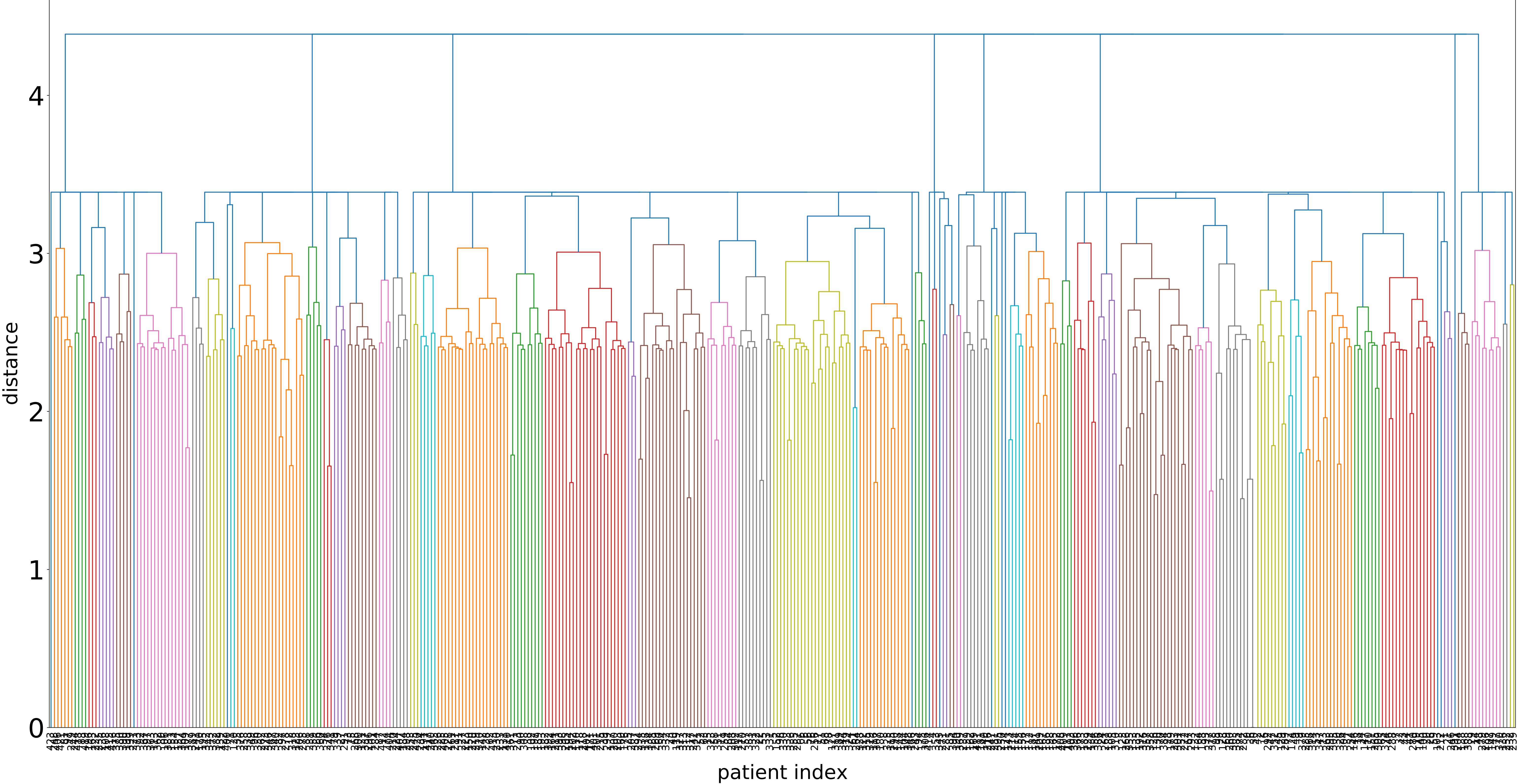


Hierarchical Clustering Dendrogram - gap: 0.00, Tp: 2.00, complete link

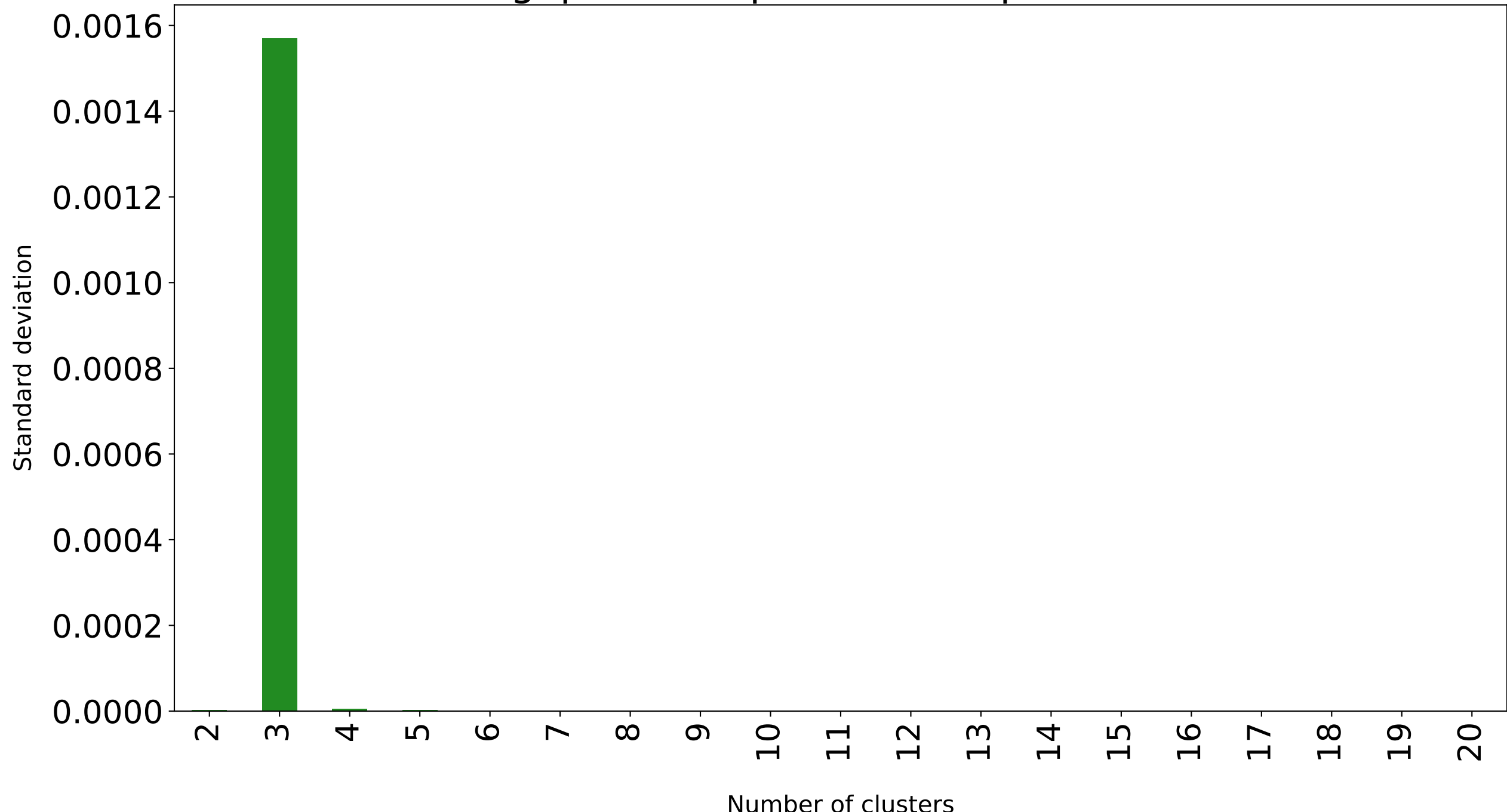


Cophenetic Correlation Coefficient: 0.8392124984053085

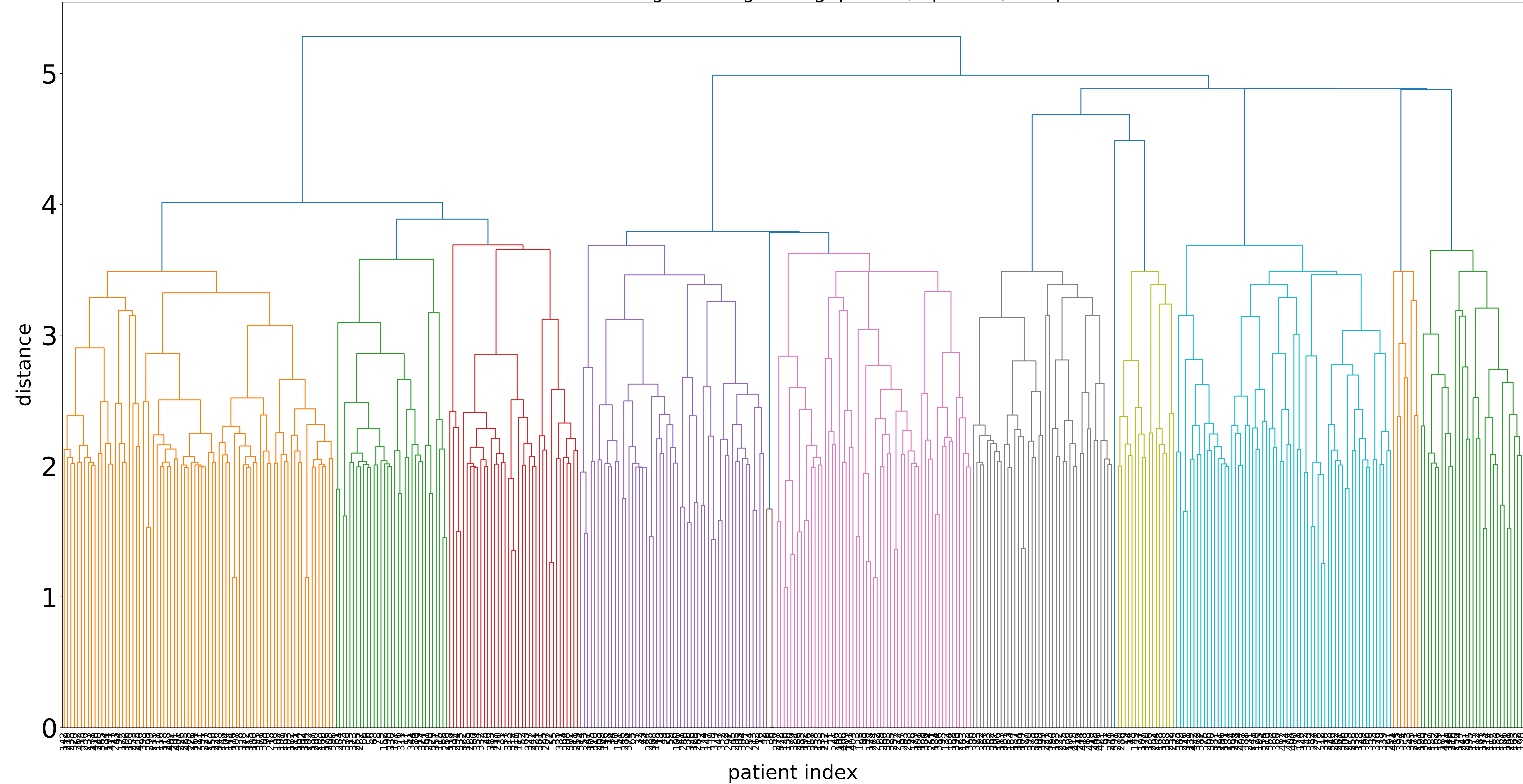
Average values of five clustering indices  
gap: 0.00, Tp: 2.00, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.96368	0.94112	0.8374	0.01931	0.83413	0.96338	0.10768	0.96397	0.00023	0.91715	0.91528	0.0	0.16172	0.6355
3.0	0.99984	0.87606	0.81669	0.72795	0.08114	0.74823	0.87313	0.27444	0.87904	0.00012	0.81157	0.76402	0.0	0.18613	0.44813
4.0	1.0	0.94788	0.90899	0.97148	0.02749	0.91928	0.94516	0.12112	0.95067	0.00017	0.92864	0.86298	0.01176	0.2049	0.44813
5.0	1.0	0.95188	0.91456	0.91626	0.02516	0.93135	0.95076	0.12478	0.953	0.00018	0.94546	0.86284	0.35	0.2078	0.44813
6.0	1.0	0.97216	0.94657	0.94054	0.01801	0.96306	0.97178	0.09573	0.97254	0.0002	0.97257	0.90335	0.35	0.21974	0.44813
7.0	1.0	0.99828	0.99661	0.99763	0.00212	0.99776	0.99828	0.01316	0.99829	0.00022	0.9984	0.9934	0.35	0.22331	0.44813
8.0	1.0	0.99798	0.99599	0.99523	0.00212	0.99737	0.99798	0.01434	0.99799	0.00022	0.99812	0.99212	2.0	0.30844	0.58042
9.0	1.0	0.99282	0.98577	0.98202	0.00693	0.9907	0.99276	0.03606	0.99288	0.00022	0.99338	0.97249	2.0	0.36881	0.58042
10.0	1.0	0.97839	0.95787	0.96552	0.0227	0.97211	0.97832	0.11901	0.97847	0.00022	0.98065	0.92014	2.0	0.32406	0.58042
11.0	1.0	0.97366	0.94893	0.95527	0.02674	0.96616	0.97351	0.14169	0.9738	0.00022	0.97678	0.9045	2.0	0.31175	0.58042
12.0	1.0	0.96752	0.93779	0.94602	0.0303	0.95871	0.96721	0.15987	0.96783	0.00022	0.97238	0.88649	2.0	0.29106	0.58042
13.0	1.0	0.95443	0.9137	0.91077	0.03658	0.94255	0.95364	0.19704	0.95522	0.00022	0.96213	0.84712	2.0	0.29116	0.58042
14.0	1.0	0.94742	0.90199	0.90644	0.04828	0.93403	0.94665	0.25495	0.94819	0.00022	0.95755	0.82974	2.0	0.2732	0.58042
15.0	1.0	0.93798	0.88491	0.88334	0.05216	0.92276	0.93658	0.26963	0.93938	0.00022	0.95083	0.80377	2.0	0.26363	0.58042
16.0	1.0	0.91445	0.84297	0.83017	0.06168	0.8945	0.91148	0.31711	0.91745	0.00022	0.9337	0.74109	2.0	0.30285	0.58042
17.0	1.0	0.89669	0.81327	0.80125	0.07199	0.87412	0.89285	0.36004	0.90057	0.00022	0.92398	0.69994	2.0	0.2961	0.58042
18.0	1.0	0.88886	0.80025	0.78617	0.07898	0.86501	0.88456	0.39299	0.89321	0.00022	0.91928	0.68211	2.0	0.28586	0.58042
19.0	1.0	0.88211	0.78886	0.77288	0.07992	0.85756	0.87702	0.39864	0.88728	0.00022	0.91581	0.66728	2.0	0.2787	0.58042
20.0	1.0	0.85901	0.74989	0.72872	0.08605	0.83112	0.85167	0.43305	0.86649	0.00022	0.90202	0.61522	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

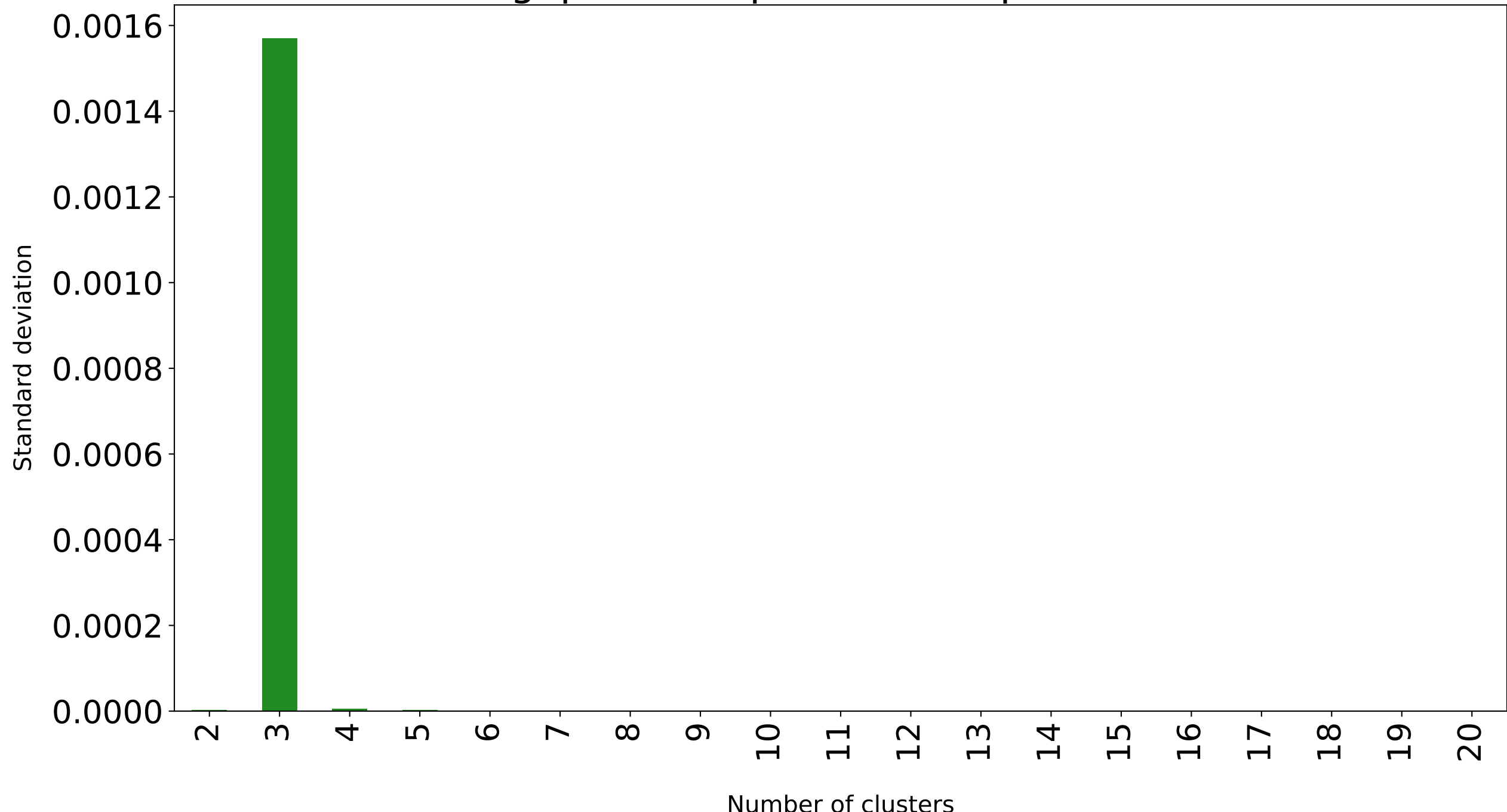


Cophenetic Correlation Coefficient: 0.7997330997661032

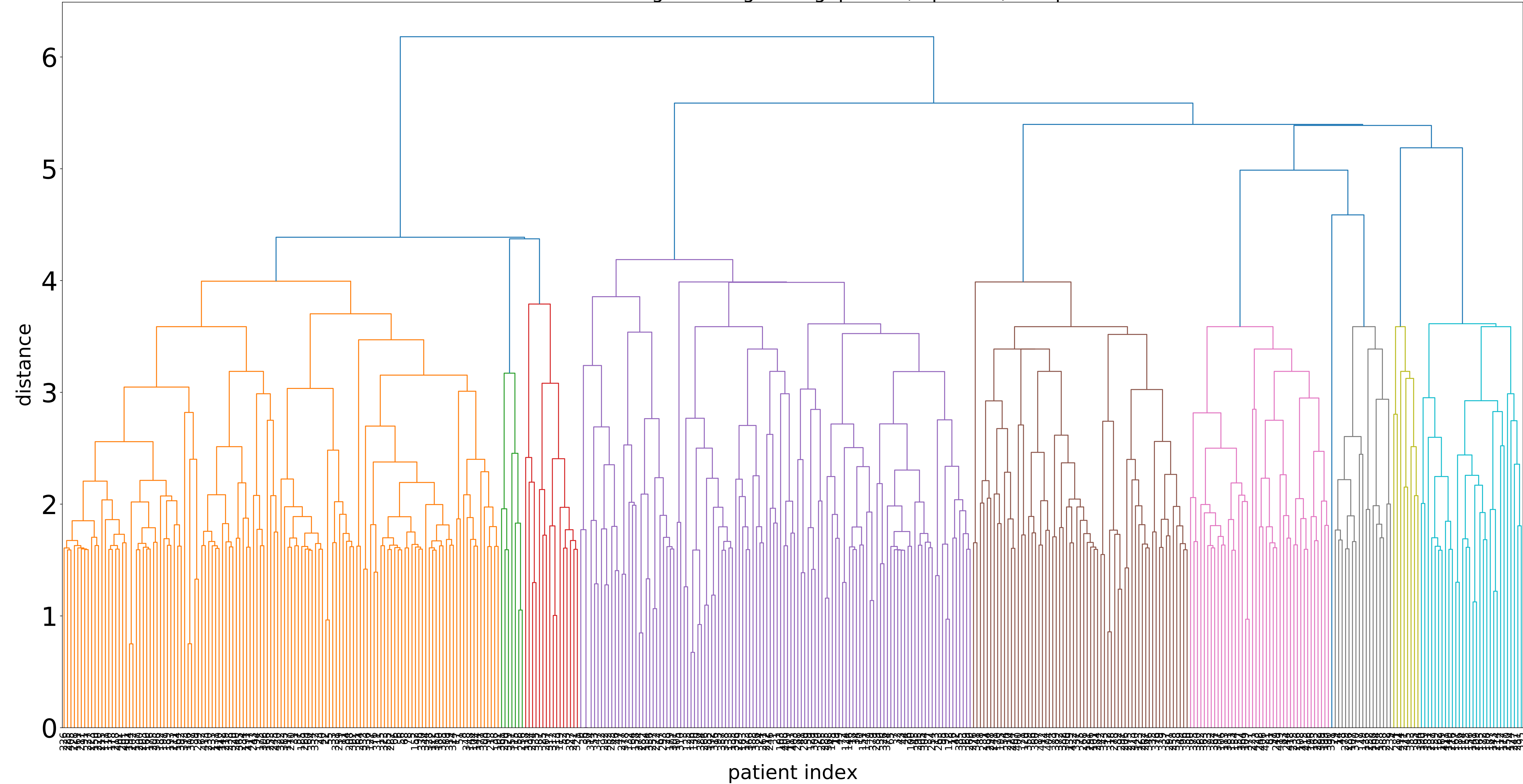
Average values of five clustering indices  
gap: 0.10, Tp: 2.00, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.99624	0.99329	0.99388	0.00243	0.99114	0.99619	0.01347	0.99629	0.00016	0.99236	0.98909	0.0073	0.18292	0.3969
3.0	1.0	0.97765	0.9643	0.96898	0.01518	0.96521	0.97751	0.05721	0.9778	0.00017	0.97282	0.94867	0.0125	0.21456	0.36136
4.0	1.0	0.92528	0.86511	0.90645	0.06528	0.8969	0.92499	0.23934	0.92558	0.00018	0.92193	0.77459	0.03168	0.2114	0.36136
5.0	1.0	0.96395	0.9316	0.9805	0.03565	0.95192	0.96329	0.13704	0.96461	0.0002	0.96386	0.87905	0.05263	0.23203	0.36203
6.0	1.0	0.98865	0.97854	0.98363	0.01191	0.98511	0.98851	0.04864	0.98878	0.00021	0.98933	0.9617	0.25	0.25231	0.37678
7.0	1.0	0.99583	0.99222	0.9928	0.00317	0.99469	0.99573	0.01652	0.99592	0.00022	0.99642	0.98662	0.25	0.26655	0.39357
8.0	1.0	0.96472	0.93382	0.91934	0.01725	0.95628	0.96257	0.06544	0.9669	0.00022	0.97059	0.89229	2.0	0.34224	0.43997
9.0	1.0	0.87386	0.77916	0.86721	0.08021	0.84746	0.87259	0.31093	0.87513	0.00023	0.91533	0.64844	2.0	0.29991	0.45432
10.0	1.0	0.83943	0.72948	0.80756	0.09358	0.80993	0.838	0.38957	0.84088	0.00024	0.90442	0.5888	2.0	0.27169	0.46583
11.0	1.0	0.78622	0.6491	0.80881	0.1253	0.75469	0.78347	0.52261	0.789	0.00027	0.89332	0.48787	2.0	0.25014	0.35851
12.0	1.0	0.78919	0.65507	0.78257	0.12553	0.75968	0.78748	0.53872	0.79092	0.00028	0.90031	0.4954	2.0	0.27202	0.36799
13.0	1.0	0.78105	0.64416	0.74452	0.13043	0.75208	0.7797	0.57044	0.7824	0.00029	0.90185	0.48256	2.0	0.25844	0.36823
14.0	1.0	0.77057	0.62984	0.71536	0.13777	0.74193	0.76887	0.60489	0.77229	0.0003	0.90201	0.46704	2.0	0.24846	0.36823
15.0	1.0	0.7695	0.62815	0.72005	0.13733	0.74287	0.76802	0.61049	0.77099	0.00031	0.90799	0.46439	2.0	0.23433	0.37173
16.0	1.0	0.75997	0.61394	0.6875	0.14391	0.73405	0.75766	0.63841	0.76229	0.00033	0.90908	0.44813	2.0	0.21955	0.3724
17.0	1.0	0.75318	0.60318	0.6661	0.1452	0.72794	0.74975	0.64489	0.75664	0.00034	0.91	0.43614	2.0	0.21083	0.37456
18.0	1.0	0.73773	0.58416	0.65357	0.16069	0.71276	0.73473	0.70003	0.74074	0.00035	0.91077	0.41662	2.0	0.20229	0.3795
19.0	1.0	0.71887	0.55941	0.62411	0.17233	0.6933	0.7149	0.74017	0.72287	0.00035	0.90774	0.39165	2.0	0.19599	0.38935
20.0	1.0	0.7281	0.57471	0.67756	0.17462	0.70595	0.72704	0.731	0.72917	0.0004	0.92076	0.40724	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



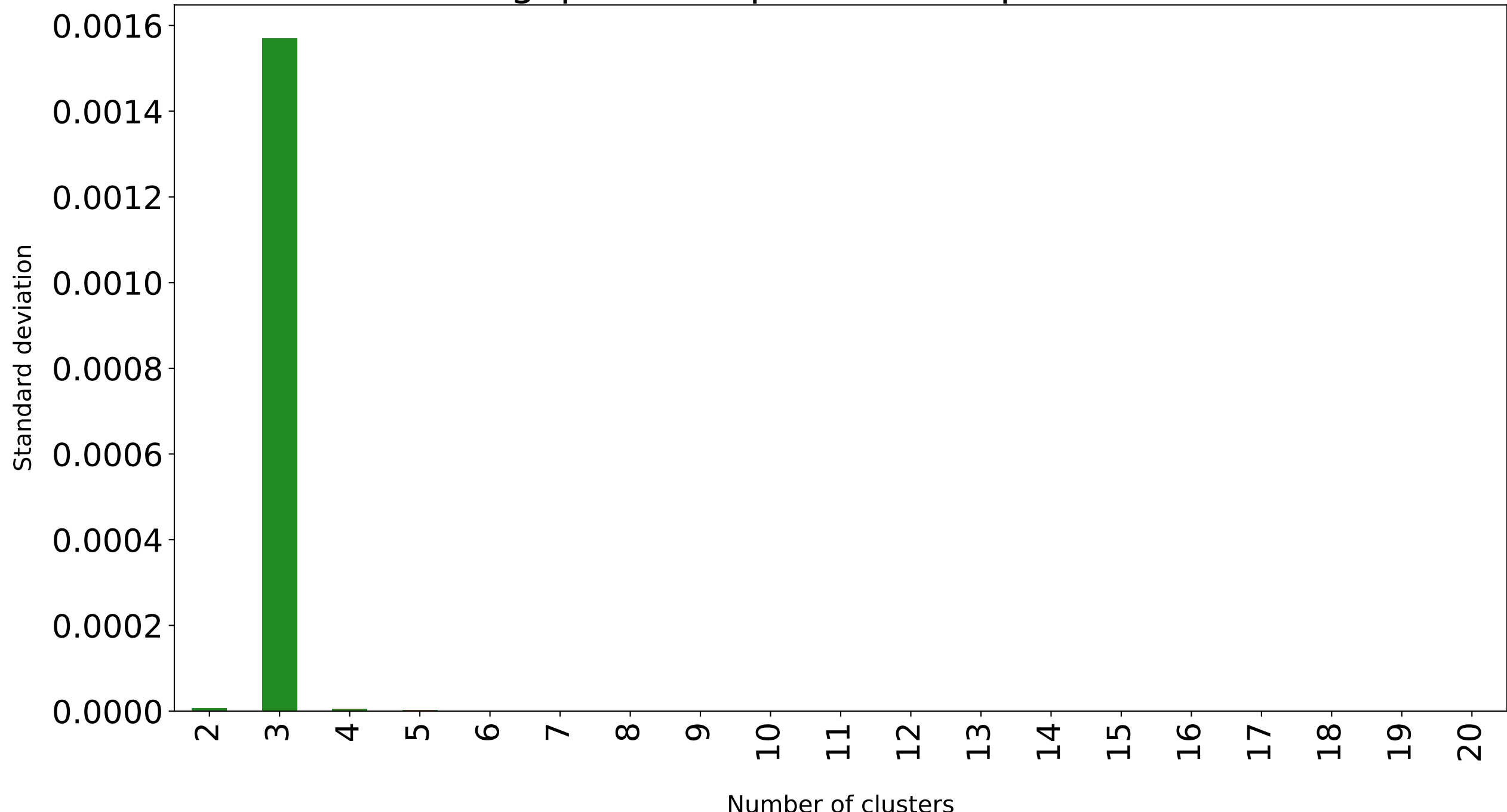
Cophenetic Correlation Coefficient: 0.7601018895336953

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

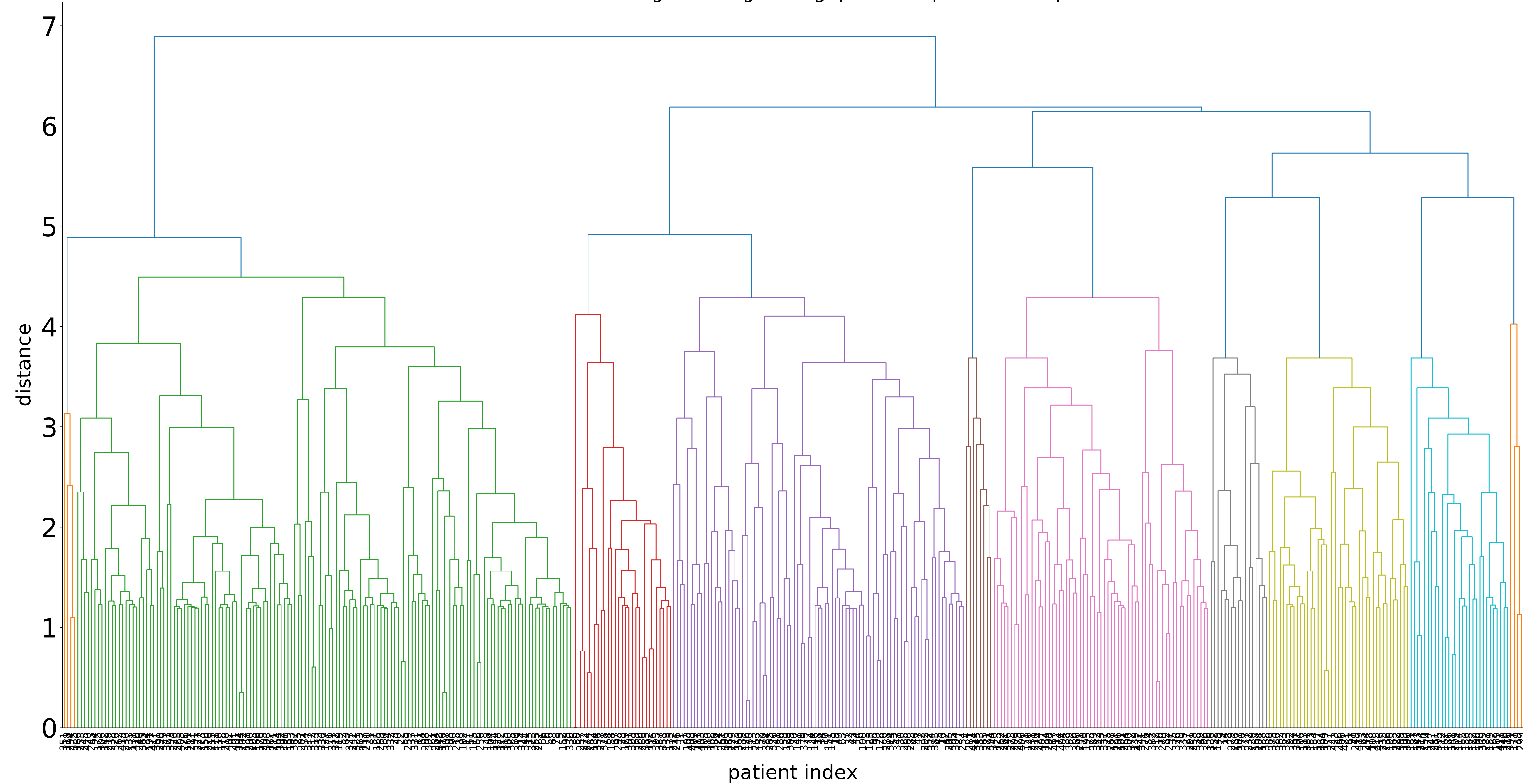
k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.9932	0.98888	0.98619	0.00442	0.98519	0.99316	0.01977	0.99323	0.00016	0.9881	0.98356	0.00584	0.21356	0.35428
3.0	1.0	0.97196	0.95456	0.96409	0.0193	0.95619	0.97166	0.06817	0.97227	0.00017	0.96502	0.93458	0.0125	0.25015	0.2902
4.0	1.0	0.94547	0.9031	0.94036	0.04764	0.92443	0.94512	0.16011	0.94583	0.00018	0.94273	0.84244	0.02062	0.27054	0.2907
5.0	1.0	0.96854	0.94054	0.98412	0.03087	0.95795	0.96789	0.11544	0.96918	0.0002	0.96824	0.89591	0.05263	0.27074	0.30191
6.0	1.0	0.9824	0.96649	0.97488	0.01872	0.97685	0.98232	0.08115	0.98248	0.00021	0.98342	0.93885	0.25	0.29526	0.31402
7.0	1.0	0.99663	0.99373	0.99404	0.0026	0.99571	0.99656	0.01429	0.99671	0.00022	0.99708	0.98919	0.25	0.31245	0.3414
8.0	1.0	0.95622	0.91683	0.89766	0.01934	0.94513	0.95414	0.09244	0.95832	0.00021	0.96255	0.85893	2.0	0.37898	0.35696
9.0	1.0	0.92604	0.86415	0.90411	0.04181	0.90834	0.92498	0.20464	0.9271	0.00022	0.94345	0.76983	2.0	0.32596	0.35812
10.0	1.0	0.89972	0.81926	0.83654	0.05363	0.87726	0.89748	0.26435	0.90199	0.00022	0.92681	0.70522	2.0	0.31736	0.37401
11.0	1.0	0.83195	0.71479	0.77893	0.09762	0.7992	0.82982	0.44182	0.8341	0.00023	0.89408	0.56538	2.0	0.27617	0.32687
12.0	1.0	0.76206	0.61579	0.78359	0.14276	0.72481	0.75888	0.59896	0.76528	0.00024	0.87578	0.45069	2.0	0.25204	0.32743
13.0	1.0	0.74285	0.59268	0.72817	0.1543	0.70451	0.74077	0.65249	0.74494	0.00025	0.87317	0.42674	2.0	0.25245	0.32743
14.0	1.0	0.74611	0.5973	0.69924	0.15533	0.71061	0.74442	0.66994	0.7478	0.00026	0.8816	0.43131	2.0	0.26302	0.32773
15.0	1.0	0.76702	0.62523	0.75553	0.1513	0.73871	0.76561	0.66526	0.76844	0.0003	0.90299	0.46123	2.0	0.24705	0.33862
16.0	1.0	0.77311	0.63365	0.74117	0.15097	0.747	0.7721	0.67384	0.77413	0.00032	0.91003	0.47016	2.0	0.23679	0.3445
17.0	1.0	0.76705	0.62487	0.71173	0.15592	0.74136	0.76569	0.69243	0.76843	0.00033	0.91075	0.46016	2.0	0.23763	0.35262
18.0	1.0	0.76047	0.61652	0.7247	0.16209	0.73636	0.75952	0.71295	0.76143	0.00035	0.91554	0.4509	2.0	0.22127	0.36127
19.0	1.0	0.73331	0.58151	0.68216	0.17428	0.70784	0.73186	0.75538	0.73476	0.00035	0.91032	0.41501	2.0	0.21427	0.36138
20.0	1.0	0.70751	0.5494	0.6494	0.18974	0.6811	0.70588	0.81273	0.70916	0.00035	0.90663	0.38285	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

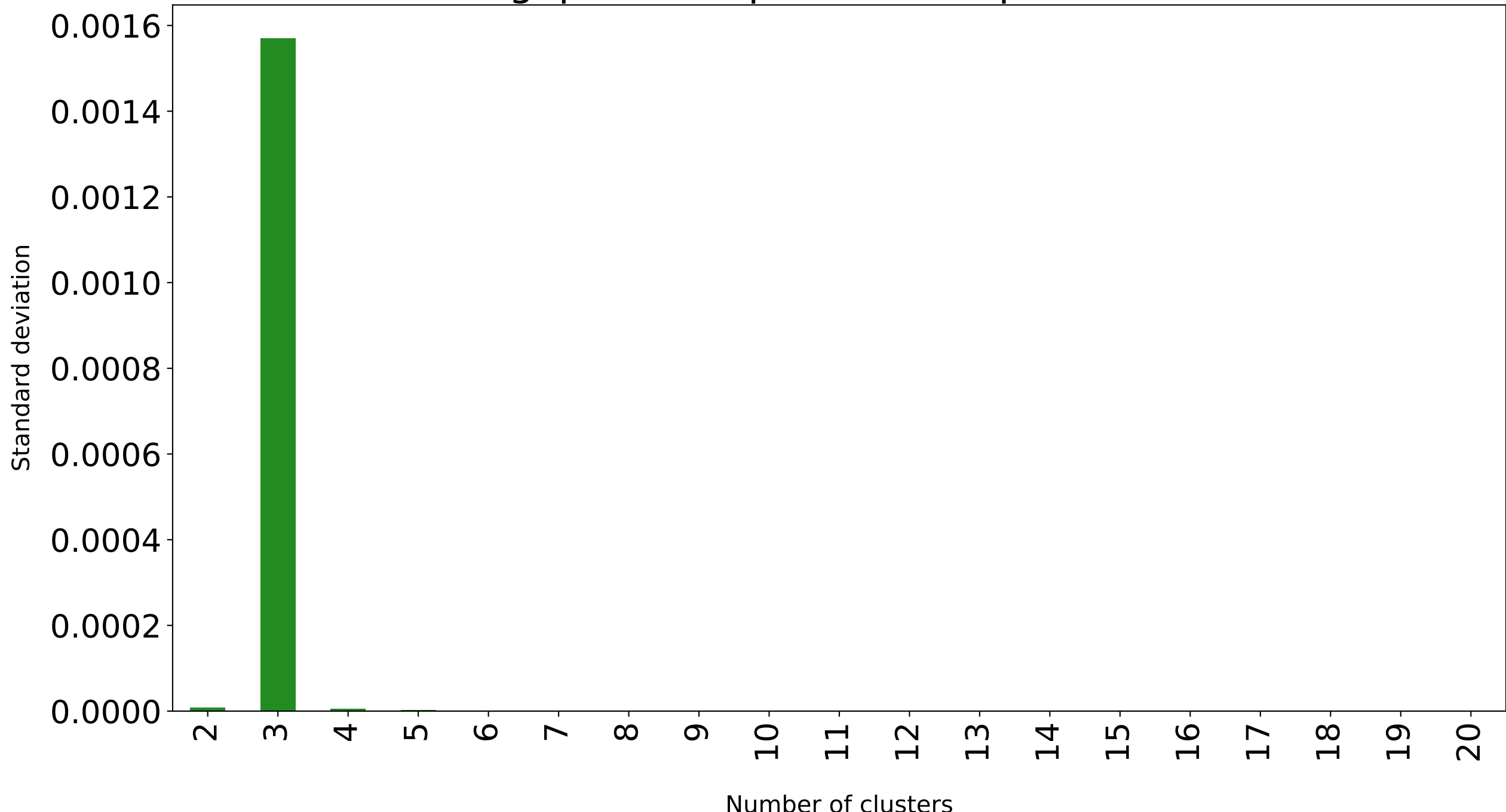


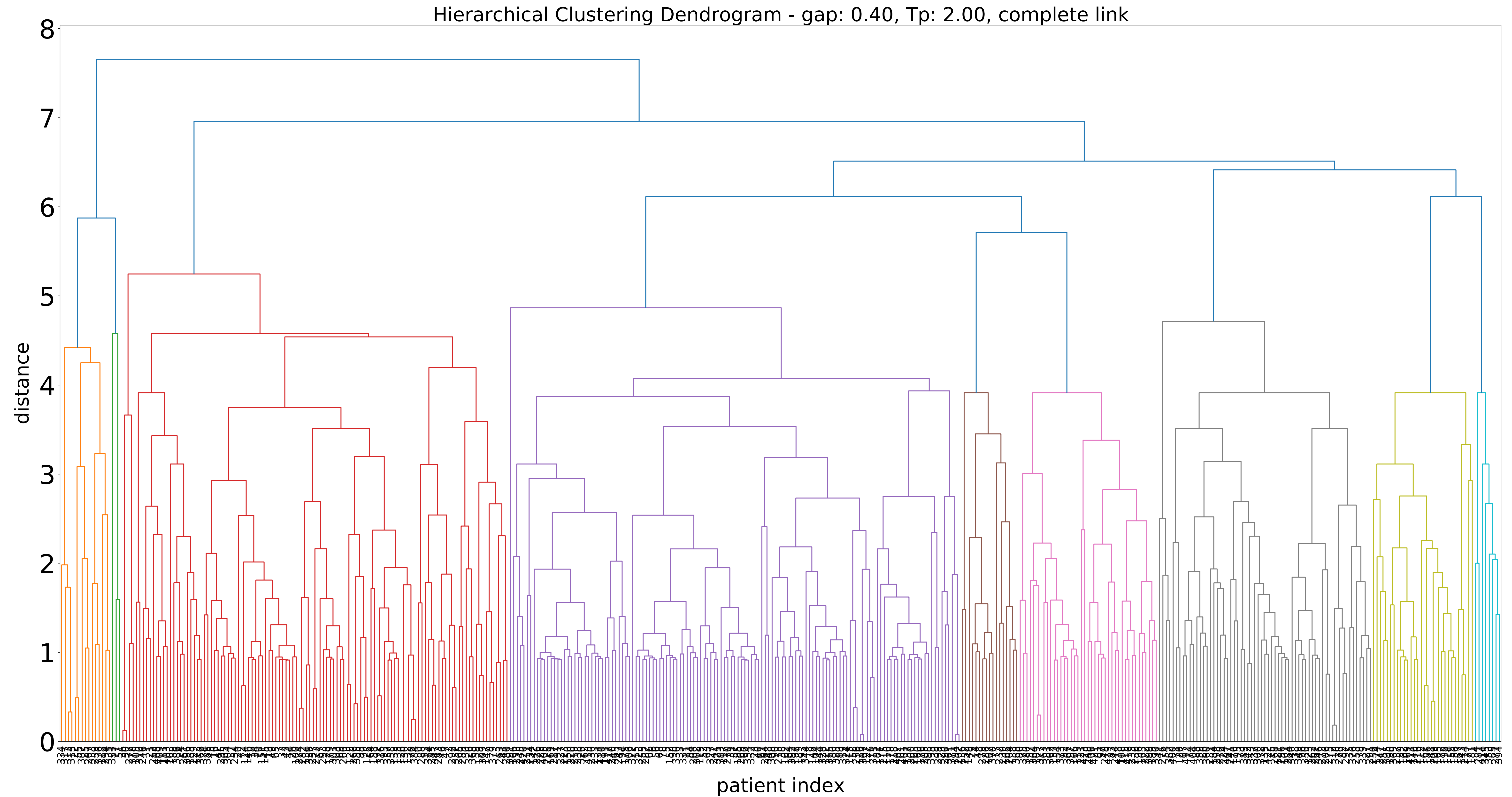
Cophenetic Correlation Coefficient: 0.7340551016438562

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	0.94959	0.91581	0.89646	0.03506	0.87267	0.94825	0.16188	0.95097	0.00014	0.90158	0.87412	0.00725	0.24318	0.24357
3.0	1.0	0.92252	0.87401	0.90316	0.05043	0.87777	0.92126	0.20386	0.9238	0.00015	0.9014	0.8161	0.01235	0.28496	0.22241
4.0	1.0	0.8918	0.81694	0.87703	0.0825	0.85011	0.89084	0.34715	0.89277	0.00017	0.88983	0.71641	0.02817	0.29379	0.23843
5.0	1.0	0.917	0.8548	0.91134	0.06399	0.88956	0.91611	0.28063	0.9179	0.00019	0.92179	0.7661	0.02817	0.30889	0.2445
6.0	1.0	0.94714	0.9053	0.92747	0.03964	0.93133	0.94638	0.17606	0.9479	0.0002	0.95288	0.84359	0.25	0.32721	0.25838
7.0	1.0	0.95442	0.91491	0.91265	0.03618	0.94182	0.95316	0.16095	0.95569	0.00021	0.96002	0.85395	1.0	0.27903	0.25838
8.0	1.0	0.94626	0.89911	0.88803	0.02941	0.93247	0.94433	0.14234	0.9482	0.00021	0.95472	0.82849	1.0	0.31092	0.27767
9.0	1.0	0.86052	0.75829	0.81316	0.07614	0.82741	0.85868	0.35875	0.86238	0.0002	0.89671	0.62084	1.0	0.256	0.16961
10.0	1.0	0.83401	0.71744	0.7619	0.09065	0.79738	0.83124	0.42223	0.83681	0.00021	0.88389	0.56946	1.0	0.25147	0.18446
11.0	1.0	0.76624	0.62019	0.79813	0.13149	0.72504	0.76218	0.56212	0.77034	0.00022	0.86464	0.45567	1.0	0.23011	0.19317
12.0	1.0	0.75393	0.60488	0.76688	0.14112	0.71349	0.75072	0.61524	0.75717	0.00023	0.86683	0.43862	1.0	0.21942	0.19334
13.0	1.0	0.73789	0.58429	0.76258	0.15538	0.69952	0.73406	0.67838	0.74177	0.00025	0.87078	0.41815	1.0	0.21622	0.19334
14.0	1.0	0.70756	0.54714	0.73048	0.1724	0.66849	0.70389	0.75058	0.71128	0.00025	0.86763	0.38105	1.0	0.19599	0.20105
15.0	1.0	0.70644	0.54757	0.70107	0.17375	0.6688	0.70437	0.76013	0.70854	0.00026	0.87325	0.38134	1.0	0.24536	0.20194
16.0	1.0	0.70639	0.54801	0.70472	0.18173	0.67194	0.70445	0.8098	0.70836	0.00028	0.88241	0.38203	1.0	0.23333	0.20597
17.0	1.0	0.70563	0.54772	0.68047	0.1826	0.67225	0.70413	0.81792	0.70713	0.00029	0.88595	0.38182	2.0	0.28572	0.21625
18.0	1.0	0.66491	0.49999	0.65692	0.20173	0.63013	0.66316	0.89087	0.66668	0.00029	0.88027	0.33706	2.0	0.26832	0.21837
19.0	1.0	0.66384	0.49564	0.70134	0.20723	0.63288	0.65992	0.91639	0.66781	0.00032	0.88978	0.33233	2.0	0.24774	0.22031
20.0	1.0	0.65972	0.4921	0.68436	0.20891	0.62916	0.65671	0.92002	0.66277	0.00033	0.89167	0.32921	2.0	0.24611	0.22083

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

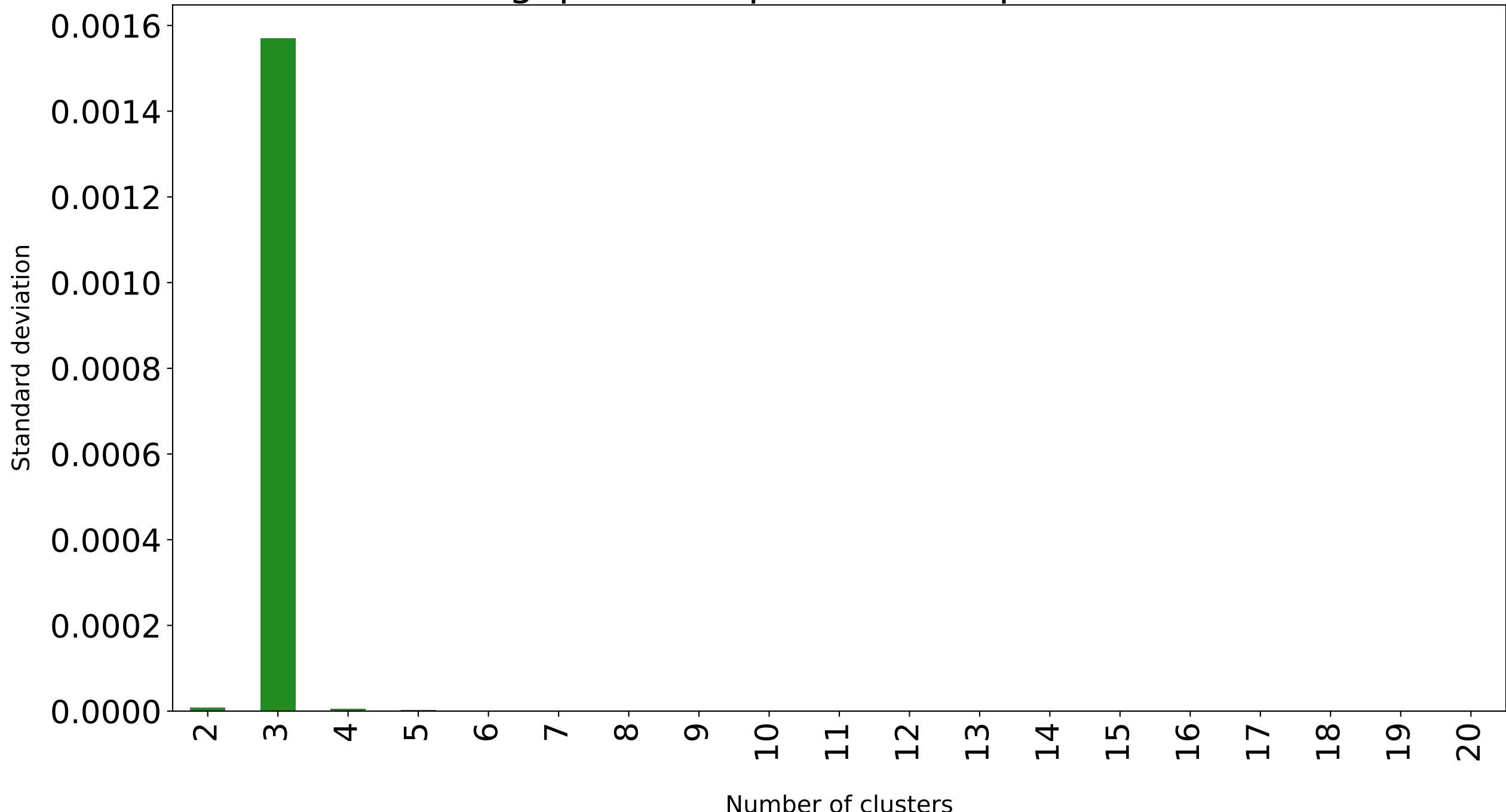




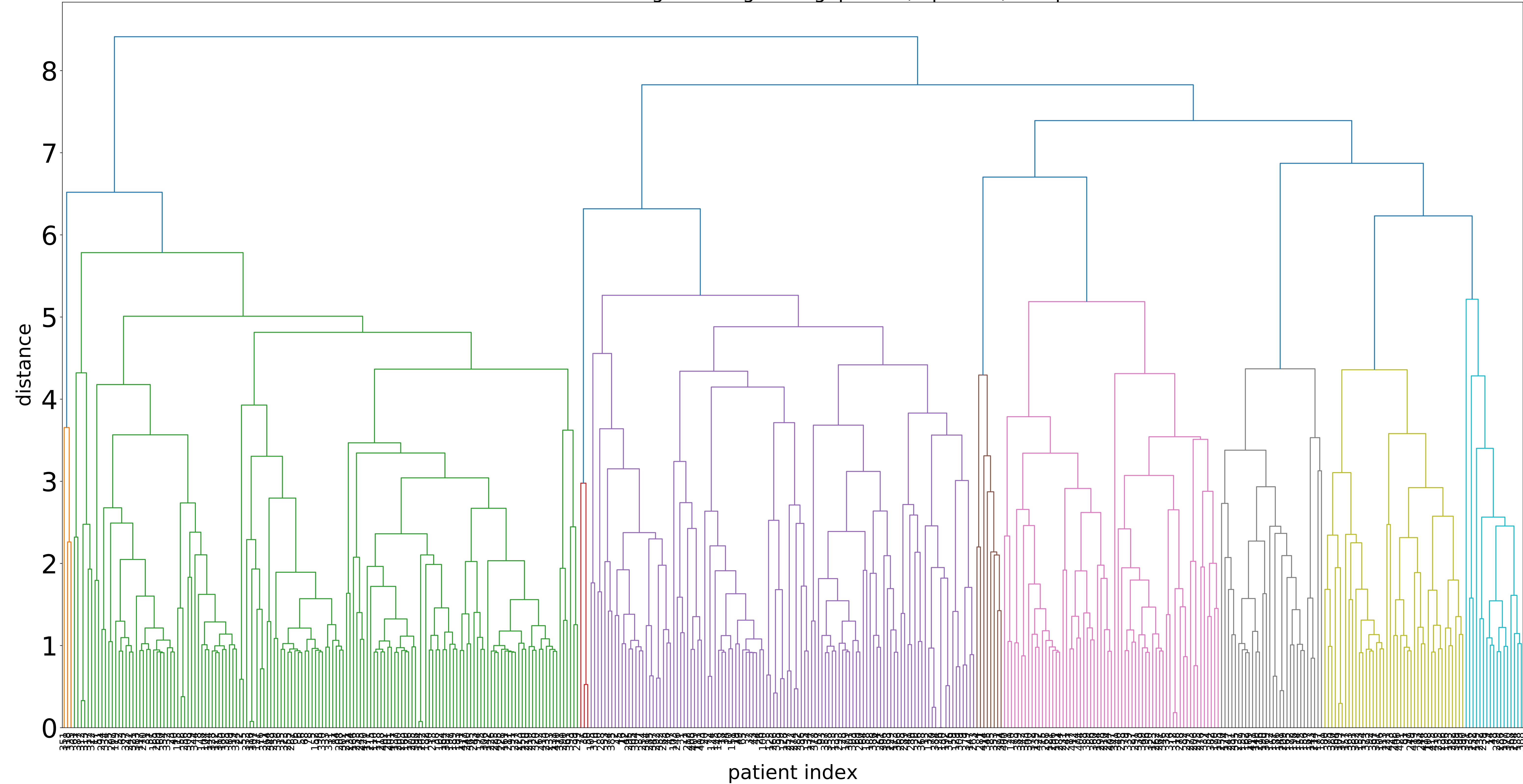
Average values of five clustering indices  
gap: 0.40, Tp: 2.00, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99999	0.73722	0.55704	0.05435	0.17181	0.13553	0.7137	0.71797	0.76156	4e-05	0.41274	0.38964	0.22222	0.19919	0.17298
3.0	1.00004	0.71051	0.53293	0.33414	0.18684	0.5014	0.69225	0.66028	0.72928	8e-05	0.57041	0.36721	0.22222	0.24124	0.18487
4.0	1.0	0.7281	0.57063	0.54066	0.17628	0.60858	0.72491	0.72648	0.73131	0.00011	0.71084	0.40171	0.22222	0.21366	0.18772
5.0	1.0	0.7607	0.61116	0.59693	0.13435	0.66757	0.75767	0.5901	0.76375	0.00013	0.75872	0.44175	0.22222	0.26691	0.19697
6.0	1.0	0.90619	0.82776	0.94365	0.06228	0.87845	0.90424	0.30888	0.90816	0.00019	0.91503	0.71122	0.22222	0.2655	0.19697
7.0	1.0	0.91851	0.84956	0.93652	0.04953	0.8953	0.91748	0.25835	0.91955	0.0002	0.92897	0.74253	0.22222	0.30693	0.20498
8.0	1.0	0.91251	0.83975	0.89755	0.05464	0.88864	0.91183	0.29146	0.9132	0.00021	0.92697	0.7276	1.33333	0.26267	0.21076
9.0	1.0	0.90456	0.82668	0.87264	0.04832	0.88044	0.90353	0.27221	0.9056	0.00021	0.92477	0.71018	1.33333	0.30133	0.22954
10.0	1.0	0.88374	0.79322	0.81389	0.065	0.85746	0.8809	0.32829	0.88661	0.00022	0.91468	0.66921	1.33333	0.29741	0.24326
11.0	1.0	0.8634	0.75928	0.76136	0.07765	0.83441	0.8587	0.37766	0.86816	0.00022	0.90318	0.62454	2.0	0.34384	0.25115
12.0	1.0	0.8329	0.71029	0.70326	0.09381	0.79949	0.82577	0.44644	0.84015	0.00022	0.88585	0.56221	2.0	0.31475	0.2586
13.0	1.0	0.80926	0.67112	0.65198	0.10518	0.77304	0.79878	0.4942	0.81998	0.00021	0.87218	0.51395	2.0	0.39675	0.25873
14.0	1.0	0.78497	0.64147	0.6469	0.122	0.74744	0.77647	0.55871	0.79365	0.00022	0.87036	0.48178	2.0	0.3763	0.26075
15.0	1.0	0.76709	0.6214	0.65215	0.14114	0.72995	0.76075	0.6412	0.77355	0.00023	0.87318	0.46092	2.0	0.34374	0.22979
16.0	1.0	0.75438	0.60253	0.62125	0.14687	0.71686	0.74583	0.66817	0.76312	0.00023	0.869	0.44137	2.0	0.34632	0.23901
17.0	1.0	0.74422	0.58662	0.59742	0.15155	0.70647	0.73348	0.6902	0.75524	0.00024	0.86545	0.42422	2.0	0.34326	0.24204
18.0	1.0	0.73045	0.56787	0.57604	0.15897	0.69208	0.71814	0.72886	0.7431	0.00024	0.8615	0.40544	2.0	0.33179	0.16812
19.0	1.0	0.6905	0.5257	0.59415	0.1856	0.65092	0.68537	0.82418	0.69571	0.00025	0.86432	0.3609	2.0	0.31585	0.17413
20.0	1.0	0.67241	0.50345	0.56388	0.19691	0.63214	0.66581	0.87295	0.67913	0.00025	0.86033	0.34066	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



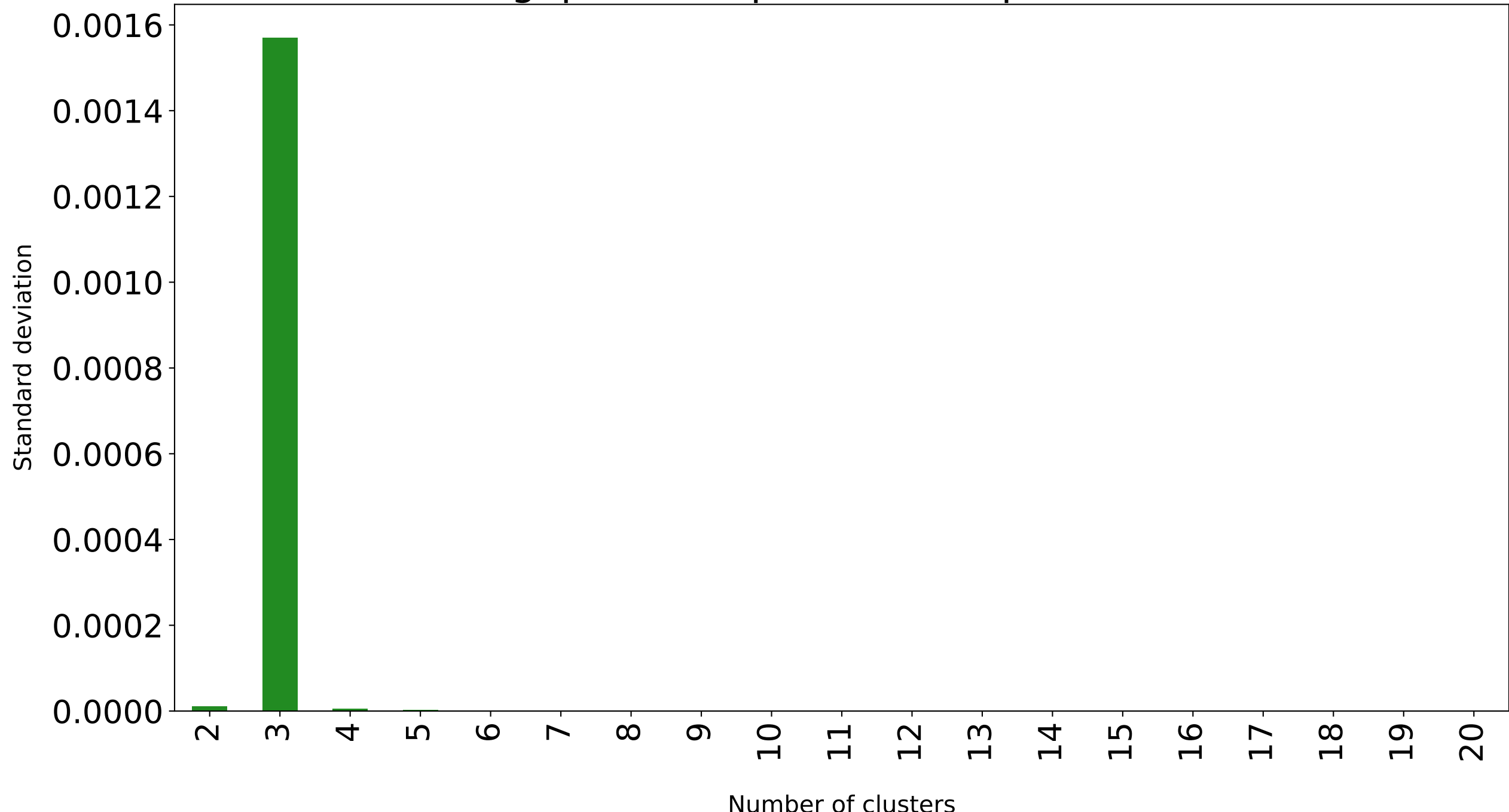
Cophenetic Correlation Coefficient: 0.7402954182693452



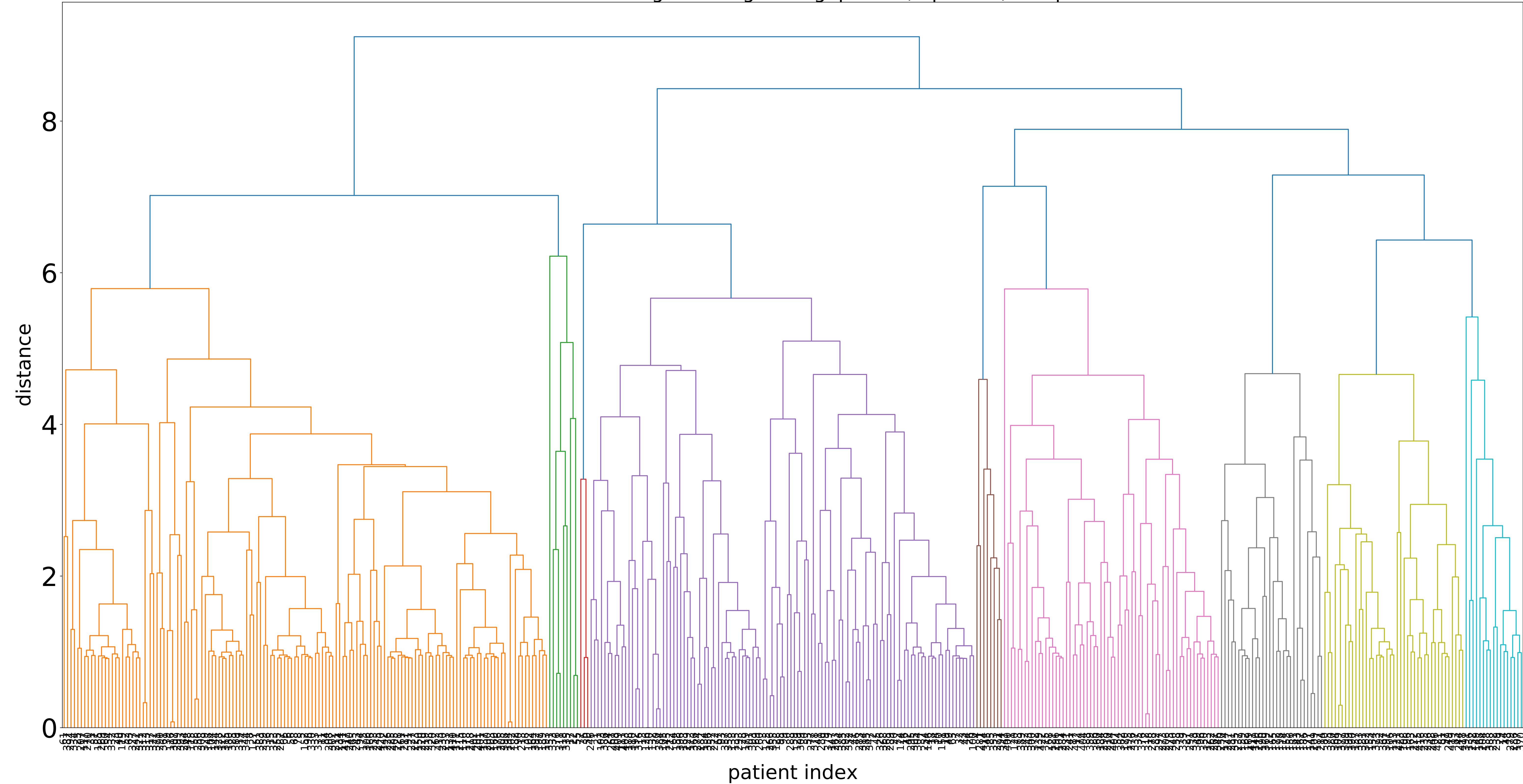
Average values of five clustering indices  
gap: 0.50, Tp: 2.00, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.96114	0.93883	0.88996	0.02711	0.88883	0.9592	0.0978	0.96315	0.00014	0.92601	0.91805	0.0	0.28454	0.26607
3.0	1.0	0.92163	0.87068	0.91348	0.05411	0.87654	0.91969	0.19096	0.92361	0.00015	0.89782	0.81289	0.01739	0.32817	0.20186
4.0	1.0	0.93397	0.88283	0.93649	0.05401	0.90757	0.93273	0.2219	0.93522	0.00018	0.92816	0.81042	0.01739	0.3419	0.21714
5.0	1.0	0.96647	0.93769	0.97213	0.02835	0.95477	0.96597	0.1303	0.96697	0.0002	0.96599	0.89196	0.0338	0.37802	0.22258
6.0	1.0	0.97616	0.95545	0.9711	0.01731	0.96847	0.9759	0.08763	0.97643	0.00021	0.97717	0.92185	0.03448	0.39409	0.22888
7.0	1.0	0.97535	0.95313	0.9553	0.01661	0.96807	0.97499	0.09551	0.97571	0.00021	0.97759	0.91562	1.33333	0.37131	0.19376
8.0	1.0	0.96611	0.93517	0.92998	0.02642	0.95664	0.96542	0.13517	0.9668	0.00021	0.97005	0.88382	1.33333	0.38232	0.19645
9.0	1.0	0.9567	0.91811	0.90522	0.02423	0.94591	0.95497	0.12729	0.95845	0.00022	0.96398	0.85969	1.33333	0.39243	0.21164
10.0	1.0	0.9285	0.86744	0.86141	0.04079	0.91136	0.92621	0.20764	0.93081	0.00022	0.94347	0.77745	1.33333	0.36218	0.23253
11.0	1.0	0.86198	0.75977	0.81558	0.08147	0.831	0.86034	0.38838	0.86364	0.00021	0.90212	0.62092	1.33333	0.30682	0.15049
12.0	1.0	0.83803	0.72166	0.75447	0.09637	0.80381	0.83453	0.44422	0.84157	0.00021	0.88921	0.5736	2.0	0.3522	0.15133
13.0	1.0	0.80753	0.67782	0.71359	0.11692	0.77024	0.80324	0.52645	0.8119	0.00022	0.87785	0.52237	2.0	0.32141	0.1567
14.0	1.0	0.71922	0.56047	0.70011	0.16133	0.67427	0.71666	0.71074	0.72181	0.00022	0.85349	0.39163	2.0	0.281	0.16081
15.0	1.0	0.67241	0.50332	0.68949	0.20277	0.6269	0.66818	0.84959	0.67671	0.00023	0.84759	0.3378	2.0	0.2637	0.16309
16.0	1.0	0.65187	0.47509	0.73332	0.21592	0.61101	0.64182	0.9162	0.6622	0.00025	0.85397	0.31379	2.0	0.25404	0.17231
17.0	1.0	0.6451	0.46983	0.70687	0.21823	0.60441	0.63714	0.92992	0.65325	0.00026	0.85642	0.30904	2.0	0.26339	0.1777
18.0	1.0	0.64027	0.46298	0.71773	0.21904	0.60164	0.63057	0.95464	0.65024	0.00027	0.86073	0.30333	2.0	0.25683	0.17968
19.0	1.0	0.63277	0.45576	0.70144	0.22367	0.59438	0.62395	0.97601	0.64183	0.00027	0.86208	0.29704	2.0	0.24408	0.17983
20.0	1.0	0.64513	0.46818	0.72557	0.2207	0.60994	0.63534	0.9538	0.6552	0.00029	0.87117	0.30785	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

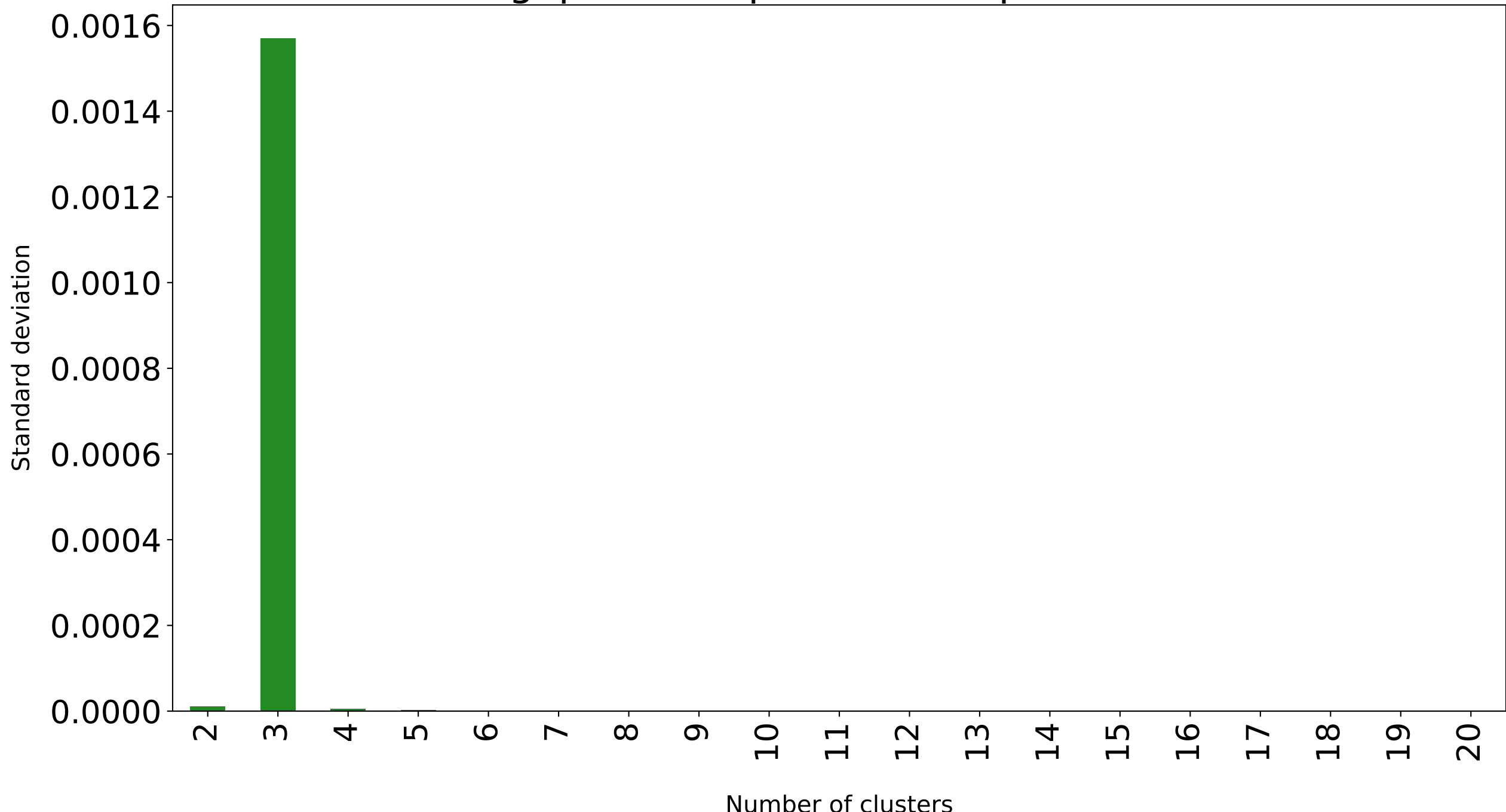


Cophenetic Correlation Coefficient: 0.7278492617361961

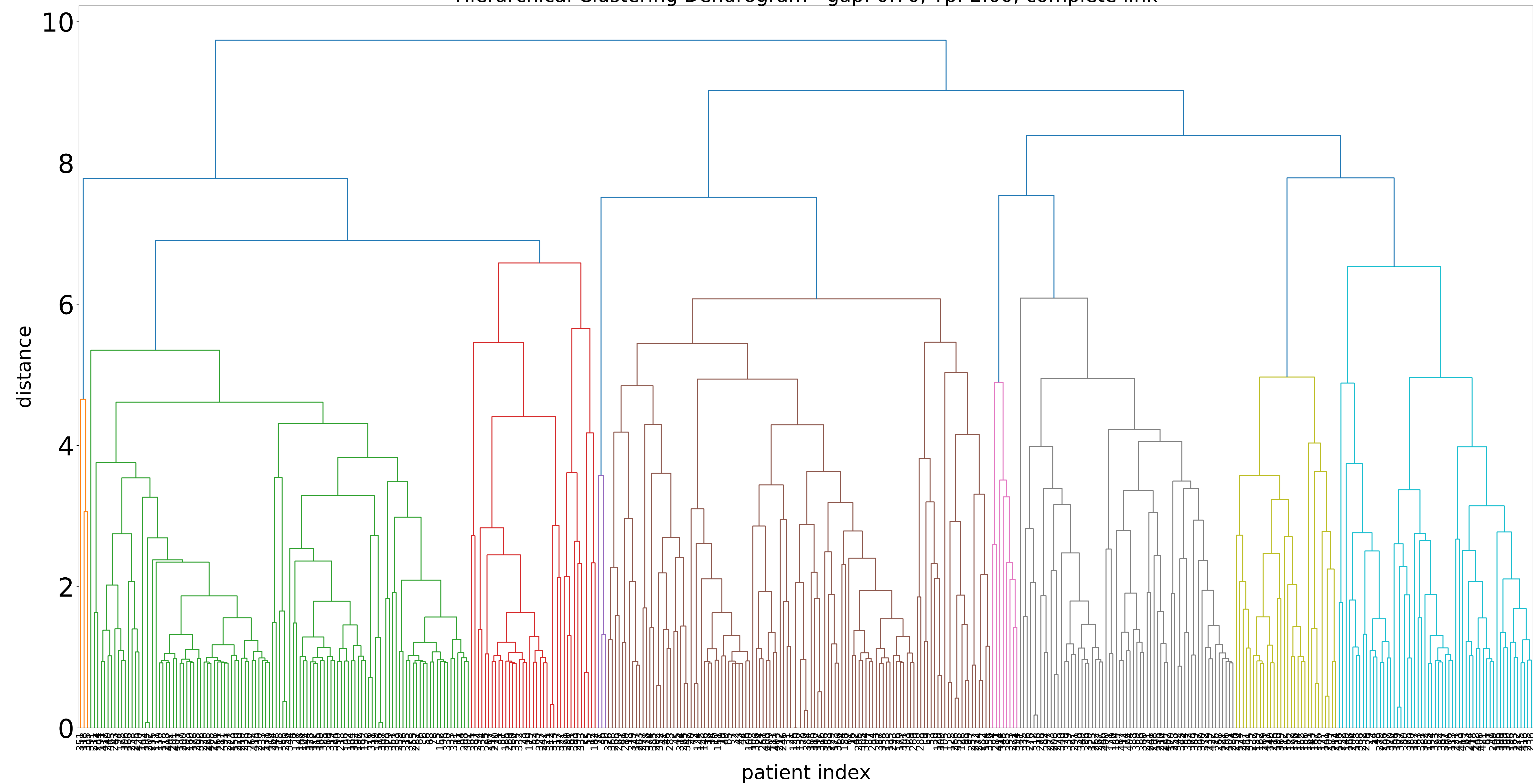
Average values of five clustering indices  
gap: 0.60, Tp: 2.00, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.96345	0.94094	0.89535	0.0251	0.89252	0.96137	0.0981	0.96563	0.00014	0.92758	0.91837	0.0	0.28263	0.25899
3.0	1.0	0.92996	0.88202	0.94201	0.04709	0.88809	0.92679	0.17183	0.93321	0.00016	0.90266	0.82889	0.01739	0.32686	0.20174
4.0	1.0	0.92498	0.86777	0.93437	0.05875	0.89464	0.92309	0.24151	0.92691	0.00018	0.91728	0.78942	0.01739	0.34163	0.21843
5.0	1.0	0.95846	0.92419	0.96731	0.03387	0.94376	0.95768	0.15603	0.95926	0.0002	0.95766	0.87208	0.02817	0.37777	0.22297
6.0	1.0	0.96818	0.94113	0.9635	0.02301	0.95769	0.96776	0.11964	0.9686	0.0002	0.96921	0.89783	0.03448	0.39282	0.22682
7.0	1.0	0.95734	0.9191	0.96039	0.02626	0.94463	0.957	0.16015	0.95769	0.00021	0.96133	0.85426	0.88889	0.33735	0.19656
8.0	1.0	0.95187	0.90921	0.93769	0.03272	0.93832	0.9514	0.1826	0.95235	0.00021	0.9582	0.83826	0.88889	0.35	0.20299
9.0	1.0	0.94742	0.90138	0.92263	0.03147	0.93374	0.94661	0.17822	0.94824	0.00022	0.95671	0.82729	0.88889	0.36539	0.20993
10.0	1.0	0.92771	0.86579	0.86534	0.04189	0.90998	0.9257	0.22619	0.92974	0.00022	0.94224	0.77277	2.0	0.43288	0.22544
11.0	1.0	0.86591	0.76559	0.84899	0.07559	0.8363	0.86436	0.37916	0.86747	0.00022	0.90602	0.62857	2.0	0.39453	0.18718
12.0	1.0	0.83262	0.71456	0.7711	0.09341	0.79756	0.83047	0.44291	0.83478	0.00022	0.88839	0.56355	2.0	0.43965	0.19121
13.0	1.0	0.80217	0.66957	0.80745	0.12675	0.76691	0.79976	0.5785	0.80459	0.00023	0.88449	0.50792	2.0	0.40032	0.17243
14.0	1.0	0.7973	0.66388	0.77933	0.13065	0.76211	0.79553	0.59755	0.79907	0.00024	0.88521	0.5017	2.0	0.43485	0.1832
15.0	1.0	0.7876	0.6508	0.76896	0.1412	0.7529	0.78593	0.66468	0.78927	0.00024	0.88597	0.48711	2.0	0.42015	0.16181
16.0	1.0	0.7774	0.63703	0.73889	0.147	0.74194	0.77578	0.69544	0.77903	0.00024	0.88339	0.47163	2.0	0.4117	0.16904
17.0	1.0	0.78133	0.64238	0.76052	0.15237	0.74873	0.77947	0.70777	0.78319	0.00026	0.89106	0.4779	2.0	0.39113	0.17203
18.0	1.0	0.76694	0.62367	0.75238	0.17039	0.73399	0.76498	0.7705	0.76892	0.00026	0.88925	0.45828	2.0	0.36936	0.17413
19.0	1.0	0.75827	0.61218	0.72947	0.1772	0.72489	0.75629	0.78944	0.76027	0.00027	0.88762	0.44588	2.0	0.36281	0.1745
20.0	1.0	0.75113	0.60283	0.71069	0.18277	0.7176	0.74898	0.81088	0.7533	0.00027	0.88674	0.43625	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

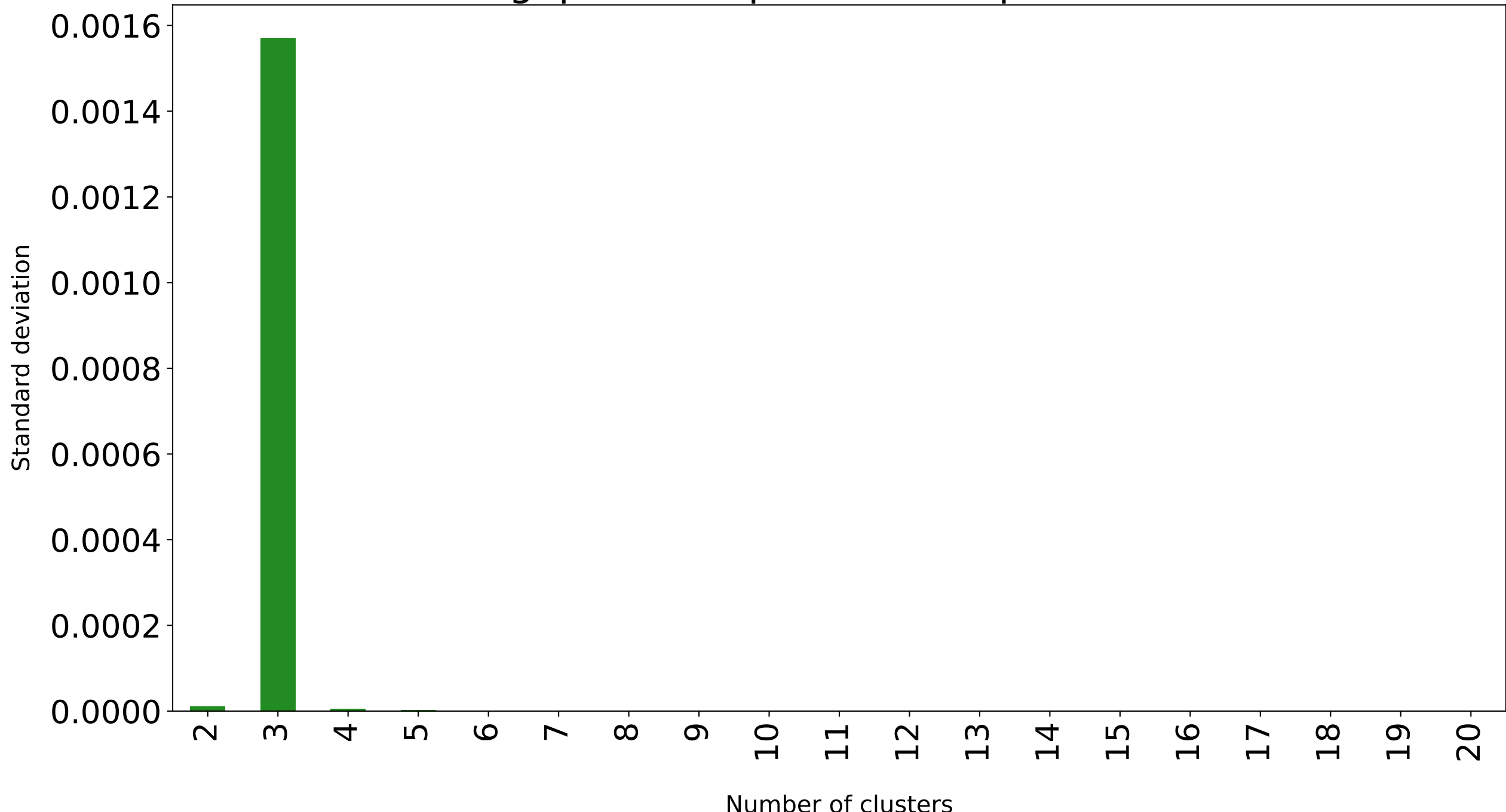


Cophenetic Correlation Coefficient: 0.694275740426429

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

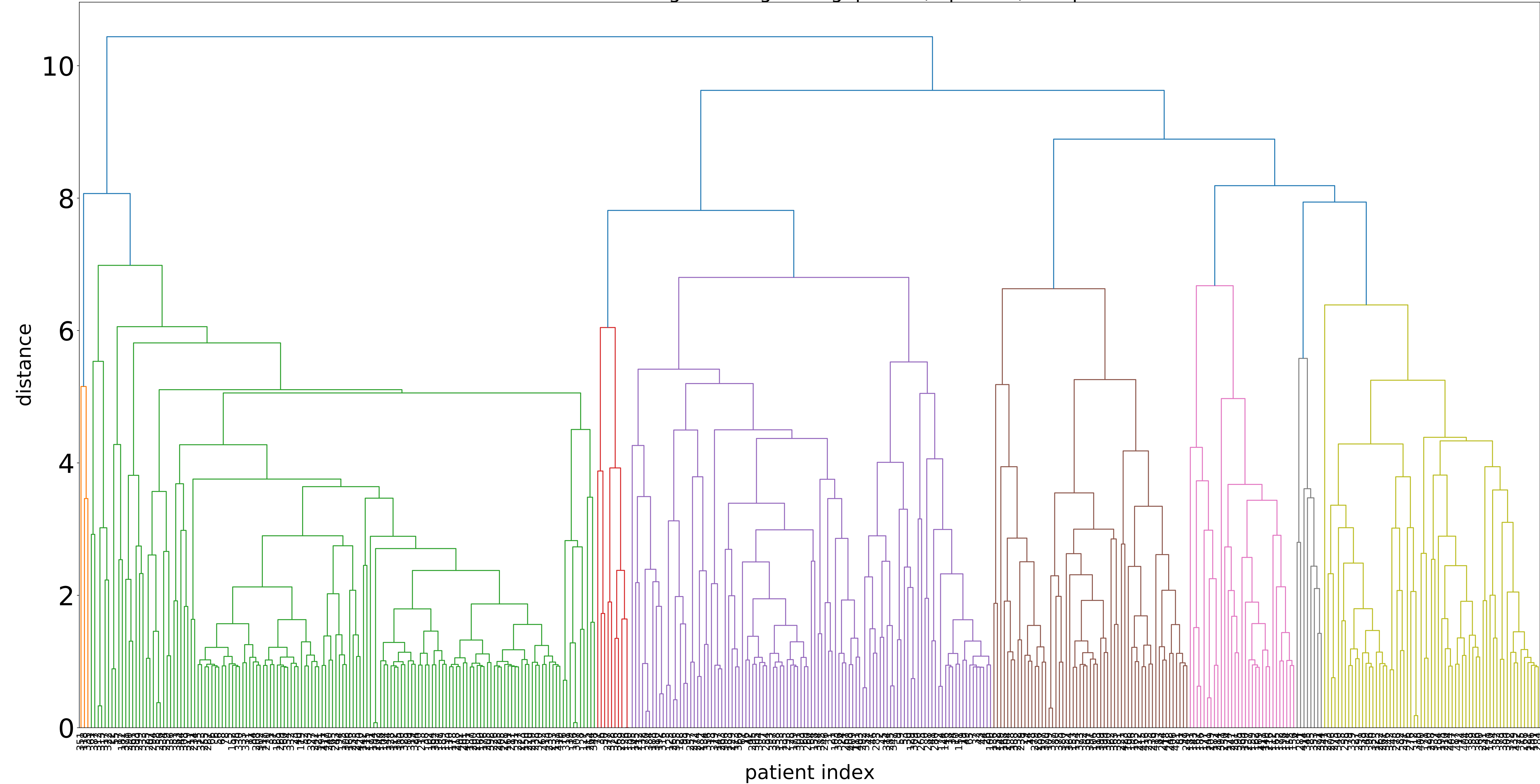
k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.93203	0.88865	0.81883	0.04679	0.80117	0.92818	0.1949	0.93602	0.00013	0.86292	0.84281	0.0106	0.27513	0.24178
3.0	1.0	0.91301	0.8561	0.91445	0.05805	0.85736	0.90904	0.23294	0.91712	0.00015	0.87871	0.79294	0.01739	0.31758	0.18974
4.0	1.0	0.89744	0.82313	0.90311	0.07633	0.85535	0.89505	0.3212	0.89988	0.00017	0.88787	0.72471	0.01739	0.33247	0.20441
5.0	1.0	0.9339	0.88287	0.93646	0.04797	0.91045	0.93304	0.22404	0.93477	0.00019	0.9342	0.8081	0.01739	0.36923	0.20463
6.0	1.0	0.94181	0.89565	0.93159	0.04053	0.92232	0.94131	0.20872	0.94233	0.0002	0.94426	0.8253	1.33333	0.34177	0.21115
7.0	1.0	0.95506	0.91838	0.937	0.02872	0.94098	0.95473	0.15866	0.95539	0.0002	0.95875	0.8604	1.33333	0.35763	0.21188
8.0	1.0	0.95159	0.91114	0.91159	0.03019	0.93767	0.95066	0.15863	0.95253	0.00021	0.95732	0.84901	1.33333	0.36506	0.23081
9.0	1.0	0.86512	0.76175	0.88431	0.0799	0.83219	0.86333	0.38517	0.86691	0.00021	0.89713	0.61909	1.33333	0.29925	0.1645
10.0	1.0	0.85105	0.74128	0.84524	0.0914	0.81629	0.8497	0.46965	0.85241	0.00021	0.89176	0.59322	1.33333	0.27409	0.16583
11.0	1.0	0.85021	0.74098	0.83968	0.08294	0.81732	0.84872	0.43098	0.8517	0.00022	0.8962	0.59491	1.33333	0.29827	0.17795
12.0	1.0	0.81751	0.69245	0.76562	0.09977	0.77932	0.81585	0.4901	0.81919	0.00021	0.87962	0.53507	2.0	0.35207	0.17828
13.0	1.0	0.78627	0.64804	0.75854	0.1266	0.74653	0.78477	0.61565	0.78777	0.00022	0.87291	0.48234	2.0	0.32334	0.14529
14.0	1.0	0.78438	0.64528	0.73516	0.12738	0.74561	0.78266	0.61789	0.78611	0.00023	0.87503	0.47938	2.0	0.32917	0.15048
15.0	1.0	0.78079	0.64006	0.71438	0.12949	0.74271	0.77868	0.63352	0.78291	0.00023	0.87619	0.47391	2.0	0.31579	0.15059
16.0	1.0	0.77898	0.63701	0.69927	0.13139	0.74166	0.77629	0.63787	0.78171	0.00023	0.87738	0.47079	2.0	0.3096	0.15095
17.0	1.0	0.7853	0.64699	0.74656	0.14409	0.75207	0.78359	0.69333	0.78702	0.00025	0.88969	0.48185	2.0	0.29124	0.15368
18.0	1.0	0.77897	0.63856	0.73067	0.1515	0.74556	0.77712	0.71231	0.78084	0.00026	0.88873	0.47304	2.0	0.32129	0.1634
19.0	1.0	0.76731	0.62275	0.7055	0.16008	0.73284	0.76512	0.74086	0.76953	0.00025	0.88488	0.45607	2.0	0.35762	0.16543
20.0	1.0	0.75491	0.60611	0.68579	0.17028	0.71966	0.75232	0.77744	0.75752	0.00026	0.8817	0.43856	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

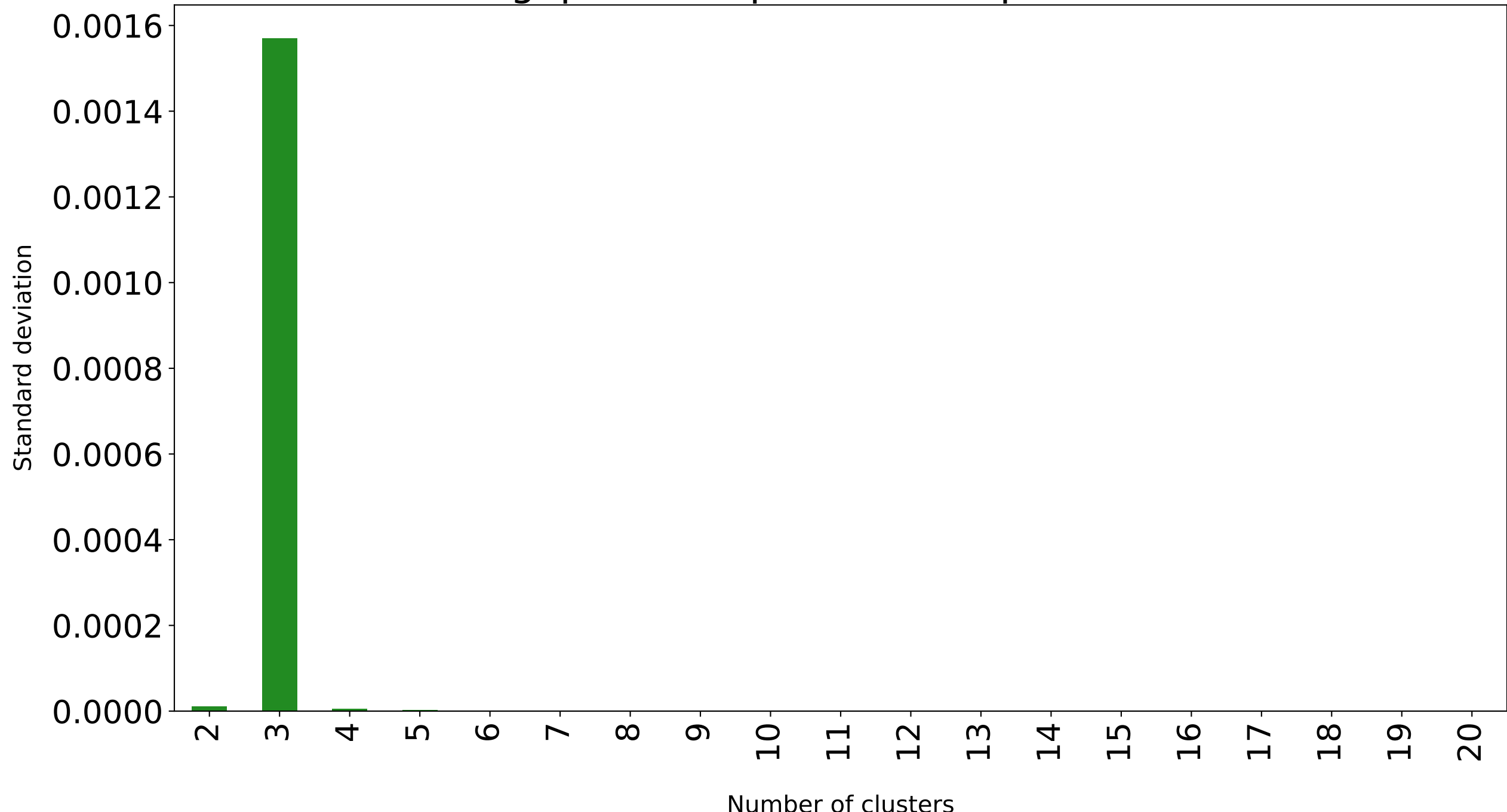


Cophenetic Correlation Coefficient: 0.6784110395850228

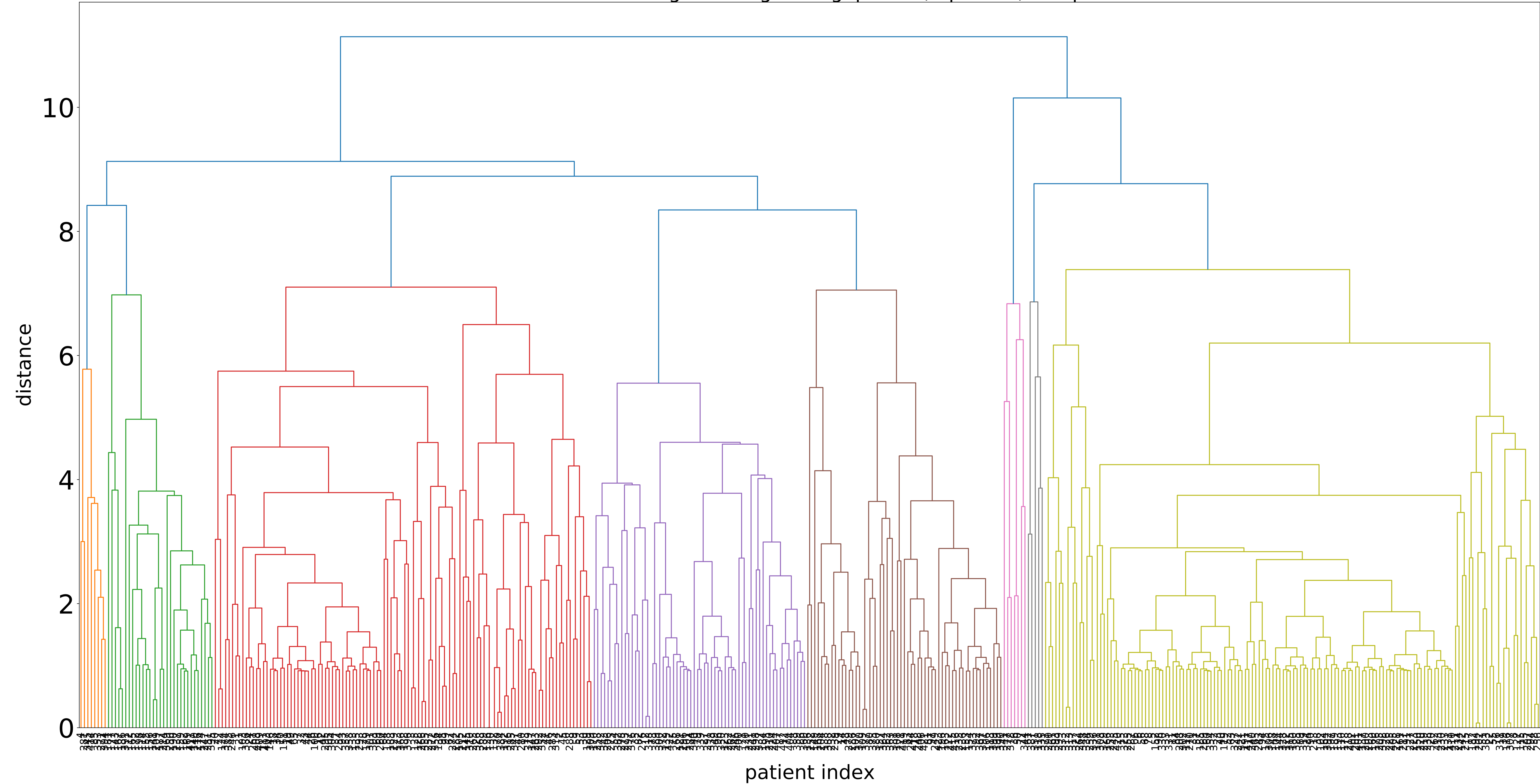
Average values of five clustering indices  
gap: 0.80, Tp: 2.00, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.94139	0.90548	0.85135	0.04069	0.83158	0.93817	0.15928	0.94473	0.00013	0.88424	0.86938	0.0	0.27261	0.22671
3.0	1.0	0.91304	0.85568	0.92154	0.05801	0.85708	0.90855	0.2238	0.91768	0.00015	0.87678	0.79378	0.01739	0.3114	0.17907
4.0	1.0	0.90335	0.8313	0.91375	0.06879	0.86311	0.9008	0.28829	0.90594	0.00017	0.89193	0.73554	0.01739	0.31283	0.19444
5.0	1.0	0.92008	0.85744	0.93409	0.0577	0.89166	0.91877	0.2764	0.9214	0.00018	0.91953	0.76625	0.01739	0.35587	0.1973
6.0	1.0	0.93689	0.88655	0.93356	0.04609	0.91567	0.93626	0.23412	0.93753	0.00019	0.93918	0.81025	1.33333	0.32949	0.20051
7.0	1.0	0.94503	0.90082	0.93032	0.03723	0.92764	0.94457	0.1989	0.94548	0.0002	0.94932	0.83272	1.33333	0.34427	0.20374
8.0	1.0	0.94104	0.8925	0.92223	0.03989	0.92406	0.94059	0.22301	0.9415	0.00021	0.94904	0.81578	1.33333	0.31272	0.15104
9.0	1.0	0.91187	0.84062	0.86684	0.05775	0.88875	0.91102	0.31156	0.91273	0.00021	0.92882	0.73333	1.33333	0.28299	0.15509
10.0	1.0	0.85788	0.75409	0.83478	0.09909	0.82499	0.85695	0.48087	0.85882	0.00021	0.89807	0.61258	1.33333	0.24281	0.15584
11.0	1.0	0.84754	0.73792	0.80349	0.11455	0.81374	0.84659	0.54729	0.84849	0.00021	0.8945	0.59106	1.33333	0.21859	0.15691
12.0	1.0	0.85601	0.75047	0.81245	0.10222	0.82598	0.85474	0.49869	0.85729	0.00022	0.90428	0.60767	1.33333	0.2511	0.16292
13.0	1.0	0.84792	0.73718	0.78052	0.10623	0.81757	0.84583	0.51433	0.85003	0.00023	0.90161	0.5909	2.0	0.30687	0.17176
14.0	1.0	0.83816	0.72233	0.76126	0.11344	0.80773	0.83569	0.55543	0.84066	0.00023	0.90007	0.57252	2.0	0.29394	0.17213
15.0	1.0	0.82889	0.70724	0.73469	0.11664	0.79771	0.82535	0.57716	0.83247	0.00023	0.89606	0.55392	2.0	0.29779	0.179
16.0	1.0	0.8378	0.72136	0.75397	0.11869	0.80972	0.83477	0.57694	0.84087	0.00025	0.90562	0.57185	2.0	0.29616	0.1865
17.0	1.0	0.83474	0.71563	0.73742	0.12256	0.80681	0.83092	0.59424	0.83861	0.00025	0.90488	0.56465	2.0	0.30212	0.18801
18.0	1.0	0.82833	0.7048	0.71868	0.12672	0.80011	0.82328	0.6126	0.83345	0.00025	0.90226	0.55174	2.0	0.31639	0.18833
19.0	1.0	0.819	0.69113	0.70669	0.13398	0.79023	0.81364	0.65508	0.82444	0.00025	0.89992	0.53545	2.0	0.30695	0.19212
20.0	1.0	0.80647	0.67405	0.69786	0.14819	0.77689	0.80142	0.71138	0.8116	0.00026	0.89737	0.51569	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

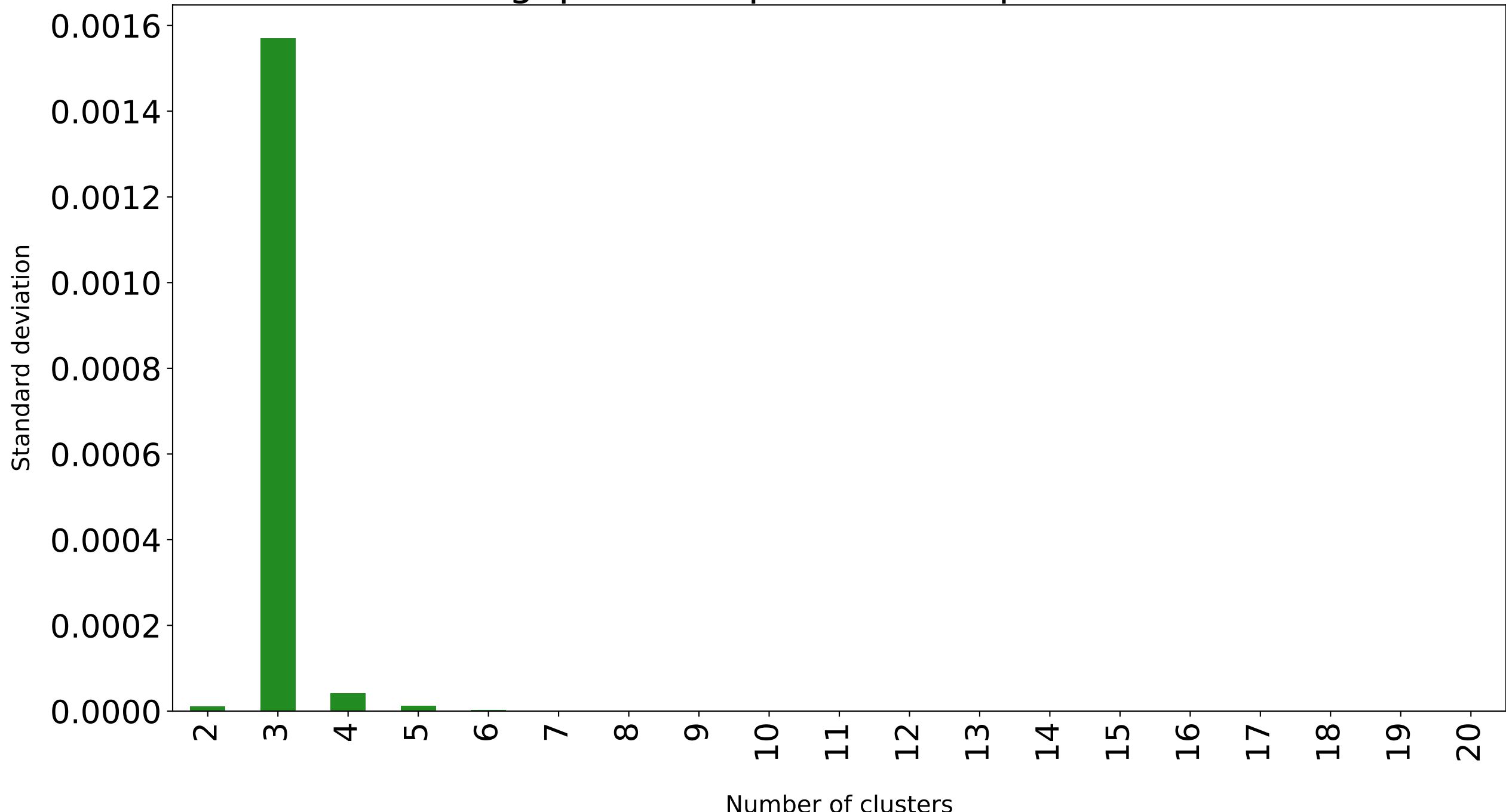


Cophenetic Correlation Coefficient: 0.6362486041357961

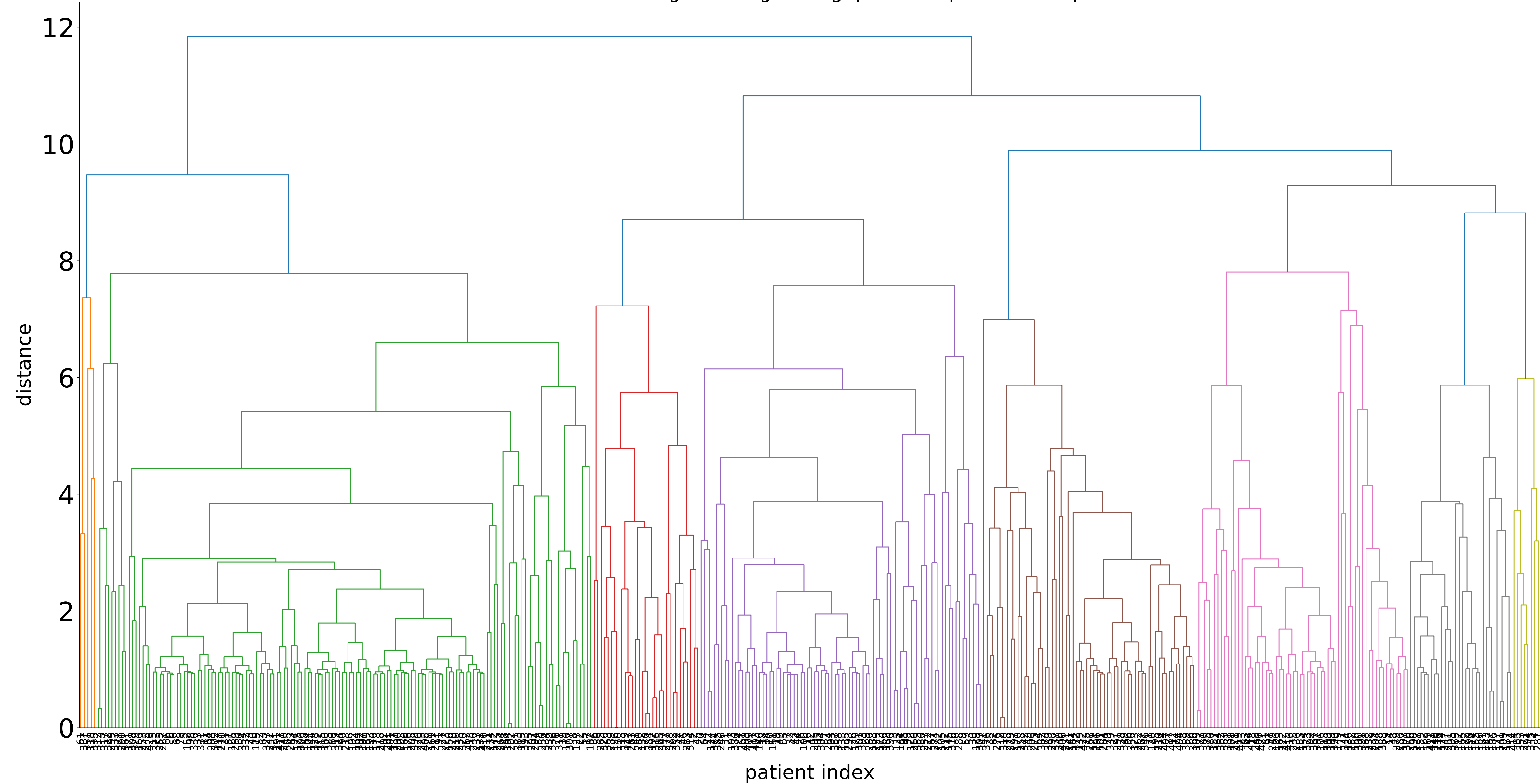
Average values of five clustering indices  
gap: 0.90, Tp: 2.00, complete link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99999	0.9103	0.84646	0.81167	0.05813	0.74832	0.90529	0.28513	0.9155	0.00012	0.81308	0.76928	0.03979	0.2477	0.17513
3.0	0.99998	0.79085	0.65839	0.51033	0.13875	0.6063	0.77973	0.54192	0.80223	0.0001	0.67317	0.52304	1.18227	0.23361	0.19474
4.0	1.0	0.7178	0.55901	0.46372	0.18877	0.55375	0.70757	0.77969	0.72825	0.0001	0.64638	0.40309	1.18227	0.23971	0.19999
5.0	1.0	0.85183	0.74993	0.81667	0.10885	0.79114	0.84874	0.48537	0.85503	0.00015	0.8415	0.62012	1.18227	0.25327	0.18155
6.0	1.0	0.86116	0.76279	0.80565	0.10581	0.81002	0.8594	0.47856	0.86295	0.00016	0.86128	0.63217	1.24138	0.21568	0.1891
7.0	1.0	0.8601	0.7596	0.77372	0.10533	0.81211	0.85834	0.4666	0.86188	0.00017	0.86626	0.62503	1.24138	0.25527	0.19077
8.0	1.0	0.91549	0.85183	0.89696	0.05566	0.89026	0.91474	0.3162	0.91625	0.0002	0.92637	0.75942	1.24138	0.27882	0.21561
9.0	1.0	0.88023	0.78976	0.87185	0.07383	0.84872	0.8792	0.41556	0.88127	0.0002	0.9045	0.66258	1.24138	0.2444	0.2019
10.0	1.0	0.81954	0.69534	0.83598	0.11819	0.77931	0.81728	0.58557	0.82181	0.00021	0.87417	0.53928	1.24138	0.2153	0.16547
11.0	1.0	0.83154	0.71332	0.84046	0.10998	0.7965	0.8299	0.55558	0.83319	0.00022	0.88877	0.56079	1.24138	0.24954	0.16731
12.0	1.0	0.83577	0.72009	0.82727	0.11026	0.80279	0.83465	0.55915	0.8369	0.00023	0.89494	0.56891	1.24138	0.23492	0.17005
13.0	1.0	0.83587	0.7204	0.80772	0.11046	0.80379	0.835	0.55959	0.83676	0.00023	0.89751	0.56905	1.37931	0.24833	0.17079
14.0	1.0	0.83584	0.71981	0.7858	0.11201	0.80479	0.83475	0.56697	0.83693	0.00023	0.89989	0.56791	1.37931	0.23673	0.17963
15.0	1.0	0.83518	0.71838	0.77064	0.11231	0.80502	0.8338	0.58599	0.83657	0.00024	0.90177	0.56619	1.37931	0.23741	0.18663
16.0	1.0	0.83349	0.71449	0.75512	0.11386	0.80375	0.83144	0.59263	0.83554	0.00024	0.90189	0.56063	2.0	0.2492	0.18827
17.0	1.0	0.8453	0.73351	0.83774	0.1171	0.82029	0.84439	0.58649	0.84621	0.00027	0.91673	0.58387	2.0	0.22217	0.18925
18.0	1.0	0.84452	0.73257	0.82592	0.1185	0.81986	0.84366	0.58941	0.84538	0.00027	0.91771	0.58292	2.0	0.22829	0.20198
19.0	1.0	0.83588	0.71967	0.805	0.12494	0.81025	0.83493	0.612	0.83682	0.00027	0.91443	0.56691	2.0	0.23898	0.20309
20.0	1.0	0.82663	0.70603	0.78725	0.13293	0.8004	0.82553	0.64089	0.82774	0.00027	0.91202	0.55044	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	0.88726	0.81191	0.72249	0.07494	0.65701	0.87956	0.32688	0.89524	0.00011	0.76196	0.73385	0.00727	0.26202	0.17863
3.0	1.0004	0.81679	0.70157	0.81723	0.11969	0.68551	0.80529	0.48909	0.82884	0.00012	0.73217	0.58456	0.02469	0.29669	0.16096
4.0	1.00001	0.79128	0.6602	0.81912	0.13686	0.69279	0.78137	0.59471	0.80166	0.00013	0.7555	0.51935	0.06	0.32165	0.16813
5.0	1.0	0.81681	0.69782	0.80537	0.12665	0.74283	0.8129	0.56959	0.82083	0.00015	0.80833	0.55499	1.6	0.26307	0.1714
6.0	1.0	0.85005	0.74696	0.86377	0.10104	0.79808	0.84698	0.499	0.85318	0.00017	0.85583	0.61561	1.6	0.27181	0.18052
7.0	1.0	0.87245	0.78314	0.85898	0.08199	0.83057	0.87082	0.42781	0.87411	0.00018	0.88284	0.66354	1.6	0.30268	0.18282
8.0	1.0	0.84916	0.74415	0.85931	0.09577	0.80718	0.84713	0.50392	0.85122	0.00019	0.87611	0.60625	1.6	0.26359	0.1053
9.0	1.0	0.82799	0.71148	0.81777	0.10967	0.78391	0.8265	0.579	0.82949	0.00019	0.86859	0.56182	1.6	0.28372	0.1056
10.0	1.0	0.82149	0.7006	0.8105	0.11447	0.78007	0.8202	0.6138	0.82279	0.0002	0.87341	0.54666	1.6	0.26881	0.10852
11.0	1.0	0.82186	0.70077	0.81196	0.11658	0.78339	0.82072	0.64256	0.823	0.00021	0.88039	0.5462	1.6	0.2444	0.11163
12.0	1.0	0.82736	0.7085	0.80219	0.11181	0.79099	0.82655	0.62342	0.82818	0.00022	0.88633	0.55479	1.8	0.25538	0.11377
13.0	1.0	0.82872	0.71018	0.78615	0.111	0.79372	0.82796	0.61935	0.82947	0.00022	0.88985	0.55635	1.8	0.27308	0.11502
14.0	1.0	0.82922	0.7099	0.76959	0.11213	0.79549	0.82816	0.62146	0.83029	0.00023	0.89254	0.55526	1.93333	0.23946	0.11766
15.0	1.0	0.82863	0.70789	0.75269	0.11345	0.79582	0.82699	0.62376	0.83028	0.00023	0.89404	0.55234	2.0	0.28775	0.11937
16.0	1.0	0.82768	0.70547	0.74021	0.11622	0.79548	0.82543	0.63715	0.82995	0.00023	0.89471	0.54909	2.0	0.28719	0.12455
17.0	1.0	0.84828	0.73759	0.8267	0.12019	0.82244	0.84765	0.63992	0.84891	0.00026	0.91497	0.5877	2.0	0.25697	0.12919
18.0	1.0	0.84865	0.73813	0.81678	0.11977	0.82335	0.848	0.63954	0.84931	0.00026	0.91639	0.58838	2.0	0.26576	0.13187
19.0	1.0	0.84262	0.72878	0.79813	0.12294	0.81679	0.8418	0.65371	0.84343	0.00026	0.91436	0.57653	2.0	0.28217	0.13357
20.0	1.0	0.83131	0.71151	0.77064	0.13152	0.80425	0.83002	0.68736	0.8326	0.00026	0.90975	0.55549	2.0	0.3217	0.13372



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

