Supplementary Information

Disruption of self-molecular association of Pentanol in binary mixtures with Alkylbenzoates: A Dielectric Relaxation Spectroscopy Study

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Table S1: Experimental dielectric relaxation parameters for pure pentanols and alkylbenzoates according to Havriliak-Negami model in the 200MHz-20GHz range at room temperature.

Compound	ε_α	$\Delta\varepsilon$	ε_s	τ (ps)	α	β	χ^2	R^2
1-Pentanol (1P)	3.01	17.98	20.99	1209.40	0.8563	1	0.003360	0.9985
2-Pentanol (2P)	2.97	12.73	15.7	755.31	0.8944	1	0.004344	0.9980
3-Pentanol (3P)	2.77	12.12	14.89	770.08	0.8783	1	0.005613	0.9971
Methylbenzoate (MB)	3.46	3.17	6.63	34.63	1	1	0.006269	0.9981
Ethylbenzoate (EB)	3.22	2.72	5.94	37.73	1	1	0.004536	0.9983
Propylbenzoate (PB)	3.12	2.53	5.65	48.79	1	0.9823	0.004245	0.9982
Butylbenzoate (BB)	2.89	2.14	5.03	56.93	1	1	0.004696	0.9976

Table S2: Experimental dielectric relaxation parameters for pentanols and alkylbenzoates binary mixtures at various concentrations according to Havriliak-Negami model in the 200MHz-20GHz range at room temperature.

BB

1-pentanol

X of 1-P	ε_α	$\Delta\varepsilon$	ε_s	τ (ps)	α	β	χ^2	R^2
0.1119	2.91	2.37	5.28	57.86	1	1	0.003428	0.9983
0.2202	2.91	2.74	5.65	62.84	0.9731	0.9808	0.003659	0.9983
0.3073	2.90	3.06	5.96	66.94	0.9347	0.9982	0.003828	0.9982
0.4032	2.87	3.57	6.44	77.07	0.8850	1	0.004200	0.9980
0.4996	2.84	4.31	7.15	100.53	0.8365	1	0.004437	0.9979
0.5972	2.79	5.46	8.25	145.83	0.7784	1	0.004756	0.9978
0.6964	2.74	7.46	10.20	256.83	0.7198	1	0.008281	0.9960
0.7983	2.70	10.58	13.28	555.65	0.7187	1	0.003638	0.9982
0.8993	2.72	13.78	16.50	919.87	0.7913	0.9493	0.003691	0.9981

2-pentanol

X of 2-P	ε_α	$\Delta\varepsilon$	ε_s	τ (ps)	α	β	χ^2	R^2
0.1237	2.94	2.72	5.66	63.75	0.9839	0.8475	0.004487	0.9980
0.2232	2.91	2.97	5.88	69.22	0.9851	0.7857	0.004482	0.9981
0.3073	2.90	3.23	6.13	73.58	0.9646	0.7745	0.004851	0.9980
0.4138	2.90	3.65	6.55	82.40	0.9196	0.8001	0.005058	0.9979
0.5070	2.88	4.16	7.04	94.95	0.8646	0.8451	0.005239	0.9978
0.5996	2.88	4.87	7.75	116.36	0.8021	0.9108	0.005342	0.9977
0.6987	2.86	5.94	8.80	177.52	0.7672	0.9216	0.005324	0.9977
0.7987	2.87	7.59	10.46	304.59	0.7567	0.9283	0.005155	0.9977
0.9010	3.02	11.77	14.79	572.83	0.7785	1	0.006728	0.9971

3-pentanol

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X of 3-P	ε_α	$\Delta\varepsilon$	ε_s	τ (ps)	α	β	χ^2	R^2
0.1149	2.93	2.61	5.54	52.50	0.9804	1	0.003557	0.9983
0.2010	2.91	2.92	5.83	51.99	0.9683	1	0.011366	0.9949
0.3020	2.96	3.08	6.04	54.26	0.9388	1	0.003692	0.9983
0.4019	2.96	3.47	6.43	60.50	0.9005	1	0.004270	0.9981
0.5020	2.94	3.97	6.91	70.89	0.8565	1	0.005474	0.9976
0.6021	2.90	4.67	7.57	91.57	0.8100	1	0.007062	0.9969
0.7011	2.85	5.63	8.48	134.81	0.7743	1	0.006183	0.9972
0.7975	2.82	7.12	9.94	235.14	0.7633	1	0.003998	0.9981
0.8986	2.81	9.73	12.54	465.84	0.7769	1	0.003452	0.9983

PB

1-pentanol

X of 1-P	ε_α	$\Delta\varepsilon$	ε_s	τ (ps)	α	β	χ^2	R^2
0.0895	3.12	2.80	5.92	51.74	1	0.9371	0.004898	0.9980
0.2047	3.09	3.28	6.37	57.73	0.9458	0.9652	0.005343	0.9978
0.2917	3.11	3.66	6.77	58.36	0.8963	1	0.006090	0.9976
0.3907	3.07	4.34	7.41	76.29	0.8450	1	0.006382	0.9975
0.4969	3.02	5.28	8.30	94.07	0.7716	1	0.010981	0.9957
0.5974	2.93	6.84	9.77	174.94	0.7250	1	0.006334	0.9975
0.6968	2.89	8.83	11.72	308.41	0.7001	1	0.005798	0.9976
0.7991	2.95	11.32	14.27	495.48	0.7162	1	0.005662	0.9976
0.8999	2.98	14.43	17.41	865.36	0.8034	0..9375	0.005560	0.9976

2-pentanol

X of 2-P	ε_α	$\Delta\varepsilon$	ε_s	τ (ps)	α	β	χ^2	R^2
0.0996	3.27	2.60	5.87	43.09	1	1	0.007585	0.9971
0.2167	3.27	2.91	6.18	46.56	0.9757	1	0.005236	0.9981
0.3134	3.25	3.26	6.51	52.33	0.9392	1	0.005099	0.9981
0.4072	3.21	3.67	6.88	59.34	0.8913	1	0.007547	0.9972
0.5081	3.17	4.24	7.41	73.50	0.8405	1	0.010466	0.9961
0.6056	3.11	5.05	8.16	102.78	0.7922	1	0.013569	0.9947
0.7004	3.05	6.04	9.09	163.39	0.7838	1	0.005172	0.9979
0.7976	2.99	7.62	10.61	279.66	0.776	1	0.004659	0.9980
0.9002	2.98	10.05	13.03	476.30	0.8057	1	0.007217	0.9968

3-pentanol

X of 3-P	ε_α	$\Delta\varepsilon$	ε_s	τ (ps)	α	β	χ^2	R^2
0.1110	3.21	2.60	5.81	40.48	1	1	0.010629	0.9959
0.2056	3.23	2.83	6.06	41.96	1	1	0.005993	0.9978
0.3018	3.25	3.06	6.31	43.13	0.9820	1	0.008210	0.9970
0.4019	3.25	3.37	6.62	47.81	0.9492	1	0.008803	0.9968
0.5021	3.22	3.81	7.03	56.56	0.9065	1	0.010144	0.9963
0.5991	3.17	4.40	7.57	72.07	0.8616	1	0.010583	0.9961
0.6983	3.06	5.27	8.33	109.17	0.8212	1	0.008074	0.9968
0.8042	2.95	6.59	9.54	200.05	0.8131	1	0.003787	0.9984
0.8986	2.92	8.30	11.22	344.83	0.8327	1	0.003408	0.9984

EB

1-pentanol

X of 1-P	ε_α	$\Delta\varepsilon$	ε_s	τ (ps)	α	β	χ^2	R^2
0.1094	3.28	2.96	6.24	38.39	0.9936	1	0.004785	0.9983
0.2211	3.30	3.40	6.70	40.43	0.9341	1	0.009158	0.9969
0.3219	3.22	3.92	7.14	49.84	0.8973	1	0.005540	0.9981
0.4100	3.17	4.52	7.69	61.88	0.8492	1	0.005914	0.9980
0.5042	3.07	5.46	8.53	87.23	0.7877	1	0.006782	0.9976
0.5987	2.95	6.78	9.73	143.51	0.7357	1	0.006233	0.9976
0.6986	2.94	8.76	11.70	266.21	0.7072	1	0.005590	0.9978
0.8065	3.06	10.95	14.01	424.38	0.7305	1	0.005281	0.9980
0.9044	3.04	13.57	16.61	736.89	0.8037	0.9518	0.004497	0.9981

2-pentanol

X of 2-P	ε_α	$\Delta\varepsilon$	ε_s	τ (ps)	α	β	χ^2	R^2
0.1022	3.41	2.84	6.25	34.82	0.9818	1	0.008404	0.9973
0.2125	3.41	3.11	6.52	35.73	0.9490	1	0.008188	0.9974
0.3129	2.82	3.88	6.70	45.61	0.8879	0.8752	0.004776	0.9982
0.4059	2.81	4.33	7.14	48.96	0.8134	0.9778	0.004797	0.9981
0.4977	2.77	4.91	7.68	61.96	0.7604	1	0.004718	0.9981
0.5975	2.72	5.83	8.55	95.20	0.7096	1	0.004774	0.9981
0.6980	2.67	7.15	9.82	183.20	0.6764	0.9894	0.004415	0.9981
0.7959	3.09	8.17	11.26	294.22	0.7455	1	0.005335	0.9979
0.8952	3.08	9.95	13.03	458.26	0.7989	1	0.004833	0.9980

3-pentanol

X of 3-P	ε_α	$\Delta\varepsilon$	ε_s	τ (ps)	α	β	χ^2	R^2
0.1044	2.91	3.08	5.99	31.04	1	1	0.027726	0.9892
0.2026	2.94	3.32	6.26	31.69	0.9851	1	0.029240	0.9891
0.3006	2.89	3.59	6.48	34.77	0.9586	1	0.028346	0.9892
0.4012	2.81	3.99	6.80	41.17	0.9139	1	0.027414	0.9894
0.4992	2.76	4.48	7.24	49.42	0.8569	1	0.028480	0.9888
0.5999	2.68	5.20	7.88	68.96	0.7996	1	0.027462	0.9889
0.6999	2.64	6.33	8.97	111.52	0.7318	1	0.029871	0.9872
0.7916	2.61	7.65	10.26	211.28	0.723	1	0.022445	0.9897
0.8790	2.63	8.93	11.56	360.77	0.7790	1	0.005771	0.9970

MB

1-pentanol

X of 1-P	ε_α	$\Delta\varepsilon$	ε_s	τ (ps)	α	β	χ^2	R^2
0.1091	3.49	3.62	7.11	31.33	0.9941	1	0.014429	0.9960
0.2081	3.43	3.96	7.39	32.77	0.9510	1	0.021565	0.9940
0.3121	3.47	4.52	7.99	39.43	0.9334	1	0.018442	0.9950
0.4174	3.38	5.31	8.69	49.62	0.8895	1	0.016994	0.9954
0.5274	3.23	6.25	9.48	68.23	0.8336	1	0.017342	0.9949
0.6178	3.12	7.38	10.50	96.56	0.7683	1	0.029228	0.9908
0.7112	2.73	9.64	12.37	193.23	0.7084	1	0.009829	0.9964
0.8059	2.33	11.05	13.38	493.03	0.8365	0.6933	0.008680	0.9962
0.8994	2.80	12.95	15.75	892.53	0.9163	0.7516	0.004800	0.9978

2-pentanol

X of 2-P	ε_α	$\Delta\varepsilon$	ε_s	τ (ps)	α	β	χ^2	R^2
0.1026	2.75	3.65	6.40	27.44	0.9578	1	0.012046	0.9954
0.2062	2.71	3.96	6.67	28.50	0.9279	1	0.011130	0.9958
0.3104	2.60	4.29	6.89	31.51	0.8863	1	0.011952	0.9953
0.4068	2.54	4.83	7.37	37.93	0.8342	1	0.012348	0.9951
0.5087	2.51	5.49	8.00	49.96	0.7849	1	0.011561	0.9954
0.6054	2.38	6.26	8.64	69.64	0.7277	1	0.014653	0.9938
0.7013	2.33	7.58	9.91	130.50	0.6896	1	0.008947	0.9958
0.7987	2.29	8.66	10.95	283.91	0.7548	0.8403	0.008552	0.9957
0.8732	2.31	9.53	11.84	448.36	0.8391	0.7619	0.008757	0.9953

3-pentanol

X of 3-P	ε_α	$\Delta\varepsilon$	ε_s	τ (ps)	α	β	χ^2	R^2
0.1039	2.74	3.50	6.24	24.74	0.9538	1	0.021774	0.9911
0.1993	2.67	3.86	6.53	28.81	0.9369	1	0.011309	0.9955
0.3005	2.62	4.05	6.67	30.09	0.9209	1	0.014280	0.9943
0.4042	2.53	4.60	7.13	36.69	0.8568	1	0.011626	0.9952
0.5106	2.37	5.19	7.56	47.37	0.7823	1	0.013692	0.9941
0.5939	2.37	5.76	8.13	62.28	0.7512	1	0.011032	0.9951
0.6937	2.35	6.40	8.75	93.48	0.7329	1	0.020333	0.9903
0.7947	2.34	7.97	10.31	175.88	0.7053	1	0.010657	0.9946
0.8722	2.28	8.91	11.19	385.83	0.8268	0.7874	0.009701	0.9946

Table S3: Values of Bruggeman Factor f_B for pentanol and alkylbenzoate binary mixtures at room temperature.

1-pentanol							
BB		**PB**		**EB**		**MB**	
$Ø_2$	f_B	$Ø_2$	f_B	$Ø_2$	f_B	$Ø_2$	f_B
0.9288	0.02	0.9381	0.03	0.9155	0.03	0.9046	0.05
0.8535	0.06	0.8527	0.07	0.8243	0.07	0.8154	0.07
0.7875	0.09	0.7835	0.11	0.7373	0.11	0.7190	0.13
0.7088	0.13	0.6992	0.16	0.6571	0.16	0.6184	0.19
0.6222	0.19	0.6014	0.24	0.5670	0.23	0.5098	0.26
0.5259	0.28	0.5011	0.35	0.4717	0.33	0.4180	0.34
0.4175	0.41	0.3934	0.48	0.3649	0.47	0.3204	0.48
0.2935	0.60	0.2725	0.64	0.2422	0.61	0.2185	0.55
0.1555	0.78	0.1422	0.82	0.1234	0.77	0.1148	0.70
2-pentanol							
BB		**PB**		**EB**		**MB**	
$Ø_2$	f_B	$Ø_2$	f_B	$Ø_2$	f_B	$Ø_2$	f_B
0.9205	0.08	0.9305	0.03	0.9208	0.04	0.9099	-0.03
0.8504	0.11	0.8426	0.07	0.8307	0.08	0.8162	0.01
0.7865	0.14	0.7644	0.11	0.7440	0.10	0.7193	0.04
0.6984	0.19	0.6831	0.16	0.6596	0.16	0.6272	0.10
0.6137	0.25	0.5892	0.22	0.5719	0.23	0.5270	0.19
0.5218	0.32	0.4910	0.31	0.4714	0.33	0.4292	0.27
0.4134	0.43	0.3879	0.41	0.3642	0.46	0.3295	0.42
0.2917	0.58	0.2732	0.56	0.2534	0.61	0.2252	0.54
0.1523	0.93	0.1410	0.78	0.1342	0.77	0.1435	0.63
3-pentanol							
BB		**PB**		**EB**		**MB**	
$Ø_2$	f_B	$Ø_2$	f_B	$Ø_2$	f_B	$Ø_2$	f_B
0.9273	0.07	0.9232	0.02	0.9200	0.01	0.9098	-0.06
0.8682	0.11	0.8529	0.06	0.8408	0.05	0.8245	-0.02
0.7929	0.14	0.7764	0.10	0.7574	0.08	0.7313	0.01
0.7114	0.19	0.6907	0.14	0.6669	0.12	0.6328	0.08
0.6217	0.25	0.5981	0.19	0.5737	0.18	0.5285	0.14
0.5226	0.32	0.5011	0.26	0.4723	0.27	0.4443	0.22
0.4138	0.42	0.3934	0.35	0.3651	0.40	0.3404	0.31
0.2961	0.57	0.2676	0.49	0.2610	0.55	0.2320	0.50
0.1575	0.81	0.1449	0.66	0.1603	0.68	0.1463	0.61

Table S4: Value of a for pentanol and alkylbenzoate binary mixtures at room temperature.

	1-pentanol	**2-pentanol**	**3-pentanol**
BB	1.71(4)	1.5(1)	1.54(5)
PB	1.59(3)	1.76(2)	1.97(7)
EB	1.79(2)	1.77(2)	1.99(2)
MB	1.94(8)	2.22(5)	2.41(6)

Table S5: Values of Kirkwood Correlation factor g_i for pure pentanol and alkylbenzoate at room temperature.

	1P	**2P**	**3P**	**MB**	**EB**	**PB**	**BB**
g_i	2.81	2.18	2.28	0.44	0.45	0.40	0.44

Table S6: Values of Effective Kirkwood Correlation factor g^{eff} and Corrective Kirkwood Correlation factor g^{f} for pentanol and alkylbenzoate binary mixtures at room temperature for various pentanol mole fractions.

1-pentanol

BB						PB						EB						MB					
X	g^{eff}	g^{f}	$\Delta F_{\exp}$	ΔF_{theo}	ΔF_{diff}	X	g^{eff}	g^{f}	$\Delta F_{\exp}$	ΔF_{theo}	ΔF_{diff}	X	g^{eff}	g^{f}	$\Delta F_{\exp}$	ΔF_{theo}	ΔF_{diff}	X	g^{eff}	g^{f}	$\Delta F_{\exp}$	ΔF_{theo}	ΔF_{diff}
0.1119	0.48	0.67	3.49	3.68	0.19	0.0895	0.44	0.75	3.42	3.56	0.14	0.1094	0.43	0.64	3.24	3.46	0.21	0.1091	0.49	0.74	3.12	3.41	0.29
0.2202	0.54	0.55	3.54	3.88	0.34	0.2047	0.52	0.62	3.49	3.77	0.29	0.2211	0.50	0.54	3.27	3.69	0.41	0.2081	0.55	0.62	3.15	3.62	0.47
0.3073	0.60	0.50	3.57	4.03	0.46	0.2917	0.58	0.55	3.49	3.94	0.45	0.3219	0.59	0.52	3.40	3.89	0.50	0.3121	0.62	0.55	3.26	3.84	0.58
0.4032	0.69	0.49	3.66	4.21	0.55	0.3907	0.69	0.54	3.65	4.13	0.48	0.4100	0.69	0.51	3.53	4.08	0.55	0.4174	0.75	0.55	3.40	4.06	0.67
0.4996	0.83	0.50	3.81	4.38	0.57	0.4969	0.85	0.56	3.77	4.33	0.56	0.5042	0.86	0.55	3.73	4.27	0.54	0.5274	0.93	0.57	3.58	4.29	0.71
0.5972	1.04	0.55	4.03	4.56	0.52	0.5974	1.13	0.64	4.14	4.52	0.38	0.5987	1.10	0.62	4.02	4.46	0.44	0.6178	1.13	0.62	3.79	4.48	0.69
0.6964	1.40	0.66	4.37	4.74	0.37	0.6968	1.46	0.72	4.48	4.71	0.23	0.6986	1.42	0.70	4.39	4.67	0.28	0.7112	1.69	0.82	4.20	4.68	0.48
0.7983	1.95	0.83	4.83	4.92	0.10	0.7991	1.82	0.80	4.76	4.91	0.15	0.8065	1.69	0.73	4.67	4.89	0.22	0.8059	2.29	0.99	4.76	4.88	0.12
0.8993	2.46	0.95	5.13	5.11	-0.02	0.8999	2.29	0.90	5.09	5.10	0.01	0.9044	2.11	0.82	4.99	5.09	0.10	0.8994	2.21	0.87	5.11	5.08	-0.03

2-pentanol

BB						PB						EB						MB					
X	g^{eff}	g^{f}	$\Delta F_{\exp}$	ΔF_{theo}	ΔF_{diff}	X	g^{eff}	g^{f}	$\Delta F_{\exp}$	ΔF_{theo}	ΔF_{diff}	X	g^{eff}	g^{f}	$\Delta F_{\exp}$	ΔF_{theo}	ΔF_{diff}	X	g^{eff}	g^{f}	$\Delta F_{\exp}$	ΔF_{theo}	ΔF_{diff}
0.1237	0.54	0.82	3.54	3.67	0.12	0.0996	0.40	0.72	3.31	3.55	0.24	0.1022	0.40	0.67	3.19	3.41	0.23	0.1026	0.65	1.10	3.04	3.37	0.33
0.2232	0.59	0.71	3.59	3.82	0.23	0.2167	0.45	0.61	3.36	3.74	0.38	0.2125	0.44	0.58	3.20	3.61	0.41	0.2062	0.72	0.96	3.07	3.56	0.49
0.3073	0.64	0.66	3.63	3.95	0.32	0.3134	0.51	0.57	3.43	3.89	0.47	0.3129	0.68	0.74	3.35	3.79	0.44	0.3104	0.83	0.90	3.13	3.75	0.62
0.4138	0.71	0.62	3.70	4.11	0.41	0.4072	0.58	0.55	3.50	4.05	0.54	0.4059	0.77	0.72	3.39	3.95	0.57	0.4068	0.96	0.89	3.24	3.93	0.69
0.5070	0.81	0.61	3.78	4.25	0.47	0.5081	0.68	0.55	3.63	4.21	0.58	0.4977	0.89	0.73	3.53	4.12	0.59	0.5087	1.11	0.88	3.40	4.11	0.71
0.5996	0.93	0.63	3.90	4.40	0.49	0.6056	0.83	0.59	3.83	4.37	0.54	0.5975	1.08	0.77	3.78	4.29	0.51	0.6054	1.34	0.94	3.60	4.29	0.69
0.6987	1.13	0.68	4.15	4.55	0.40	0.7004	1.01	0.64	4.10	4.52	0.42	0.6980	1.35	0.85	4.17	4.47	0.30	0.7013	1.66	1.04	3.97	4.46	0.49
0.7987	1.40	0.77	4.47	4.70	0.23	0.7976	1.30	0.74	4.42	4.68	0.26	0.7959	1.33	0.75	4.45	4.65	0.20	0.7987	1.94	1.09	4.43	4.64	0.21
0.9010	1.99	0.99	4.84	4.86	0.01	0.9002	1.71	0.87	4.74	4.85	0.11	0.8952	1.63	0.83	4.71	4.82	0.11	0.8732	2.13	1.10	4.70	4.78	0.08

3-pentanol

BB						PB						EB						MB					
X	g^{eff}	g^{f}	$\Delta F_{\exp}$	ΔF_{theo}	ΔF_{diff}	X	g^{eff}	g^{f}	$\Delta F_{\exp}$	ΔF_{theo}	ΔF_{diff}	X	g^{eff}	g^{f}	$\Delta F_{\exp}$	ΔF_{theo}	ΔF_{diff}	X	g^{eff}	g^{f}	$\Delta F_{\exp}$	ΔF_{theo}	ΔF_{diff}
0.1149	0.52	0.80	3.43	3.65	0.23	0.1110	0.41	0.70	3.27	3.57	0.29	0.1044	0.52	0.85	3.12	3.42	0.30	0.1039	0.63	1.05	2.98	3.37	0.39
0.2010	0.58	0.72	3.42	3.79	0.36	0.2056	0.44	0.60	3.30	3.72	0.43	0.2026	0.56	0.73	3.13	3.60	0.47	0.1993	0.72	0.95	3.07	3.55	0.48
0.3020	0.60	0.61	3.45	3.94	0.49	0.3018	0.48	0.53	3.31	3.88	0.57	0.3006	0.62	0.67	3.18	3.77	0.59	0.3005	0.78	0.84	3.10	3.73	0.64
0.4019	0.67	0.57	3.51	4.10	0.58	0.4019	0.53	0.49	3.37	4.04	0.67	0.4012	0.72	0.66	3.28	3.95	0.67	0.4042	0.92	0.84	3.22	3.93	0.71
0.5020	0.76	0.56	3.61	4.25	0.64	0.5021	0.61	0.49	3.47	4.21	0.73	0.4992	0.83	0.65	3.39	4.13	0.73	0.5106	1.12	0.87	3.37	4.12	0.75
0.6021	0.90	0.58	3.76	4.41	0.65	0.5991	0.72	0.50	3.62	4.36	0.75	0.5999	1.00	0.69	3.59	4.31	0.71	0.5939	1.25	0.86	3.53	4.27	0.74
0.7011	1.09	0.63	3.99	4.56	0.57	0.6983	0.90	0.55	3.86	4.53	0.66	0.6999	1.24	0.75	3.88	4.48	0.61	0.6937	1.41	0.86	3.77	4.46	0.69
0.7975	1.36	0.72	4.32	4.71	0.39	0.8042	1.17	0.63	4.22	4.70	0.48	0.7916	1.52	0.83	4.25	4.65	0.39	0.7947	1.77	0.96	4.15	4.64	0.50
0.8986	1.82	0.87	4.72	4.86	0.14	0.8986	1.48	0.72	4.54	4.85	0.31	0.8790	1.77	0.88	4.57	4.80	0.23	0.8722	2.04	1.02	4.61	4.79	0.17