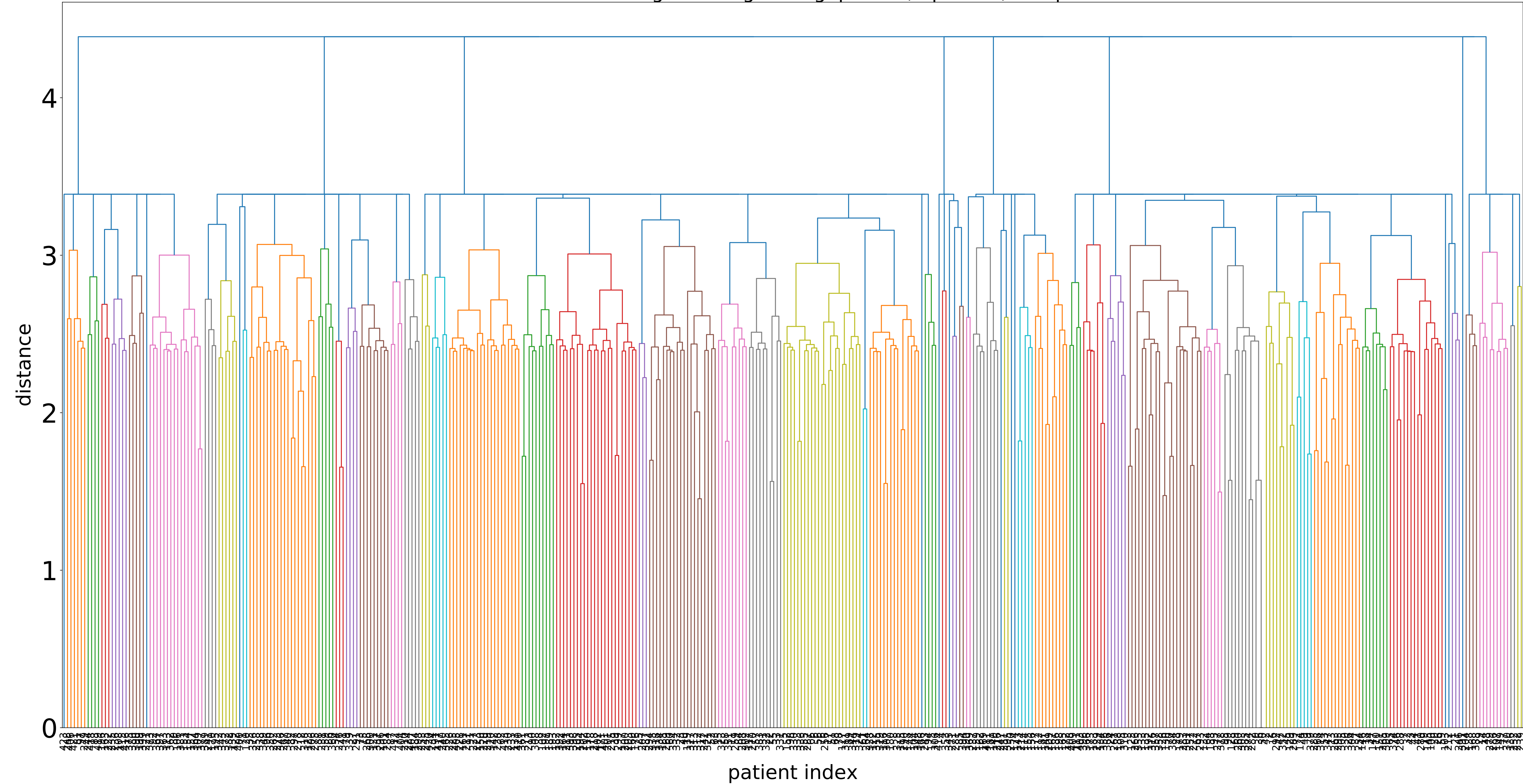


Hierarchical Clustering Dendrogram - gap: 0.00, Tp: 2.00, complete link

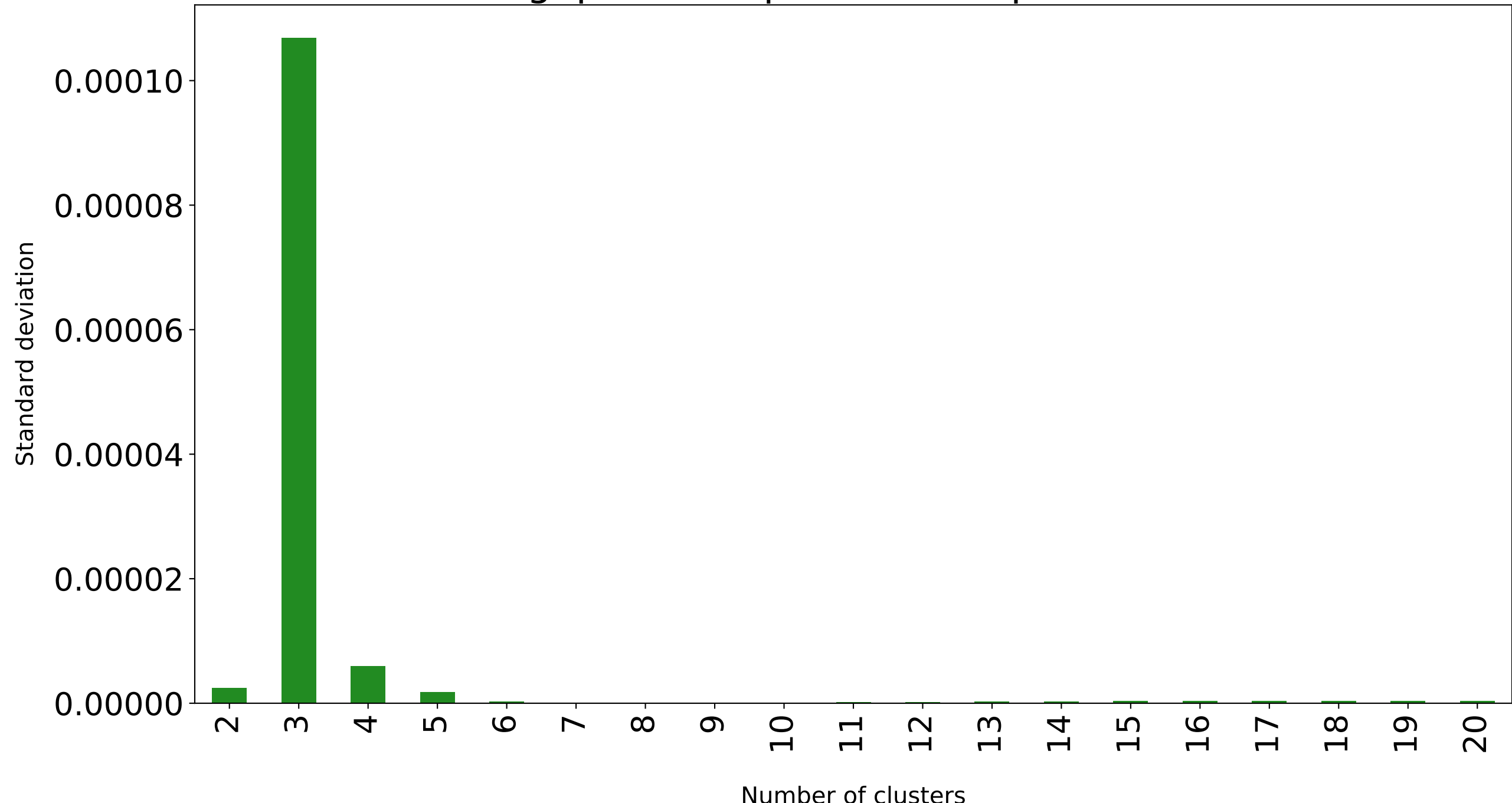


Cophenetic Correlation Coefficient: 0.8392124984053085

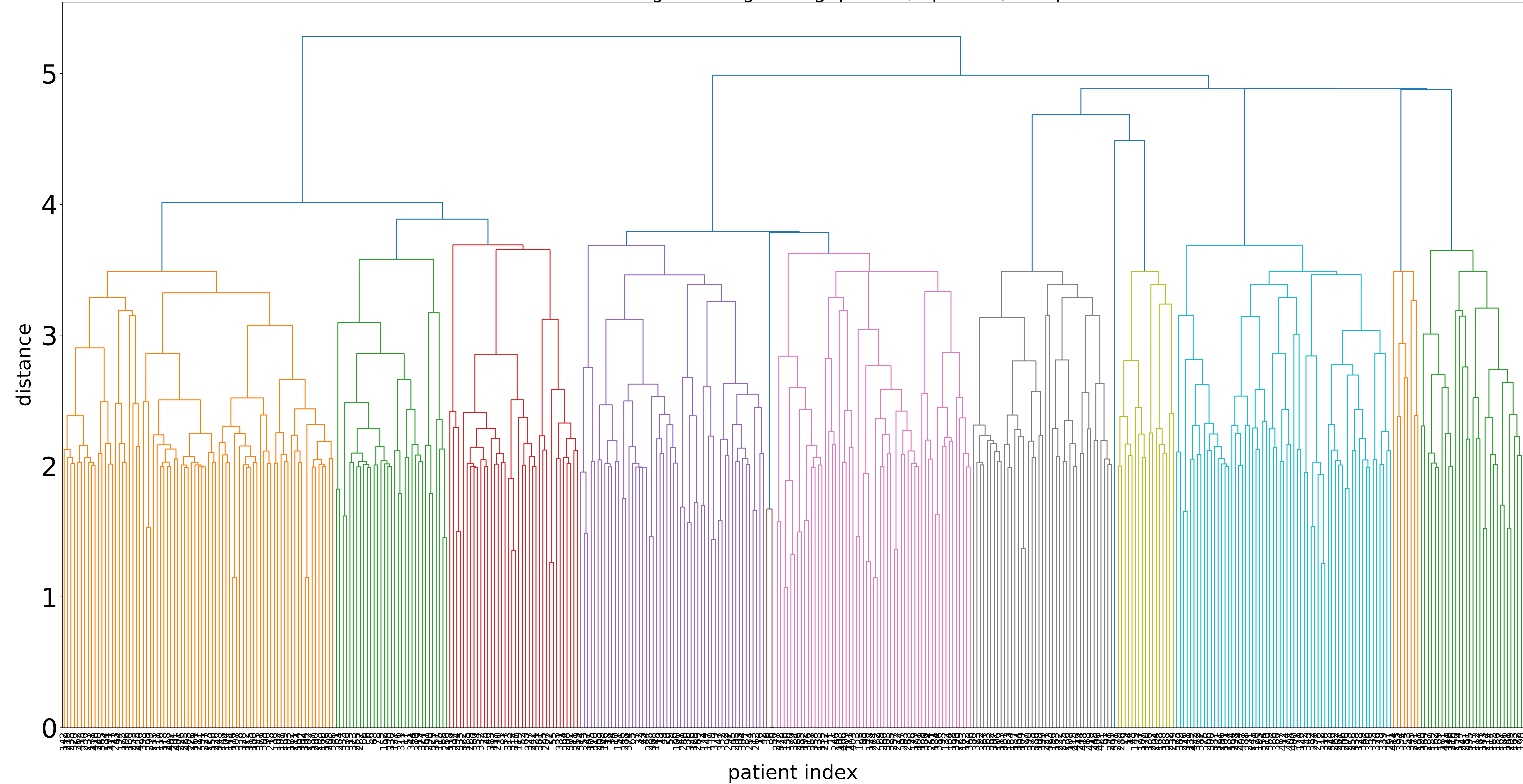
Average values of five clustering indices  
gap: 0.00, Tp: 2.00, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.9568	0.92946	0.79882	0.02262	0.79484	0.95652	-0.009	0.95707	0.00022	0.89956	0.8975	0.0	0.16172	0.6355
3.0	0.99997	0.89686	0.84731	0.77272	0.06708	0.7911	0.89433	-0.41755	0.89942	0.00013	0.84327	0.80348	0.0	0.18613	0.44813
4.0	1.0	0.95232	0.91707	0.97434	0.02556	0.92574	0.94954	-1.64011	0.95518	0.00017	0.93387	0.87655	0.01176	0.2049	0.44813
5.0	1.0	0.95853	0.9267	0.93041	0.02196	0.9407	0.95758	-2.20257	0.9595	0.00018	0.95292	0.8829	0.35	0.2078	0.44813
6.0	1.0	0.97237	0.94706	0.94278	0.01848	0.96337	0.97204	-3.33895	0.97269	0.0002	0.97295	0.90419	0.35	0.21974	0.44813
7.0	1.0	0.99825	0.99653	0.99769	0.00238	0.99772	0.99825	-4.57855	0.99826	0.00022	0.99837	0.99318	0.35	0.22331	0.44813
8.0	1.0	0.99803	0.99608	0.99523	0.00218	0.99743	0.99802	-5.98579	0.99804	0.00022	0.99816	0.99232	2.0	0.30844	0.58042
9.0	1.0	0.99306	0.98624	0.98248	0.00693	0.991	0.99301	-7.39294	0.99312	0.00022	0.99358	0.97336	2.0	0.36881	0.58042
10.0	1.0	0.98001	0.96094	0.96705	0.02214	0.97419	0.97995	-8.39417	0.98007	0.00022	0.98208	0.92567	2.0	0.32406	0.58042
11.0	1.0	0.97555	0.95251	0.95761	0.02642	0.96859	0.97542	-9.69889	0.97568	0.00022	0.97844	0.91088	2.0	0.31175	0.58042
12.0	1.0	0.96895	0.94029	0.94758	0.03079	0.96046	0.9687	-11.17858	0.96919	0.00022	0.97347	0.89026	2.0	0.29106	0.58042
13.0	1.0	0.9585	0.92114	0.91868	0.03598	0.94761	0.95784	-12.59698	0.95917	0.00022	0.96536	0.85929	2.0	0.29116	0.58042
14.0	1.0	0.95204	0.91004	0.91473	0.04769	0.93976	0.95138	-13.87022	0.9527	0.00022	0.96108	0.84199	2.0	0.2732	0.58042
15.0	1.0	0.94266	0.89304	0.8922	0.05165	0.92855	0.94144	-15.22329	0.9439	0.00022	0.9544	0.81584	2.0	0.26363	0.58042
16.0	1.0	0.92062	0.8535	0.84192	0.06025	0.90199	0.91803	-16.69802	0.92324	0.00022	0.93825	0.75598	2.0	0.30285	0.58042
17.0	1.0	0.90723	0.83088	0.82053	0.06921	0.88669	0.90405	-18.29772	0.91044	0.00022	0.93116	0.72407	2.0	0.2961	0.58042
18.0	1.0	0.8988	0.81667	0.80373	0.07655	0.87689	0.89509	-19.41114	0.90255	0.00022	0.92604	0.70436	2.0	0.28586	0.58042
19.0	1.0	0.89344	0.80757	0.79292	0.07672	0.87098	0.88912	-20.86923	0.89782	0.00023	0.92332	0.69254	2.0	0.2787	0.58042
20.0	1.0	0.87238	0.77198	0.75341	0.0825	0.84676	0.86621	-22.48685	0.87864	0.00022	0.9107	0.64455	2.0	0.27099	0.58042

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



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

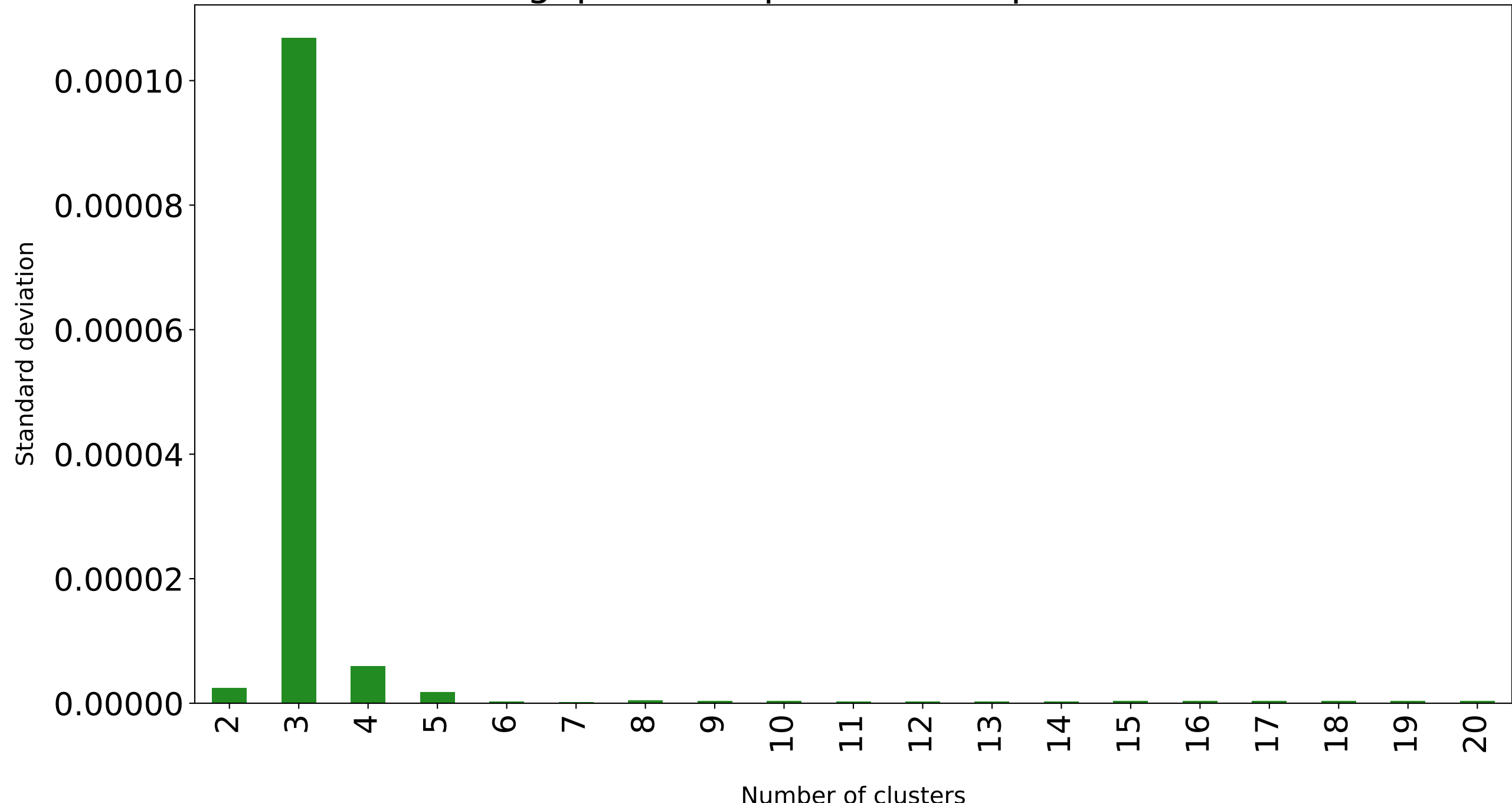


Cophenetic Correlation Coefficient: 0.7997330997661032

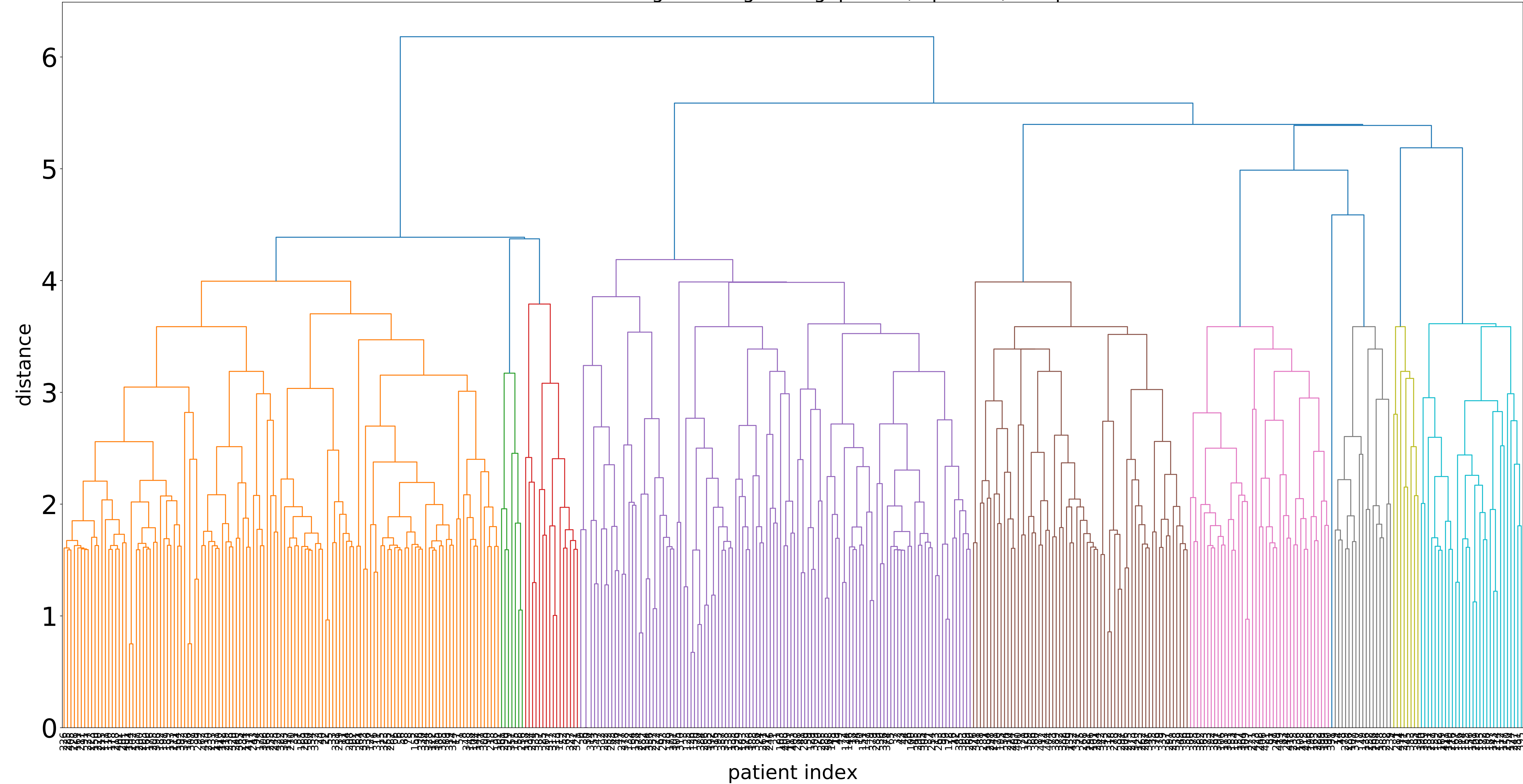
Average values of five clustering indices  
gap: 0.10, Tp: 2.00, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.99837	0.99695	0.99716	0.00097	0.9963	0.99836	-0.24147	0.99838	0.00016	0.99661	0.99461	0.0073	0.18292	0.3969
3.0	1.0	0.98366	0.9734	0.97845	0.01097	0.9745	0.9835	-0.88515	0.98383	0.00017	0.97966	0.96114	0.0125	0.21456	0.36136
4.0	1.0	0.92234	0.85942	0.90488	0.06811	0.89276	0.92201	-1.60198	0.92267	0.00018	0.91853	0.76455	0.03168	0.2114	0.36136
5.0	1.0	0.96193	0.92752	0.98389	0.03762	0.94905	0.96115	-2.503	0.96271	0.0002	0.96129	0.8717	0.05263	0.23203	0.36203
6.0	1.0	0.98878	0.97854	0.98517	0.01289	0.98518	0.9887	-3.42277	0.98886	0.00021	0.98922	0.9608	0.25	0.25231	0.37678
7.0	1.0	0.99687	0.994	0.99605	0.00305	0.99595	0.99684	-4.58157	0.9969	0.00022	0.99715	0.98901	0.25	0.26655	0.39357
8.0	1.0	0.96739	0.9389	0.92548	0.0164	0.95954	0.96536	-5.97196	0.96945	0.00022	0.97263	0.9008	2.0	0.34224	0.43997
9.0	1.0	0.87944	0.78796	0.87699	0.07591	0.85412	0.87813	-6.84084	0.88077	0.00023	0.91854	0.66104	2.0	0.29991	0.45432
10.0	1.0	0.85212	0.74879	0.82648	0.08618	0.82505	0.85076	-7.81869	0.85348	0.00025	0.9119	0.61427	2.0	0.27169	0.46583
11.0	1.0	0.79378	0.65876	0.82253	0.11941	0.76328	0.79078	-8.49698	0.79681	0.00027	0.89628	0.49827	2.0	0.25014	0.35851
12.0	1.0	0.80203	0.67272	0.79907	0.11665	0.77436	0.80049	-8.944	0.80358	0.00028	0.90629	0.51504	2.0	0.27202	0.36799
13.0	1.0	0.79639	0.66544	0.76238	0.12067	0.76942	0.79515	-10.77534	0.79763	0.00029	0.90843	0.50672	2.0	0.25844	0.36823
14.0	1.0	0.78657	0.65078	0.73347	0.1285	0.7599	0.78489	-12.24914	0.78825	0.0003	0.90837	0.48939	2.0	0.24846	0.36823
15.0	1.0	0.77971	0.6414	0.72873	0.13126	0.75445	0.77799	-13.82397	0.78143	0.00032	0.91222	0.47876	2.0	0.23433	0.37173
16.0	1.0	0.7706	0.62838	0.70405	0.13877	0.74577	0.76841	-15.14525	0.7728	0.00033	0.91278	0.46412	2.0	0.21955	0.3724
17.0	1.0	0.76211	0.61542	0.67694	0.14227	0.7378	0.75895	-17.14524	0.76529	0.00034	0.91331	0.44951	2.0	0.21083	0.37456
18.0	1.0	0.74168	0.58929	0.65934	0.16019	0.7171	0.73878	-18.24184	0.74461	0.00035	0.91213	0.42205	2.0	0.20229	0.3795
19.0	1.0	0.72139	0.56292	0.62702	0.17263	0.69613	0.71742	-19.6079	0.72539	0.00035	0.90878	0.39576	2.0	0.19599	0.38935
20.0	1.0	0.72614	0.57266	0.67566	0.17675	0.70381	0.72505	-21.10766	0.72723	0.0004	0.92016	0.40586	2.0	0.18921	0.38935

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



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



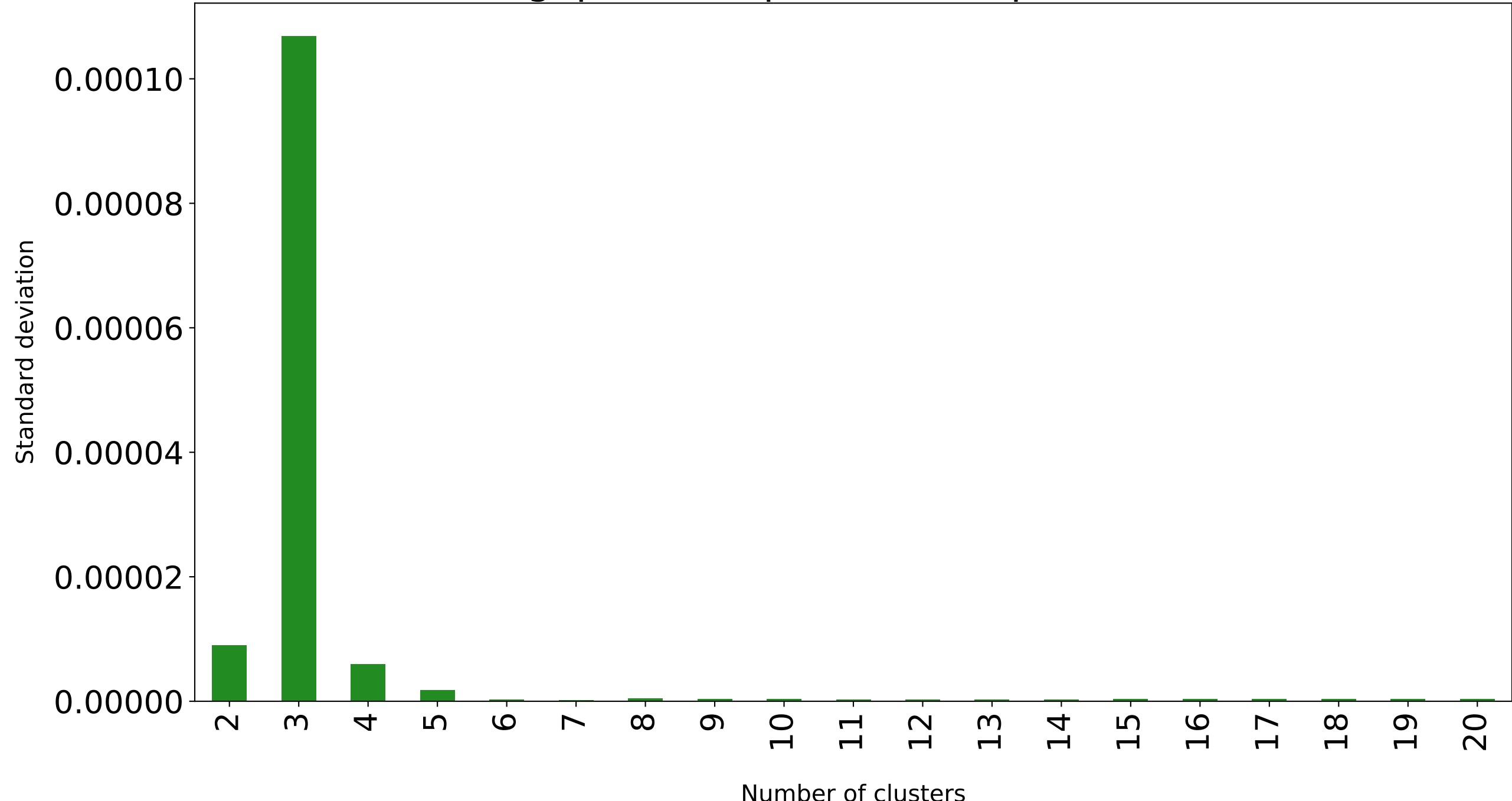
Cophenetic Correlation Coefficient: 0.7601018895336953

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

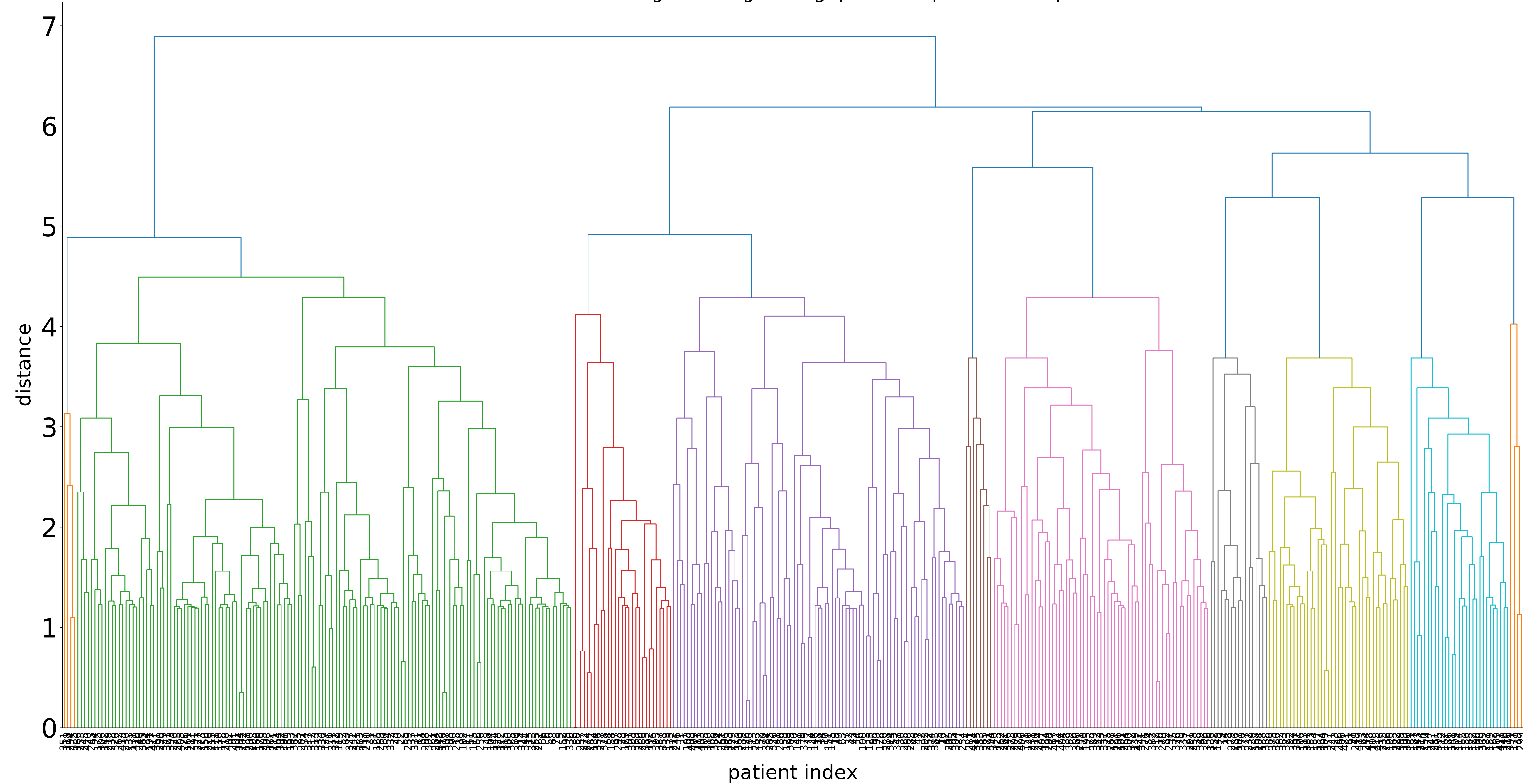
k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.98329	0.97368	0.96323	0.01165	0.96098	0.98307	-0.21478	0.98351	0.00015	0.97095	0.9629	0.00584	0.21356	0.35428
3.0	1.0	0.97085	0.95318	0.96213	0.01953	0.95462	0.97051	-0.85748	0.97119	0.00017	0.96404	0.93306	0.0125	0.25015	0.2902
4.0	1.0	0.94663	0.90638	0.94084	0.04481	0.92591	0.94614	-1.6613	0.94713	0.00018	0.94401	0.85001	0.02062	0.27054	0.2907
5.0	1.0	0.96982	0.94396	0.97894	0.02878	0.95976	0.96931	-2.56306	0.97033	0.0002	0.97019	0.90365	0.05263	0.27074	0.30191
6.0	1.0	0.98191	0.96594	0.97504	0.0178	0.97627	0.98177	-3.39849	0.98206	0.00021	0.98309	0.93919	0.25	0.29526	0.31402
7.0	1.0	0.99441	0.98964	0.99047	0.00408	0.99289	0.99428	-4.58011	0.99454	0.00022	0.99521	0.98235	0.25	0.31245	0.3414
8.0	1.0	0.95407	0.91297	0.89316	0.02111	0.94257	0.95176	-5.95853	0.9564	0.00021	0.96091	0.85359	2.0	0.37898	0.35696
9.0	1.0	0.92273	0.85845	0.89676	0.04371	0.90433	0.92151	-6.99914	0.92396	0.00022	0.94108	0.7616	2.0	0.32596	0.35812
10.0	1.0	0.89637	0.81438	0.82991	0.0555	0.87345	0.89374	-8.15923	0.89903	0.00022	0.92489	0.70055	2.0	0.31736	0.37401
11.0	1.0	0.82348	0.70244	0.76291	0.10209	0.78937	0.82113	-8.40697	0.82585	0.00022	0.88965	0.55073	2.0	0.27617	0.32687
12.0	1.0	0.75544	0.60751	0.77008	0.1463	0.71728	0.75252	-9.2544	0.75839	0.00024	0.87331	0.44182	2.0	0.25204	0.32743
13.0	1.0	0.74403	0.59402	0.72666	0.15316	0.70596	0.74198	-10.90985	0.7461	0.00025	0.87398	0.4277	2.0	0.25245	0.32743
14.0	1.0	0.7388	0.58743	0.69158	0.15873	0.70217	0.73695	-12.48615	0.74067	0.00026	0.87792	0.42056	2.0	0.26302	0.32773
15.0	1.0	0.76624	0.62413	0.75148	0.15091	0.73794	0.76492	-13.70748	0.76756	0.0003	0.90306	0.45985	2.0	0.24705	0.33862
16.0	1.0	0.77218	0.63207	0.73774	0.15029	0.74606	0.77119	-14.8521	0.77316	0.00032	0.90998	0.46794	2.0	0.23679	0.3445
17.0	1.0	0.76335	0.61937	0.70633	0.15614	0.73728	0.76196	-16.66892	0.76475	0.00032	0.90945	0.45349	2.0	0.23763	0.35262
18.0	1.0	0.75576	0.61072	0.71758	0.16462	0.73124	0.75481	-17.89299	0.75672	0.00035	0.91421	0.44527	2.0	0.22127	0.36127
19.0	1.0	0.72865	0.57556	0.67501	0.17789	0.70276	0.7272	-19.76492	0.73011	0.00035	0.90891	0.40888	2.0	0.21427	0.36138
20.0	1.0	0.70816	0.55038	0.65088	0.19037	0.68172	0.70659	-20.95229	0.70974	0.00035	0.90662	0.38413	2.0	0.20512	0.36393



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



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

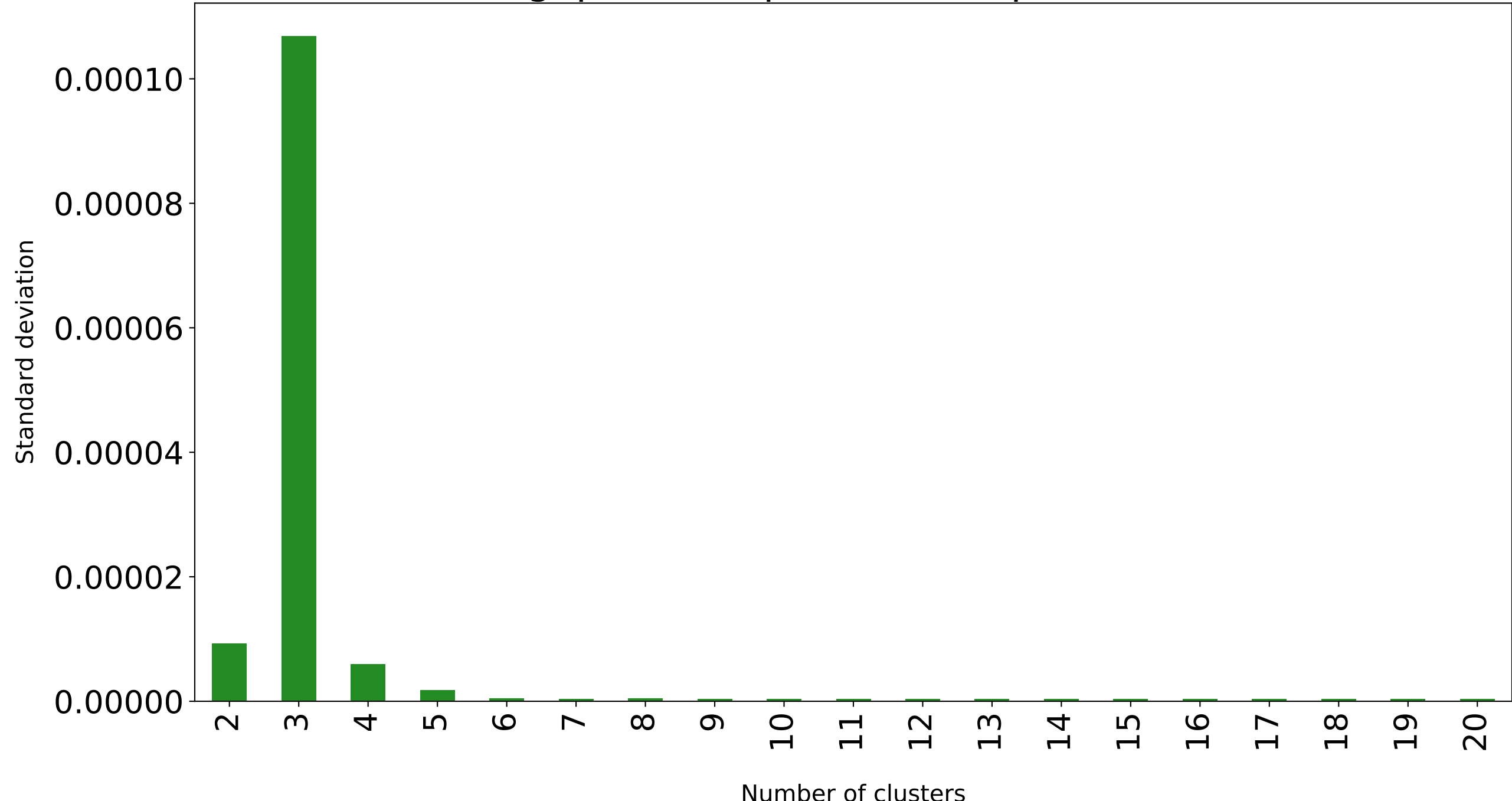


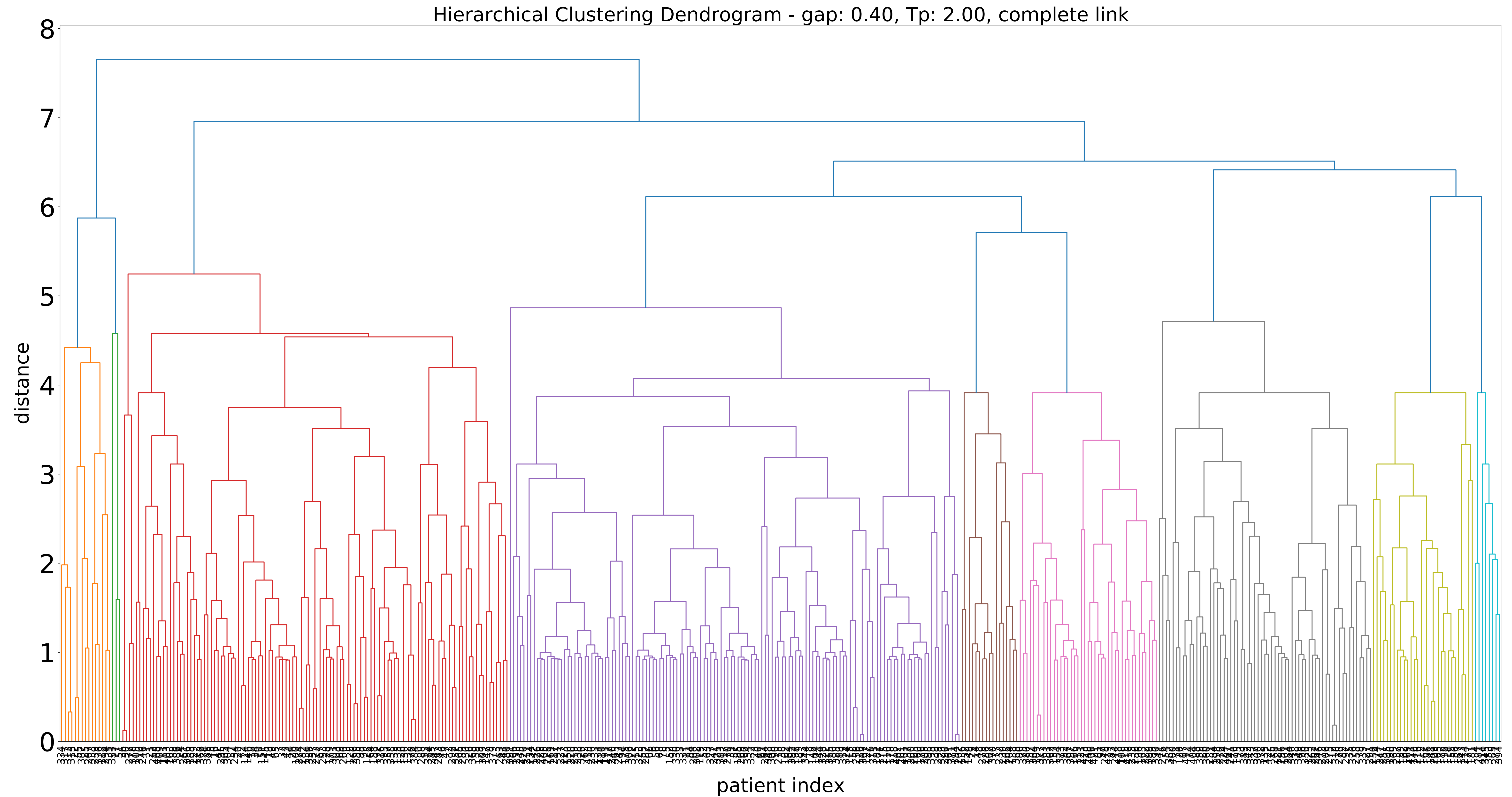
Cophenetic Correlation Coefficient: 0.7340551016438562

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

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.94929	0.91615	0.89098	0.03475	0.87145	0.94799	-0.13497	0.95062	0.00014	0.90235	0.87555	0.00725	0.24318	0.24357
3.0	1.0	0.91837	0.86446	0.90779	0.05244	0.87083	0.91642	-0.72886	0.92035	0.00015	0.8928	0.80022	0.01235	0.28496	0.22241
4.0	1.0	0.89176	0.81586	0.8866	0.08158	0.84905	0.89013	-1.43145	0.89343	0.00017	0.88676	0.71515	0.02817	0.29379	0.23843
5.0	1.0	0.91924	0.85733	0.92145	0.06304	0.89196	0.9181	-2.54118	0.9204	0.00019	0.92203	0.76816	0.02817	0.30889	0.2445
6.0	1.0	0.95302	0.91411	0.93967	0.03755	0.93873	0.95242	-3.30247	0.95362	0.0002	0.95724	0.854	0.25	0.32721	0.25838
7.0	1.0	0.9597	0.92413	0.92548	0.03449	0.94819	0.95886	-4.54138	0.96054	0.00021	0.96405	0.86686	1.0	0.27903	0.25838
8.0	1.0	0.95764	0.91994	0.91323	0.02297	0.94644	0.95641	-5.59211	0.95887	0.00021	0.96382	0.86106	1.0	0.31092	0.27767
9.0	1.0	0.87561	0.78135	0.84987	0.06744	0.84506	0.87441	-6.19808	0.87683	0.00021	0.90544	0.6492	1.0	0.256	0.16961
10.0	1.0	0.85653	0.75213	0.81232	0.07995	0.82364	0.85475	-7.58082	0.85832	0.00021	0.89682	0.61239	1.0	0.25147	0.18446
11.0	1.0	0.76461	0.61467	0.82269	0.1315	0.72203	0.7584	-8.20361	0.7709	0.00022	0.8581	0.44907	1.0	0.23011	0.19317
12.0	1.0	0.75526	0.60463	0.79042	0.13927	0.71394	0.7504	-9.24401	0.76019	0.00023	0.86256	0.4388	1.0	0.21942	0.19334
13.0	1.0	0.73907	0.58298	0.79006	0.15254	0.69961	0.73292	-9.88679	0.74534	0.00024	0.86512	0.41703	1.0	0.21622	0.19334
14.0	1.0	0.71169	0.55017	0.75041	0.16993	0.67232	0.70634	-10.42183	0.71714	0.00025	0.86509	0.38411	1.0	0.19599	0.20105
15.0	1.0	0.71381	0.55536	0.71913	0.16939	0.67646	0.71068	-11.60678	0.71697	0.00026	0.87332	0.38898	1.0	0.24536	0.20194
16.0	1.0	0.71468	0.55728	0.72311	0.17764	0.68065	0.71177	-12.46015	0.71763	0.00028	0.88301	0.39155	1.0	0.23333	0.20597
17.0	1.0	0.71283	0.55607	0.69948	0.17852	0.67959	0.71093	-14.34184	0.71475	0.00029	0.88623	0.39009	2.0	0.28572	0.21625
18.0	1.0	0.67187	0.50798	0.67459	0.19848	0.63717	0.66959	-15.75174	0.67418	0.00029	0.88029	0.34491	2.0	0.26832	0.21837
19.0	1.0	0.65863	0.48906	0.70524	0.2097	0.62655	0.65362	-16.8589	0.66373	0.00031	0.88534	0.32687	2.0	0.24774	0.22031
20.0	1.0	0.65435	0.48555	0.68708	0.21112	0.62277	0.65048	-18.07172	0.65827	0.00032	0.88774	0.32376	2.0	0.24611	0.22083

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

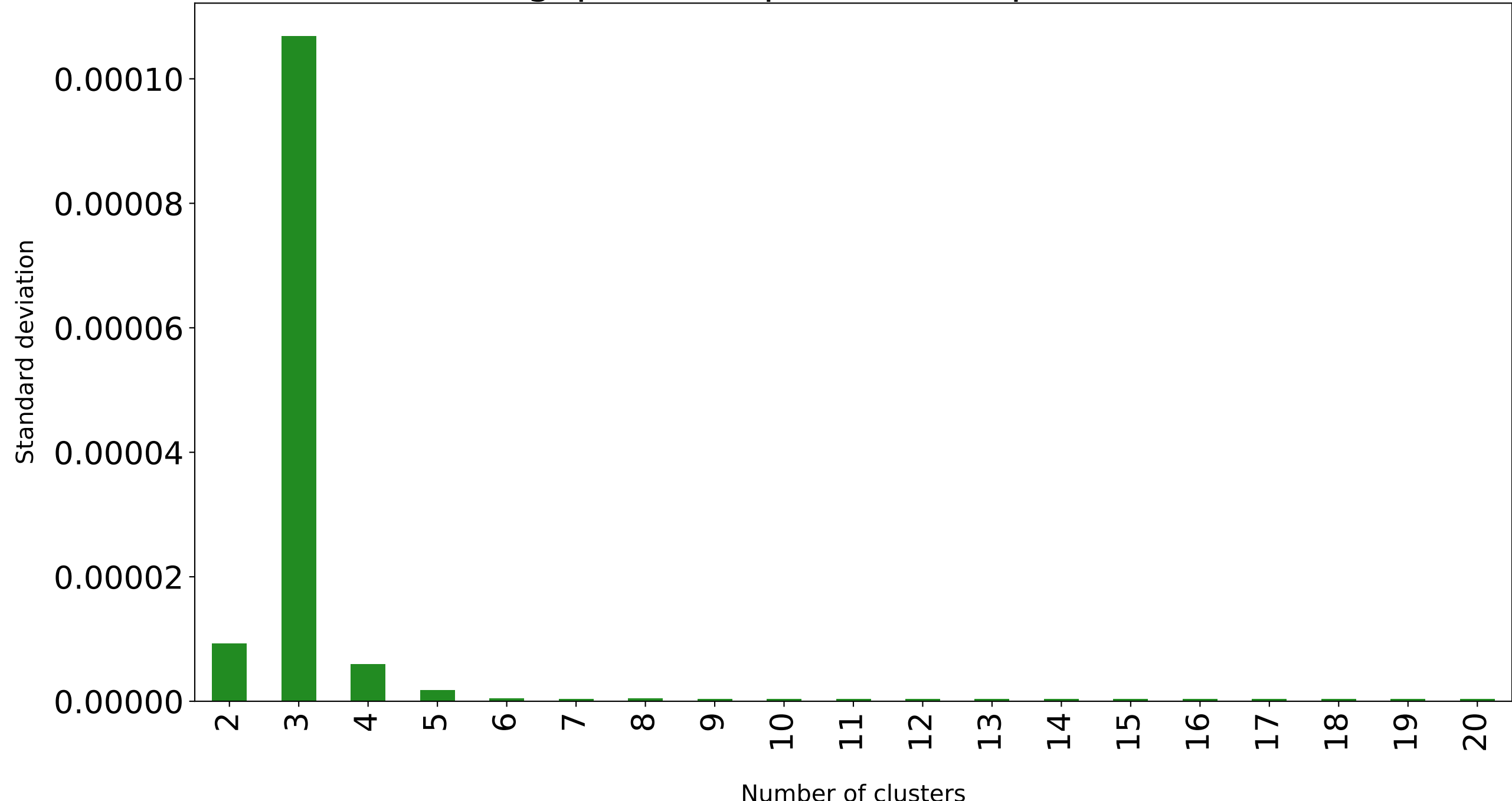




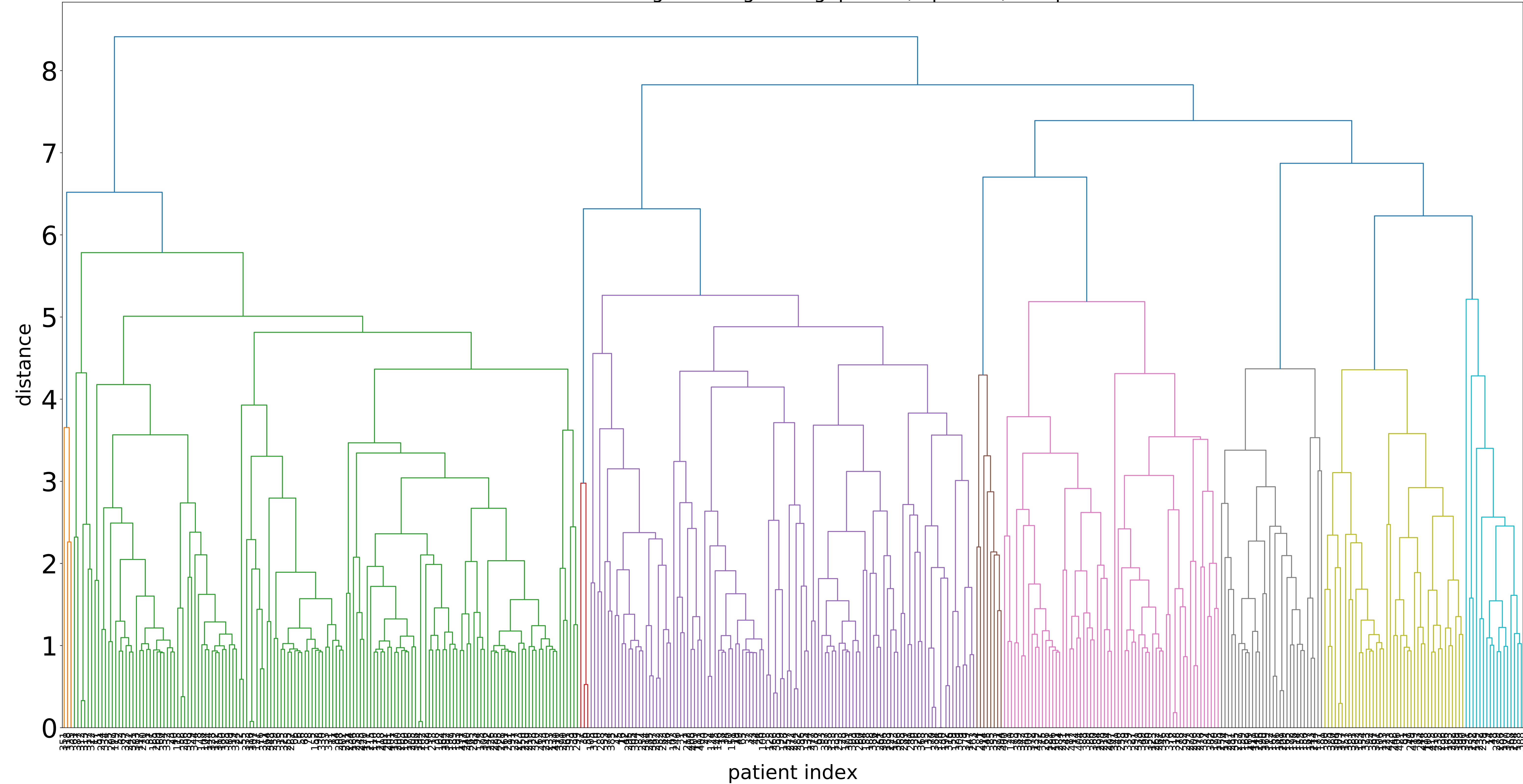
Average values of five clustering indices  
gap: 0.40, Tp: 2.00, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99999	0.73415	0.55189	0.04385	0.17401	0.12615	0.71031	0.31371	0.75881	4e-05	0.40597	0.38274	0.22222	0.19919	0.17298
3.0	1.00002	0.70803	0.52951	0.32653	0.18903	0.4936	0.6898	-0.45305	0.72679	8e-05	0.56546	0.36309	0.22222	0.24124	0.18487
4.0	1.0	0.72369	0.56485	0.53388	0.18011	0.60151	0.72041	-1.21438	0.72699	0.00011	0.70602	0.39543	0.22222	0.21366	0.18772
5.0	1.0	0.76181	0.61223	0.59777	0.13315	0.66951	0.75876	-2.11081	0.76487	0.00013	0.7601	0.44227	0.22222	0.26691	0.19697
6.0	1.0	0.90409	0.82408	0.94416	0.06381	0.87567	0.90211	-3.56302	0.90608	0.00019	0.91301	0.70577	0.22222	0.2655	0.19697
7.0	1.0	0.91685	0.84652	0.93332	0.05052	0.89332	0.91588	-4.35236	0.91782	0.0002	0.92796	0.73756	0.22222	0.30693	0.20498
8.0	1.0	0.90933	0.83432	0.89212	0.05625	0.88467	0.90864	-5.53671	0.91003	0.00021	0.9246	0.71948	1.33333	0.26267	0.21076
9.0	1.0	0.90409	0.82587	0.86952	0.04903	0.88011	0.90288	-6.47892	0.90531	0.00021	0.92478	0.70971	1.33333	0.30133	0.22954
10.0	1.0	0.88603	0.79688	0.81691	0.06371	0.8605	0.88302	-7.59117	0.88907	0.00022	0.91659	0.67476	1.33333	0.29741	0.24326
11.0	1.0	0.86426	0.76048	0.75953	0.07774	0.83584	0.8592	-9.09549	0.86939	0.00022	0.90421	0.62711	2.0	0.34384	0.25115
12.0	1.0	0.83903	0.72017	0.71282	0.0905	0.807	0.832	-10.20023	0.84618	0.00022	0.8901	0.57593	2.0	0.31475	0.2586
13.0	1.0	0.8192	0.68692	0.66869	0.10009	0.78466	0.80954	-11.69431	0.82907	0.00022	0.8784	0.53394	2.0	0.39675	0.25873
14.0	1.0	0.79954	0.66188	0.66964	0.11427	0.76407	0.79202	-12.57599	0.8072	0.00023	0.87785	0.50364	2.0	0.3763	0.26075
15.0	1.0	0.77451	0.63185	0.6669	0.13715	0.73806	0.76896	-13.06463	0.78016	0.00023	0.87636	0.47158	2.0	0.34374	0.22979
16.0	1.0	0.76179	0.61251	0.63464	0.14291	0.72497	0.75398	-14.72897	0.76976	0.00024	0.87214	0.45098	2.0	0.34632	0.23901
17.0	1.0	0.74857	0.59327	0.60734	0.14894	0.71104	0.73873	-16.33566	0.75866	0.00024	0.86728	0.43104	2.0	0.34326	0.24204
18.0	1.0	0.73157	0.57006	0.57972	0.15774	0.69311	0.71984	-17.14653	0.74363	0.00024	0.86196	0.40765	2.0	0.33179	0.16812
19.0	1.0	0.69367	0.53093	0.60162	0.18431	0.65411	0.68906	-18.35868	0.69835	0.00025	0.86506	0.36694	2.0	0.31585	0.17413
20.0	1.0	0.67887	0.5123	0.57499	0.19319	0.63876	0.67322	-20.07389	0.68462	0.00025	0.86196	0.34924	2.0	0.31203	0.17506

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



Hierarchical Clustering Dendrogram - gap: 0.50, Tp: 2.00, complete link



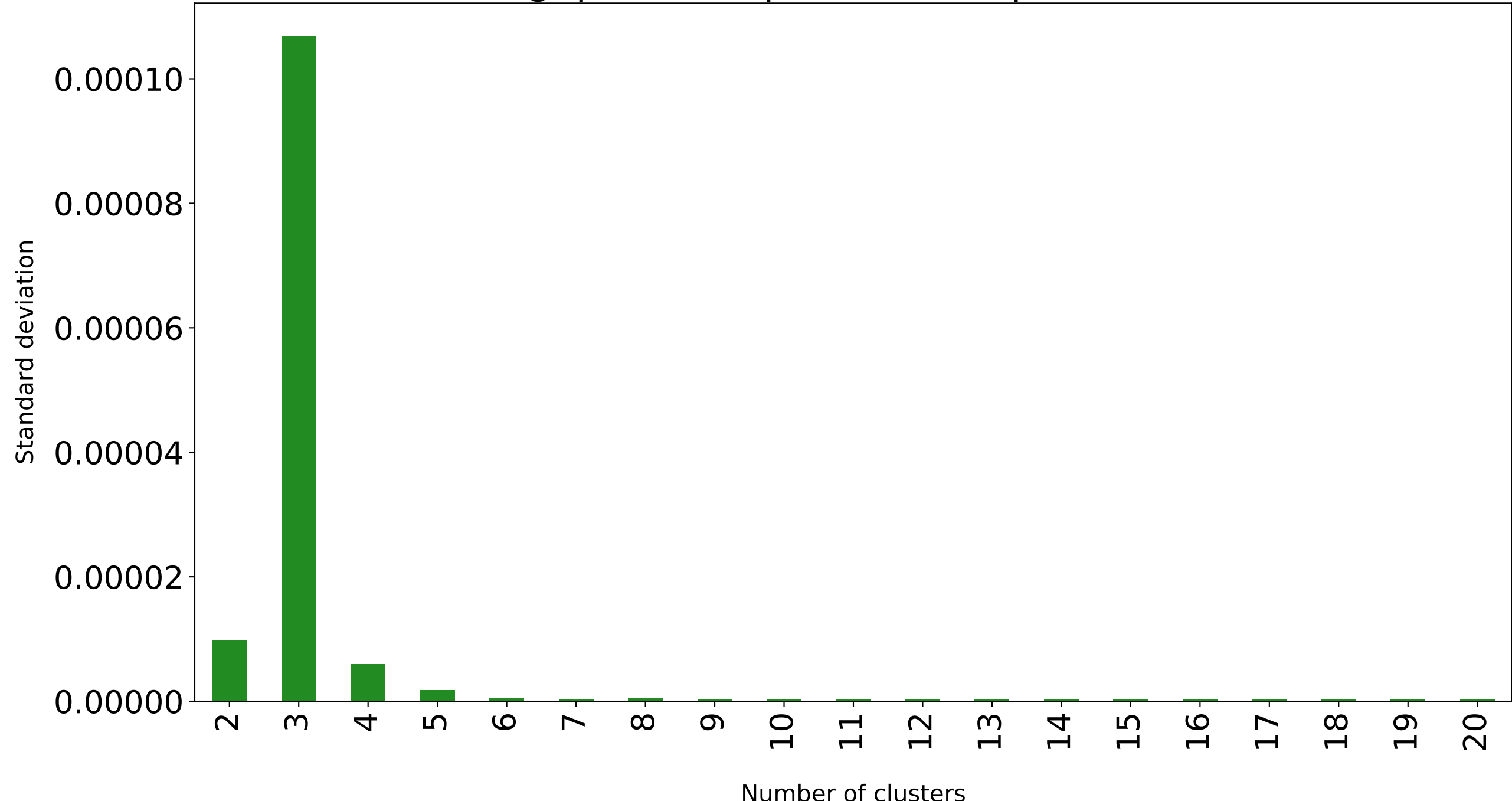
Cophenetic Correlation Coefficient: 0.7402954182693452



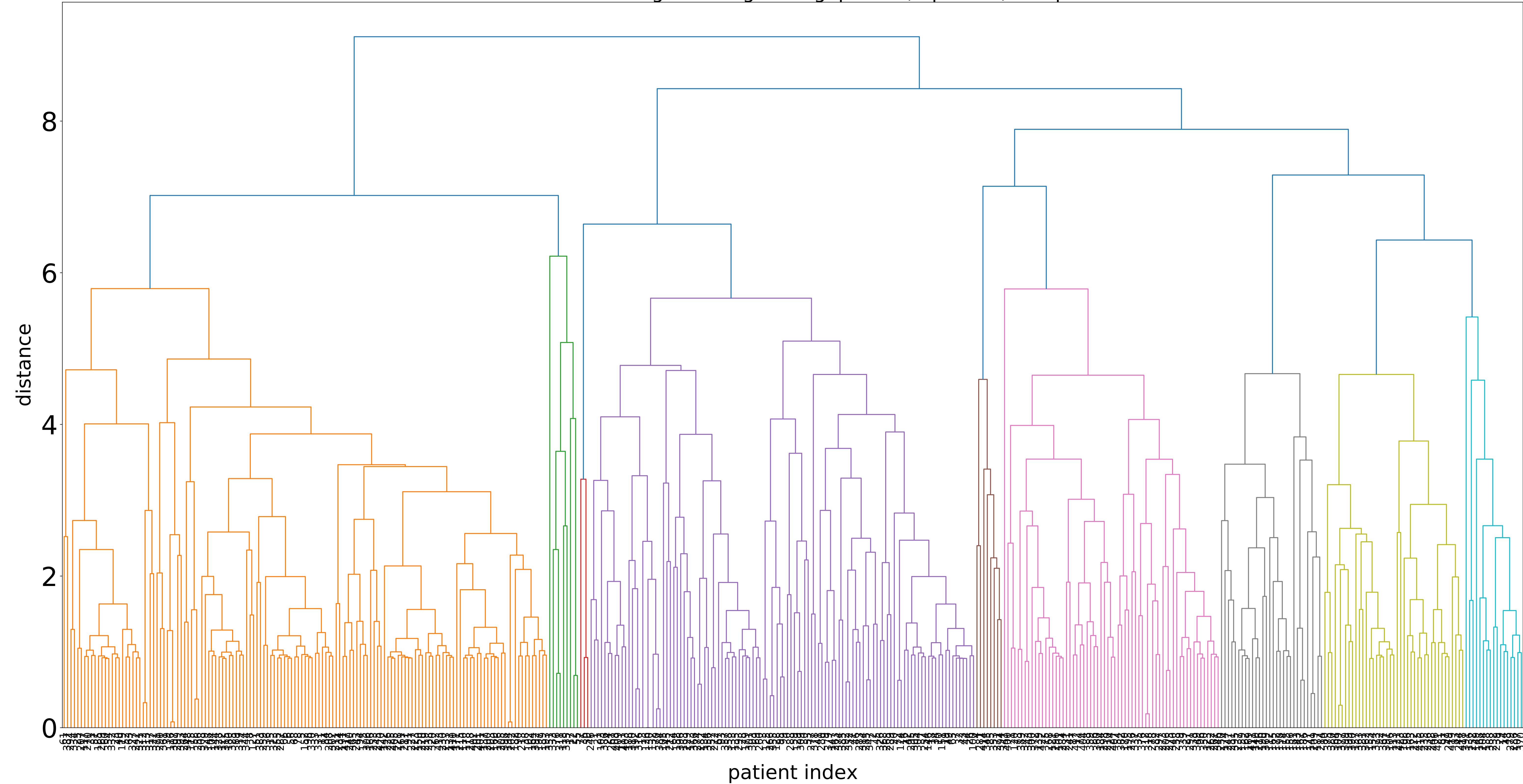
Average values of five clustering indices  
gap: 0.50, Tp: 2.00, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.95746	0.93179	0.87245	0.02933	0.87218	0.95492	-0.16611	0.96012	0.00014	0.91579	0.9077	0.0	0.28454	0.26607
3.0	1.0	0.91267	0.85594	0.90962	0.0608	0.86189	0.91009	-0.67776	0.91531	0.00015	0.88466	0.793	0.01739	0.32817	0.20186
4.0	1.0	0.93072	0.8767	0.93845	0.05603	0.90301	0.92913	-1.51919	0.93233	0.00018	0.92385	0.8016	0.01739	0.3419	0.21714
5.0	1.0	0.96584	0.93643	0.97177	0.0287	0.95401	0.96531	-2.69646	0.96638	0.0002	0.9654	0.89005	0.0338	0.37802	0.22258
6.0	1.0	0.97392	0.95089	0.96522	0.01882	0.96565	0.97356	-3.34413	0.97427	0.00021	0.97517	0.91328	0.03448	0.39409	0.22888
7.0	1.0	0.97687	0.95562	0.95832	0.01531	0.97001	0.97655	-4.71649	0.9772	0.00021	0.9788	0.91917	1.33333	0.37131	0.19376
8.0	1.0	0.96751	0.93783	0.93291	0.02579	0.95836	0.96688	-5.90635	0.96814	0.00021	0.97115	0.88824	1.33333	0.38232	0.19645
9.0	1.0	0.96011	0.92407	0.91177	0.0225	0.94992	0.95879	-7.00414	0.96144	0.00022	0.96645	0.86766	1.33333	0.39243	0.21164
10.0	1.0	0.92974	0.86962	0.86131	0.0399	0.9129	0.92746	-8.07235	0.93205	0.00022	0.94438	0.78097	1.33333	0.36218	0.23253
11.0	1.0	0.86497	0.76468	0.81913	0.0803	0.83459	0.86325	-8.15761	0.8667	0.00021	0.9039	0.62819	1.33333	0.30682	0.15049
12.0	1.0	0.84324	0.7305	0.76269	0.09381	0.80981	0.84011	-9.677	0.84641	0.00021	0.89222	0.58553	2.0	0.3522	0.15133
13.0	1.0	0.81249	0.68555	0.72146	0.11533	0.77597	0.80834	-10.53582	0.81671	0.00022	0.88042	0.53213	2.0	0.32141	0.1567
14.0	1.0	0.72072	0.56199	0.71067	0.15995	0.67548	0.71793	-11.43415	0.72354	0.00022	0.85255	0.39297	2.0	0.281	0.16081
15.0	1.0	0.67832	0.50946	0.70287	0.19989	0.63318	0.67369	-11.9539	0.68301	0.00023	0.84844	0.34319	2.0	0.2637	0.16309
16.0	1.0	0.65097	0.47384	0.73618	0.21547	0.60965	0.64037	-12.49343	0.66185	0.00025	0.85211	0.31304	2.0	0.25404	0.17231
17.0	1.0	0.64386	0.46799	0.71231	0.21784	0.60254	0.63501	-14.0643	0.65294	0.00025	0.85368	0.30792	2.0	0.26339	0.1777
18.0	1.0	0.64021	0.46235	0.72327	0.21822	0.60116	0.62967	-15.19727	0.65106	0.00027	0.85863	0.30319	2.0	0.25683	0.17968
19.0	1.0	0.63133	0.45377	0.70539	0.22401	0.5923	0.62164	-16.99206	0.6413	0.00027	0.85932	0.29583	2.0	0.24408	0.17983
20.0	1.0	0.64049	0.46265	0.72579	0.22258	0.6044	0.62991	-18.55908	0.65141	0.00028	0.86756	0.30344	2.0	0.23991	0.18012

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



Hierarchical Clustering Dendrogram - gap: 0.60, Tp: 2.00, complete link

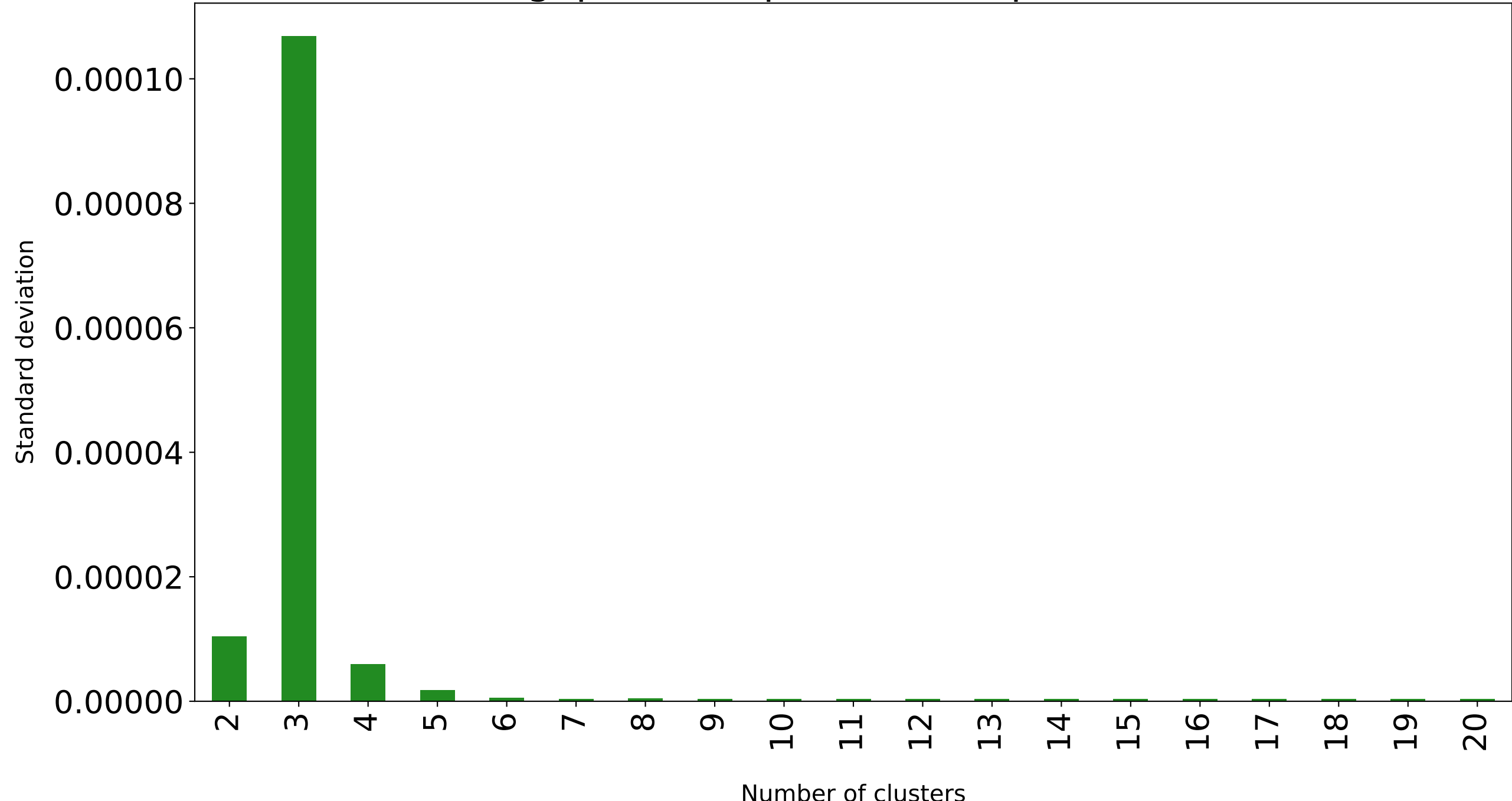


Cophenetic Correlation Coefficient: 0.7278492617361961

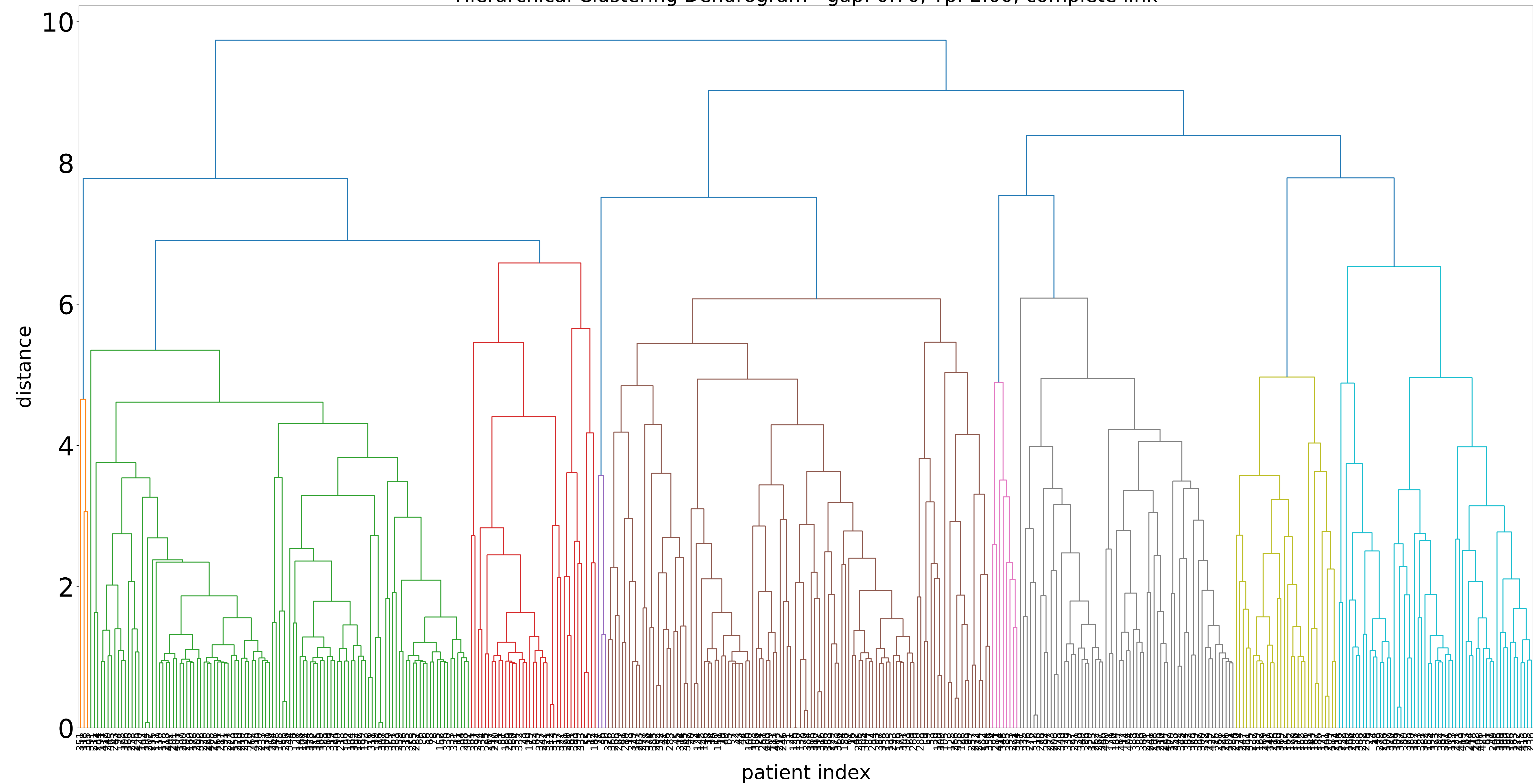
Average values of five clustering indices  
gap: 0.60, Tp: 2.00, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.95065	0.92294	0.87327	0.03462	0.86754	0.94888	-0.15552	0.95249	0.00014	0.90908	0.89512	0.0	0.28263	0.25899
3.0	1.0	0.93357	0.88831	0.94385	0.04433	0.89387	0.93065	-0.73853	0.93655	0.00016	0.90802	0.83829	0.01739	0.32686	0.20174
4.0	1.0	0.91949	0.85867	0.92603	0.06415	0.88694	0.91773	-1.48422	0.92129	0.00018	0.91185	0.77563	0.01739	0.34163	0.21843
5.0	1.0	0.95694	0.92104	0.96432	0.03492	0.94184	0.9563	-2.65707	0.95758	0.0002	0.95643	0.86588	0.02817	0.37777	0.22297
6.0	1.0	0.96718	0.93948	0.96607	0.02377	0.95627	0.96684	-3.3034	0.96752	0.0002	0.96813	0.8956	0.03448	0.39282	0.22682
7.0	1.0	0.95593	0.91674	0.95939	0.02516	0.94269	0.9556	-4.4743	0.95626	0.00021	0.95993	0.85065	0.88889	0.33735	0.19656
8.0	1.0	0.94953	0.90547	0.93643	0.03295	0.93513	0.94909	-5.67586	0.94997	0.00021	0.95596	0.83292	0.88889	0.35	0.20299
9.0	1.0	0.94279	0.89353	0.9148	0.03358	0.92782	0.94184	-6.58979	0.94374	0.00022	0.95279	0.81569	0.88889	0.36539	0.20993
10.0	1.0	0.92304	0.85771	0.85562	0.04312	0.90421	0.92076	-8.03347	0.92535	0.00022	0.93853	0.76083	2.0	0.43288	0.22544
11.0	1.0	0.86213	0.75946	0.84288	0.07595	0.83181	0.86048	-9.00568	0.86379	0.00022	0.90368	0.62007	2.0	0.39453	0.18718
12.0	1.0	0.83242	0.71401	0.7738	0.0918	0.79718	0.83034	-10.49577	0.83451	0.00022	0.88791	0.56215	2.0	0.43965	0.19121
13.0	1.0	0.80043	0.66725	0.8033	0.12793	0.7648	0.79803	-11.12716	0.80284	0.00023	0.88344	0.50538	2.0	0.40032	0.17243
14.0	1.0	0.79386	0.65955	0.76745	0.1316	0.75828	0.79211	-12.80065	0.79563	0.00024	0.88403	0.49737	2.0	0.43485	0.1832
15.0	1.0	0.78176	0.64312	0.75681	0.14197	0.74619	0.78004	-13.15907	0.78349	0.00024	0.88325	0.47895	2.0	0.42015	0.16181
16.0	1.0	0.77227	0.63023	0.72825	0.14703	0.73608	0.77053	-14.43276	0.77402	0.00024	0.88104	0.46462	2.0	0.4117	0.16904
17.0	1.0	0.77649	0.63617	0.75041	0.15348	0.74319	0.77471	-15.88046	0.77828	0.00026	0.88898	0.47148	2.0	0.39113	0.17203
18.0	1.0	0.76065	0.61543	0.73964	0.17224	0.72688	0.75864	-16.61159	0.76268	0.00026	0.88663	0.44973	2.0	0.36936	0.17413
19.0	1.0	0.75271	0.60507	0.71813	0.17823	0.71862	0.75072	-18.07189	0.75471	0.00026	0.88541	0.43866	2.0	0.36281	0.1745
20.0	1.0	0.74441	0.59428	0.69779	0.18456	0.71009	0.74216	-19.73342	0.74667	0.00027	0.88418	0.42763	2.0	0.34854	0.17605

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



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

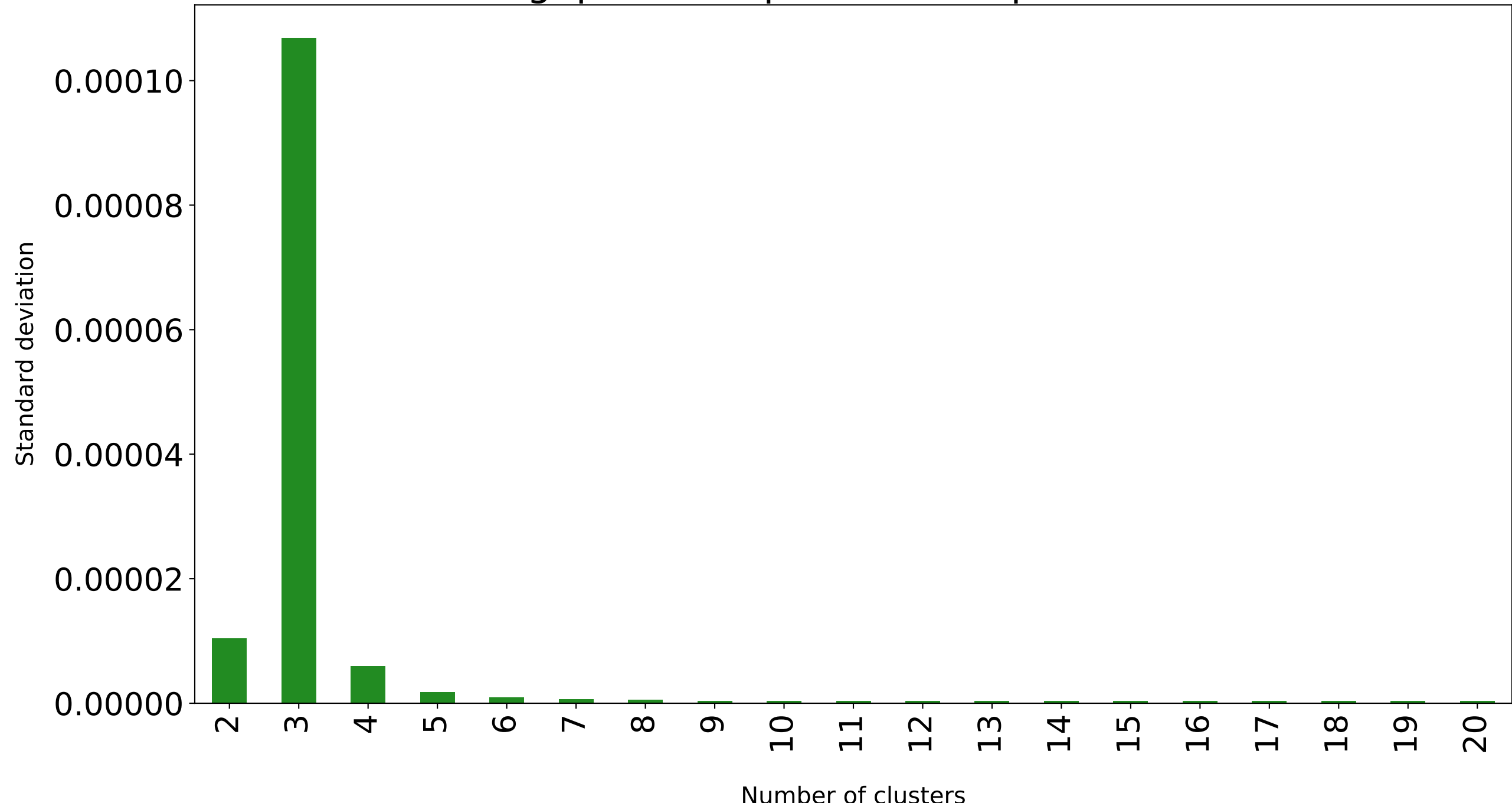


Cophenetic Correlation Coefficient: 0.694275740426429

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

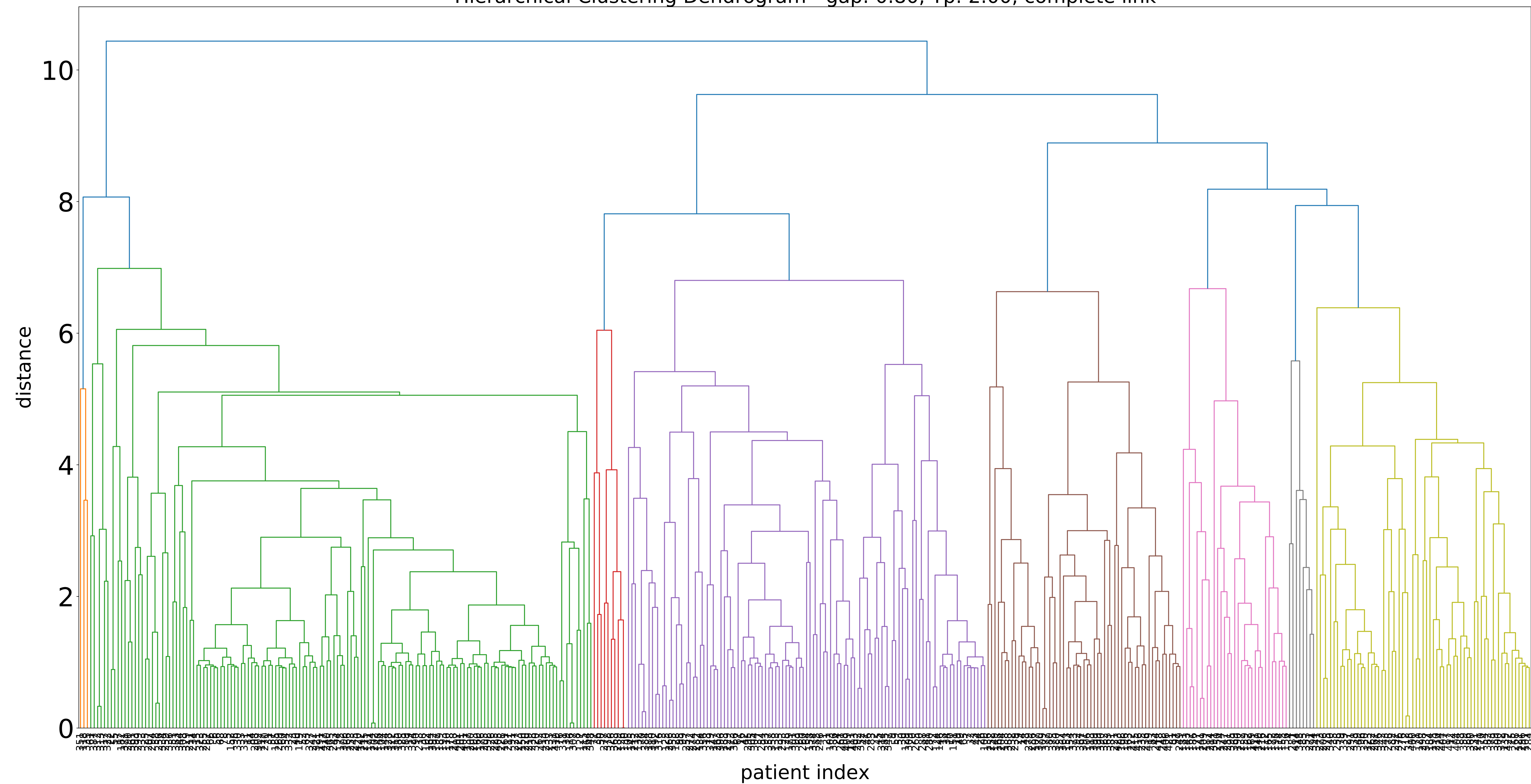
k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99999	0.90938	0.85099	0.75836	0.06204	0.72999	0.90378	-0.06734	0.9152	0.00012	0.81472	0.7913	0.0106	0.27513	0.24178
3.0	1.00001	0.89346	0.82384	0.90096	0.06999	0.8264	0.88856	-0.6363	0.89849	0.00014	0.85162	0.74749	0.01739	0.31758	0.18974
4.0	1.0	0.88466	0.80277	0.89258	0.08426	0.83742	0.88207	-1.37115	0.88728	0.00016	0.87477	0.6965	0.01739	0.33247	0.20441
5.0	1.0	0.92677	0.87141	0.92989	0.05347	0.90056	0.92565	-2.55151	0.9279	0.00019	0.927	0.79178	0.01739	0.36923	0.20463
6.0	1.0	0.9344	0.88378	0.92312	0.04685	0.91233	0.93373	-3.78802	0.93508	0.00019	0.9374	0.80821	1.33333	0.34177	0.21115
7.0	1.0	0.94687	0.90472	0.92842	0.0356	0.93018	0.9464	-4.49777	0.94734	0.0002	0.95139	0.8401	1.33333	0.35763	0.21188
8.0	1.0	0.94778	0.9054	0.90763	0.03368	0.93276	0.94694	-5.76277	0.94863	0.00021	0.95444	0.84152	1.33333	0.36506	0.23081
9.0	1.0	0.86546	0.76239	0.88372	0.08067	0.83271	0.86363	-6.69965	0.8673	0.00021	0.89757	0.62022	1.33333	0.29925	0.1645
10.0	1.0	0.85094	0.74114	0.84468	0.09133	0.8162	0.84953	-7.86544	0.85235	0.00021	0.89175	0.59332	1.33333	0.27409	0.16583
11.0	1.0	0.84303	0.7302	0.82606	0.08581	0.80884	0.84146	-8.77967	0.84461	0.00021	0.89212	0.58159	1.33333	0.29827	0.17795
12.0	1.0	0.81562	0.68936	0.7612	0.09985	0.77731	0.81364	-10.27795	0.81762	0.00021	0.87874	0.53142	2.0	0.35207	0.17828
13.0	1.0	0.78402	0.64528	0.76013	0.12674	0.74377	0.78227	-10.6014	0.78578	0.00022	0.87119	0.48031	2.0	0.32334	0.14529
14.0	1.0	0.78263	0.6436	0.73371	0.12787	0.74357	0.78095	-12.18087	0.78431	0.00023	0.8743	0.47855	2.0	0.32917	0.15048
15.0	1.0	0.77722	0.63548	0.71036	0.13113	0.73858	0.77511	-12.71623	0.77934	0.00023	0.87448	0.46918	2.0	0.31579	0.15059
16.0	1.0	0.77396	0.6301	0.69191	0.13411	0.73598	0.77103	-14.06752	0.77693	0.00023	0.87507	0.46337	2.0	0.3096	0.15095
17.0	1.0	0.7844	0.6458	0.74328	0.14362	0.75125	0.7825	-15.04523	0.78631	0.00025	0.88971	0.48094	2.0	0.29124	0.15368
18.0	1.0	0.77636	0.63489	0.72521	0.15214	0.74285	0.77418	-16.82964	0.77856	0.00026	0.88804	0.46933	2.0	0.32129	0.1634
19.0	1.0	0.76445	0.61852	0.69762	0.16127	0.73	0.76172	-18.34987	0.7672	0.00026	0.8843	0.45182	2.0	0.35762	0.16543
20.0	1.0	0.75239	0.60259	0.67945	0.17077	0.71722	0.7493	-20.05215	0.75551	0.00026	0.88137	0.43522	2.0	0.34149	0.16578

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





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

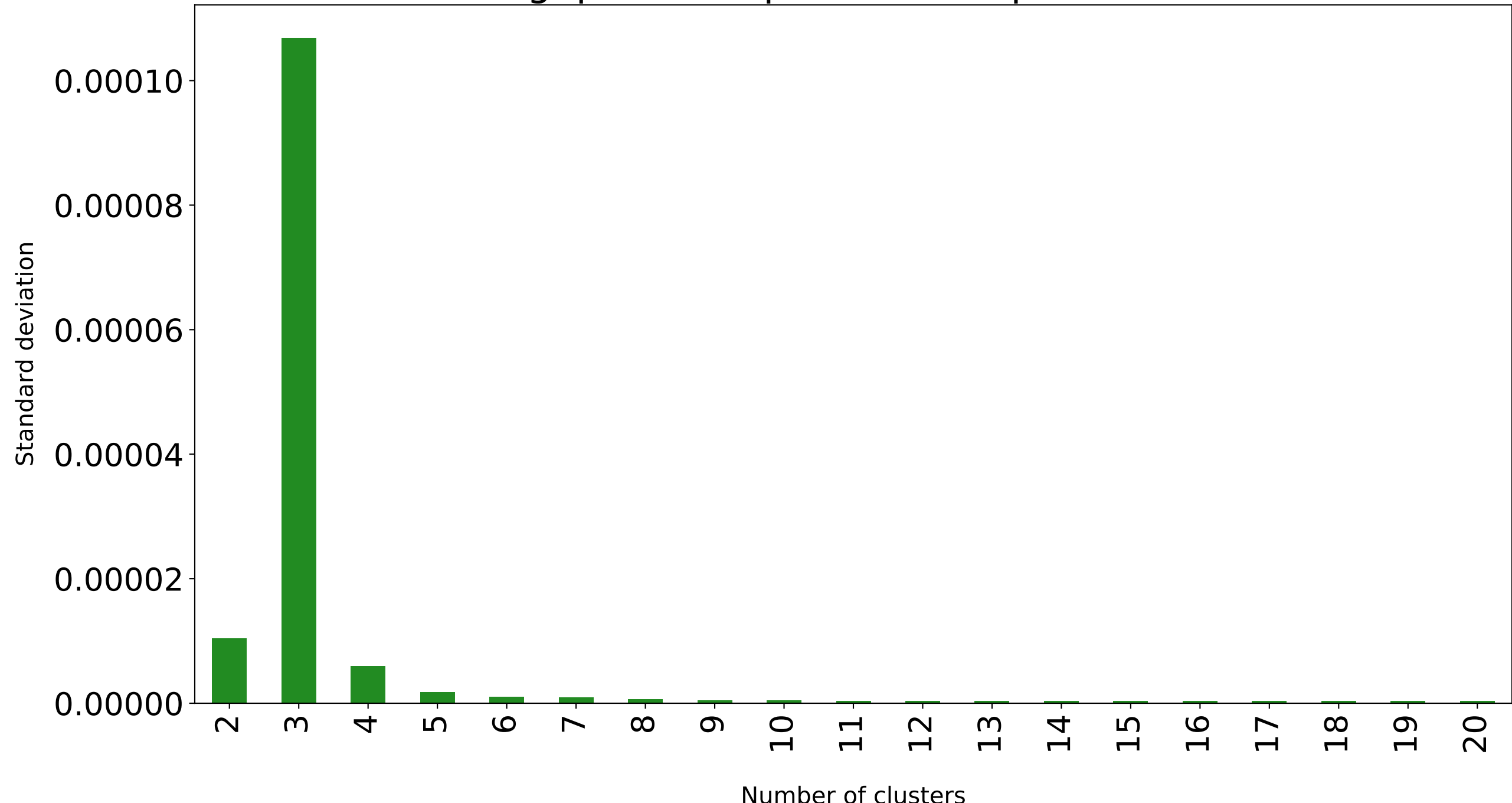


Cophenetic Correlation Coefficient: 0.6784110395850228

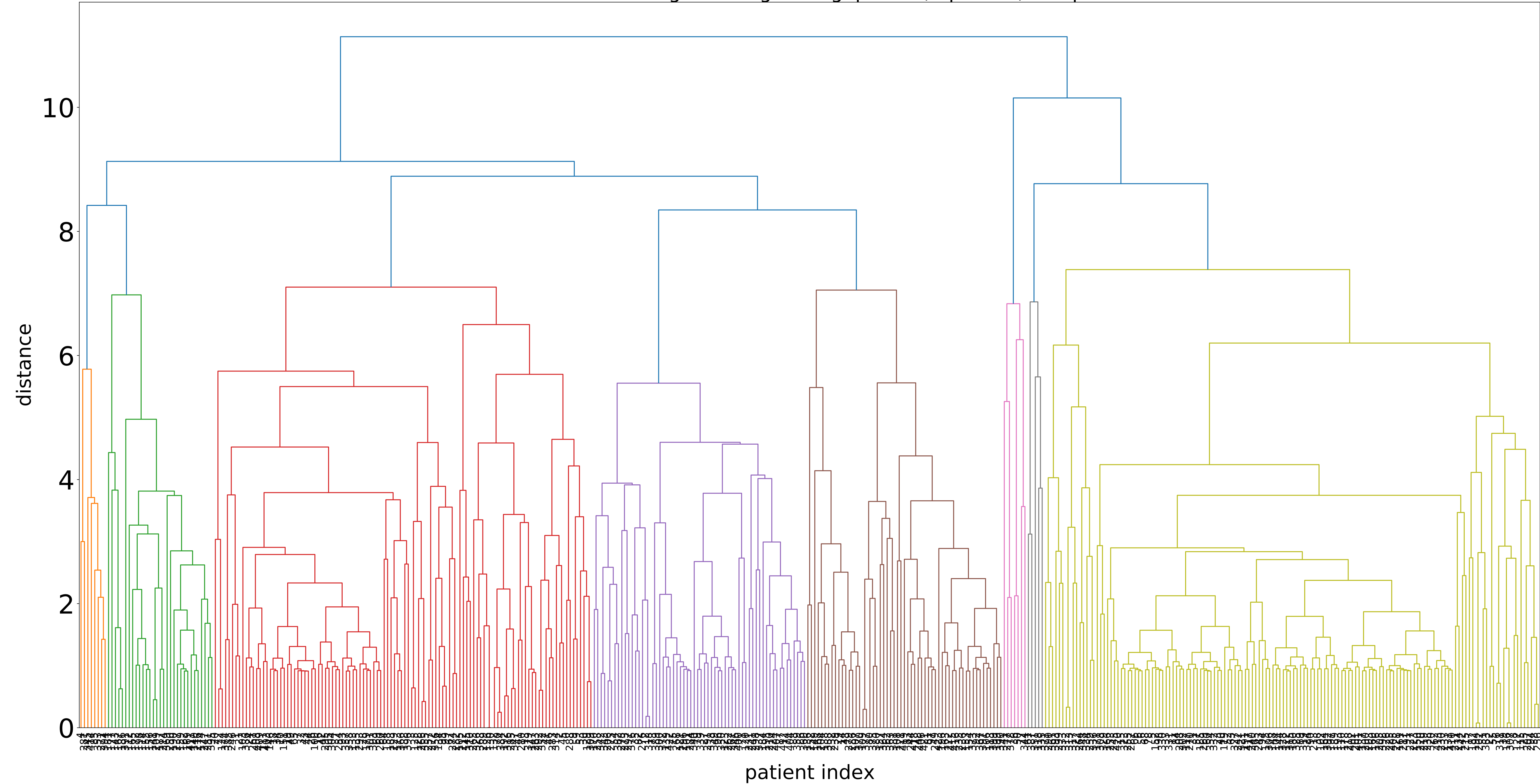
Average values of five clustering indices  
gap: 0.80, Tp: 2.00, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.93652	0.89691	0.8425	0.04382	0.81975	0.9333	-0.12245	0.93985	0.00013	0.874	0.85556	0.0	0.27261	0.22671
3.0	1.00001	0.9024	0.84004	0.89907	0.06424	0.83818	0.89789	-0.65407	0.90709	0.00015	0.86374	0.77214	0.01739	0.3114	0.17907
4.0	1.0	0.88899	0.8113	0.89595	0.07638	0.84182	0.88606	-1.45048	0.89199	0.00016	0.87655	0.71323	0.01739	0.31283	0.19444
5.0	1.0	0.90812	0.83994	0.91727	0.06388	0.87505	0.90666	-2.47722	0.90959	0.00018	0.90819	0.74479	0.01739	0.35587	0.1973
6.0	1.0	0.91834	0.85706	0.91267	0.05644	0.89053	0.91736	-3.69039	0.91932	0.00019	0.92163	0.76948	1.33333	0.32949	0.20051
7.0	1.0	0.93033	0.87757	0.91251	0.04543	0.90802	0.92963	-4.40362	0.93104	0.0002	0.936	0.80069	1.33333	0.34427	0.20374
8.0	1.0	0.9258	0.86782	0.90139	0.04773	0.90443	0.92511	-5.59179	0.9265	0.0002	0.9364	0.78119	1.33333	0.31272	0.15104
9.0	1.0	0.89952	0.82049	0.85046	0.06428	0.873	0.89833	-6.759	0.90071	0.00021	0.91877	0.70556	1.33333	0.28299	0.15509
10.0	1.0	0.83757	0.72423	0.80947	0.11091	0.80005	0.83626	-7.02336	0.83889	0.00021	0.88434	0.57618	1.33333	0.24281	0.15584
11.0	1.0	0.83278	0.71629	0.78248	0.12248	0.79602	0.83141	-8.46978	0.83416	0.00021	0.88528	0.56519	1.33333	0.21859	0.15691
12.0	1.0	0.8435	0.73184	0.79399	0.10857	0.81113	0.84191	-9.67485	0.8451	0.00022	0.89682	0.58482	1.33333	0.2511	0.16292
13.0	1.0	0.83486	0.71789	0.76117	0.11235	0.80208	0.83256	-11.286	0.83718	0.00022	0.89399	0.56724	2.0	0.30687	0.17176
14.0	1.0	0.8265	0.70505	0.74614	0.11856	0.79388	0.82385	-12.51384	0.82918	0.00023	0.89323	0.55125	2.0	0.29394	0.17213
15.0	1.0	0.81649	0.68899	0.71675	0.12219	0.78319	0.81262	-13.98077	0.82041	0.00023	0.88915	0.53208	2.0	0.29779	0.179
16.0	1.0	0.82427	0.70107	0.73339	0.12562	0.79405	0.82071	-15.60338	0.82787	0.00024	0.89834	0.54727	2.0	0.29616	0.1865
17.0	1.0	0.8199	0.69353	0.71649	0.12927	0.78962	0.81548	-16.71731	0.82438	0.00024	0.89688	0.53815	2.0	0.30212	0.18801
18.0	1.0	0.81239	0.68108	0.69417	0.13582	0.78183	0.80656	-18.23543	0.81832	0.00025	0.89397	0.5237	2.0	0.31639	0.18833
19.0	1.0	0.80447	0.66991	0.68435	0.14175	0.77373	0.79822	-18.9276	0.81082	0.00025	0.89269	0.51128	2.0	0.30695	0.19212
20.0	1.0	0.79218	0.65385	0.67593	0.15549	0.76082	0.78617	-20.03626	0.7983	0.00025	0.89068	0.49347	2.0	0.29723	0.19787

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



Hierarchical Clustering Dendrogram - gap: 0.90, Tp: 2.00, complete link

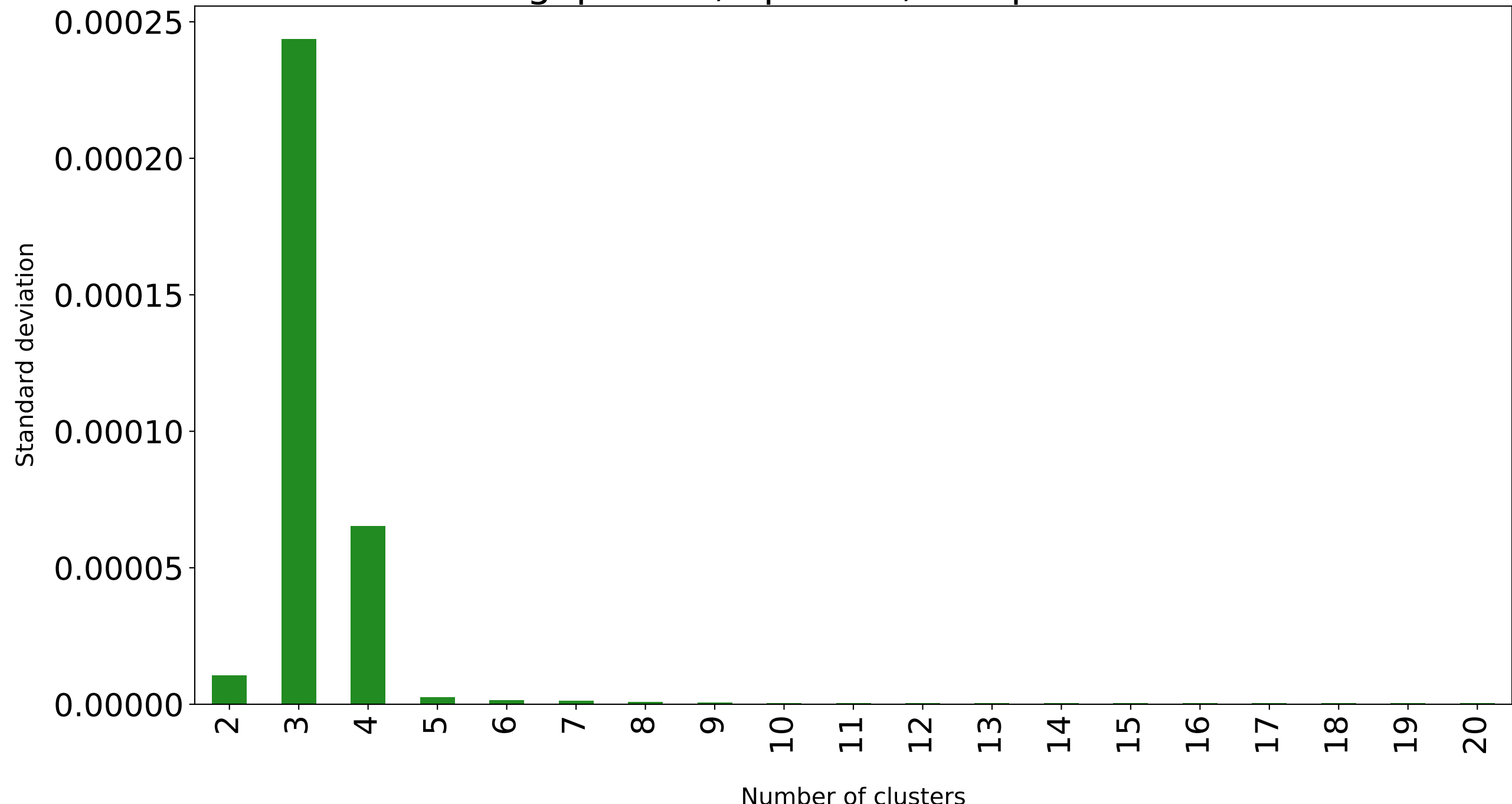


Cophenetic Correlation Coefficient: 0.6362486041357961

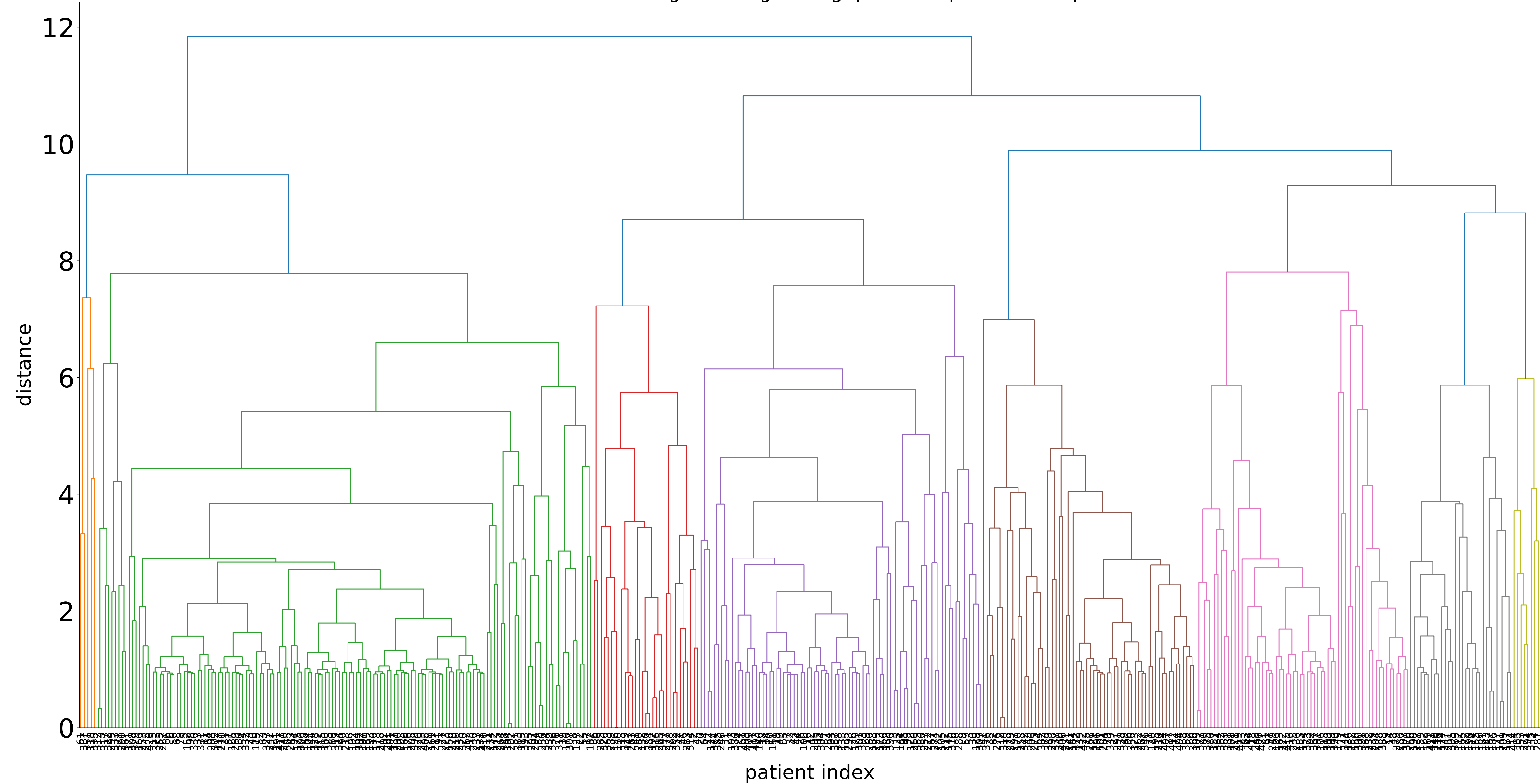
Average values of five clustering indices  
gap: 0.90, Tp: 2.00, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99999	0.89536	0.82381	0.77698	0.06878	0.71015	0.88986	-0.03888	0.90105	0.00012	0.78674	0.74008	0.03979	0.2477	0.17513
3.0	1.00001	0.78695	0.65597	0.5058	0.1415	0.59875	0.77681	-0.40845	0.79733	0.0001	0.67064	0.52194	1.18227	0.23361	0.19474
4.0	1.00001	0.70662	0.54743	0.44619	0.19474	0.53494	0.6972	-0.70389	0.71624	9e-05	0.63668	0.39189	1.18227	0.23971	0.19999
5.0	1.0	0.84364	0.73837	0.79583	0.11631	0.78041	0.84116	-2.07718	0.84617	0.00015	0.83601	0.60505	1.18227	0.25327	0.18155
6.0	1.0	0.85371	0.75249	0.78877	0.11154	0.80009	0.8523	-3.18697	0.85512	0.00016	0.85596	0.61907	1.24138	0.21568	0.1891
7.0	1.0	0.85467	0.75254	0.76587	0.10863	0.80456	0.85291	-3.8357	0.85643	0.00017	0.86158	0.61748	1.24138	0.25527	0.19077
8.0	1.0	0.90851	0.84031	0.88238	0.05995	0.88137	0.90771	-5.3293	0.9093	0.0002	0.92092	0.74249	1.24138	0.27882	0.21561
9.0	1.0	0.87549	0.7829	0.85581	0.07835	0.84314	0.87457	-6.53845	0.87642	0.0002	0.90217	0.65383	1.24138	0.2444	0.2019
10.0	1.0	0.82095	0.69868	0.82778	0.11728	0.78133	0.81915	-6.89285	0.82277	0.00021	0.87651	0.54431	1.24138	0.2153	0.16547
11.0	1.0	0.82824	0.70907	0.83101	0.11052	0.79263	0.82681	-7.96165	0.82968	0.00022	0.88736	0.55594	1.24138	0.24954	0.16731
12.0	1.0	0.83318	0.71666	0.82056	0.11142	0.79971	0.8322	-9.53515	0.83417	0.00022	0.8937	0.56482	1.24138	0.23492	0.17005
13.0	1.0	0.835	0.71908	0.80194	0.10957	0.80283	0.83411	-11.06729	0.83589	0.00023	0.89725	0.56732	1.37931	0.24833	0.17079
14.0	1.0	0.83684	0.72139	0.7848	0.11014	0.80596	0.83566	-12.66011	0.83801	0.00023	0.90037	0.57017	1.37931	0.23673	0.17963
15.0	1.0	0.83642	0.72001	0.77011	0.1101	0.80655	0.83484	-14.08033	0.83801	0.00024	0.9024	0.56817	1.37931	0.23741	0.18663
16.0	1.0	0.83728	0.71984	0.75655	0.11038	0.80833	0.83496	-15.32433	0.83962	0.00024	0.90397	0.5674	2.0	0.2492	0.18827
17.0	1.0	0.85147	0.74303	0.84154	0.11287	0.82752	0.85045	-16.93005	0.85249	0.00027	0.91997	0.59648	2.0	0.22217	0.18925
18.0	1.0	0.84852	0.73868	0.82767	0.11603	0.82455	0.84755	-18.67464	0.8495	0.00027	0.91979	0.59088	2.0	0.22829	0.20198
19.0	1.0	0.83987	0.72567	0.80459	0.12208	0.81502	0.83877	-19.78544	0.84098	0.00027	0.9167	0.57473	2.0	0.23898	0.20309
20.0	1.0	0.83458	0.7178	0.79293	0.12763	0.80963	0.83332	-21.13199	0.83584	0.00028	0.91596	0.56516	2.0	0.24287	0.20492

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



Hierarchical Clustering Dendrogram - gap: 1.00, Tp: 2.00, complete link



Cophenetic Correlation Coefficient: 0.6317197977521738

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

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99999	0.89096	0.81867	0.72633	0.07279	0.67135	0.88388	-0.0169	0.8983	0.00011	0.77195	0.74261	0.00727	0.26202	0.17863
3.0	1.00001	0.81884	0.70388	0.81486	0.11785	0.68868	0.80753	-0.39866	0.83074	0.00012	0.73522	0.5864	0.02469	0.29669	0.16096
4.0	1.0	0.78795	0.65645	0.81843	0.14082	0.68883	0.77768	-1.01246	0.7987	0.00013	0.75189	0.51772	0.06	0.32165	0.16813
5.0	1.0	0.81434	0.6955	0.80473	0.12765	0.73916	0.81014	-2.07858	0.81866	0.00015	0.80559	0.5545	1.6	0.26307	0.1714
6.0	1.0	0.8519	0.7511	0.86469	0.09936	0.80041	0.84858	-3.13611	0.85527	0.00017	0.85728	0.6239	1.6	0.27181	0.18052
7.0	1.0	0.8703	0.78147	0.85819	0.08172	0.82767	0.86843	-3.93153	0.87221	0.00018	0.88092	0.665	1.6	0.30268	0.18282
8.0	1.0	0.8418	0.73364	0.85279	0.09854	0.79748	0.83943	-4.36772	0.84421	0.00019	0.86979	0.59397	1.6	0.26359	0.1053
9.0	1.0	0.82664	0.71004	0.81891	0.11103	0.78231	0.82503	-5.35356	0.82827	0.00019	0.86778	0.56124	1.6	0.28372	0.1056
10.0	1.0	0.82262	0.70173	0.81551	0.11484	0.78163	0.82106	-6.76057	0.82419	0.0002	0.87406	0.54799	1.6	0.26881	0.10852
11.0	1.0	0.82192	0.7009	0.81638	0.11791	0.78336	0.82052	-7.07496	0.82333	0.00021	0.87989	0.54703	1.6	0.2444	0.11163
12.0	1.0	0.83053	0.71325	0.8071	0.11206	0.79491	0.82962	-8.57839	0.83144	0.00022	0.88843	0.56099	1.8	0.25538	0.11377
13.0	1.0	0.83313	0.7162	0.79332	0.11025	0.79918	0.83221	-9.77414	0.83406	0.00022	0.89262	0.56345	1.8	0.27308	0.11502
14.0	1.0	0.83113	0.71252	0.77332	0.11233	0.79779	0.82997	-10.98945	0.83231	0.00023	0.89357	0.55839	1.93333	0.23946	0.11766
15.0	1.0	0.83105	0.71139	0.75792	0.11338	0.7987	0.82937	-12.64814	0.83274	0.00023	0.89541	0.55659	2.0	0.28775	0.11937
16.0	1.0	0.83091	0.70982	0.74442	0.11526	0.79941	0.82859	-14.22225	0.83324	0.00024	0.89672	0.554	2.0	0.28719	0.12455
17.0	1.0	0.84829	0.73787	0.82619	0.11893	0.82267	0.84755	-15.71481	0.84903	0.00026	0.91545	0.58884	2.0	0.25697	0.12919
18.0	1.0	0.84721	0.73625	0.81613	0.11916	0.82177	0.84649	-17.17302	0.84794	0.00026	0.91589	0.58669	2.0	0.26576	0.13187
19.0	1.0	0.84093	0.72664	0.79785	0.12304	0.81494	0.84002	-18.91556	0.84185	0.00026	0.91376	0.57475	2.0	0.28217	0.13357
20.0	1.0	0.83083	0.71104	0.77421	0.12987	0.80369	0.82958	-20.62828	0.83209	0.00026	0.90956	0.55524	2.0	0.3217	0.13372



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

