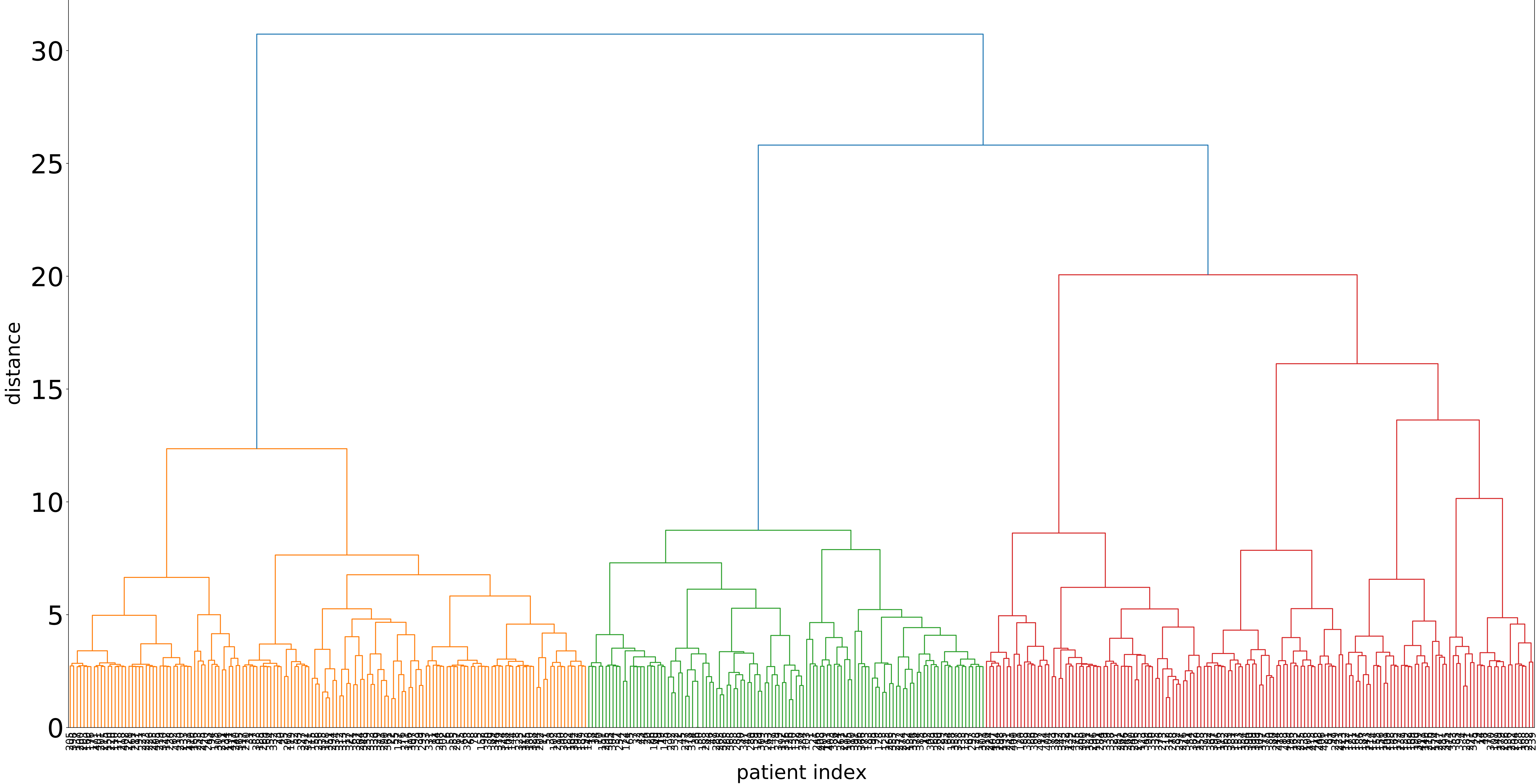Hierarchical Clustering Dendrogram - gap: 0.00, Tp: 1.00, ward link
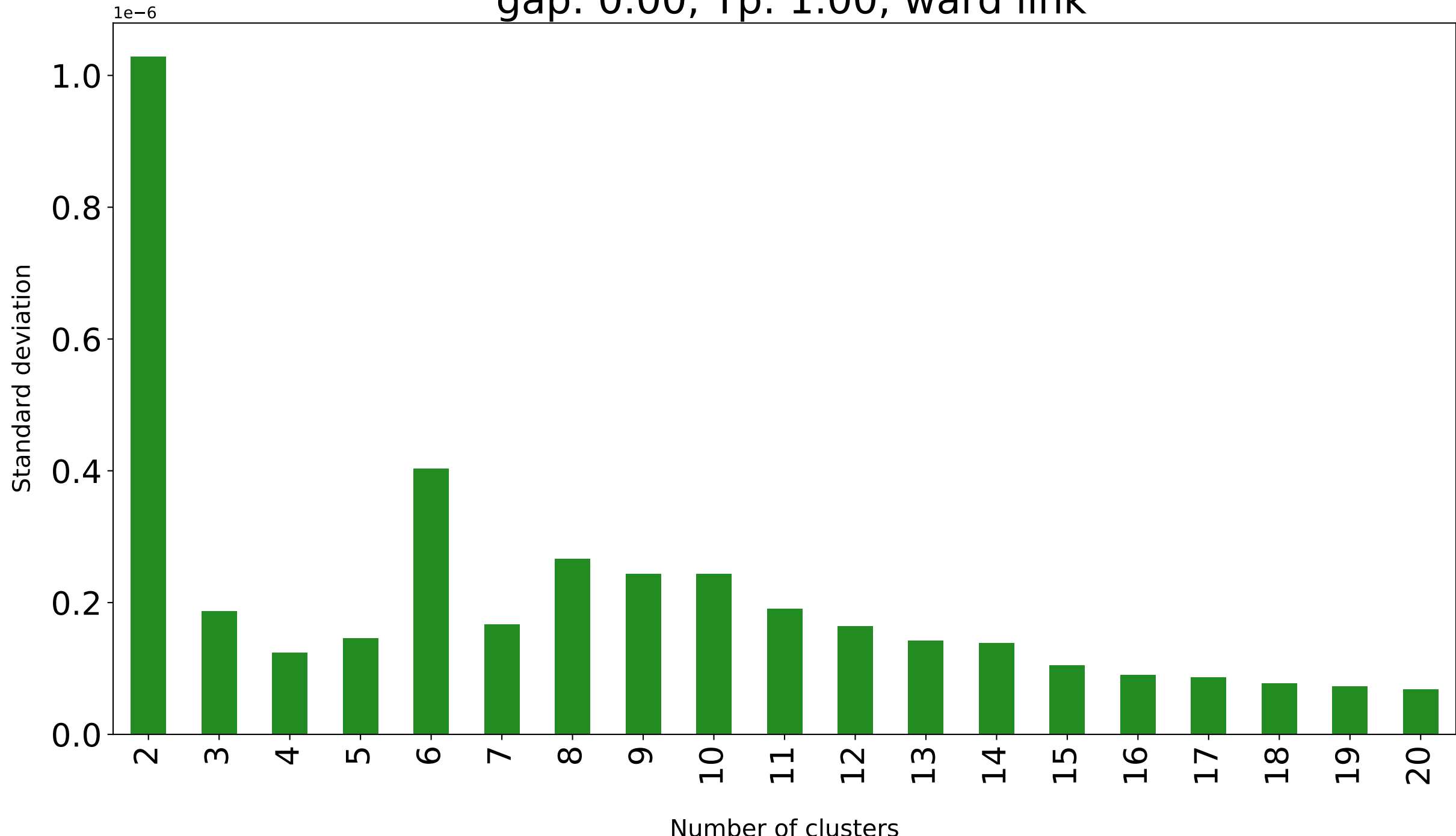
Cophenetic Correlation Coefficient: 0.7549195930431408
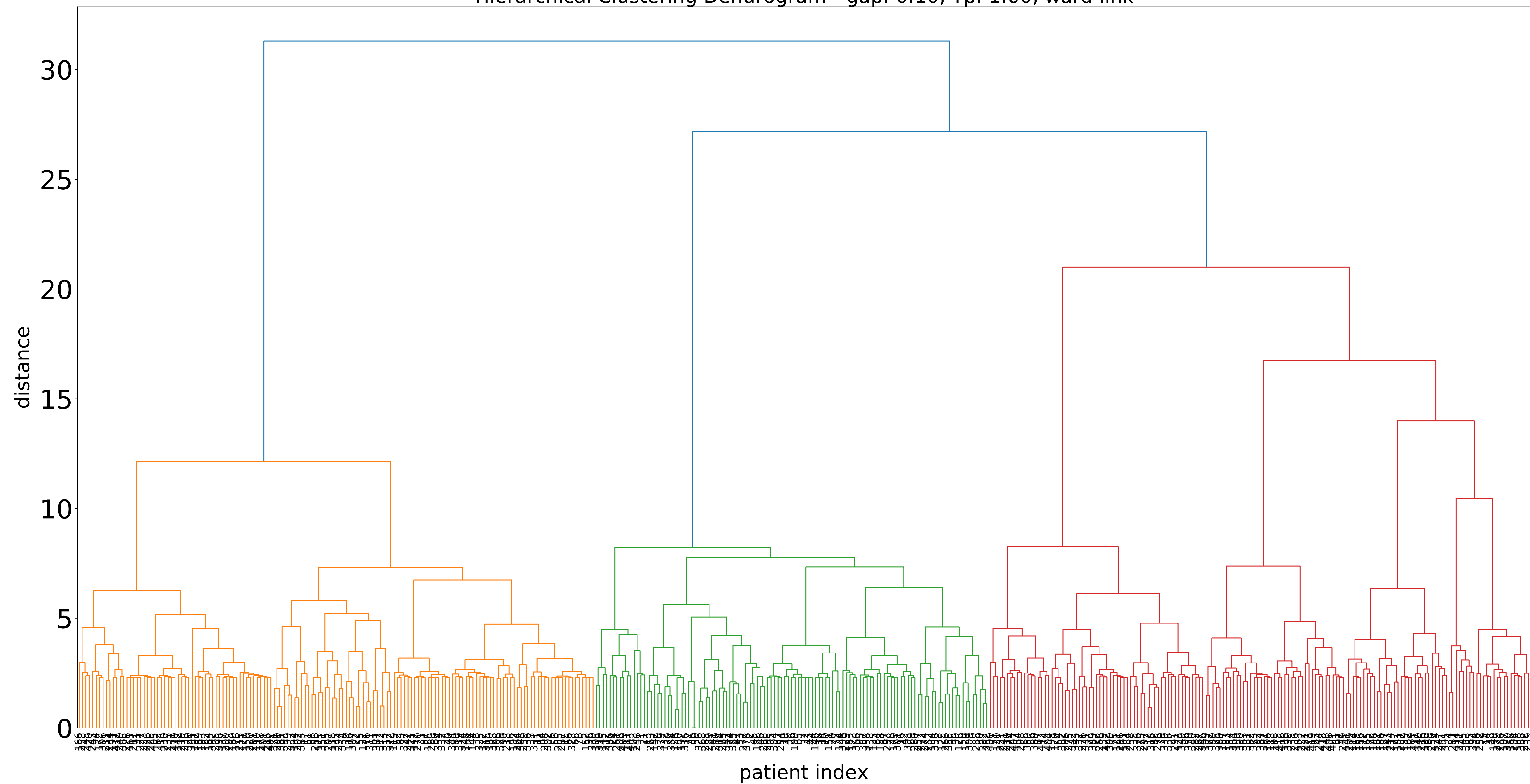
Average values of five clustering indices
gap: 0.00, Tp: 1.00, ward link

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.99713	0.99436	0.99229	0.00156	0.99378	0.99712	-0.23278	0.99713	0.00016	0.99394	0.98914	0.0	0.15499	0.45421
3.0	1.0	0.99272	0.9857	0.98976	0.00374	0.98902	0.99272	-0.89279	0.99272	0.00017	0.99029	0.97236	0.0587	0.17868	0.4041
4.0	1.0	0.99181	0.98396	0.98924	0.00435	0.98877	0.99181	-1.76622	0.99182	0.0002	0.99123	0.96913	0.07407	0.19152	0.4041
5.0	1.0	0.98765	0.97601	0.98473	0.01128	0.98363	0.98765	-2.70107	0.98766	0.00021	0.98802	0.95462	0.08485	0.20109	0.4041
6.0	1.0	0.97487	0.95402	0.95445	0.01572	0.9681	0.97399	-3.64329	0.97576	0.00021	0.97829	0.92417	0.18667	0.20981	0.40501
7.0	1.0	0.95912	0.92286	0.94062	0.02327	0.95021	0.95905	-4.84305	0.95919	0.00025	0.97129	0.86119	0.28	0.16844	0.40501
8.0	1.0	0.94205	0.89344	0.90362	0.0324	0.93035	0.9411	-5.64092	0.94301	0.00025	0.96111	0.81872	0.28	0.19101	0.40501
9.0	1.0	0.85016	0.74218	0.8472	0.08247	0.82456	0.84928	-6.08404	0.85105	0.00026	0.91565	0.59748	1.07692	0.15364	0.3812
10.0	1.0	0.82454	0.70574	0.80098	0.0916	0.7975	0.82384	-7.35669	0.82524	0.00027	0.91029	0.55399	1.07692	0.13914	0.3812
11.0	1.0	0.79955	0.66823	0.74829	0.10269	0.77135	0.79841	-8.01569	0.80068	0.00028	0.90504	0.50752	1.47368	0.13137	0.38461
12.0	1.0	0.78216	0.64274	0.70665	0.11084	0.75398	0.78011	-9.7267	0.78423	0.00029	0.9033	0.47828	1.47368	0.12195	0.38461
13.0	1.0	0.80296	0.67344	0.75498	0.10456	0.78067	0.80231	-11.16524	0.8036	0.00034	0.92268	0.51297	1.47368	0.11423	0.38461
14.0	1.0	0.78606	0.65108	0.747	0.11631	0.76423	0.78566	-12.00342	0.78646	0.00036	0.92371	0.48838	1.82609	0.10729	0.38461
15.0	1.0	0.74517	0.59543	0.75465	0.1445	0.72282	0.74434	-13.1361	0.746	0.00038	0.92062	0.42697	1.88652	0.10014	0.38461
16.0	1.0	0.73679	0.58473	0.74507	0.14982	0.71559	0.736	-15.01328	0.73759	0.00041	0.92407	0.41599	1.88652	0.09656	0.38461
17.0	1.0	0.73109	0.57818	0.72149	0.14883	0.71072	0.73072	-17.18291	0.73147	0.00043	0.9269	0.40949	1.88652	0.092	0.38461
18.0	1.0	0.73553	0.58376	0.72457	0.14406	0.71707	0.73522	-18.79057	0.73585	0.00046	0.93318	0.41504	1.88652	0.08729	0.38461
19.0	1.0	0.7368	0.58556	0.72093	0.14817	0.71979	0.73654	-19.48791	0.73706	0.0005	0.938	0.41704	1.88652	0.08739	0.35542
20.0	1.0	0.73478	0.5829	0.73305	0.1533	0.71911	0.73445	-20.65089	0.7351	0.00054	0.94242	0.41426	2.0	0.08401	0.35542

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

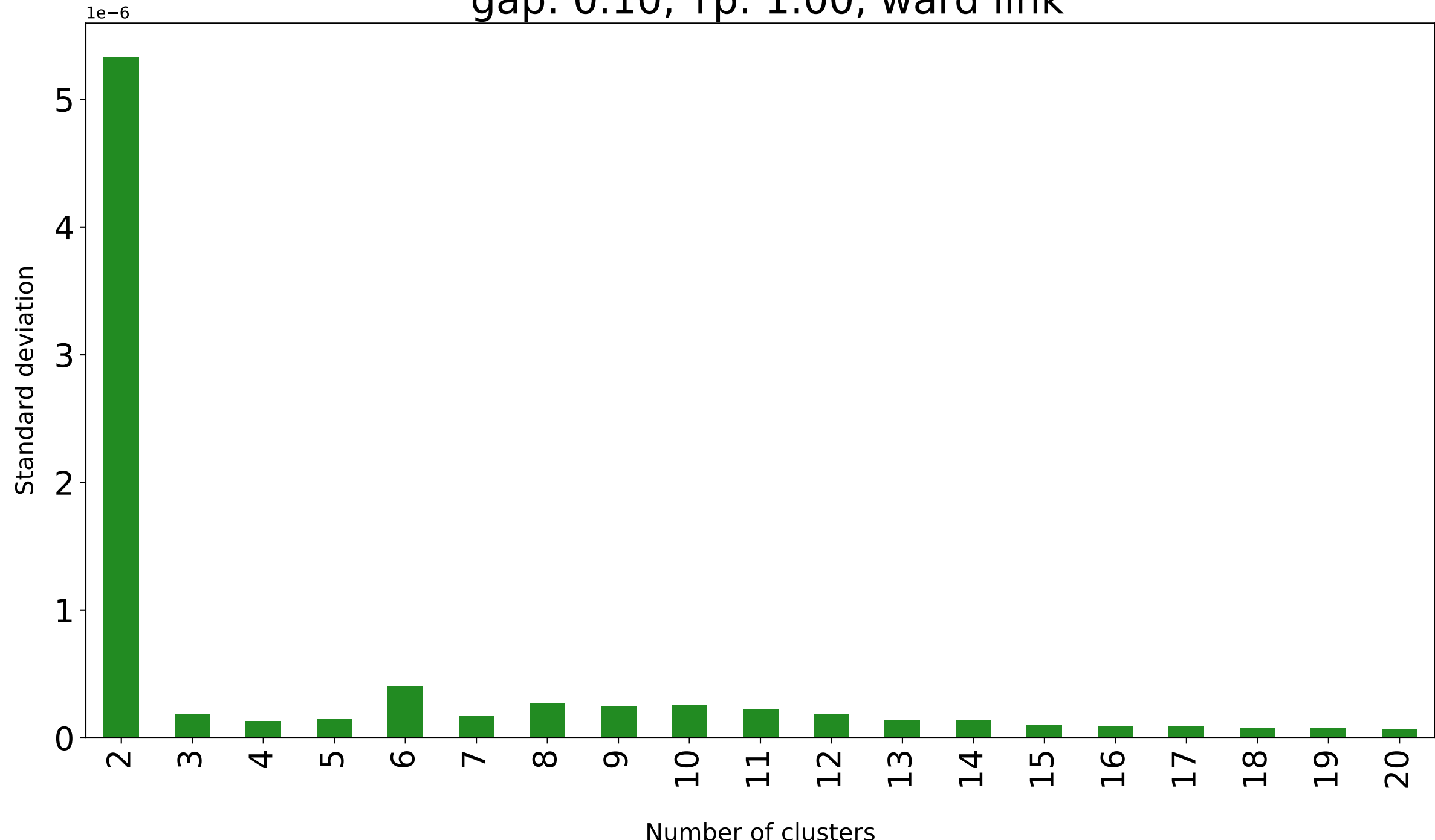Hierarchical Clustering Dendrogram - gap: 0.10, Tp: 1.00, ward link

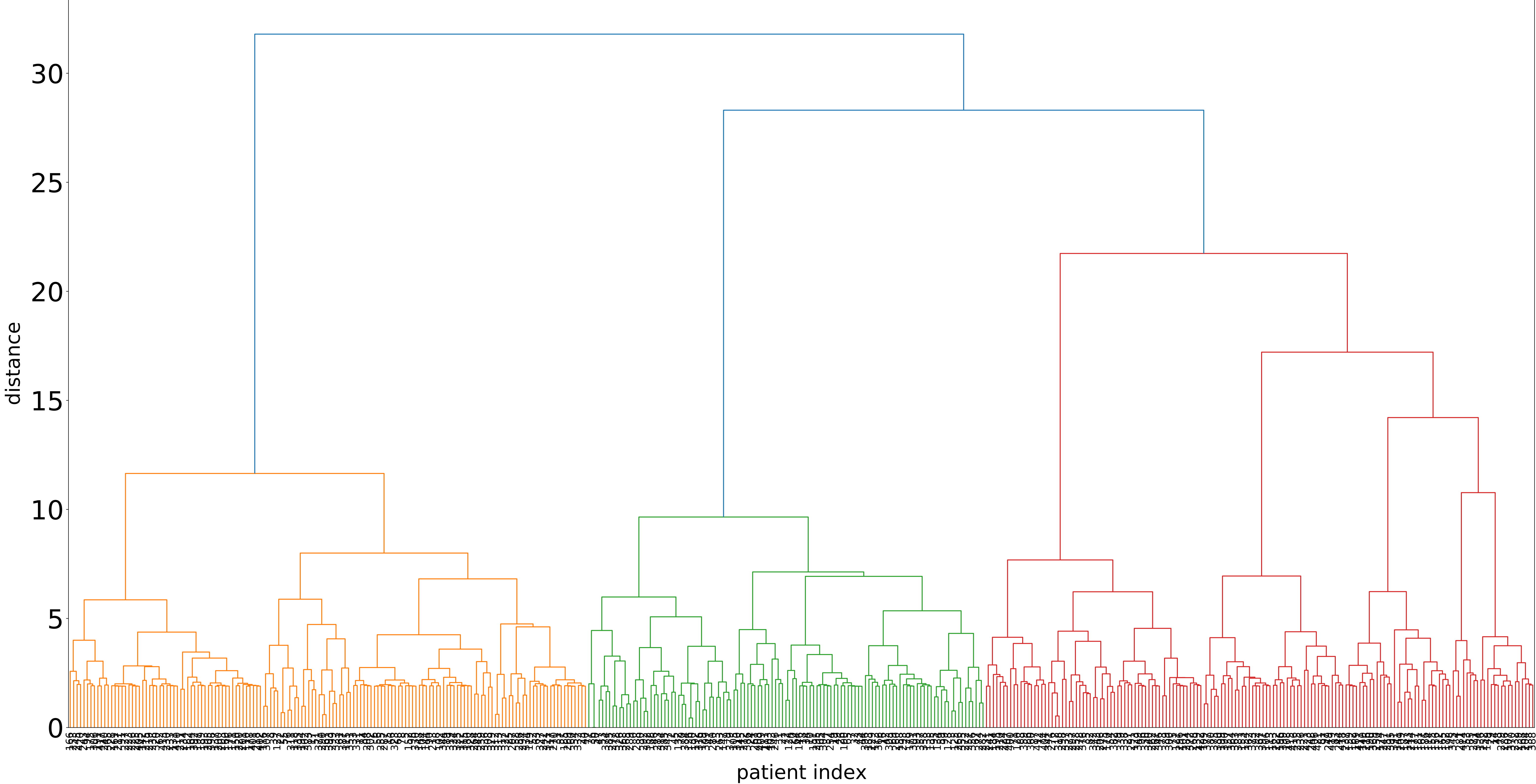Cophenetic Correlation Coefficient: 0.7791449467669053

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

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.98375	0.97434	0.96419	0.01134	0.96305	0.98374	-0.21244	0.98375	0.00015	0.97212	0.96122	0.05245	0.17739	0.38741
3.0	1.0	0.99123	0.98277	0.98745	0.0043	0.98676	0.99123	-0.89522	0.99123	0.00017	0.98829	0.96666	0.05828	0.21048	0.36524
4.0	1.0	0.98926	0.97895	0.98395	0.00595	0.98526	0.98925	-1.75628	0.98926	0.0002	0.98847	0.95953	0.05828	0.22951	0.36524
5.0	1.0	0.9868	0.9743	0.98105	0.01131	0.98247	0.9868	-2.69279	0.98681	0.00021	0.98711	0.95114	0.05828	0.24209	0.36633
6.0	1.0	0.99177	0.98375	0.98743	0.00582	0.98918	0.99175	-3.65547	0.99178	0.00021	0.99216	0.96846	0.05828	0.25276	0.36633
7.0	1.0	0.96919	0.94092	0.96754	0.01799	0.96242	0.96899	-4.87146	0.96938	0.00026	0.9779	0.89153	0.46316	0.19959	0.36633
8.0	1.0	0.96635	0.93607	0.95196	0.01867	0.95937	0.96602	-5.73497	0.96667	0.00026	0.97693	0.88475	0.46316	0.22709	0.38073
9.0	1.0	0.86045	0.75562	0.77519	0.07309	0.83508	0.85821	-6.68222	0.8627	0.00025	0.91538	0.61572	0.46316	0.19875	0.38073
10.0	1.0	0.84256	0.73066	0.75917	0.08347	0.81729	0.84029	-7.34159	0.84485	0.00026	0.91458	0.58681	0.58667	0.17613	0.39554
11.0	1.0	0.83212	0.71801	0.77861	0.09397	0.80935	0.83107	-8.15828	0.83316	0.0003	0.92241	0.57217	0.75429	0.15752	0.25043
12.0	1.0	0.79005	0.65394	0.70189	0.11916	0.76413	0.78714	-9.81965	0.79298	0.0003	0.90944	0.49333	0.75429	0.14268	0.25043
13.0	1.0	0.78764	0.64945	0.70048	0.10995	0.76391	0.78479	-10.90274	0.7905	0.00033	0.91593	0.48658	0.8186	0.1379	0.25043
14.0	1.0	0.78839	0.65357	0.76311	0.12071	0.76824	0.78818	-12.13678	0.7886	0.00038	0.92902	0.4901	0.8186	0.12818	0.25043
15.0	1.0	0.80998	0.68344	0.79585	0.10897	0.79348	0.80982	-13.66974	0.81014	0.00043	0.94109	0.52368	1.04762	0.12433	0.25043
16.0	1.0	0.78804	0.65253	0.77328	0.1273	0.77093	0.78786	-14.3052	0.78822	0.00044	0.93859	0.48771	2.0	0.12098	0.25043
17.0	1.0	0.77622	0.63642	0.74777	0.12882	0.75916	0.77595	-16.44202	0.7765	0.00045	0.93846	0.47008	2.0	0.11406	0.25043
18.0	1.0	0.76461	0.62111	0.75072	0.13304	0.74811	0.76438	-18.3562	0.76483	0.00048	0.94014	0.4536	2.0	0.11083	0.25043
19.0	1.0	0.74816	0.59942	0.74428	0.14368	0.73191	0.74787	-19.50813	0.74845	0.00051	0.94065	0.43048	2.0	0.10544	0.25043
20.0	1.0	0.75523	0.60867	0.74865	0.14488	0.74036	0.75499	-20.98681	0.75548	0.00054	0.94539	0.44022	2.0	0.10565	0.25043

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

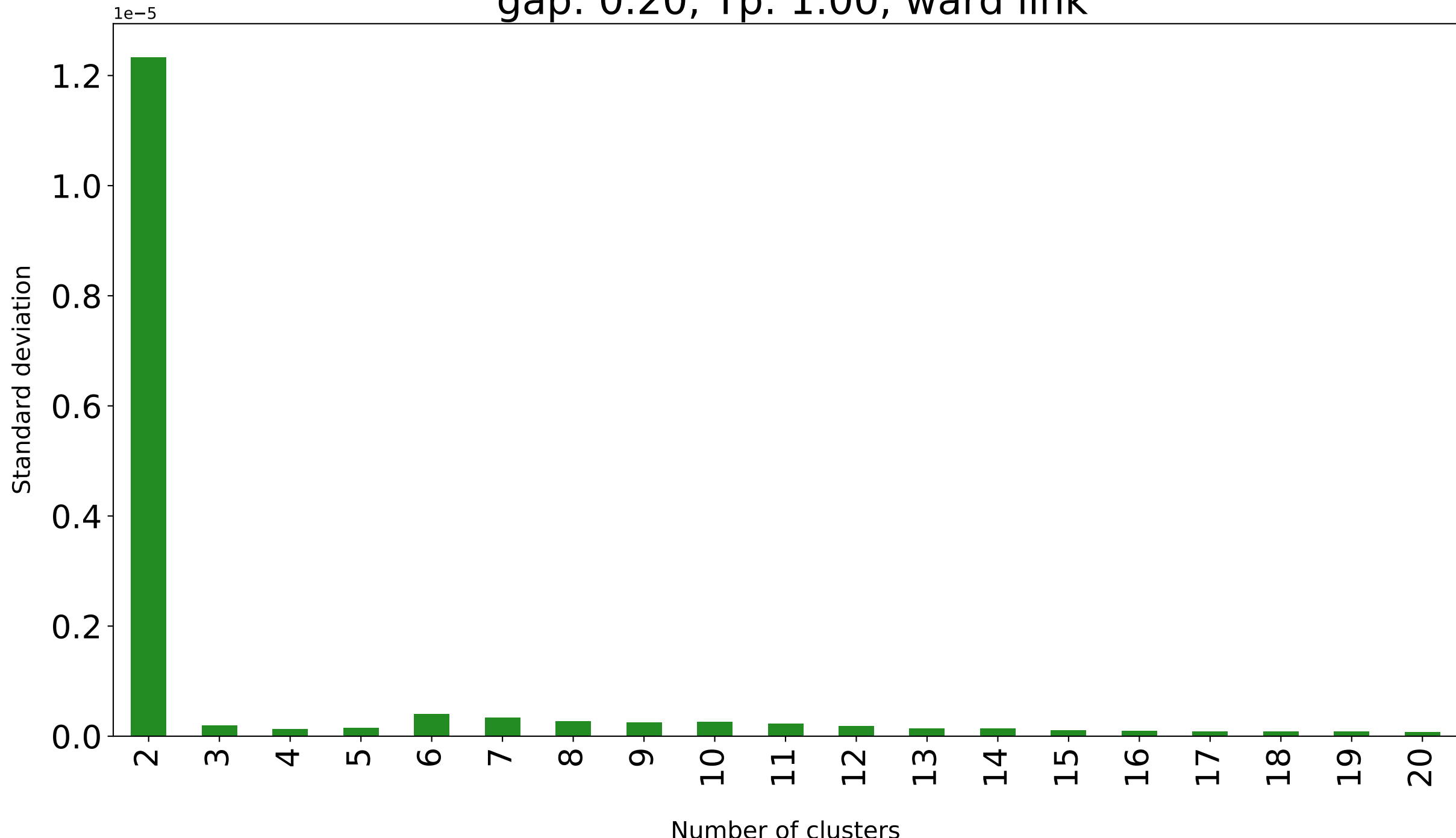Hierarchical Clustering Dendrogram - gap: 0.20, Tp: 1.00, ward link

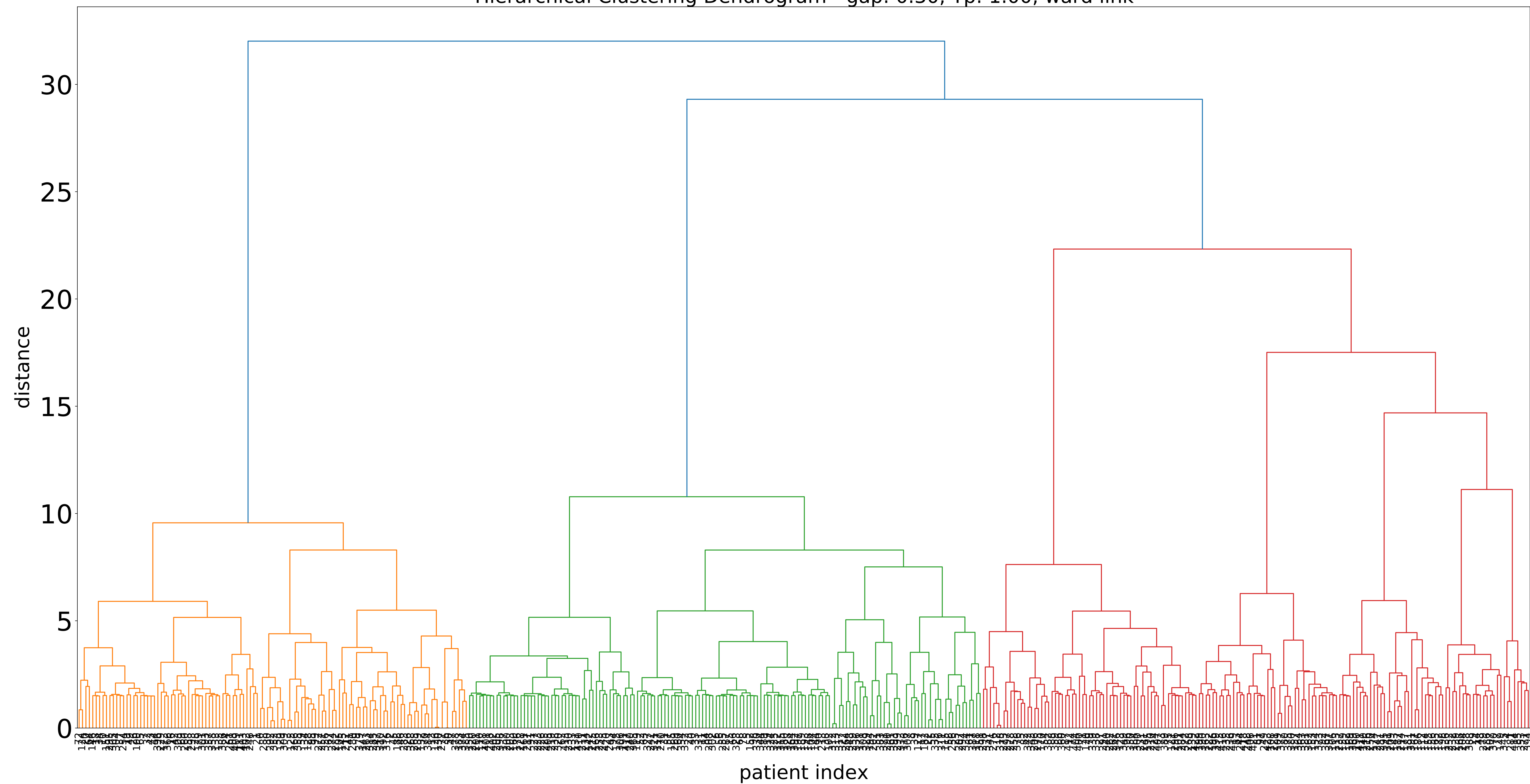Cophenetic Correlation Coefficient: 0.7798381707648713

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

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99999	0.91671	0.88052	0.80612	0.06239	0.80625	0.91664	-0.11271	0.91679	0.00013	0.86904	0.84568	0.0292	0.20482	0.32755
3.0	1.0	0.99348	0.9872	0.99066	0.00319	0.99015	0.99348	-0.90192	0.99348	0.00017	0.99128	0.97525	0.12579	0.24425	0.31151
4.0	1.0	0.99098	0.98232	0.98765	0.00521	0.98763	0.99097	-1.76641	0.99098	0.0002	0.99034	0.96601	0.20833	0.2676	0.31151
5.0	1.0	0.98904	0.97862	0.98673	0.0098	0.98546	0.98903	-2.7101	0.98905	0.00021	0.98933	0.95927	0.36364	0.28228	0.3124
6.0	1.0	0.99312	0.98642	0.99283	0.00566	0.99097	0.99311	-3.66976	0.99314	0.00022	0.99348	0.97361	0.64516	0.29221	0.3124
7.0	1.0	0.95468	0.91455	0.97352	0.02634	0.94439	0.95336	-4.80413	0.95602	0.00025	0.9655	0.85205	0.64516	0.22993	0.3124
8.0	1.0	0.96132	0.92735	0.94106	0.02128	0.95357	0.96068	-5.73595	0.96196	0.00026	0.97404	0.87247	0.64516	0.26201	0.33173
9.0	1.0	0.93324	0.87662	0.92241	0.03614	0.92219	0.93314	-6.58958	0.93335	0.0003	0.96284	0.78524	0.9589	0.22418	0.29774
10.0	1.0	0.84737	0.73703	0.83709	0.08265	0.82567	0.84702	-7.29292	0.84771	0.0003	0.92668	0.58776	0.9589	0.20672	0.29542
11.0	1.0	0.82982	0.71126	0.80467	0.09692	0.80813	0.82956	-8.6094	0.83007	0.00032	0.92587	0.55595	0.9589	0.18547	0.29542
12.0	1.0	0.80253	0.67233	0.7727	0.11753	0.77989	0.8023	-9.13277	0.80277	0.00033	0.92188	0.50997	1.33333	0.17643	0.29542
13.0	1.0	0.77879	0.63998	0.73557	0.13529	0.75517	0.77835	-10.81947	0.77924	0.00034	0.91794	0.47438	1.33333	0.16002	0.29542
14.0	1.0	0.77294	0.63289	0.73943	0.14082	0.75074	0.77265	-11.80463	0.77322	0.00036	0.92224	0.46729	1.33333	0.15448	0.29542
15.0	1.0	0.77168	0.63096	0.77188	0.1476	0.75182	0.77127	-13.02429	0.77209	0.0004	0.92937	0.46513	1.33333	0.1446	0.29542
16.0	1.0	0.75987	0.6152	0.74736	0.1548	0.74009	0.75961	-15.10354	0.76013	0.00041	0.92943	0.44777	1.33333	0.13585	0.29542
17.0	1.0	0.76296	0.61923	0.75768	0.14779	0.74486	0.76264	-16.51932	0.76329	0.00044	0.93481	0.45204	1.33333	0.13152	0.29542
18.0	1.0	0.76032	0.61594	0.75431	0.14905	0.74325	0.75999	-17.68675	0.76066	0.00047	0.93812	0.44873	1.33333	0.12831	0.24642
19.0	1.0	0.76453	0.62155	0.74489	0.14669	0.74858	0.76426	-18.95011	0.7648	0.0005	0.94192	0.45472	2.0	0.13074	0.24642
20.0	1.0	0.76503	0.62203	0.7597	0.14376	0.75042	0.76477	-21.0655	0.76529	0.00054	0.94637	0.45496	2.0	0.12796	0.24642

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

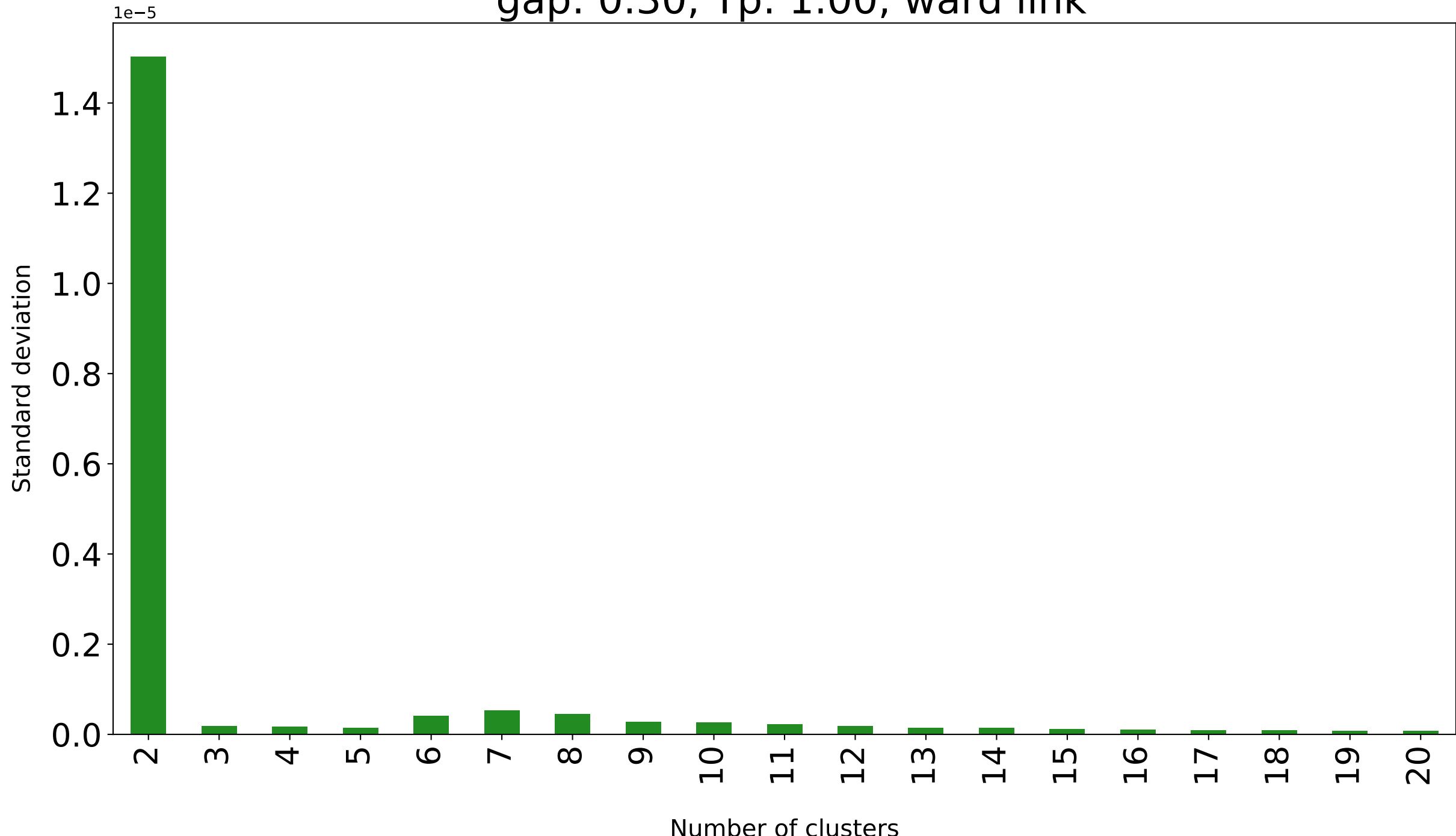Hierarchical Clustering Dendrogram - gap: 0.30, Tp: 1.00, ward link

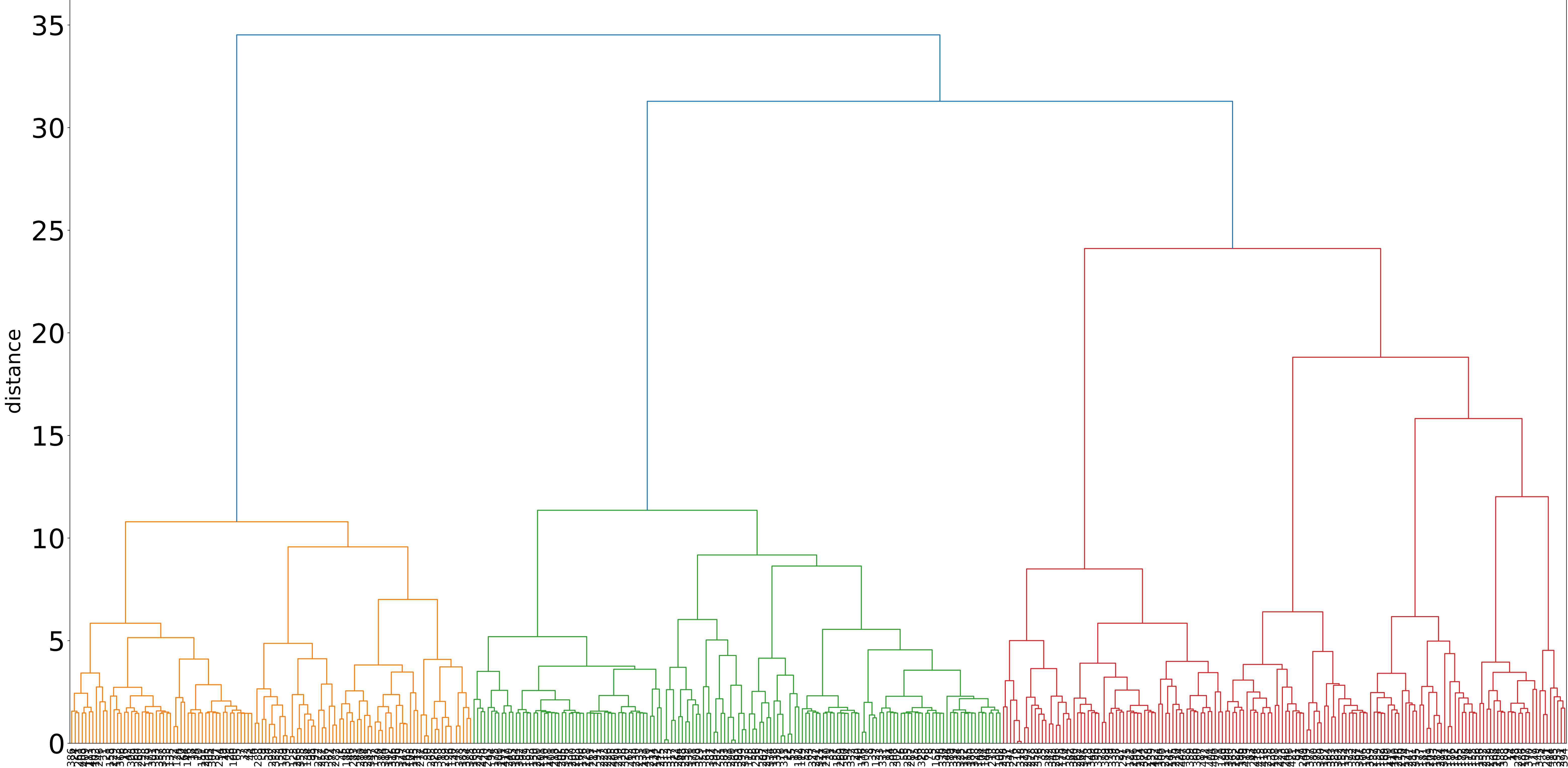Cophenetic Correlation Coefficient: 0.7823976270407127

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

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99999	0.80848	0.72686	0.54751	0.14555	0.55129	0.80785	-0.01801	0.80911	9e-05	0.69907	0.65337	0.06452	0.25932	0.23506
3.0	1.0	0.99433	0.98885	0.99095	0.00275	0.99144	0.99433	-0.90899	0.99433	0.00017	0.99242	0.97838	0.25	0.2803	0.26185
4.0	1.0	0.98997	0.98049	0.98651	0.00626	0.98625	0.98997	-1.76781	0.98998	0.0002	0.9893	0.96291	0.41237	0.30801	0.26185
5.0	1.0	0.98828	0.97717	0.98771	0.01099	0.98445	0.98827	-2.70918	0.98829	0.00021	0.98858	0.95662	0.71429	0.32458	0.26257
6.0	1.0	0.99294	0.98604	0.99564	0.00634	0.99074	0.99292	-3.67006	0.99296	0.00022	0.99332	0.97286	0.8	0.33693	0.26257
7.0	1.0	0.92397	0.86029	0.83874	0.04082	0.90526	0.92	-4.42432	0.92798	0.00021	0.93668	0.77667	1.17647	0.36656	0.31315
8.0	1.0	0.91964	0.85911	0.88133	0.0447	0.90294	0.91852	-5.61463	0.92077	0.00025	0.94621	0.7744	1.17647	0.30126	0.33937
9.0	1.0	0.89906	0.82267	0.87859	0.05533	0.88223	0.89884	-6.51423	0.89929	0.00028	0.94436	0.71161	1.50943	0.25807	0.33937
10.0	1.0	0.84816	0.73989	0.79311	0.07936	0.82604	0.84722	-6.91689	0.84911	0.00029	0.92509	0.5968	1.73913	0.25189	0.22793
11.0	1.0	0.84977	0.74227	0.85834	0.08482	0.83146	0.84922	-8.18242	0.85033	0.00034	0.93658	0.59809	1.73913	0.22686	0.22793
12.0	1.0	0.85366	0.74614	0.86933	0.08294	0.83756	0.85304	-9.50757	0.85428	0.00037	0.94327	0.59951	1.73913	0.20926	0.22793
13.0	1.0	0.87763	0.78418	0.88878	0.07286	0.86513	0.87725	-10.97701	0.87802	0.00041	0.95548	0.65051	1.73913	0.20538	0.22793
14.0	1.0	0.8544	0.74845	0.86126	0.08947	0.84041	0.85405	-12.74988	0.85476	0.00041	0.9501	0.60358	1.73913	0.18683	0.22793
15.0	1.0	0.83259	0.71583	0.8249	0.10584	0.8173	0.83235	-14.72598	0.83283	0.00042	0.94543	0.56223	1.73913	0.17493	0.22793
16.0	1.0	0.80682	0.67835	0.81373	0.12138	0.79062	0.80634	-15.48639	0.8073	0.00044	0.94174	0.51746	1.73913	0.16729	0.22793
17.0	1.0	0.79333	0.66016	0.7938	0.13154	0.7771	0.79294	-16.41326	0.79372	0.00045	0.94145	0.49727	2.0	0.16293	0.22793
18.0	1.0	0.76237	0.61754	0.77933	0.14342	0.74543	0.76144	-17.53188	0.76329	0.00047	0.93827	0.45024	2.0	0.1546	0.22793
19.0	1.0	0.77218	0.63069	0.78961	0.13813	0.75704	0.77131	-19.48845	0.77306	0.00051	0.94438	0.46442	2.0	0.15214	0.22793
20.0	1.0	0.77176	0.6309	0.77375	0.13998	0.75729	0.77132	-20.8054	0.7722	0.00053	0.94686	0.46486	2.0	0.1521	0.22793

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

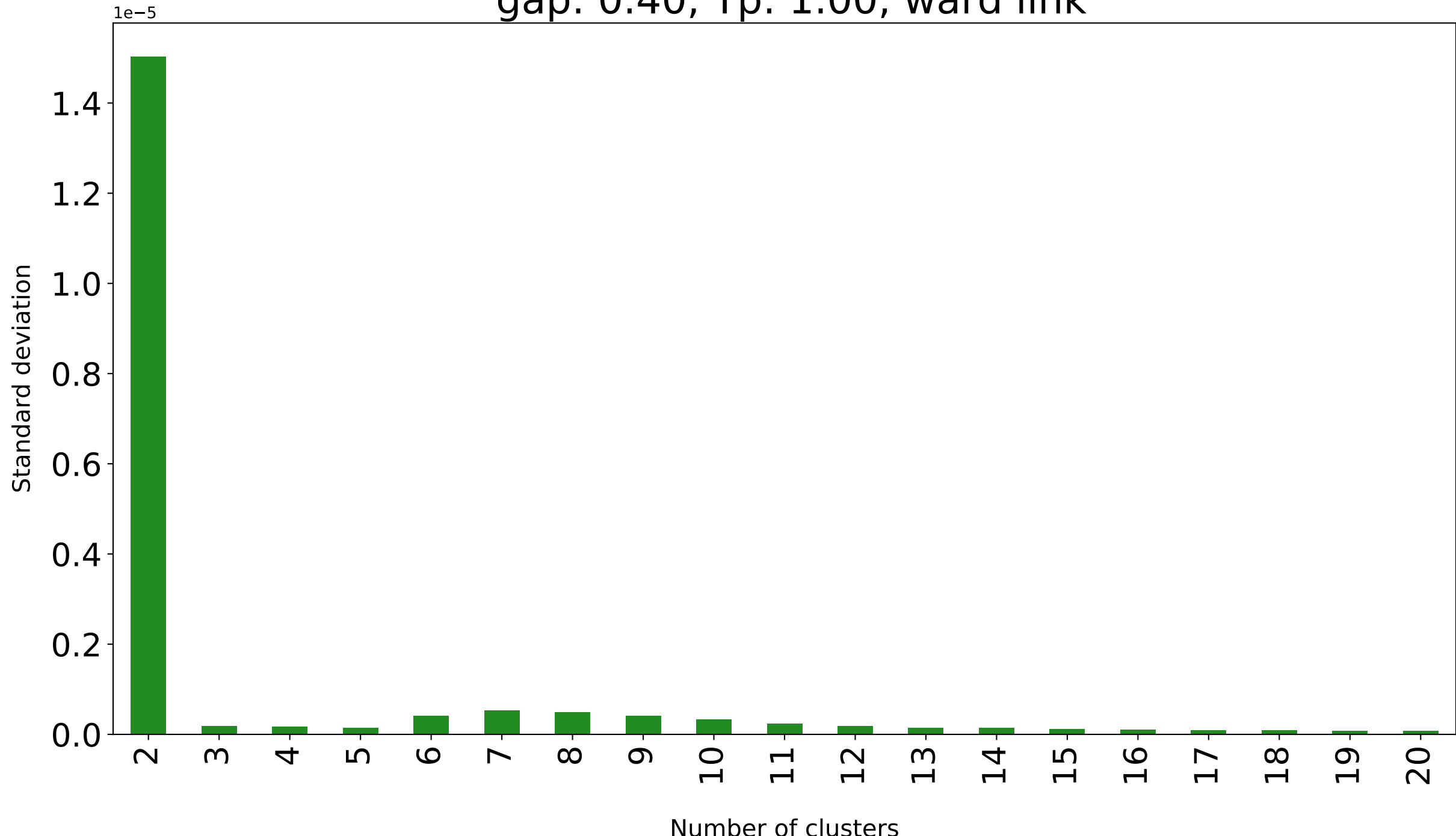Hierarchical Clustering Dendrogram - gap: 0.40, Tp: 1.00, ward link

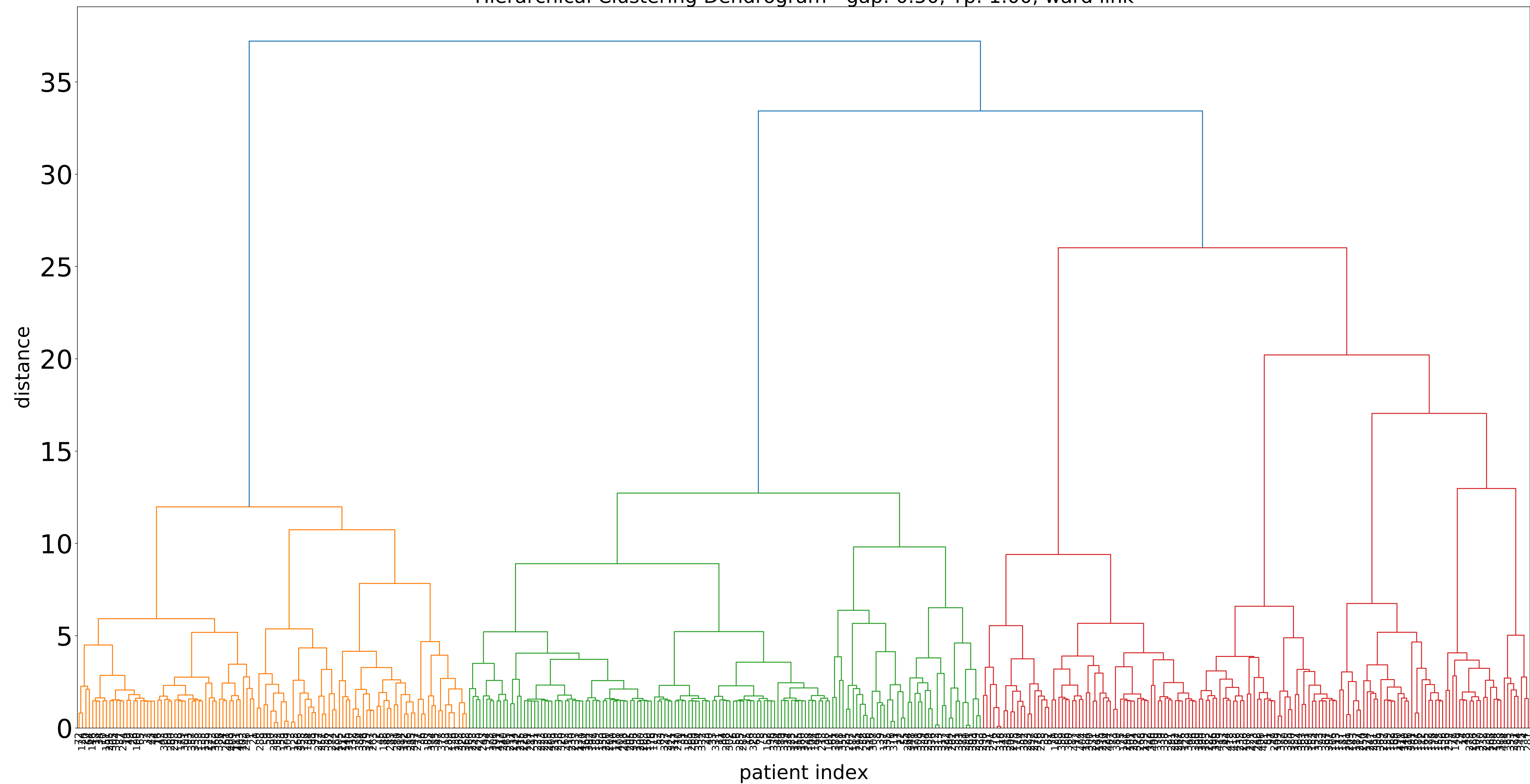Cophenetic Correlation Coefficient: 0.7656622741701294

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

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	0.99999	0.90538	0.8641	0.77441	0.07161	0.77736	0.90501	-0.16021	0.90576	0.00013	0.84966	0.82543	0.06129	0.26851	0.2326
3.0	1.0	0.99403	0.98826	0.9905	0.00294	0.99098	0.99403	-0.90593	0.99403	0.00017	0.99202	0.97725	0.2375	0.2876	0.26451
4.0	1.0	0.98964	0.97975	0.98589	0.00624	0.98582	0.98964	-1.76318	0.98965	0.0002	0.98896	0.96125	0.39175	0.31716	0.26451
5.0	1.0	0.98775	0.97617	0.98687	0.01098	0.98377	0.98774	-2.70659	0.98776	0.00021	0.98814	0.95483	0.67857	0.3347	0.26517
6.0	1.0	0.99176	0.98375	0.99419	0.00766	0.98921	0.99174	-3.65566	0.99179	0.00022	0.99223	0.96848	0.76	0.34748	0.26517
7.0	1.0	0.94367	0.89518	0.88075	0.03174	0.92919	0.94135	-4.43762	0.94601	0.00021	0.95218	0.82649	1.11765	0.37777	0.30436
8.0	1.0	0.82521	0.71071	0.79615	0.1019	0.78757	0.82405	-5.27356	0.82639	0.00021	0.88344	0.56983	1.11765	0.30892	0.33246
9.0	1.0	0.81579	0.69887	0.81328	0.10182	0.78416	0.81492	-6.31547	0.81666	0.00025	0.89792	0.55705	1.11765	0.269	0.33246
10.0	1.0	0.81306	0.69202	0.78972	0.0978	0.78449	0.8123	-6.96596	0.81383	0.00027	0.90564	0.54277	1.11765	0.26604	0.21811
11.0	1.0	0.8331	0.71881	0.83408	0.09167	0.81148	0.83213	-8.35457	0.83407	0.00032	0.92583	0.57186	1.11765	0.24786	0.22176
12.0	1.0	0.86248	0.76103	0.85762	0.07721	0.84669	0.86202	-9.85928	0.86293	0.00036	0.94475	0.62102	1.11765	0.24055	0.22176
13.0	1.0	0.90158	0.8221	0.90541	0.05819	0.89142	0.90132	-11.22695	0.90185	0.00041	0.9637	0.70175	1.11765	0.22594	0.22176
14.0	1.0	0.89724	0.81487	0.89639	0.06655	0.88718	0.89709	-12.21602	0.89739	0.00043	0.96398	0.69086	1.11765	0.22145	0.22176
15.0	1.0	0.87928	0.78587	0.88171	0.07847	0.86808	0.87905	-14.05788	0.8795	0.00044	0.95975	0.6506	1.11765	0.20195	0.22176
16.0	1.0	0.86593	0.76542	0.85959	0.09047	0.85408	0.86572	-16.10653	0.86615	0.00045	0.95728	0.62413	1.11765	0.18979	0.22176
17.0	1.0	0.8494	0.74003	0.82492	0.10281	0.83667	0.84902	-17.93554	0.84977	0.00046	0.95398	0.59158	1.46154	0.18401	0.22176
18.0	1.0	0.83243	0.71529	0.81044	0.11089	0.81919	0.83209	-18.43988	0.83278	0.00047	0.95198	0.5614	1.46154	0.18092	0.22176
19.0	1.0	0.82341	0.70221	0.80591	0.11278	0.8104	0.82303	-20.21104	0.82379	0.0005	0.95256	0.54569	2.0	0.17369	0.22176
20.0	1.0	0.80823	0.68019	0.81739	0.11773	0.79531	0.80759	-21.49338	0.80887	0.00053	0.95247	0.51985	2.0	0.1667	0.22176

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

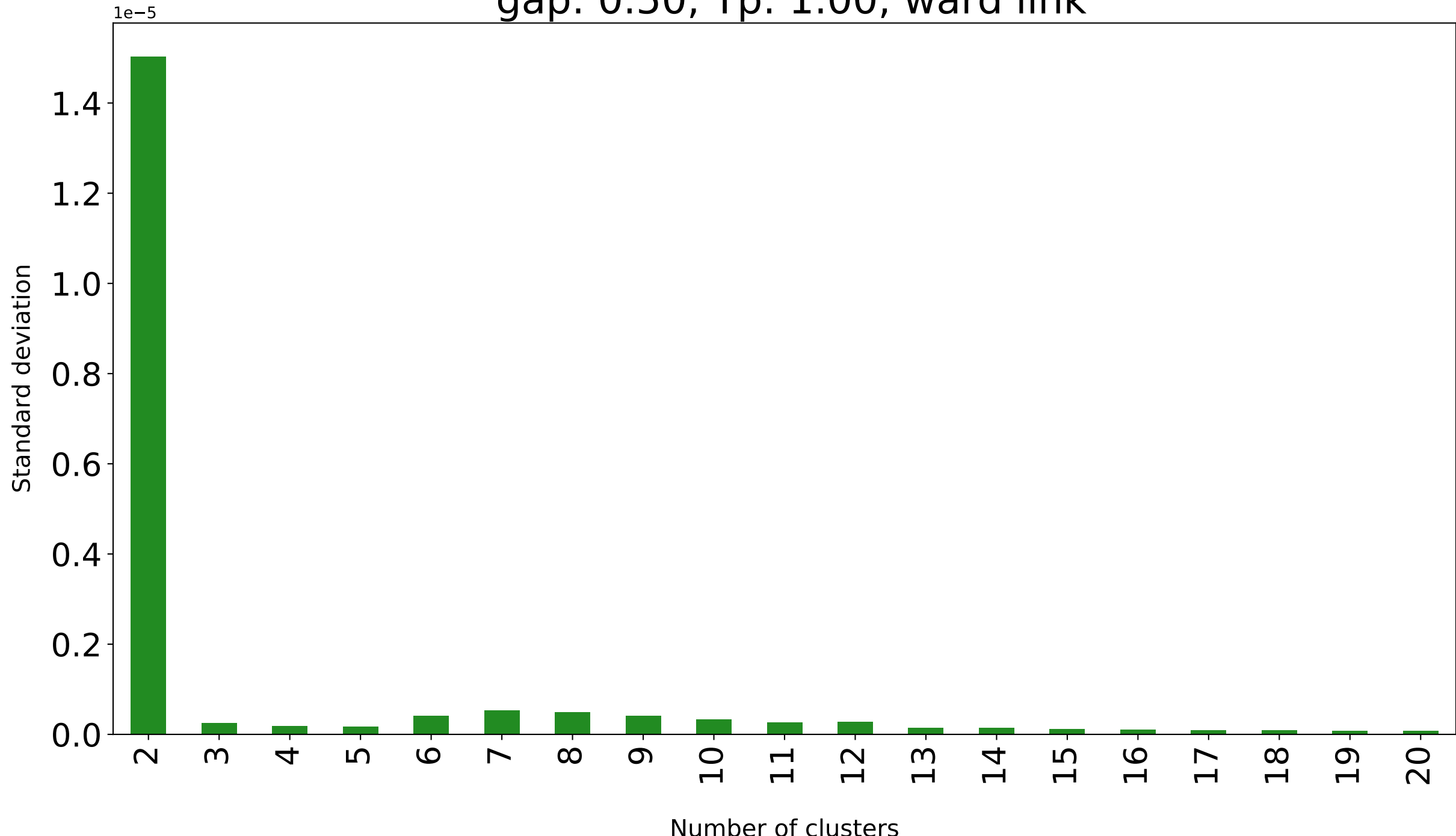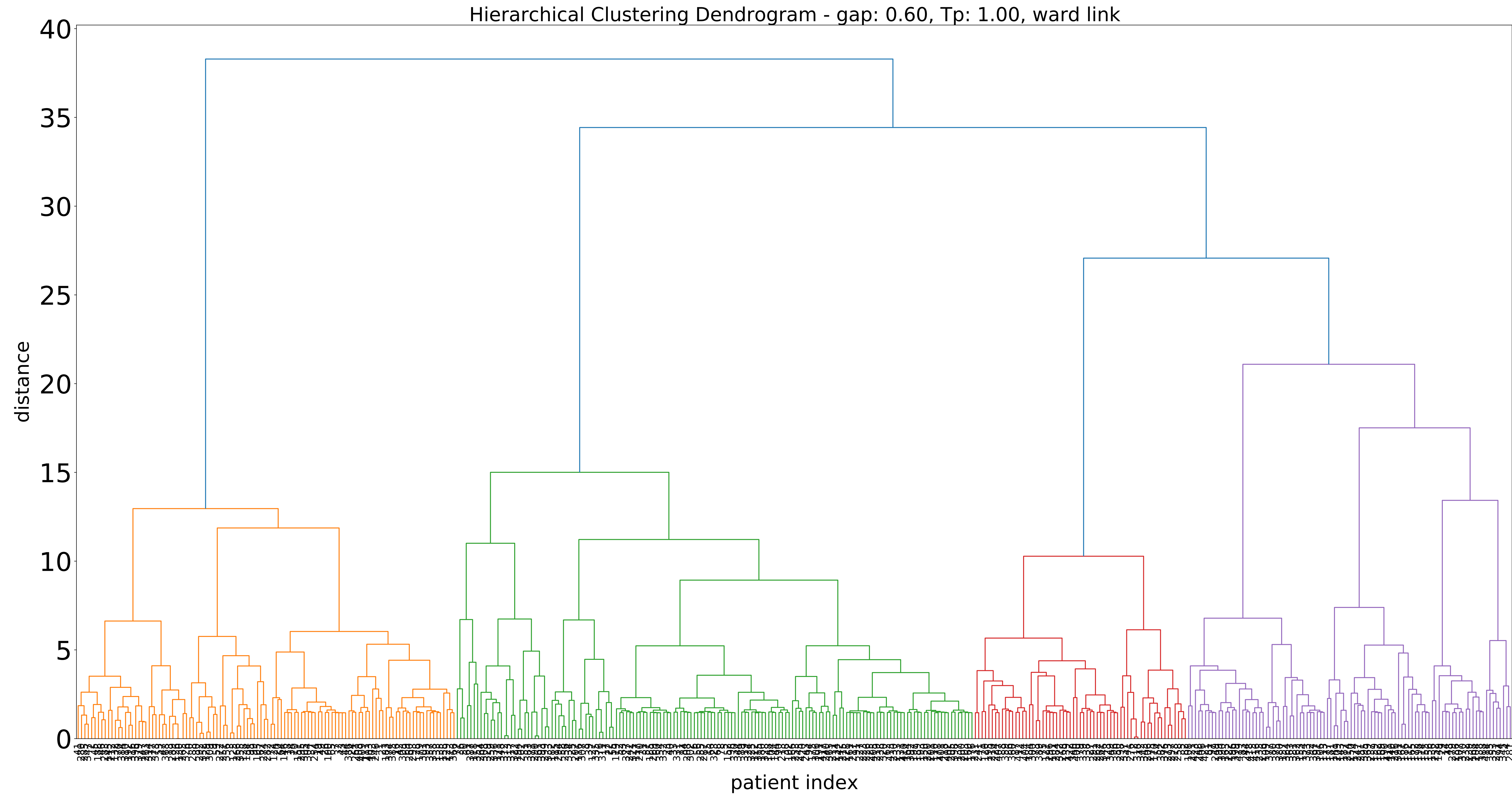Hierarchical Clustering Dendrogram - gap: 0.50, Tp: 1.00, ward link

Cophenetic Correlation Coefficient: 0.7520153864248132

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

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.97436	0.96176	0.9376	0.01912	0.9392	0.97424	-0.26004	0.97448	0.00015	0.95716	0.9475	0.0129	0.27436	0.23447
3.0	1.0	0.99227	0.98492	0.98802	0.00385	0.98831	0.99227	-0.89828	0.99227	0.00017	0.98971	0.97114	0.05	0.29154	0.26465
4.0	1.0	0.98727	0.97532	0.98273	0.0076	0.98257	0.98727	-1.74872	0.98728	0.0002	0.98648	0.95336	0.08247	0.32224	0.26465
5.0	1.0	0.98547	0.97188	0.98408	0.01252	0.98073	0.98545	-2.68763	0.98549	0.00021	0.98591	0.94714	0.14286	0.34054	0.26524
6.0	1.0	0.99009	0.98051	0.99161	0.00869	0.98701	0.99006	-3.63621	0.99011	0.00022	0.99066	0.96243	0.16	0.35354	0.26524
7.0	1.0	0.9272	0.86413	0.84375	0.04144	0.90838	0.92431	-4.38279	0.93011	0.00021	0.93803	0.77388	0.23529	0.38401	0.29511
8.0	1.0	0.88152	0.79436	0.84649	0.06542	0.85566	0.87996	-5.43843	0.88308	0.00023	0.91796	0.6774	0.23529	0.31908	0.32846
9.0	1.0	0.90096	0.8228	0.91355	0.06092	0.88337	0.90009	-6.513	0.90184	0.00027	0.94143	0.70864	0.23529	0.28207	0.32011
10.0	1.0	0.9015	0.82554	0.90968	0.06387	0.88574	0.90077	-7.22608	0.90223	0.00029	0.94682	0.71524	0.23529	0.27941	0.21217
11.0	1.0	0.88905	0.80765	0.87061	0.07196	0.87293	0.88821	-8.60764	0.88988	0.0003	0.94507	0.69425	0.23529	0.27072	0.2196
12.0	1.0	0.86899	0.77824	0.83782	0.07731	0.85208	0.86757	-9.93055	0.87041	0.00032	0.94132	0.65988	0.23529	0.25376	0.2196
13.0	1.0	0.89557	0.81209	0.92295	0.06118	0.88477	0.89413	-11.27281	0.89703	0.00041	0.96055	0.69094	0.23529	0.2256	0.2196
14.0	1.0	0.9165	0.8468	0.92929	0.0553	0.90845	0.91621	-12.4483	0.91679	0.00045	0.97092	0.73772	0.34783	0.22208	0.2196
15.0	1.0	0.90612	0.82949	0.91377	0.0655	0.89734	0.90589	-14.52807	0.90634	0.00045	0.96829	0.71213	0.57143	0.21852	0.22908
16.0	1.0	0.89099	0.80428	0.90553	0.0762	0.88133	0.89056	-16.41656	0.89142	0.00046	0.96491	0.6759	0.57143	0.20006	0.22908
17.0	1.0	0.89191	0.80624	0.89637	0.07802	0.88262	0.89163	-18.25866	0.8922	0.00048	0.96623	0.67911	0.57143	0.19969	0.22908
18.0	1.0	0.88819	0.80033	0.87694	0.08008	0.87886	0.88791	-19.7889	0.88847	0.00049	0.96604	0.67107	2.0	0.19822	0.24836
19.0	1.0	0.85633	0.75018	0.86902	0.09992	0.84524	0.85579	-20.51803	0.85686	0.0005	0.95939	0.60432	2.0	0.18848	0.24836
20.0	1.0	0.83538	0.71827	0.86014	0.11084	0.82349	0.83437	-22.15895	0.8364	0.00051	0.95608	0.56441	2.0	0.1793	0.24836

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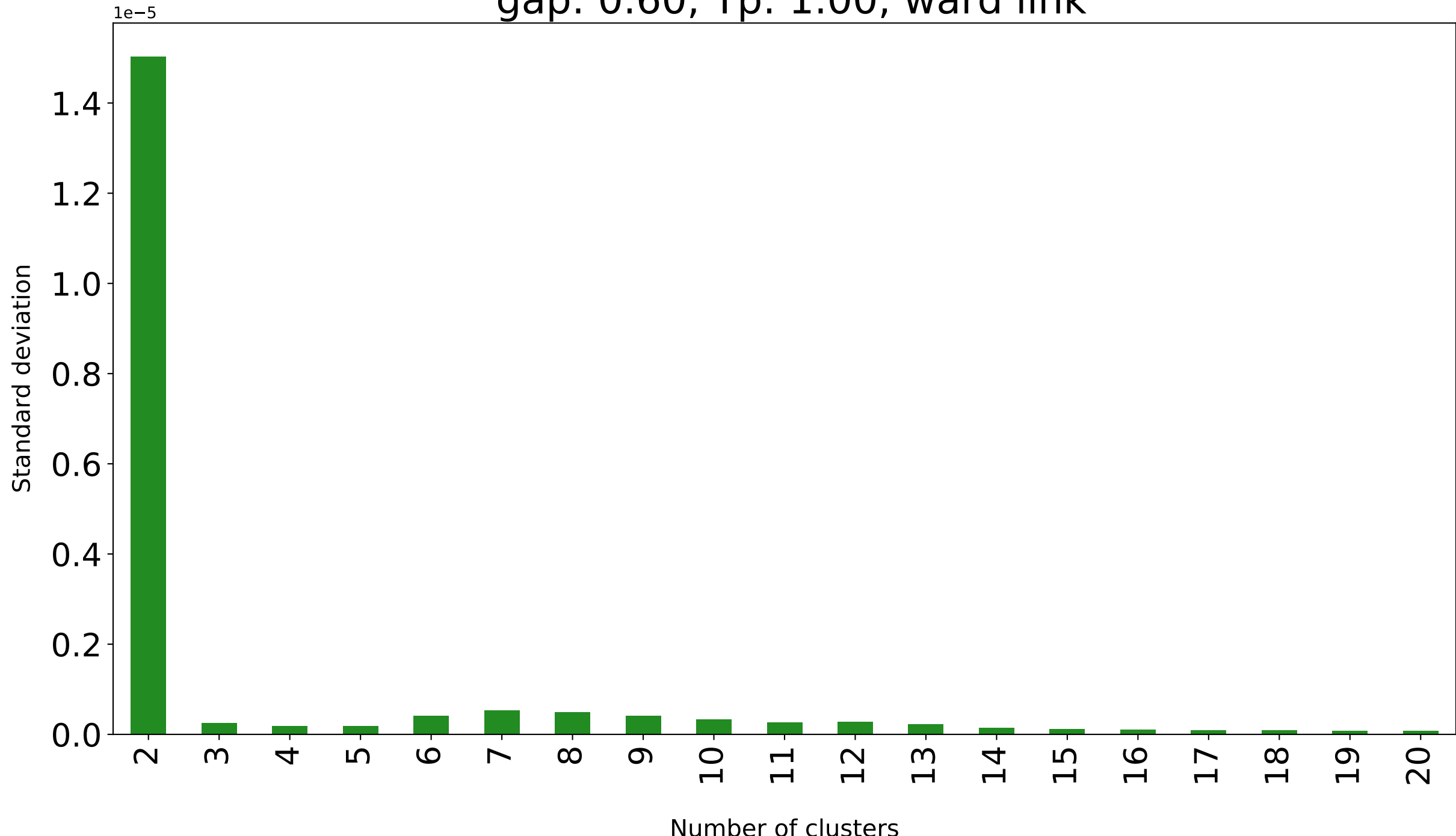gap: 0.50, Tp: 1.00, ward link

Hierarchical Clustering Dendrogram - gap: 0.60, Tp: 1.00, ward link

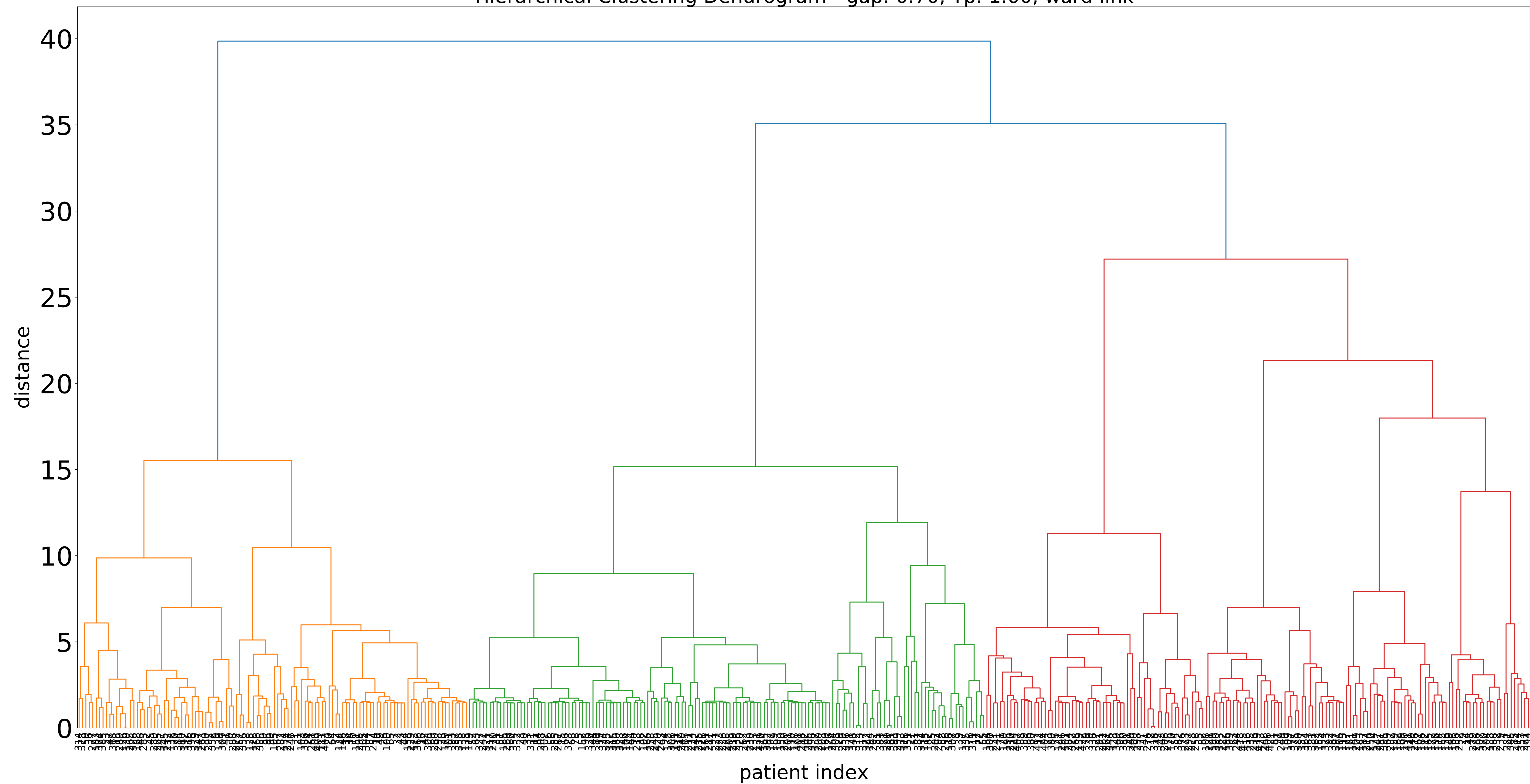Cophenetic Correlation Coefficient: 0.7187601697611218

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

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.98041	0.96751	0.94256	0.01354	0.95196	0.98033	-0.26126	0.98049	0.00016	0.96226	0.9478	0.03077	0.27239	0.15541
3.0	1.0	0.98406	0.96883	0.97397	0.0082	0.97588	0.98406	-0.87835	0.98406	0.00017	0.97871	0.9403	0.03571	0.28568	0.17514
4.0	1.0	0.97666	0.95481	0.96457	0.01226	0.96798	0.97665	-1.70914	0.97667	0.00019	0.97512	0.91495	0.04167	0.31798	0.17514
5.0	1.0	0.97245	0.9469	0.96192	0.01936	0.96341	0.97243	-2.61709	0.97246	0.0002	0.97327	0.90096	0.07273	0.33775	0.17514
6.0	1.0	0.97789	0.95695	0.96953	0.01326	0.97099	0.97787	-3.55253	0.97791	0.00021	0.97921	0.91834	0.12903	0.35061	0.17514
7.0	1.0	0.89141	0.80549	0.87331	0.06333	0.86438	0.89056	-4.48366	0.89227	0.00021	0.91623	0.68015	0.28571	0.29293	0.18269
8.0	1.0	0.85571	0.7471	0.76943	0.08721	0.82367	0.85282	-5.28247	0.85863	0.00021	0.89698	0.60317	0.28571	0.32709	0.18608
9.0	1.0	0.85366	0.74602	0.7917	0.08847	0.8255	0.85247	-6.15935	0.85486	0.00024	0.90873	0.60088	0.28571	0.30025	0.17662
10.0	1.0	0.85833	0.75284	0.80527	0.08241	0.83349	0.85751	-6.89008	0.85914	0.00026	0.91825	0.60803	0.28571	0.29166	0.17662
11.0	1.0	0.90206	0.82572	0.90214	0.07047	0.88714	0.9015	-8.39241	0.90262	0.0003	0.94934	0.7133	0.28571	0.27018	0.17662
12.0	1.0	0.88704	0.802	0.85376	0.07915	0.87091	0.88611	-9.90395	0.88797	0.00031	0.94467	0.68104	1.14286	0.25726	0.22029
13.0	1.0	0.85787	0.75495	0.79054	0.08548	0.84074	0.85432	-11.36227	0.86145	0.00033	0.93803	0.62423	1.14286	0.24553	0.22029
14.0	1.0	0.90596	0.82972	0.9088	0.06361	0.89662	0.90553	-12.64014	0.9064	0.00043	0.96635	0.7138	1.14286	0.21844	0.22029
15.0	1.0	0.90186	0.82232	0.89545	0.07176	0.89248	0.90176	-14.72238	0.90195	0.00044	0.96634	0.70093	1.14286	0.21759	0.22029
16.0	1.0	0.87827	0.78381	0.88241	0.09053	0.86717	0.87807	-16.53904	0.87847	0.00045	0.96004	0.64684	1.14286	0.19893	0.22029
17.0	1.0	0.88296	0.79161	0.88049	0.0903	0.87255	0.88282	-18.36136	0.88311	0.00046	0.9624	0.65796	1.14286	0.19654	0.22029
18.0	1.0	0.88244	0.79073	0.86579	0.08885	0.87218	0.88226	-19.86263	0.88263	0.00046	0.96287	0.65674	2.0	0.21338	0.25667
19.0	1.0	0.88111	0.78854	0.85529	0.09109	0.87101	0.88076	-21.08734	0.88146	0.00047	0.96327	0.65416	2.0	0.21885	0.25667
20.0	1.0	0.88467	0.79437	0.86035	0.0865	0.87526	0.88428	-22.40047	0.88506	0.00049	0.96558	0.66255	2.0	0.20916	0.25667

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

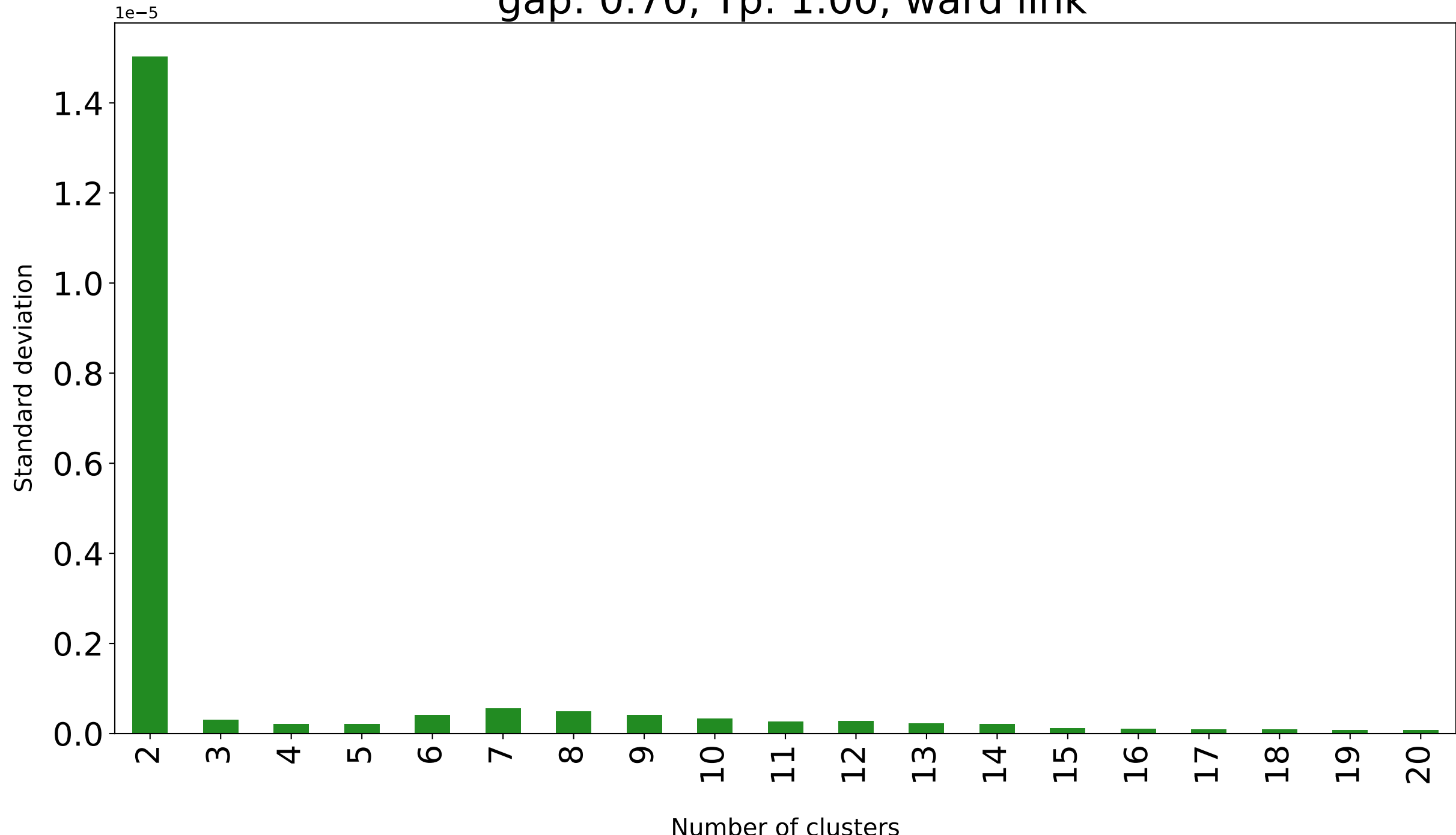Hierarchical Clustering Dendrogram - gap: 0.70, Tp: 1.00, ward link

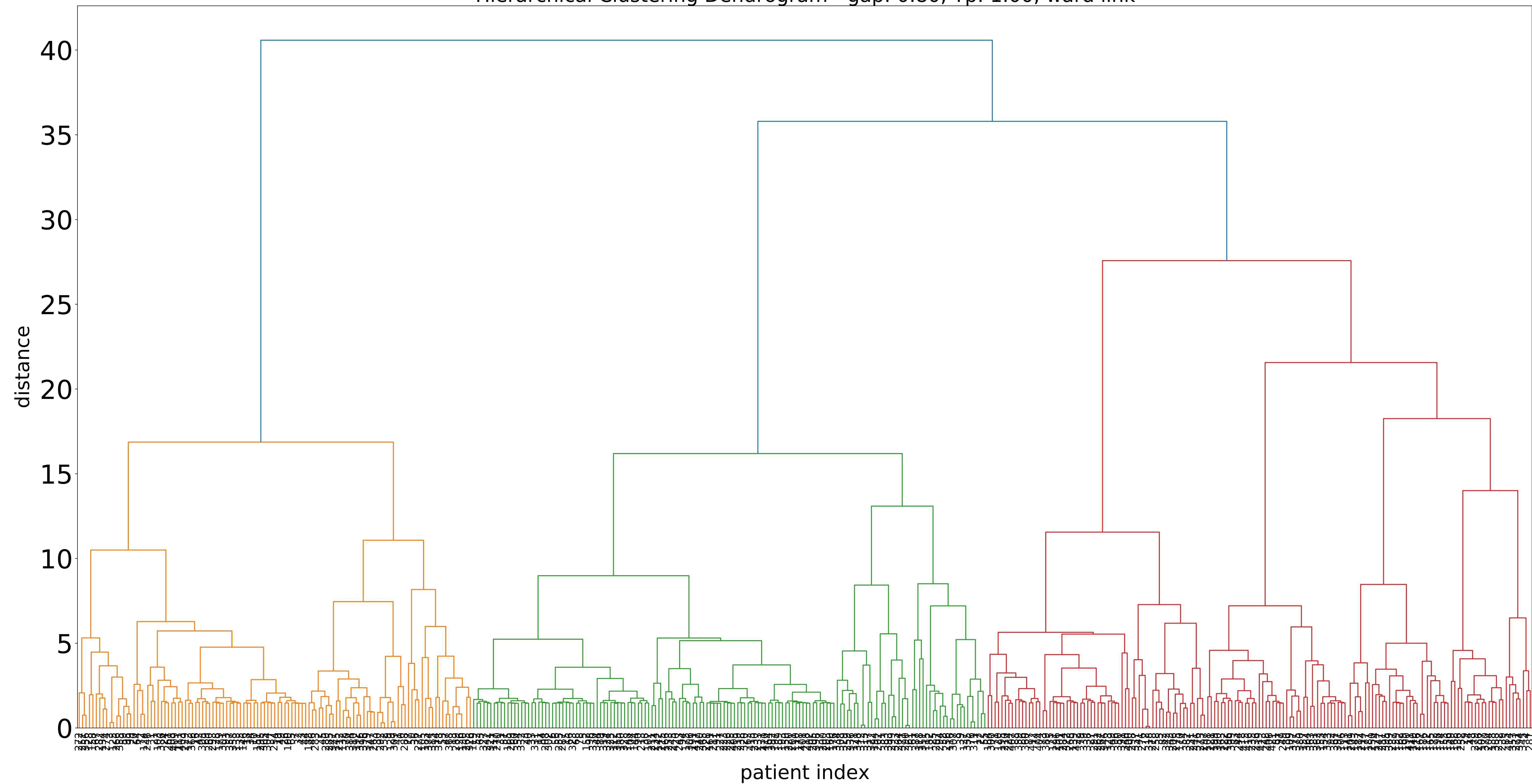Cophenetic Correlation Coefficient: 0.6949553053179386

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

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.98225	0.97292	0.95676	0.01299	0.95763	0.98217	-0.27071	0.98234	0.00016	0.96942	0.96139	0.01075	0.26866	0.21105
3.0	1.0	0.98924	0.97907	0.98387	0.00531	0.98373	0.98924	-0.89225	0.98924	0.00017	0.9857	0.96015	0.02208	0.28286	0.25134
4.0	1.0	0.98187	0.96492	0.97508	0.01064	0.97513	0.98186	-1.72737	0.98188	0.00019	0.98069	0.93401	0.05208	0.3108	0.25134
5.0	1.0	0.97741	0.95653	0.9725	0.01969	0.96999	0.97739	-2.62989	0.97744	0.00021	0.97806	0.91911	0.06173	0.33111	0.25183
6.0	1.0	0.98152	0.96449	0.97256	0.01282	0.97593	0.98135	-3.59154	0.98169	0.00021	0.98292	0.93469	0.11111	0.34761	0.25183
7.0	1.0	0.86617	0.77306	0.82907	0.07243	0.83285	0.86561	-3.85913	0.86673	0.0002	0.89975	0.6505	0.11111	0.30811	0.19981
8.0	1.0	0.88993	0.80207	0.93505	0.06326	0.8691	0.88708	-5.26881	0.89281	0.00026	0.92915	0.68011	0.11111	0.25889	0.19981
9.0	1.0	0.907	0.83162	0.91768	0.05801	0.89021	0.90605	-6.4189	0.90795	0.00027	0.9439	0.7193	0.11111	0.29403	0.20807
10.0	1.0	0.91464	0.84476	0.91302	0.0596	0.90024	0.91422	-7.72922	0.91506	0.00029	0.9517	0.73778	0.13889	0.27891	0.20807
11.0	1.0	0.89836	0.8177	0.89847	0.07078	0.88256	0.89795	-8.85843	0.89878	0.0003	0.94658	0.69801	0.13889	0.26676	0.20807
12.0	1.0	0.91388	0.84352	0.92185	0.06325	0.90162	0.91331	-9.91498	0.91445	0.00032	0.95765	0.73577	0.13889	0.26124	0.20807
13.0	1.0	0.8967	0.81882	0.87923	0.07523	0.88371	0.89526	-10.94113	0.89816	0.00034	0.95403	0.70935	0.19608	0.25753	0.18857
14.0	1.0	0.84433	0.73322	0.7635	0.09723	0.82655	0.83997	-12.49195	0.84872	0.00034	0.93489	0.59627	2.0	0.24651	0.2486
15.0	1.0	0.89747	0.81535	0.90969	0.07241	0.88761	0.89661	-13.66937	0.89835	0.00044	0.96409	0.6938	2.0	0.21858	0.2486
16.0	1.0	0.90517	0.82801	0.90551	0.07089	0.89641	0.90493	-15.87016	0.90541	0.00046	0.96831	0.71007	2.0	0.22032	0.2486
17.0	1.0	0.90574	0.82892	0.89913	0.0742	0.89725	0.90564	-17.72105	0.90584	0.00047	0.9693	0.7109	2.0	0.21665	0.2486
18.0	1.0	0.90008	0.81958	0.88435	0.08107	0.8913	0.89994	-18.90804	0.90022	0.00047	0.96818	0.69753	2.0	0.22363	0.2486
19.0	1.0	0.89777	0.81571	0.88143	0.08331	0.88904	0.89761	-19.55476	0.89793	0.00048	0.96828	0.69197	2.0	0.22002	0.2486
20.0	1.0	0.89881	0.81738	0.89879	0.08263	0.89056	0.89863	-21.56505	0.89899	0.0005	0.96989	0.69433	2.0	0.20515	0.2486

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

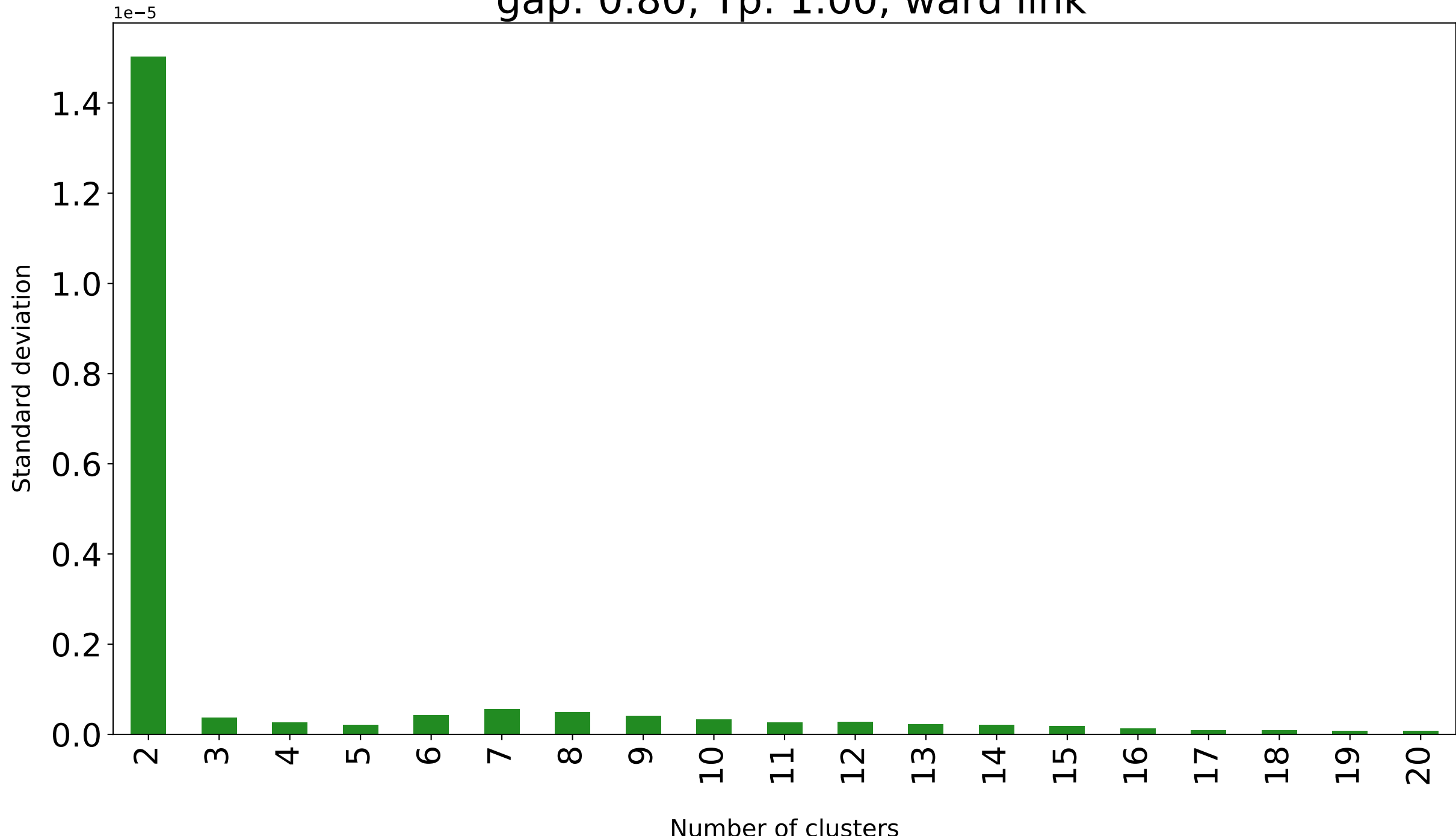Hierarchical Clustering Dendrogram - gap: 0.80, Tp: 1.00, ward link

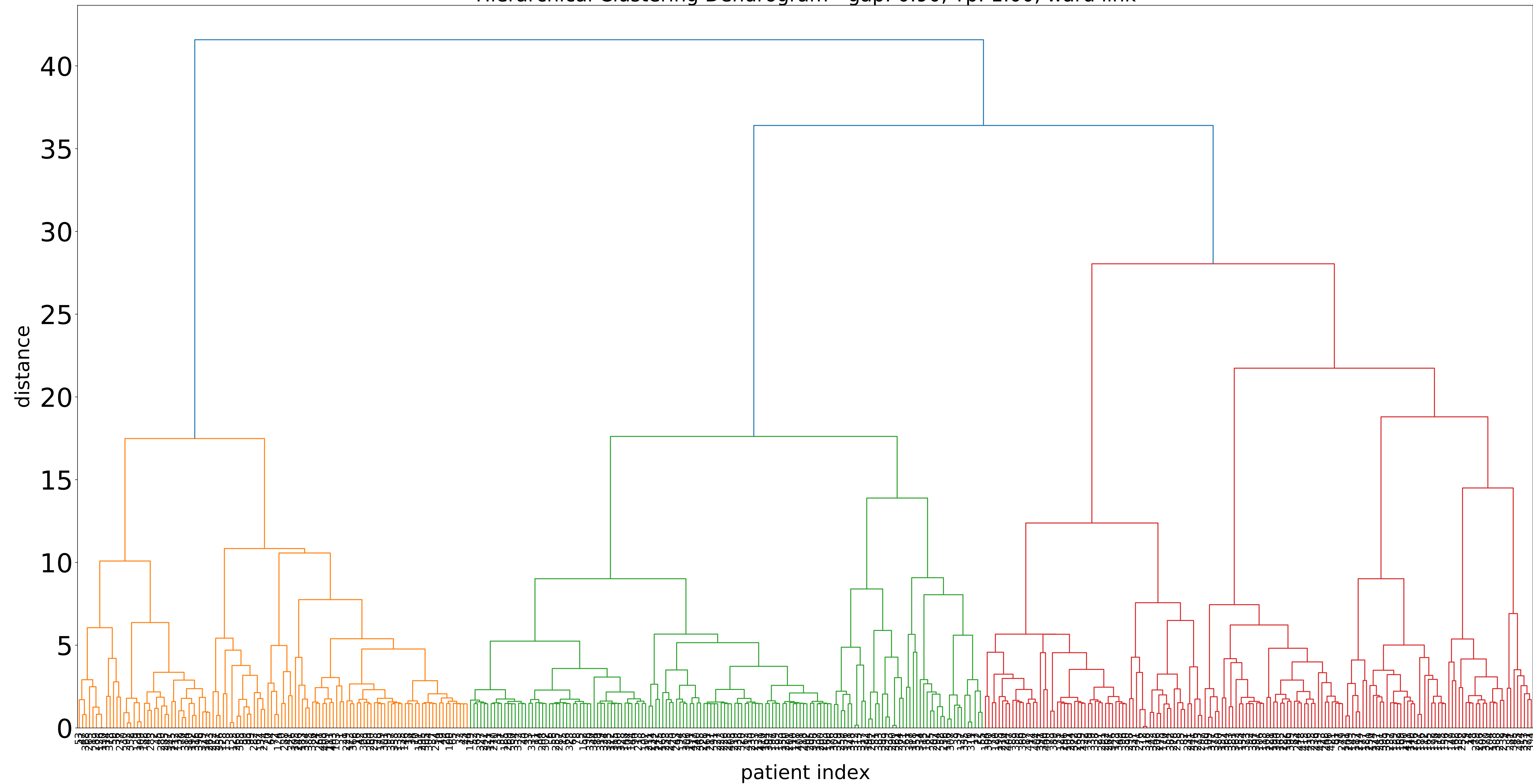Cophenetic Correlation Coefficient: 0.6676535721146479

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

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.98074	0.97007	0.9547	0.01391	0.95386	0.98066	-0.2636	0.98082	0.00016	0.96603	0.95608	0.0	0.26086	0.1975
3.0	1.0	0.98781	0.97646	0.98185	0.00616	0.98159	0.98781	-0.88023	0.98781	0.00017	0.98391	0.9557	0.02516	0.27681	0.23563
4.0	1.0	0.97913	0.95991	0.97304	0.01277	0.97138	0.97912	-1.70874	0.97915	0.00019	0.97787	0.92544	0.0625	0.30478	0.23563
5.0	1.0	0.97573	0.95333	0.97282	0.02101	0.96779	0.9757	-2.60831	0.97576	0.00021	0.97649	0.9133	0.07407	0.32463	0.23563
6.0	1.0	0.95686	0.92044	0.92526	0.02952	0.94467	0.956	-3.50701	0.95771	0.00021	0.9622	0.86533	0.13333	0.3412	0.23563
7.0	1.0	0.84698	0.74343	0.79708	0.08238	0.80962	0.84633	-3.81124	0.84763	0.0002	0.88761	0.61152	0.13333	0.30584	0.19972
8.0	1.0	0.90325	0.82517	0.9313	0.05777	0.88525	0.90171	-5.34572	0.9048	0.00026	0.93963	0.71155	0.13333	0.25877	0.20241
9.0	1.0	0.91327	0.84234	0.91365	0.05818	0.89782	0.91277	-6.44686	0.91377	0.00028	0.9486	0.7341	0.13333	0.29201	0.22125
10.0	1.0	0.91866	0.85142	0.91144	0.05892	0.90499	0.9183	-7.72589	0.91902	0.00029	0.9541	0.74715	0.18182	0.28096	0.22125
11.0	1.0	0.90161	0.82257	0.90087	0.07125	0.88637	0.90123	-8.86072	0.90199	0.0003	0.94836	0.7039	0.18182	0.26622	0.22125
12.0	1.0	0.90314	0.82468	0.8973	0.07789	0.889	0.90287	-9.75367	0.90341	0.00031	0.9517	0.70562	0.42105	0.25455	0.21451
13.0	1.0	0.9288	0.86879	0.93751	0.06309	0.91931	0.92817	-10.97409	0.92945	0.00034	0.96663	0.77412	0.42105	0.25054	0.21451
14.0	1.0	0.82632	0.6983	0.92026	0.10396	0.80816	0.81907	-11.74148	0.83366	0.00037	0.93047	0.54456	0.42105	0.21611	0.21451
15.0	1.0	0.86551	0.76329	0.91193	0.08753	0.85205	0.86201	-13.46011	0.86905	0.00041	0.94964	0.62775	2.0	0.21201	0.21451
16.0	1.0	0.89461	0.81091	0.90767	0.07672	0.88471	0.89353	-15.75879	0.8957	0.00045	0.96372	0.68843	2.0	0.21626	0.21451
17.0	1.0	0.90543	0.82832	0.90512	0.07579	0.8969	0.90522	-17.68514	0.90565	0.00047	0.96907	0.71015	2.0	0.21554	0.21451
18.0	1.0	0.90409	0.82613	0.89371	0.07775	0.89561	0.904	-19.16844	0.90417	0.00047	0.96931	0.70669	2.0	0.22041	0.25122
19.0	1.0	0.90243	0.82341	0.89305	0.07915	0.89404	0.90235	-19.7991	0.90252	0.00048	0.96954	0.70279	2.0	0.21877	0.25122
20.0	1.0	0.89957	0.81851	0.8856	0.08144	0.8911	0.89943	-21.08813	0.8997	0.00049	0.9692	0.69555	2.0	0.22267	0.25122

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

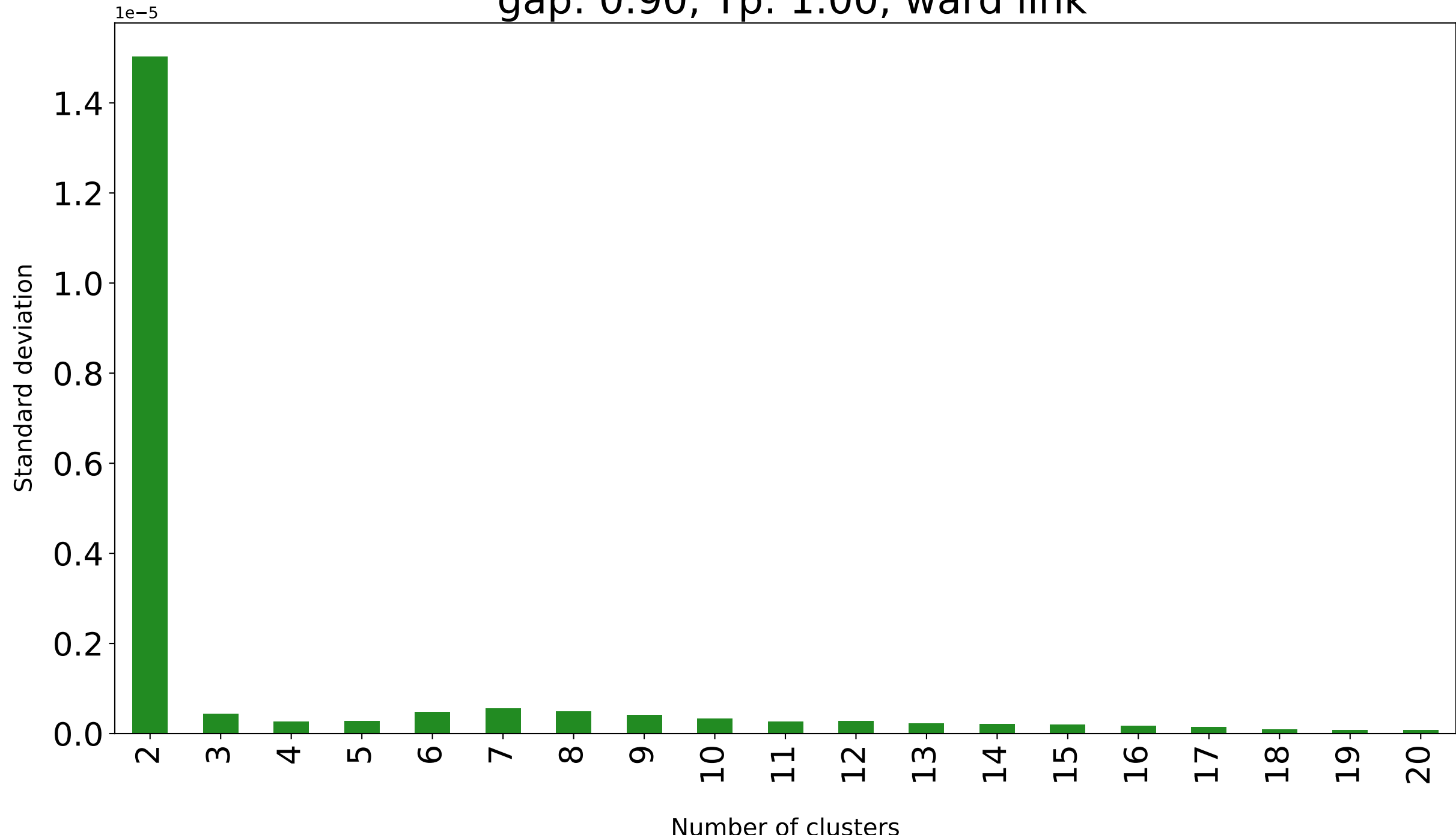Hierarchical Clustering Dendrogram - gap: 0.90, Tp: 1.00, ward link

patient index

distance

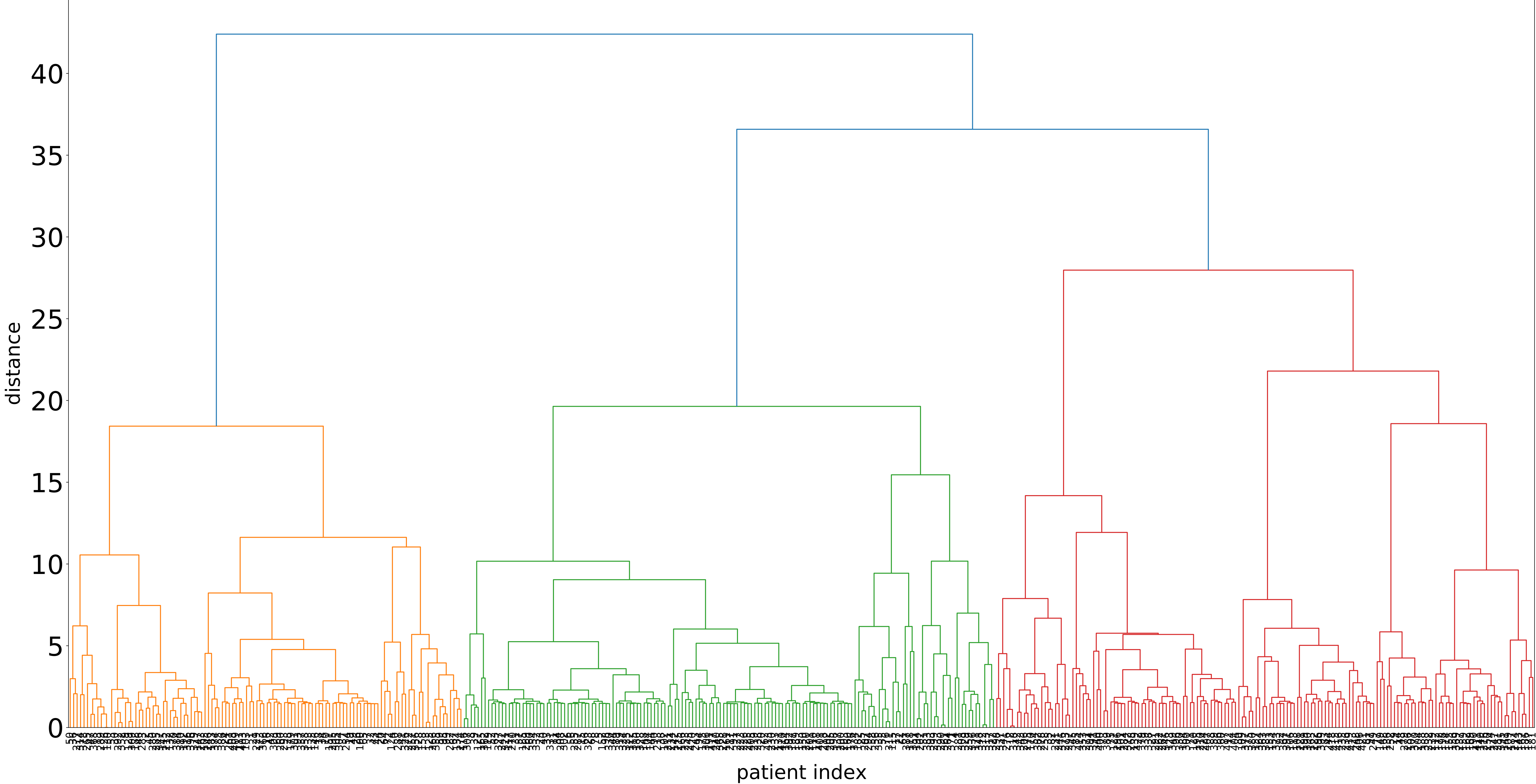Cophenetic Correlation Coefficient: 0.6411699189912075

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

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.97864	0.96685	0.94702	0.01559	0.94915	0.97855	-0.26264	0.97872	0.00016	0.96252	0.95166	0.0	0.26012	0.18559
3.0	1.0	0.9826	0.96658	0.97316	0.00867	0.97372	0.9826	-0.86466	0.9826	0.00017	0.97712	0.93779	0.03333	0.27455	0.2163
4.0	1.0	0.97543	0.95288	0.96979	0.01438	0.96631	0.97542	-1.69335	0.97545	0.00019	0.97397	0.91271	0.05556	0.30217	0.2163
5.0	1.0	0.96971	0.94239	0.96763	0.0254	0.95982	0.96963	-2.58284	0.96979	0.0002	0.97081	0.89491	0.09697	0.31982	0.2163
6.0	1.0	0.92269	0.85971	0.86249	0.05182	0.90121	0.92113	-3.4138	0.92425	0.0002	0.93356	0.76904	0.10667	0.33644	0.2163
7.0	1.0	0.88764	0.807	0.88133	0.06435	0.86171	0.88679	-4.45451	0.8885	0.00022	0.91976	0.69809	0.10667	0.27124	0.22705
8.0	1.0	0.90256	0.82466	0.9133	0.05992	0.88443	0.90167	-5.35633	0.90346	0.00027	0.94	0.70978	0.10667	0.26318	0.1445
9.0	1.0	0.90875	0.83475	0.89732	0.06273	0.89244	0.90834	-6.42381	0.90915	0.00027	0.946	0.72234	0.15686	0.29249	0.15735
10.0	1.0	0.90873	0.83441	0.88866	0.06585	0.89336	0.90843	-7.65637	0.90902	0.00029	0.94864	0.72082	0.15686	0.28119	0.17308
11.0	1.0	0.89662	0.81453	0.88419	0.0746	0.88048	0.8964	-8.79202	0.89685	0.0003	0.94566	0.6922	0.15686	0.27007	0.17308
12.0	1.0	0.90776	0.83197	0.91064	0.0714	0.89445	0.90744	-9.64362	0.90808	0.00032	0.95432	0.71556	0.15686	0.2625	0.17308
13.0	1.0	0.91706	0.84795	0.91596	0.07057	0.90577	0.9167	-10.18727	0.91743	0.00034	0.96077	0.73968	0.33333	0.25698	0.17379
14.0	1.0	0.91353	0.84367	0.90649	0.07355	0.90251	0.91267	-11.32844	0.9144	0.00035	0.96112	0.73792	0.33333	0.25379	0.17379
15.0	1.0	0.88759	0.80246	0.84922	0.08562	0.8743	0.88532	-12.90131	0.88988	0.00035	0.95203	0.68544	2.0	0.24461	0.19004
16.0	1.0	0.85061	0.74005	0.89324	0.09628	0.83602	0.84716	-13.83299	0.8541	0.00041	0.94566	0.59621	2.0	0.21498	0.19004
17.0	1.0	0.87479	0.77855	0.89388	0.08641	0.86319	0.87307	-16.11435	0.87654	0.00044	0.95722	0.64421	2.0	0.22095	0.19004
18.0	1.0	0.88848	0.80046	0.88939	0.08325	0.87858	0.88793	-18.11434	0.88904	0.00046	0.96394	0.67114	2.0	0.21866	0.19004
19.0	1.0	0.89169	0.80546	0.88125	0.08568	0.88236	0.89158	-19.37169	0.89181	0.00048	0.96617	0.67655	2.0	0.22611	0.19004
20.0	1.0	0.89913	0.81763	0.89554	0.08455	0.89068	0.89902	-21.3897	0.89923	0.00049	0.96927	0.69384	2.0	0.22392	0.19004

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

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

patient index

distance

Cophenetic Correlation Coefficient: 0.6125325428254579

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

k	AR	FM	J	AW	VD	H	F	VI	K	Phi	RT	SS	CVNN	S	Dunn
2.0	1.0	0.97254	0.9577	0.93139	0.0197	0.93453	0.97246	-0.25256	0.97263	0.00015	0.95225	0.93888	0.0	0.25669	0.17503
3.0	1.0	0.96654	0.93635	0.94896	0.01663	0.94949	0.96654	-0.82272	0.96654	0.00017	0.95635	0.8835	0.03463	0.26606	0.19175
4.0	1.0	0.95422	0.91354	0.93917	0.02701	0.93717	0.95419	-1.61128	0.95424	0.00019	0.95184	0.84406	0.06202	0.28543	0.19175
5.0	1.0	0.94202	0.89328	0.91601	0.04252	0.92311	0.9418	-2.59246	0.94224	0.00019	0.94498	0.81488	0.06857	0.31152	0.19175
6.0	1.0	0.8752	0.78367	0.86582	0.07758	0.84316	0.87444	-3.21271	0.87596	0.00021	0.90327	0.65669	0.11594	0.25162	0.19175
7.0	1.0	0.86541	0.76751	0.80173	0.08411	0.83517	0.86397	-4.45588	0.86686	0.00022	0.90508	0.63623	0.15686	0.30103	0.19175
8.0	1.0	0.87644	0.78181	0.84184	0.07653	0.85313	0.876	-5.3263	0.87688	0.00025	0.92432	0.64654	0.15686	0.29192	0.13242
9.0	1.0	0.87373	0.77697	0.82858	0.08555	0.85113	0.87322	-6.38658	0.87424	0.00026	0.92583	0.6392	0.15686	0.28762	0.1514
10.0	1.0	0.85803	0.75335	0.82237	0.09758	0.83456	0.85776	-7.32801	0.8583	0.00027	0.92253	0.6087	0.15686	0.27944	0.1585
11.0	1.0	0.86646	0.76554	0.81784	0.09069	0.84536	0.86586	-8.96487	0.86706	0.00028	0.92927	0.62413	0.15686	0.29083	0.1585
12.0	1.0	0.87992	0.78654	0.85818	0.08857	0.86248	0.87971	-9.71819	0.88012	0.00031	0.94081	0.65074	0.15686	0.27217	0.1585
13.0	1.0	0.89029	0.80284	0.85683	0.08158	0.87486	0.88998	-10.43722	0.89061	0.00032	0.94709	0.67288	0.33333	0.2764	0.1585
14.0	1.0	0.89448	0.80998	0.86112	0.08053	0.8802	0.89409	-11.63234	0.89488	0.00033	0.95067	0.6836	0.33333	0.27168	0.1585
15.0	1.0	0.88682	0.79852	0.84095	0.08585	0.87228	0.88552	-13.01128	0.88813	0.00033	0.94881	0.67144	0.33333	0.26853	0.17869
16.0	1.0	0.88709	0.80174	0.84722	0.09267	0.87414	0.88469	-14.4309	0.88952	0.00036	0.95296	0.68474	0.7619	0.25143	0.17869
17.0	1.0	0.85231	0.74594	0.77828	0.10355	0.83659	0.84773	-16.46224	0.85694	0.00036	0.94146	0.61352	0.7619	0.25033	0.17869
18.0	1.0	0.8152	0.68447	0.70243	0.11501	0.79655	0.80761	-18.15061	0.82288	0.00036	0.92872	0.53322	2.0	0.24657	0.19079
19.0	1.0	0.88544	0.79555	0.88671	0.08381	0.87548	0.88457	-19.52214	0.88632	0.00047	0.96346	0.66525	2.0	0.22111	0.19079
20.0	1.0	0.90063	0.82033	0.90249	0.07921	0.89232	0.90016	-21.68027	0.9011	0.00049	0.96954	0.69923	2.0	0.21981	0.19079

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