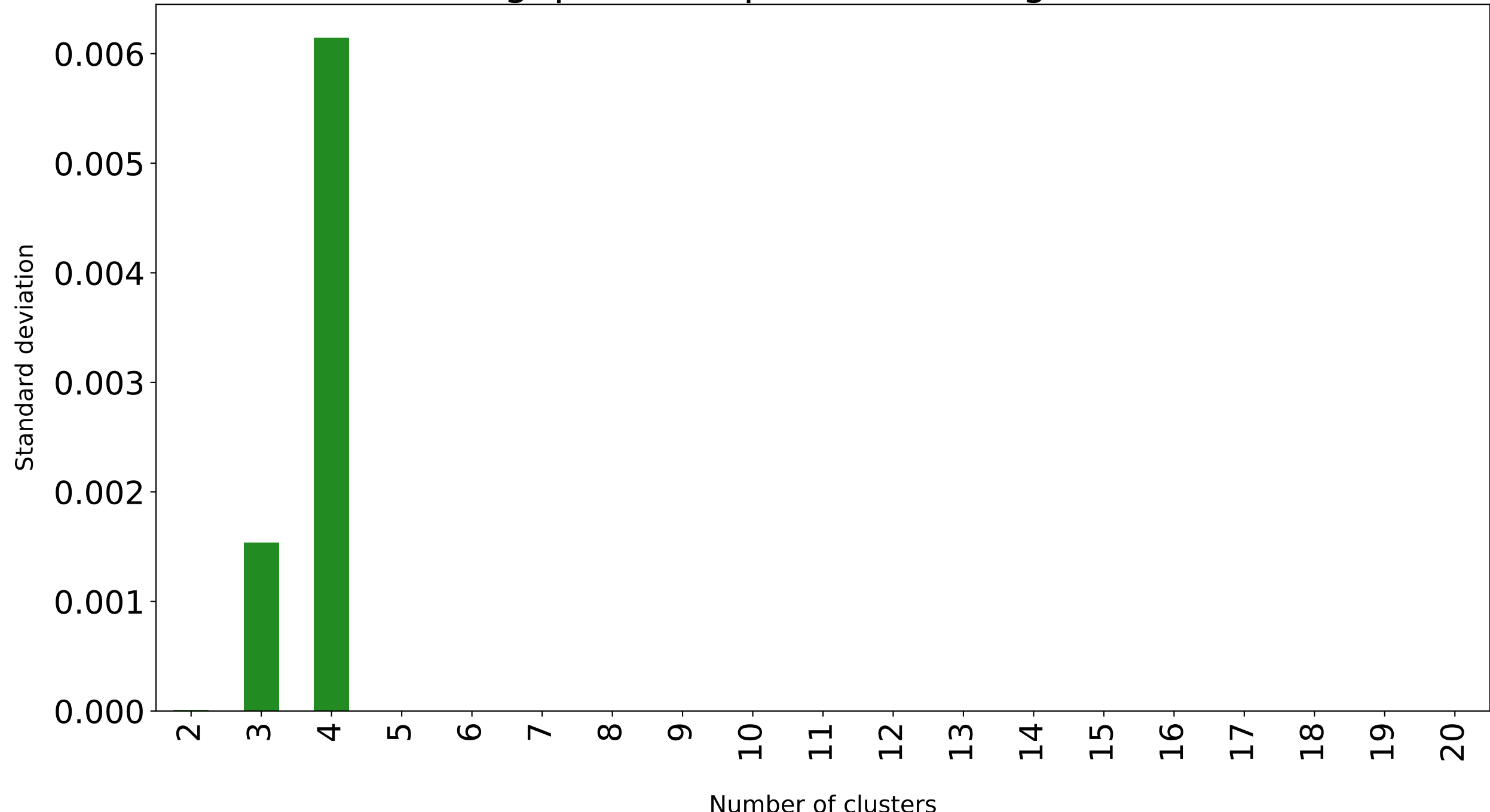


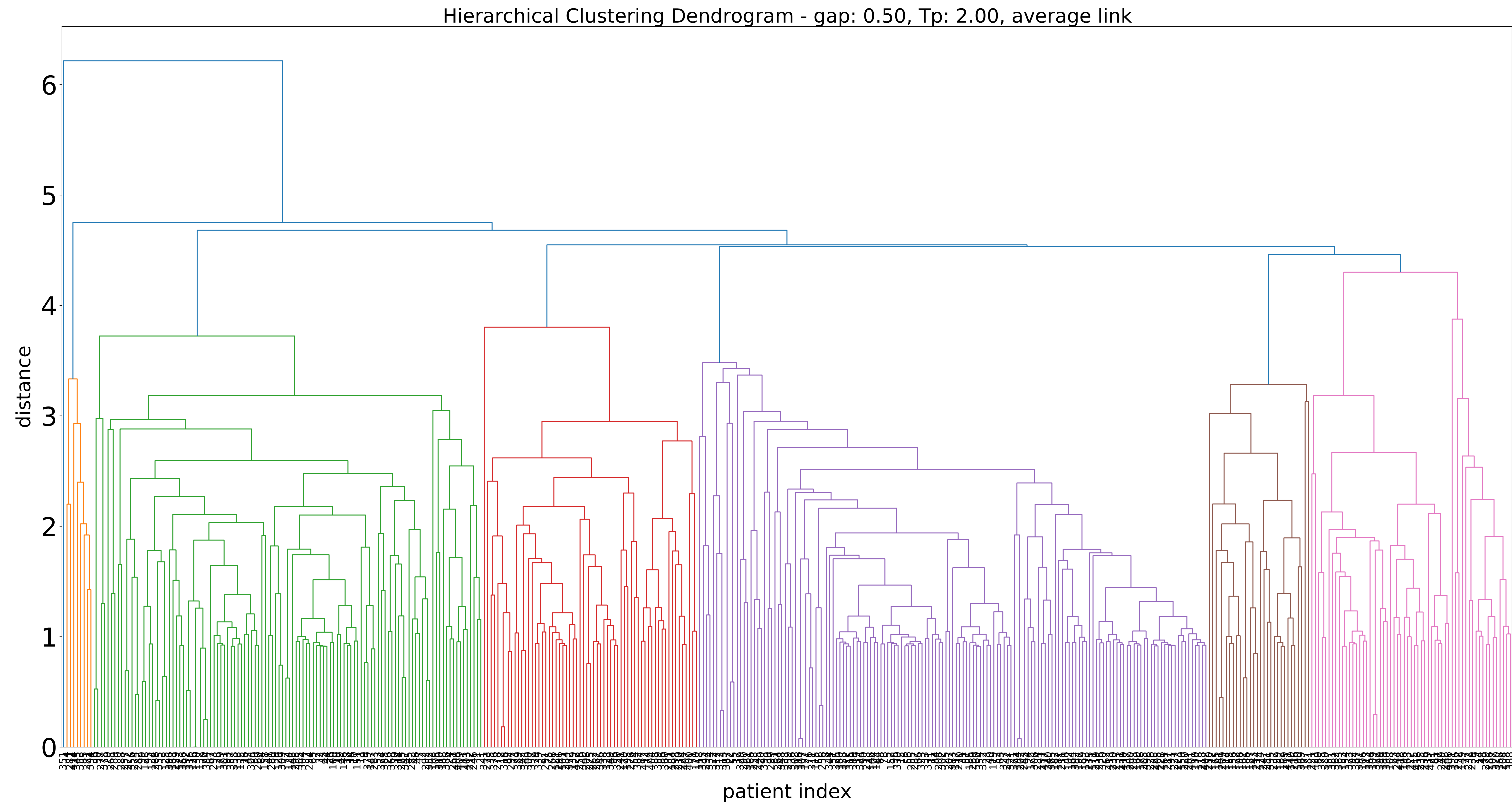


Average values of five clustering indices
gap: 0.40, Tp: 2.00, average link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.92749	0.87258	0.41279	0.04416	0.42634	0.92143	0.08805	0.93374	0.00048	0.8144	0.81218	0.0	0.27026	0.27501
3.0	1.00002	0.89641	0.82315	0.80016	0.06009	0.70973	0.88935	-0.38375	0.90367	0.00012	0.78475	0.74581	0.0	0.32195	0.16877
4.0	0.99997	0.81733	0.70386	0.72412	0.09647	0.6904	0.81166	-1.04808	0.8231	0.00011	0.7431	0.58145	0.0	0.35268	0.16877
5.0	1.0	0.91325	0.84969	0.96081	0.04619	0.87604	0.90754	-2.07611	0.91913	0.00017	0.8956	0.77846	0.0	0.35853	0.21135
6.0	1.0	0.95556	0.91723	0.9776	0.03275	0.94029	0.95437	-3.31832	0.95676	0.0002	0.95443	0.85897	0.0339	0.38021	0.21995
7.0	1.0	0.97571	0.95331	0.96997	0.02173	0.96798	0.97556	-4.7025	0.97585	0.00021	0.97681	0.91408	1.9	0.3537	0.22615
8.0	1.0	0.9979	0.99583	0.9969	0.00184	0.99727	0.9979	-5.99224	0.99791	0.00022	0.99806	0.99178	1.9	0.37942	0.2463
9.0	1.0	0.9958	0.99166	0.99041	0.00281	0.99456	0.99578	-7.40607	0.99582	0.00022	0.99615	0.98368	2.0	0.42759	0.2463
10.0	1.0	0.98985	0.97991	0.97643	0.00535	0.98689	0.98978	-8.81462	0.98992	0.00022	0.99078	0.96112	2.0	0.47294	0.2463
11.0	1.0	0.98608	0.97267	0.974	0.00691	0.98212	0.98599	-9.95527	0.98617	0.00022	0.98765	0.94786	2.0	0.45631	0.2471
12.0	1.0	0.98003	0.96094	0.98234	0.01109	0.97451	0.97993	-11.11937	0.98013	0.00023	0.98275	0.92582	2.0	0.43191	0.25416
13.0	1.0	0.97776	0.95669	0.96699	0.01374	0.97174	0.97762	-12.64337	0.97789	0.00023	0.98111	0.91853	2.0	0.53422	0.25416
14.0	1.0	0.95542	0.91432	0.97615	0.02593	0.94401	0.95492	-13.17908	0.95591	0.00023	0.96364	0.84397	2.0	0.50539	0.25416
15.0	1.0	0.95879	0.9209	0.96974	0.02582	0.94833	0.95846	-14.86157	0.95912	0.00023	0.96676	0.8555	2.0	0.52898	0.25416
16.0	1.0	0.96352	0.92987	0.96184	0.02514	0.95438	0.96327	-16.15686	0.96377	0.00023	0.97093	0.87119	2.0	0.51043	0.25416
17.0	1.0	0.96544	0.93342	0.95506	0.02442	0.9569	0.96522	-17.81576	0.96566	0.00024	0.97274	0.87714	2.0	0.50687	0.25416
18.0	1.0	0.96762	0.93737	0.94921	0.0234	0.95978	0.96737	-19.56496	0.96787	0.00024	0.97479	0.88392	2.0	0.48442	0.25416
19.0	1.0	0.96532	0.9329	0.93676	0.02433	0.95707	0.96496	-21.10841	0.96568	0.00024	0.97325	0.87609	2.0	0.49297	0.25416
20.0	1.0	0.95588	0.91554	0.92718	0.02951	0.94568	0.9555	-22.73872	0.95626	0.00024	0.96697	0.84643	2.0	0.4861	0.25416

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.40, Tp: 2.00, average link

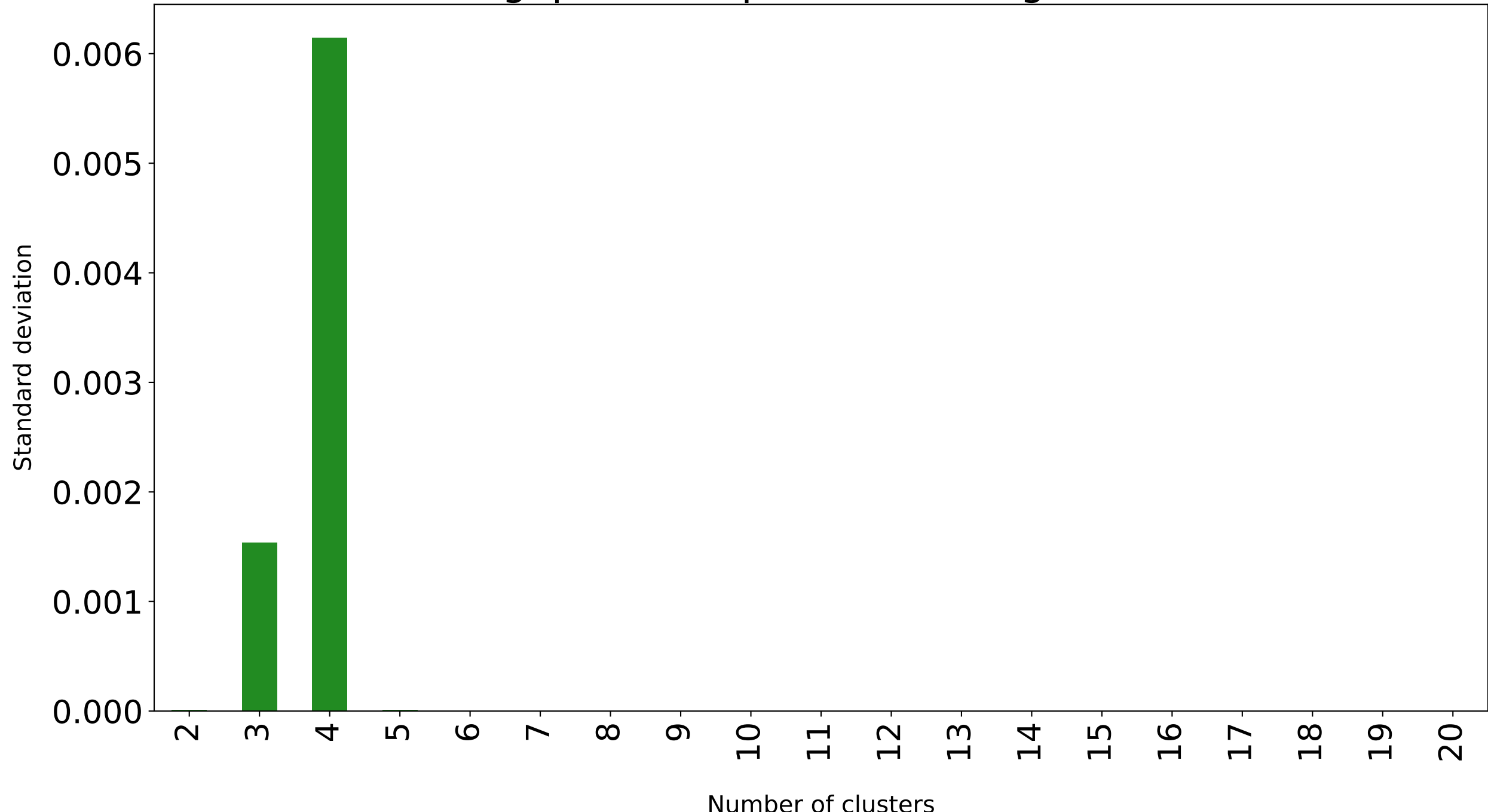


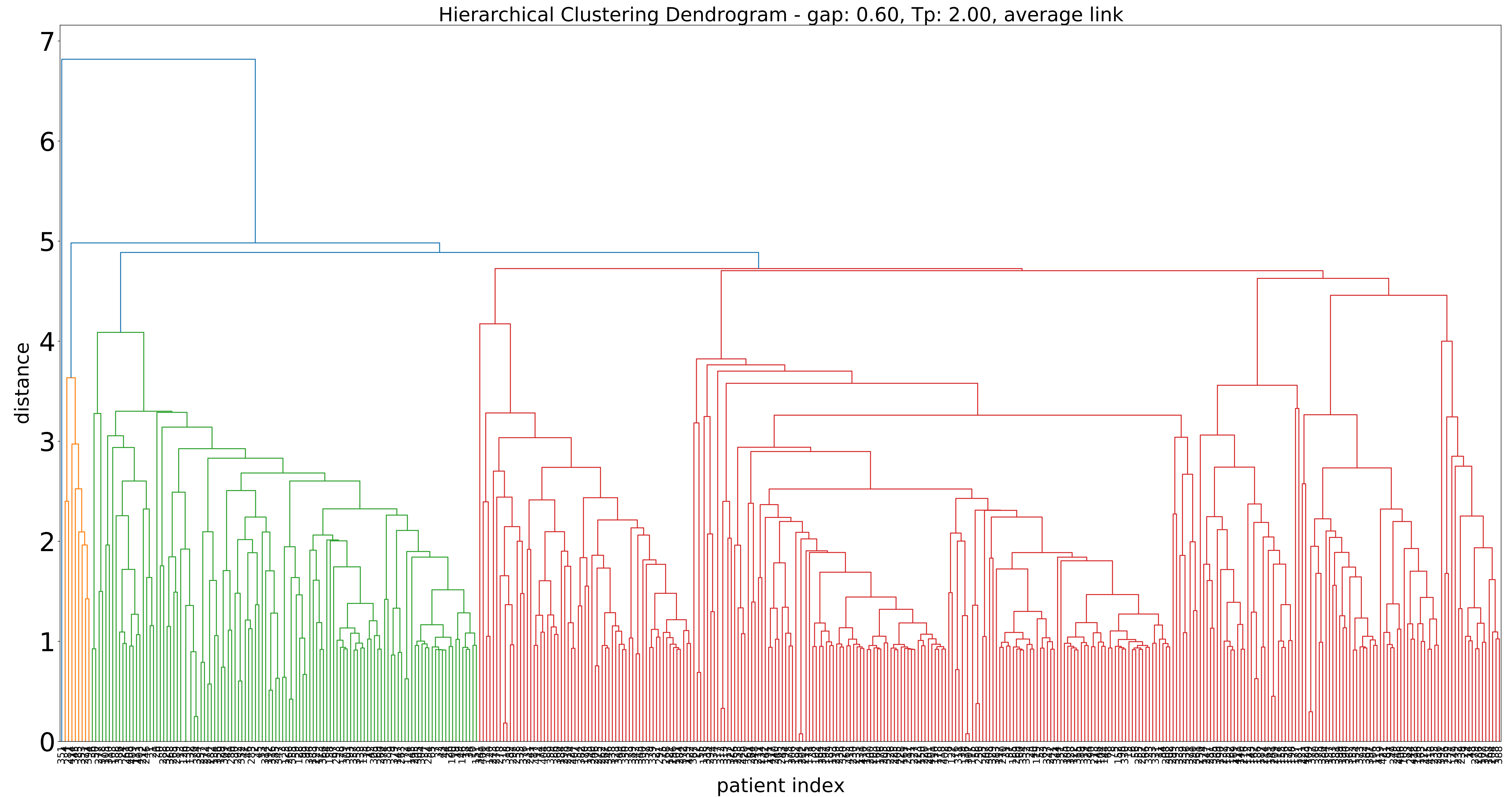


Average values of five clustering indices
gap: 0.50, Tp: 2.00, average link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.97556	0.95521	0.52012	0.01449	0.56966	0.97366	0.03471	0.97751	0.00328	0.92909	0.92905	2.0	0.65731	0.32651
3.0	1.0	0.88613	0.80101	0.44901	0.06762	0.51097	0.87528	0.0634	0.89739	0.00043	0.71941	0.71362	2.0	0.51167	0.32651
4.0	1.0	0.89271	0.81546	0.68526	0.05835	0.75966	0.88576	-1.0053	0.89988	0.00012	0.80304	0.72897	2.0	0.49311	0.17736
5.0	1.00001	0.8067	0.6808	0.64224	0.09689	0.68572	0.80036	-1.83804	0.81317	0.00012	0.73882	0.54154	2.0	0.48519	0.17736
6.0	1.0	0.91821	0.85454	0.91892	0.05139	0.88683	0.91598	-3.26064	0.92045	0.00018	0.91209	0.76777	2.0	0.47003	0.21714
7.0	1.0	0.98216	0.96582	0.97642	0.01458	0.9764	0.98202	-4.73525	0.98229	0.00021	0.98278	0.93752	2.0	0.47745	0.23659
8.0	1.0	0.996	0.99204	0.99073	0.00272	0.9948	0.99599	-5.99454	0.99601	0.00022	0.9963	0.98432	2.0	0.49085	0.24441
9.0	1.0	0.99285	0.98578	0.98241	0.00443	0.99071	0.99281	-7.39206	0.99288	0.00022	0.9934	0.97217	2.0	0.52403	0.24441
10.0	1.0	0.98873	0.97768	0.97286	0.00588	0.98542	0.98865	-8.79561	0.98881	0.00022	0.98969	0.9568	2.0	0.56275	0.24441
11.0	1.0	0.98801	0.97634	0.97673	0.00577	0.98455	0.98794	-9.95459	0.98808	0.00022	0.98923	0.95438	2.0	0.53715	0.23818
12.0	1.0	0.97907	0.95908	0.9731	0.00977	0.97317	0.97898	-11.4064	0.97915	0.00022	0.98167	0.92225	2.0	0.51	0.20817
13.0	1.0	0.97468	0.95058	0.98857	0.01361	0.96785	0.97446	-12.618	0.9749	0.00023	0.97844	0.90714	2.0	0.48567	0.23725
14.0	1.0	0.97479	0.95088	0.98352	0.01514	0.96809	0.97462	-13.74434	0.97496	0.00023	0.97886	0.90767	2.0	0.51776	0.23725
15.0	1.0	0.97418	0.94986	0.97519	0.01639	0.96739	0.97404	-14.77372	0.97431	0.00023	0.97859	0.906	2.0	0.50025	0.23725
16.0	1.0	0.9711	0.94408	0.96047	0.01755	0.96364	0.97092	-16.23104	0.97127	0.00023	0.9764	0.89598	2.0	0.49848	0.23725
17.0	1.0	0.9664	0.93512	0.94457	0.01999	0.95789	0.96611	-17.79441	0.96668	0.00023	0.97289	0.88029	2.0	0.46585	0.23725
18.0	1.0	0.95969	0.92266	0.96969	0.0243	0.94997	0.95935	-18.82404	0.96004	0.00024	0.96876	0.85886	2.0	0.44841	0.24832
19.0	1.0	0.96445	0.93168	0.96432	0.022	0.95603	0.9642	-20.69617	0.96469	0.00024	0.97289	0.87459	2.0	0.42974	0.24832
20.0	1.0	0.96384	0.93049	0.95256	0.02191	0.95543	0.96362	-22.39715	0.96406	0.00024	0.97286	0.87218	2.0	0.43038	0.24832

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.50, Tp: 2.00, average link



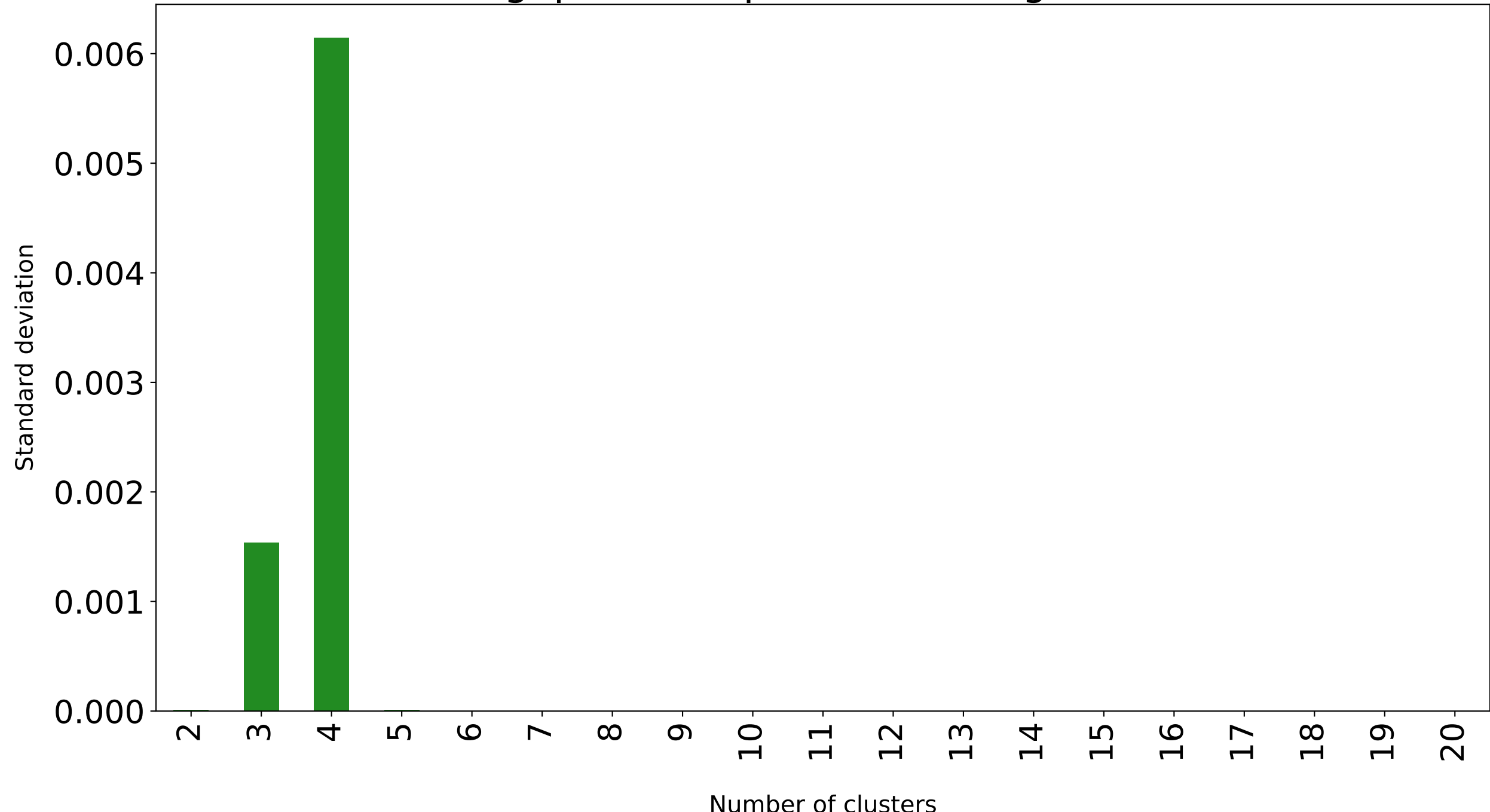


Cophenetic Correlation Coefficient: 0.7798046341480002

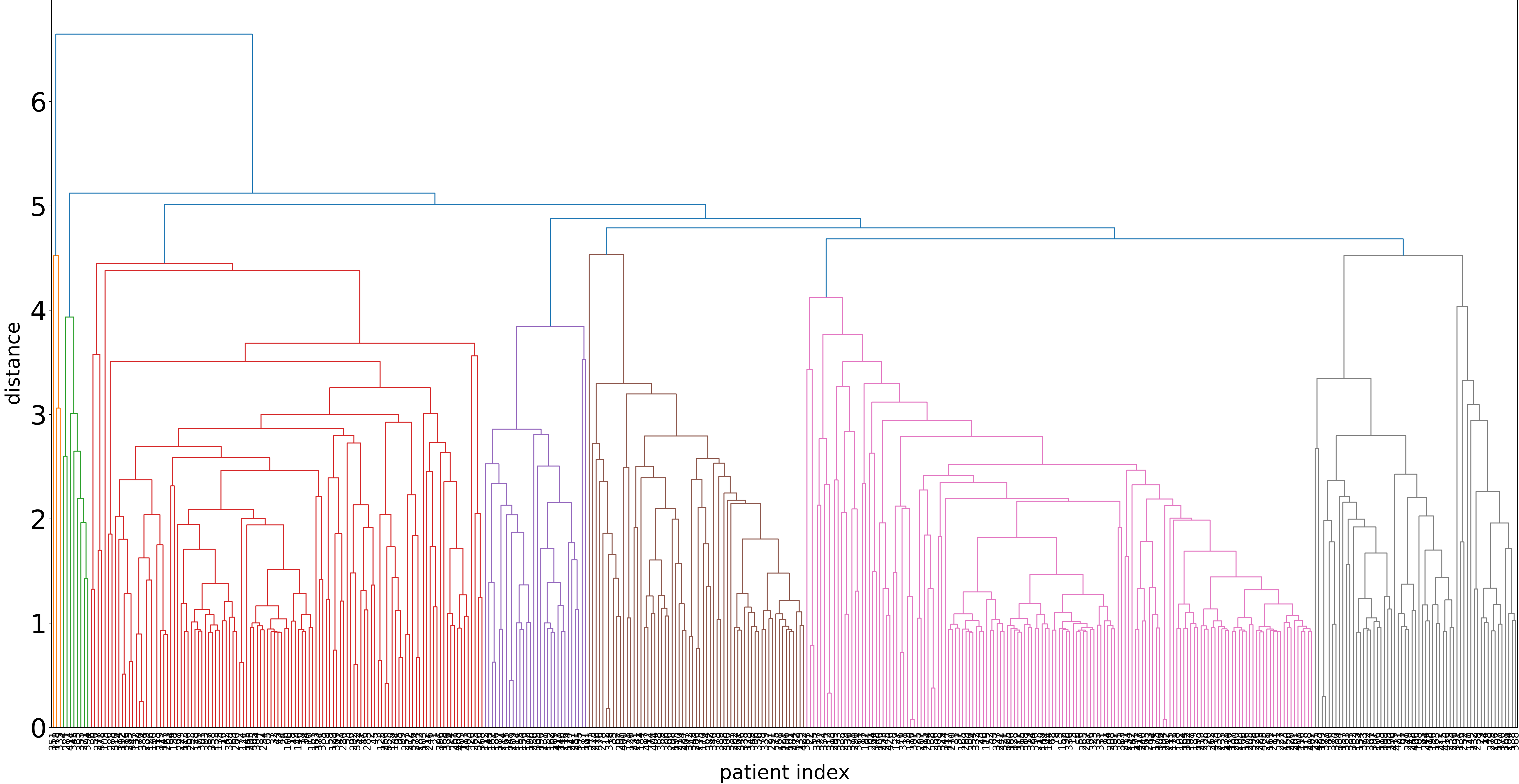
Average values of five clustering indices
gap: 0.60, Tp: 2.00, average link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.99099	0.98307	0.50277	0.00574	0.60208	0.99046	0.0158	0.99153	0.00318	0.97132	0.97128	2.0	0.67565	0.34532
3.0	1.0	0.91487	0.85135	0.55184	0.0512	0.60775	0.90727	0.0332	0.92272	0.00054	0.78904	0.78522	2.0	0.51274	0.31778
4.0	1.0	0.9244	0.87055	0.76815	0.04089	0.81257	0.92041	-1.03019	0.92849	0.00013	0.85495	0.80817	2.0	0.49382	0.17471
5.0	1.00001	0.80533	0.68402	0.67296	0.09593	0.67044	0.8016	-1.76722	0.80911	0.00011	0.72957	0.54883	2.0	0.48478	0.17471
6.0	1.0	0.88554	0.80209	0.90996	0.06657	0.8398	0.88183	-3.12614	0.88928	0.00017	0.8746	0.69915	2.0	0.47024	0.21843
7.0	1.0	0.98479	0.97103	0.97928	0.01119	0.97988	0.98465	-4.73911	0.98493	0.00021	0.9853	0.94749	2.0	0.47774	0.24099
8.0	1.0	0.99018	0.98076	0.9857	0.00736	0.98721	0.99014	-5.94182	0.99023	0.00022	0.99089	0.96325	2.0	0.49151	0.24476
9.0	1.0	0.98985	0.97989	0.97768	0.00592	0.98684	0.98981	-7.3781	0.98988	0.00022	0.9907	0.96083	2.0	0.53865	0.24476
10.0	1.0	0.98825	0.97684	0.98345	0.0064	0.98482	0.98823	-8.48082	0.98827	0.00022	0.98943	0.95517	2.0	0.51189	0.23515
11.0	1.0	0.98747	0.97529	0.9761	0.00619	0.98385	0.98741	-9.94818	0.98752	0.00022	0.98877	0.95228	2.0	0.53977	0.23515
12.0	1.0	0.98058	0.96196	0.97237	0.00903	0.97509	0.98053	-11.05638	0.98064	0.00022	0.98297	0.92729	2.0	0.52129	0.23515
13.0	1.0	0.97564	0.95253	0.97531	0.01248	0.96895	0.97557	-12.53919	0.97571	0.00022	0.97914	0.91016	2.0	0.49964	0.19471
14.0	1.0	0.97156	0.94487	0.96667	0.01504	0.96384	0.97149	-13.62841	0.97163	0.00023	0.97596	0.89654	2.0	0.52898	0.21597
15.0	1.0	0.96802	0.93822	0.95391	0.01604	0.95944	0.96792	-14.6347	0.96812	0.00023	0.97322	0.88485	2.0	0.5133	0.21597
16.0	1.0	0.9697	0.94149	0.96415	0.01625	0.96183	0.96957	-16.22255	0.96983	0.00023	0.97522	0.8912	2.0	0.50064	0.21597
17.0	1.0	0.96571	0.93416	0.95026	0.0173	0.95697	0.96555	-17.78533	0.96588	0.00023	0.9724	0.87885	2.0	0.47053	0.21597
18.0	1.0	0.96091	0.92505	0.93429	0.01988	0.95107	0.96064	-19.32416	0.96118	0.00023	0.96875	0.86293	2.0	0.54764	0.21597
19.0	1.0	0.94042	0.88775	0.94435	0.03087	0.92618	0.94007	-20.07073	0.94076	0.00023	0.95471	0.80048	2.0	0.5257	0.22524
20.0	1.0	0.94173	0.89009	0.93708	0.03119	0.92802	0.9414	-21.36137	0.94205	0.00024	0.95624	0.80416	2.0	0.54291	0.22524

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.60, Tp: 2.00, average link



Hierarchical Clustering Dendrogram - gap: 0.70, Tp: 2.00, average link

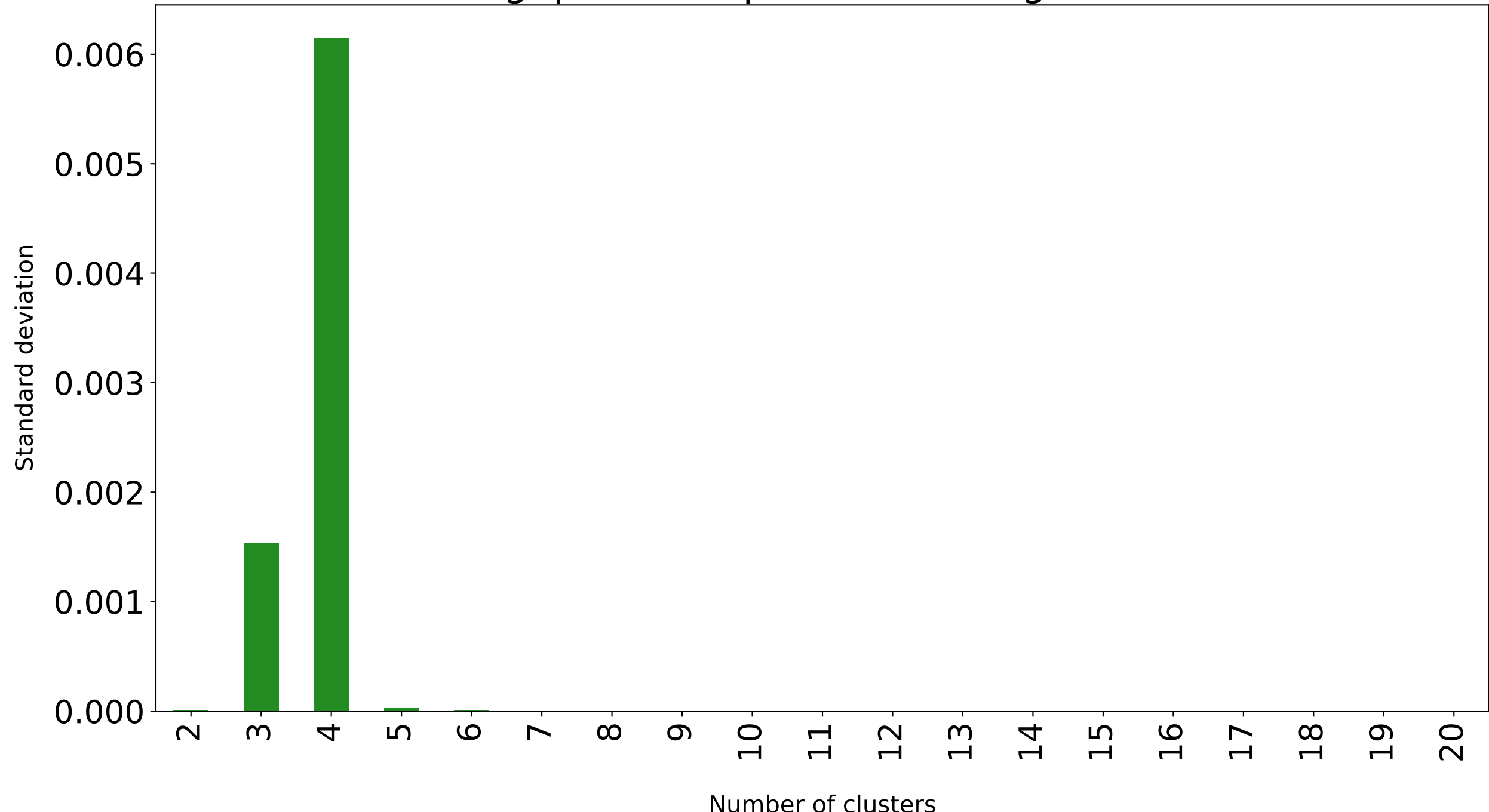


Cophenetic Correlation Coefficient: 0.7636776006646383

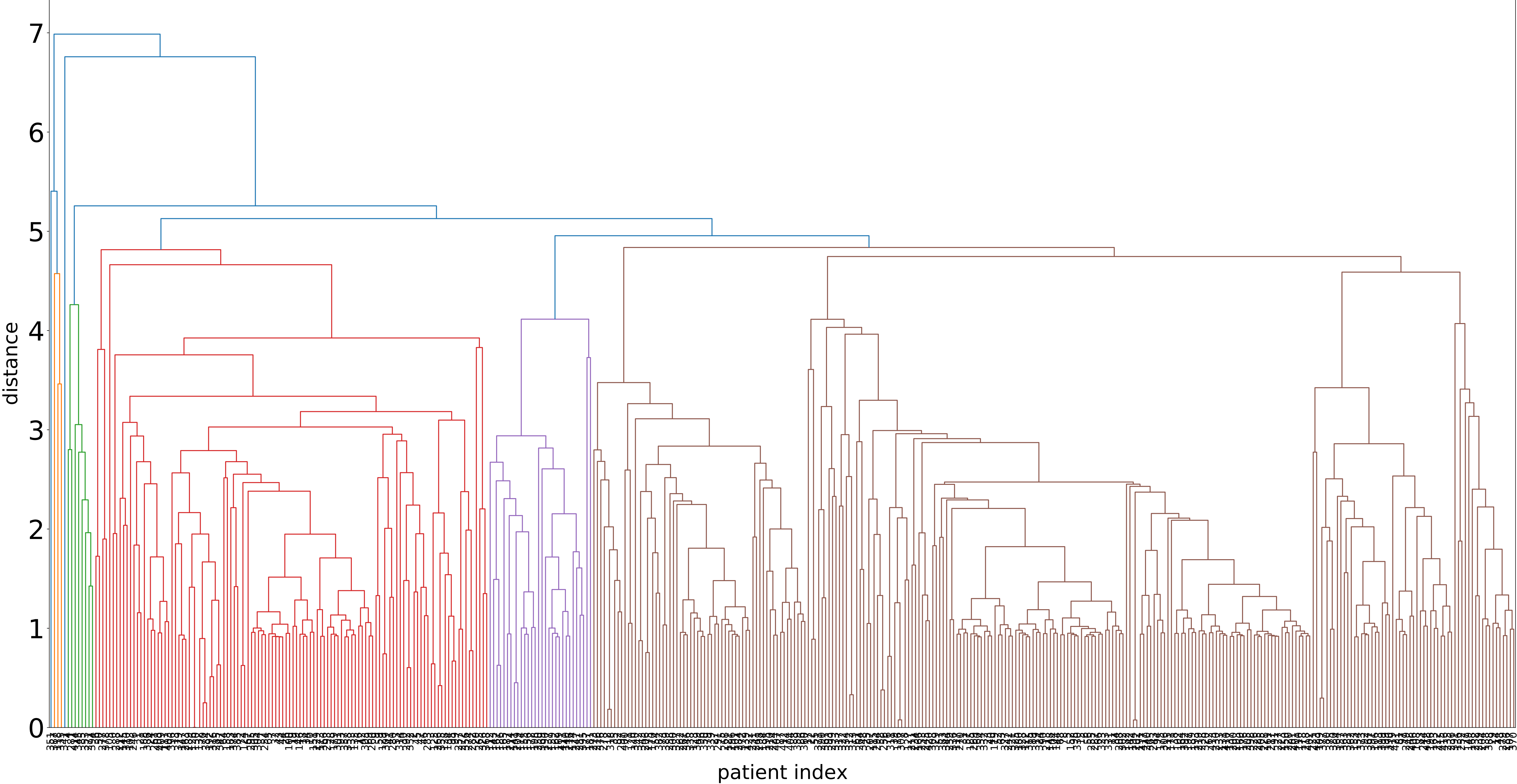
Average values of five clustering indices
gap: 0.70, Tp: 2.00, average link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.99518	0.99081	0.87161	0.00361	0.78924	0.99498	0.0075	0.99539	0.00259	0.98376	0.98368	1.33333	0.35482	0.17705
3.0	1.0	0.93523	0.88652	0.63973	0.03908	0.59769	0.93007	0.02199	0.94055	0.00052	0.83539	0.8323	1.33333	0.30429	0.17705
4.0	1.0	0.94249	0.89759	0.90169	0.03248	0.83616	0.9383	-0.98775	0.94682	0.00014	0.87317	0.84422	1.33333	0.32891	0.18829
5.0	1.0	0.88588	0.80253	0.81977	0.0569	0.79023	0.8814	-1.72555	0.89046	0.00013	0.81281	0.69953	1.33333	0.34555	0.18957
6.0	1.00001	0.8675	0.76759	0.86127	0.06737	0.79996	0.86053	-2.83775	0.8746	0.00014	0.82574	0.64898	1.33333	0.36043	0.1911
7.0	1.0	0.91571	0.84777	0.98202	0.04565	0.88528	0.90985	-4.32405	0.92175	0.00018	0.90611	0.76357	1.33333	0.3576	0.23045
8.0	1.0	0.96699	0.93842	0.97642	0.02178	0.95592	0.96588	-5.93086	0.96812	0.00021	0.96638	0.89474	2.0	0.42931	0.23045
9.0	1.0	0.97533	0.95251	0.98342	0.0197	0.96777	0.97499	-7.16282	0.97567	0.00021	0.9768	0.91295	2.0	0.44658	0.23045
10.0	1.0	0.9828	0.96646	0.97616	0.0115	0.97768	0.98269	-8.69846	0.98292	0.00022	0.98424	0.93652	2.0	0.50792	0.23045
11.0	1.0	0.98729	0.97505	0.9854	0.00792	0.98362	0.98724	-9.9193	0.98735	0.00022	0.98863	0.95217	2.0	0.48634	0.23962
12.0	1.0	0.98468	0.96992	0.97744	0.0087	0.98032	0.98463	-11.23033	0.98473	0.00022	0.98646	0.94223	2.0	0.52518	0.23962
13.0	1.0	0.98127	0.96335	0.97959	0.01155	0.97605	0.98122	-12.3614	0.98133	0.00022	0.98374	0.93006	2.0	0.50913	0.23962
14.0	1.0	0.97861	0.95826	0.96988	0.01288	0.97269	0.97854	-13.84079	0.97869	0.00022	0.98156	0.92083	2.0	0.52994	0.23962
15.0	1.0	0.97305	0.94762	0.95373	0.01386	0.9657	0.9729	-14.88922	0.9732	0.00022	0.97698	0.90168	2.0	0.51672	0.23962
16.0	1.0	0.96635	0.93484	0.9363	0.01536	0.95733	0.96607	-16.41068	0.96663	0.00022	0.97158	0.87916	2.0	0.48716	0.23962
17.0	1.0	0.9637	0.93006	0.94325	0.01713	0.95428	0.96352	-17.96801	0.96388	0.00023	0.97032	0.87065	2.0	0.47756	0.23895
18.0	1.0	0.96022	0.92367	0.94277	0.0203	0.95014	0.96006	-19.14476	0.96037	0.00023	0.96818	0.85961	2.0	0.46001	0.1741
19.0	1.0	0.95675	0.91714	0.92838	0.02215	0.94596	0.95648	-20.62535	0.95702	0.00023	0.96572	0.84857	2.0	0.47727	0.1741
20.0	1.0	0.9511	0.90651	0.91061	0.02441	0.93914	0.9506	-22.047	0.9516	0.00023	0.96162	0.83082	2.0	0.50402	0.1741

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.70, Tp: 2.00, average link



Hierarchical Clustering Dendrogram - gap: 0.80, Tp: 2.00, average link

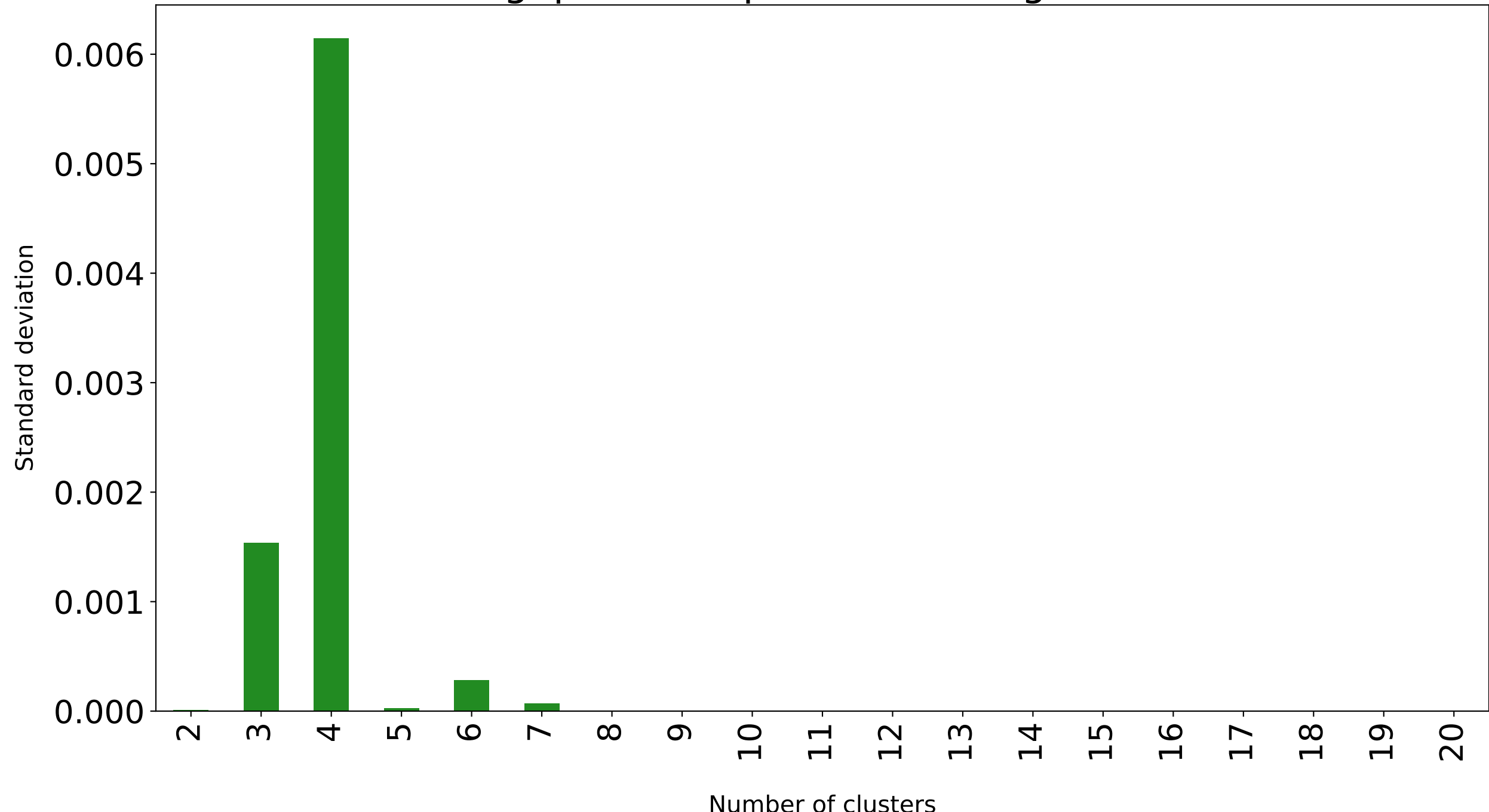


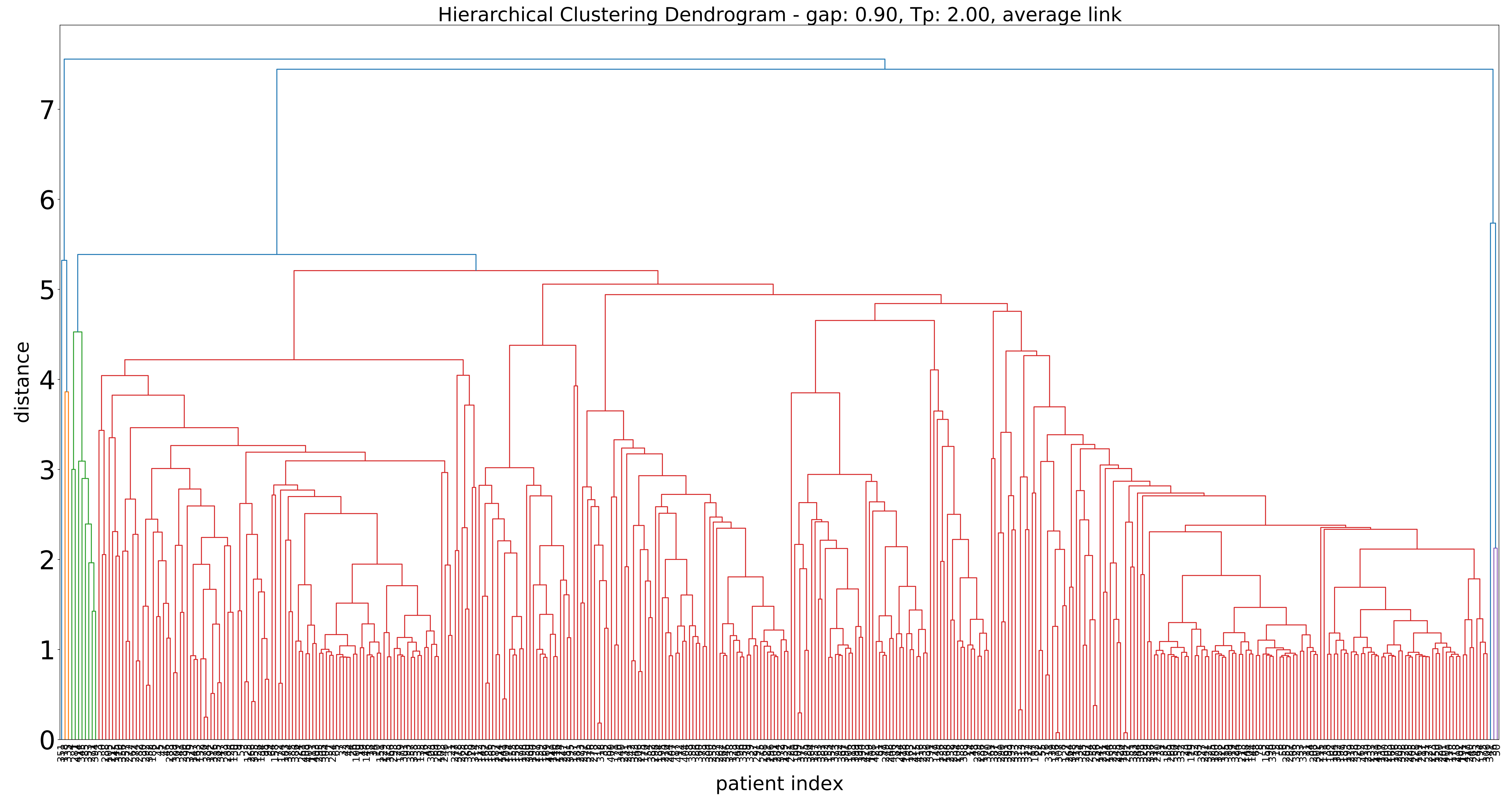
Cophenetic Correlation Coefficient: 0.7557382310845117

Average values of five clustering indices
gap: 0.80, Tp: 2.00, average link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.99441	0.9891	0.83637	0.00395	0.69549	0.9943	0.01007	0.99451	0.00191	0.97958	0.97946	1.5	0.32455	0.1724
3.0	1.0	0.98016	0.96353	0.67802	0.01287	0.67134	0.97892	-0.00055	0.98144	0.00119	0.94083	0.94022	2.0	0.51957	0.1724
4.0	1.0	0.9358	0.88583	0.38714	0.03883	0.48284	0.92987	0.03237	0.94202	0.00067	0.83022	0.82826	2.0	0.61026	0.1724
5.0	1.0	0.85547	0.75102	0.39364	0.08698	0.45113	0.83994	-0.08289	0.87191	0.00029	0.66182	0.6501	2.0	0.53906	0.1724
6.0	0.99999	0.88646	0.7997	0.75605	0.06187	0.74048	0.87682	-1.94475	0.89648	0.00013	0.78022	0.70312	2.0	0.51598	0.17979
7.0	1.00001	0.85185	0.74891	0.71678	0.07751	0.75255	0.84314	-3.13416	0.86084	0.00012	0.78069	0.63478	2.0	0.50023	0.1806
8.0	1.0	0.86315	0.76136	0.80736	0.07125	0.8001	0.85679	-4.83585	0.8696	0.00014	0.83271	0.63994	2.0	0.49084	0.18446
9.0	1.0	0.85887	0.75142	0.72612	0.07019	0.80362	0.85162	-6.07756	0.86621	0.00015	0.84195	0.62325	2.0	0.46748	0.18446
10.0	1.0	0.95787	0.92132	0.9771	0.02748	0.94407	0.95595	-8.37862	0.95983	0.00021	0.95692	0.86732	2.0	0.45865	0.22092
11.0	1.0	0.97288	0.9478	0.96304	0.02326	0.96473	0.97257	-9.80952	0.9732	0.00021	0.97492	0.90406	2.0	0.50389	0.22092
12.0	1.0	0.98457	0.96975	0.98634	0.01214	0.98015	0.98448	-11.15028	0.98466	0.00022	0.98628	0.94229	2.0	0.50944	0.22795
13.0	1.0	0.98478	0.97016	0.9772	0.01021	0.98048	0.98472	-12.68801	0.98484	0.00022	0.98663	0.9429	2.0	0.55276	0.22795
14.0	1.0	0.97997	0.96081	0.96312	0.011	0.97439	0.97986	-13.75933	0.98007	0.00022	0.98257	0.92554	2.0	0.53833	0.22795
15.0	1.0	0.97422	0.94973	0.94831	0.01277	0.96716	0.97402	-15.25563	0.97443	0.00022	0.97779	0.90554	2.0	0.50483	0.22795
16.0	1.0	0.96372	0.93013	0.93881	0.01647	0.95396	0.96353	-16.3543	0.9639	0.00022	0.96951	0.87097	2.0	0.48871	0.23406
17.0	1.0	0.95535	0.91431	0.9165	0.01895	0.94357	0.95496	-17.84781	0.95574	0.00022	0.96286	0.84367	2.0	0.50949	0.23406
18.0	1.0	0.95995	0.92308	0.93592	0.01879	0.94975	0.95977	-19.48874	0.96012	0.00023	0.9678	0.85847	2.0	0.49813	0.23406
19.0	1.0	0.96624	0.9349	0.955	0.01847	0.95789	0.96613	-21.16899	0.96634	0.00024	0.9735	0.8791	2.0	0.48987	0.22006
20.0	1.0	0.96703	0.93637	0.96074	0.02098	0.95912	0.96688	-22.44452	0.96718	0.00024	0.97465	0.88184	2.0	0.4737	0.1798

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.80, Tp: 2.00, average link

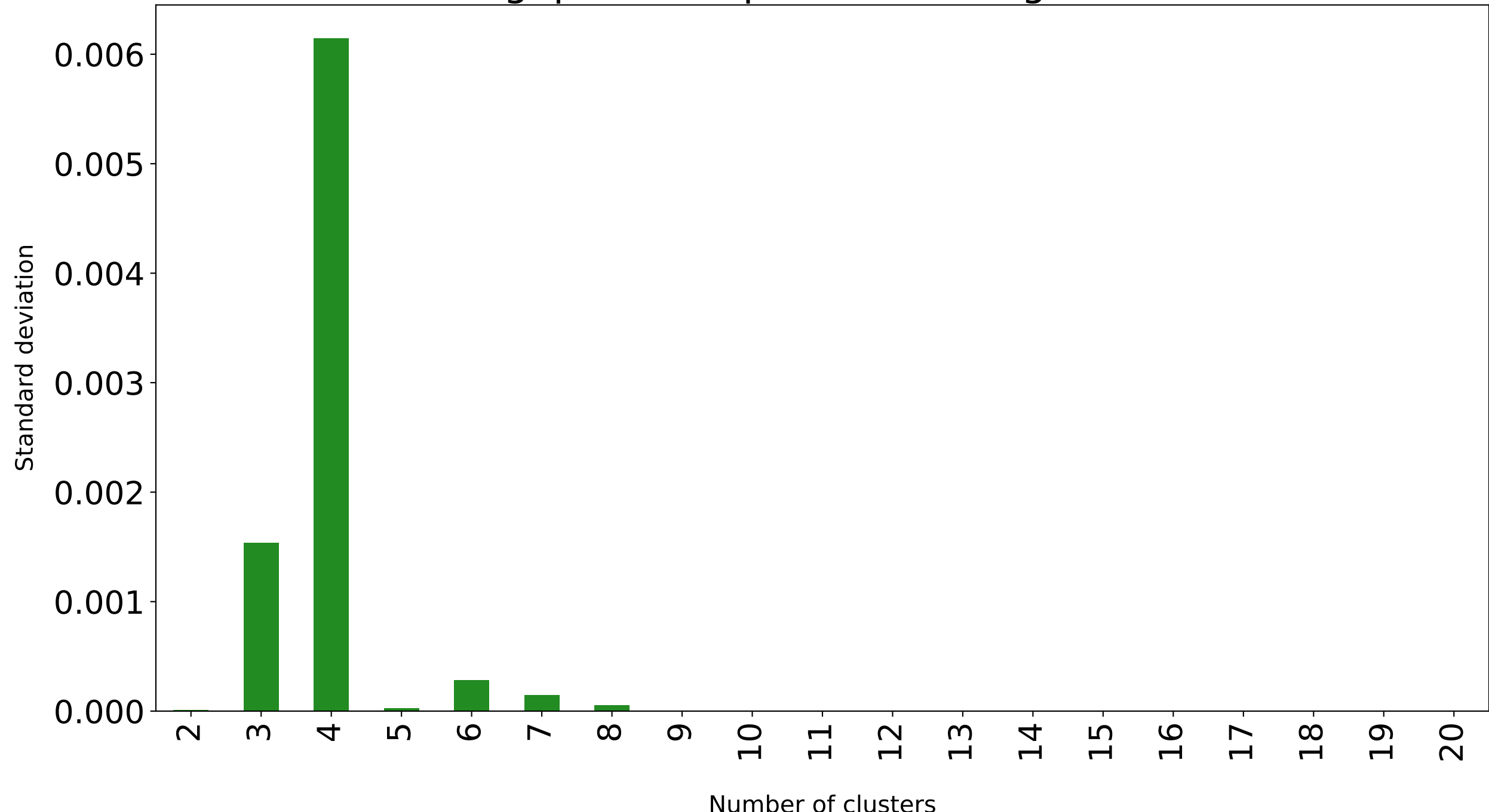


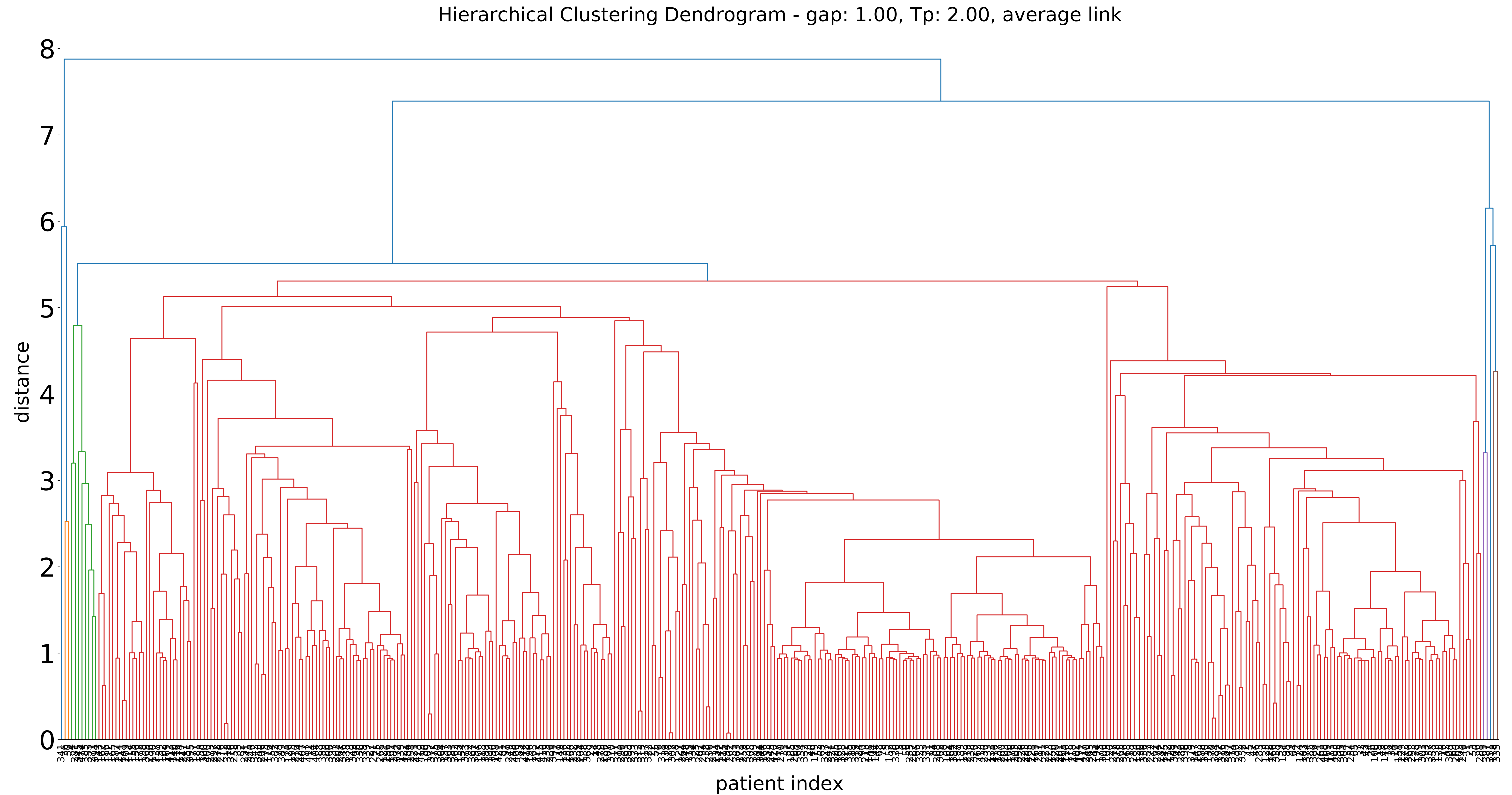


Average values of five clustering indices
gap: 0.90, Tp: 2.00, average link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.99515	0.99038	0.69451	0.00348	0.65283	0.99514	0.01137	0.99515	0.00202	0.98123	0.98113	1.33333	0.36484	0.17583
3.0	1.0	0.99163	0.98364	0.74708	0.00665	0.76389	0.99151	-0.01427	0.99175	0.0011	0.96952	0.96892	1.33333	0.34596	0.18986
4.0	1.0	0.96836	0.94219	0.5855	0.02087	0.66363	0.966	-0.0223	0.9708	0.00084	0.90925	0.90779	2.0	0.54961	0.18986
5.0	1.0	0.91052	0.84221	0.54134	0.05535	0.5263	0.90287	-0.08486	0.91844	0.00035	0.77327	0.7656	2.0	0.48497	0.18986
6.0	0.99999	0.82907	0.70559	0.30946	0.10334	0.39955	0.81053	-0.14527	0.84866	0.00021	0.60284	0.58771	2.0	0.55814	0.18986
7.0	1.00001	0.89142	0.80779	0.71982	0.05902	0.76632	0.88333	-2.5796	0.89981	0.00013	0.79698	0.70974	2.0	0.52828	0.17009
8.0	1.0	0.85493	0.75384	0.71152	0.07658	0.75842	0.84597	-3.74405	0.86422	0.00012	0.78608	0.64242	2.0	0.51273	0.17009
9.0	1.0	0.85593	0.74877	0.80221	0.0739	0.7882	0.84865	-5.59415	0.86333	0.00014	0.8214	0.62237	2.0	0.50419	0.17204
10.0	1.0	0.90439	0.83022	0.95601	0.05286	0.8699	0.89793	-7.72335	0.91112	0.00018	0.89508	0.73874	2.0	0.49284	0.21209
11.0	1.0	0.9491	0.90601	0.95468	0.03321	0.93256	0.94718	-9.45404	0.95107	0.0002	0.94925	0.84175	2.0	0.47186	0.21209
12.0	1.0	0.9691	0.94111	0.96902	0.02068	0.95997	0.96865	-10.72545	0.96957	0.00022	0.97181	0.89356	2.0	0.47891	0.21561
13.0	1.0	0.97525	0.95192	0.95988	0.01531	0.96823	0.97513	-11.89575	0.97538	0.00022	0.97824	0.90964	2.0	0.47024	0.21561
14.0	1.0	0.97089	0.9435	0.94587	0.01592	0.96278	0.97071	-13.39461	0.97108	0.00022	0.9747	0.89434	2.0	0.44135	0.21561
15.0	1.0	0.96158	0.9263	0.94626	0.01862	0.95126	0.96146	-14.8735	0.9617	0.00022	0.96789	0.86432	2.0	0.43205	0.21561
16.0	1.0	0.96239	0.92782	0.95208	0.01831	0.9526	0.96229	-16.43035	0.9625	0.00023	0.96932	0.86691	2.0	0.42992	0.22418
17.0	1.0	0.96492	0.93232	0.96948	0.02083	0.95614	0.96477	-17.71274	0.96507	0.00023	0.97213	0.87441	2.0	0.40735	0.18416
18.0	1.0	0.96682	0.93594	0.96125	0.02047	0.95862	0.96673	-19.36732	0.96692	0.00024	0.97394	0.88067	2.0	0.4303	0.18416
19.0	1.0	0.966	0.93435	0.95311	0.01962	0.95768	0.96589	-20.86294	0.96612	0.00024	0.97347	0.87779	2.0	0.42656	0.18416
20.0	1.0	0.96049	0.92409	0.94921	0.02315	0.95099	0.96037	-21.02983	0.96062	0.00024	0.96969	0.85989	2.0	0.41495	0.18994

Standard deviation of Adjusted Rand versus number of clusters
gap: 0.90, Tp: 2.00, average link





Average values of five clustering indices
gap: 1.00, Tp: 2.00, average link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.98962	0.97953	0.2722	0.00543	0.28045	0.98961	0.02516	0.98963	0.00092	0.96027	0.96024	0.66667	0.3847	0.25205
3.0	1.0	0.99112	0.98244	0.7898	0.00713	0.75488	0.99111	-0.01707	0.99114	0.00092	0.96659	0.96577	1.6	0.30275	0.18996
4.0	1.0	0.98227	0.96625	0.64409	0.01311	0.7073	0.98163	-0.04903	0.98294	0.00075	0.94133	0.93984	1.8	0.28831	0.18996
5.0	1.0	0.96594	0.93687	0.51987	0.02288	0.64065	0.96381	-0.07812	0.96814	0.00059	0.89776	0.89525	2.0	0.46333	0.18996
6.0	1.0	0.92241	0.86161	0.38013	0.04748	0.52706	0.91511	-0.0901	0.93004	0.00043	0.79624	0.79152	2.0	0.56144	0.18996
7.0	0.99999	0.85335	0.74756	0.34134	0.08857	0.41171	0.83854	-0.23434	0.86908	0.00021	0.65465	0.64053	2.0	0.51704	0.19236
8.0	1.0	0.85303	0.74587	0.68056	0.08319	0.6354	0.84103	-2.42752	0.86551	0.00011	0.71035	0.63103	2.0	0.49429	0.16163
9.0	0.99998	0.82724	0.70393	0.58675	0.09158	0.66344	0.81096	-3.46454	0.84453	0.00011	0.70478	0.57713	2.0	0.54582	0.16163
10.0	1.00002	0.78592	0.63969	0.56101	0.10921	0.65333	0.7686	-4.76053	0.80407	0.00011	0.69543	0.49335	2.0	0.53001	0.16237
11.0	1.0	0.83098	0.70418	0.71456	0.08234	0.75915	0.82162	-7.44024	0.84051	0.00014	0.80229	0.55635	2.0	0.51729	0.1705
12.0	1.0	0.90684	0.83596	0.9276	0.05479	0.87485	0.90227	-10.03814	0.91159	0.00019	0.90456	0.74326	2.0	0.50166	0.20394
13.0	1.0	0.92697	0.86745	0.91764	0.04826	0.90399	0.92509	-11.5763	0.9289	0.0002	0.93096	0.77916	2.0	0.53682	0.20394
14.0	1.0	0.93569	0.88038	0.90125	0.04339	0.91688	0.93491	-12.77733	0.93647	0.00021	0.94278	0.79229	2.0	0.52504	0.20394
15.0	1.0	0.95098	0.90734	0.92307	0.02557	0.93741	0.95052	-14.01109	0.95145	0.00022	0.95797	0.83448	2.0	0.5271	0.20718
16.0	1.0	0.94807	0.90111	0.90431	0.02436	0.93416	0.94751	-15.59085	0.94864	0.00022	0.95631	0.82241	2.0	0.49966	0.20718
17.0	1.0	0.95564	0.9151	0.92448	0.02208	0.94421	0.95536	-17.1973	0.95593	0.00023	0.96395	0.84518	2.0	0.48966	0.20718
18.0	1.0	0.96226	0.92738	0.93934	0.02028	0.95279	0.96209	-18.82563	0.96244	0.00023	0.96997	0.86589	2.0	0.48448	0.20718
19.0	1.0	0.96122	0.92533	0.93344	0.0218	0.95168	0.96098	-20.41716	0.96146	0.00024	0.96955	0.86231	2.0	0.46353	0.20718
20.0	1.0	0.95877	0.92076	0.92706	0.02389	0.94879	0.95844	-21.52518	0.9591	0.00024	0.96796	0.8548	2.0	0.47993	0.20718

Standard deviation of Adjusted Rand versus number of clusters
gap: 1.00, Tp: 2.00, average link

