

Core-sheath Structured Electrospun Nanofibrous Membranes for Oil-water Separation

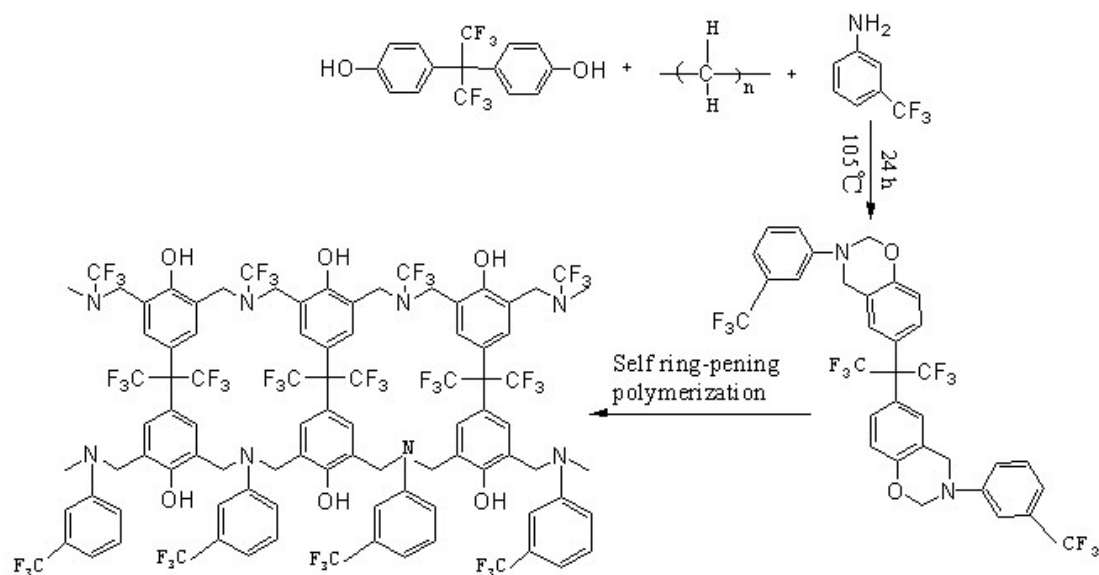


Fig. S1 Chemical synthetic and polymerization route of BAF-tfa.

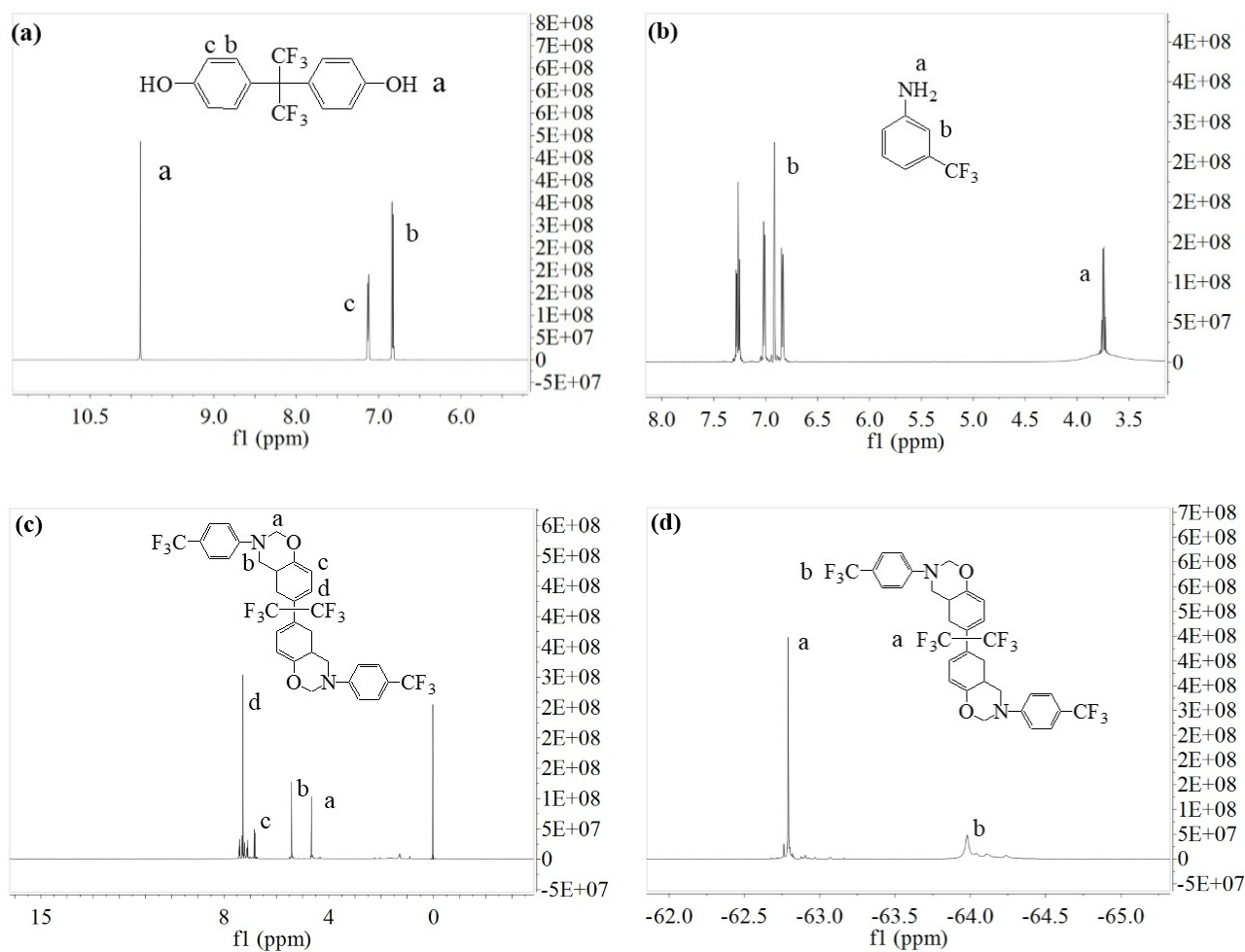


Fig. S2 ¹H NMR spectra for a) p-Phenylenediamine (500MHz, DMSO-d₆), b) 3-(Trifluoromethyl) aniline (500MHz, CDCl₃) and c) BAF-tfa; and ¹⁹F NMR (500MHz, CDCl₃) for d) BAF-tfa (500MHz, CDCl₃).

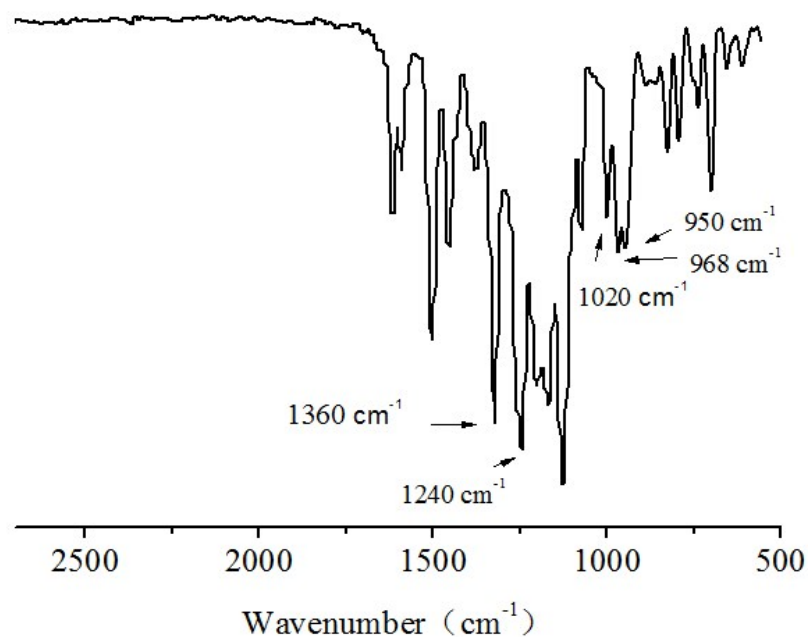


Fig. S3 FT-IR spectrograph of BAF-tfa.

The oxazine ring characteristic absorption peak at 968 cm⁻¹, peak at 1020 cm⁻¹ is the vibration peak of C-O-C. In addition, -CH₂ vibration peaks appears at 1240 cm⁻¹, the *meta*-benzene ring substituted absorption peaks appeared at 950 cm⁻¹ and absorption peak of three substituted benzene is 1360 cm⁻¹. The combination of ¹HNMR, ¹⁹FNMR and FT-IR analysis of BAF-tfa monomer spectra have proved the success of BAF-tfa monomer synthesis.

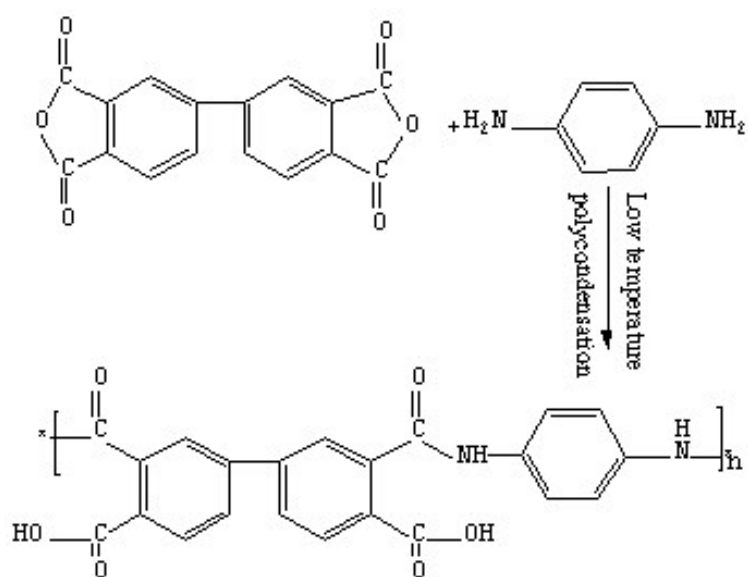


Fig. S4 Synthesis type of polyamide acid

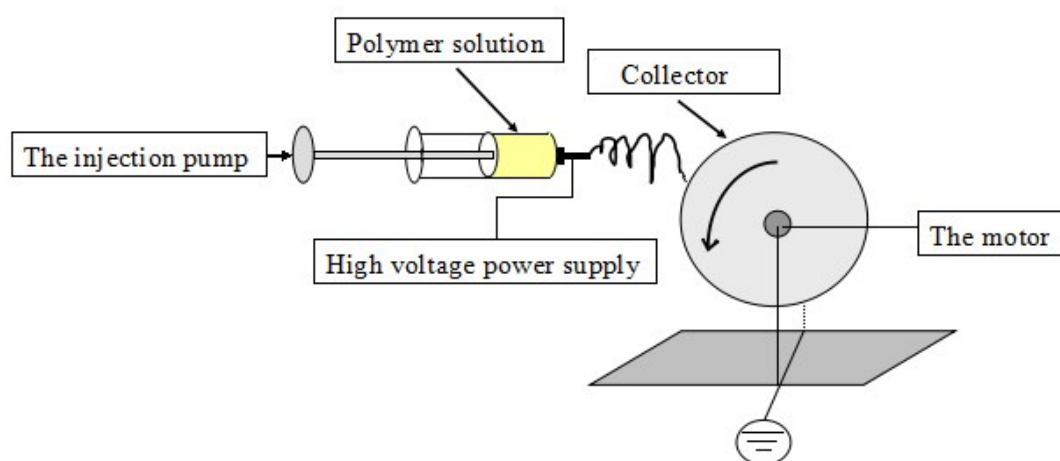


Fig. S5 Process of electrospun polyamide acid nanofiber membrane.

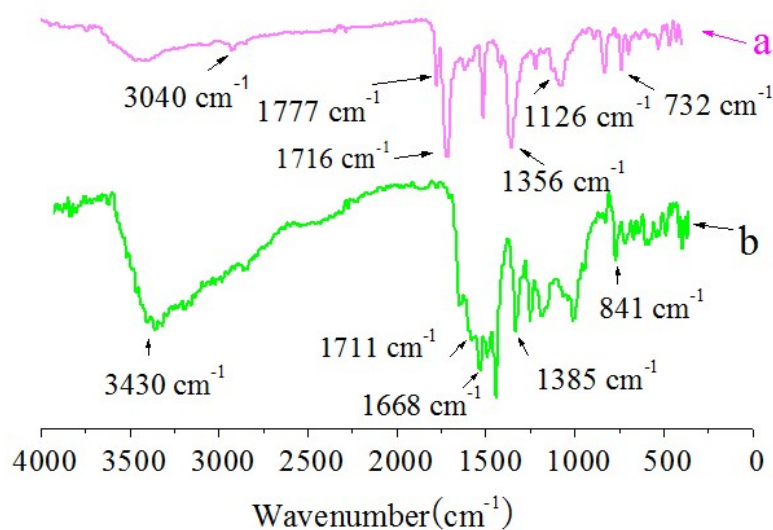


Fig. S6 FT-IR spectrograph of (a) PAA, (b) PI.

Absorption from 2900 cm^{-1} to 3500 cm^{-1} is the stretching vibration peak of -NH , peak at 1711 cm^{-1} is (COOH) carbonyl stretching vibration peak, 1668 cm^{-1} is (CONH) carbonyl stretching vibration peak, 1385 cm^{-1} is C-N stretching vibration peak.

After high-temperature imidization, the -OH (COOH) of BP-PAA and the NH absorption peak from 2900 cm^{-1} to 3500 cm^{-1} disappeared; while the C=O of PAA on 1711 cm^{-1} (COOH) and 1668 cm^{-1} (CONH) stretching vibration absorption peaks changed to asymmetric of corresponding to C=O in imine structure.

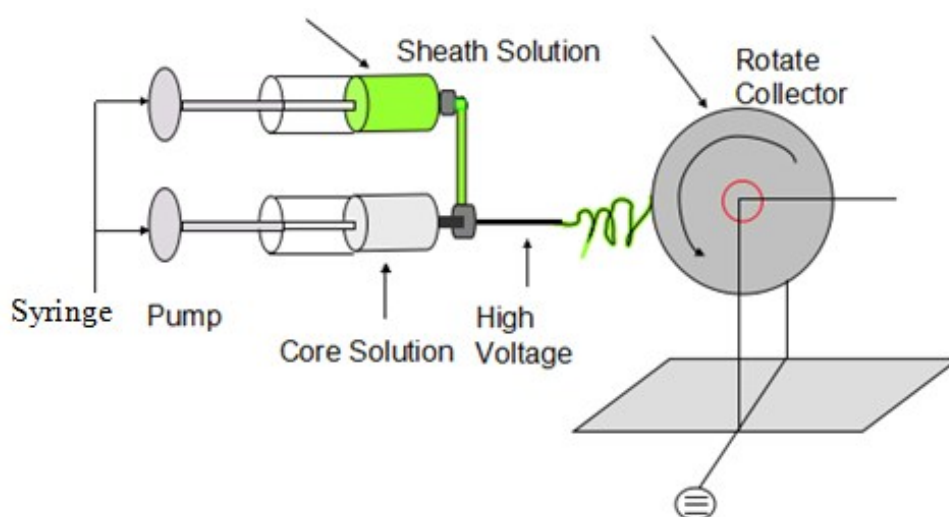


Fig. S7 Setup for electrospinning CA-PI nanofibers membranes

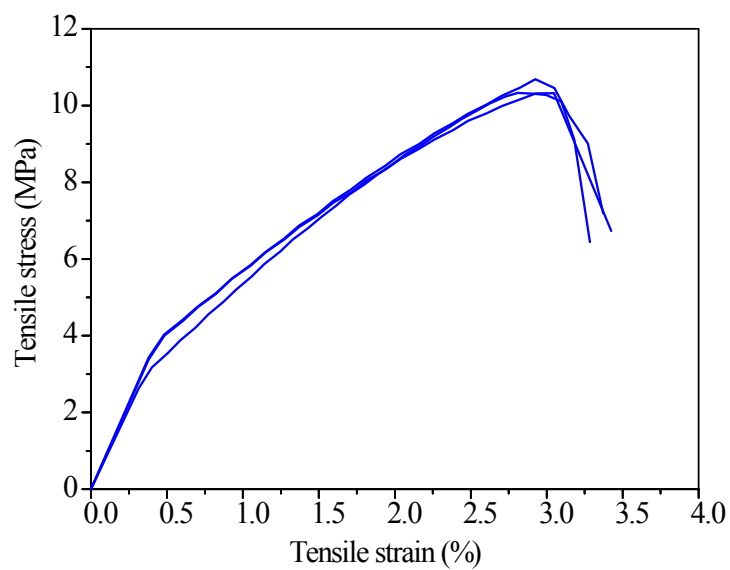


Fig. S8 Stress-strain behavior of CA-PI membranes stretching the membrane in the vertical direction.

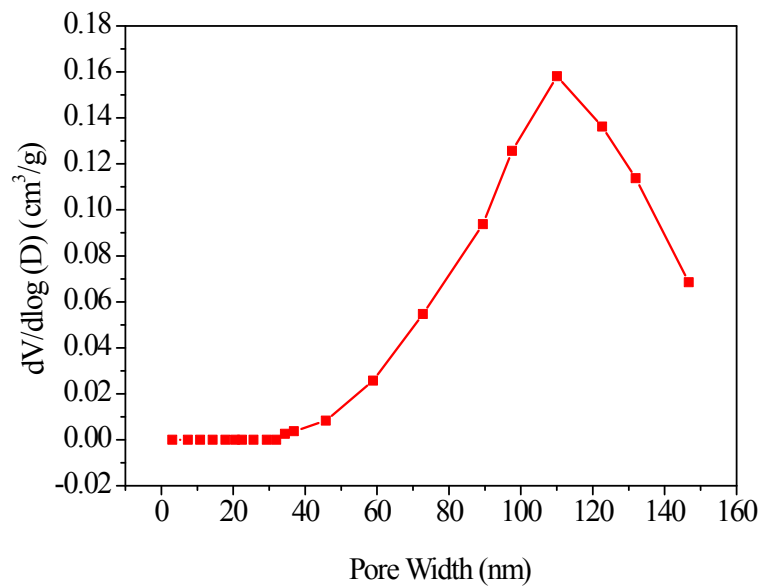


Fig. S9 Pore distribution analysis of CA nanofibrous membranes using the BJH method.

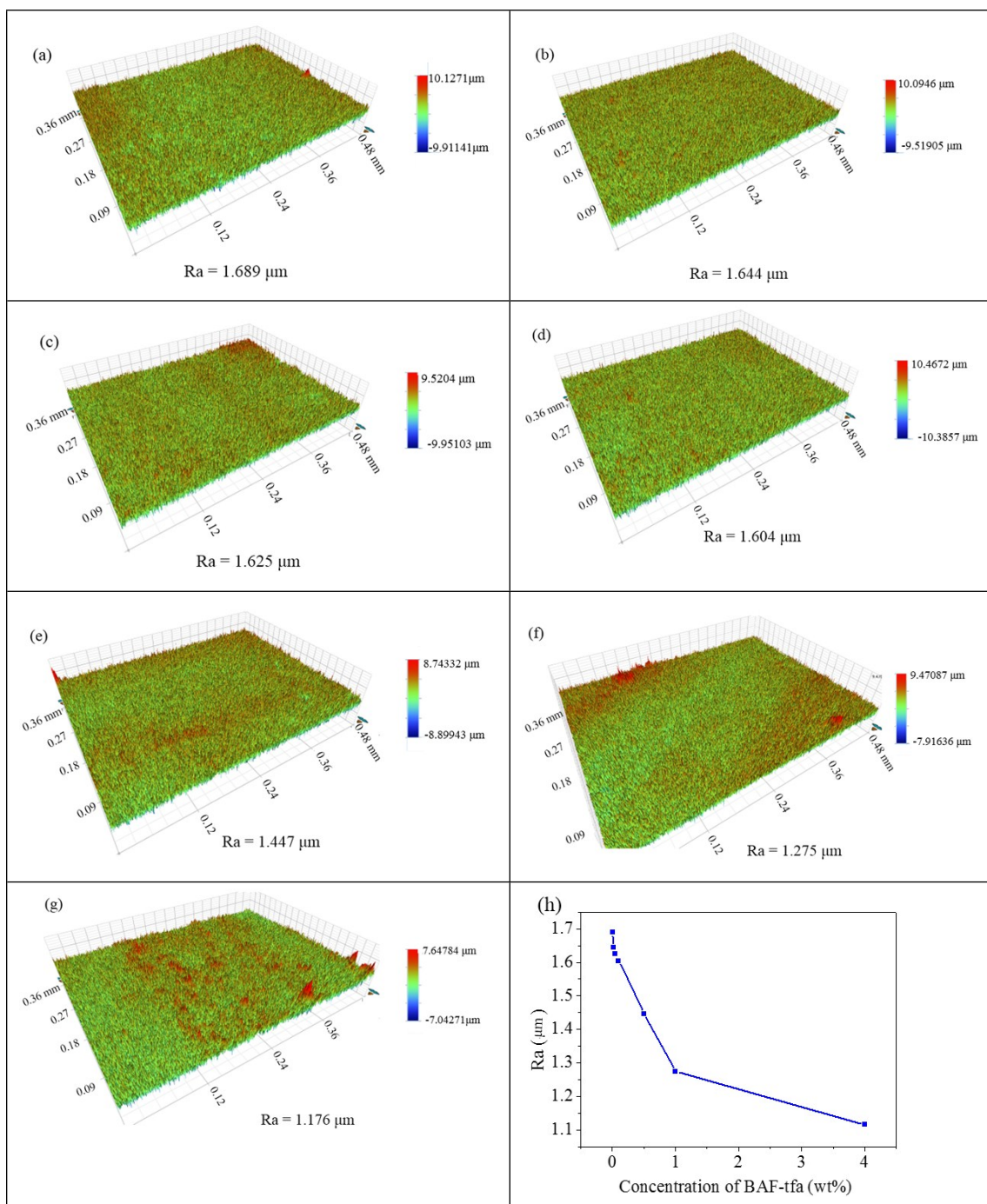


Fig. S10 Photograph of white light interferometer of (a) F-PBZ-0.01/CA-PI, (b) F-PBZ-0.02/CA-PI, (c) F-PBZ-0.05/CA-PI, (d) F-PBZ-0.1/CA-PI, (e) F-PBZ-0.5/CA-PI, (f) F-PBZ-1/CA-PI (g) F-PBZ-4/CA-PI nanofibrous membranes. (b) Change in surface roughness of CA-PI nanofibrous membrane modified with different concentration of BAF-tfa.

As the concentration of BAF-tfa increased, an decrease of Ra values was observed with 1.689, 1.644, 1.625, 1.604, 1.447, 1.275 and 1.176 μm for the F-PBZ-0.01/CA-PI, F-PBZ-0.02/CA-PI, F-PBZ-0.05/CA-PI, F-PBZ-0.1/CA-PI, F-PBZ-0.5/CA-PI, F-PBZ-1/CA-PI and F-PBZ-4/CA-PI, respectively. This is because the nanofibrous

membrane surface wettability is influenced by its surface chemical composition and geometrical structure. An increase of BAF-tfa monomer would result in more polybenzoxazine (F-PBZ) functional layer covering the surface of CA-PI nanofibrous membrane.

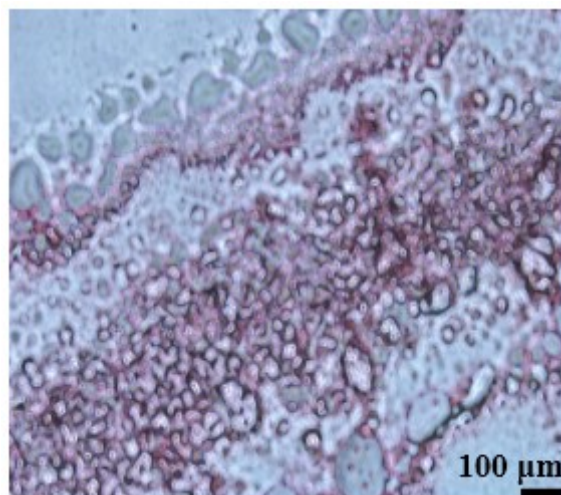


Fig. S11 Optical micrographs of the dichloromethane (DCM) -water mixture before separation.

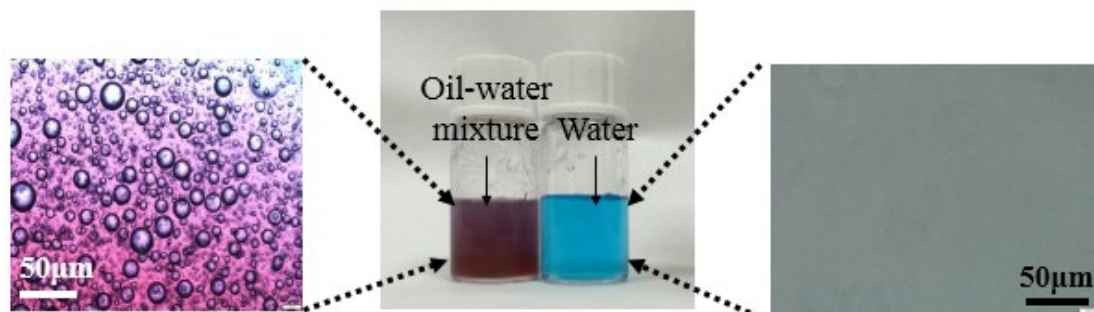


Fig. S12 Optical micrographs of the bromobenzene -water mixture before (left) and the water phase after separation (right), the bromobenzene-water mixtures were obtained after vigorous stirring for 24 h.

To show different types of the oil-water samples i.e. dichloromethane–water (Fig. S11) and bromobenzene-water (Fig. S12) with different blending interfaces. For dichloromethane water mixture, the interface was relative clear which was difficult to capture a blending status of the water-in-oil or oil-in-water picture. For

bromobenzene-water, the water-in-oil or oil-in-water states were easily formed. These droplets were stable for a little while which could be captured by microscope.

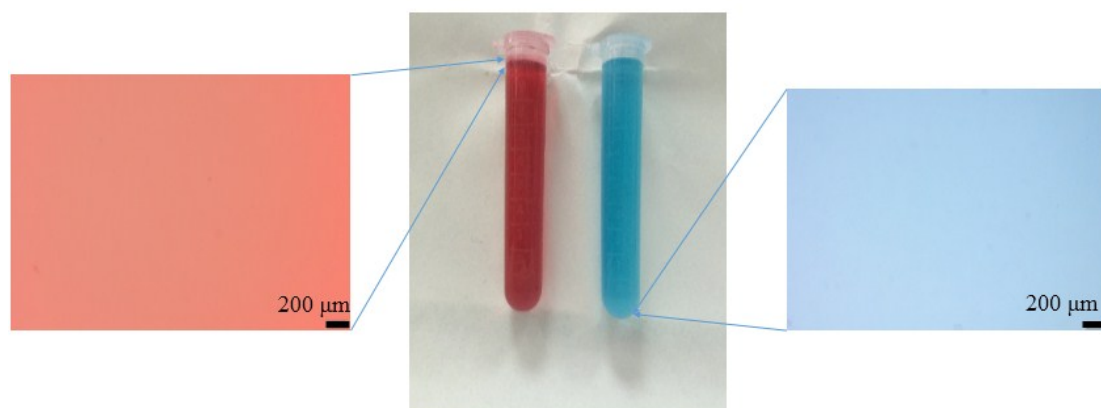


Fig. S13 Photograph of oil and water after separation.

After separation, The water and oil phases were collected and centrifuged respectively. And the top layer of oil phase and the bottom layer of the water were collected and quickly subjected to the microscope observation. According to the result (Fig. S13), there was no dyed oil in water or dyed water in oil.

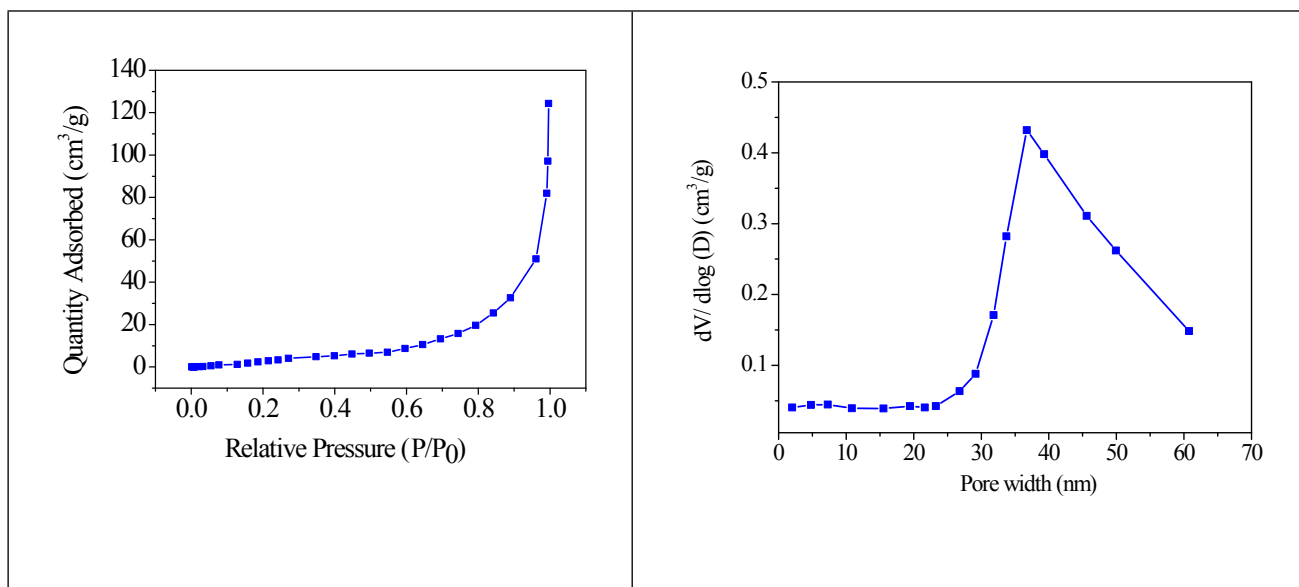


Fig. S14 N₂ adsorption-desorption isotherms of F-PBZ-1/SNP-4/CA-PI membranes (left) and Pore distribution analysis of membranes using the BJH method (right).

F-PBZ-1/SNP-4/CA-PI membranes exhibited a type IV N₂ adsorption-desorption

isotherms. Typical mesopores were found in the membranes with a pore size of about 5-60 nm with a central size of ~36 nm. Moreover, the F-PBZ-1/SNP-4/CA-PI membranes possessed the pore volume of 0.2091 cm³ g⁻¹, which was a suitable parameter for the oil-water separation.

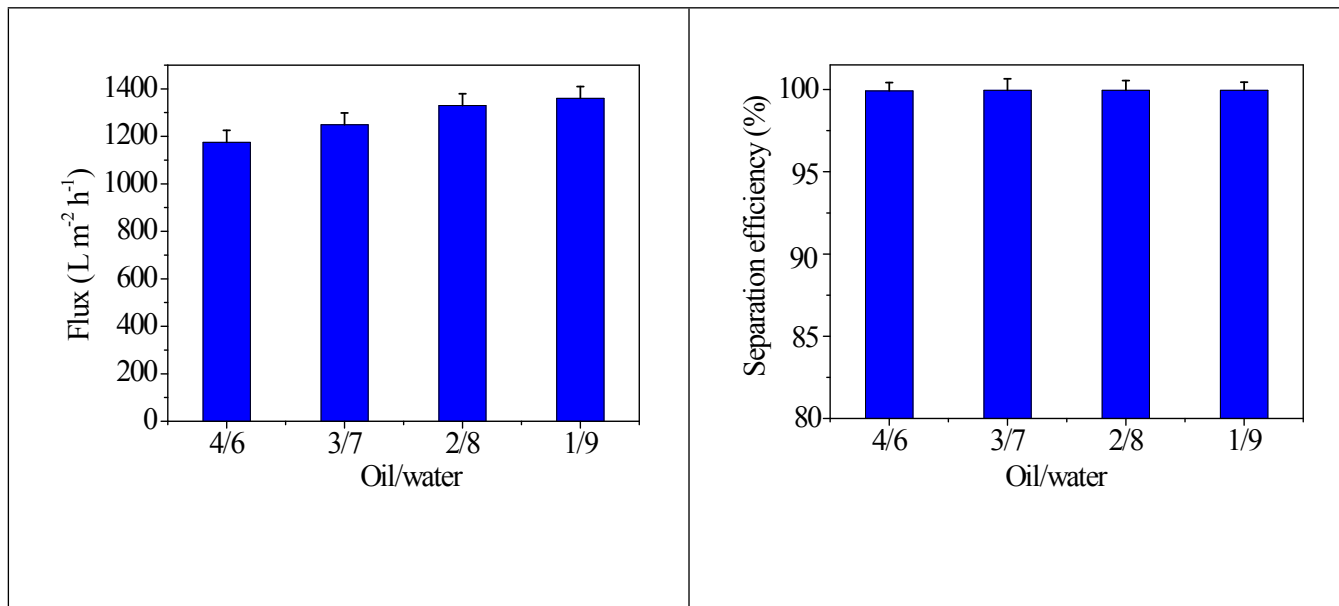


Fig. S15 Flux (left) and separation efficiency (right) of F-PBZ-1/SNP-4/CA-PI membranes for different oil-water mixtures composition (v/v).

Table S1 Orthogonal experiment scheme

BAF-tfa (%) SiO ₂ (%)	0.01	0.02	0.05	0.1	0.5	1	4
0.01	F-PBZ-0.01/SNP-0.01	F-PBZ-0.01/SNP-0.02	F-PBZ-0.01/SNP-0.05	F-PBZ-0.01/SNP-0.1	F-PBZ-0.01/SNP-0.5	F-PBZ-0.01/SNP-1	F-PBZ-0.01/SNP-4
0.02	F-PBZ-0.02/SNP-0.01	F-PBZ-0.02/SNP-0.02	F-PBZ-0.02/SNP-0.05	F-PBZ-0.02/SNP-0.1	F-PBZ-0.02/SNP-0.5	F-PBZ-0.02/SNP-1	F-PBZ-0.02/SNP-4
0.05	F-PBZ-0.05/SNP-0.01	F-PBZ-0.05/SNP-0.02	F-PBZ-0.05/SNP-0.05	F-PBZ-0.05/SNP-0.1	F-PBZ-0.05/SNP-0.5	F-PBZ-0.05/SNP-1	F-PBZ-0.05/SNP-4
0.1	F-PBZ-0.1/SNP-0.01	F-PBZ-0.1/SNP-0.02	F-PBZ-0.1/SNP-0.05	F-PBZ-0.1/SNP-0.1	F-PBZ-0.1/SNP-0.5	F-PBZ-0.1/SNP-1	F-PBZ-0.1/SNP-4
0.5	F-PBZ-0.5/SNP-0.01	F-PBZ-0.5/SNP-0.02	F-PBZ-0.5/SNP-0.05	F-PBZ-0.5/SNP-0.1	F-PBZ-0.5/SNP-0.5	F-PBZ-0.5/SNP-1	F-PBZ-0.5/SNP-4
1	F-PBZ-1/SNP-0.01	F-PBZ-1/SNP-0.02	F-PBZ-1/SNP-0.05	F-PBZ-1/SNP-0.1	F-PBZ-1/SNP-0.5	F-PBZ-1/SNP-1	F-PBZ-1/SNP-4
4	F-PBZ-4/SNP-0.01	F-PBZ-4/SNP-0.02	F-PBZ-4/SNP-0.05	F-PBZ-4/SNP-0.1	F-PBZ-4/SNP-0.5	F-PBZ-4/SNP-1	F-PBZ-4/SNP-4

Table S2 Separation efficiency and oil permeability of F-PBZ-1/SNP-4/CA-PI
membranes for various oil-water mixtures.

Oil-water mixtures	Separation efficiency (%)	Oil permeability (%)
Carbontetrachloride	99.06	87.38
Trichloromethane	99.00	86.29
Bromobenzene	98.83	87.64
Dichloroethane	99.36	87.50
Dichloromethane	99.40	87.82

Tab. S3. All related data of stress-strain curve for CA, PI and CA-PI nanofibrous membranes, respectively.

CA

strain1	stress1	strain2	stress2	strain3	stress3
0	0	0	0	0	0
0.07	1.08891	0.169	1.93372	0.063	1.77812
0.09	1.16552	0.224	3.17668	0.08	1.86913
0.111	1.21339	0.272	3.33866	0.101	1.92652
0.131	1.25265	0.325	3.4729	0.118	1.98239
0.153	1.29478	0.373	3.61397	0.138	2.03667
0.172	1.34365	0.425	3.77132	0.155	2.08297
0.194	1.38865	0.473	3.9125	0.175	2.15
0.213	1.43461	0.527	4.0605	0.192	2.19949
0.236	1.48152	0.575	4.21786	0.212	2.25696
0.255	1.53135	0.629	4.37521	0.229	2.31601
0.275	1.57635	0.676	4.5187	0.249	2.37826
0.296	1.62613	0.73	4.67363	0.266	2.42935
0.318	1.67596	0.776	4.83099	0.286	2.49638
0.337	1.7267	0.83	4.9791	0.303	2.55703
0.359	1.77461	0.877	5.13183	0.323	2.61609
0.378	1.82822	0.932	5.28445	0.34	2.67674
0.4	1.87991	0.979	5.42794	0.36	2.74696
0.419	1.93357	1.032	5.58067	0.377	2.80123
0.441	1.9843	1.078	5.72868	0.397	2.86507
0.461	2.03796	1.133	5.86985	0.414	2.9337
0.482	2.09252	1.18	6.01103	0.435	2.99275
0.502	2.14617	1.234	6.15441	0.451	3.055
0.522	2.195	1.281	6.28403	0.471	3.12362
0.543	2.25057	1.335	6.41586	0.488	3.18906
0.564	2.308	1.382	6.54779	0.508	3.24812
0.584	2.36643	1.437	6.67269	0.525	3.31841
0.605	2.421	1.484	6.79769	0.546	3.38225
0.625	2.47752	1.537	6.91796	0.562	3.4413
0.646	2.53209	1.584	7.03592	0.582	3.50993
0.666	2.59052	1.638	7.15168	0.599	3.57696
0.687	2.64704	1.686	7.26271	0.619	3.6392
0.708	2.70448	1.739	7.36218	0.636	3.70145
0.728	2.76004	1.786	7.46859	0.657	3.76848
0.749	2.81748	1.841	7.57269	0.673	3.83232
0.77	2.87304	1.887	7.67227	0.694	3.89457
0.79	2.93143	1.943	7.75788	0.71	3.96

0.811	2.98891	1.987	7.85042	0.731	4.02225
0.831	3.04639	2.043	7.9291	0.748	4.0813
0.852	3.10096	2.089	7.96838	0.768	4.14833
0.873	3.15748	2.144	8.02626	0.784	4.20899
0.893	3.21587	2.19	8.10956	0.805	4.26964
0.914	3.27239	2.245	8.19055	0.821	4.33188
0.934	3.32887	2.291	8.26912	0.842	4.39413
0.955	3.38635	2.346	8.34086	0.858	4.45
0.975	3.44287	2.391	8.41723	0.879	4.51225
0.996	3.5003	2.447	8.48435	0.895	4.57768
1.016	3.55683	2.492	8.54916	0.916	4.63515
1.037	3.61235	2.548	8.60924	0.933	4.69906
1.057	3.66887	2.594	8.66712	0.953	4.76123
1.078	3.72439	2.65	8.72731	0.969	4.8187
1.098	3.77804	2.695	8.79202	0.99	4.87616
1.119	3.83261	2.749	8.85221	1.006	4.93841
1.139	3.8853	2.797	8.90777	1.027	5.00072
1.161	3.93891	2.851	8.9563	1.044	5.05493
1.181	3.99448	2.896	9.01187	1.064	5.11399
1.202	4.04809	2.952	9.05588	1.081	5.17464
1.222	4.09983	2.998	9.09979	1.101	5.23051
1.243	4.15152	3.054	9.13676	1.118	5.28797
1.262	4.20326	3.1	9.18771	1.138	5.34384
1.284	4.25304	3.155	9.23162	1.155	5.39812
1.304	4.30665	3.199	9.26408	1.175	5.45399
1.325	4.3603	3.255	9.27563	1.192	5.51464
1.345	4.412	3.301	9.19002	1.213	5.56732
1.367	4.46374	3.357	9.15073	1.229	5.62319
1.386	4.51352	3.402	9.17616	1.25	5.68384
1.408	4.56335	3.457	9.1854	1.266	5.73652
1.427	4.61409	3.503	9.17847	1.287	5.7892
1.449	4.66483	3.559	9.17384	1.303	5.845
1.469	4.71178	3.604	9.17847	1.324	5.90087
1.49	4.76252	3.66	9.14139	1.34	5.95515
1.509	4.8123	3.704	9.11366	1.361	6.00783
1.531	4.86117	3.76	9.09055	1.377	6.06051
1.551	4.90904	3.806	9.05588	1.398	6.11
1.572	4.95787	3.863	9.06513	1.414	6.16268
1.591	5.00578	3.908	9.07437	1.435	6.21377
1.613	5.0527	3.962	9.05588	1.451	6.26478
1.633	5.0977	4.008	9.04191	1.472	6.31109
1.655	5.14561	4.064	9.03498	1.488	6.36217
1.674	5.18965	4.11	9.03267	1.509	6.41007
1.696	5.2337	4.165	8.99107	1.526	6.45638

1. 715	5. 27774	4. 211	8. 91702	1. 546	6. 5042
1. 737	5. 32083	4. 266	8. 87069	1. 562	6. 5521
1. 756	5. 363	4. 311	8. 84065	1. 583	6. 59522
1. 778	5. 40704	4. 369	8. 78508	1. 6	6. 63993
1. 798	5. 44917	4. 412	8. 73424	1. 62	6. 68616
1. 819	5. 48843	4. 469	8. 69716	1. 637	6. 72928
1. 838	5. 53152	4. 513	8. 67637	1. 657	6. 7708
1. 861	5. 5737	4. 569	8. 67406	1. 673	6. 8187
1. 879	5. 61391	4. 614	8. 66481	1. 695	6. 86174
1. 902	5. 65317	4. 671	8. 64632	1. 71	6. 90804
1. 921	5. 69243	4. 716	8. 63015	1. 731	6. 94957
1. 943	5. 72978	4. 771	8. 5792	1. 748	6. 99261
1. 962	5. 76617	4. 816	8. 49128	1. 768	7. 03094
1. 984	5. 80448	4. 873	8. 44968	1. 785	7. 07725
2. 003	5. 84278	4. 917	8. 42416	1. 806	7. 12036
2. 025	5. 88013	4. 974	8. 37563	1. 822	7. 16022
2. 044	5. 91652	5. 018	8. 21828	1. 842	7. 20174
2. 066	5. 95674	5. 075	8. 04244	1. 859	7. 24486
2. 085	5. 99217	5. 12	7. 95452	1. 879	7. 28312
2. 108	6. 02856	5. 175	7. 85042	1. 896	7. 32623
2. 126	6. 06304	5. 222	7. 74863	1. 916	7. 36297
2. 149	6. 09848	5. 276	7. 65137	1. 933	7. 40283
2. 168	6. 13583	5. 321	7. 0938	1. 953	7. 43957
2. 19	6. 1703	5. 377	5. 49968	1. 97	7. 4779
2. 209	6. 20287	5. 422	5. 01838	1. 991	7. 51775
2. 231	6. 23735	5. 48	4. 8541	2. 007	7. 55449
2. 25	6. 26991	5. 524	4. 64821	2. 027	7. 59116
2. 272	6. 30057	5. 58	4. 52332	2. 044	7. 62949
2. 291	6. 33022	5. 624	4. 44464	2. 064	7. 65986
2. 314	6. 36183	5. 681	4. 34517	2. 081	7. 69652
2. 333	6. 39343	5. 726	4. 19475	2. 102	7. 73167
2. 355	6. 42313	5. 782	3. 97952	2. 119	7. 76993
2. 373	6. 45474	5. 827	3. 80368	2. 139	7. 80348
2. 396	6. 48635	5. 882	3. 63246	2. 155	7. 84022
2. 414	6. 51796	5. 928	3. 45662	2. 176	7. 87051
2. 438	6. 54761	5. 984	3. 25305	2. 192	7. 90406
2. 456	6. 57922	6. 028	3. 09107	2. 213	7. 93435
2. 478	6. 60796	6. 086	2. 95	2. 23	7. 97109
2. 497	6. 63383	6. 13	2. 825	2. 25	8. 00297
2. 519	6. 66065	6. 186	2. 68624	2. 266	8. 03812
2. 538	6. 68935	6. 231	2. 56355	2. 286	8. 06522
2. 561	6. 71522	6. 287	2. 42941	2. 304	8. 09558
2. 579	6. 743	6. 333	2. 31366	2. 324	8. 12746
2. 602	6. 76883	6. 387	2. 23036	2. 34	8. 15942

2. 62	6. 7813	6. 433	2. 14244	2. 361	8. 18652
2. 643	6. 80235	6. 49	2. 06618	2. 378	8. 21688
2. 661	6. 83013	6. 535	2. 02216	2. 398	8. 24877
2. 684	6. 85409	6. 59	1. 97122	2. 414	8. 28232
2. 702	6. 87709	6. 636	1. 92269	2. 435	8. 30942
2. 726	6. 90196	6. 692	1. 88099	2. 452	8. 33819
2. 744	6. 92496	6. 737	1. 84632	2. 472	8. 3637
2. 766	6. 94891	6. 793	1. 78845	2. 489	8. 39246
2. 785	6. 97474	6. 837	1. 72836	2. 509	8. 41478
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2. 891	7. 08774	7. 096	1. 48078	2. 6	8. 54406
2. 909	7. 11265	7. 141	1. 41828	2. 62	8. 57283
2. 931	7. 13852	7. 196	1. 34422	2. 637	8. 59993
2. 949	7. 16243	7. 241	1. 31649	2. 657	8. 62551
2. 973	7. 18161	7. 298	1. 298	2. 674	8. 65102
2. 991	7. 20461	7. 342	1. 28645	2. 694	8. 67174
3. 014	7. 22852	7. 398	1. 26555	2. 711	8. 69891
3. 032	7. 25248	7. 444	1. 24244	2. 731	8. 71964
3. 055	7. 27356	7. 499	1. 19622	2. 748	8. 74362
3. 073	7. 29556	7. 546	1. 17763	2. 768	8. 76275
3. 096	7. 31856	7. 6	1. 14065	2. 785	8. 78507
3. 114	7. 3377	7. 647	1. 11985	2. 805	8. 80587
3. 137	7. 35974	7. 701	1. 09664	2. 822	8. 83297
3. 155	7. 37983	7. 747	1. 08508	2. 842	8. 8521
3. 178	7. 38561	7. 801	1. 05735	2. 86	8. 87609
3. 197	7. 37122	7. 848	1. 0458	2. 879	8. 89841
3. 219	7. 37409	7. 903	1. 02962	2. 896	8. 91913
3. 238	7. 39135	7. 95	1. 01807	2. 916	8. 93833
3. 26	7. 40665	8. 004	1. 00872	2. 933	8. 95906
3. 279	7. 422	8. 05	1. 0041	2. 953	8. 97819
3. 302	7. 4373	8. 105	0. 98561	2. 971	9. 00058
3. 32	7. 45261	8. 151	0. 96481	2. 99	9. 0229
3. 343	7. 46796	8. 206	0. 9417	3. 008	9. 0421
3. 361	7. 48517	8. 253	0. 92311	3. 027	9. 05964
3. 384	7. 50052	8. 306	0. 90231	3. 045	9. 08036
3. 402	7. 51678	8. 353	0. 90462	3. 064	9. 10109
3. 426	7. 52926	8. 408	0. 89538	3. 082	9. 12188
3. 444	7. 54648	8. 454	0. 9	3. 101	9. 13942
3. 466	7. 56278	8. 509	0. 88845	3. 119	9. 165
3. 485	7. 57809	8. 555	0. 87689	3. 138	9. 18732
3. 507	7. 59435	8. 61	0. 85609	3. 156	9. 20964

3.526	7.61161	8.657	0.85147	3.175	9.22725
3.549	7.62691	8.711	0.83519	3.193	9.24478
3.567	7.64226	8.758	0.83057	3.212	9.2671
3.59	7.65278	8.811	0.81901	3.23	9.29268
3.608	7.66904	8.859	0.82826	3.249	9.31022
3.631	7.67961	8.913	0.81439	3.267	9.33094
3.65	7.69491	8.96	0.80515	3.286	9.35174
3.672	7.71217	9.013	0.78897	3.304	9.37087
3.69	7.72556	9.061	0.78897	3.323	9.38681
3.714	7.73704	9.115	0.77742	3.341	9.40275
3.732	7.75239	9.162	0.77742	3.36	9.41877
3.754	7.76674	9.216	0.75893	3.378	9.4379
3.773	7.78017	9.263	0.75662	3.397	9.45225
3.796	7.79261	9.316	0.70798	3.415	9.47304
3.814	7.7993	9.365	0.6895	3.434	9.49058
3.838	7.806	9.416	0.67101	3.452	9.5113
3.855	7.81657	9.465	0.66628	3.471	9.52732
3.878	7.82804	9.518	0.65242	3.49	9.54645
3.897	7.83857	9.567	0.6501	3.508	9.5608
3.919	7.85004	9.619	0.62468	3.527	9.58152
3.938	7.86061	9.667	0.627	3.545	9.59116
3.96	7.87304	9.72	0.60851	3.564	9.51928
3.979	7.8893	9.768	0.60158	3.582	9.3629
4.001	7.90083	9.821	0.58771	3.601	9.33254
4.02	7.91326	9.869	0.59002	3.619	9.32297
4.043	7.92765	9.921	0.56912	3.638	9.31819
4.061	7.94104	9.971	0.57847	3.656	9.30862
4.084	7.95348	10.023	0.57143	3.675	9.29906
4.102	7.96596	10.072	0.57374	3.693	9.29906
4.125	7.9717	10.124	0.56218	3.712	9.30544
4.144	7.97648	10.173	0.56681	3.73	9.31022
4.166	7.98222	10.224	0.55987	3.749	9.31659
4.185	7.99178	10.274	0.56681	3.767	9.32297
4.207	7.99948	10.326	0.56218	3.786	9.33413
4.226	8.01191	10.376	0.56912	3.805	9.34051
4.248	8.02339	10.427	0.55525	3.823	9.35493
4.267	8.03391	10.476	0.55756	3.84	9.36768
4.29	8.04639	10.528	0.54139	3.86	9.37884
4.309	8.05691	10.577	0.54139	3.878	9.37565
4.331	8.06457	10.628	0.53676	3.897	9.35812
4.349	8.07609	10.679	0.5437	3.915	9.35174
4.372	8.0847	10.729	0.53214	3.934	9.35174
4.391	8.09426	10.778	0.53676	3.952	9.35812
4.413	8.10287	10.83	0.52521	3.971	9.3613

4. 432	8. 11152	10. 88	0. 53214	3. 989	9. 18572
4. 454	8. 12013	10. 93	0. 52059	4. 009	8. 82978
4. 473	8. 13065	10. 981	0. 52059	4. 026	8. 59355
4. 495	8. 14117	11. 032	0. 5021	4. 045	8. 35094
4. 514	8. 15078	11. 082	0. 49748	4. 063	8. 20732
4. 536	8. 15652	11. 132	0. 47889	4. 082	8. 14348
4. 555	8. 16609	11. 183	0. 4812	4. 1	8. 09558
4. 577	8. 17183	11. 234	0. 47426	4. 119	8. 06841
4. 596	8. 17952	11. 284	0. 47889	4. 137	8. 04449
4. 618	8. 18335	11. 336	0. 46964	4. 157	8. 02377
4. 638	8. 18717	11. 385	0. 46502	4. 174	7. 99978
4. 66	8. 19196	11. 435	0. 4396	4. 194	7. 92957
4. 679	8. 19291	11. 487	0. 44191	4. 211	7. 81942
4. 701	8. 1977	11. 536	0. 44422	4. 231	7. 76355
4. 72	8. 20343	11. 588	0. 44422	4. 248	7. 73804
4. 742	8. 21109	11. 637	0. 4188	4. 268	7. 70449
4. 761	8. 21783	11. 69	0. 42574	4. 285	7. 67101
4. 783	8. 2207	11. 738	0. 41187	4. 305	7. 65507
4. 803	8. 21878	11. 791	0. 41418	4. 322	7. 63587
4. 824	8. 20822	11. 838	0. 41187	4. 342	7. 61674
4. 844	8. 20343	11. 891	0. 42111	4. 359	7. 59761
4. 865	8. 20057	11. 94	0. 41187	4. 379	7. 59275
4. 885	8. 19387	11. 993	0. 41418	4. 396	7. 56884
4. 906	8. 18813	12. 04	0. 39328	4. 416	7. 50181
4. 926	8. 19004	12. 092	0. 39328	4. 433	7. 44754
4. 947	8. 18813	12. 141	0. 38403	4. 453	7. 41884
4. 967	8. 17756	12. 195	0. 39097	4. 47	7. 37891
4. 988	8. 14117	12. 243	0. 36786	4. 49	7. 35659
5. 008	8. 12109	12. 295	0. 36786	4. 507	7. 3342
5. 03	8. 11057	12. 343	0. 36092	4. 527	7. 2863
5. 049	8. 10287	12. 397	0. 36092	4. 544	7. 16819
5. 071	8. 1	12. 444	0. 35399	4. 564	7. 00862
5. 091	8. 09809	12. 497	0. 35861	4. 581	6. 92717
5. 112	8. 09713	12. 547	0. 35168	4. 601	6. 88891
5. 132	8. 09617	12. 598	0. 35168	4. 618	6. 84261
5. 153	8. 08948	12. 646	0. 34475	4. 639	6. 78355
5. 173	8. 08661	12. 699	0. 34706	4. 655	6. 71333
5. 194	8. 08565	12. 748	0. 33088	4. 675	6. 62551
5. 214	8. 08852	12. 802	0. 33319	4. 692	5. 92007
5. 235	8. 08852	12. 848	0. 32626	4. 712	2. 75333
5. 255	8. 08756	12. 903	0. 32164	4. 729	1. 43493
5. 276	8. 08278	12. 948	0. 30998	4. 749	1. 40623
5. 297	8. 08087	13. 003	0. 30998	4. 766	1. 40145
5. 318	8. 08374	13. 05	0. 28918	4. 787	1. 39348

5.338	8.07991	13.105	0.29611	4.803	1.38225
5.358	8.06839	13.151	0.29149	4.824	1.38225
5.379	8.06648	13.204	0.29149	4.84	1.38384
5.399	8.06743	13.252	0.28456	4.861	1.36949
5.42	8.06361	13.306	0.29611	4.877	1.33123
5.441	8.05404	13.351	0.28687	4.898	1.30246
5.461	8.03778	13.408	0.28918	4.914	1.29609
5.481	8.02052	13.453	0.28456	4.935	1.29768
5.502	8.01096	13.508	0.29842	4.951	1.29449
5.523	8.00235	13.554	0.28687	4.972	1.29609
5.543	7.98317	13.61	0.29149	4.989	1.30087
5.564	7.97552	13.657	0.28687	5.009	1.29609
5.585	7.96978	13.709	0.28687	5.025	1.28812
5.605	7.96404	13.758	0.28456	5.046	1.27855
5.626	7.94965	13.811	0.29611	5.062	1.2658
5.647	7.9267	13.858	0.28456	5.083	1.25775
5.667	7.91326	13.913	0.2938	5.1	1.25616
5.687	7.897	13.958	0.28687	5.12	1.26254
5.709	7.88452	14.014	0.29842	5.137	1.26094
5.729	7.86922	14.059	0.27994	5.157	1.26094
5.749	7.8587	14.116	0.27532	5.173	1.25775
5.77	7.83283	14.16	0.26607	5.194	1.26739
5.791	7.7993	14.216	0.26838	5.211	1.27217
5.811	7.78974	14.262	0.24989	5.232	1.27217
5.832	7.77726	14.316	0.25452	5.248	1.27855
5.852	7.76196	14.363	0.23834	5.269	1.28014
5.873	7.74857	14.419	0.23834	5.285	1.26254
5.893	7.738	14.463	0.23834	5.305	1.25138
5.914	7.72748	14.519	0.23141	5.322	1.25457
5.934	7.71409	14.564	0.23141	5.342	1.25775
5.956	7.70065	14.621	0.22206	5.359	1.24022
5.975	7.69396	14.665	0.21975	5.38	1.21471
5.996	7.68535	14.721	0.21744	5.396	1.20196
6.016	7.67387	14.767	0.21513	5.416	1.19232
6.038	7.64513	14.823	0.21744	5.433	1.18435
6.057	7.61448	14.868	0.20819	5.454	1.17797
6.079	7.56948	14.923	0.21282	5.47	1.16681
6.098	7.24578	14.97	0.21513	5.49	1.15725
6.12	6.87996	15.024	0.21513	5.507	1.15565
6.14	6.7947	15.069	0.21513	5.528	1.14928
6.161	6.74587	15.125	0.21513	5.544	1.13645
6.181	6.71235	15.171	0.21513	5.565	1.13326
6.202	6.68743	15.228	0.21513	5.581	1.14123
6.221	6.65296	15.272	0.21282	5.602	1.14123

6.243	6.60413	15.328	0.21975	5.618	1.14609
6.263	6.57826	15.372	0.21282	5.638	1.15884
6.285	6.55817	15.428	0.2105	5.655	1.17319
6.304	6.539	15.474	0.20126	5.676	1.17
6.326	6.52178	15.53	0.20357	5.692	1.13964
6.345	6.50835	15.576	0.20126	5.713	1.05667
6.367	6.48635	15.631	0.20819	5.73	1.0008
6.386	6.46239	15.675	0.19433	5.75	0.99123
6.408	6.44804	15.731	0.18739	5.766	0.9737
6.428	6.43748	15.777	0.18277	5.787	0.96413
6.449	6.40396	15.833	0.18739	5.804	0.96246
6.468	6.381	15.877	0.18508	5.824	0.96732
6.491	6.35417	15.933	0.18046	5.841	0.97688
6.509	6.30535	15.978	0.18508	5.861	0.9721
6.532	6.2153	16.036	0.18046	5.878	0.9721
6.551	6.14348	16.08	0.18046	5.898	0.96087
6.573	6.09848	16.136	0.18046	5.914	0.95609
6.592	6.06783	16.18	0.17815	5.935	0.95768
6.614	6.03909	16.237	0.17584	5.952	0.96413
6.633	6.00461	16.282	0.17122	5.972	0.96246
6.655	5.97304	16.338	0.16891	5.989	0.96087
6.674	5.93661	16.383	0.16891	6.009	0.94493
6.697	5.90504	16.44	0.17353	6.026	0.93855
6.716	5.88109	16.484	0.1666	6.047	0.93377
6.737	5.84948	16.542	0.1666	6.063	0.92899
6.757	5.81309	16.584	0.1666	6.084	0.91783
6.779	5.77096	16.642	0.16429	6.1	0.90341
6.797	5.65126	16.686	0.15966	6.121	0.89703
6.82	5.3017	16.742	0.16197	6.137	0.88746
6.839	5.11783	16.787	0.16197	6.158	0.88109
6.862	5.02874	16.844	0.15042	6.174	0.88428
6.88	4.933	16.889	0.15504	6.195	0.88428
6.902	4.81039	16.944	0.15273	6.211	0.87471
6.921	4.69739	16.989	0.15735	6.231	0.85239
6.944	4.59587	17.046	0.15735	6.248	0.8492
6.962	4.46278	17.09	0.15735	6.269	0.8508
6.985	4.27796	17.147	0.1458	6.285	0.85717
7.003	3.38826	17.191	0.15504	6.305	0.85239
7.026	2.3693	17.248	0.15735	6.322	0.85399
7.044	2.22757	17.293	0.15042	6.343	0.84761
7.067	2.17778	17.348	0.15273	6.359	0.84442
7.086	2.1433	17.394	0.1458	6.38	0.83
7.108	2.13274	17.45	0.13183	6.396	0.83159
7.127	2.11935	17.494	0.13645	6.417	0.82043

7. 15	2. 10113	17. 55	0. 13645	6. 434	0. 82522
7. 169	2. 08965	17. 596	0. 13414	6. 454	0. 81884
7. 19	2. 07052	17. 653	0. 13645	6. 47	0. 81406
7. 209	2. 05804	17. 697	0. 13876	6. 491	0. 80449
7. 232	2. 04561	17. 753	0. 13414	6. 507	0. 81246
7. 25	2. 03413	17. 798	0. 13183	6. 527	0. 80768
7. 273	2. 03222	17. 853	0. 13876	6. 545	0. 8013
7. 292	2. 02548	17. 899	0. 13414	6. 565	0. 78051
7. 314	2. 014	17. 955	0. 13414	6. 582	0. 79014
7. 332	2. 00922	18. 001	0. 14107	6. 602	0. 79333
7. 355	2. 0073	18. 056	0. 12952	6. 619	0. 79652
7. 374	2. 00635	18. 1	0. 12721	6. 639	0. 78217
7. 397	2. 00539	18. 156	0. 12258	6. 656	0. 76935
7. 415	2. 00539	18. 202	0. 12489	6. 676	0. 76138
7. 438	2. 00348	18. 258	0. 12027	6. 693	0. 75978
7. 456	2. 00348	18. 303	0. 12258	6. 713	0. 73746
7. 479	1. 99774	18. 358	0. 11565	6. 73	0. 7279
7. 497	1. 97474	18. 404	0. 11796	6. 749	0. 71993
7. 52	1. 96422	18. 461	0. 11565	6. 767	0. 71826
7. 538	1. 95657	18. 505	0. 12258	6. 787	0. 71667
7. 561	1. 94504	18. 561	0. 10641	6. 804	0. 70391
7. 58	1. 92687	18. 606	0. 11103	6. 824	0. 68638
7. 602	1. 90674	18. 662	0. 11334	6. 841	0. 69116
7. 621	1. 88087	18. 707	0. 11103	6. 861	0. 68957
7. 643	1. 85217	18. 763	0. 09485	6. 878	0. 69754
7. 662	1. 83587	18. 808	0. 1041	6. 898	0. 69275
7. 685	1. 8263	18. 865	0. 09716	6. 915	0. 69116
7. 703	1. 81865	18. 909	0. 09485	6. 935	0. 67522
7. 726	1. 80617	18. 966	0. 09485	6. 952	0. 66406
7. 744	1. 78609	19. 01	0. 10179	6. 972	0. 64167
7. 767	1. 76787	19. 066	0. 0833	6. 989	0. 64645
7. 785	1. 76213	19. 112	0. 09254	7. 009	0. 64645
7. 809	1. 76691	19. 166	0. 09947	7. 026	0. 66406
7. 826	1. 77461	19. 213	0. 08792	7. 046	0. 66565
7. 85	1. 77461	19. 268	0. 08792	7. 064	0. 68
7. 868	1. 77361	19. 314	0. 10641	7. 083	0. 68159
7. 89	1. 76978	19. 368	0. 0833	7. 101	0. 68797
7. 909	1. 76117	19. 415	0. 09716	7. 12	0. 68159
7. 932	1. 73917	19. 47	0. 08561	7. 138	0. 68638
7. 95	1. 73148	19. 516	0. 09947	7. 157	0. 68
7. 973	1. 71235	19. 571	0. 08099	7. 175	0. 67841
7. 991	1. 67596	19. 617	0. 10179	7. 194	0. 66406
8. 014	1. 65009	19. 672	0. 09254	7. 212	0. 68159
8. 032	1. 62135	19. 719	0. 08561	7. 231	0. 68478

8.055	1.59648	19.772	0.09716	7.249	0.69116
8.073	1.59648	19.819	0.09485	7.268	0.66884
8.096	1.59165	19.874	0.09023	7.286	0.66884
8.115	1.59165	19.92	0.09485	7.305	0.66087
8.137	1.59261	19.973	0.09254	7.323	0.66087
8.156	1.59261	20.022	0.09716	7.342	0.64645
8.179	1.58687	20.077	0.09023	7.36	0.65601
8.197	1.57826	20.123	0.10179	7.38	0.65601
8.219	1.55143	20.177	0.08792	7.397	0.66246
8.238	1.5457	20.224	0.09716	7.415	0.66406
8.261	1.53804	20.277	0.09023	7.434	0.67043
8.28	1.52274	20.323	0.09023	7.453	0.66087
8.302	1.51409	20.378	0.08792	7.471	0.64326
8.321	1.50548	20.426	0.09485	7.49	0.61616
8.343	1.49783	20.48	0.08099	7.509	0.61935
8.362	1.48826	20.527	0.09254	7.527	0.61935
8.384	1.47483	20.579	0.0833	7.545	0.63051
8.403	1.47387	20.628	0.07868	7.564	0.62254
8.425	1.46143	20.681	0.08099	7.582	0.61935
8.444	1.46048	20.728	0.10179	7.601	0.61616
8.467	1.45761	20.782	0.06943	7.62	0.61935
8.485	1.43557	20.83	0.07174	7.638	0.60659
8.508	1.4327	20.883	0.08792	7.657	0.60181
8.526	1.4327	20.931	0.08099	7.675	0.59377
8.549	1.42217	20.984	0.0625	7.693	0.59377
8.568	1.42026	21.032	0.09254	7.712	0.58739
8.59	1.41357	21.085	0.07868	7.731	0.59696
8.609	1.40491	21.133	0.06943	7.749	0.59217
8.631	1.39152	21.185	0.07405	7.768	0.59217
8.65	1.38483	21.234	0.09023	7.786	0.57623
8.673	1.37522	21.288	0.06943	7.805	0.58101
8.691	1.36661	21.335	0.07405	7.823	0.57145
8.714	1.35991	21.388	0.08792	7.842	0.58261
8.733	1.34652	21.436	0.07637	7.86	0.57942
8.755	1.3283	21.488	0.06481	7.879	0.58899
8.773	1.3283	21.537	0.09023	7.897	0.58101
8.797	1.33022	21.588	0.06943	7.916	0.5858
8.815	1.33022	21.638	0.07174	7.934	0.56826
8.837	1.32448	21.691	0.0833	7.953	0.56348
8.856	1.335	21.739	0.08099	7.971	0.53949
8.878	1.33309	21.79	0.06712	7.99	0.54116
8.897	1.33022	21.841	0.0833	8.008	0.52674
8.92	1.32161	21.892	0.07174	8.027	0.52993
8.938	1.31587	21.942	0.07405	8.045	0.53152

8.96	1.30822	21.993	0.06712	8.064	0.5363
8.979	1.30726	22.042	0.08561	8.082	0.5363
9.002	1.30435	22.094	0.06481	8.101	0.54268
9.02	1.30822	22.145	0.07637	8.119	0.54268
9.043	1.30726	22.195	0.07174	8.138	0.55072
9.062	1.30726	22.245	0.07174	8.156	0.55391
9.084	1.29765	22.297	0.06712	8.175	0.55232
9.103	1.2967	22.345	0.07868	8.193	0.55391
9.125	1.29287	22.395	0.06481	8.213	0.55551
9.144	1.29096	22.447	0.06712	8.23	0.51717
9.166	1.28235	22.498	0.06943	8.249	0.5108
9.185	1.28139	22.549	0.06712	8.267	0.5108
9.207	1.26987	22.599	0.05557	8.287	0.51239
9.226	1.26126	22.65	0.0625	8.304	0.5092
9.249	1.26126	22.699	0.07174	8.323	0.52833
9.268	1.25457	22.75	0.04622	8.341	0.52993
9.29	1.23061	22.8	0.07174	8.361	0.53797
9.309	1.20861	22.852	0.0625	8.378	0.54435
9.331	1.18465	22.901	0.0625	8.398	0.54435
9.35	1.18083	22.953	0.06943	8.415	0.50601
9.372	1.18178	23.001	0.06019	8.435	0.49964
9.392	1.18657	23.053	0.07405	8.452	0.50283
9.413	1.18848	23.103	0.05084	8.472	0.50601
9.432	1.19326	23.154	0.07868	8.489	0.50442
9.454	1.1923	23.203	0.05777	8.509	0.49645
9.473	1.18465	23.256	0.0625	8.526	0.48529
9.495	1.17317	23.304	0.06481	8.546	0.4821
9.515	1.1703	23.357	0.06712	8.563	0.4837
9.536	1.16265	23.405	0.05315	8.583	0.49007
9.556	1.15974	23.458	0.07405	8.6	0.49007
9.578	1.15017	23.506	0.06019	8.62	0.50123
9.597	1.13965	23.559	0.06943	8.637	0.48688
9.619	1.1253	23.607	0.05777	8.657	0.48848
9.638	1.12626	23.661	0.06943	8.674	0.48529
9.66	1.12722	23.709	0.05777	8.695	0.49007
9.68	1.13296	23.761	0.06712	8.711	0.45971
9.701	1.11378	23.809	0.06712	8.731	0.44855
9.721	1.11091	23.863	0.06481	8.748	0.44696
9.742	1.09178	23.909	0.05777	8.768	0.44536
9.762	1.08217	23.964	0.06712	8.785	0.44696
9.783	1.07548	24.01	0.05777	8.805	0.45333
9.803	1.08217	24.064	0.0625	8.822	0.44855
9.824	1.08313	24.112	0.0625	8.843	0.45493
9.844	1.08217	24.166	0.06481	8.859	0.45652

9.865	1.07739	24.212	0.06019	8.88	0.4629
9.885	1.07548	24.267	0.06481	8.896	0.45652
9.907	1.05635	24.314	0.06019	8.916	0.45652
9.927	1.04865	24.367	0.06481	8.933	0.45014
9.947	1.04865	24.415	0.05557	8.954	0.45971
9.968	1.05348	24.468	0.06481	8.97	0.4613
9.988	1.05539	24.515	0.05315	8.991	0.4613
10.009	1.06304	24.57	0.06481	9.008	0.44696
10.029	1.05922	24.617	0.05557	9.028	0.42145
10.05	1.0573	24.671	0.05557	9.044	0.415
10.071	1.05248	24.718	0.05315	9.065	0.41659
10.092	1.04004	24.772	0.06019	9.081	0.41978
10.112	1.03048	24.818	0.04853	9.102	0.42464
10.133	1.03335	24.872	0.06019	9.119	0.41978
10.153	1.02761	24.92	0.05315	9.139	0.42942
10.173	1.02474	24.974	0.06019	9.155	0.4342
10.194	1.02091	25.02	0.05315	9.176	0.43261
10.215	1.01709	25.076	0.06019	9.192	0.43101
10.235	1.00939	25.121	0.05084	9.213	0.44058
10.256	1.00939	25.176	0.05315	9.23	0.43101
10.277	1.00652	25.221	0.05084	9.25	0.41819
10.297	1.00557	25.277	0.05315	9.267	0.415
10.317	1.00078	25.323	0.05084	9.288	0.42145
10.338	1.0027	25.378	0.05557	9.304	0.415
10.358	1.00557	25.424	0.05084	9.324	0.41819
10.38	1.0113	25.478	0.05315	9.341	0.42623
10.4	1.00365	25.526	0.04853	9.361	0.42304
10.42	1.00652	25.581	0.05315	9.378	0.42145
10.44	1.01517	25.626	0.04622	9.398	0.43739
10.462	1.02091	25.681	0.05557	9.415	0.43899
10.482	1.01417	25.727	0.05084	9.435	0.44058
10.503	1.00939	25.783	0.04853	9.452	0.42783
10.523	1.0027	25.828	0.04853	9.472	0.42145
10.544	0.99504	25.883	0.05084	9.489	0.415
10.564	0.97874	25.929	0.04853	9.509	0.41659
10.586	0.97491	25.985	0.05315	9.526	0.41978
10.606	0.96343	26.03	0.05315	9.547	0.42145
10.626	0.96152	26.086	0.05557	9.563	0.41659
10.646	0.95865	26.131	0.04391	9.584	0.38949
10.668	0.96057	26.187	0.05084	9.6	0.37355
10.687	0.95483	26.232	0.04391	9.621	0.37036
10.709	0.95291	26.289	0.04853	9.637	0.37514
10.729	0.95196	26.333	0.04853	9.658	0.37993
10.75	0.9577	26.389	0.04853	9.674	0.37196

10.77	0.95865	26.434	0.04391	9.695	0.37993
10.792	0.95961	26.49	0.04622	9.711	0.3879
10.811	0.94909	26.535	0.03697	9.732	0.37833
10.832	0.94813	26.592	0.03697	9.748	0.38471
10.852	0.95196	26.635	0.03929	9.769	0.39268
10.874	0.95196	26.692	0.0416	9.785	0.39906
10.893	0.94043	26.737	0.03697	9.806	0.40065
10.915	0.93183	26.794	0.0416	9.822	0.39906
10.934	0.91939	26.838	0.03929	9.843	0.39428
10.956	0.90887	26.894	0.03929	9.859	0.39109
10.975	0.89161	26.939	0.03697	9.88	0.39109
10.997	0.87917	26.996	0.0416	9.897	0.39428
11.016	0.8763	27.041	0.03697	9.917	0.3863
11.038	0.8763	27.096	0.03697	9.933	0.38471
11.058	0.87343	27.141	0.03466	9.954	0.38152
11.08	0.87535	27.198	0.03235	9.97	0.37833
11.099	0.8763	27.242	0.03004	9.991	0.38152
11.121	0.87822	27.298	0.03004	10.008	0.38471
11.14	0.86765	27.344	0.02542	10.028	0.36399
11.162	0.86287	27.399	0.02773	10.045	0.34478
11.18	0.85809	27.445	0.03235	10.065	0.34319
11.203	0.85904	27.501	0.02773	10.082	0.34
11.222	0.8533	27.546	0.02773	10.102	0.34478
11.244	0.85139	27.601	0.03004	10.119	0.34638
11.263	0.84374	27.646	0.03004	10.14	0.34
11.286	0.83896	27.702	0.02773	10.156	0.33362
11.304	0.82648	27.748	0.02542	10.177	0.33362
11.326	0.81309	27.804	0.02773	10.193	0.33203
11.345	0.80926	27.849	0.02542	10.213	0.33043
11.368	0.81404	27.903	0.02542	10.23	0.33522
11.387	0.80352	27.95	0.02773	10.25	0.33522
11.409	0.80639	28.006	0.02542	10.267	0.33362
11.427	0.8083	28.05	0.02542	10.287	0.32725
11.45	0.81022	28.106	0.02542	10.304	0.32725
11.469	0.81117	28.152	0.02542	10.324	0.31928
11.491	0.81309	28.209	0.02542	10.341	0.32246
11.51	0.80735	28.253	0.02542	10.362	0.32565
11.532	0.79678	28.309	0.02311	10.378	0.33043
11.551	0.78148	28.354	0.02542	10.398	0.32565
11.574	0.76426	28.411	0.02773	10.415	0.32406
11.592	0.74604	28.455	0.03004	10.436	0.31928
11.615	0.72017	28.511	0.02542	10.452	0.32565
11.633	0.71348	28.556	0.02773	10.473	0.32565
11.656	0.7173	28.613	0.02773	10.489	0.32406

11. 675	0. 725	28. 657	0. 03004	10. 51	0. 31449
11. 697	0. 72596	28. 714	0. 03004	10. 526	0. 32406
11. 716	0. 72304	28. 759	0. 03004	10. 547	0. 32725
11. 738	0. 72017	28. 815	0. 02542	10. 563	0. 33522
11. 757	0. 72113	28. 859	0. 02773	10. 584	0. 33362
11. 78	0. 72304	28. 914	0. 02773	10. 601	0. 33522
11. 798	0. 71539	28. 96	0. 02542	10. 621	0. 33203
11. 821	0. 71826	29. 017	0. 02773	10. 638	0. 33681
11. 839	0. 71635	29. 061	0. 02773	10. 658	0. 33362
11. 862	0. 71539	29. 117	0. 02311	10. 675	0. 32565
11. 88	0. 71443	29. 163	0. 02542	10. 695	0. 32087
11. 903	0. 71826	29. 219	0. 02311	10. 712	0. 32087
11. 921	0. 72113	29. 263	0. 0208	10. 732	0. 31449
11. 944	0. 725	29. 319	0. 01387	10. 749	0. 3113
11. 963	0. 72304	29. 364	0. 01618	10. 769	0. 29688
11. 985	0. 72304	29. 42	0. 01387	10. 786	0. 30174
12. 004	0. 72017	29. 466	0. 0208	10. 806	0. 29688
12. 026	0. 72209	29. 522	0. 01618	10. 823	0. 29688
12. 045	0. 72304	29. 567	0. 01618	10. 843	0. 29051
12. 068	0. 71252	29. 623	0. 01155	10. 86	0. 29688
12. 086	0. 70583	29. 667	0. 01849	10. 88	0. 29848
12. 109	0. 70774	29. 722	0. 01618	10. 897	0. 30812
12. 127	0. 71061	29. 769	0. 0208	10. 917	0. 30652
12. 15	0. 71252	29. 825	0. 01618	10. 934	0. 3129
12. 168	0. 70774	29. 87	0. 01618	10. 954	0. 31449
12. 191	0. 70104	29. 926	0. 01618	10. 971	0. 32087
12. 21	0. 69722	29. 972	0. 0208	10. 99	0. 3129
12. 233	0. 69817	30. 026	0. 01849	11. 008	0. 3129
12. 251	0. 69913	30. 071	0. 02311	11. 028	0. 3129
12. 274	0. 69913	30. 127	0. 01618	11. 045	0. 3113
12. 292	0. 69817	30. 173	0. 0208	11. 065	0. 3113
12. 315	0. 70009	30. 229	0. 01849	11. 082	0. 32246
12. 333	0. 69626	30. 274	0. 0208	11. 102	0. 30971
12. 356	0. 67613	30. 328	0. 01155	11. 119	0. 30971
12. 375	0. 66848	30. 375	0. 01849	11. 139	0. 30971
12. 397	0. 66561	30. 431	0. 01849	11. 157	0. 32087
12. 415	0. 67135	30. 476	0. 01849	11. 176	0. 30652
12. 438	0. 67039	30. 531	0. 01618	11. 193	0. 30652
12. 456	0. 66848	30. 577	0. 02311	11. 213	0. 30812
12. 479	0. 65891	30. 632	0. 01618	11. 231	0. 3113
12. 498	0. 65796	30. 679	0. 02311	11. 25	0. 30652
12. 52	0. 657	30. 733	0. 01849	11. 267	0. 30333
12. 539	0. 65509	30. 779	0. 0208	11. 287	0. 29529
12. 562	0. 65026	30. 835	0. 01849	11. 305	0. 29848

12. 58	0. 65026	30. 88	0. 02311	11. 324	0. 2937
12. 603	0. 6493	30. 936	0. 0208	11. 342	0. 29848
12. 621	0. 64452	30. 982	0. 0208	11. 361	0. 28891
12. 644	0. 64548	31. 037	0. 01618	11. 379	0. 2921
12. 662	0. 65122	31. 082	0. 01849	11. 398	0. 29051
12. 685	0. 65122	31. 138	0. 01387	11. 416	0. 29688
12. 703	0. 65122	31. 185	0. 02311	11. 435	0. 2937
12. 727	0. 64452	31. 239	0. 01618	11. 453	0. 2921
12. 745	0. 64261	31. 285	0. 02311	11. 472	0. 28572
12. 768	0. 63783	31. 338	0. 01618	11. 49	0. 29529
12. 786	0. 63974	31. 386	0. 02311	11. 509	0. 28732
12. 809	0. 63783	31. 441	0. 01849	11. 527	0. 29051
12. 827	0. 63113	31. 487	0. 02311	11. 546	0. 28732
12. 85	0. 62252	31. 54	0. 01618	11. 564	0. 28732
12. 868	0. 62635	31. 589	0. 02311	11. 583	0. 27297
12. 891	0. 62539	31. 642	0. 01618	11. 601	0. 28254
12. 909	0. 62443	31. 689	0. 0208	11. 62	0. 28094
12. 932	0. 62348	31. 742	0. 01849	11. 638	0. 27616
12. 951	0. 61678	31. 79	0. 0208	11. 657	0. 25384
12. 973	0. 61196	31. 844	0. 01387	11. 675	0. 26181
12. 992	0. 61578	31. 891	0. 02311	11. 694	0. 26341
13. 014	0. 6187	31. 945	0. 01387	11. 712	0. 27297
13. 033	0. 62157	31. 992	0. 0208	11. 731	0. 26978
13. 055	0. 61196	32. 047	0. 01849	11. 749	0. 27616
13. 075	0. 61004	32. 093	0. 02311	11. 768	0. 26659
13. 097	0. 60717	32. 146	0. 01387	11. 787	0. 265
13. 115	0. 60526	32. 195	0. 02311	11. 805	0. 24587
13. 138	0. 60143	32. 249	0. 01618	11. 823	0. 24746
13. 156	0. 60335	32. 296	0. 0208	11. 843	0. 25065
13. 179	0. 6043	32. 349	0. 01618	11. 86	0. 26022
13. 198	0. 60048	32. 397	0. 02542	11. 879	0. 25384
13. 221	0. 5957	32. 449	0. 01387	11. 898	0. 25384
13. 239	0. 59378	32. 498	0. 02311	11. 916	0. 24746
13. 262	0. 59474	32. 55	0. 01387	11. 935	0. 25862
13. 28	0. 59857	32. 599	0. 02311	11. 954	0. 25543
13. 302	0. 59952	32. 651	0. 01387	11. 972	0. 265
13. 321	0. 59952	32. 701	0. 0208	11. 99	0. 25862
13. 344	0. 59761	32. 751	0. 01618	12. 009	0. 26341
13. 362	0. 59761	32. 801	0. 02542	12. 027	0. 24428
13. 385	0. 59283	32. 853	0. 01618	12. 046	0. 24268
13. 403	0. 59665	32. 902	0. 0208	12. 064	0. 23145
13. 426	0. 59187	32. 953	0. 01618	12. 082	0. 23464
13. 445	0. 59283	33. 003	0. 0208	12. 101	0. 22188
13. 467	0. 58709	33. 055	0. 01387	12. 12	0. 22348

13. 486	0. 58996	33. 104	0. 02542	12. 138	0. 22029
13. 508	0. 58804	33. 156	0. 01849	12. 157	0. 22826
13. 527	0. 58326	33. 206	0. 02542	12. 175	0. 21232
13. 55	0. 58035	33. 257	0. 01849	12. 194	0. 2171
13. 568	0. 5813	33. 306	0. 02773	12. 212	0. 21551
13. 591	0. 57748	33. 358	0. 0208	12. 231	0. 2187
13. 609	0. 57843	33. 407	0. 02311	12. 249	0. 20754
13. 632	0. 56791	33. 459	0. 01387	12. 268	0. 21391
13. 651	0. 56217	33. 508	0. 0208	12. 286	0. 20594
13. 673	0. 55739	33. 56	0. 01155	12. 305	0. 20754
13. 692	0. 55643	33. 611	0. 0208	12. 323	0. 19638
13. 714	0. 55357	33. 66	0. 01387	12. 342	0. 20594
13. 733	0. 56026	33. 711	0. 01849	12. 36	0. 20116
13. 756	0. 56026	33. 76	0. 01155	12. 379	0. 20435
13. 774	0. 56504	33. 812	0. 01849	12. 397	0. 19957
13. 796	0. 56791	33. 862	0. 01618	12. 417	0. 19797
13. 815	0. 57652	33. 913	0. 02311	12. 434	0. 18522
13. 837	0. 57365	33. 962	0. 01387	12. 454	0. 19159
13. 857	0. 57461	34. 014	0. 02311	12. 471	0. 18203
13. 879	0. 56504	34. 064	0. 01618	12. 49	0. 18841
13. 898	0. 56409	34. 115	0. 0208	12. 508	0. 18681
13. 919	0. 55643	34. 164	0. 01387	12. 528	0. 19478
13. 939	0. 55739	34. 216	0. 0208	12. 545	0. 19478
13. 961	0. 55261	34. 265	0. 01618	12. 565	0. 19957
13. 98	0. 55548	34. 317	0. 02311	12. 582	0. 19478
14. 002	0. 54783	34. 367	0. 01387	12. 602	0. 19638
14. 021	0. 54687	34. 418	0. 01849	12. 619	0. 19638
14. 043	0. 54783	34. 469	0. 01618	12. 639	0. 20275
14. 063	0. 5507	34. 518	0. 0208	12. 656	0. 19957
14. 084	0. 54204	34. 568	0. 01849	12. 676	0. 20913
14. 103	0. 543	34. 62	0. 02311	12. 693	0. 20116
14. 126	0. 54013	34. 67	0. 01387	12. 713	0. 20435
14. 144	0. 54013	34. 722	0. 01618	12. 731	0. 19638
14. 166	0. 54491	34. 771	0. 01849	12. 75	0. 19319
14. 186	0. 55165	34. 823	0. 0208	12. 767	0. 19
14. 208	0. 54878	34. 871	0. 01387	12. 787	0. 19797
14. 227	0. 55452	34. 923	0. 02311	12. 804	0. 19638
14. 249	0. 55357	34. 971	0. 01387	12. 824	0. 19797
14. 269	0. 55261	35. 025	0. 01849	12. 841	0. 19957
14. 29	0. 54878	0		12. 861	0. 20594
14. 309	0. 55261	0		12. 878	0. 18841
14. 331	0. 54783	0		12. 898	0. 18681
14. 351	0. 55261	0		12. 915	0. 18522
14. 372	0. 55452	0		12. 936	0. 18841

14.392	0.56026	0	12.952	0.18522
14.413	0.55452	0	12.972	0.18522
14.433	0.5593	0	12.989	0.18043
14.454	0.56122	0	13.009	0.18681
14.474	0.56504	0	13.026	0.19
14.495	0.5507	0	13.047	0.19
14.515	0.54587	0	13.063	0.18203
14.537	0.54491	0	13.084	0.18522
14.556	0.54687	0	13.1	0.17239
14.577	0.5363	0	13.121	0.17558
14.598	0.53439	0	13.137	0.17725
14.619	0.52578	0	13.157	0.18362
14.639	0.52483	0	13.174	0.18681
14.659	0.52291	0	13.195	0.19159
14.68	0.52961	0	13.211	0.18522
14.701	0.53152	0	13.232	0.18681
14.721	0.54109	0	13.249	0.19159
14.742	0.53917	0	13.269	0.19319
14.763	0.54491	0	13.285	0.18681
14.783	0.54396	0	13.306	0.18203
14.804	0.54783	0	13.322	0.17558
14.824	0.54013	0	13.343	0.17239
14.845	0.54013	0	13.359	0.16601
14.865	0.5363	0	13.38	0.16601
14.886	0.53439	0	13.396	0.16601
14.906	0.52865	0	13.417	0.16283
14.927	0.53535	0	13.434	0.16761
14.948	0.52865	0	13.454	0.16761
14.968	0.53248	0	13.471	0.16283
14.989	0.53057	0	13.491	0.1692
15.009	0.53439	0	13.508	0.16761
15.03	0.53057	0	13.528	0.16601
15.051	0.53439	0	13.545	0.16761
15.071	0.51813	0	13.565	0.16761
15.092	0.50757	0	13.582	0.15964
15.112	0.50183	0	13.602	0.16123
15.133	0.5047	0	13.619	0.16283
15.153	0.50183	0	13.639	0.16601
15.174	0.50757	0	13.656	0.16761
15.194	0.50857	0	13.676	0.1708
15.216	0.50952	0	13.693	0.1692
15.235	0.50278	0	13.714	0.17239
15.257	0.49609	0	13.73	0.17399
15.276	0.49417	0	13.751	0.17725

15. 298	0. 49704	0	13. 767	0. 16761
15. 317	0. 49226	0	13. 788	0. 16123
15. 339	0. 49322	0	13. 804	0. 15326
15. 359	0. 48652	0	13. 825	0. 16123
15. 38	0. 48557	0	13. 841	0. 15804
15. 4	0. 48365	0	13. 862	0. 15167
15. 421	0. 48748	0	13. 878	0. 15167
15. 441	0. 48557	0	13. 899	0. 16123
15. 462	0. 48557	0	13. 915	0. 15804
15. 482	0. 47887	0	13. 936	0. 16283
15. 504	0. 47504	0	13. 952	0. 16601
15. 523	0. 47504	0	13. 973	0. 16283
15. 545	0. 476	0	13. 989	0. 16123
15. 564	0. 47022	0	14. 01	0. 16601
15. 586	0. 47696	0	14. 027	0. 16123
15. 605	0. 47791	0	14. 047	0. 16123
15. 627	0. 48365	0	14. 063	0. 1708
15. 646	0. 4827	0	14. 084	0. 1708
15. 668	0. 48652	0	14. 101	0. 16601
15. 688	0. 47887	0	14. 121	0. 16442
15. 709	0. 48078	0	14. 138	0. 1692
15. 729	0. 47213	0	14. 158	0. 15326
15. 751	0. 47696	0	14. 175	0. 15486
15. 77	0. 47696	0	14. 196	0. 15804
15. 792	0. 48365	0	14. 211	0. 15167
15. 811	0. 48461	0	14. 232	0. 14688
15. 833	0. 48843	0	14. 249	0. 15645
15. 852	0. 476	0	14. 269	0. 14688
15. 874	0. 47117	0	14. 286	0. 1437
15. 893	0. 46448	0	14. 306	0. 14848
15. 915	0. 46352	0	14. 323	0. 14848
15. 934	0. 46448	0	14. 343	0. 1421
15. 957	0. 46639	0	14. 36	0. 14688
15. 975	0. 45874	0	14. 38	0. 14529
15. 997	0. 45778	0	14. 397	0. 1421
16. 016	0. 4597	0	14. 417	0. 14529
16. 039	0. 46065	0	14. 434	0. 15007
16. 058	0. 45491	0	14. 454	0. 1437
16. 08	0. 45874	0	14. 471	0. 15007
16. 099	0. 45491	0	14. 491	0. 14848
16. 121	0. 44726	0	14. 508	0. 14051
16. 14	0. 42904	0	14. 528	0. 13732
16. 162	0. 4233	0	14. 545	0. 13891
16. 181	0. 41183	0	14. 565	0. 13413

16. 204	0. 41565	0	14. 582	0. 12935
16. 222	0. 41565	0	14. 603	0. 13094
16. 245	0. 41565	0	14. 619	0. 13572
16. 264	0. 41661	0	14. 64	0. 13254
16. 286	0. 42043	0	14. 656	0. 13572
16. 304	0. 41852	0	14. 677	0. 13254
16. 327	0. 41852	0	14. 693	0. 13254
16. 346	0. 41661	0	14. 714	0. 13254
16. 368	0. 42139	0	14. 731	0. 13891
16. 387	0. 42235	0	14. 751	0. 12935
16. 409	0. 4233	0	14. 767	0. 13732
16. 428	0. 41852	0	14. 788	0. 13891
16. 451	0. 40322	0	14. 805	0. 14051
16. 469	0. 39648	0	14. 825	0. 13572
16. 492	0. 40226	0	14. 841	0. 1421
16. 51	0. 40704	0	14. 862	0. 13732
16. 533	0. 40704	0	14. 879	0. 13732
16. 551	0. 41183	0	14. 899	0. 13732
16. 574	0. 41661	0	14. 916	0. 13891
16. 593	0. 40991	0	14. 936	0. 12935
16. 616	0. 41183	0	14. 953	0. 13572
16. 634	0. 40991	0	14. 973	0. 13732
16. 657	0. 40991	0	14. 99	0. 13254
16. 675	0. 41374	0	15. 01	0. 13094
16. 698	0. 41374	0	15. 027	0. 13891
16. 716	0. 40513	0	15. 047	0. 12935
16. 739	0. 40991	0	15. 064	0. 12775
16. 757	0. 40896	0	15. 084	0. 13254
16. 78	0. 41087	0	15. 101	0. 12935
16. 798	0. 408	0	15. 121	0. 12297
16. 821	0. 40991	0	15. 138	0. 13891
16. 84	0. 408	0	15. 158	0. 13254
16. 862	0. 3917	0	15. 175	0. 13572
16. 881	0. 38883	0	15. 195	0. 13891
16. 904	0. 39074	0	15. 212	0. 14529
16. 922	0. 39265	0	15. 232	0. 12616
16. 945	0. 39457	0	15. 249	0. 12935
16. 963	0. 39457	0	15. 269	0. 13732
16. 986	0. 39074	0	15. 286	0. 13891
17. 004	0. 3917	0	15. 306	0. 13413
17. 027	0. 38117	0	15. 323	0. 13891
17. 045	0. 3697	0	15. 343	0. 13732
17. 068	0. 36778	0	15. 361	0. 13254
17. 087	0. 36778	0	15. 38	0. 13413

17. 109	0. 37161	0	15. 398	0. 14051
17. 128	0. 37543	0	15. 417	0. 1421
17. 15	0. 37639	0	15. 435	0. 13413
17. 169	0. 3783	0	15. 454	0. 13732
17. 192	0. 37543	0	15. 472	0. 1421
17. 21	0. 37352	0	15. 491	0. 13254
17. 233	0. 37543	0	15. 509	0. 13732
17. 252	0. 37735	0	15. 528	0. 14688
17. 274	0. 37926	0	15. 546	0. 14051
17. 292	0. 37735	0	15. 565	0. 13572
17. 315	0. 37543	0	15. 583	0. 14848
17. 334	0. 37543	0	15. 602	0. 11493
17. 357	0. 37065	0	15. 62	0. 11174
17. 375	0. 36391	0	15. 639	0. 11493
17. 397	0. 36391	0	15. 657	0. 11493
17. 416	0. 36683	0	15. 676	0. 10696
17. 439	0. 36491	0	15. 694	0. 12138
17. 457	0. 36587	0	15. 713	0. 11819
17. 48	0. 36391	0	15. 731	0. 11819
17. 498	0. 35626	0	15. 75	0. 11819
17. 521	0. 35722	0	15. 768	0. 12775
17. 539	0. 36491	0	15. 787	0. 11174
17. 562	0. 36587	0	15. 805	0. 12616
17. 581	0. 36683	0	15. 825	0. 12138
17. 604	0. 36587	0	15. 842	0. 11819
17. 622	0. 36296	0	15. 862	0. 11819
17. 645	0. 35435	0	15. 879	0. 13254
17. 663	0. 35243	0	15. 898	0. 11978
17. 686	0. 34957	0	15. 916	0. 11819
17. 704	0. 3467	0	15. 935	0. 11819
17. 727	0. 34574	0	15. 954	0. 11978
17. 746	0. 34574	0	15. 972	0. 11174
17. 768	0. 34191	0	15. 991	0. 11978
17. 786	0. 34574	0	16. 009	0. 11652
17. 809	0. 34957	0	16. 028	0. 12138
17. 828	0. 34383	0	16. 046	0. 11978
17. 851	0. 32752	0	16. 065	0. 11493
17. 869	0. 32852	0	16. 083	0. 09899
17. 891	0. 33043	0	16. 102	0. 10217
17. 91	0. 33522	0	16. 12	0. 0958
17. 933	0. 33522	0	16. 139	0. 09739
17. 951	0. 33426	0	16. 157	0. 09261
17. 973	0. 33139	0	16. 176	0. 09739
17. 992	0. 3333	0	16. 194	0. 08783

18.015	0.32661	0	16.213	0.08464
18.034	0.3237	0	16.231	0.08145
18.056	0.31987	0	16.25	0.08623
18.074	0.31987	0	16.268	0.08145
18.098	0.31987	0	16.287	0.08942
18.116	0.32561	0	16.305	0.08623
18.138	0.32561	0	16.324	0.08783
18.157	0.32752	0	16.342	0.08464
18.18	0.3237	0	16.361	0.08942
18.198	0.32561	0	16.379	0.08304
18.221	0.32274	0	16.398	0.08942
18.24	0.32083	0	16.416	0.08464
18.261	0.31987	0	16.435	0.08623
18.28	0.32178	0	16.453	0.08464
18.303	0.31891	0	16.472	0.0942
18.322	0.31891	0	16.49	0.08304
18.344	0.31413	0	16.51	0.08623
18.363	0.31604	0	16.527	0.08942
18.385	0.31509	0	16.546	0.09739
18.404	0.31413	0	16.564	0.08304
18.426	0.31413	0	16.583	0.07826
18.445	0.31796	0	16.601	0.08145
18.467	0.3103	0	16.62	0.09101
18.486	0.31509	0	16.638	0.07029
18.509	0.31604	0	16.657	0.08464
18.528	0.31987	0	16.675	0.09101
18.55	0.31796	0	16.694	0.08145
18.569	0.32274	0	16.712	0.07986
18.591	0.32178	0	16.731	0.08623
18.61	0.32274	0	16.749	0.0671
18.632	0.31796	0	16.769	0.06551
18.651	0.32274	0	16.786	0.07826
18.673	0.32083	0	16.806	0.07188
18.692	0.32465	0	16.823	0.05587
18.714	0.31796	0	16.843	0.07507
18.734	0.31604	0	16.86	0.0687
18.755	0.31126	0	16.88	0.06232
18.775	0.31126	0	16.897	0.07029
18.796	0.30839	0	16.917	0.07507
18.816	0.31126	0	16.934	0.06072
18.838	0.3017	0	16.954	0.0687
18.857	0.29978	0	16.971	0.07188
18.879	0.29113	0	16.991	0.06391
18.898	0.29691	0	17.008	0.0671

18.92	0.29596	0	17.028	0.08464
18.939	0.3017	0	17.045	0.0671
18.961	0.30074	0	17.065	0.07188
18.98	0.30457	0	17.082	0.08304
19.002	0.30265	0	17.102	0.07986
19.022	0.30743	0	17.119	0.07029
19.044	0.30743	0	17.14	0.08942
19.063	0.30935	0	17.156	0.08304
19.085	0.30648	0	17.177	0.07507
19.104	0.31126	0	17.193	0.07826
19.125	0.30265	0	17.213	0.08304
19.145	0.29309	0	17.23	0.07029
19.167	0.29113	0	17.25	0.07188
19.187	0.29691	0	17.267	0.08464
19.208	0.29017	0	17.288	0.07667
19.228	0.295	0	17.305	0.0687
19.249	0.29309	0	17.325	0.08464
19.269	0.29691	0	17.341	0.07826
19.29	0.28922	0	17.362	0.07348
19.31	0.29113	0	17.378	0.07986
19.331	0.29113	0	17.399	0.08304
19.351	0.29113	0	17.416	0.07188
19.372	0.27965	0	17.436	0.07507
19.392	0.2787	0	17.452	0.07986
19.413	0.27104	0	17.473	0.07188
19.433	0.27487	0	17.489	0.0671
19.454	0.27391	0	17.51	0.07826
19.475	0.27965	0	17.526	0.07029
19.496	0.27774	0	17.547	0.06551
19.516	0.2787	0	17.564	0.07029
19.536	0.27009	0	17.584	0.07188
19.557	0.27583	0	17.601	0.06232
19.578	0.27296	0	17.621	0.07029
19.598	0.27583	0	17.638	0.07188
19.619	0.27391	0	17.658	0.0671
19.639	0.28157	0	17.675	0.0671
19.66	0.27678	0	17.695	0.07667
19.681	0.27583	0	17.712	0.0671
19.701	0.27391	0	17.732	0.0671
19.722	0.27774	0	17.749	0.07348
19.742	0.27583	0	17.77	0.07348
19.763	0.27965	0	17.786	0.0687
19.783	0.27583	0	17.806	0.07507
19.804	0.27965	0	17.823	0.06551

19.824	0.27583	0	17.843	0.05906
19.845	0.27391	0	17.86	0.06391
19.865	0.27009	0	17.881	0.06551
19.887	0.27391	0	17.897	0.05428
19.907	0.272	0	17.917	0.06072
19.928	0.27487	0	17.934	0.06391
19.947	0.27391	0	17.955	0.05746
19.969	0.27391	0	17.971	0.05587
19.989	0.26817	0	17.992	0.06391
20.01	0.27104	0	18.008	0.05906
20.03	0.26817	0	18.029	0.05587
20.051	0.27009	0	18.045	0.06551
20.071	0.26817	0	18.066	0.06232
20.092	0.27678	0	18.082	0.06072
20.112	0.2787	0	18.103	0.06551
20.134	0.28443	0	18.119	0.06551
20.153	0.28539	0	18.14	0.06072
20.175	0.28826	0	18.156	0.06391
20.195	0.28539	0	18.177	0.0671
20.216	0.28635	0	18.194	0.06072
20.236	0.28252	0	18.214	0.06551
20.257	0.28348	0	18.23	0.0687
20.276	0.272	0	18.251	0.06391
20.299	0.2567	0	18.268	0.0687
20.318	0.24804	0	18.288	0.07348
20.339	0.249	0	18.305	0.07029
20.359	0.24709	0	18.325	0.0671
20.381	0.25091	0	18.341	0.07507
20.4	0.24804	0	18.362	0.07188
20.422	0.25091	0	18.379	0.0687
20.441	0.24996	0	18.399	0.0687
20.463	0.25474	0	18.416	0.06551
20.482	0.25283	0	18.436	0.05746
20.504	0.25957	0	18.453	0.06072
20.523	0.25187	0	18.473	0.06391
20.546	0.24996	0	18.49	0.06232
20.564	0.25091	0	18.51	0.06391
20.587	0.24996	0	18.527	0.06551
20.605	0.23657	0	18.548	0.06232
20.628	0.23752	0	18.564	0.06072
20.647	0.23657	0	18.584	0.06391
20.669	0.23848	0	18.601	0.06072
20.688	0.23561	0	18.621	0.05428
20.711	0.23465	0	18.638	0.05906

20.729	0.22796	0	18.659	0.05906
20.751	0.22891	0	18.675	0.05906
20.77	0.22987	0	18.696	0.05587
20.792	0.23178	0	18.712	0.05906
20.811	0.22891	0	18.732	0.05587
20.834	0.23083	0	18.749	0.05906
20.852	0.2337	0	18.77	0.05587
20.875	0.23465	0	18.786	0.05746
20.894	0.23274	0	18.807	0.05428
20.916	0.23848	0	18.823	0.05746
20.934	0.23657	0	18.844	0.05587
20.957	0.23943	0	18.86	0.05906
20.976	0.23561	0	18.881	0.05587
20.998	0.23465	0	18.897	0.05906
21.017	0.23561	0	18.918	0.05587
21.039	0.24039	0	18.935	0.06232
21.058	0.23657	0	18.955	0.06072
21.08	0.23848	0	18.972	0.06391
21.099	0.24039	0	18.992	0.06391
21.122	0.24422	0	19.008	0.06391
21.141	0.23657	0	19.029	0.05746
21.163	0.22604	0	19.046	0.06391
21.182	0.227	0	19.066	0.06232
21.205	0.22987	0	19.083	0.06072
21.223	0.22987	0	19.103	0.05746
21.245	0.23178	0	19.12	0.06391
21.264	0.2337	0	19.14	0.06232
21.286	0.23561	0	19.157	0.06551
21.305	0.23657	0	19.177	0.06072
21.328	0.227	0	19.194	0.06232
21.346	0.21643	0	19.214	0.05428
21.369	0.21935	0	19.231	0.05587
21.387	0.21935	0	19.251	0.05268
21.41	0.21739	0	19.268	0.05428
21.428	0.21643	0	19.288	0.05109
21.451	0.21643	0	19.305	0.05268
21.469	0.21548	0	19.325	0.04949
21.493	0.21835	0	19.342	0.05268
21.511	0.21261	0	19.362	0.05268
21.534	0.20783	0	19.379	0.05428
21.552	0.21165	0	19.399	0.04949
21.575	0.21548	0	19.416	0.05587
21.593	0.20974	0	19.436	0.05109
21.616	0.20687	0	19.453	0.05109

21.634	0.20878	0	19.473	0.05109
21.657	0.2107	0	19.49	0.05428
21.675	0.20878	0	19.51	0.05268
21.699	0.20878	0	19.528	0.05906
21.716	0.20878	0	19.548	0.05268
21.739	0.20878	0	19.565	0.05746
21.758	0.21165	0	19.584	0.05428
21.78	0.21452	0	19.602	0.05746
21.799	0.21935	0	19.621	0.05587
21.822	0.21643	0	19.638	0.06232
21.84	0.21261	0	19.658	0.05746
21.863	0.20974	0	19.676	0.05746
21.881	0.21165	0	19.695	0.05109
21.904	0.21452	0	19.713	0.05906
21.922	0.21357	0	19.732	0.05268
21.945	0.21357	0	19.75	0.05746
21.963	0.21643	0	19.769	0.05428
21.986	0.21357	0	19.787	0.05906
22.005	0.21452	0	19.806	0.05268
22.028	0.21643	0	19.824	0.06072
22.046	0.21357	0	19.843	0.05746
22.069	0.21261	0	19.861	0.06072
22.087	0.21452	0	19.88	0.05587
22.11	0.21452	0	19.898	0.06072
22.128	0.20687	0	19.917	0.05428
22.151	0.20591	0	19.935	0.05746
22.17	0.20687	0	19.955	0.05428
22.192	0.20496	0	19.972	0.05906
22.211	0.20591	0	19.992	0.05746
22.234	0.20783	0	20.009	0.06391
22.252	0.20783	0	20.028	0.05428
22.275	0.204	0	20.046	0.05906
22.293	0.20591	0	20.065	0.05587
22.316	0.20591	0	20.084	0.05906
22.334	0.20783	0	20.103	0.05428
22.357	0.20304	0	20.12	0.05906
22.375	0.19826	0	20.139	0.05428
22.398	0.19252	0	20.158	0.05587
22.416	0.19061	0	20.176	0.05109
22.439	0.18678	0	20.194	0.05587
22.457	0.18774	0	20.213	0.05268
22.481	0.18774	0	20.232	0.06232
22.499	0.1887	0	20.25	0.05746
22.522	0.18487	0	20.269	0.05906

22. 54	0. 18678	0	20. 287	0. 05428
22. 563	0. 18583	0	20. 306	0. 06232
22. 581	0. 18583	0	20. 324	0. 05268
22. 604	0. 18196	0	20. 343	0. 05109
22. 622	0. 18291	0	20. 361	0. 04471
22. 645	0. 18004	0	20. 38	0. 0479
22. 663	0. 18004	0	20. 399	0. 04471
22. 686	0. 18004	0	20. 417	0. 05109
22. 705	0. 181	0	20. 436	0. 0463
22. 727	0. 17813	0	20. 454	0. 05268
22. 746	0. 18004	0	20. 472	0. 0479
22. 768	0. 18004	0	20. 491	0. 05268
22. 787	0. 18291	0	20. 509	0. 0463
22. 81	0. 17909	0	20. 528	0. 05109
22. 828	0. 18291	0	20. 546	0. 0463
22. 851	0. 18196	0	20. 565	0. 0479
22. 869	0. 18291	0	20. 583	0. 0463
22. 892	0. 18004	0	20. 602	0. 05268
22. 91	0. 18391	0	20. 62	0. 0479
22. 933	0. 18487	0	20. 639	0. 05428
22. 952	0. 18965	0	20. 657	0. 04949
22. 974	0. 1887	0	20. 676	0. 05428
22. 993	0. 18965	0	20. 694	0. 05109
23. 015	0. 1887	0	20. 714	0. 05587
23. 034	0. 19252	0	20. 732	0. 0479
23. 057	0. 1887	0	20. 75	0. 05109
23. 075	0. 19252	0	20. 769	0. 04949
23. 097	0. 19252	0	20. 787	0. 05109
23. 116	0. 19348	0	20. 805	0. 0463
23. 139	0. 18678	0	20. 824	0. 05587
23. 158	0. 18965	0	20. 843	0. 0479
23. 18	0. 18965	0	20. 862	0. 05268
23. 199	0. 1887	0	20. 88	0. 04949
23. 221	0. 181	0	20. 899	0. 05587
23. 24	0. 18291	0	20. 916	0. 04949
23. 262	0. 18196	0	20. 936	0. 05746
23. 281	0. 18678	0	20. 953	0. 05428
23. 303	0. 18291	0	20. 973	0. 05587
23. 322	0. 18196	0	20. 991	0. 05109
23. 344	0. 17909	0	21. 01	0. 05587
23. 363	0. 18196	0	21. 027	0. 04949
23. 386	0. 17813	0	21. 047	0. 05587
23. 405	0. 18391	0	21. 064	0. 04312
23. 426	0. 18291	0	21. 084	0. 03833

23.446	0.18487	0	21.101	0.03355
23.468	0.17909	0	21.121	0.03993
23.488	0.18196	0	21.138	0.03674
23.509	0.181	0	21.158	0.04152
23.528	0.18291	0	21.175	0.03514
23.55	0.18291	0	21.195	0.03833
23.569	0.18774	0	21.212	0.03514
23.591	0.18583	0	21.232	0.03993
23.611	0.19252	0	21.25	0.03196
23.632	0.1887	0	21.269	0.03514
23.652	0.1887	0	21.287	0.03355
23.674	0.18487	0	21.306	0.03674
23.693	0.18774	0	21.323	0.03036
23.714	0.18583	0	21.344	0.03355
23.734	0.19157	0	21.36	0.02717
23.755	0.18774	0	21.38	0.03196
23.775	0.18487	0	21.397	0.02877
23.797	0.18291	0	21.417	0.03355
23.817	0.18196	0	21.434	0.02877
23.838	0.16761	0	21.455	0.03196
23.858	0.17143	0	21.471	0.02877
23.879	0.17335	0	21.492	0.03355
23.899	0.17143	0	21.509	0.03196
23.92	0.16857	0	21.529	0.03514
23.94	0.17526	0	21.545	0.03196
23.961	0.17048	0	21.566	0.03514
23.982	0.17335	0	21.583	0.03514
24.002	0.16857	0	21.603	0.03674
24.023	0.17143	0	21.62	0.03514
24.043	0.16761	0	21.64	0.03833
24.063	0.16378	0	21.657	0.03674
24.084	0.159	0	21.677	0.03674
24.105	0.16378	0	21.693	0.03514
24.126	0.16187	0	21.714	0.03993
24.146	0.16283	0	21.731	0.03833
24.167	0.16091	0	21.751	0.03993
24.187	0.16378	0	21.768	0.03993
24.208	0.16378	0	21.788	0.04152
24.228	0.16857	0	21.805	0.03833
24.249	0.1657	0	21.825	0.04152
24.27	0.17143	0	21.841	0.03993
24.29	0.16857	0	21.862	0.04471
24.311	0.16857	0	21.879	0.03993
24.331	0.16378	0	21.899	0.03833

24.352	0.16761	0	21.916	0.03355
24.372	0.16761	0	21.936	0.03993
24.393	0.17239	0	21.953	0.03514
24.413	0.1657	0	21.973	0.03833
24.434	0.16857	0	21.99	0.03674
24.454	0.16665	0	22.01	0.03993
24.475	0.16952	0	22.027	0.03993
24.496	0.16761	0	22.048	0.03993
24.516	0.17048	0	22.064	0.03514
24.537	0.16283	0	22.085	0.03674
24.558	0.16474	0	22.101	0.04312
24.578	0.16378	0	22.122	0.04152
24.599	0.16857	0	22.138	0.03833
24.619	0.16761	0	22.159	0.03833
24.64	0.17143	0	22.175	0.03514
24.66	0.16857	0	22.196	0.03514
24.682	0.16952	0	22.212	0.03674
24.701	0.16378	0	22.233	0.03674
24.723	0.1657	0	22.249	0.03355
24.742	0.16187	0	22.27	0.03514
24.764	0.16474	0	22.286	0.03833
24.783	0.1657	0	22.307	0.03355
24.805	0.17048	0	22.323	0.03514
24.824	0.16857	0	22.344	0.03036
24.846	0.17239	0	22.36	0.02558
24.865	0.16857	0	22.381	0.02717
24.887	0.17143	0	22.398	0.03036
24.906	0.16952	0	22.418	0.03196
24.928	0.17526	0	22.434	0.03036
24.948	0.17335	0	22.455	0.03036
24.97	0.17813	0	22.471	0.03036
24.989	0.17622	0	22.492	0.03196
25.011	0.17909	0	22.509	0.03355
25.03	0.17909	0	22.529	0.03514
25.052	0.18291	0	22.546	0.03833
25.071	0.18196	0	22.566	0.03674
25.093	0.181	0	22.583	0.03355
25.112	0.17143	0	22.603	0.03355
25.134	0.17622	0	22.62	0.03036
25.154	0.1743	0	22.641	0.02558
25.176	0.17622	0	22.657	0.02399
25.194	0.16952	0	22.678	0.02717
25.216	0.17239	0	22.694	0.02717
25.236	0.17143	0	22.714	0.02399

25.258	0.17335	0	22.731	0.02717
25.277	0.17335	0	22.751	0.02717
25.299	0.181	0	22.768	0.03036
25.318	0.16665	0	22.789	0.02877
25.34	0.16665	0	22.805	0.03036
25.359	0.17239	0	22.825	0.02877
25.381	0.17239	0	22.842	0.02717
25.4	0.15135	0	22.863	0.02717
25.422	0.16952	0	22.879	0.02877
25.441	0.17239	0	22.899	0.02399
25.463	0.15613	0	22.916	0.02558
25.483	0.16187	0	22.937	0.02399
25.504	0.1657	0	22.953	0.02717
25.524	0.159	0	22.974	0.02239
25.546	0.1657	0	22.99	0.02558
25.565	0.16761	0	23.011	0.02399
25.587	0.16187	0	23.027	0.02717
25.606	0.15326	0	23.048	0.02717
25.628	0.15804	0	23.064	0.02877
25.647	0.15517	0	23.085	0.02558
25.67	0.14943	0	23.101	0.02239
25.688	0.15613	0	23.122	0.01601
25.711	0.16283	0	23.138	0.02239
25.729	0.15804	0	23.159	0.01761
25.752	0.14365	0	23.176	0.0208
25.77	0.16378	0	23.196	0.0192
25.793	0.13983	0	23.213	0.0192
25.811	0.1523	0	23.233	0.0192
25.834	0.14748	0	23.25	0.0208
25.853	0.15613	0	23.27	0.01283
25.876	0.14365	0	23.287	0.01601
25.894	0.14943	0	23.307	0.01283
25.916	0.15422	0	23.324	0.01601
25.935	0.14174	0	23.344	0.01283
25.958	0.15039	0	23.361	0.01761
25.976	0.15613	0	23.381	0.01283
25.999	0.1523	0	23.398	0.01442
26.018	0.14461	0	23.418	0.01283
26.04	0.15039	0	23.435	0.01601
26.058	0.13983	0	23.456	0.01123
26.081	0.136	0	23.472	0.01761
26.1	0.13696	0	23.492	0.01283
26.123	0.14365	0	23.509	0.01601
26.141	0.13217	0	23.53	0.01283

26.164	0.1427	0	23.546	0.0192
26.182	0.14365	0	23.567	0.01442
26.205	0.13887	0	23.584	0.0208
26.223	0.13887	0	23.603	0.01761
26.246	0.14557	0	23.62	0.0208
26.264	0.14078	0	23.64	0.01601
26.287	0.136	0	23.657	0.0208
26.305	0.1427	0	23.678	0.0192
26.328	0.13696	0	23.694	0.02239
26.346	0.13791	0	23.714	0.0192
26.37	0.14174	0	23.732	0.02399
26.388	0.14174	0	23.752	0.01761
26.41	0.13409	0	23.768	0.02239
26.429	0.13983	0	23.788	0.0192
26.452	0.14078	0	23.806	0.02239
26.47	0.136	0	23.825	0.01761
26.493	0.13983	0	23.843	0.02239
26.511	0.1427	0	23.862	0.0208
26.534	0.14174	0	23.88	0.02399
26.553	0.14078	0	23.9	0.01761
26.575	0.14557	0	23.917	0.02399
26.594	0.14461	0	23.937	0.01761
26.616	0.14365	0	23.954	0.02717
26.635	0.14365	0	23.974	0.0208
26.658	0.1427	0	23.991	0.02399
26.676	0.13983	0	24.01	0.0192
26.699	0.14365	0	24.028	0.0208
26.717	0.1427	0	24.048	0.01761
26.74	0.13983	0	24.065	0.02239
26.758	0.14461	0	24.084	0.01601
26.781	0.14174	0	24.102	0.0208
26.799	0.13409	0	24.122	0.01761
26.822	0.13504	0	24.139	0.02399
26.84	0.13983	0	24.158	0.01601
26.864	0.13983	0	24.176	0.01761
26.881	0.14365	0	24.196	0.00964
26.904	0.13791	0	24.213	0.01601
26.923	0.13791	0	24.232	0.01442
26.946	0.13791	0	24.25	0.01761
26.964	0.13504	0	24.27	0.01442
26.987	0.12452	0	24.287	0.0192
27.006	0.12739	0	24.307	0.01601
27.028	0.1293	0	24.324	0.0192
27.046	0.12835	0	24.344	0.01601

27.069	0.1293	0	24.361	0.0192
27.088	0.13313	0	24.38	0.01601
27.111	0.13217	0	24.398	0.02239
27.129	0.13504	0	24.418	0.01442
27.152	0.13791	0	24.436	0.01761
27.17	0.13791	0	24.455	0.01442
27.193	0.13791	0	24.473	0.0192
27.211	0.14174	0	24.491	0.01123
27.234	0.13983	0	24.51	0.01442
27.252	0.14078	0	24.528	0.00804
27.275	0.14365	0	24.547	0.01283
27.293	0.14557	0	24.566	0.00804
27.316	0.13983	0	24.584	0.01283
27.334	0.14174	0	24.602	0.00645
27.357	0.14365	0	24.621	0.01601
27.376	0.14557	0	24.64	0.00804
27.398	0.14557	0	24.658	0.01123
27.417	0.14848	0	24.676	0.00804
27.44	0.14557	0	24.695	0.01601
27.458	0.14557	0	24.713	0.00804
27.481	0.14652	0	24.732	0.01283
27.499	0.14461	0	24.75	0.00964
27.522	0.14461	0	24.769	0.01442
27.541	0.14652	0	24.787	0.00804
27.563	0.14174	0	24.806	0.01442
27.582	0.14174	0	24.824	0.00486
27.604	0.14078	0	24.843	0.00964
27.623	0.14078	0	24.861	0.00804
27.646	0.13217	0	24.88	0.01123
27.664	0.1293	0	24.899	0.00486
27.686	0.12357	0	24.918	0.01442
27.705	0.12548	0	24.936	0.00645
27.727	0.12261	0	24.955	0.01123
27.746	0.12643	0	24.972	0.00804
27.769	0.12452	0	24.991	0.01123
27.788	0.12548	0	25.009	0.00486
27.81	0.12739	0	25.028	0.00645
27.829	0.1293	0	25.046	0.00486
27.851	0.12835	0	25.066	0.00804
27.87	0.13313	0	25.083	0.00167
27.892	0.13217	0	25.103	0.00804
27.911	0.1293	0	25.12	0.00486
27.933	0.12261	0	25.14	0.01123
27.953	0.12643	0	25.157	0.00645

27.974	0.12452	0	25.177	0.00645
27.994	0.12835	0	25.195	0.00486
28.015	0.12835	0	25.214	0.00964
28.035	0.13122	0	25.232	0.00486
28.056	0.12835	0	25.251	0.00804
28.076	0.13122	0	25.268	0.00326
28.098	0.12835	0	25.288	0.00964
28.117	0.13122	0	25.306	0.00486
28.139	0.13026	0	25.325	0.00964
28.158	0.13217	0	25.342	0.00645
28.18	0.12548	0	25.362	0.01123
28.199	0.1207	0	25.38	0.00486
28.221	0.11591	0	25.399	0.01123
28.241	0.11878	0	25.416	0.00804
28.262	0.11687	0	25.436	0.00964
28.282	0.12165	0	25.454	0.00326
28.303	0.11783	0	25.473	0.01123
28.323	0.12261	0	25.491	0.00645
28.345	0.1207	0	25.51	0.00964
28.364	0.12261	0	25.528	0.00645
28.386	0.11783	0	25.547	0.01123
28.405	0.1207	0	25.564	0.00645
28.427	0.11974	0	25.584	0.00964
28.446	0.12261	0	25.602	0.00326
28.468	0.12261	0	25.622	0.00326
28.488	0.12739	0	25.638	0.00326
28.509	0.12548	0	25.659	0.00804
28.529	0.12835	0	25.676	0.00326
28.55	0.12165	0	25.696	0.00486
28.57	0.11591	0	25.712	0.00167
28.591	0.11591	0	25.733	0.00486
28.611	0.11974	0	25.75	0.00152
28.632	0.11496	0	25.77	0.00167
28.652	0.11687	0	25.787	0.00152
28.673	0.114	0	25.807	0.00152
28.694	0.11783	0	25.824	0.00152
28.714	0.11496	0	25.844	0.00326
28.735	0.11878	0	25.861	0.00152
28.756	0.11496	0	25.881	0.00167
28.776	0.11783	0	25.898	0.00167
28.797	0.11687	0	25.918	0.00167
28.817	0.11878	0	25.934	0.00152
28.838	0.11496	0	25.955	0.00326
28.858	0.12165	0	25.972	0.00326

28.879	0.11878	0	25.992	0.00167
28.899	0.11974	0	26.009	0.00167
28.92	0.114	0	26.029	0.00326
28.941	0.11878	0	26.046	0.00326
28.961	0.11687	0	26.066	0.00326
28.982	0.12165	0	26.083	0.00167
29.002	0.11783	0	26.103	0.00326
29.023	0.11878	0	26.12	0.00319
29.043	0.11591	0	26.141	0.00326
29.064	0.11878	0	26.157	0.00152
29.085	0.11591	0	26.177	0.00326
29.106	0.11974	0	26.194	0.00167
29.126	0.11878	0	26.215	0.00167
29.147	0.12548	0	26.231	0.00326
29.167	0.12165	0	26.252	0.00486
29.188	0.12357	0	26.268	0.00326
29.208	0.11974	0	26.288	0.00152
29.229	0.12452	0	26.305	0.00326
29.249	0.12165	0	26.326	0.00326
29.27	0.12261	0	26.342	0.00167
29.29	0.11783	0	26.363	0.00167
29.311	0.12165	0	26.379	0.00167
29.331	0.11974	0	26.399	0.00152
29.352	0.1207	0	26.416	0.00319
29.372	0.11687	0	26.437	0.00326
29.393	0.12165	0	26.453	0.00152
29.414	0.11974	0	26.474	0.00152
29.435	0.12165	0	26.49	0.00326
29.455	0.11687	0	26.511	0.00152
29.476	0.11974	0	26.527	0.00152
29.496	0.11878	0	26.548	0.00167
29.517	0.12261	0	26.564	0.00152
29.537	0.114	0	26.585	0.00152
29.558	0.11783	0	26.601	0.00152
29.578	0.11878	0	26.622	0.00152
29.599	0.12261	0	26.638	0.00319
29.619	0.11974	0	26.659	0.00797
29.641	0.11591	0	26.676	0.00797
29.66	0.10822	0	26.696	0.00797
29.682	0.10917	0	26.713	0.00957
29.701	0.10343	0	26.733	0.00957
29.723	0.1063	0	26.75	0.00797
29.742	0.10726	0	26.77	0.00957
29.764	0.11017	0	26.787	0.00797

29.783	0.10917	0	26.807	0.00957
29.805	0.10917	0	26.824	0.00957
29.824	0.1063	0	26.844	0.00957
29.847	0.10917	0	26.861	0.00797
29.865	0.10535	0	26.881	0.01116
29.888	0.10822	0	26.898	0.00957
29.907	0.10535	0	26.918	0.00957
29.929	0.1063	0	26.935	0.00957
29.948	0.10343	0	26.956	0.00957
29.97	0.10535	0	26.972	0.00957
29.99	0.10248	0	26.992	0.01116
30.011	0.10439	0	27.009	0.00797
30.03	0.10248	0	27.03	0.00638
30.052	0.10152	0	27.046	0.00797
30.071	0.10057	0	27.066	0.00797
30.094	0.10439	0	27.083	0.00638
30.113	0.09961	0	27.104	0.00957
30.135	0.10248	0	27.12	0.00957
30.153	0.10248	0	27.141	0.00797
30.176	0.10535	0	27.157	0.00638
30.195	0.09865	0	27.178	0.00797
30.217	0.09578	0	27.194	0.00478
30.236	0.09483	0	27.215	0.00797
30.258	0.09674	0	27.231	0.00797
30.277	0.09674	0	27.252	0.00957
30.299	0.10057	0	27.268	0.00638
30.318	0.10057	0	27.288	0.00638
30.341	0.10248	0	27.306	0.00797
30.359	0.10057	0	27.326	0.00638
30.382	0.10248	0	27.342	0.00478
30.4	0.10057	0	27.363	0.01116
30.423	0.10343	0	27.38	0.00638
30.442	0.10057	0	27.4	0.00957
30.464	0.10248	0	27.416	0.00957
30.483	0.10439	0	27.437	0.01116
30.505	0.1063	0	27.454	0.00638
30.524	0.10248	0	27.474	0.00957
30.546	0.10152	0	27.491	0.01116
30.565	0.10057	0	27.511	0.01116
30.588	0.10343	0	27.528	0.00638
30.606	0.10152	0	27.549	0.00957
30.63	0.10343	0	27.565	0.00638
30.647	0.10152	0	27.585	0.00797
30.67	0.10343	0	27.602	0.00797

30.689	0.10343	0	27.622	0.01116
30.711	0.10535	0	27.639	0.00638
30.729	0.10343	0	27.659	0.01116
30.753	0.10726	0	27.676	0.00638
30.771	0.1063	0	27.696	0.00797
30.794	0.10343	0	27.713	0.00638
30.812	0.10439	0	27.733	0.01116
30.835	0.10535	0	27.75	0.00638
30.853	0.10535	0	27.77	0.00957
30.876	0.10726	0	27.787	0.00638
30.894	0.1063	0	27.807	0.01116
30.917	0.10822	0	27.824	0.00797
30.935	0.10726	0	27.845	0.01275
30.958	0.10726	0	27.862	0.00797
30.977	0.10726	0	27.881	0.01275
30.999	0.11017	0	27.898	0.00797
31.018	0.10822	0	27.919	0.01275
31.04	0.10822	0	27.935	0.00957
31.059	0.10917	0	27.955	0.00957
31.082	0.10726	0	27.972	0.00638
31.1	0.10726	0	27.993	0.00957
31.123	0.10343	0	28.01	0.00638
31.141	0.10343	0	28.03	0.01435
31.164	0.10535	0	28.047	0.00957
31.182	0.1063	0	28.066	0.00957
31.205	0.1063	0	28.084	0.00797
31.224	0.1063	0	28.103	0.01435
31.247	0.10343	0	28.121	0.00797
31.265	0.10439	0	28.141	0.01116
31.287	0.1063	0	28.158	0.00957
31.306	0.10726	0	28.177	0.01275
31.329	0.10535	0	28.195	0.00638
31.347	0.10152	0	28.215	0.01275
31.37	0.0977	0	28.232	0.00957
31.388	0.09578	0	28.251	0.01435
31.411	0.0977	0	28.269	0.00957
31.429	0.0977	0	28.289	0.01435
31.452	0.09865	0	28.306	0.00797
31.471	0.10248	0	28.326	0.01275
31.494	0.10439	0	28.343	0.00957
31.512	0.10535	0	28.363	0.01435
31.534	0.10726	0	28.38	0.00957
31.553	0.11017	0	28.4	0.01754
31.576	0.10726	0	28.417	0.00797

31.594	0.1063	0	28.437	0.01275
31.618	0.10726	0	28.454	0.00957
31.635	0.11017	0	28.474	0.01275
31.658	0.11109	0	28.492	0.00797
31.677	0.114	0	28.511	0.01754
31.699	0.11209	0	28.529	0.00957
31.717	0.114	0	28.547	0.01435
31.741	0.11109	0	28.565	0.00957
31.759	0.11109	0	28.585	0.01435
31.782	0.11109	0	28.603	0.01116
31.8	0.11304	0	28.621	0.01594
31.823	0.10917	0	28.64	0.00957
31.841	0.1063	0	28.659	0.01435
31.864	0.10439	0	28.677	0.00957
31.882	0.1063	0	28.695	0.01275
31.905	0.10726	0	28.714	0.00797
31.924	0.10917	0	28.733	0.01275
31.946	0.10822	0	28.751	0.00319
31.965	0.11109	0	28.77	0.01116
31.987	0.10726	0	28.788	0.00638
32.006	0.10343	0	28.807	0.01275
32.028	0.10439	0	28.825	0.01116
32.047	0.1063	0	28.843	0.01435
32.07	0.10535	0	28.862	0.00638
32.088	0.10822	0	28.881	0.01435
32.111	0.1063	0	28.899	0.00957
32.13	0.10535	0	28.918	0.01275
32.152	0.10535	0	28.936	0.00797
32.17	0.10822	0	28.954	0.01435
32.193	0.10152	0	28.973	0.00797
32.212	0.10439	0	28.991	0.01116
32.234	0.10439	0	29.01	0.00638
32.253	0.10535	0	29.029	0.01275
32.275	0.10535	0	29.047	0.01116
32.294	0.10917	0	29.065	0.01435
32.317	0.1063	0	29.084	0.00957
32.335	0.10726	0	29.102	0.01275
32.358	0.10439	0	29.121	0.00957
32.376	0.10535	0	29.139	0.01594
32.399	0.09674	0	29.158	0.01116
32.417	0.10152	0	29.176	0.01594
32.44	0.10152	0	29.196	0.00957
32.459	0.09961	0	29.213	0.01435
32.481	0.0977	0	29.233	0.00957

32. 5	0. 10057	0	29. 251	0. 01435
32. 522	0. 09674	0	29. 27	0. 00797
32. 541	0. 10057	0	29. 288	0. 01275
32. 564	0. 09961	0	29. 307	0. 00638
32. 582	0. 10248	0	29. 325	0. 01275
32. 605	0. 10057	0	29. 344	0. 00797
32. 623	0. 10248	0	29. 361	0. 01275
32. 645	0. 09961	0	29. 381	0. 00797
32. 665	0. 10152	0	29. 398	0. 01116
32. 686	0. 09865	0	29. 418	0. 00957
32. 706	0. 09865	0	29. 435	0. 01275
32. 728	0. 09483	0	29. 455	0. 00638
32. 747	0. 09961	0	29. 472	0. 00957
32. 769	0. 0977	0	29. 492	0. 00319
32. 788	0. 0977	0	29. 51	0. 00957
32. 81	0. 09578	0	29. 529	0. 00478
32. 829	0. 09865	0	29. 546	0. 01275
32. 851	0. 09483	0	29. 566	0. 00638
32. 87	0. 09865	0	29. 583	0. 00957
32. 893	0. 0977	0	29. 603	0. 00797
32. 912	0. 10057	0	29. 621	0. 01116
32. 934	0. 09483	0	29. 641	0. 00478
32. 953	0. 0977	0	29. 658	0. 01275
32. 975	0. 09387	0	29. 677	0. 00957
32. 994	0. 10057	0	29. 695	0. 01116
33. 015	0. 09865	0	29. 714	0. 00797
33. 035	0. 09961	0	29. 731	0. 01275
33. 057	0. 10152	0	29. 751	0. 00638
33. 076	0. 10343	0	29. 769	0. 00957
33. 098	0. 10152	0	29. 789	0. 00638
33. 118	0. 10439	0	29. 806	0. 00957
33. 139	0. 10248	0	29. 826	0. 00797
33. 159	0. 10439	0	29. 843	0. 01435
33. 18	0. 10439	0	29. 863	0. 00957
33. 2	0. 10726	0	29. 88	0. 01275
33. 222	0. 10343	0	29. 9	0. 01116
33. 241	0. 10917	0	29. 917	0. 01435
33. 262	0. 10535	0	29. 937	0. 01116
33. 282	0. 1063	0	29. 953	0. 01435
33. 304	0. 10248	0	29. 974	0. 00957
33. 323	0. 10439	0	29. 991	0. 00957
33. 344	0. 10057	0	30. 011	0. 00957
33. 365	0. 10152	0	30. 027	0. 01116
33. 386	0. 09865	0	30. 048	0. 00478

33.406	0.09865	0	30.065	0.00957
33.427	0.09483	0	30.085	0.01116
33.447	0.10057	0	30.102	0.01275
33.468	0.091	0	30.122	0.00638
33.488	0.09196	0	30.139	0.00957
33.509	0.09196	0	30.159	0.00638
33.529	0.09674	0	30.176	0.00797
33.55	0.091	0	30.196	0.00957
33.571	0.09483	0	30.213	0.01116
33.592	0.09196	0	30.233	0.00797
33.612	0.09291	0	30.25	0.00957
33.632	0.091	0	30.271	0.00797
33.653	0.09387	0	30.287	0.01116
33.673	0.091	0	30.307	0.00797
33.694	0.09483	0	30.324	0.01275
33.715	0.091	0	30.344	0.01116
33.735	0.09291	0	30.361	0.00797
33.755	0.091	0	30.382	0.00797
33.776	0.0977	0	30.398	0.01116
33.797	0.09674	0	30.418	0.00797
33.818	0.09961	0	30.435	0.00797
33.838	0.09865	0	30.456	0.00797
33.859	0.10152	0	30.472	0.01116
33.879	0.09674	0	30.493	0.00957
33.9	0.10152	0	30.509	0.01435
33.92	0.0977	0	30.53	0.00957
33.941	0.09961	0	30.546	0.01116
33.962	0.09674	0	30.567	0.01275
33.982	0.10343	0	30.584	0.01275
34.002	0.09961	0	30.604	0.00797
34.024	0.10152	0	30.62	0.01116
34.044	0.10248	0	30.64	0.00797
34.065	0.10535	0	30.658	0.00957
34.085	0.10248	0	30.678	0.00957
34.106	0.1063	0	30.694	0.01275
34.126	0.10343	0	30.715	0.01275
34.147	0.10726	0	30.732	0.01435
34.167	0.10726	0	30.752	0.01435
34.188	0.11109	0	30.768	0.01275
34.208	0.1063	0	30.789	0.01275
34.23	0.10343	0	30.806	0.01116
34.249	0.08143	0	30.826	0.00957
34.27	0.08143	0	30.843	0.01116
34.29	0.08239	0	30.863	0.01116

34.312	0.08717	0	30.879	0.00957
34.331	0.08143	0	30.901	0.00957
34.353	0.08335	0	30.917	0.01275
34.372	0.0843	0	30.937	0.00957
34.394	0.08622	0	30.954	0.00957
34.413	0.08335	0	30.974	0.00957
34.436	0.08813	0	30.991	0.00957
34.455	0.0843	0	31.011	0.00797
34.477	0.08717	0	31.028	0.00797
34.495	0.08526	0	31.049	0.00957
34.518	0.08813	0	31.065	0.00797
34.537	0.08526	0	31.085	0.00797
34.559	0.08239	0	31.102	0.00797
34.578	0.07665	0	31.123	0.00638
34.6	0.07857	0	31.139	0.01116
34.619	0.0757	0	31.16	0.00797
34.641	0.07857	0	31.176	0.00319
34.66	0.0757	0	31.197	0.01116
34.682	0.07761	0	31.213	0.00957
34.701	0.07952	0	31.233	0.00957
34.724	0.07952	0	31.25	0.00638
34.742	0.07474	0	31.271	0.01116
34.764	0.07952	0	31.287	0.00638
34.784	0.07761	0	31.308	0.00797
34.806	0.07952	0	31.324	0.00638
34.825	0.07374	0	31.345	0.00957
34.847	0.07474	0	31.361	0.00478
34.866	0.07087	0	31.382	0.00638
34.888	0.07374	0	31.398	0.00478
34.907	0.07374	0	31.419	0.00478
34.929	0.0757	0	31.436	0.00478
34.948	0.07183	0	31.456	0.01116
34.97	0.07374	0	31.473	0.00478
34.989	0.06991	0	31.493	0.00638
35.012	0.07278	0	31.509	0.00797
35.031	0.07183	0	31.53	0.00797
35.053	0.07374	0	31.547	0.00152
35.072	0.06991	0	31.567	0.00797
0		0	31.584	0.00152
0		0	31.604	0.00152
0		0	31.621	0.00478
0		0	31.641	0.00797
0		0	31.658	0.00326
0		0	31.678	0.00957

0	0	31.695	0.01116
0	0	31.715	0.00478
0	0	31.732	0.00319
0	0	31.752	0.00478
0	0	31.769	0.00319
0	0	31.789	0.00957
0	0	31.806	0.00319
0	0	31.826	0.00478
0	0	31.843	0.00319
0	0	31.863	0.00957
0	0	31.88	0.00326
0	0	31.9	0.00478
0	0	31.917	0.00957
0	0	31.938	0.00478
0	0	31.954	0.00964
0	0	31.974	0.01435
0	0	31.991	0.00638
0	0	32.012	0.00167
0	0	32.028	0.00478
0	0	32.049	0.01116
0	0	32.065	0.00645
0	0	32.085	0.00638
0	0	32.103	0.00797
0	0	32.122	0.00152
0	0	32.139	0.00326
0	0	32.16	0.01435
0	0	32.177	0.00167
0	0	32.196	0.00326
0	0	32.214	0.00957
0	0	32.234	0.00797
0	0	32.251	0.00486
0	0	32.271	0.01754
0	0	32.288	0.01275
0	0	32.307	0.00319
0	0	32.325	0.00638
0	0	32.345	0.01594
0	0	32.362	0.00152
0	0	32.382	0.00638
0	0	32.399	0.01275
0	0	32.418	0.00957
0	0	32.436	0.00152
0	0	32.456	0.01913
0	0	32.473	0.01275
0	0	32.493	0.00797

0	0	32.51	0.01435
0	0	32.53	0.02072
0	0	32.547	0.00478
0	0	32.567	0.01594
0	0	32.585	0.01435
0	0	32.604	0.01275
0	0	32.621	0.00638
0	0	32.641	0.02072
0	0	32.658	0.00957
0	0	32.678	0.00957
0	0	32.695	0.01594
0	0	32.715	0.01594
0	0	32.732	0.00638
0	0	32.752	0.01913
0	0	32.77	0.01435
0	0	32.789	0.01116
0	0	32.807	0.00957
0	0	32.826	0.01913
0	0	32.844	0.00478
0	0	32.863	0.01275
0	0	32.881	0.01594
0	0	32.9	0.01275
0	0	32.918	0.00638
0	0	32.937	0.01754
0	0	32.955	0.00797
0	0	32.973	0.01116
0	0	32.992	0.01116
0	0	33.01	0.01754
0	0	33.029	0.00797
0	0	33.048	0.01594
0	0	33.066	0.01594
0	0	33.084	0.01435
0	0	33.103	0.01116
0	0	33.122	0.01594
0	0	33.14	0.00638
0	0	33.158	0.01594
0	0	33.177	0.01275
0	0	33.196	0.01275
0	0	33.215	0.00957
0	0	33.233	0.01754
0	0	33.251	0.00957
0	0	33.27	0.01275
0	0	33.288	0.01435
0	0	33.306	0.01754

0	0	33.325	0.00797
0	0	33.344	0.01594
0	0	33.363	0.01275
0	0	33.381	0.01116
0	0	33.4	0.00957
0	0	33.417	0.01754
0	0	33.436	0.00478
0	0	33.455	0.01275
0	0	33.474	0.01275
0	0	33.492	0.01116
0	0	33.51	0.01116
0	0	33.528	0.01594
0	0	33.548	0.00957
0	0	33.565	0.00957
0	0	33.585	0.01594
0	0	33.603	0.01754
0	0	33.622	0.00478
0	0	33.64	0.01435
0	0	33.659	0.01594
0	0	33.677	0.00797
0	0	33.696	0.00638
0	0	33.714	0.02072
0	0	33.733	0.00797
0	0	33.751	0.01116
0	0	33.77	0.01435
0	0	33.788	0.00957
0	0	33.807	0.00797
0	0	33.825	0.01754
0	0	33.845	0.01116
0	0	33.861	0.01116
0	0	33.882	0.00957
0	0	33.898	0.01754
0	0	33.918	0.00797
0	0	33.936	0.01275
0	0	33.956	0.00957
0	0	33.973	0.01594
0	0	33.992	0.00957
0	0	34.01	0.01435
0	0	34.03	0.01275
0	0	34.047	0.01435
0	0	34.067	0.00957
0	0	34.084	0.01435
0	0	34.104	0.00957
0	0	34.121	0.01435

0	0	34. 141	0. 01275
0	0	34. 158	0. 01594
0	0	34. 178	0. 01116
0	0	34. 195	0. 01754
0	0	34. 215	0. 01435
0	0	34. 232	0. 01594
0	0	34. 252	0. 01116
0	0	34. 269	0. 01435
0	0	34. 289	0. 01275
0	0	34. 306	0. 01594
0	0	34. 326	0. 01116
0	0	34. 343	0. 01594
0	0	34. 363	0. 01275
0	0	34. 38	0. 01435
0	0	34. 4	0. 01275
0	0	34. 417	0. 01594
0	0	34. 437	0. 01275
0	0	34. 454	0. 01435
0	0	34. 474	0. 01275
0	0	34. 491	0. 01275
0	0	34. 511	0. 01116
0	0	34. 528	0. 01594
0	0	34. 548	0. 01275
0	0	34. 565	0. 01594
0	0	34. 585	0. 00957
0	0	34. 602	0. 01594
0	0	34. 623	0. 00797
0	0	34. 639	0. 01435
0	0	34. 659	0. 01275
0	0	34. 676	0. 01275
0	0	34. 697	0. 00957
0	0	34. 713	0. 01116
0	0	34. 734	0. 01435
0	0	34. 75	0. 01275
0	0	34. 771	0. 00957
0	0	34. 787	0. 01116
0	0	34. 808	0. 01275

PI

strain1	stress1	strain2	stress2	strain3
0	1.76369	0	1.58791	0
0.947	28.20801	0.89	19.0176	0.9415
1.214	37.35981	1.312	25.2922	1.232
1.505	43.58251	1.59	30.3366	1.5025
1.774	49.62283	1.723	34.3301	1.796
2.069	56.29546	2.001	37.1085	2.061
2.325	62.56809	2.425	42.7373	2.3545
2.616	69.38491	2.701	48.8699	2.614
2.882	76.14286	2.979	58.771	2.901
3.178	83.52416	3.111	62.5523	3.1725
3.438	90.64379	3.537	66.06471	3.454
3.731	98.31629	3.816	71.88863	3.727
3.995	105.5212	4.092	78.04706	4.0165
4.289	113.2025	4.221	82.43216	4.283
4.552	120.5693	4.499	91.41555	4.5685
4.842	128.3682	4.777	93.72281	4.8375
5.105	135.6231	5.054	99.1049	5.1295
5.4	143.2457	5.203	104.7146	5.392
5.661	150.4888	5.331	107.6166	5.68
5.951	158.0084	5.61	116.0535	5.9505
6.219	164.9454	6.037	123.0802	6.233
6.509	172.3672	6.315	127.496	6.5105
6.777	179.2685	6.592	133.8267	6.79
7.063	186.6314	6.721	136.6605	7.0645
7.334	193.4621	6.999	146.2864	7.3475
7.613	200.8633	7.275	149.6777	7.618
7.888	207.4206	7.553	155.1538	7.894
8.166	214.6366	7.982	165.317	8.171
8.442	221.2203	8.26	168.6204	8.459
8.728	228.298	8.539	178.0059	8.735
8.998	234.9112	8.816	187.2718	9.0135
9.283	241.8801	8.942	191.9703	9.2855
9.556	248.1845	9.095	196.4314	9.568
9.837	255.0505	9.222	201.127	9.84
10.11	261.2756	9.372	205.5548	10.1185
10.39	267.9622	9.498	210.1137	10.401
10.667	273.8844	9.65	214.4768	10.6715
10.946	280.421	9.775	219.0688	10.954
11.224	286.3873	9.928	223.3426	11.2275
11.505	292.9151	10.054	227.8411	11.507

11.779	298.8813	10.207	232.1883	11.783
12.058	305.2004	10.33	236.6493	12.0645
12.331	310.9315	10.488	240.8728	12.339
12.601	317.0594	10.608	245.3366	12.62
12.889	322.5199	10.763	249.5385	12.896
13.171	328.5303	10.885	253.8512	13.176
13.449	333.8879	11.039	258.0977	13.4545
13.726	339.6864	11.164	262.3817	13.729
14.005	345.1557	11.319	266.5879	14.0105
14.276	351.4013	11.442	270.8991	14.286
14.556	356.7677	11.596	274.993	14.561
14.83	362.0634	11.72	279.1633	14.8435
15.115	365.3745	11.875	283.2405	15.1155
15.39	369.5441	11.997	287.4416	15.402
15.669	374.6693	12.152	291.5031	15.6685
15.936	380.6533	12.274	295.661	15.9615
16.226	385.7284	12.429	299.6778	16.223
16.496	390.9685	12.554	303.7551	16.515
16.781	394.3499	12.707	307.7618	16.7745
17.051	394.8439	12.834	311.829	17.0665
17.337	398.349	12.984	315.8228	17.336
17.607	405.0268	13.107	319.8238	17.625
17.895	410.7284	13.261	323.6347	17.889
18.165	416.4388	13.387	327.5867	18.177
18.446	421.1348	13.543	331.5517	18.4405
18.718	425.9367	13.666	335.5023	18.7365
19.002	430.4297	13.821	339.3233	18.998
19.271	430.9913	13.942	343.1645	19.291
19.56	418.4649	14.097	346.9063	19.555
19.827	420.1204	14.22	350.6625	19.8485
20.119	427.1422	14.374	354.4014	20.111
20.382	434.3023	14.5	358.1274	20.403
20.677	440.2391	14.653	361.8592	20.668
20.936	445.9761	14.776	365.4916	20.956
21.228	450.325	14.928	369.0233	21.217
21.49	454.7769	15.054	372.5002	21.5115
21.783	439.4305	15.21	376.0016	21.777
22.045	388.422	15.331	379.4596	22.0755
0		15.485	382.7522	0
0		15.61	385.9381	0
0		15.765	389.1729	0
0		15.891	392.3115	0
0		16.039	395.4096	0
0		16.166	398.1968	0

0	16.32	400.8745	0
0	16.443	403.7048	0
0	16.596	406.4243	0
0	16.721	409.0675	0
0	16.88	411.6718	0
0	16.999	414.3899	0
0	17.158	417.0173	0
0	17.277	419.3769	0
0	17.43	421.7249	0
0	17.557	423.7635	0
0	17.706	425.9475	0
0	17.833	427.9918	0
0	17.987	430.1671	0
0	18.111	432.2676	0
0	18.264	434.3795	0
0	18.389	436.2957	0
0	18.544	438.2709	0
0	18.666	440.0013	0
0	18.82	441.6555	0
0	18.945	443.0002	0
0	19.098	444.3721	0
0	19.225	445.3871	0
0	19.376	446.4352	0
0	19.503	447.25	0
0	19.653	448.1397	0
0	19.778	448.884	0
0	19.928	449.6542	0
0	20.057	450.1826	0
0	20.211	450.4863	0
0	20.336	449.2411	0
0	20.489	443.9431	0
0	20.612	429.9195	0
0	20.763	420.8396	0
0	20.891	422.2447	0
0	21.041	426.7392	0
0	21.17	431.4642	0
0	21.321	436.3921	0
0	21.446	362.5503	0

CA-PI

strain1	stress1	strain2	stress2	strain3	stress3
0	5.70356	0	2.07635	0	2.88031
0.941	13.29212	0.62	21.58379	0.953	29.8735
1.245	20.32154	0.828	28.02068	1.207	36.72862
1.498	25.45961	0.995	32.21427	1.516	41.11968
1.805	30.3499	1.197	36.41214	1.77	46.08715
2.053	35.40548	1.366	40.67621	2.07	50.93301
2.36	40.13904	1.572	44.97894	2.323	55.82537
2.612	45.15423	1.737	49.31573	2.625	60.83594
2.919	50.05942	1.943	53.55641	2.875	66.08651
3.166	54.79721	2.108	57.93175	3.179	70.95741
3.48	59.47567	2.314	62.26009	3.433	76.17578
3.718	64.63923	2.477	66.60117	3.74	81.30814
4.028	69.6524	2.682	70.8932	3.987	86.52992
4.276	74.54692	2.847	75.16369	4.304	91.55837
4.584	79.25721	3.055	79.44281	4.541	96.90569
4.832	84.02039	3.219	83.7733	4.851	101.9091
5.144	89.38298	3.424	88.02894	5.097	107.0772
5.39	94.72653	3.591	92.24175	5.401	112.2633
5.696	99.8625	3.796	96.41175	5.654	117.4387
5.944	104.7952	3.958	100.5904	5.964	122.4743
6.254	109.8803	4.161	104.5681	6.211	127.6998
6.498	114.8596	4.33	108.5585	6.517	132.6351
6.809	119.7372	4.538	112.6493	6.763	137.6278
7.056	124.7118	4.703	116.704	7.077	142.4629
7.365	129.6652	4.908	120.6535	7.318	147.4842
7.614	134.4511	5.072	124.588	7.629	152.1976
7.916	139.3961	5.275	128.4604	7.875	157.0363
8.173	144.0529	5.442	132.2772	8.185	161.6529
8.472	148.8241	5.646	136.1475	8.435	166.3517
8.721	153.3666	5.814	139.992	8.739	170.9039
9.025	157.9366	6.019	143.873	8.995	175.4704
9.28	162.3965	6.182	147.6685	9.295	179.8756
9.589	166.9941	6.384	151.3591	9.54	184.1628
9.838	171.4349	6.554	154.9557	9.848	188.1167
10.146	175.9096	6.76	158.6549	10.101	192.1711
10.39	180.1493	6.922	162.26	10.413	196.075
10.699	184.4101	7.127	165.7668	10.659	200.0179
10.948	188.5079	7.294	169.1388	10.969	203.6276
11.25	192.6967	7.502	172.4917	11.21	207.2555
11.506	196.642	7.664	175.7867	11.521	210.6504

11. 808	200. 6551	7. 871	179. 1096	11. 767	214. 0633
12. 056	204. 4543	8. 036	182. 347	12. 077	217. 2576
12. 36	208. 2133	8. 242	185. 6228	12. 325	220. 3589
12. 614	211. 4766	8. 406	188. 7853	12. 632	223. 1665
12. 922	215. 0598	8. 61	191. 9457	12. 879	225. 8059
13. 171	218. 6197	8. 776	194. 982	13. 183	228. 2912
13. 474	220. 5553	8. 984	198. 0248	13. 433	230. 7228
13. 726	221. 9275	9. 147	200. 9885	13. 747	232. 5564
14. 03	224. 778	9. 356	203. 92	13. 989	233. 4374
14. 288	221. 9995	9. 517	206. 7511	14. 297	232. 7677
14. 584	209. 0307	9. 72	209. 6142	14. 547	231. 8902
14. 838	209. 0879	9. 89	212. 2229	14. 855	231. 8366
15. 144	214. 6468	10. 089	214. 9834	15. 109	231. 9798
15. 394	219. 8924	10. 261	217. 4681	15. 406	230. 9234
15. 696	224. 886	10. 464	219. 9891	15. 656	228. 635
15. 951	229. 1998	10. 63	222. 2172	15. 965	226. 7729
16. 255	227. 7937	10. 831	224. 3597	16. 214	226. 5543
16. 507	206. 5805	11. 002	226. 3141	16. 521	226. 6725
16. 816	204. 2129	11. 205	228. 3904	16. 77	226. 7083
17. 06	210. 1001	11. 371	230. 0433	17. 082	226. 3503
17. 36	215. 8328	11. 573	231. 3498	17. 324	226. 0171
17. 62	220. 8665	11. 74	232. 2671	17. 642	225. 8095
17. 918	225. 8707	11. 946	232. 8829	17. 876	225. 7665
18. 173	227. 1795	12. 114	232. 8487	18. 191	225. 4012
18. 476	206. 6567	12. 314	233. 1737	18. 441	224. 8103
18. 729	198. 5543	12. 484	233. 8153	18. 74	224. 7137
19. 03	204. 7953	12. 689	234. 6192	18. 992	224. 574
19. 286	210. 4347	12. 852	235. 2115	19. 304	224. 266
19. 589	215. 9767	13. 048	235. 6797	19. 547	223. 6644
19. 838	220. 9365	13. 224	235. 9471	19. 854	223. 0555
20. 142	225. 0364	13. 429	236. 4624	20. 103	222. 9303
20. 396	212. 5418	13. 595	236. 5779	20. 419	223. 2382
20. 695	194. 9838	13. 797	236. 2121	20. 658	223. 6428
20. 956	199. 2892	13. 968	235. 4595	20. 967	223. 607
21. 252	205. 3691	14. 165	235. 0148	21. 215	223. 0376
21. 512	210. 7545	14. 334	234. 4374	21. 526	222. 6831
21. 808	216. 0424	14. 533	233. 6035	21. 775	222. 4288
22. 062	220. 6823	14. 707	231. 833	22. 077	222. 307
22. 354	219. 507	14. 91	230. 0775	22. 333	222. 1101
22. 621	196. 5425	15. 078	228. 3006	22. 633	221. 8881
22. 921	193. 5099	15. 271	227. 1587	22. 88	221. 1325
23. 179	199. 5941	15. 448	226. 4275	23. 183	220. 8639
23. 472	205. 4984	15. 648	226. 5194	23. 44	221. 0036
23. 737	210. 6359	15. 816	226. 5964	23. 75	220. 8603

24.03	215.9068	16.015	226.7803	23.999	219.8612
24.29	218.122	16.189	226.8102	24.306	218.7976
24.579	198.5777	16.387	227.1074	24.55	218.2103
24.847	188.1776	16.56	227.0582	24.855	218.4
25.14	194.4565	16.757	227.1609	25.106	218.3821
25.4	200.1723	16.931	226.868	25.411	218.2711
25.689	205.8859	17.13	226.7311	25.666	217.3293
25.956	210.998	17.3	226.2328	25.969	216.5808
26.25	215.0577	17.497	225.9463	26.217	215.8682
26.509	200.8055	17.671	225.4311	26.517	215.6102
26.803	185.3398	17.87	225.2942	26.776	215.3955
27.066	190.2169	18.042	225.1317	27.081	215.6246
27.362	196.3646	18.239	225.2001	27.327	215.5028
27.624	201.8664	18.413	224.9307	27.631	215.442
27.915	207.3429	18.607	225.0034	27.885	214.6935
28.179	211.6355	18.782	224.6185	28.194	213.8268
28.473	201.3286	18.975	224.4923	28.442	212.842
28.736	182.3179	19.154	224.1011	28.743	212.9709
29.022	186.4474	19.351	223.9834	28.997	213.2753
29.292	192.2584	19.523	223.5472	29.302	213.3003
0		19.715	223.327	29.552	212.0899
0		19.896	222.709	29.855	211.1052
0		20.09	222.5187	30.112	210.6002
0		20.265	222.074	0	
0		20.457	221.7125	0	
0		20.635	221.1224	0	
0		20.827	221.0134	0	
0		21.007	220.7097	0	
0		21.199	220.637	0	
0		21.377	220.0255	0	
0		21.573	219.6406	0	
0		21.746	219.0633	0	
0		21.932	218.734	0	
0		22.119	218.0241	0	
0		22.31	217.7268	0	
0		22.49	217.1216	0	
0		22.68	216.7112	0	
0		22.862	215.9606	0	
0		23.046	215.6079	0	
0		23.228	214.8722	0	
0		23.415	214.6306	0	
0		23.602	214.0896	0	
0		23.79	214.1153	0	
0		23.973	213.7753	0	

0	24.155	213.6683	0
0	24.34	213.0141	0
0	24.529	212.7553	0
0	24.713	212.4646	0
0	24.897	212.5907	0
0	25.082	212.3576	0
0	25.267	212.3726	0
0	25.456	211.93	0
0	25.637	211.7782	0
0	25.824	211.1216	0
0	26.008	210.7967	0
0	26.195	210.2771	0
0	26.376	210.2728	0
0	26.566	209.9927	0
0	26.75	210.2321	0
0	26.934	209.997	0
0	27.116	209.9885	0
0	27.31	209.5522	0
0	27.484	209.4025	0
0	27.678	208.6007	0
0	27.856	208.5216	0
0	28.047	208.2329	0
0	28.227	208.0297	0
0	28.418	207.3947	0
0	28.594	207.1873	0
0	28.788	206.6485	0
0	28.97	206.6677	0
0	29.158	206.2529	0
0	29.337	205.8893	0
0	29.528	205.0982	0
0	29.707	204.94	0
0	29.901	204.6064	0
0	30.08	204.5572	0