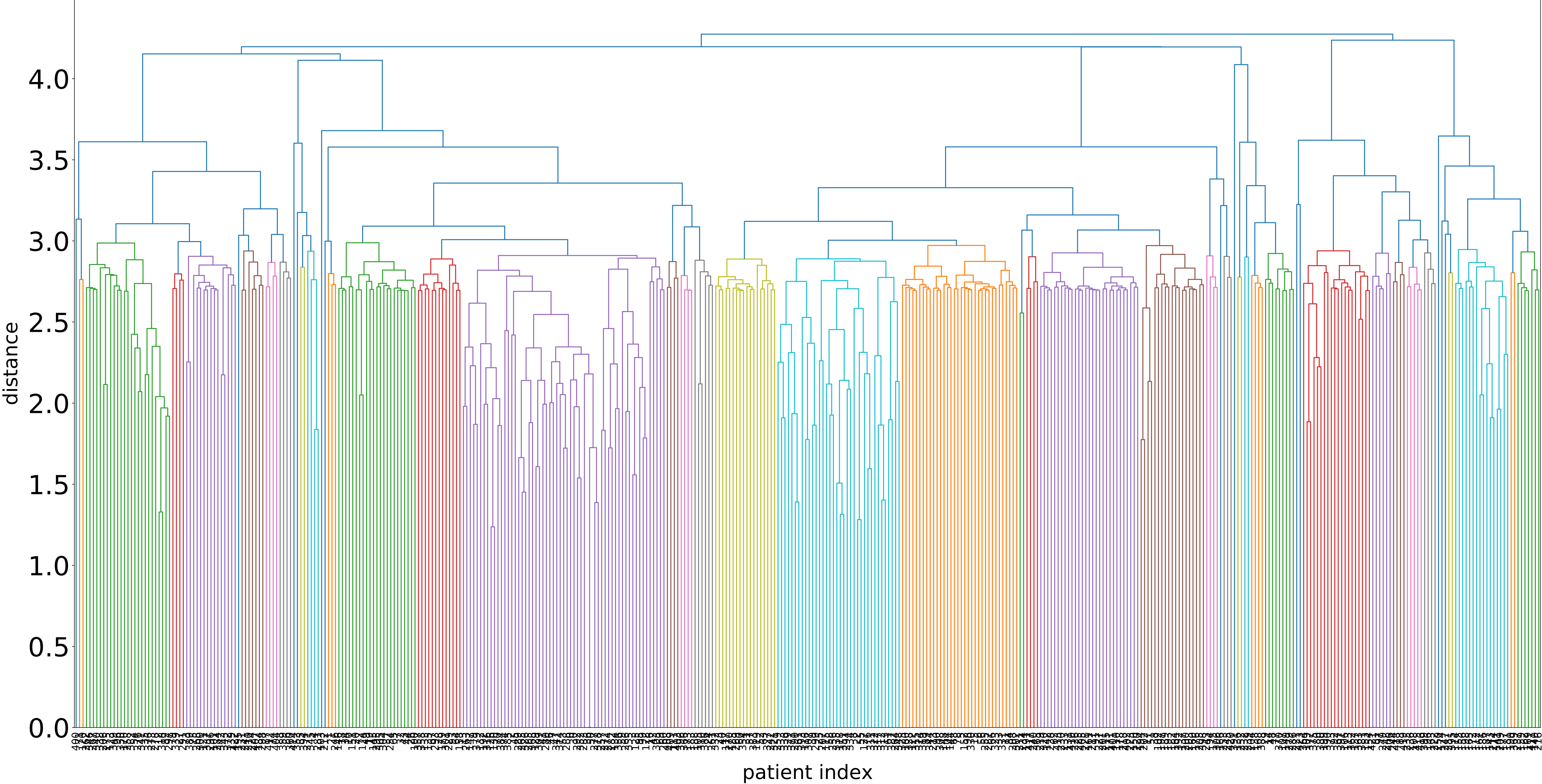


Hierarchical Clustering Dendrogram - gap: 0.00, Tp: 1.00, average link

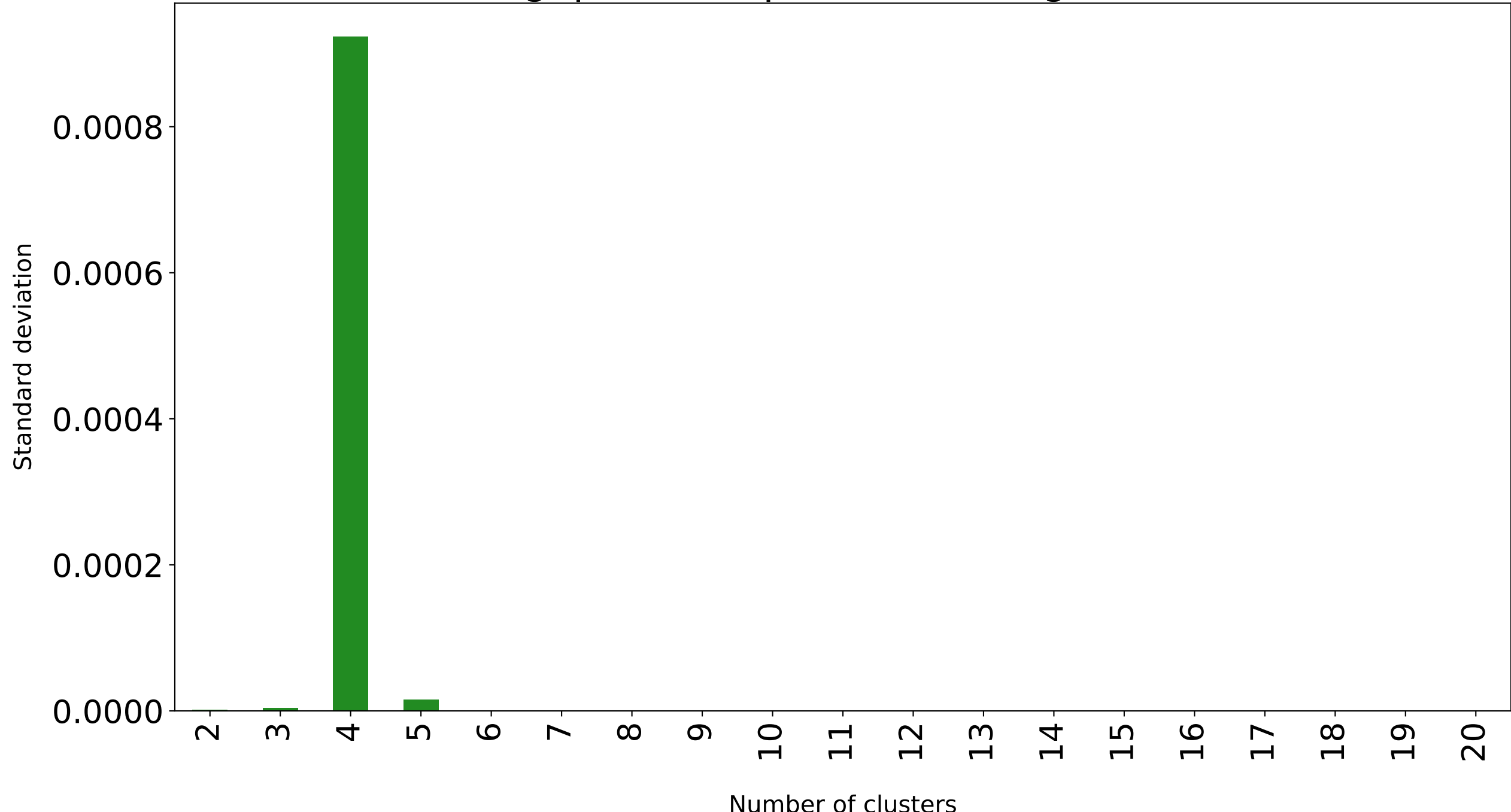


Cophenetic Correlation Coefficient: 0.8567694291987454

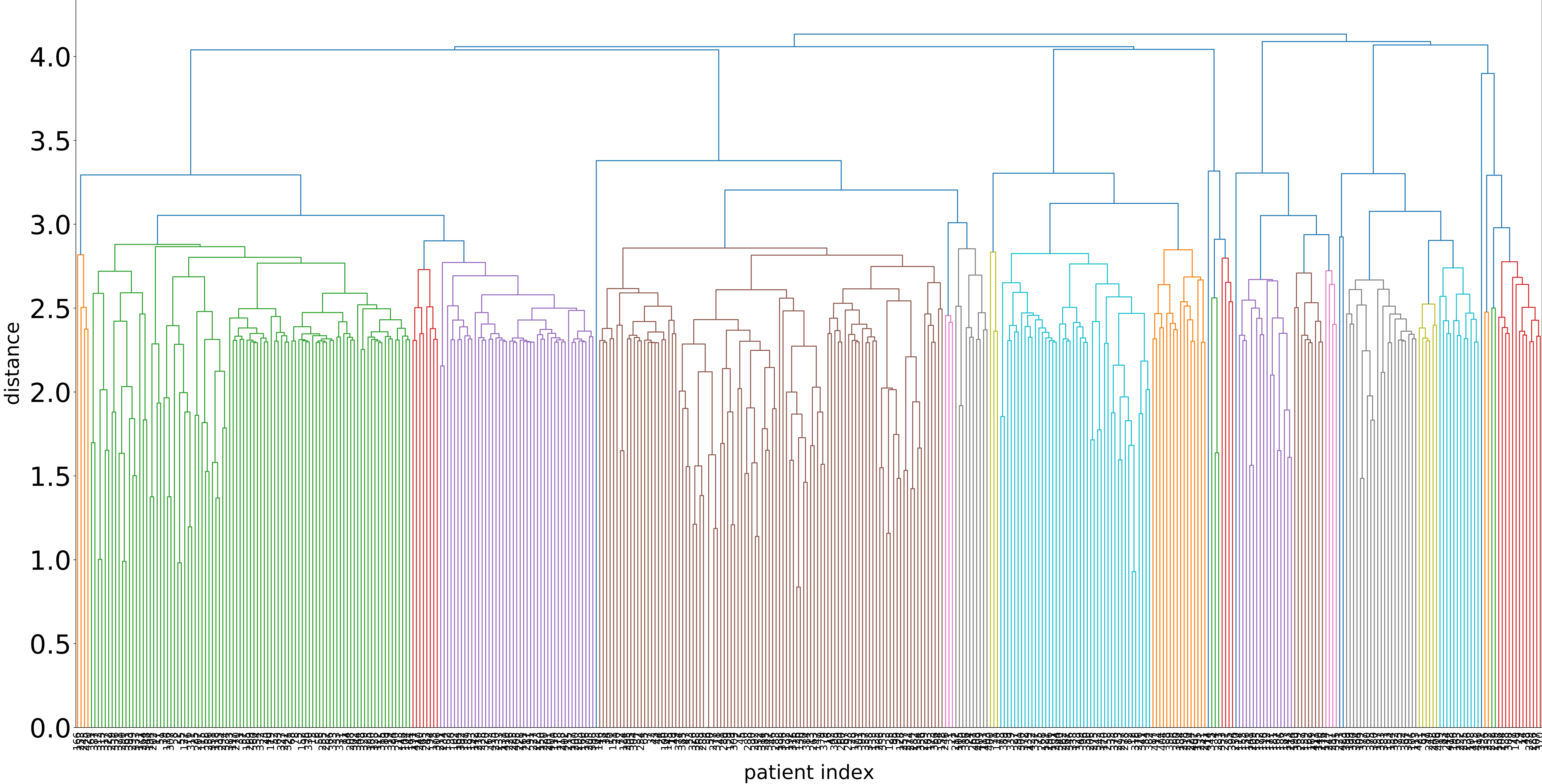
Average values of five clustering indices  
gap: 0.00, Tp: 1.00, average link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.98351	0.96883	0.94911	0.01241	0.93306	0.98307	-0.08499	0.98396	0.00018	0.95464	0.94596	0.0	0.11278	0.52077
3.0	1.0	0.98476	0.97127	0.93064	0.01289	0.9562	0.98429	-0.40531	0.98524	0.00018	0.96262	0.94978	0.0	0.18799	0.52077
4.0	0.99998	0.84045	0.73742	0.87257	0.1005	0.71449	0.82747	-1.02656	0.85399	0.00012	0.74454	0.64082	0.01667	0.19462	0.40399
5.0	1.0	0.9688	0.94685	0.95487	0.01772	0.95305	0.96758	-2.51579	0.97006	0.00017	0.96117	0.92059	0.15556	0.20416	0.40399
6.0	1.0	0.98063	0.96472	0.99247	0.01083	0.97372	0.97978	-3.85944	0.98147	0.00021	0.97935	0.94347	0.15556	0.2213	0.40399
7.0	1.0	0.9953	0.99071	0.99918	0.0029	0.99385	0.99526	-4.52683	0.99534	0.00022	0.99553	0.98209	0.22222	0.22477	0.41159
8.0	1.0	0.99846	0.99694	0.99663	0.00094	0.998	0.99846	-5.99052	0.99847	0.00022	0.99857	0.99396	2.0	0.3139	0.51343
9.0	1.0	0.99714	0.99432	0.99457	0.00218	0.99628	0.99713	-7.24099	0.99715	0.00022	0.99736	0.98887	2.0	0.38127	0.51395
10.0	1.0	0.9934	0.98692	0.98478	0.00406	0.99145	0.99336	-8.65505	0.99344	0.00022	0.99394	0.97456	2.0	0.43466	0.51395
11.0	1.0	0.98894	0.97814	0.97452	0.00652	0.9857	0.98886	-10.06121	0.98902	0.00022	0.98994	0.9578	2.0	0.39739	0.51395
12.0	1.0	0.9862	0.97283	0.97042	0.00799	0.98222	0.98611	-11.18981	0.9863	0.00022	0.98759	0.94796	2.0	0.37044	0.51395
13.0	1.0	0.98132	0.96326	0.956	0.00911	0.97602	0.98109	-12.62922	0.98155	0.00022	0.9833	0.93042	2.0	0.35582	0.51395
14.0	1.0	0.97283	0.94676	0.93367	0.01248	0.96528	0.97234	-14.05762	0.97332	0.00022	0.97591	0.90086	2.0	0.39774	0.51395
15.0	1.0	0.97219	0.94601	0.94979	0.01797	0.96476	0.97194	-15.58829	0.97243	0.00023	0.97654	0.89949	2.0	0.37365	0.5165
16.0	1.0	0.96675	0.93591	0.94163	0.02766	0.95826	0.96634	-16.19113	0.96717	0.00023	0.97282	0.88246	2.0	0.36116	0.51966
17.0	1.0	0.95265	0.90996	0.9091	0.03975	0.94118	0.95151	-17.73914	0.95379	0.00023	0.96242	0.84075	2.0	0.34573	0.51966
18.0	1.0	0.93896	0.88603	0.88626	0.0455	0.92567	0.93658	-19.26099	0.94138	0.00023	0.9546	0.80759	2.0	0.33041	0.51966
19.0	1.0	0.91224	0.8393	0.82952	0.05464	0.89476	0.90766	-20.92415	0.91688	0.00023	0.93813	0.74187	2.0	0.31857	0.51966
20.0	1.0	0.87597	0.77484	0.74956	0.0667	0.85251	0.86804	-22.52609	0.88403	0.00023	0.91439	0.64952	2.0	0.30961	0.51966

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



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

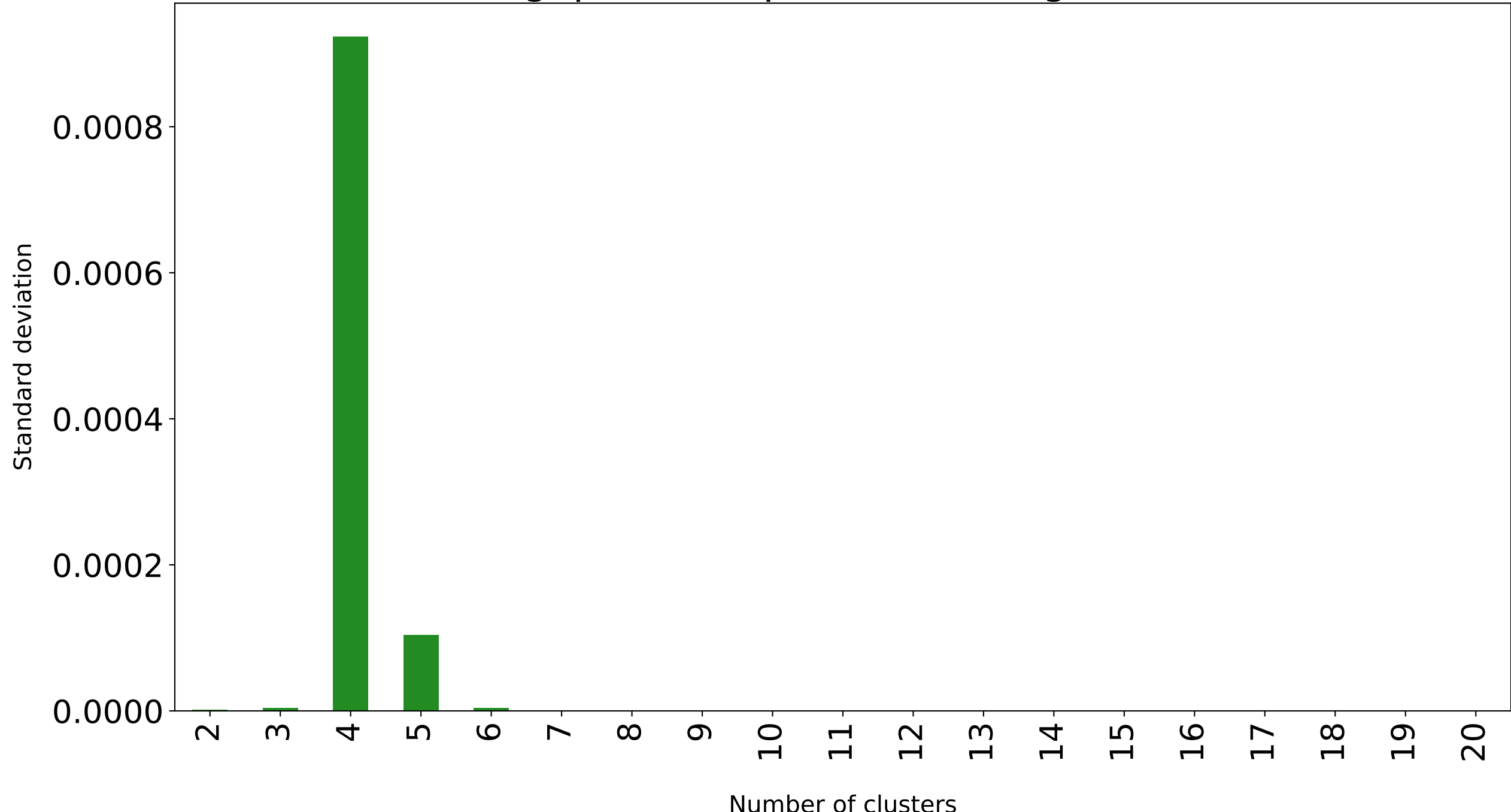


Cophenetic Correlation Coefficient: 0.8722710139664223

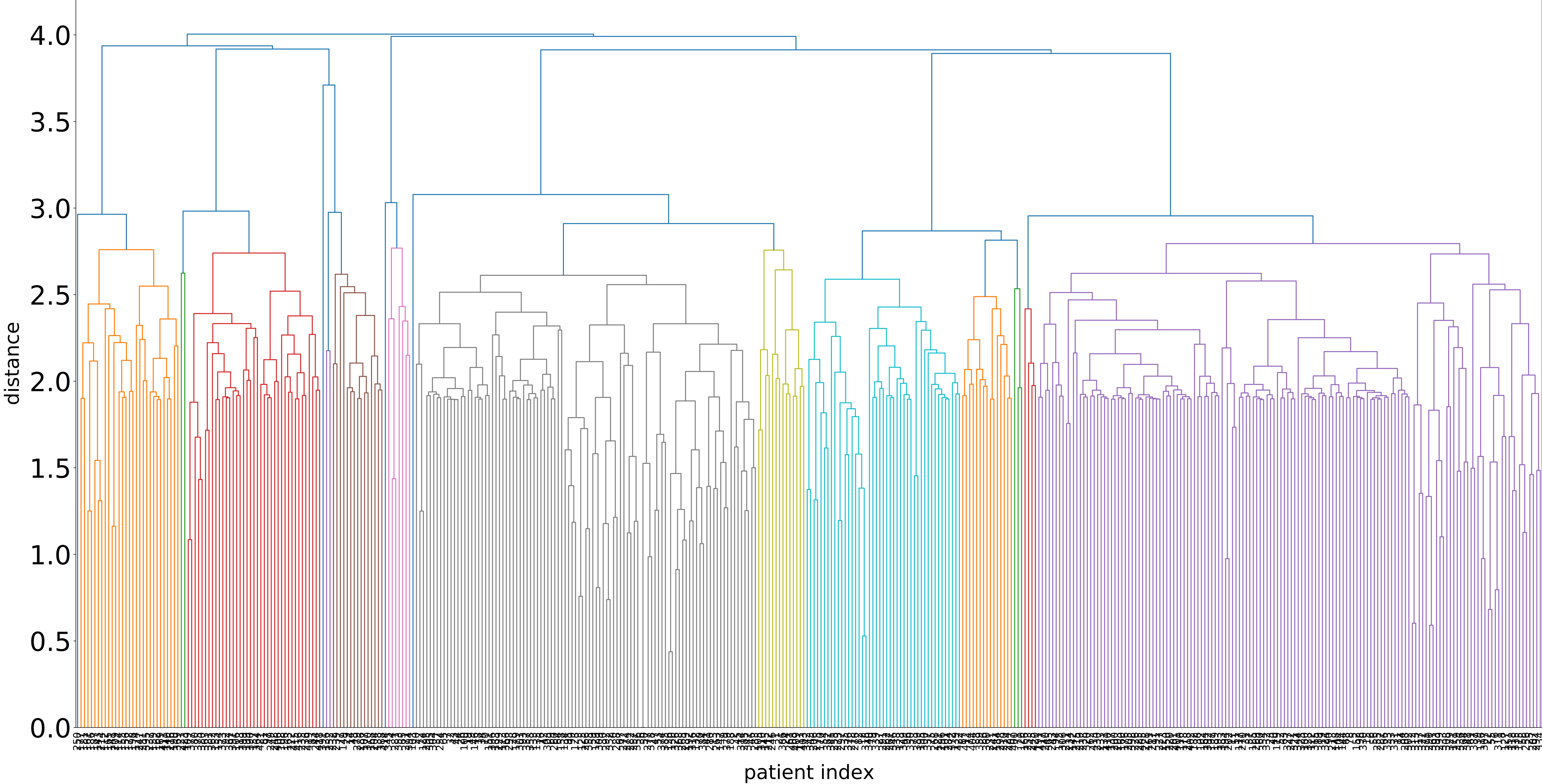
Average values of five clustering indices  
gap: 0.10, Tp: 1.00, average link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.95561	0.91642	0.91784	0.03143	0.84352	0.95457	-0.04681	0.95666	0.00016	0.88442	0.85467	0.02697	0.11681	0.36166
3.0	1.0	0.95249	0.91242	0.91109	0.04552	0.86708	0.9517	-0.34495	0.95328	0.00015	0.88886	0.85005	0.03729	0.18645	0.36166
4.0	0.99998	0.90012	0.82715	0.72252	0.05555	0.77937	0.89561	-0.6274	0.90473	0.00013	0.80775	0.73914	0.13333	0.23074	0.36166
5.0	0.99998	0.87569	0.79145	0.84306	0.06978	0.79084	0.86916	-1.64874	0.88236	0.00013	0.81585	0.69729	0.13333	0.23471	0.36224
6.0	1.0	0.81058	0.68972	0.60602	0.10375	0.7243	0.79584	-2.31355	0.82586	0.00012	0.76946	0.58016	0.22222	0.24906	0.36224
7.0	1.0	0.99911	0.99823	0.99906	0.00093	0.99884	0.99911	-4.59196	0.99911	0.00022	0.99916	0.99649	0.22222	0.2723	0.39664
8.0	1.0	0.99862	0.99724	0.9973	0.00095	0.99819	0.99861	-5.98898	0.99862	0.00022	0.9987	0.99454	2.0	0.3546	0.45974
9.0	1.0	0.99677	0.99358	0.99351	0.00257	0.9958	0.99676	-7.23823	0.99678	0.00022	0.997	0.98739	2.0	0.41249	0.45974
10.0	1.0	0.99395	0.98798	0.9856	0.00492	0.99214	0.99392	-8.60095	0.99398	0.00022	0.99442	0.97652	2.0	0.4554	0.45974
11.0	1.0	0.99022	0.98063	0.97693	0.00761	0.98734	0.99016	-10.00346	0.99028	0.00022	0.99104	0.96241	2.0	0.49437	0.45974
12.0	1.0	0.98524	0.97092	0.96751	0.0097	0.98095	0.98513	-11.11849	0.98535	0.00022	0.98663	0.94429	2.0	0.45911	0.45974
13.0	1.0	0.98036	0.96143	0.95425	0.01123	0.97477	0.98011	-12.58512	0.98061	0.00022	0.98239	0.92719	2.0	0.42505	0.45974
14.0	1.0	0.97947	0.95997	0.95461	0.01451	0.97397	0.97907	-14.13775	0.97987	0.00022	0.98232	0.92594	2.0	0.40064	0.46718
15.0	1.0	0.96608	0.93424	0.91924	0.02275	0.95732	0.96513	-15.57853	0.96703	0.00022	0.97126	0.88105	2.0	0.38531	0.46718
16.0	1.0	0.96629	0.93528	0.93754	0.02904	0.95803	0.96561	-16.68694	0.96698	0.00023	0.97307	0.88296	2.0	0.36756	0.46718
17.0	1.0	0.95482	0.91586	0.91731	0.03252	0.94518	0.95289	-18.28922	0.95677	0.00024	0.96678	0.8587	2.0	0.35047	0.46718
18.0	1.0	0.92061	0.85455	0.84759	0.05018	0.90508	0.9162	-19.9112	0.92508	0.00024	0.94451	0.7673	2.0	0.33729	0.46718
19.0	1.0	0.90556	0.82816	0.93666	0.05577	0.88896	0.90232	-22.12795	0.90885	0.00028	0.94156	0.72	2.0	0.32306	0.49123
20.0	1.0	0.93076	0.87221	0.93702	0.04335	0.91915	0.92937	-24.38778	0.93216	0.0003	0.95968	0.78281	2.0	0.31279	0.49123

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



Hierarchical Clustering Dendrogram - gap: 0.20, Tp: 1.00, average link



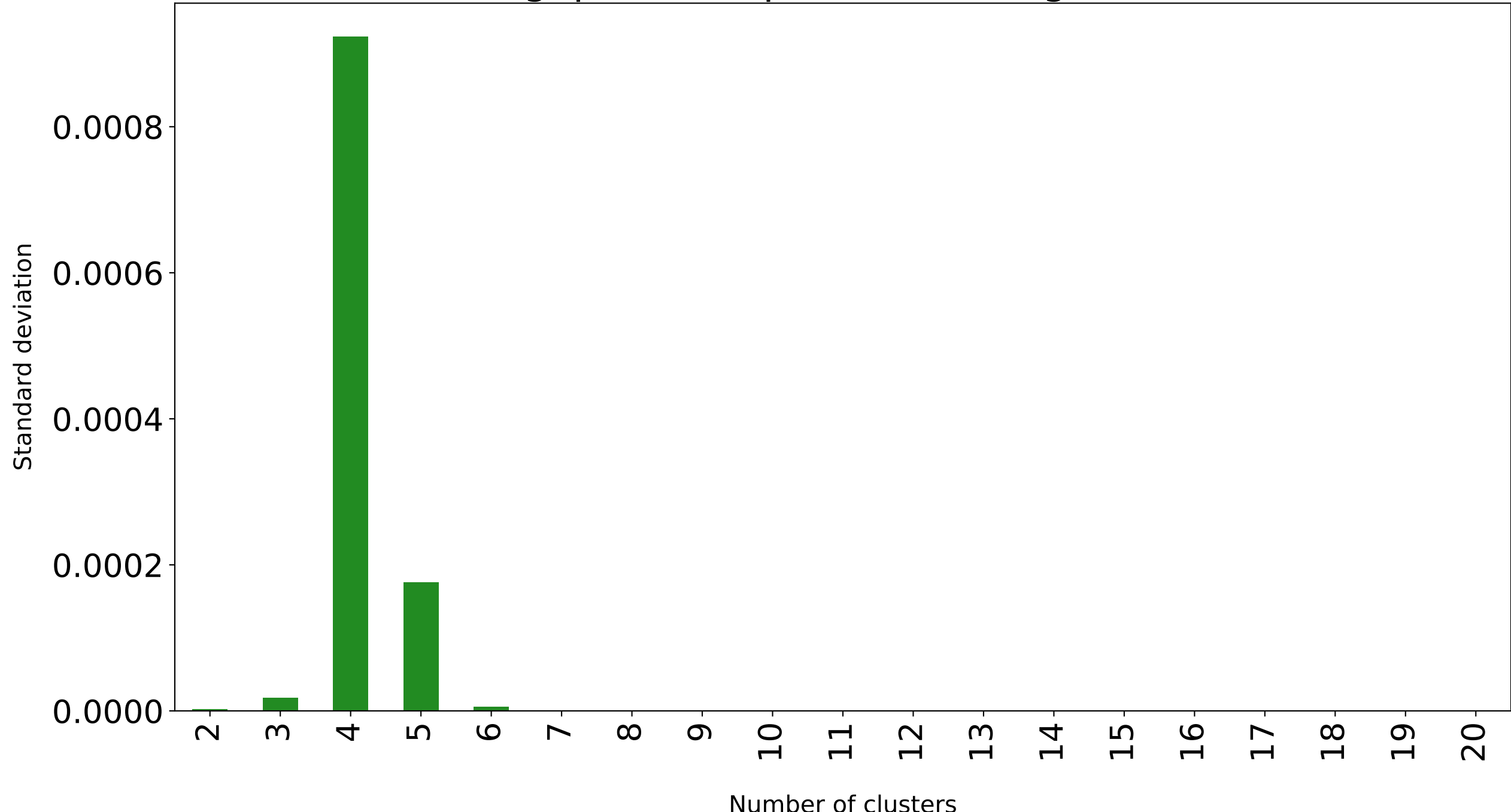
Cophenetic Correlation Coefficient: 0.8662562972887964

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

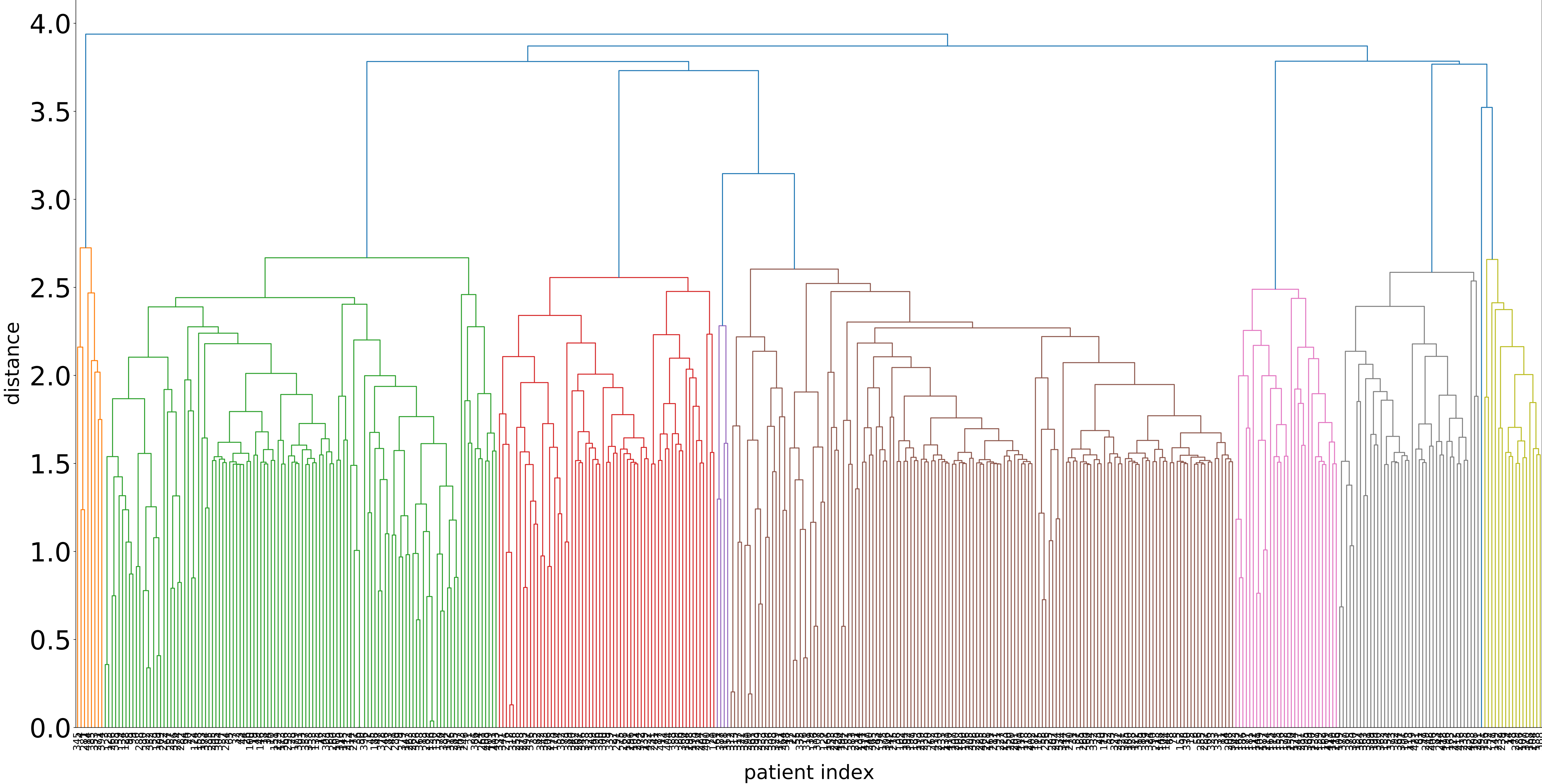
k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.92775	0.87014	0.68777	0.04448	0.66892	0.92409	0.00082	0.93148	0.00012	0.81333	0.79611	0.02472	0.13808	0.32204
3.0	0.99999	0.94213	0.89584	0.87163	0.04024	0.85276	0.94023	-0.25155	0.94406	0.00015	0.87496	0.83113	0.06742	0.19427	0.32204
4.0	0.99997	0.90432	0.83373	0.75099	0.06796	0.8022	0.89929	-0.63931	0.90945	0.00013	0.82207	0.74978	0.0678	0.24114	0.32204
5.0	1.0	0.81857	0.68852	0.50843	0.10066	0.66597	0.80377	-0.98644	0.8339	0.00011	0.68765	0.55528	0.22222	0.28064	0.32204
6.0	1.00001	0.79079	0.67571	0.65611	0.10966	0.67933	0.78568	-2.30565	0.79596	0.00012	0.75659	0.55891	0.22222	0.29746	0.30647
7.0	1.0	0.9981	0.99622	0.99861	0.00136	0.99752	0.9981	-4.58564	0.9981	0.00022	0.99822	0.99255	0.22222	0.31766	0.36016
8.0	1.0	0.99725	0.99453	0.99557	0.00189	0.99641	0.99724	-5.98108	0.99725	0.00022	0.99744	0.98927	2.0	0.39453	0.38455
9.0	1.0	0.99217	0.98451	0.98468	0.00523	0.98983	0.99214	-7.21488	0.99221	0.00022	0.99278	0.9699	2.0	0.44357	0.38455
10.0	1.0	0.98878	0.97786	0.97478	0.00799	0.98547	0.98869	-8.58215	0.98888	0.00022	0.98971	0.95745	2.0	0.4793	0.38455
11.0	1.0	0.98227	0.96522	0.95992	0.01199	0.97717	0.98205	-9.97543	0.98249	0.00022	0.98399	0.9344	2.0	0.43354	0.38455
12.0	1.0	0.97244	0.94623	0.9352	0.01621	0.96472	0.97192	-11.35402	0.97297	0.00022	0.9754	0.9006	2.0	0.40922	0.38455
13.0	1.0	0.95942	0.92151	0.90386	0.02175	0.9485	0.95824	-12.78663	0.96059	0.00022	0.9645	0.85907	2.0	0.44313	0.38455
14.0	1.0	0.94626	0.89763	0.88305	0.02928	0.93248	0.94467	-14.27935	0.94786	0.00022	0.95493	0.82071	2.0	0.41685	0.38455
15.0	1.0	0.94392	0.89414	0.89566	0.03265	0.93042	0.94261	-15.36778	0.94524	0.00023	0.95586	0.81564	2.0	0.39511	0.38455
16.0	1.0	0.93258	0.87409	0.88108	0.03733	0.91726	0.93102	-16.87852	0.93415	0.00023	0.94951	0.78433	2.0	0.37079	0.38455
17.0	1.0	0.91639	0.84451	0.83604	0.04291	0.89825	0.9137	-18.18776	0.91909	0.00023	0.93878	0.73905	2.0	0.35859	0.38455
18.0	1.0	0.89858	0.81548	0.93243	0.06136	0.87926	0.89658	-19.90832	0.90058	0.00026	0.93486	0.69489	2.0	0.341	0.38027
19.0	1.0	0.89924	0.81786	0.9149	0.06649	0.8804	0.89791	-21.34136	0.90058	0.00026	0.93711	0.69865	2.0	0.33553	0.38027
20.0	1.0	0.89518	0.81215	0.89589	0.07286	0.87633	0.89406	-23.18171	0.8963	0.00027	0.93712	0.6915	2.0	0.32651	0.38027



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



Hierarchical Clustering Dendrogram - gap: 0.30, Tp: 1.00, average link

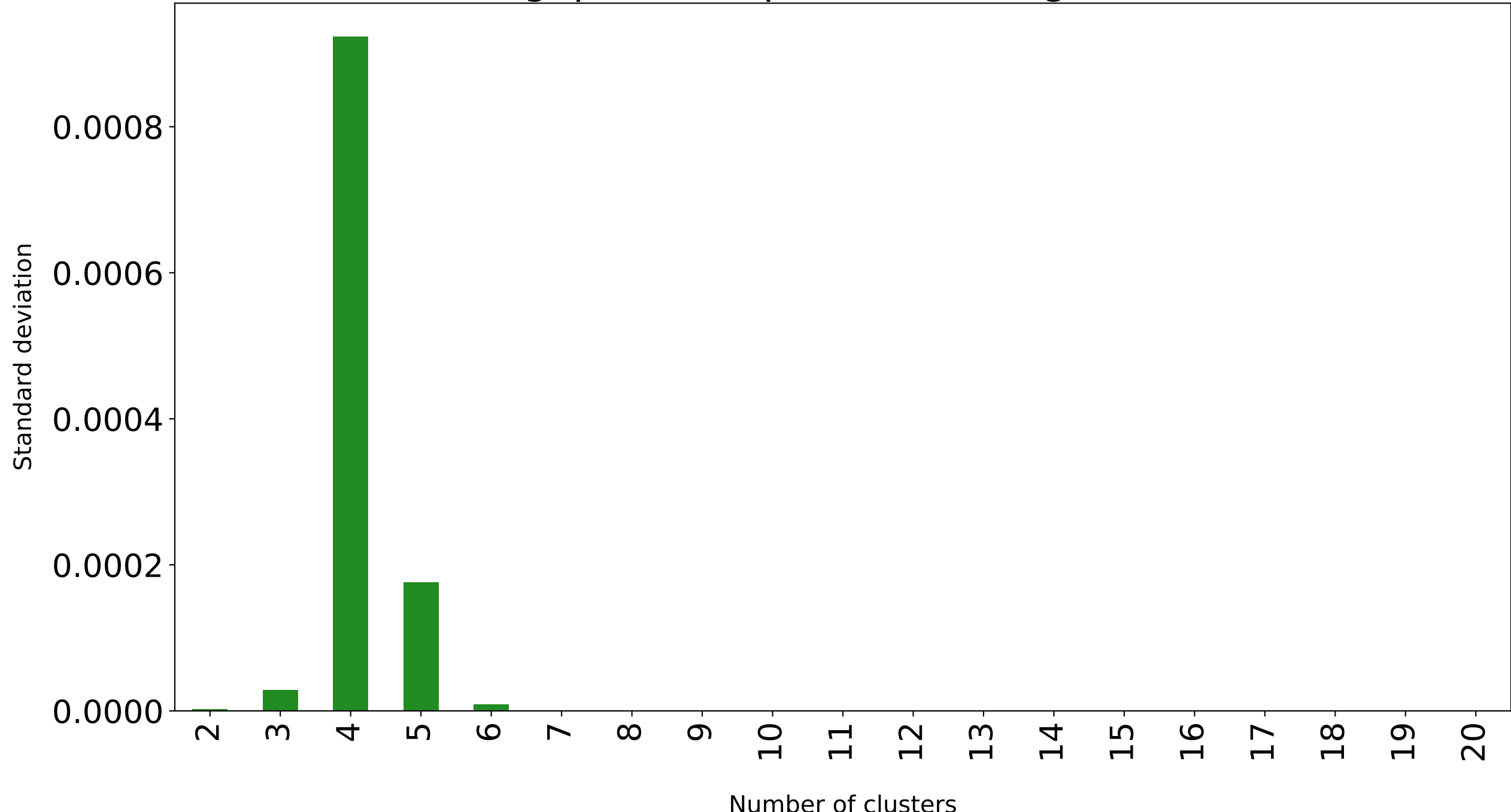


Cophenetic Correlation Coefficient: 0.8542263129033308

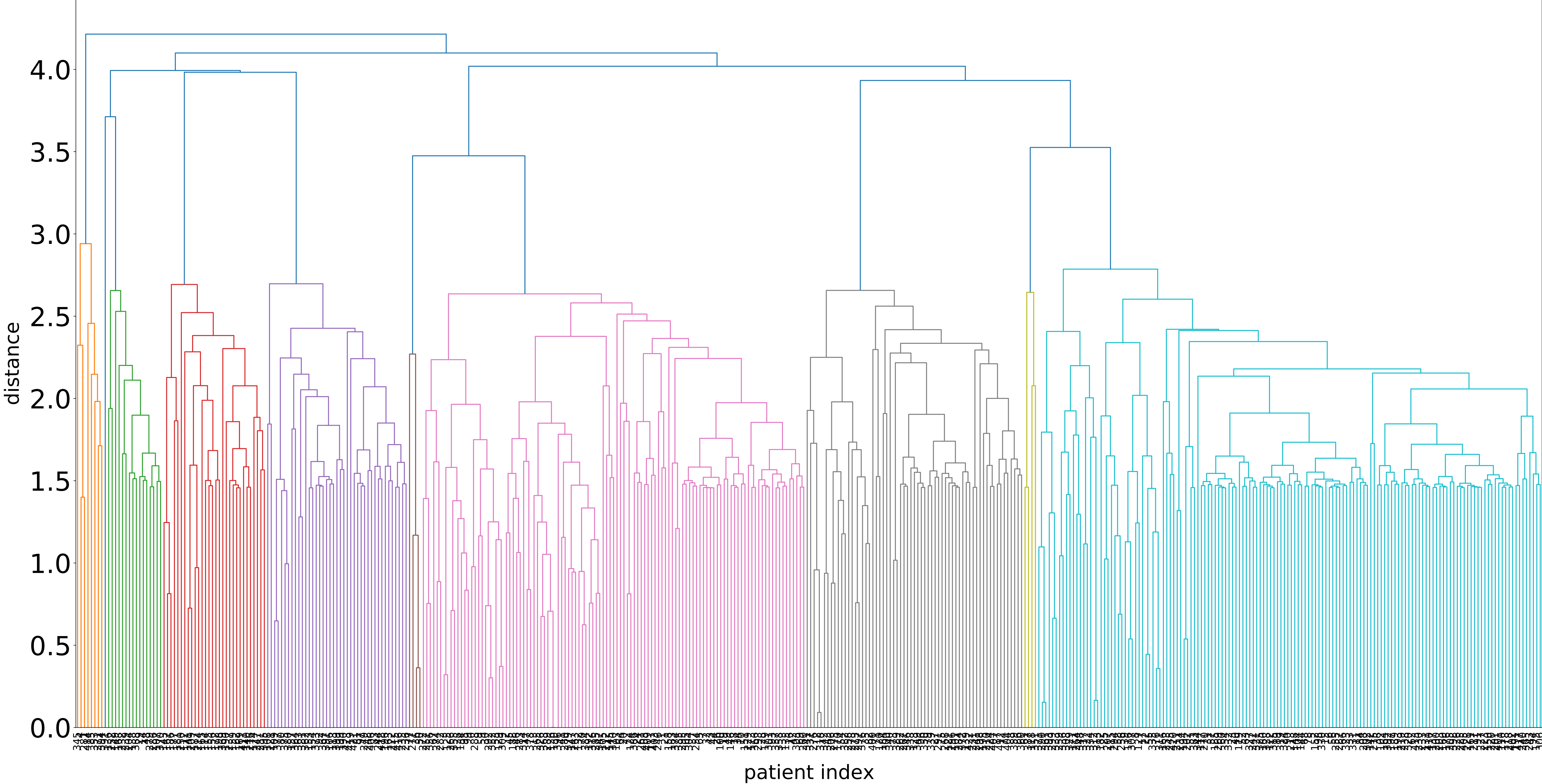
Average values of five clustering indices  
gap: 0.30, Tp: 1.00, average link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.94332	0.8999	0.68001	0.03152	0.67055	0.9399	0.06343	0.94679	0.00076	0.85042	0.84957	0.0	0.25192	0.26008
3.0	0.99999	0.94854	0.90777	0.88773	0.0327	0.86919	0.94635	-0.28873	0.95077	0.00015	0.88954	0.85297	0.04494	0.22429	0.27511
4.0	1.00001	0.85344	0.75398	0.62805	0.10376	0.71479	0.84404	-0.59776	0.86311	0.00012	0.74651	0.64991	0.0678	0.27787	0.27511
5.0	1.00001	0.86944	0.79486	0.84527	0.09138	0.78676	0.86548	-1.67772	0.87351	0.00014	0.82783	0.71352	0.0678	0.30883	0.25305
6.0	1.0	0.8881	0.81957	0.80656	0.05933	0.8317	0.88412	-2.72783	0.89215	0.00015	0.86869	0.7465	0.22222	0.34211	0.25305
7.0	1.0	0.99263	0.98638	0.99612	0.00384	0.99014	0.99232	-4.54494	0.99296	0.00022	0.99238	0.97705	0.22222	0.3643	0.31315
8.0	1.0	0.99396	0.98807	0.98702	0.00352	0.99218	0.9939	-5.96684	0.99402	0.00022	0.99445	0.97708	2.0	0.43536	0.31315
9.0	1.0	0.98419	0.96904	0.97836	0.00864	0.97966	0.98406	-7.0431	0.98432	0.00022	0.98587	0.94132	2.0	0.41479	0.3432
10.0	1.0	0.97538	0.95216	0.95141	0.01493	0.96861	0.97497	-8.08906	0.9758	0.00022	0.97847	0.9118	2.0	0.38939	0.3432
11.0	1.0	0.94912	0.90357	0.93559	0.02786	0.93557	0.94866	-8.49616	0.94957	0.00022	0.9576	0.82754	2.0	0.35322	0.35199
12.0	1.0	0.9464	0.89875	0.91531	0.02959	0.93251	0.94572	-10.04482	0.94708	0.00022	0.95607	0.82081	2.0	0.33582	0.35199
13.0	1.0	0.91369	0.84165	0.92056	0.04277	0.89314	0.91273	-11.43835	0.91466	0.00023	0.93462	0.73204	2.0	0.30893	0.33058
14.0	1.0	0.91789	0.8494	0.90545	0.0433	0.8989	0.9171	-12.90422	0.91868	0.00023	0.93943	0.74444	2.0	0.27919	0.33058
15.0	1.0	0.90668	0.83054	0.89749	0.05919	0.88636	0.9059	-13.97074	0.90747	0.00024	0.93468	0.71603	2.0	0.25986	0.33058
16.0	1.0	0.90418	0.82649	0.87515	0.06242	0.8838	0.90338	-15.6723	0.90499	0.00024	0.9343	0.7104	2.0	0.31072	0.33058
17.0	1.0	0.897	0.81389	0.8921	0.07104	0.87654	0.89616	-16.74733	0.89783	0.00025	0.93319	0.69047	2.0	0.30212	0.31107
18.0	1.0	0.89153	0.80578	0.87379	0.08101	0.87074	0.89074	-18.35719	0.89232	0.00025	0.93194	0.68031	2.0	0.2871	0.31107
19.0	1.0	0.88403	0.7935	0.84673	0.08547	0.86262	0.88273	-19.65201	0.88533	0.00025	0.9291	0.66441	2.0	0.28127	0.31107
20.0	1.0	0.87044	0.77216	0.82595	0.09139	0.84769	0.86902	-21.35737	0.87187	0.00026	0.92427	0.63592	2.0	0.27784	0.31107

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



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

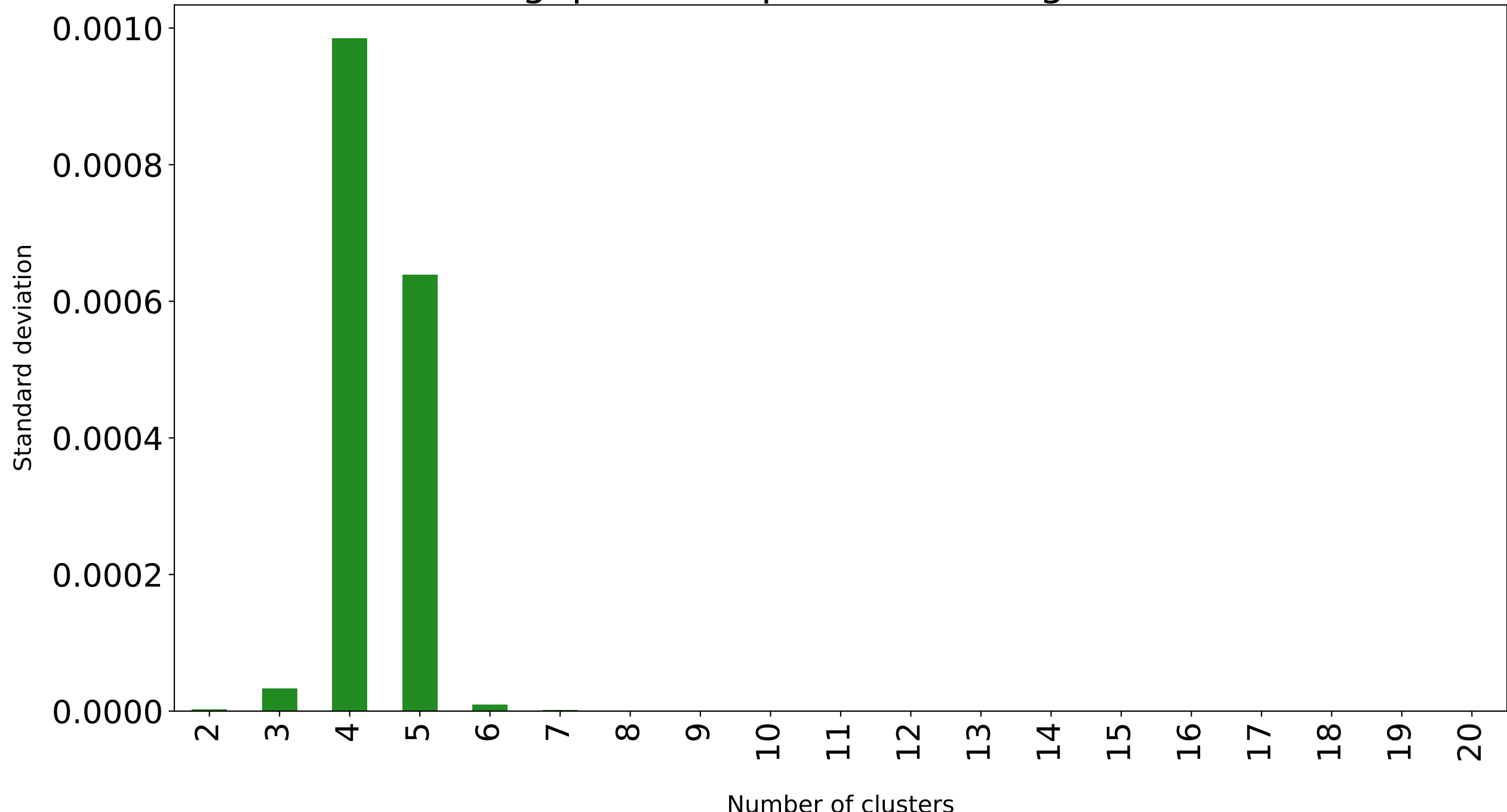


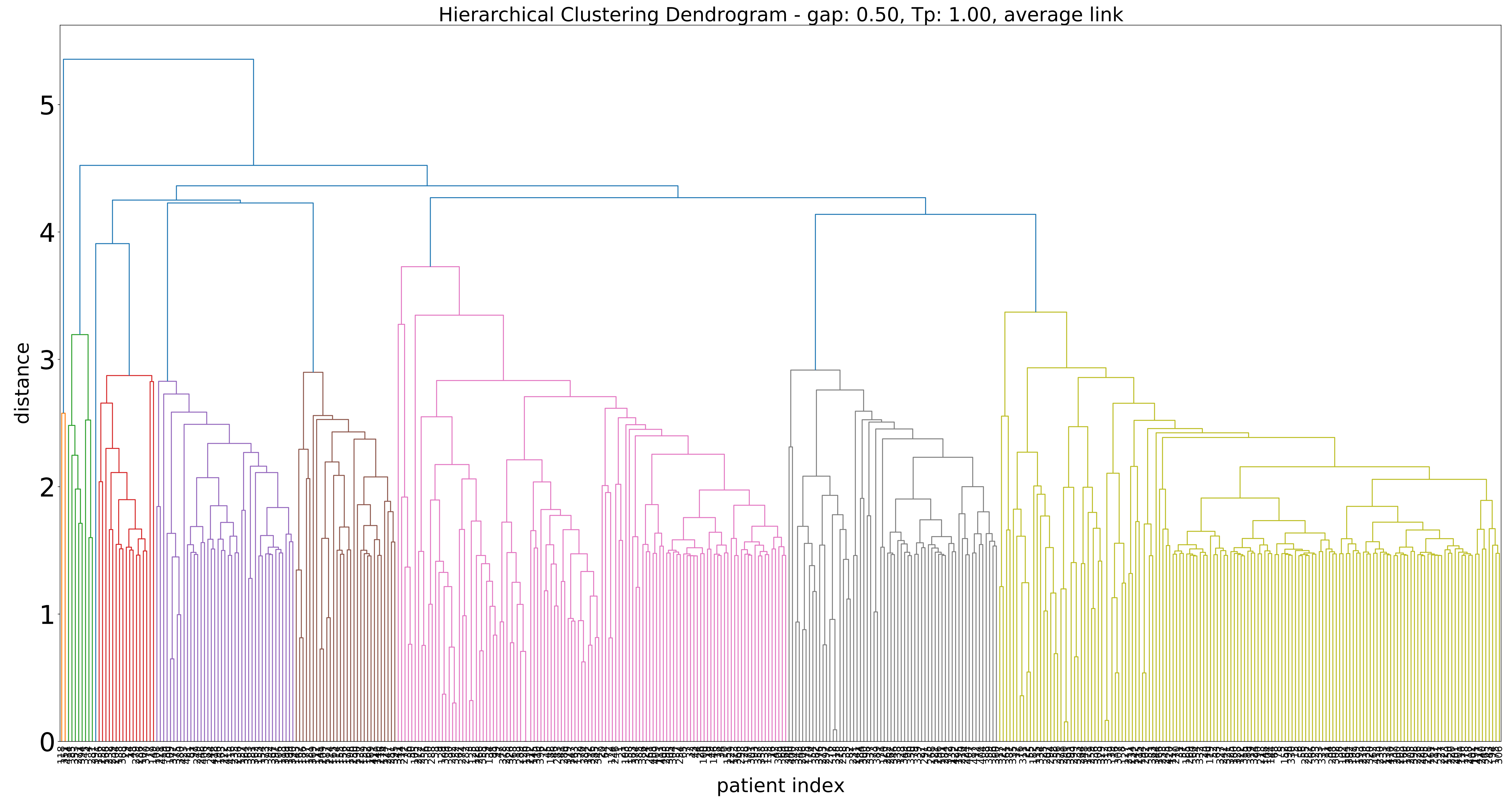
Cophenetic Correlation Coefficient: 0.8382065842508118

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

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.97011	0.94514	0.5615	0.01624	0.55983	0.96879	0.03891	0.97145	0.00062	0.91037	0.90997	0.0	0.26227	0.25475
3.0	0.99999	0.90454	0.83386	0.79671	0.05683	0.67111	0.89917	-0.15049	0.91002	0.00013	0.7783	0.75072	0.02273	0.23303	0.2579
4.0	0.99997	0.83633	0.72728	0.89036	0.09942	0.7068	0.82322	-0.66857	0.84998	0.00012	0.73461	0.6216	0.02273	0.28153	0.25227
5.0	1.00006	0.9028	0.83846	0.89593	0.07264	0.83863	0.89854	-1.6521	0.9072	0.00014	0.86131	0.76216	0.11765	0.30672	0.25227
6.0	1.0	0.92138	0.86884	0.87563	0.04596	0.88096	0.91837	-2.7767	0.92446	0.00016	0.90352	0.80648	0.11765	0.3525	0.25227
7.0	1.0	0.9432	0.89837	0.98082	0.02697	0.92312	0.93963	-4.23214	0.94683	0.0002	0.93852	0.84411	0.11765	0.3747	0.2826
8.0	1.0	0.98851	0.97728	0.97372	0.00655	0.98507	0.98843	-5.91924	0.98858	0.00022	0.98936	0.95609	2.0	0.44509	0.2826
9.0	1.0	0.98748	0.97535	0.98021	0.00757	0.98383	0.98743	-7.02931	0.98753	0.00022	0.9887	0.95253	2.0	0.42421	0.28177
10.0	1.0	0.9831	0.96707	0.97683	0.01092	0.97839	0.98295	-8.14212	0.98324	0.00022	0.98526	0.93817	2.0	0.41946	0.21343
11.0	1.0	0.97373	0.94939	0.95147	0.01593	0.96667	0.97332	-9.1772	0.97414	0.00022	0.97758	0.90778	2.0	0.40098	0.21343
12.0	1.0	0.93136	0.87181	0.94886	0.03384	0.91418	0.93035	-10.39936	0.93238	0.00022	0.94527	0.77806	2.0	0.37032	0.22148
13.0	1.0	0.93129	0.87307	0.92391	0.03756	0.91463	0.9305	-11.73643	0.93208	0.00023	0.9471	0.78245	2.0	0.34733	0.22148
14.0	1.0	0.9211	0.85539	0.88975	0.04857	0.90281	0.92004	-13.20655	0.92217	0.00023	0.94135	0.75565	2.0	0.33427	0.22148
15.0	1.0	0.89913	0.81902	0.864	0.06441	0.87724	0.89781	-14.15029	0.90045	0.00023	0.92945	0.70297	2.0	0.31689	0.22148
16.0	1.0	0.88927	0.80171	0.82619	0.0684	0.86624	0.88718	-15.69157	0.89139	0.00023	0.92442	0.67828	2.0	0.30257	0.22148
17.0	1.0	0.8699	0.76778	0.77398	0.07606	0.84421	0.86603	-17.1975	0.87381	0.00023	0.91327	0.63092	2.0	0.3037	0.22148
18.0	1.0	0.84127	0.72612	0.77963	0.09329	0.81231	0.8392	-17.9626	0.84335	0.00024	0.90465	0.57562	2.0	0.29101	0.22148
19.0	1.0	0.8617	0.75904	0.84544	0.08748	0.83902	0.8604	-20.00685	0.863	0.00027	0.924	0.61954	2.0	0.28354	0.22148
20.0	1.0	0.89142	0.80473	0.93279	0.07626	0.87549	0.88911	-21.95379	0.89375	0.00031	0.94383	0.68254	2.0	0.27824	0.24866

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



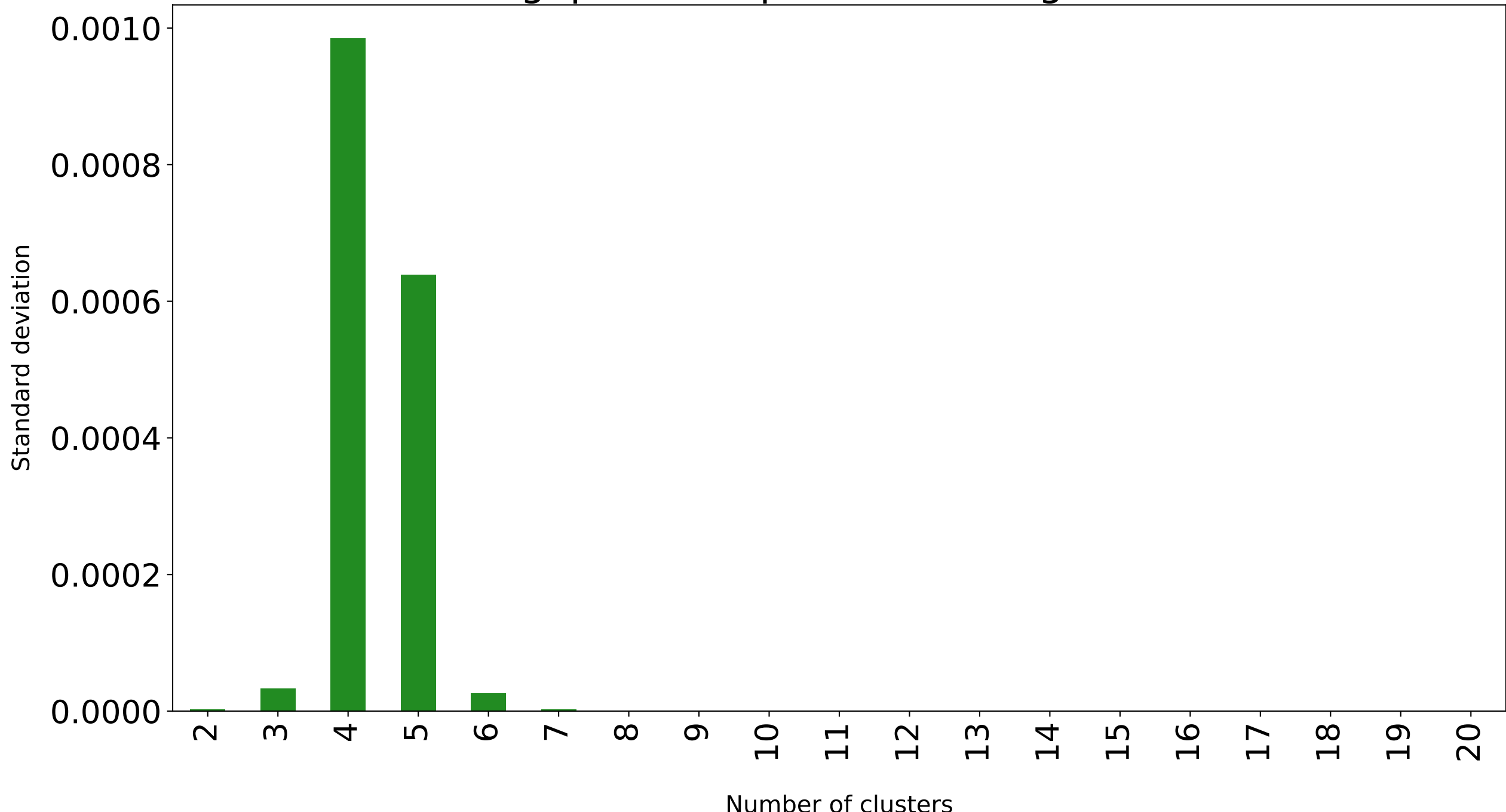


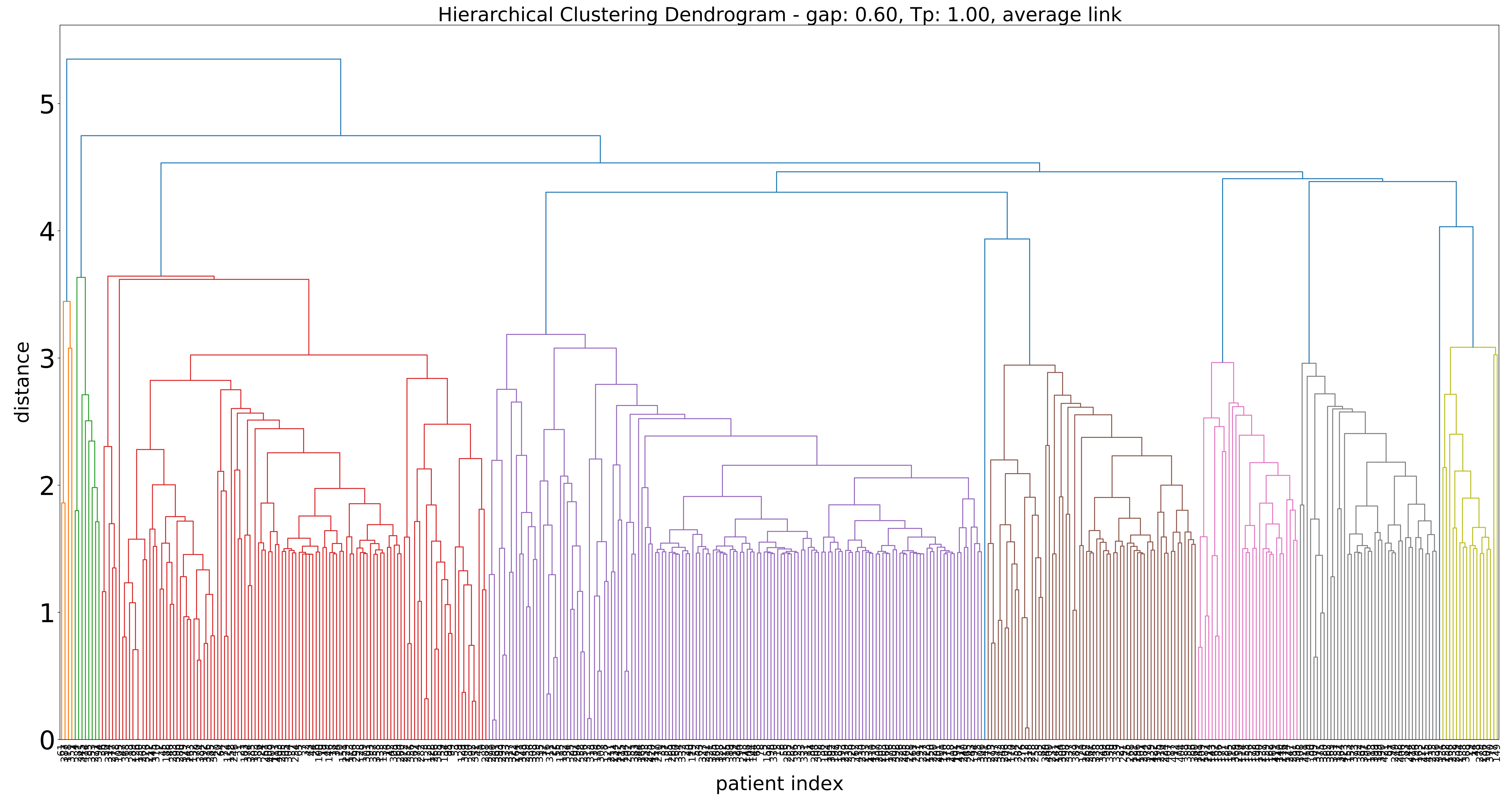


Average values of five clustering indices  
gap: 0.50, Tp: 1.00, average link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.97395	0.95112	0.38679	0.0148	0.45004	0.97272	0.04423	0.97521	0.00158	0.91718	0.91696	1.8	0.38854	0.30014
3.0	1.0	0.91033	0.84298	0.50478	0.05248	0.59701	0.90188	0.02821	0.91925	0.00046	0.77636	0.77028	1.8	0.34113	0.27259
4.0	0.99999	0.85376	0.75538	0.64322	0.09076	0.67459	0.84485	-0.58389	0.86297	0.00012	0.73044	0.65003	1.8	0.29534	0.24628
5.0	1.00005	0.87774	0.79234	0.88344	0.0819	0.79023	0.87065	-1.67125	0.88508	0.00013	0.81323	0.69441	1.8	0.3146	0.25091
6.0	1.00001	0.91894	0.85879	0.8751	0.06442	0.875	0.91586	-2.78535	0.9221	0.00015	0.89402	0.77906	1.8	0.3323	0.25091
7.0	1.0	0.90836	0.8384	0.80445	0.0449	0.87229	0.90319	-4.02606	0.91362	0.00016	0.8971	0.75392	1.8	0.37005	0.25091
8.0	1.0	0.98181	0.96511	0.97599	0.01092	0.9761	0.98141	-5.8457	0.98221	0.00022	0.98244	0.93651	1.8	0.38151	0.26455
9.0	1.0	0.98444	0.96934	0.96763	0.01003	0.97987	0.98436	-7.28571	0.98452	0.00022	0.98585	0.94101	2.0	0.44187	0.26455
10.0	1.0	0.98075	0.96246	0.9703	0.01309	0.97526	0.98067	-8.41205	0.98083	0.00022	0.98301	0.92888	2.0	0.42327	0.22767
11.0	1.0	0.97832	0.95786	0.9773	0.01692	0.97237	0.97816	-9.55273	0.97848	0.00022	0.98135	0.92102	2.0	0.38965	0.22767
12.0	1.0	0.97263	0.94734	0.96268	0.02053	0.96537	0.97229	-10.85114	0.97297	0.00022	0.97698	0.90364	2.0	0.43263	0.22767
13.0	1.0	0.95998	0.92377	0.92908	0.02613	0.94974	0.9592	-12.31388	0.96076	0.00022	0.96705	0.86431	2.0	0.47683	0.22767
14.0	1.0	0.93985	0.88654	0.87916	0.03448	0.92514	0.9381	-13.37746	0.94162	0.00022	0.95159	0.80412	2.0	0.4621	0.22767
15.0	1.0	0.90594	0.8296	0.86619	0.05047	0.88415	0.90464	-14.5781	0.90724	0.00022	0.93045	0.71707	2.0	0.44295	0.24602
16.0	1.0	0.88707	0.79806	0.82016	0.06247	0.86202	0.88503	-16.09715	0.88913	0.00022	0.91909	0.67281	2.0	0.41784	0.24602
17.0	1.0	0.87089	0.77039	0.7807	0.07387	0.8435	0.86759	-17.66785	0.87423	0.00022	0.90973	0.63474	2.0	0.40294	0.24602
18.0	1.0	0.85488	0.74256	0.73877	0.08296	0.82546	0.84976	-18.89909	0.86007	0.00022	0.90048	0.59737	2.0	0.37313	0.24602
19.0	1.0	0.85796	0.74921	0.76276	0.08747	0.83119	0.85436	-20.51873	0.8616	0.00024	0.90977	0.60544	2.0	0.35968	0.24602
20.0	1.0	0.86667	0.76616	0.81292	0.09142	0.84375	0.86505	-21.94629	0.86829	0.00026	0.92336	0.62875	2.0	0.35054	0.26533

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

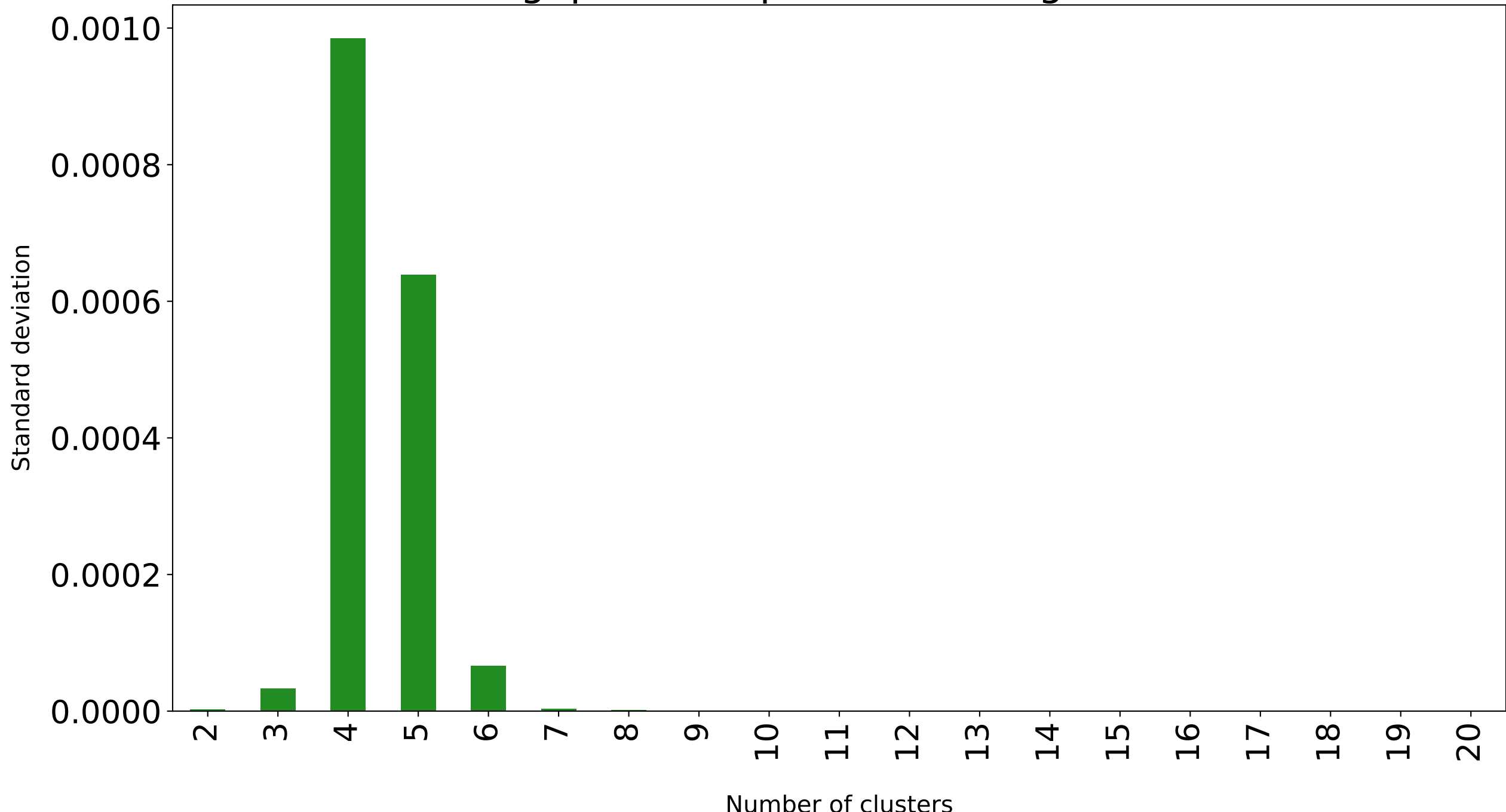




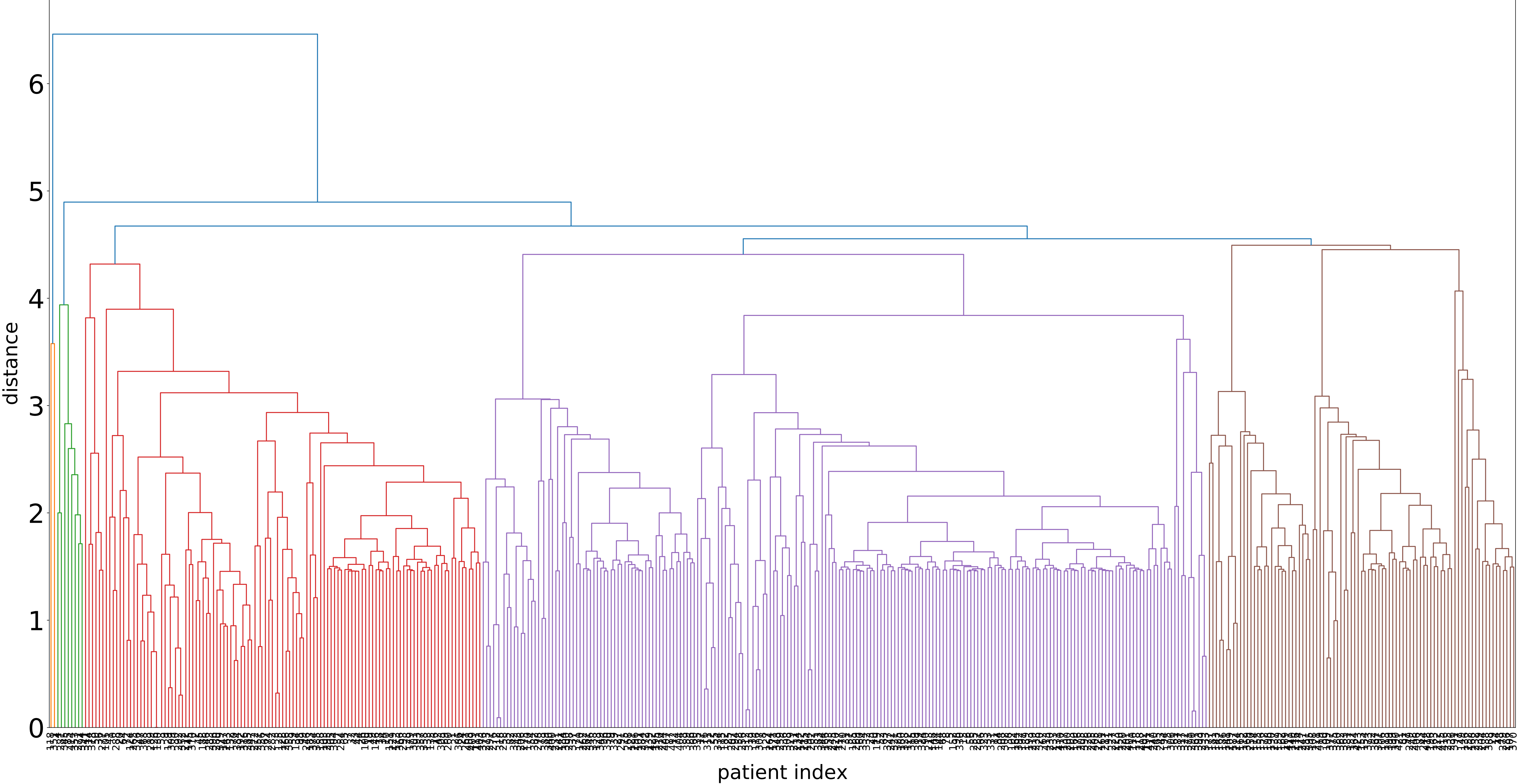
Average values of five clustering indices  
gap: 0.60, Tp: 1.00, average link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.98921	0.97891	0.60844	0.00764	0.59831	0.9891	0.02421	0.98932	0.00132	0.96035	0.96001	1.0	0.31873	0.25206
3.0	1.0	0.94638	0.90393	0.60162	0.03196	0.62264	0.94289	0.00201	0.94997	0.00046	0.85418	0.85038	1.0	0.30445	0.25731
4.0	0.99999	0.7744	0.64802	0.45933	0.13186	0.4022	0.76705	-0.3961	0.78193	7e-05	0.5857	0.52223	1.0	0.31964	0.26321
5.0	1.00005	0.87314	0.7807	0.91922	0.07862	0.78158	0.86401	-1.68684	0.8826	0.00013	0.79907	0.67833	1.0	0.28902	0.26094
6.0	1.00001	0.93423	0.88259	0.92963	0.05374	0.89834	0.93195	-2.84457	0.93655	0.00016	0.91193	0.80963	1.0	0.31853	0.26094
7.0	1.0	0.92551	0.86854	0.85942	0.04265	0.89522	0.92189	-3.72478	0.9292	0.00016	0.9153	0.79683	1.0	0.35216	0.26094
8.0	1.0	0.95088	0.91045	0.98683	0.02543	0.93453	0.94783	-5.32685	0.95399	0.0002	0.94847	0.85845	1.0	0.36126	0.30961
9.0	1.0	0.9893	0.97885	0.98284	0.00832	0.98616	0.98927	-7.04762	0.98932	0.00022	0.99031	0.95891	2.0	0.42266	0.30961
10.0	1.0	0.98683	0.97404	0.97566	0.00947	0.98302	0.98677	-8.48403	0.98689	0.00022	0.98818	0.94992	2.0	0.46643	0.30961
11.0	1.0	0.98316	0.96707	0.98024	0.0131	0.97844	0.98305	-9.5996	0.98327	0.00022	0.98526	0.93752	2.0	0.45208	0.17813
12.0	1.0	0.97287	0.94759	0.95185	0.01638	0.96553	0.97252	-10.6126	0.97322	0.00022	0.97678	0.90371	2.0	0.45519	0.17813
13.0	1.0	0.95925	0.92201	0.91849	0.02205	0.94866	0.95843	-11.93348	0.96007	0.00022	0.96595	0.86053	2.0	0.49301	0.17813
14.0	1.0	0.94376	0.89315	0.88111	0.02811	0.92963	0.94218	-13.33477	0.94535	0.00022	0.95373	0.81342	2.0	0.4754	0.17813
15.0	1.0	0.92776	0.86678	0.89605	0.04046	0.91076	0.9269	-14.69795	0.92863	0.00023	0.94564	0.7722	2.0	0.45017	0.20082
16.0	1.0	0.91234	0.83953	0.85497	0.04972	0.89252	0.91072	-15.76121	0.91397	0.00023	0.93558	0.73132	2.0	0.41628	0.20082
17.0	1.0	0.8961	0.81257	0.86069	0.06053	0.87447	0.89473	-17.21503	0.89748	0.00024	0.92945	0.69102	2.0	0.40681	0.20082
18.0	1.0	0.88186	0.78859	0.81788	0.0697	0.85816	0.87976	-18.88682	0.88396	0.00024	0.92181	0.65768	2.0	0.48474	0.20082
19.0	1.0	0.86506	0.76035	0.77646	0.07973	0.83894	0.86183	-20.4186	0.8683	0.00024	0.9125	0.61941	2.0	0.55959	0.20082
20.0	1.0	0.86228	0.7589	0.81601	0.09268	0.8379	0.86085	-21.57296	0.86371	0.00026	0.91921	0.61745	2.0	0.53973	0.21828

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



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

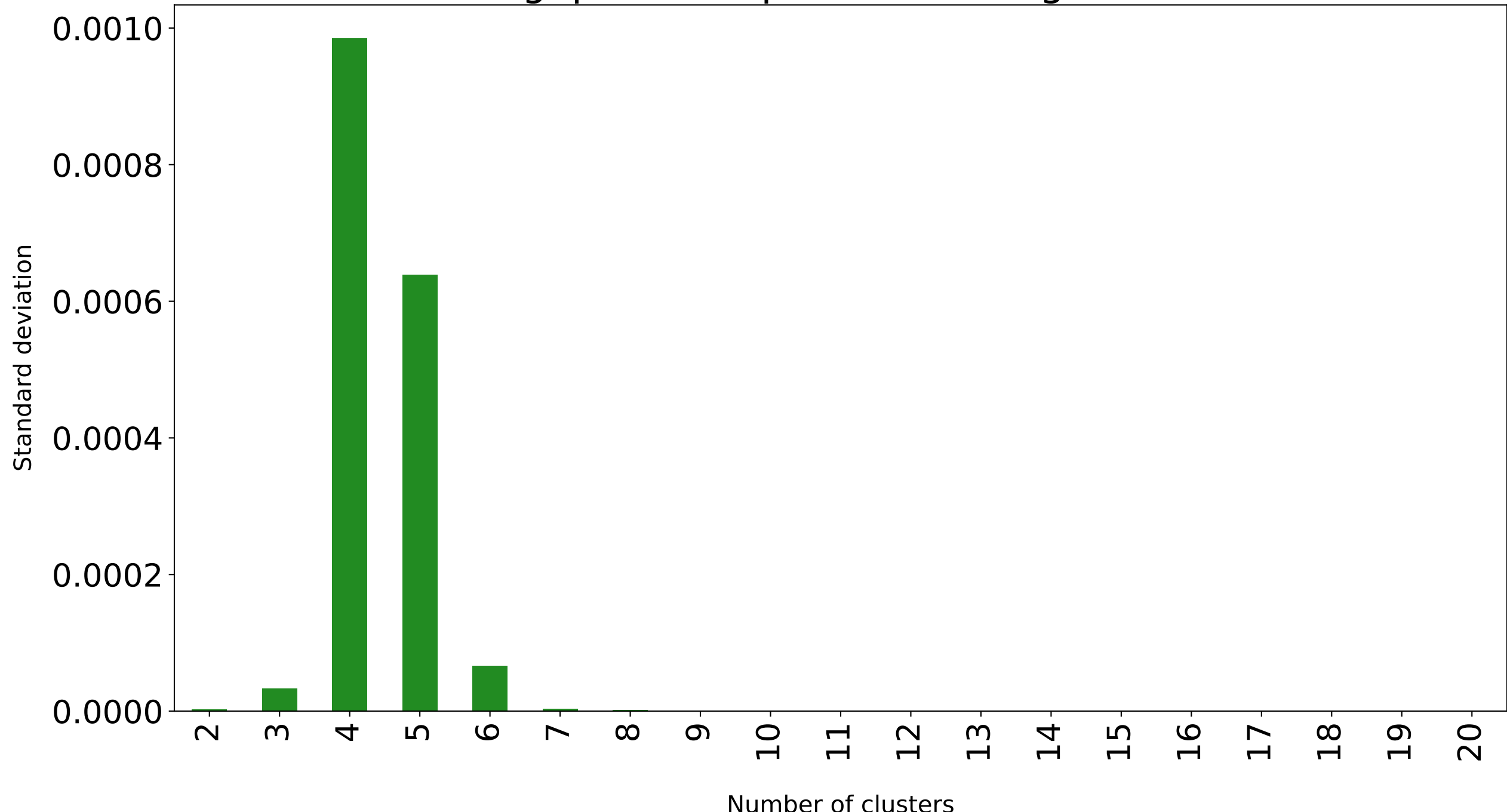


Cophenetic Correlation Coefficient: 0.7958302996377316

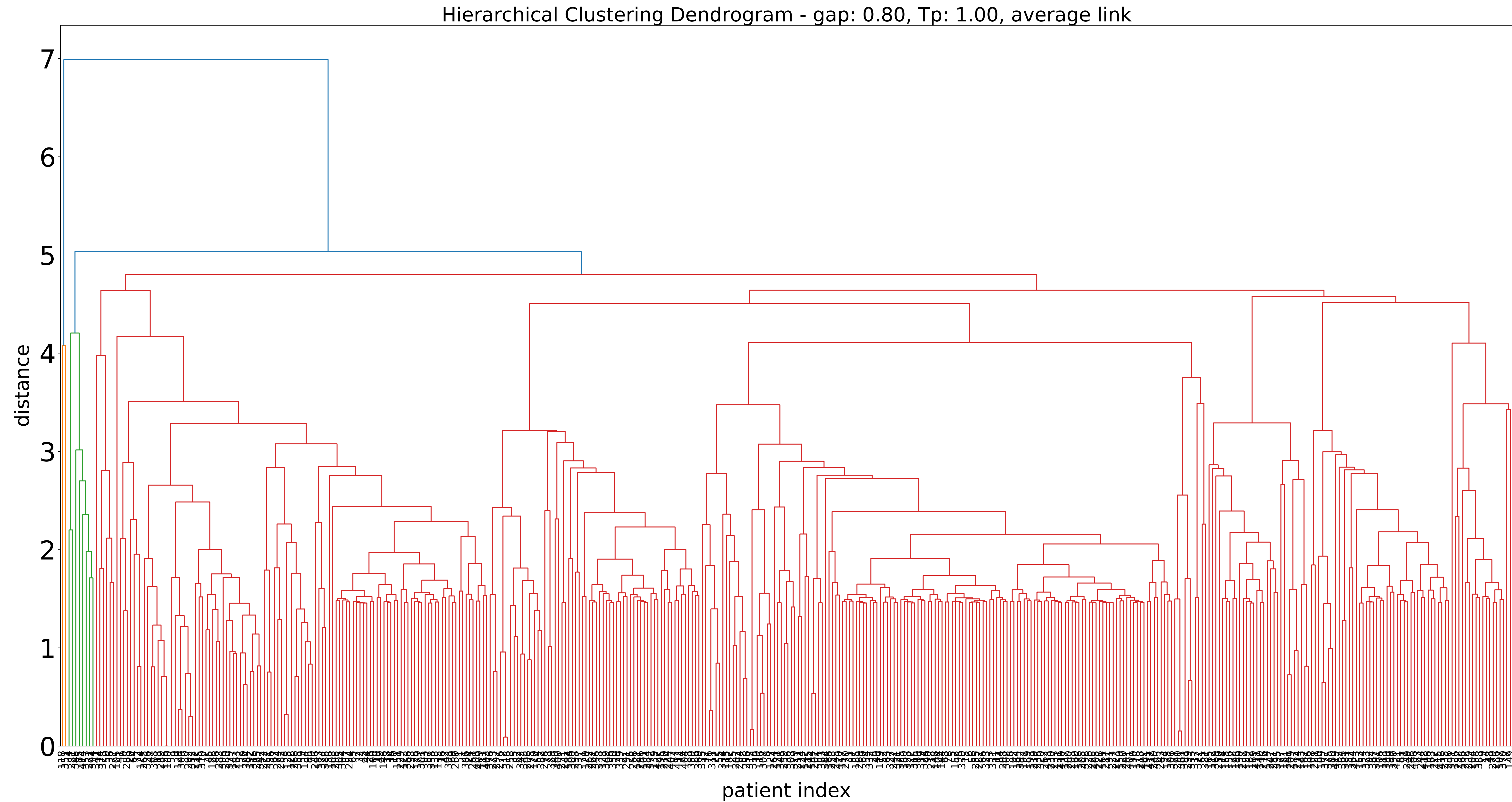
# Average values of five clustering indices gap: 0.70, Tp: 1.00, average link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.99013	0.98061	0.47298	0.00668	0.6229	0.98996	0.02279	0.9903	0.00205	0.9635	0.9632	1.8	0.39306	0.32382
3.0	1.0	0.95168	0.91325	0.48381	0.02801	0.50994	0.94872	0.0239	0.95475	0.00044	0.86454	0.86246	1.8	0.31495	0.28504
4.0	1.0	0.8334	0.72217	0.67002	0.09905	0.50562	0.82278	-0.45225	0.8443	9e-05	0.64886	0.60835	1.8	0.32537	0.23375
5.0	1.00001	0.82745	0.70603	0.88783	0.10201	0.69382	0.81334	-1.49266	0.84218	0.00012	0.72051	0.58129	1.8	0.29435	0.23375
6.0	1.0	0.91382	0.84494	0.91765	0.0606	0.86707	0.91066	-2.86454	0.91703	0.00015	0.88276	0.75076	1.8	0.32136	0.23375
7.0	1.0	0.92231	0.86193	0.867	0.04756	0.88895	0.91924	-3.92118	0.92542	0.00016	0.90874	0.78224	1.8	0.35308	0.23375
8.0	1.0	0.92519	0.86477	0.96612	0.03816	0.89993	0.92114	-5.42573	0.92929	0.00019	0.92217	0.78673	1.8	0.36614	0.24541
9.0	1.0	0.98485	0.97038	0.98435	0.01108	0.98042	0.98477	-6.98929	0.98493	0.00022	0.98632	0.94358	1.8	0.35403	0.18385
10.0	1.0	0.98406	0.96872	0.9774	0.01191	0.97949	0.98401	-8.43571	0.9841	0.00022	0.98586	0.94001	2.0	0.40855	0.18385
11.0	1.0	0.98206	0.96487	0.97016	0.01215	0.97695	0.98199	-9.46605	0.98212	0.00022	0.98417	0.93298	2.0	0.4167	0.18385
12.0	1.0	0.97533	0.95203	0.95436	0.01407	0.9685	0.97512	-10.77094	0.97554	0.00022	0.9786	0.91034	2.0	0.46015	0.18385
13.0	1.0	0.96535	0.93312	0.97187	0.02202	0.95632	0.96495	-11.934	0.96575	0.00023	0.97126	0.87708	2.0	0.43003	0.19464
14.0	1.0	0.95669	0.9175	0.94208	0.02673	0.94575	0.95614	-13.43649	0.95723	0.00023	0.96507	0.85183	2.0	0.4678	0.19464
15.0	1.0	0.94341	0.89329	0.90192	0.033	0.92973	0.94228	-14.78921	0.94455	0.00023	0.95555	0.8135	2.0	0.45438	0.19464
16.0	1.0	0.92264	0.85571	0.84985	0.04361	0.90481	0.92032	-16.28661	0.92497	0.00023	0.94077	0.75571	2.0	0.54229	0.19464
17.0	1.0	0.89913	0.81344	0.79539	0.05595	0.87698	0.89498	-17.36129	0.90333	0.00022	0.92438	0.69311	2.0	0.56041	0.19464
18.0	1.0	0.87246	0.7694	0.75728	0.07262	0.84586	0.86759	-17.65672	0.87738	0.00022	0.9094	0.63157	2.0	0.54101	0.19464
19.0	1.0	0.85454	0.7385	0.71698	0.08361	0.82546	0.84752	-19.22425	0.86164	0.00022	0.89841	0.59102	2.0	0.53391	0.19464
20.0	1.0	0.85832	0.74792	0.74614	0.08871	0.83177	0.85371	-21.07878	0.86298	0.00024	0.90897	0.60322	2.0	0.51844	0.19464

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



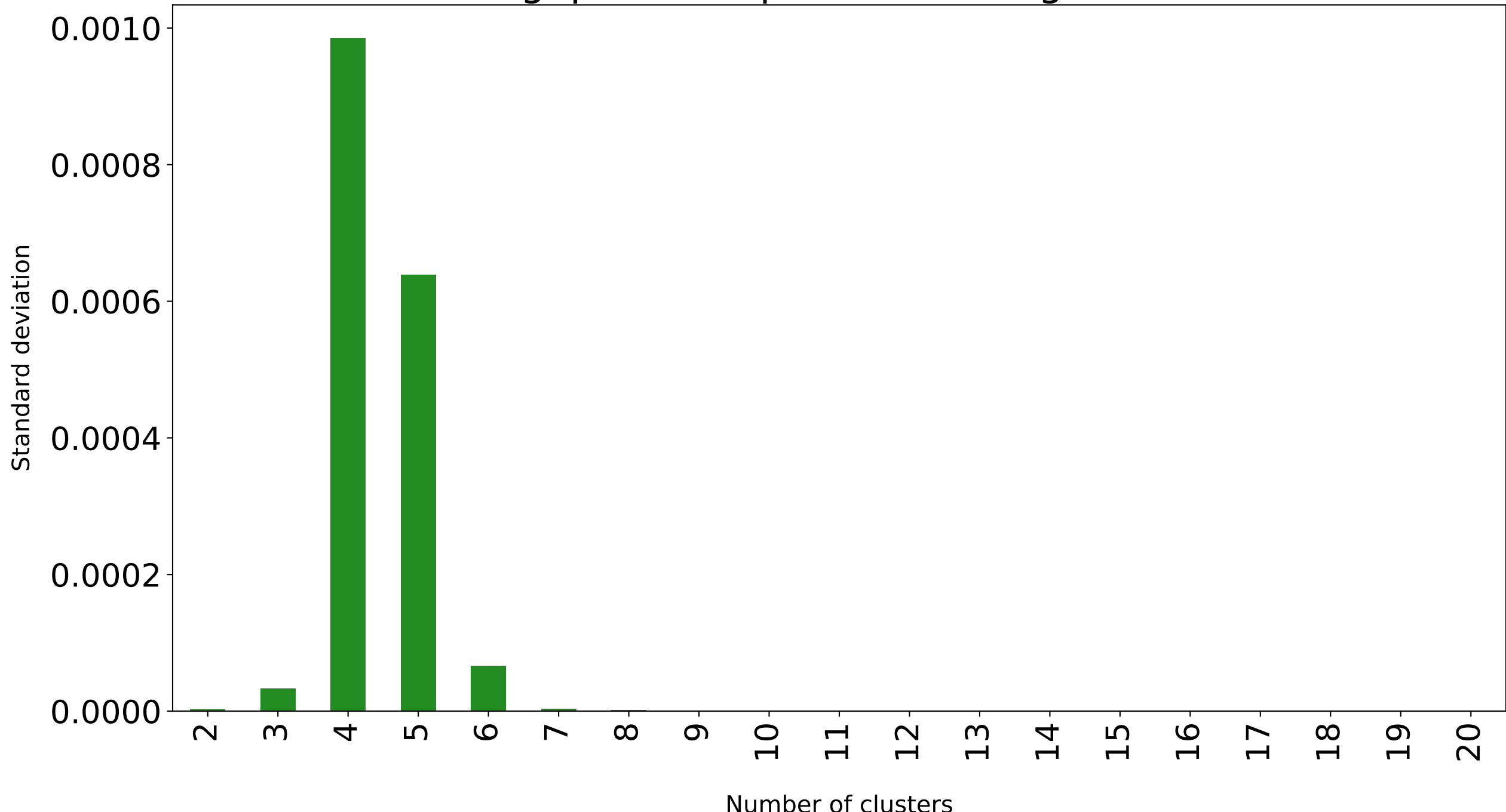


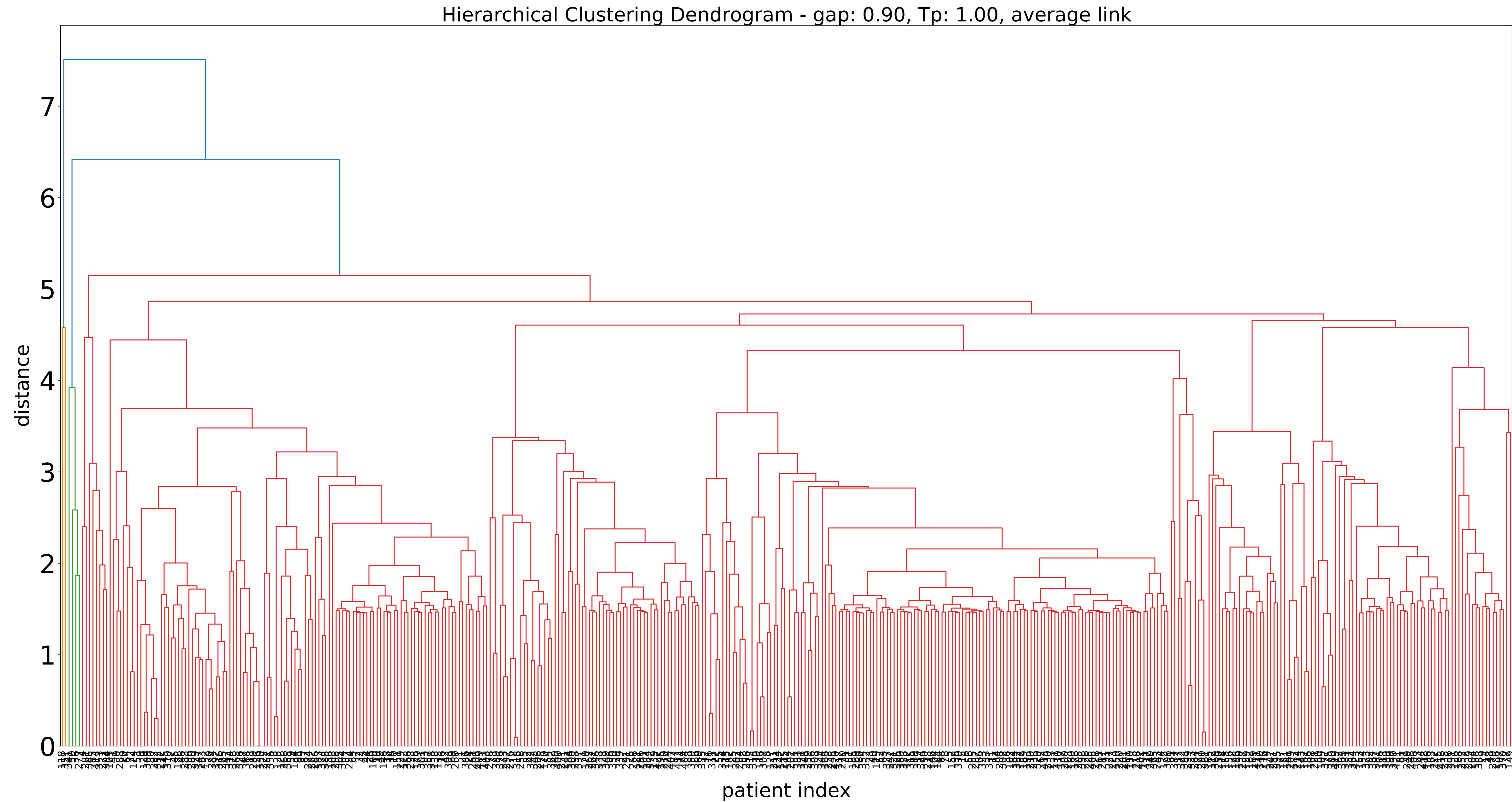


Average values of five clustering indices  
gap: 0.80, Tp: 1.00, average link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.98801	0.97624	0.40214	0.00783	0.5688	0.9879	0.02847	0.98811	0.00167	0.95451	0.9541	1.8	0.39486	0.34331
3.0	1.0	0.96366	0.93126	0.36116	0.02041	0.36036	0.96285	0.04687	0.9645	0.00032	0.8792	0.87749	1.8	0.30126	0.29176
4.0	0.99999	0.79788	0.65228	0.65294	0.12223	0.33667	0.78051	-0.10603	0.81577	8e-05	0.53559	0.50707	1.8	0.31238	0.21983
5.0	1.0	0.76134	0.5998	0.84079	0.14026	0.55795	0.73825	-1.16265	0.78574	0.0001	0.60085	0.44896	1.8	0.28307	0.21983
6.0	1.00001	0.87955	0.79072	0.89781	0.07638	0.80136	0.87375	-2.6329	0.88549	0.00014	0.82273	0.68429	1.8	0.2774	0.14752
7.0	1.0	0.91553	0.85147	0.88695	0.05711	0.87482	0.91277	-3.83016	0.91832	0.00016	0.89535	0.7665	1.8	0.30177	0.14752
8.0	1.0	0.87508	0.78258	0.75281	0.06801	0.82799	0.86902	-4.7305	0.88122	0.00016	0.86492	0.67276	1.8	0.33126	0.14752
9.0	1.0	0.96637	0.93788	0.97938	0.02143	0.95568	0.96501	-6.81725	0.96776	0.00021	0.96686	0.89558	1.8	0.34573	0.19033
10.0	1.0	0.98056	0.96232	0.9723	0.01457	0.97491	0.98037	-7.99833	0.98074	0.00022	0.98252	0.92953	1.8	0.35942	0.19033
11.0	1.0	0.97849	0.95813	0.96524	0.01492	0.97244	0.97833	-9.3055	0.97864	0.00022	0.98115	0.92128	2.0	0.41246	0.19033
12.0	1.0	0.96853	0.93863	0.98843	0.02114	0.96018	0.96815	-10.42528	0.96891	0.00023	0.97338	0.88552	2.0	0.38547	0.19689
13.0	1.0	0.96837	0.9387	0.9785	0.02179	0.9601	0.96801	-11.9414	0.96872	0.00023	0.97368	0.8865	2.0	0.42567	0.19689
14.0	1.0	0.96409	0.93115	0.95827	0.02412	0.95494	0.96371	-13.48998	0.96448	0.00023	0.97085	0.87453	2.0	0.52519	0.19689
15.0	1.0	0.95431	0.91326	0.92689	0.02952	0.94304	0.95367	-14.98527	0.95496	0.00023	0.96378	0.84529	2.0	0.55243	0.19689
16.0	1.0	0.93784	0.88319	0.88368	0.03779	0.92319	0.9364	-16.36848	0.93929	0.00023	0.95197	0.79777	2.0	0.54023	0.19689
17.0	1.0	0.90938	0.83367	0.8433	0.05299	0.88915	0.90732	-16.61294	0.91145	0.00023	0.93354	0.72221	2.0	0.52165	0.19689
18.0	1.0	0.88897	0.79762	0.79193	0.06338	0.8653	0.8853	-18.12709	0.89267	0.00023	0.92025	0.67043	2.0	0.51216	0.19689
19.0	1.0	0.86976	0.76402	0.74681	0.07472	0.84315	0.86421	-19.29704	0.87537	0.00023	0.90817	0.62405	2.0	0.48466	0.19689
20.0	1.0	0.87205	0.77092	0.77425	0.0807	0.84766	0.86857	-21.13788	0.87555	0.00024	0.91729	0.63357	2.0	0.47219	0.19689

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

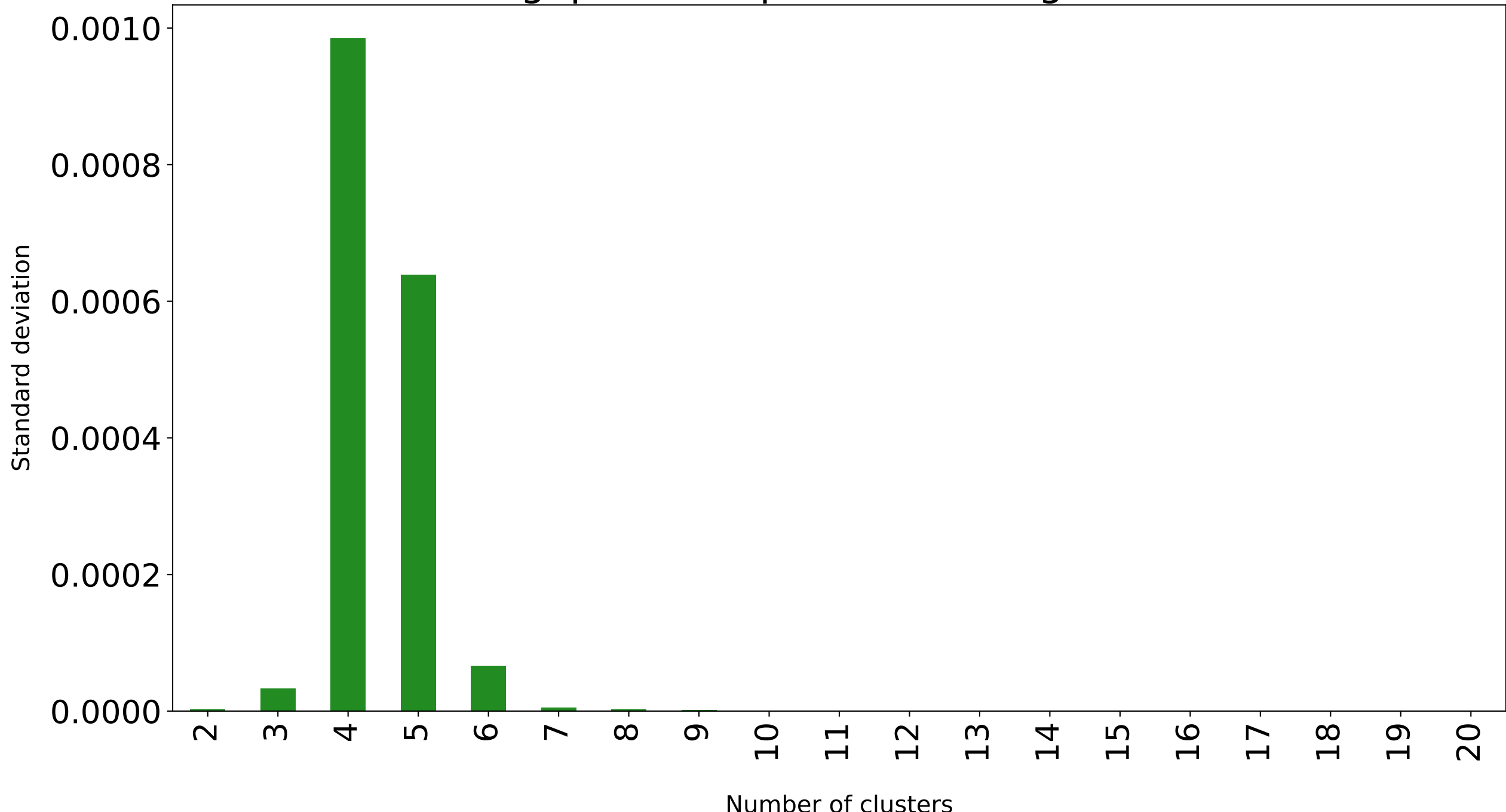




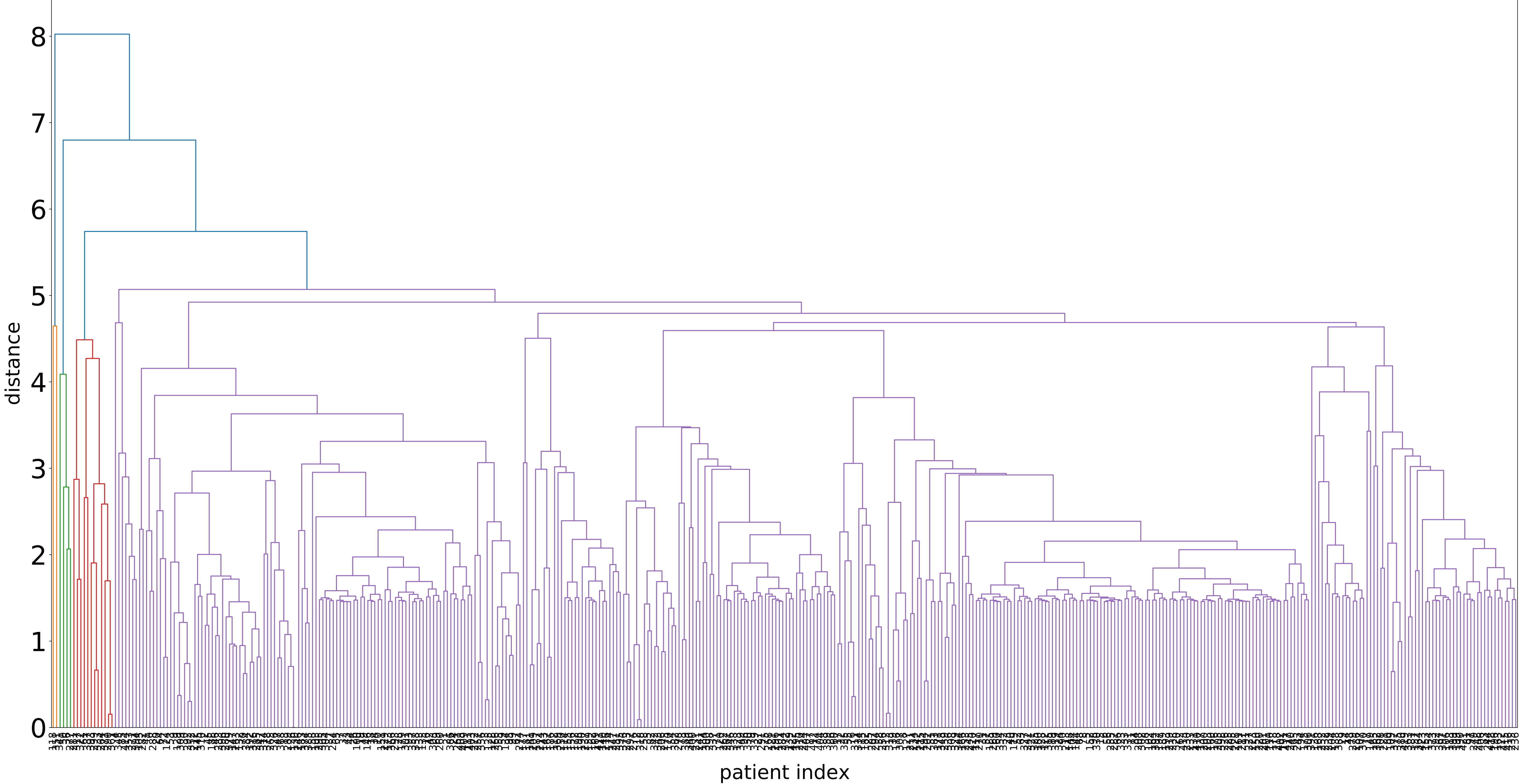
Average values of five clustering indices  
gap: 0.90, Tp: 1.00, average link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.98914	0.9785	0.44184	0.007	0.5873	0.98904	0.02526	0.98924	0.00184	0.9589	0.95855	1.8	0.39602	0.36111
3.0	1.0	0.98848	0.97747	0.6537	0.00852	0.74754	0.98829	-0.01526	0.98867	0.00095	0.95845	0.95754	1.8	0.35764	0.20153
4.0	1.0	0.94856	0.90781	0.6525	0.0322	0.67456	0.94486	-0.09229	0.95238	0.00042	0.86221	0.85725	1.8	0.31123	0.20153
5.0	0.99999	0.89803	0.82682	0.75047	0.05848	0.71317	0.89207	-1.26817	0.90414	0.00012	0.78969	0.74739	1.8	0.29917	0.20153
6.0	1.00001	0.85624	0.75394	0.88402	0.08475	0.75505	0.84778	-2.49695	0.86501	0.00013	0.78202	0.63984	1.8	0.27978	0.20153
7.0	1.0	0.87884	0.78997	0.86013	0.07075	0.81643	0.8739	-3.64317	0.88387	0.00014	0.844	0.68108	1.8	0.30213	0.20153
8.0	1.0	0.86039	0.75635	0.94656	0.07906	0.80964	0.85092	-4.97109	0.87014	0.00017	0.84718	0.63849	1.8	0.32064	0.23708
9.0	1.0	0.9252	0.86505	0.97362	0.04296	0.9006	0.92105	-6.44851	0.92942	0.0002	0.92344	0.78781	1.8	0.34297	0.25187
10.0	1.0	0.96658	0.93813	0.96827	0.02031	0.95623	0.9656	-8.26844	0.96757	0.00021	0.96819	0.89491	2.0	0.48098	0.25187
11.0	1.0	0.97767	0.95697	0.95793	0.01318	0.97128	0.97739	-9.47864	0.97795	0.00022	0.98012	0.92085	2.0	0.48543	0.25187
12.0	1.0	0.97524	0.95167	0.94551	0.01274	0.96841	0.97492	-10.83421	0.97556	0.00022	0.9784	0.90979	2.0	0.52373	0.25187
13.0	1.0	0.97624	0.95382	0.98221	0.01632	0.97001	0.97599	-12.11036	0.97649	0.00023	0.98018	0.91394	2.0	0.50146	0.25636
14.0	1.0	0.97272	0.94742	0.96652	0.01857	0.96577	0.97239	-13.63682	0.97305	0.00023	0.97775	0.90358	2.0	0.528	0.25636
15.0	1.0	0.96287	0.92915	0.9379	0.0226	0.95372	0.96224	-14.94592	0.9635	0.00023	0.97042	0.8732	2.0	0.50594	0.25636
16.0	1.0	0.94398	0.89431	0.88869	0.03167	0.9309	0.94242	-16.41932	0.94556	0.00023	0.95661	0.81722	2.0	0.53757	0.25636
17.0	1.0	0.91713	0.84724	0.85237	0.04643	0.89873	0.91501	-16.67486	0.91926	0.00023	0.93908	0.74415	2.0	0.52032	0.25636
18.0	1.0	0.89718	0.81131	0.80243	0.05614	0.87528	0.89361	-17.84623	0.90077	0.00023	0.92582	0.69036	2.0	0.49428	0.25636
19.0	1.0	0.89617	0.8117	0.82474	0.06318	0.87563	0.89392	-19.6324	0.89844	0.00024	0.93124	0.69091	2.0	0.48187	0.25636
20.0	1.0	0.88163	0.78629	0.78572	0.07296	0.85901	0.87826	-21.33157	0.88502	0.00024	0.92293	0.65486	2.0	0.47429	0.25636

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



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



Cophenetic Correlation Coefficient: 0.7803981454503026

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

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.98858	0.97742	0.41174	0.00708	0.54152	0.98848	0.02631	0.98869	0.00165	0.95688	0.95656	1.8	0.42365	0.37732
3.0	1.0	0.98677	0.9739	0.6062	0.00947	0.72432	0.98665	-0.01131	0.9869	0.0009	0.95128	0.95006	1.8	0.38236	0.20437
4.0	1.0	0.96158	0.92961	0.73098	0.02685	0.65997	0.96012	-0.08238	0.96308	0.00038	0.8865	0.88179	1.8	0.28072	0.19002
5.0	1.0	0.86645	0.77174	0.48741	0.08179	0.47521	0.85734	-0.11447	0.87586	0.00019	0.68663	0.66818	1.8	0.27026	0.19002
6.0	1.0	0.88176	0.79388	0.78021	0.06558	0.734	0.87538	-1.89197	0.88833	0.00012	0.77513	0.68742	1.8	0.27071	0.19002
7.0	0.99997	0.87495	0.78213	0.79278	0.06725	0.78556	0.87038	-2.97528	0.87961	0.00013	0.80864	0.66428	1.8	0.28539	0.20531
8.0	1.0	0.83717	0.7237	0.85228	0.09195	0.75877	0.83046	-4.27504	0.84403	0.00014	0.79965	0.59057	1.8	0.27769	0.2061
9.0	1.0	0.83651	0.72514	0.77174	0.09509	0.76658	0.83162	-5.2358	0.84148	0.00014	0.8177	0.59257	2.0	0.35539	0.2061
10.0	1.0	0.82196	0.70016	0.69095	0.10214	0.7533	0.81583	-6.50605	0.82818	0.00015	0.81287	0.55889	2.0	0.4977	0.2061
11.0	1.0	0.81557	0.68344	0.64663	0.09258	0.75184	0.80743	-7.57242	0.82383	0.00015	0.81416	0.53137	2.0	0.49968	0.2061
12.0	1.0	0.96181	0.92784	0.98235	0.02545	0.95111	0.96065	-10.45446	0.96299	0.00022	0.96577	0.87381	2.0	0.49664	0.21804
13.0	1.0	0.97235	0.94708	0.97746	0.02179	0.96483	0.97186	-12.1117	0.97285	0.00023	0.97616	0.90401	2.0	0.47882	0.21804
14.0	1.0	0.97402	0.94978	0.96703	0.02126	0.96724	0.97377	-13.62244	0.97427	0.00023	0.9785	0.907	2.0	0.46881	0.24251
15.0	1.0	0.96786	0.93825	0.94546	0.02331	0.95971	0.96751	-14.96602	0.9682	0.00023	0.974	0.88716	2.0	0.45753	0.24251
16.0	1.0	0.95476	0.914	0.91416	0.0298	0.94382	0.95384	-16.44995	0.95568	0.00023	0.96433	0.84776	2.0	0.42685	0.24251
17.0	1.0	0.94015	0.88707	0.87909	0.03608	0.92623	0.93841	-17.95941	0.94191	0.00023	0.95368	0.80502	2.0	0.45753	0.24251
18.0	1.0	0.92146	0.85321	0.83944	0.04558	0.90408	0.91855	-19.32601	0.92439	0.00023	0.941	0.75306	2.0	0.45303	0.22539
19.0	1.0	0.89218	0.80081	0.77554	0.06025	0.86955	0.88682	-20.79448	0.8976	0.00023	0.92083	0.6768	2.0	0.47869	0.22539
20.0	1.0	0.86804	0.75828	0.72452	0.07218	0.84164	0.85998	-21.93844	0.87622	0.00022	0.90504	0.61853	2.0	0.46221	0.22539



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

