Supplementary material for

Spatial and Temporal Variations of Fractionation of Stable Isotopes in Snow at Eastern Antarctica

Chuanjin Li[1], Jiawen Ren[1], Guitao Shi[2,3], Hongxi Pang[4], Yetang Wang[5], Shugui Hou[4], Zhongqin Li[1], Zhiheng Du[1], Minghu Ding[1,6], Xiangyu Ma[1], Jiao Yang [1], Aihong Xie[1], Puyu Wang[1], Xiaoming Wang[1], Bo Sun[3] and Cunde Xiao[1,7]

1. State Key Laboratory of Cryospheric Science, Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences, Lanzhou, 730000, China
2. Key Laboratory of Geographic Information Science (Ministry of Education), School of Geographic Sciences and Institute of Eco-Chongming, East China Normal University, Shanghai, 200241, China
3. Key Laboratory for Polar Science of State Oceanic Administration, Polar Research Institute of China, Shanghai, 200062, China
4. School of Geography and Ocean Science, Nanjing University, Nanjing, 210023, China
5. College of Geography and Environment, Shandong Normal University, Ji'nan, 250358, China
6. Institute of Tibetan Plateau and Polar Regions Meteorology, Chinese Academy of Meteorological Sciences, Beijing, 100081, China
7. State Key Laboratory of Earth Surface Processes and Resource Ecology, Beijing Normal University, Beijing, 100875, China

Figure S1. Meteoric Water Line (WML) slopes between δD and $\delta^{18}O$ in the 13 snow pits along the Zhongshan Station to Dome A traverse.

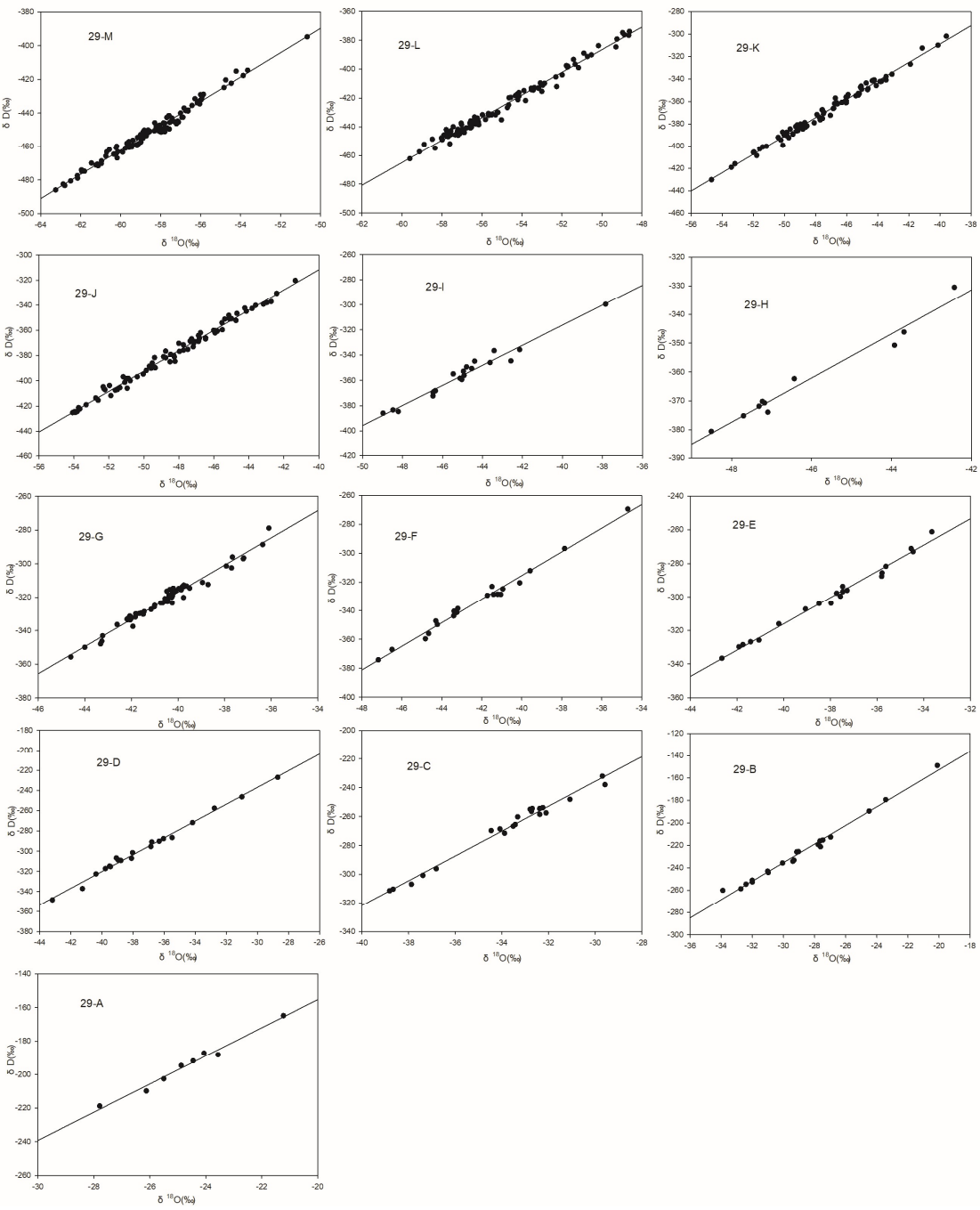
29-M
29-L
29-K
29-J
29-I
29-H
29-G
29-F
29-E
29-D
29-C
29-B
29-A
δ D(‰)
δ 18O(‰)

Table S1. Water isotope data for the surface samples collected along the traverse between Zhongshan Station (ZSS) and Dome A

Distance to ZSS (km)	Sample Name	δ D (‰)	δ ^{18}O (‰)
62.1	T115-Avg	-188.41913	-23.713889
72.7	T114-Avg	-197.71029	-24.478165
82.7	T113-Avg	-200.20175	-25.379877
92.4	T112-Avg	-240.08239	-30.860122
143	T111-Avg	-240.20384	-30.873949
153	T110-Avg	-239.47518	-31.08136
163	T109-Avg	-206.94316	-26.851443
173	T108-Avg	-241.08396	-30.779872
183	T107-Avg	-217.2664	-27.984487
193	T106-Avg	-255.75123	-32.794769
204	T105-Avg	-257.02401	-32.76829
214	T104-Avg	-269.27278	-34.346079
224	T103-Avg	-250.74996	-31.229168
234	T102-Avg	-259.70195	-32.91077
244	T101-Avg	-240.95956	-30.873178
254	T100-Avg	-246.854	-31.313227
264	T99-Avg	-327.76812	-40.549016
274	T98-Avg	-267.79	-33.474756
284	T97-Avg	-246.28345	-31.50922
293	T96-Avg	-270.01833	-34.750476
303	T95-Avg	-265.73039	-33.954246
313	T94-Avg	-345.89769	-42.916839
323	T93-Avg	-248.5834	-31.9499
333	T92-Avg	-263.3222	-33.383364
343	T91-Avg	-257.27229	-33.05661
353	T90-Avg	-262.63265	-33.347678
363	T89-Avg	-278.56102	-35.881098
373	T88-Avg	-261.66108	-33.365272
383	T87-Avg	-255.06373	-32.685002
393	T86-Avg	-310.26311	-38.872779
403	T85-Avg	-260.40983	-33.484654
413	T84-Avg	-277.13033	-35.906231
423	T83-Avg	-253.67668	-32.425292
433	T82-Avg	-265.31944	-33.983547
443	T81-Avg	-279.11791	-34.869738
453	T80-Avg	-289.0598	-36.524274

463	T79-Avg	-295.08533	-37.163334
472	T78-Avg	-275.32396	-35.218662
482	T77-Avg	-287.65671	-36.786919
492	T76-Avg	-323.1236	-40.66442
501	T75-Avg	-268.62762	-34.485287
510	T74-Avg	-277.05257	-34.536039
520	T73-Avg	-270.89127	-34.377014
530	T72-Avg	-280.91374	-36.02062
540	T71-Avg	-268.9745	-34.324573
550	T70-Avg	-294.60241	-36.913344
560	T69-Avg	-282.66966	-36.306965
570	T68-Avg	-273.04134	-35.7265
580	T67-Avg	-285.49665	-36.433942
591	T66-Avg	-270.52756	-34.943908
600	T65-Avg	-290.00977	-36.604972
610	T64-Avg	-315.7253	-39.255935
621	T63-Avg	-339.51149	-42.93373
631	T62-Avg	-309.48855	-38.949167
641	T61-Avg	-309.12582	-39.08902
651	T60-Avg	-294.28288	-37.223096
661	T59-Avg	-295.78996	-38.013139
671	T58-Avg	-304.24184	-38.687865
681	T57-Avg	-365.21251	-45.935647
691	T56-Avg	-339.63668	-42.537482
701	T55-Avg	-364.03365	-45.929513
711	T54-Avg	-304.54308	-38.29732
721	T53-Avg	-323.59766	-40.571638
731	T52-Avg	-358.30171	-44.61714
741	T51-Avg	-331.11512	-41.983988
751	T50-Avg	-329.60714	-41.589398
761	T49-Avg	-339.63896	-42.275993
772	T48-Avg	-307.122	-39.094161
782	T47-Avg	-310.65022	-39.562816
792	T46-Avg	-312.69286	-39.619004
802	T45-Avg	-361.41053	-45.992453
811	T44-Avg	-369.10143	-46.652342
821	T43-Avg	-346.43416	-43.547984
832	T42-Avg	-377.11538	-47.40781
841	T41-Avg	-378.74798	-47.435306
851	T40-Avg	-382.22613	-48.285043
861	T39-Avg	-363.60819	-45.978051

871	T38-Avg	-329.71525	-42.078945
881	T37-Avg	-349.97999	-43.970889
891	T36-Avg	-377.98597	-48.021527
901	T35-Avg	-376.25215	-47.217731
911	T34-Avg	-340.88176	-43.83968
921	T33-Avg	-398.21569	-50.490328
931	T32-Avg	-337.38956	-42.962066
941	T31-Avg	-351.28593	-45.361736
951	T30-Avg	-398.50886	-50.923862
961	T29-Avg	-336.63853	-43.346388
971	T28-Avg	-385.79445	-49.411179
981	T27-Avg	-340.27119	-43.084728
991	T26-Avg	-387.45228	-49.150265
1001	T25-Avg	-352.45334	-45.383369
1011	T24-Avg	-337.89103	-43.432541
1022	T23-Avg	-417.97127	-53.678241
1032	T22-Avg	-369.63415	-47.321363
1042	T21-Avg	-397.58052	-50.585151
1052	T20-Avg	-357.69769	-45.942949
1062	T19-Avg	-402.21344	-51.255106
1072	T18-Avg	-357.66394	-45.756145
1082	T17-Avg	-411.16314	-52.294206
1092	T16-Avg	-442.00184	-56.396593
1102	T15-Avg	-383.02023	-49.261437
1113	T14-Avg	-448.74657	-57.366556
1123	T13-Avg	-408.62921	-52.389218
1132	T12-Avg	-404.97939	-51.591121
1142	T11-Avg	-446.92198	-57.190468
1152	T10-Avg	-386.17544	-50.067135
1162	T9-Avg	-397.45014	-50.980014
1172	T8-Avg	-404.8085	-52.368996
1183	T7-Avg	-413.95371	-53.51726
1193	T6-Avg	-373.13533	-47.903056
1203	T5-Avg	-425.03388	-54.918066
1213	T4-Avg	-453.6721	-58.598507
1223	T3-Avg	-445.33633	-57.2999
1233	T2-Avg	-405.13051	-52.251171
1248	T1-Avg	-426.73328	-54.532918

Table S2. Water isotope data for the samples in snow pit A (SP-A)

Depth (cm)	Sample Number	δ D (‰)	δ ^{18}O(‰)
25	A1-Avg	-188.23	-23.5627
50	A2-Avg	-202.635	-25.5018
75	A3-Avg	-191.93	-24.4537
100	A4-Avg	-187.216	-24.0649
125	A5-Avg	-194.703	-24.8806
150	A6-Avg	-218.838	-27.7911
175	A7-Avg	-164.863	-21.2268
200	A8-Avg	-209.895	-26.1266

Table S3. Water isotope data for the samples in snow pit B (SP-B)

Depth (cm)	Sample Number	δ D (‰)	δ ^{18}O(‰)
10	B-1-Avg	-221.195	-27.6142
20	B-2-Avg	-212.632	-26.9616
30	B-3-Avg	-215.304	-27.4652
40	B-4-Avg	-234.11	-29.396
50	B-5-Avg	-242.981	-31.0158
60	B-6-Avg	-225.564	-29.0333
70	B-7-Avg	-225.752	-29.1442
80	B-8-Avg	-260.21	-33.9011
90	B-9-Avg	-251.078	-32.0072
100	B-10-Avg	-254.548	-32.4055
110	B-11-Avg	-235.655	-30.0525
120	B-12-Avg	-252.57	-31.9962
130	B-13-Avg	-216.052	-27.6499
140	B-14-Avg	-233.146	-29.3254
150	B-15-Avg	-179.406	-23.4224
160	B-16-Avg	-148.889	-20.1016
170	B-17-Avg	-189.524	-24.4859
180	B-18-Avg	-219.225	-27.7675
190	B-19-Avg	-244.164	-30.9765
200	B-20-Avg	-258.727	-32.7412

Table S4. Water isotope data for the samples in snow pit C (SP-C)

Depth (cm)	Sample Number	δ D (‰)	δ ^{18}O(‰)
0	$C_{surface}$-Avg	-232.038	-29.6923
10	C1-Avg	-260.208	-33.3273
20	C2-Avg	-268.578	-34.0849
30	C3-Avg	-269.781	-34.4611
40	C4-Avg	-258.527	-32.3761

50	C5-Avg	-253.871	-32.2447
60	C6-Avg	-254.553	-32.3803
70	C7-Avg	-255.029	-32.7907
80	C8-Avg	-254.513	-32.7013
90	C9-Avg	-256.449	-32.7352
100	C10-Avg	-296.117	-36.8175
110	C11-Avg	-265.54	-33.4296
120	C12-Avg	-257.502	-32.1047
130	C13-Avg	-271.551	-33.8871
140	C14-Avg	-266.696	-33.516
150	C15-Avg	-306.918	-37.8816
160	C16-Avg	-310.369	-38.6639
170	C17-Avg	-311.396	-38.8164
180	C18-Avg	-300.754	-37.3894
190	C19-Avg	-248.196	-31.0821
200	C20-Avg	-237.946	-29.5782

Table S5. Water isotope data for the samples in snow pit D (SP-D)

Depth (cm)	Sample Number	δ D (‰)	$\delta^{18}O$(‰)
10	D1-Avg	-287.653	-36.0379
20	D2-Avg	-271.866	-34.1744
30	D3-Avg	-322.516	-40.3803
40	D4-Avg	-337.135	-41.2565
50	D5-Avg	-257.595	-32.7656
60	D6-Avg	-308.735	-38.9489
70	D7-Avg	-314.826	-39.5084
80	D8-Avg	-348.427	-43.1849
90	D9-Avg	-295.386	-36.8503
100	D10-Avg	-227.059	-28.6938
110	D11-Avg	-246.34	-30.9986
120	D12-Avg	-286.594	-35.4861
130	D13-Avg	-307.062	-38.1014
140	D14-Avg	-317.206	-39.7746
150	D15-Avg	-306.679	-39.0759
160	D16-Avg	-301.459	-38.0285
170	D17-Avg	-315.264	-39.4526
180	D18-Avg	-309.239	-38.7768
190	D19-Avg	-290.148	-36.3169
200	D20-Avg	-290.883	-36.792

Table S6. Water isotope data for the samples in snow pit E (SP-E)

Depth (cm)	Sample Number	δ D (‰)	δ ^{18}O(‰)
10	E1-Avg	-273.016	-34.455
20	E2-Avg	-307.275	-39.067
30	E3-Avg	-325.792	-41.0595
40	E4-Avg	-328.548	-41.7486
50	E5-Avg	-329.817	-41.9189
60	E6-Avg	-326.81	-41.4205
70	E7-Avg	-296.808	-37.4667
80	E8-Avg	-293.736	-37.4717
90	E9-Avg	-316.09	-40.209
100	E10-Avg	-336.617	-42.6512
110	E11-Avg	-303.781	-37.9739
120	E12-Avg	-287.667	-35.7981
130	E13-Avg	-285.636	-35.7841
140	E14-Avg	-296.103	-37.2846
150	E15-Avg	-299.651	-37.5686
160	E16-Avg	-281.753	-35.6185
170	E17-Avg	-297.749	-37.7329
180	E18-Avg	-261.252	-33.6472
190	E19-Avg	-271.148	-34.5371
200	E20-Avg	-303.957	-38.4819

Table S7. Water isotope data for the samples in snow pit F (SP-F)

Depth (cm)	Sample Number	δ D (‰)	δ ^{18}O(‰)
10	F1-Avg	-328.608	-41.0545
20	F2-Avg	-374.227	-47.1755
30	F3-Avg	-367.002	-46.492
40	F4-Avg	-340.494	-43.3888
50	F5-Avg	-328.515	-41.206
60	F6-Avg	-349.719	-44.2225
70	F7-Avg	-347.223	-44.2976
80	F8-Avg	-338.599	-43.2005
90	F9-Avg	-323.108	-41.4898
100	F10-Avg	-269.391	-34.6923
110	F11-Avg	-320.546	-40.1013
120	F12-Avg	-328.597	-41.4137
130	F13-Avg	-329.318	-41.72
140	F14-Avg	-343.702	-43.402
150	F15-Avg	-341.323	-43.2438
160	F16-Avg	-296.72	-37.8537
170	F17-Avg	-312.122	-39.5799

180	F18-Avg	-324.797	-40.9487
190	F19-Avg	-359.588	-44.821
200	F20-Avg	-355.97	-44.658

Table S8. Water isotope data for the samples in snow pit G (SP-G)

Depth (cm)	Sample Number	δ D (‰)	$\delta^{18}O$(‰)
300	G1-Avg	-355.714	-44.5995
295	G2-Avg	-349.951	-43.9973
290	G3-Avg	-343.051	-43.2333
285	G4-Avg	-336.387	-42.6124
280	G5-Avg	-333.138	-42.1184
275	G6-Avg	-329.538	-41.5821
270	G7-Avg	-327.347	-41.1558
265	G8-Avg	-323.476	-40.6582
260	G9-Avg	-319.993	-40.2733
255	G10-Avg	-318.566	-40.2447
250	G11-Avg	-316.499	-40.1555
245	G12-Avg	-315.636	-40.1676
240	G13-Avg	-314.6	-40.2031
235	G14-Avg	-315.283	-40.3449
230	G15-Avg	-316.367	-40.4801
225	G16-Avg	-319.714	-40.3159
220	G17-Avg	-320.948	-40.4507
215	G18-Avg	-323.484	-40.7357
210	G19-Avg	-325.817	-41.0138
205	G20-Avg	-328.669	-41.4507
200	G21-Avg	-329.851	-41.6568
195	G22-Avg	-329.993	-41.8142
190	G23-Avg	-331.371	-42.0685
185	G24-Avg	-331.872	-42.0356
180	G25-Avg	-332.619	-42.1278
175	G26-Avg	-333.248	-42.184
170	G27-Avg	-333.54	-42.1588
165	G28-Avg	-333.672	-42.0544
160	G29-Avg	-332.86	-42.0154
155	G30-Avg	-331.929	-41.8316
150	G31-Avg	-320.819	-40.5556
145	G32-Avg	-318.752	-40.3878
140	G33-Avg	-316.383	-40.1143
135	G34-Avg	-315.603	-39.8625
130	G35-Avg	-313.34	-39.6314

125	G36-Avg	-312.74	-39.7545
120	G37-Avg	-313.634	-39.8173
115	G38-Avg	-314.78	-39.968
110	G39-Avg	-317.238	-40.2322
105	G40-Avg	-319.012	-40.2368
100	G41-Avg	-322.681	-40.4553
95	G42-Avg	-323.527	-40.2493
90	G43-Avg	-324.952	-40.9994
85	G44-Avg	-322.621	-40.5707
80	G45-Avg	-322.326	-40.4315
75	G46-Avg	-320.175	-39.7639
70	G47-Avg	-312.367	-38.7126
65	G48-Avg	-302.527	-37.7058
60	G49-Avg	-296.586	-37.1806
55	G50-Avg	-297.053	-37.2012
50	G51-Avg	-301.357	-37.9265
45	G52-Avg	-311.141	-38.9516
40	G53-Avg	-330.303	-41.4903
35	G54-Avg	-346.346	-43.2682
30	G55-Avg	-347.899	-43.3221
25	G56-Avg	-337.431	-41.937
20	G57-Avg	-314.561	-39.5004
15	G58-Avg	-296.017	-37.6677
10	G59-Avg	-288.61	-36.3695
5	G60-Avg	-278.87	-36.1062

Table S9. Water isotope data for the samples in snow pit H (SP-H)

Depth (cm)	Sample Number	δ D (‰)	$\delta^{18}O$(‰)
100	H1-Avg	-370.211	-47.2309
90	H2-Avg	-330.538	-42.4286
80	H3-Avg	-362.328	-46.4325
70	H4-Avg	-375.163	-47.7039
60	H5-Avg	-380.566	-48.5066
50	H6-Avg	-370.707	-47.1772
40	H7-Avg	-371.85	-47.3131
30	H8-Avg	-373.902	-47.0951
20	H9-Avg	-350.775	-43.9248
10	H10-Avg	-346.149	-43.6883

Table S10. Water isotope data for the samples in snow pit I (SP-I)

Depth (cm)	Sample Number	δ D (‰)	$\delta^{18}O$(‰)

200	I1-Avg	-299.62	-37.8381
190	I2-Avg	-369.693	-46.4692
180	I3-Avg	-368.213	-46.3573
170	I4-Avg	-345.958	-43.6227
160	I5-Avg	-354.894	-45.4677
150	I6-Avg	-344.776	-44.3949
140	I7-Avg	-383.377	-48.4784
130	I8-Avg	-352.787	-44.9573
120	I9-Avg	-336.524	-43.4223
110	I10-Avg	-349.347	-44.7997
100	I11-Avg	-384.623	-48.2124
90	I12-Avg	-359.318	-45.0377
80	I13-Avg	-350.602	-44.541
70	I14-Avg	-335.709	-42.1419
60	I15-Avg	-358.375	-45.1273
50	I16-Avg	-356.139	-44.9225
40	I17-Avg	-385.938	-48.9772
30	I18-Avg	-368.889	-46.4314
20	I19-Avg	-372.442	-46.4793
10	I20-Avg	-344.609	-42.5801

Table S11. Water isotope data for the samples in snow pit J (SP-J)

Depth (cm)	Sample Number	δ D (‰)	$\delta^{18}O$(‰)
200	J1-Avg	-405.909	-50.9561
197.5	J2-Avg	-411.738	-51.8874
195	J3-Avg	-415.439	-52.6127
192.5	J4-Avg	-418.994	-53.3035
190	J5-Avg	-422.282	-53.6629
187.5	J6-Avg	-424.639	-53.8878
185	J7-Avg	-424.269	-53.8106
182.5	J8-Avg	-424.889	-53.9007
180	J9-Avg	-424.38	-53.9495
177.5	J10-Avg	-425.151	-54.0782
175	J11-Avg	-424.831	-53.9791
172.5	J12-Avg	-421.265	-53.7351
170	J13-Avg	-413.658	-52.7519
167.5	J14-Avg	-398.204	-50.8917
165	J15-Avg	-375.924	-47.7398
162.5	J16-Avg	-366.894	-47.2757
160	J17-Avg	-370.42	-48.0043
157.5	J18-Avg	-381.723	-49.3926

155	J19-Avg	-396.871	-51.1842
152.5	J20-Avg	-403.793	-51.9709
150	J21-Avg	-404.766	-52.3271
147.5	J22-Avg	-406.337	-52.2843
145	J23-Avg	-407.08	-52.2274
142.5	J24-Avg	-407.5	-51.6327
140	J25-Avg	-406.928	-51.5156
137.5	J26-Avg	-405.508	-51.3713
135	J27-Avg	-401.27	-51.0944
132.5	J28-Avg	-396.851	-50.3805
130	J29-Avg	-389.756	-49.3481
127.5	J30-Avg	-381.129	-48.2606
125	J31-Avg	-373.198	-47.1818
122.5	J32-Avg	-360.396	-45.879
120	J33-Avg	-352.303	-44.7361
117.5	J34-Avg	-351.075	-45.1048
115	J35-Avg	-362.027	-46.7639
112.5	J36-Avg	-368.63	-47.3573
110	J37-Avg	-366.28	-46.8206
107.5	J38-Avg	-368.909	-47.1343
105	J39-Avg	-359.689	-45.5155
102.5	J40-Avg	-360.164	-46.0106
100	J41-Avg	-360.78	-45.8052
97.5	J42-Avg	-366.993	-46.4708
95	J43-Avg	-375.233	-47.4907
92.5	J44-Avg	-380.125	-48.2895
90	J45-Avg	-354.103	-45.5363
87.5	J46-Avg	-350.943	-44.9947
85	J47-Avg	-342.748	-43.8146
82.5	J48-Avg	-339.363	-43.1675
80	J49-Avg	-337.22	-42.7237
77.5	J50-Avg	-338.061	-42.9667
75	J51-Avg	-340.152	-43.6112
72.5	J52-Avg	-342.418	-44.2322
70	J53-Avg	-348.252	-45.1449
67.5	J54-Avg	-351.233	-45.3803
65	J55-Avg	-346.709	-44.6816
62.5	J56-Avg	-330.556	-42.4083
60	J57-Avg	-320.263	-41.3433
57.5	J58-Avg	-344.982	-44.1429
55	J59-Avg	-362.146	-45.9278

52.5	J60-Avg	-368.059	-46.8663
50	J61-Avg	-390.061	-49.5799
47.5	J62-Avg	-400.014	-50.7836
45	J63-Avg	-398.166	-50.9989
42.5	J64-Avg	-385.956	-49.5228
40	J65-Avg	-381.006	-48.8742
37.5	J66-Avg	-376.568	-48.7588
35	J67-Avg	-371.554	-47.7444
32.5	J68-Avg	-364.297	-46.8792
30	J69-Avg	-366.235	-46.4679
27.5	J70-Avg	-379.21	-48.4709
25	J71-Avg	-381.823	-48.7548
22.5	J72-Avg	-376.843	-47.9703
20	J73-Avg	-368.992	-46.8791
17.5	J74-Avg	-370.203	-47.1452
15	J75-Avg	-388.538	-49.6863
12.5	J76-Avg	-391.836	-49.8676
10	J77-Avg	-389.494	-49.5038
7.5	J78-Avg	-385.012	-48.5064
5	J79-Avg	-394.744	-50.0377
2.5	J80-Avg	-384.658	-48.2185

Table S12. Water isotope data for the samples in snow pit K (SP-K)

Depth (cm)	Sample Number	δ D (‰)	$\delta^{18}O$(‰)
200	K1-Avg	-340.879	-43.4631
197.5	K2-Avg	-340.361	-43.4909
195	K3-Avg	-342.102	-43.7646
192.5	K4-Avg	-345.875	-44.0951
190	K5-Avg	-353.000	-45.1838
187.5	K6-Avg	-352.877	-45.2481
185	K7-Avg	-349.132	-45.0272
182.5	K8-Avg	-341.543	-44.3519
180	K9-Avg	-340.756	-44.2241
177.5	K10-Avg	-343.575	-44.7378
175	K11-Avg	-347.293	-45.1054
172.5	K12-Avg	-355.639	-45.9542
170	K13-Avg	-362.048	-46.5747
167.5	K14-Avg	-369.751	-47.4638
165	K15-Avg	-381.262	-48.857
162.5	K16-Avg	-385.802	-49.1279
160	K17-Avg	-382.804	-48.64

157.5	K18-Avg	-379.012	-48.0816
155	K19-Avg	-376.38	-47.6951
152.5	K20-Avg	-375.14	-47.5539
150	K21-Avg	-361.12	-46.0339
147.5	K22-Avg	-349.48	-44.6534
145	K23-Avg	-342.333	-43.7873
142.5	K24-Avg	-335.831	-43.082
140	K25-Avg	-337.91	-43.4627
137.5	K26-Avg	-348.597	-44.6201
135	K27-Avg	-360.899	-46.0104
132.5	K28-Avg	-381.753	-48.5507
130	K29-Avg	-389.23	-49.4501
127.5	K30-Avg	-384.655	-48.813
125	K31-Avg	-370.667	-47.4859
122.5	K32-Avg	-355.957	-46.0308
120	K33-Avg	-346.328	-45.0653
117.5	K34-Avg	-353.846	-45.9023
115	K35-Avg	-367.415	-47.5832
112.5	K36-Avg	-382.316	-49.2711
110	K37-Avg	-387.496	-49.8458
107.5	K38-Avg	-392.118	-50.3985
105	K39-Avg	-381.164	-49.1883
102.5	K40-Avg	-367.309	-47.5574
100	K41-Avg	-361.806	-46.7704
97.5	K42-Avg	-361.046	-46.6375
95	K43-Avg	-360.922	-46.3045
92.5	K44-Avg	-359.54	-46.0115
90	K45-Avg	-360.012	-46.107
87.5	K46-Avg	-365.95	-46.8235
85	K47-Avg	-374.355	-47.7412
82.5	K48-Avg	-382.212	-48.9814
80	K49-Avg	-402.469	-51.5879
77.5	K50-Avg	-415.868	-53.1828
75	K51-Avg	-419.001	-53.408
72.5	K52-Avg	-405.665	-51.9887
70	K53-Avg	-390.604	-49.833
67.5	K54-Avg	-386.258	-49.2132
65	K55-Avg	-392.358	-49.7162
62.5	K56-Avg	-394.455	-50.226
60	K57-Avg	-378.874	-48.6891
57.5	K58-Avg	-380.163	-48.9632

55	K59-Avg	-400.67	-51.4016
52.5	K60-Avg	-405.377	-51.96
50	K61-Avg	-389.906	-50.0185
47.5	K62-Avg	-366.247	-46.8564
45	K63-Avg	-354.922	-45.3976
42.5	K64-Avg	-342.193	-43.849
40	K65-Avg	-326.862	-41.8956
37.5	K66-Avg	-309.986	-40.119
35	K67-Avg	-371.695	-47.9036
32.5	K68-Avg	-312.526	-41.132
30	K69-Avg	-357.01	-46.7232
27.5	K70-Avg	-380.9	-49.1723
25	K71-Avg	-387.366	-50.1159
22.5	K72-Avg	-384.596	-49.6309
20	K73-Avg	-301.961	-39.5867
17.5	K74-Avg	-361.95	-46.642
15	K75-Avg	-372.368	-47.0415
12.5	K76-Avg	-354.438	-45.2525
10	K77-Avg	-400.187	-51.1561
7.5	K78-Avg	-430.149	-54.689
5	K79-Avg	-408.505	-51.7854
2.5	K80-Avg	-399.193	-50.0975

Table S13. Water isotope data for the samples in snow pit L (SP-L)

Depth (cm)	Sample Number	δ D (‰)	$\delta^{18}O$(‰)
250	L1-Avg	-430.002	-55.2385
247.5	L2-Avg	-431.633	-55.3209
245	L3-Avg	-440.095	-56.5212
242.5	L4-Avg	-444.706	-57.1143
240	L5-Avg	-441.909	-56.8896
237.5	L6-Avg	-438.435	-56.1546
235	L7-Avg	-412.067	-52.2615
232.5	L8-Avg	-426.608	-54.7296
230	L9-Avg	-399.051	-51.1666
227.5	L10-Avg	-376.61	-48.652
225	L11-Avg	-379.196	-49.2411
222.5	L12-Avg	-417.115	-54.2215
220	L13-Avg	-446.326	-57.7678
217.5	L14-Avg	-447.77	-58.0272
215	L15-Avg	-445.302	-57.5427
212.5	L16-Avg	-437.333	-56.605

210	L17-Avg	-431.882	-55.6657
207.5	L18-Avg	-415.442	-53.0004
205	L19-Avg	-413.034	-53.177
202.5	L20-Avg	-409.865	-52.8692
200	L21-Avg	-419.538	-54.5656
197.5	L22-Avg	-433.14	-56.3684
195	L23-Avg	-439.923	-57.4422
192.5	L24-Avg	-442.782	-57.5582
190	L25-Avg	-443.739	-57.7102
187.5	L26-Avg	-441.63	-56.9843
185	L27-Avg	-443.104	-57.2234
182.5	L28-Avg	-440.67	-56.7849
180	L29-Avg	-436.602	-56.2722
177.5	L30-Avg	-431.13	-55.4884
175	L31-Avg	-411.124	-52.9568
172.5	L32-Avg	-404.001	-51.9855
170	L33-Avg	-413.28	-53.1588
167.5	L34-Avg	-405.44	-52.3009
165	L35-Avg	-396.693	-51.3321
162.5	L36-Avg	-376.253	-48.875
160	L37-Avg	-374.827	-48.956
157.5	L38-Avg	-383.848	-50.1687
155	L39-Avg	-414.876	-53.8977
152.5	L40-Avg	-438.02	-56.5448
150	L41-Avg	-446.767	-57.6937
147.5	L42-Avg	-444.942	-57.1984
145	L43-Avg	-424.688	-54.6645
142.5	L44-Avg	-398.634	-51.7213
140	L45-Avg	-414.485	-53.4356
137.5	L46-Avg	-443.154	-56.9237
135	L47-Avg	-441.666	-57.2021
132.5	L48-Avg	-436.457	-56.5107
130	L49-Avg	-438.297	-57.0221
127.5	L50-Avg	-441.853	-57.7877
125	L51-Avg	-445.754	-57.9142
122.5	L52-Avg	-452.218	-58.8879
120	L53-Avg	-454.882	-58.347
117.5	L54-Avg	-448.62	-58.483
115	L55-Avg	-437.399	-57.0407
112.5	L56-Avg	-416.262	-54.1544
110	L57-Avg	-397.979	-51.704

107.5	L58-Avg	-393.331	-51.4183
105	L59-Avg	-397.595	-51.7749
102.5	L60-Avg	-409.565	-53.0741
100	L61-Avg	-412.773	-53.3717
97.5	L62-Avg	-414.182	-53.5227
95	L63-Avg	-421.092	-54.2021
92.5	L64-Avg	-429.952	-55.2031
90	L65-Avg	-436.425	-56.3501
87.5	L66-Avg	-430.763	-55.681
85	L67-Avg	-416.429	-54.1453
82.5	L68-Avg	-419.818	-54.6451
80	L69-Avg	-413.163	-53.5309
77.5	L70-Avg	-390.154	-50.5221
75	L71-Avg	-391.334	-50.7197
72.5	L72-Avg	-418.681	-54.1504
70	L73-Avg	-433.786	-56.2363
67.5	L74-Avg	-438.008	-56.5391
65	L75-Avg	-437.806	-56.4365
62.5	L76-Avg	-436.526	-56.1755
60	L77-Avg	-434.855	-55.821
57.5	L78-Avg	-421.797	-53.8194
55	L79-Avg	-384.694	-49.2946
52.5	L80-Avg	-373.927	-48.6189
50	L81-Avg	-435.852	-56.564
47.5	L82-Avg	-457.475	-59.1311
45	L83-Avg	-445.848	-57.6221
42.5	L84-Avg	-388.966	-50.9006
40	L85-Avg	-418.31	-54.3235
37.5	L86-Avg	-445.338	-57.8433
35	L87-Avg	-448.984	-57.9904
32.5	L-88-Avg	-446.843	-57.5843
30	L89-Avg	-444.701	-57.1781
27.5	L90-Avg	-443.898	-56.882
25	L91-Avg	-445.524	-57.3378
22.5	L92-Avg	-445.76	-57.1842
20	L93-Avg	-443.73	-57.203
17.5	L94-Avg	-440.759	-56.5748
15	L95-Avg	-438.023	-56.2932
12.5	L96-Avg	-431.691	-55.5304
10	L97-Avg	-431.577	-55.9791
7.5	L98-Avg	-462.232	-59.6097

5	L99-Avg	-451.898	-57.6059
2.5	L100-Avg	-435.14	-55.0265

Table S14. Water isotope data for the samples in snow pit M (SP-M)

Depth (cm)	Sample Number	δ D (‰)	$\delta^{18}O$(‰)
300	M1-Avg	-450.888	-57.8097
297	M2-Avg	-457.273	-58.9926
294	M3-Avg	-460.356	-59.4465
291	M4-Avg	-453.281	-58.7217
288	M5-Avg	-447.773	-58.1298
285	M6-Avg	-450.685	-58.0797
282	M7-Avg	-451.034	-57.7945
279	M8-Avg	-448.856	-57.6742
276	M9-Avg	-445.496	-57.5436
273	M10-Avg	-442.433	-56.8843
270	M11-Avg	-442.516	-56.9304
267	M12-Avg	-438.27	-56.6372
264	M13-Avg	-432.536	-56.0368
261	M14-Avg	-433.828	-56.1635
258	M15-Avg	-445.307	-57.2748
255	M16-Avg	-459.385	-59.179
252	M17-Avg	-464.467	-60.2288
249	M18-Avg	-464.649	-60.3428
246	M19-Avg	-463.186	-60.145
243	M20-Avg	-458.974	-59.2261
240	M21-Avg	-454.94	-58.8857
237	M22-Avg	-450.523	-58.3141
234	M23-Avg	-446.096	-57.8019
231	M24-Avg	-445.87	-57.8604
228	M25-Avg	-447.929	-58.1391
225	M26-Avg	-448.618	-57.8057
222	M27-Avg	-444.782	-57.1467
219	M28-Avg	-445.141	-57.1208
216	M29-Avg	-445.329	-57.1122
213	M30-Avg	-446.327	-57.2082
210	M31-Avg	-449.45	-57.5692
207	M32-Avg	-451.233	-57.974
204	M33-Avg	-458.341	-59.1113
201	M34-Avg	-459.186	-59.4045
198	M35-Avg	-456.229	-59.3893
195	M36-Avg	-450.197	-58.8188

192	M37-Avg	-442.565	-57.6911
189	M38-Avg	-450.062	-58.6291
186	M39-Avg	-457.332	-59.6096
183	M40-Avg	-458.062	-59.6852
180	M41-Avg	-459.882	-60.1965
177	M42-Avg	-460.741	-60.2279
174	M43-Avg	-463.309	-60.6949
171	M44-Avg	-453.578	-58.7228
168	M45-Avg	-422.32	-54.467
165	M46-Avg	-414.603	-53.6479
162	M47-Avg	-432.007	-55.967
159	M48-Avg	-448.282	-58.2268
156	M49-Avg	-450.823	-58.5435
153	M50-Avg	-451.009	-58.8619
150	M51-Avg	-452.805	-59.0058
147	M52-Avg	-469.95	-61.4619
144	M53-Avg	-477.45	-62.1663
141	M54-Avg	-480.587	-62.5021
138	M55-Avg	-478.957	-62.1587
135	M56-Avg	-471.574	-61.1239
132	M57-Avg	-466.883	-60.177
129	M58-Avg	-450.65	-57.9293
126	M59-Avg	-438.734	-56.6251
123	M60-Avg	-438.545	-56.7383
120	M61-Avg	-434.516	-56.0465
117	M62-Avg	-424.883	-54.8322
114	M63-Avg	-417.703	-53.8688
111	M64-Avg	-435.46	-56.4299
108	M65-Avg	-454.495	-59.1536
105	M66-Avg	-456.999	-59.5878
102	M67-Avg	-461.921	-60.5668
99	M68-Avg	-465.816	-60.7422
96	M69-Avg	-471.185	-61.2307
93	M70-Avg	-468.689	-60.9598
90	M71-Avg	-463.411	-59.9006
87	M72-Avg	-460.559	-59.5796
84	M73-Avg	-447.244	-58.0563
81	M74-Avg	-437.031	-56.8293
78	M75-Avg	-431.484	-56.2844
75	M76-Avg	-429.067	-55.9994
72	M77-Avg	-420.368	-54.7462

69	M78-Avg	-442.996	-57.439
66	M79-Avg	-448.929	-57.9894
63	M80-Avg	-444.807	-57.3546
60	M81-Avg	-461.045	-59.7641
57	M82-Avg	-483.353	-62.7988
54	M83-Avg	-485.959	-63.2493
51	M84-Avg	-470.27	-60.9693
48	M85-Avg	-451.395	-58.6051
45	M86-Avg	-441.499	-57.5751
42	M87-Avg	-441.581	-57.599
39	M88-Avg	-445.775	-58.2948
36	M89-Avg	-451.63	-58.8939
33	M90-Avg	-454.361	-59.0445
30	M91-Avg	-439.965	-57.0014
27	M92-Avg	-415.143	-54.2242
24	M93-Avg	-428.824	-55.8596
21	M94-Avg	-430.371	-55.9343
18	M95-Avg	-474.834	-61.8138
15	M96-Avg	-482.479	-62.875
12	M97-Avg	-474.867	-61.9459
9	M98-Avg	-474.07	-61.9602
6	M99-Avg	-470.616	-61.1746
3	M100-Avg	-394.801	-50.6693

Table S15. Water isotope data for the samples in snow pit 32-A (SP-32A)

Depth (cm)	Sample Number	δ D (‰)	$\delta^{18}O$(‰)
3.858	32A-78-Avg	-186.912044	-23.951619
7.704	32A-77-Avg	-187.936808	-24.221282
11.55	32A-76-Avg	-184.381802	-23.743593
15.396	32A-75-Avg	-184.574412	-23.88325
19.242	32A-74-Avg	-188.634059	-24.289407
23.088	32A-73-Avg	-200.074823	-25.395634
26.934	32A-72-Avg	-207.496649	-26.638923
30.78	32A-71-Avg	-206.642408	-26.922373
34.626	32A-70-Avg	-213.697203	-27.707032
38.472	32A-69-Avg	-210.910495	-27.285858
42.318	32A-68-Avg	-203.152024	-26.420062
46.164	32A-67-Avg	-211.602022	-27.62486
50.01	32A-66-Avg	-215.178715	-28.085805
53.856	32A-65-Avg	-214.753035	-27.862649
57.702	32A-64-Avg	-214.209925	-27.951668

61.548	32A-63-Avg	-214.743249	-27.772412
65.394	32A-62-Avg	-203.458644	-26.127398
69.24	32A-61-Avg	-196.368866	-25.07259
73.086	32A-60-Avg	-205.72737	-26.320313
76.932	32A-59-Avg	-212.470271	-27.148908
80.778	32A-58-Avg	-215.733122	-27.679063
84.624	32A-57-Avg	-218.595874	-27.813725
88.47	32A-56-Avg	-223.570172	-28.654452
92.316	32A-55-Avg	-225.900547	-28.933481
96.162	32A-54-Avg	-228.095378	-29.36173
100.008	32A-53-Avg	-229.436119	-29.497605
103.854	32A-52-Avg	-226.615827	-29.00708
107.7	32A-51-Avg	-223.627493	-28.620935
111.546	32A-50-Avg	-223.401309	-28.49957
115.392	32A-49-Avg	-225.286175	-28.551757
119.238	32A-48-Avg	-230.172077	-28.954687
123.084	32A-47-Avg	-230.594942	-29.01901
126.93	32A-46-Avg	-229.106717	-28.74594
130.776	32A-45-Avg	-210.243303	-26.624488
134.622	32A-44-Avg	-200.27154	-25.577112
138.468	32A-43-Avg	-196.490334	-25.06374
142.314	32A-42-Avg	-190.871261	-24.42426
146.16	32A-41-Avg	-187.046971	-23.890677
150.006	32A-40-Avg	-182.505321	-23.63345
153.852	32A-39-Avg	-177.950657	-23.00992
157.698	32A-38-Avg	-175.295939	-22.700189
161.544	32A-37-Avg	-173.696927	-22.43645
165.39	32A-36-Avg	-173.482207	-22.423019
169.236	32A-35-Avg	-175.315459	-22.579309
173.082	32A-34-Avg	-180.498015	-23.209352
176.928	32A-33-Avg	-178.807945	-22.880907
180.774	32A-32-Avg	-179.43799	-23.227387
184.62	32A-31-Avg	-173.436868	-22.448421
188.466	32A-30-Avg	-174.798717	-22.909166
192.312	32A-29-Avg	-176.784657	-23.140153
196.158	32A-28-Avg	-182.023122	-23.59844
200.004	32A-27-Avg	-187.19501	-24.188194
203.85	32A-26-Avg	-191.533874	-24.652624
207.696	32A-25-Avg	-195.981535	-25.015077
211.542	32A-24-Avg	-200.02883	-25.572718
215.388	32A-23-Avg	-202.984528	-25.898136

219.234	32A-22-Avg	-207.231158	-26.352663
223.08	32A-21-Avg	-207.757478	-26.422308
226.926	32A-20-Avg	-203.250148	-25.856594
230.772	32A-19-Avg	-195.857623	-24.868935
234.618	32A-18-Avg	-181.485726	-23.487095
238.464	32A-17-Avg	-168.9466	-21.979841
242.31	32A-16-Avg	-154.764309	-20.518607
246.156	32A-15-Avg	-147.271768	-19.644636
250.002	32A-14-Avg	-144.093824	-19.190953
253.848	32A-13-Avg	-148.219978	-19.516758
257.694	32A-12-Avg	-155.005038	-20.169996
261.54	32A-11-Avg	-165.75504	-21.442264
265.386	32A-10-Avg	-180.789139	-23.050109
269.232	32A-9-Avg	-190.30787	-24.079325
273.078	32A-8-Avg	-199.361643	-25.325507
276.924	32A-7-Avg	-209.322427	-26.73298
280.77	32A-6-Avg	-220.507269	-28.033201
284.616	32A-5-Avg	-219.10181	-27.923062
288.462	32A-4-Avg	-219.121421	-27.900787
292.308	32A-3-Avg	-219.116518	-27.731246
296.154	32A-2-Avg	-219.479323	-27.631007
300	32A-1-Avg	-220.595519	-27.778272

Table S16. Water isotope data for the samples in CA2016-75 ice core (CA2016-75)

Depth (cm)	$\delta^{18}O$	$\delta^{18}O$-std	δD	δD-std
4.2917	−28.1483	0.0546	−224.743	0.4159
8.5833	−27.6824	0.171	−226.819	0.1173
12.875	−28.0594	0.0392	−222.807	0.2426
17.1667	−26.7366	0.0557	−213.985	0.232
21.4583	−26.1958	0.0524	−209.436	0.187
25.75	−27.1835	0.0373	−215.768	0.2561
30.0417	−27.1987	0.0122	−218.931	0.5487
34.3333	−27.6998	0.1024	−222.091	0.1864
38.625	−27.4174	0.0313	−220.56	0.0399
42.9167	−27.5945	0.0239	−218.027	0.6658
47.2083	−27.8273	0.1458	−219.945	0.1958
51.5	−26.1193	0.0147	−213.592	0.2831
55.7917	−27.0483	0.0483	−211.807	0.4683
60.0833	−26.2333	0.0554	−202.657	0.2658
64.375	−26.2828	0.075	−202.233	0.1431
68.6667	−26.9839	0.0712	−209.344	0.5143

72.9583	-27.2898	0.0437	-217.034	0.0708
77.25	-28.363	0.0662	-226.181	0.1613
81.5417	-30.3735	0.0741	-237.22	0.3743
85.8333	-30.94	0.0356	-241.278	0.3917
90.125	-30.5437	0.0683	-239.327	0.6649
94.4167	-30.0319	0.0714	-234.454	0.5623
98.7083	-28.9523	0.0713	-229.459	0.0819
103	NA	NA	NA	NA
107.3182	-24.961	0.0472	-205.092	0.0404
111.6364	-25.5312	0.0992	-205.316	0.3218
115.9545	-25.6108	0.0291	-201.376	0.1156
120.2727	-25.4708	0.052	-199.869	0.0361
124.5909	-24.6055	0.1281	-195.704	0.3866
128.9091	-25.1768	0.0119	-198.408	0.1001
133.2273	-24.8558	0.057	-197.05	0.1399
137.5455	-24.2832	0.0358	-196.784	0.2056
141.8636	-25.2975	0.0442	-201.251	0.1204
146.1818	-25.6775	0.0405	-207.212	0.1166
150.5	-26.4633	0.0466	-217.531	0.344
154.8182	-27.3119	0.0249	-219.156	0.2249
159.1364	-25.0927	0.0367	-205.796	0.0591
163.4545	-24.982	0.0339	-203.047	0.2627
167.7727	-25.2238	0.0212	-202.681	0.1842
172.0909	-25.7977	0.0891	-205.727	0.093
176.4091	-26.3817	0.123	-211.909	0.2321
180.7273	-24.5163	0.0234	-204.654	0.1528
185.0455	-27.0167	0.0519	-220.314	0.1168
189.3636	-29.6519	0.0958	-235.489	0.2809
193.6818	-29.4724	0.0289	-234.598	0.0643
198	-31.0453	0.1237	-243.676	0.1593
202.2381	-25.0964	0.0493	-203.158	0.153
206.4762	-25.6641	0.0375	-209.935	0.0764
210.7143	-26.895	0.0363	-214.54	0.084
214.9524	-25.9827	0.0923	-208.675	0.0722
219.1905	-24.5795	0.0342	-195.707	0.1379
223.4286	-24.0316	0.0137	-188.308	0.5668
227.6667	-21.9083	0.064	-176.665	0.1058
231.9048	-22.3509	0.1312	-177.719	0.3023
236.1429	-22.1385	0.0696	-174.048	0.4077
240.381	-22.1005	0.0648	-174.596	0.1839
244.619	-21.2735	0.0922	-175.772	0.384

248.8571	-23.2854	0.0574	-192.103	0.1552
253.0952	-25.133	0.0184	-203.658	0.0753
257.3333	-25.9651	0.0926	-206.013	0.0139
261.5714	-25.7451	0.1373	-205.09	0.4347
265.8095	-24.821	0.0306	-197.219	0.0901
270.0476	-25.294	0.0365	-198.14	0.4431
274.2857	-24.8016	0.0137	-198.922	0.0488
278.5238	-25.8993	0.1192	-204.185	0.1884
282.7619	-27.3754	0.0524	-215.506	0.1308
287	-25.6025	0.0363	-205.543	0.032
291.1364	-25.1227	0.0396	-204.566	0.4921
295.2727	-25.1498	0.1425	-201.995	0.0708
299.4091	-23.8815	0.0295	-193.497	0.0981
303.5455	-24.3206	0.1098	-191.36	0.2391
307.6818	-23.6745	0.0306	-185.225	0.028
311.8182	-22.6194	0.048	-182.014	0.0947
315.9545	-23.1814	0.0208	-185.622	0.2185
320.0909	-24.5238	0.0599	-191.478	0.1656
324.2273	-24.722	0.0713	-199.846	0.1171
328.3636	-26.7226	0.1571	-214.547	0.0964
332.5	-28.1343	0.0919	-224.455	0.1248
336.6364	-26.7428	0.1183	-220.096	0.0597
340.7727	-28.9667	0.0986	-230.388	0.4638
344.9091	-27.4419	0.0827	-222.427	0.2516
349.0455	-28.4206	0.0376	-227.687	0.0575
353.1818	-27.2086	0.0827	-222.317	0.2134
357.3182	-28.3399	0.0528	-226.622	0.0814
361.4545	-28.9958	0.1118	-234.511	0.0963
365.5909	-28.5909	0.0707	-230.7	0.4006
369.7273	-26.0583	0.0317	-220.747	0.035
373.8636	-27.2446	0.0627	-218.78	0.3095
378	-25.6542	0.097	-209.63	0.2778
382.1667	-24.6816	0.0779	-202.351	0.1058
386.3333	-24.2369	0.052	-202.457	0.0779
390.5	-24.5797	0.0827	-203.062	0.1725
394.6667	-25.9903	0.0296	-211.502	0.348
398.8333	-25.2093	0.0562	-209.269	0.3988
403	-26.0872	0.0213	-218.115	0.1464
407.1667	-28.3429	0.1022	-233.173	0.2976
411.3333	-28.6496	0.0624	-236.783	0.1535
415.5	-27.2811	0.0945	-228.289	0.0903

419.6667	-27.5844	0.0516	-221.489	0.112
423.8333	-27.0008	0.0495	-224.76	0.1315
428	-26.565	0.139	-214.763	0.3384
432.2727	-24.757	0.1317	-205.227	0.1965
436.5455	-23.8086	0.1847	-203.327	0.1893
440.8182	-24.6834	0.0717	-204.646	0.0641
445.0909	-23.8937	0.1026	-198.357	0.2407
449.3636	-24.0384	0.1081	-195.852	0.4676
453.6364	-24.0206	0.0644	-194.134	0.0925
457.9091	-23.1674	0.0853	-192.884	0.2542
462.1818	-22.0882	0.0856	-191.727	0.564
466.4545	-21.9637	0.0232	-193.2	0.1089
470.7273	-23.9364	0.0477	-200.723	0.2225
475	-24.4061	0.0749	-202.206	0.3097
479.2727	-23.9685	0.0129	-197.846	0.1688
483.5455	-23.9775	0.0665	-193.109	0.2074
487.8182	-22.5233	0.0394	-184.655	0.0836
492.0909	-21.7647	0.0496	-177.571	0.1051
496.3636	-21.028	0.0697	-171.938	0.3501
500.6364	-20.9566	0.1086	-171.173	0.6256
504.9091	-20.9951	0.0706	-171.785	0.1542
509.1818	-22.6848	0.1091	-182.067	0.1611
513.4545	-24.4433	0.0538	-194.962	0.3306
517.7273	-26.1407	0.0955	-210.789	0.1409
522	-26.7549	0.0423	-218.099	0.0728
526.25	-25.4724	0.0189	-204.074	0.1157
530.5	-26.1486	0.0408	-210.732	0.1438
534.75	-26.193	0.0684	-213.219	0.1178
539	-26.4949	0.0328	-218.875	0.1187
543.25	-28.2609	0.0313	-227.56	0.2124
547.5	-29.4182	0.1225	-234.525	0.1343
551.75	-29.3672	0.0753	-235.507	0.1049
556	-28.2364	0.093	-230.345	0.3495
560.25	-27.9735	0.0261	-226.311	0.1173
564.5	-26.373	0.086	-218.619	0.3374
568.75	-26.5632	0.0758	-213.373	0.435
573	-25.0278	0.0348	-205.031	0.2316
577.25	-25.5562	0.0933	-204.475	0.1658
581.5	-25.3392	0.0333	-204.64	0.4959
585.75	-26.2062	0.0239	-208.469	0.1816
590	-24.9592	0.0665	-207.425	0.0421

594.25	-24.921	0.1175	-208.18	0.7277
598.5	-25.9285	0.0308	-212.043	0.0714
602.75	-25.6839	0.0511	-208.639	0.1611
607	-25.7362	0.0318	-208.4	0.2278
611.25	-25.6903	0.0391	-207.667	0.1476
615.5	-25.8393	0.0363	-213.608	0.0913
619.75	-25.7515	0.0783	-216.552	0.5436
624	-25.4592	0.0629	-217.134	0.0835
628.3636	-27.2018	0.0791	-226.839	0.0587
632.7273	-27.5299	0.0328	-229.307	0.4268
637.0909	-29.0275	0.1139	-232.708	0.1047
641.4545	-26.0922	0.0104	-216.714	0.0307
645.8182	-26.7402	0.0919	-213.393	0.4978
650.1818	-26.2458	0.0277	-205.416	0.1615
654.5455	-25.3371	0.073	-193.274	0.259
658.9091	-24.0863	0.1379	-184.342	0.2778
663.2727	-22.8987	0.078	-181.374	0.1976
667.6364	-24.2425	0.0839	-184.583	0.1818
672	-24.5146	0.0671	-192.329	0.1807
676.2308	-27.6733	0.1257	-222.011	0.1513
680.4615	-27.5208	0.0727	-221.06	0.0772
684.6923	-27.4955	0.1033	-219.06	0.5066
688.9231	-26.3367	0.0566	-215.354	0.069
693.1538	-27.1677	0.0742	-220.251	0.0932
697.3846	-28.4475	0.0887	-229.458	0.3638
701.6154	-29.1726	0.0819	-233.581	0.2816
705.8462	-27.6166	0.129	-225.911	0.2298
710.0769	-26.9445	0.0351	-219.473	0.371
714.3077	-25.7467	0.1083	-207.129	0.0993
718.5385	-24.3302	0.0342	-196.455	0.089
722.7692	-22.7803	0.1009	-186.703	0.6141
727	-23.5162	0.0975	-189.749	0.4045
731.2308	-24.252	0.094	-192.795	0.1949
735.4615	-25.3981	0.0234	-200.127	0.165
739.6923	-25.6673	0.0582	-208.332	0.552
743.9231	-25.8544	0.1077	-210.928	0.382
748.1538	-26.7864	0.0512	-218.119	0.1545
752.3846	-23.3803	0.0451	-198.862	0.5751
756.6154	-26.0421	0.1216	-207.612	0.3946
760.8462	-26.6457	0.1075	-208.224	0.3508
765.0769	-27.2557	0.0706	-212.8	0.6052

769.3077	-27.6657	0.066	-219.945	0.2329
773.5385	-27.7157	0.0934	-224.219	0.1432
777.7692	-27.9758	0.0338	-228.435	0.2404
782	-28.5371	0.0665	-231.783	0.1886
786.3478	-28.4868	0.0665	-223.617	0.3852
790.6957	-28.0208	0.0465	-221.958	0.1268
795.0435	-27.7978	0.037	-221.709	0.0981
799.3913	-27.8414	0.0392	-224.017	0.1656
803.7391	-29.6803	0.0195	-236.565	0.1408
808.087	-29.5597	0.0353	-237.394	0.1844
812.4348	-29.811	0.0655	-238.539	0.4979
816.7826	-31.1017	0.0408	-246.684	0.0879
821.1304	-28.6472	0.0665	-232.969	0.142
825.4783	-28.646	0.0784	-232.005	0.3943
829.8261	-28.8898	0.1263	-231.355	0.266
834.1739	-25.4739	0.0197	-213.732	0.1757
838.5217	-27.1001	0.0197	-217.74	0.3245
842.8696	-25.7973	0.0252	-206.944	0.0786
847.2174	-26.1728	0.0952	-206.862	0.188
851.5652	-26.5269	0.0616	-209.042	0.2151
855.913	-27.0851	0.0332	-216.157	0.2583
860.2609	-28.5518	0.0103	-227.339	0.0575
864.6087	-27.4184	0.054	-222.649	0.1327
868.9565	-26.285	0.0978	-217.959	0.2079
873.3043	-29.2739	0.0405	-235.982	0.1297
877.6522	-28.8757	0.0803	-232.242	0.2428
882	-28.1335	0.0506	-227.472	0.4945
886.1923	-26.6099	0.1445	-208.954	0.1001
890.3846	-26.7178	0.1281	-207.227	0.1632
894.5769	-26.6199	0.047	-206.338	0.1417
898.7692	-26.9312	0.1436	-208.999	0.5384
902.9615	-27.108	0.1141	-210.307	0.2124
907.1538	-27.9361	0.0527	-217.595	0.0998
911.3462	-28.2241	0.1328	-220.122	0.4366
915.5385	-28.7012	2.59E-02	-225.541	0.0688
919.7308	-29.245	0.1398	-228.462	0.1812
923.9231	-29.4144	0.1604	-229.662	0.221
928.1154	-28.9064	0.1257	-225.502	0.2989
932.3077	-28.5442	0.0856	-221.378	0.3
936.5	-27.021	0.0224	-213.271	0.1624
940.6923	-27.3092	0.066	-212.964	0.2015

944.8846	-27.1837	0.0465	-210.349	0.3635
949.0769	-25.6928	0.0874	-206.812	0.4269
953.2692	NA	NA	NA	NA
957.4615	-26.801	0.0476	-214.695	0.1963
961.6538	-27.7541	8.52E-03	-221.167	0.3111
965.8462	-27.313	0.0976	-222.116	0.2831
970.0385	-27.3925	0.0311	-224.152	0.3521
974.2308	-28.6051	0.0406	-229.882	0.0901
978.4231	-28.4033	0.0533	-229.603	0.1872
982.6154	-28.4133	0.0603	-224.519	0.3067
986.8077	-28.7459	0.0871	-224.951	0.1825
991	-27.1114	0.0135	-216.792	0.0612
995.3333	-23.183	0.114	-176.689	0.4624
999.6667	-23.8421	0.0556	-180.18	0.0875
1004	-24.5304	0.1179	-185.645	0.2523
1008.333	-24.5565	0.0154	-189.816	0.3633
1012.667	-25.5156	0.0841	-198.003	0.1594
1017	-25.9976	0.0677	-203.404	0.0733
1021.333	-26.0742	0.0609	-205.661	0.3018
1025.667	-26.5902	0.1111	-207.185	0.2207
1030	-25.5081	0.0627	-204.123	0.1649
1034.333	-26.0622	0.0855	-204.195	0.2945
1038.667	-25.012	0.0811	-199.358	0.1086
1043	-25.376	0.0703	-199.776	0.1498
1047.333	-24.9267	0.1199	-198.292	0.5326
1051.667	-25.3911	0.0865	-202.625	0.1445
1056	-25.7965	0.0674	-204.227	0.0909
1060.308	-27.8203	0.1419	-218.647	0.2101
1064.615	-28.0078	0.0615	-222.349	0.109
1068.923	-28.0167	0.1228	-222.136	0.2646
1073.231	-27.7304	0.0232	-220.385	0.1033
1077.539	-27.4834	0.0295	-217.153	0.3335
1081.846	-26.564	0.0578	-210.143	0.2334
1086.154	-25.6446	0.0861	-203.134	0.1333
1090.462	-24.5707	0.1127	-195.258	0.343
1094.769	-24.4163	0.0416	-190.433	0.1026
1099.077	-23.7473	0.0984	-184.962	0.2005
1103.385	-23.3736	0.101	-180.559	0.1685
1107.692	-22.9999	0.1035	-176.157	0.1364
1112	-22.5552	0.056	-173.362	0.1842
1116.526	-28.2103	0.0556	-225.582	0.264

1121.053	-28.0416	0.0755	-224.073	0.1814
1125.579	-27.5231	0.0256	-219.45	0.108
1130.105	-27.1783	0.0723	-213.898	0.0953
1134.632	-26.594	0.0757	-208.034	0.1305
1139.158	-26.0718	0.0509	-202.889	0.6247
1143.684	-25.6264	0.151	-196.269	0.2344
1148.211	-25.0416	0.0939	-192.303	0.1021
1152.737	-24.6888	0.1129	-187.578	0.504
1157.263	-24.3167	0.0476	-187.251	0.0829
1161.79	-24.4009	0.0356	-188.101	0.0894
1166.316	-24.9767	0.0749	-192.28	0.7054
1170.842	-25.2681	0.0706	-195.219	0.0868
1175.368	-24.5579	0.0484	-196.894	0.1688
1179.895	-25.1038	0.0459	-201.812	0.5088
1184.421	-26.165	0.0957	-204.547	0.157
1188.947	-26.1574	0.1325	-204.682	0.1342
1193.474	-26.5057	0.1194	-205.388	0.3462
1198	-26.4791	0.073	-207.165	0.1805
1202.231	-27.7304	0.0473	-218.623	0.4801
1206.462	-27.5763	0.1085	-217.751	0.2087
1210.692	-27.9405	0.0308	-219.528	0.2707
1214.923	-28.0988	0.0311	-219.86	0.2023
1219.154	-28.561	0.0618	-223.119	0.3184
1223.385	-28.2671	0.056	-222.998	0.2822
1227.615	-28.3437	0.0675	-223.788	0.0518
1231.846	-29.0459	0.064	-228.031	0.0836
1236.077	-28.8411	0.0248	-228.693	0.1176
1240.308	-29.758	0.0301	-233.574	0.4658
1244.539	-29.0711	0.03	-231.585	0.123
1248.769	-29.1542	0.1233	-231.753	0.1551
1253	-28.6767	0.0876	-228.202	0.1135
1257.263	-29.9757	0.0217	-238.648	0.0952
1261.526	-30.261	0.0792	-238.595	0.1538
1265.79	-29.4452	0.0749	-235.277	0.3368
1270.053	-29.3831	0.0921	-233.987	0.147
1274.316	-28.8447	0.0975	-229.455	0.3086
1278.579	-28.419	0.1001	-226.555	0.0353
1282.842	-28.158	0.0547	-223.746	0.031
1287.105	-28.2796	0.0351	-222.799	0.0778
1291.368	-27.7247	0.0741	-219.5	0.0941
1295.632	-27.7551	0.0569	-218.566	0.2053

1299.895	-27.3789	0.0381	-216.775	0.514
1304.158	-27.1145	0.1249	-214.074	0.1212
1308.421	-26.7856	0.0539	-211.349	0.0467
1312.684	-26.4681	0.0722	-208.941	0.4771
1316.947	-26.7703	0.0396	-210.025	0.1637
1321.211	-26.6593	0.0195	-209.692	0.1525
1325.474	-27.1732	0.1028	-212.199	0.1688
1329.737	-27.2204	0.0895	-212.932	0.1588
1334	-27.4754	0.0684	-215.777	0.3194
1338.24	-26.9576	0.0985	-213.868	0.1611
1342.48	-27.1826	0.0381	-217.167	0.0688
1346.72	-27.7376	0.1577	-220.164	0.1668
1350.96	-27.8769	0.0201	-219.788	0.0796
1355.2	-27.7133	0.1183	-217.105	0.4129
1359.44	-27.6213	0.1361	-213.525	0.3297
1363.68	-27.1089	0.0286	-211.414	0.2581
1367.92	-27.1996	0.1248	-211.437	0.1889
1372.16	-27.4118	0.1431	-212.844	0.5489
1376.4	-27.4086	0.0722	-213.819	0.0882
1380.64	-27.8758	0.06	-216.569	0.2283
1384.88	-28.0082	0.0747	-217.47	0.3073
1389.12	-28.0833	0.0774	-218.53	0.1772
1393.36	-27.7408	0.0603	-217.123	0.0161
1397.6	-28.0387	0.0242	-218.9	0.1434
1401.84	-28.413	0.0615	-221.347	0.1393
1406.08	-28.4538	0.0329	-223.476	0.1103
1410.32	-29.2316	0.0443	-230.15	0.3028
1414.56	-29.7317	0.0465	-234.284	0.2518
1418.8	-30.2319	0.0486	-238.419	0.2009
1423.04	-30.9331	0.086	-243.802	0.4247
1427.28	-30.9071	0.0823	-244.604	0.2265
1431.52	-30.8812	0.0786	-245.406	0.0282
1435.76	-30.1697	0.0478	-241.892	0.0401
1440	-30.4031	0.044	-241.445	0.058
1444.286	-28.2805	0.0393	-223.751	0.1853
1448.571	-27.8405	0.0696	-222.085	0.2388
1452.857	-27.4388	0.1042	-221.29	0.169
1457.143	-27.875	0.0748	-221.837	0.2575
1461.429	-27.6352	0.1029	-220.097	0.2049
1465.714	-26.7718	0.0391	-216.167	0.4405
1470	-26.6564	0.1347	-212.749	0.1229

1474.286	-26.0204	0.0165	-208.994	0.1136
1478.571	-25.7477	0.0563	-205.567	0.3294
1482.857	-26.0434	0.0118	-207.009	0.1222
1487.143	-25.3692	0.0586	-201.66	0.0632
1491.429	-26.0676	0.1067	-205.91	0.1744
1495.714	-24.941	0.0685	-196.951	0.1289
1500	-24.4784	0.0617	-190.863	0.3045
1504.286	-23.7291	0.0939	-185.488	0.6147
1508.571	-22.8644	0.1135	-177.606	0.3717
1512.857	-22.4372	0.1806	-173.632	0.2938
1517.143	-22.0959	0.0277	-170.136	0.1733
1521.429	-22.6002	0.1385	-172.94	0.2468
1525.714	-22.8417	0.0765	-176.11	0.3786
1530	-23.2108	0.063	-181.341	0.1786
1534.278	-27.7315	0.0661	-217.499	0.06
1538.556	-27.9608	0.0424	-219.036	0.2045
1542.833	-28.1154	0.0722	-221.919	0.2113
1547.111	-28.5968	2.73E-02	-225.537	0.1833
1551.389	-28.8426	0.0675	-228.024	0.1625
1555.667	-28.7957	0.0517	-229.175	0.5911
1559.944	-29.1027	0.1929	-229.35	0.1422
1564.222	-28.6446	0.0432	-226.529	0.13
1568.5	-28.5388	0.1063	-223.809	0.4935
1572.778	-28.2085	0.0582	-221.803	0.2749
1577.056	-28.2021	0.1827	-221.447	0.3015
1581.333	-28.3956	0.1603	-223.324	0.3231
1585.611	-28.4111	0.146	-225.378	0.2452
1589.889	-28.3027	0.1147	-226.857	0.1476
1594.167	-28.3711	4.77E-03	-227.992	0.4188
1598.444	-28.6172	0.1342	-226.671	0.0854
1602.722	NA	NA	NA	NA
1607	-25.8701	0.1321	-213.853	0.5567
1611.375	-30.3232	0.0274	-240.775	0.0669
1615.75	-30.3245	0.0648	-241.362	0.2113
1620.125	-29.9406	0.0111	-239.069	0.0736
1624.5	-29.4865	0.0256	-236.65	0.1883
1628.875	-29.3016	0.03	-232.79	0.2256
1633.25	-29.0313	0.0118	-230.302	0.1693
1637.625	-28.5074	0.0644	-225.796	0.5522
1642	-28.5086	0.0527	-226.001	0.2983
1646.375	-28.2715	0.0389	-224.371	0.0153

1650.75	NA	NA	NA	NA
1655.125	NA	NA	NA	NA
1659.5	-27.9566	0.0272	-222.632	0.0248
1663.875	-27.9923	0.0298	-222.497	0.2774
1668.25	NA	NA	NA	NA
1672.625	-27.3425	0.0416	-216.626	0.0708
1677	-27.1411	0.2602	-213.959	1.5805
1681.389	-28.1679	0.0633	-219.667	0.1085
1685.778	-28.0915	0.1024	-219.777	0.1718
1690.167	-27.7653	0.0481	-218.58	0.291
1694.556	-27.3856	0.0424	-216.629	0.4467
1698.944	-27.1128	0.0501	-211.93	0.162
1703.333	-27.0567	0.1193	-208.978	0.1756
1707.722	-26.5681	0.242	-205.788	1.9663
1712.111	-26.9584	0.0532	-207.872	0.0706
1716.5	-27.3041	0.1005	-213.076	0.0903
1720.889	-27.5988	0.0437	-216.478	0.0631
1725.278	-28.2762	0.1136	-222.479	0.1379
1729.667	-28.5415	0.1383	-225.642	0.3215
1734.056	-29.2954	0.0351	-233.231	0.6018
1738.444	-29.1689	0.0388	-230.381	0.2779
1742.833	-28.9521	0.1072	-228.282	0.3022
1747.222	-29.5426	0.056	-233.883	0.5297
1751.611	-30.1128	0.0523	-238.296	0.1287
1756	-30.0745	0.0202	-238.893	0.1164
1760.348	-27.2194	0.034	-205.6	0.2755
1764.696	-26.6426	0.0476	-204.08	0.1279
1769.044	-26.4284	0.1287	-202.76	0.6276
1773.391	-26.3232	0.0358	-204.491	0.0983
1777.739	-26.4499	0.0815	-206.416	0.3193
1782.087	-26.1013	0.0735	-203.677	0.14
1786.435	-26.8949	0.0455	-209.241	0.1318
1790.783	-25.8972	0.166	-207.635	0.0757
1795.13	-27.8431	0.0676	-218.241	0.4018
1799.478	-28.158	0.0303	-221.715	0.132
1803.826	-28.4224	0.0768	-223.821	0.1532
1808.174	-28.7183	0.0653	-226.359	0.504
1812.522	-28.8202	0.0175	-230.021	0.1298
1816.87	-29.514	0.0817	-233.684	0.2562
1821.217	-29.6374	0.0547	-235.196	0.2905
1825.565	-29.9119	0.031	-235.322	0.2453

1829.913	-29.7293	0.0798	-233.968	0.2767
1834.261	-29.4586	0.0122	-230.797	0.3609
1838.609	-28.9821	0.0712	-227.092	0.1017
1842.957	-28.6699	0.0913	-223.859	0.0636
1847.304	-27.8914	0.0689	-218.681	0.3021
1851.652	-28.0966	0.0625	-219.246	0.0325
1856	-28.0405	0.0835	-218.248	0.1578
1860.35	-26.3072	0.0832	-202.651	0.3563
1864.7	-26.7464	0.044	-209.284	0.5414
1869.05	-27.2657	0.1288	-215.611	0.1528
1873.4	NA	NA	-220.69	0.0947
1877.75	-28.5081	0.1019	-224.013	0.5289
1882.1	-28.8551	0.1388	-227.323	0.2488
1886.45	-28.8665	0.0215	-228.729	0.2009
1890.8	-28.9513	0.0277	-228.498	0.1557
1895.15	NA	NA	-228.528	0.1317
1899.5	-29.3097	0.0365	-229.62	0.3643
1903.85	-29.1096	0.047	-231.414	0.4967
1908.2	-29.2947	0.0948	-233.429	0.1028
1912.55	-29.4728	0.0653	-233.685	0.0668
1916.9	-29.5528	0.1668	-233.066	0.6613
1921.25	-29.3799	0.1724	-233.311	0.4798
1925.6	-29.2572	0.1446	-231.901	0.1733
1929.95	-28.1806	0.0271	-223.903	0.2111
1934.3	-27.8786	0.0465	-221.037	0.0897
1938.65	-27.6604	0.1339	-219.327	0.3204
1943	-26.4561	0.0941	-208.042	0.5646
1947.286	-28.7674	0.0899	-228.335	0.2094
1951.571	-28.8462	0.0277	-228.458	0.1528
1955.857	-28.8691	0.0306	-228.299	0.0651
1960.143	-29.2532	0.0607	-228.845	0.2546
1964.429	NA	NA	NA	NA
1968.714	-29.4457	0.1173	-229.052	0.214
1973	-29.2175	0.0103	-230.246	0.0946
1977.286	-30.2854	0.1066	-234.641	0.5959
1981.571	-30.461	0.0553	-240.222	0.0628
1985.857	-30.8174	0.0793	-243.45	0.0161
1990.143	-30.7045	0.0525	-244.318	0.083
1994.429	-30.8174	0.0354	-244.382	0.1112
1998.714	-30.0674	0.1173	-238.981	0.1773
2003	-29.1188	0.0634	-231.326	0.3497

2007.286	NA	NA	-224.361	0.2509
2011.571	NA	NA	-216.818	0.1645
2015.857	-27.3329	0.1647	-212.257	0.3715
2020.143	-26.7062	0.0894	-206.285	0.037
2024.429	-25.6351	0.0875	-199.002	0.0577
2028.714	-25.7018	0.1184	-198.108	0.3193
2033	-25.1782	0.0623	-197.111	0.2347
2037.368	-29.3347	0.0126	-234.396	0.3108
2041.737	-29.4117	0.0571	-232.989	0.0634
2046.105	-29.096	0.0319	-231.176	0.2576
2050.474	-27.9139	0.0748	-224.7	0.1977
2054.842	-29.2677	0.0441	-229.424	0.1973
2059.211	-29.5153	0.1285	-231.893	0.3824
2063.579	-28.9879	0.0847	-228.92	0.309
2067.947	-28.964	0.0777	-229.715	0.3041
2072.316	-26.9556	0.1072	-222.023	0.3746
2076.684	-29.1091	0.0975	-229.024	0.2176
2081.053	-28.6787	0.0621	-227.158	0.0728
2085.421	NA	NA	NA	NA
2089.79	-28.3479	0.0418	-224.565	0.1387
2094.158	-28.1649	0.0147	-223.387	0.1187
2098.526	NA	NA	NA	NA
2102.895	-28.3833	0.0889	-221.823	0.3021
2107.263	-28.4634	0.0713	-223.061	0.163
2111.632	-28.7292	0.0556	-225.338	0.6222
2116	-28.5792	0.1203	-226.563	0.1729
2120.222	-27.0298	0.0982	-211.286	0.2556
2124.444	-26.8782	0.0617	-211.45	0.0821
2128.667	-27.184	0.0928	-212.576	0.0561
2132.889	-27.0016	0.1026	-211.948	0.2475
2137.111	-26.692	0.078	-211.72	0.2
2141.333	-27.0941	0.064	-211.802	0.4144
2145.556	-27.074	0.0958	-209.739	0.1847
2149.778	-27.0929	0.0585	-211.322	0.1816
2154	-27.165	0.0961	-211.026	0.4912
2158.222	-27.3091	0.0807	-213.767	0.182
2162.444	-27.4823	0.0791	-215.893	0.1011
2166.667	-27.5835	0.0402	-218.113	0.1536
2170.889	-27.7327	0.0336	-219.428	0.2379
2175.111	-28.0803	0.1239	-221.917	0.0889
2179.333	-28.3256	0.0647	-225.423	0.3962

2183.556	-28.2549	0.0548	-226.626	0.0808
2187.778	-29.1781	0.0607	-233.112	0.1287
2192	-29.168	0.0724	-234.598	0.2637
2196.5	-26.7033	0.0791	-207.834	0.163
2201	-26.5473	0.0447	-208.313	0.1945
2205.5	-26.2505	0.0306	-208.006	0.1497
2210	-26.9482	0.0432	-209.975	0.1298
2214.5	-26.7186	0.064	-210.57	0.5366
2219	-27.0093	0.1121	-210.822	0.1903
2223.5	-26.5211	0.0346	-208.853	0.0424
2228	-26.999	0.086	-210.521	0.1424
2232.278	-28.1806	0.0981	-221.389	0.1931
2236.556	-28.1883	0.1043	-220.366	0.1091
2240.833	-27.7786	0.0589	-216.906	0.1042
2245.111	-27.6864	0.0868	-217.954	0.1589
2249.389	-27.8324	0.064	-219.082	0.4259
2253.667	-27.6509	0.0739	-219.248	0.2972
2257.944	-28.0926	0.0713	-219.561	0.2089
2262.222	-28.1534	0.1729	-219.067	0.4487
2266.5	-28.3091	0.119	-219.149	0.2885
2270.778	-28.0319	0.1665	-218.787	0.2388
2275.056	-26.88	0.0944	-216.105	0.2085
2279.333	-28.1091	0.0937	-219.486	0.0638
2283.611	-28.1952	0.1321	-219.369	0.1676
2287.889	-27.9698	0.1173	-218.36	0.4555
2292.167	-27.0776	0.0801	-214.015	0.0698
2296.444	-26.9659	0.0714	-210.713	0.2414
2300.722	-26.437	0.1209	-207.229	0.4407
2305	-26.2264	0.0403	-207.367	0.1248
2309.273	-26.8576	0.0526	-211.085	0.1276
2313.546	-26.6075	0.0661	-208.708	0.2589
2317.818	-26.2731	0.0381	-205.952	0.2269
2322.091	-24.6601	0.0439	-200.891	0.4065
2326.364	-23.8103	0.0234	-197.575	0.1621
2330.636	-25.2472	0.0575	-203.51	0.1122
2334.909	-26.5798	0.0322	-207.102	0.0799
2339.182	-26.2542	0.0648	-206.489	0.2457
2343.455	-24.8022	0.0428	-203.707	0.5629
2347.727	-26.6074	0.0391	-208.132	0.0956
2352	-25.1892	0.0817	-203.334	0.2085
2356.273	-27.1344	0.092	-210.171	0.5275

2360.546	-27.2184	0.1105	-212.27	0.2131
2364.818	-27.6997	0.116	-216.598	0.2164
2369.091	-27.8155	0.0428	-218.862	0.1684
2373.364	-28.1923	0.079	-222.06	0.1121
2377.636	-28.5692	0.0584	-226.347	0.067
2381.909	-29.165	0.0866	-230.373	0.2333
2386.182	-29.1294	0.0782	-230.645	0.1111
2390.455	-29.0871	0.09	-230.936	0.1354
2394.727	-28.8656	0.095	-228.483	0.3676
2399	-28.5059	0.0449	-226.091	0.1762
2403.111	-30.2346	0.0279	-236.58	0.1411
2407.222	-29.8342	0.095	-233.156	0.1413
2411.333	-29.2663	0.042	-228.407	0.3652
2415.444	-28.8775	0.0509	-225.444	0.0298
2419.556	-28.0947	0.0329	-220.947	0.1713
2423.667	-28.2162	0.0813	-219.844	0.4676
2427.778	-26.5674	0.0344	-212.482	0.1678
2431.889	-27.2888	0.028	-214.328	0.0408
2436	-27.1916	0.0381	-213.222	0.1858
2440.238	-27.9768	0.0759	-221.897	0.0664
2444.476	-27.2852	0.1078	-218.321	0.1499
2448.714	-27.8782	0.0357	-220.549	0.2269
2452.952	-27.5422	0.0239	-217.081	0.1318
2457.191	-27.3055	0.0584	-214.62	0.2252
2461.429	-27.1852	0.0303	-213.743	0.3871
2465.667	-27.0521	0.0232	-213.061	0.068
2469.905	-27.2351	0.0588	-212.044	0.2074
2474.143	-26.9293	0.0486	-212.351	0.3048
2478.381	-26.9753	0.1027	-212.438	0.1349
2482.619	-27.7611	0.0928	-215.429	0.2477
2486.857	-28.0055	0.0495	-220.919	0.4145
2491.095	-27.1306	0.0878	-220.851	0.2301
2495.333	-29.7081	0.0731	-231.893	0.0925
2499.571	-30.0312	0.1501	-235.216	0.4133
2503.81	-30.0555	0.0348	-239.757	0.1426
2508.048	-30.8295	0.1024	-241.153	0.2125
2512.286	-31.2331	0.0642	-244.923	0.0904
2516.524	-31.3672	0.0514	-245.97	0.1372
2520.762	-30.8473	0.0946	-245.007	0.0432
2525	-30.4961	0.0447	-241.202	0.198
2529.208	-25.8185	0.0908	-206.661	0.0641

2533.417	-26.2024	0.0449	-205.132	0.1273
2537.625	-25.9619	0.0923	-202.723	0.1172
2541.833	-26.4211	0.0905	-202.67	0.1355
2546.042	-26.3579	0.0249	-202.365	0.1403
2550.25	-26.7187	0.0629	-203.663	0.2665
2554.458	-26.924	0.0397	-204.778	0.1792
2558.667	-27.4536	0.0727	-208.315	0.0587
2562.875	-27.8533	0.0349	-213.001	0.4599
2567.083	-27.9514	0.075	-218.893	0.2206
2571.292	-28.1901	0.1269	-219.562	0.1877
2575.5	-28.6522	0.0699	-222.974	0.3763
2579.708	-28.7441	0.0859	-224.559	0.0466
2583.917	-28.6394	0.1193	-223.852	0.0916
2588.125	-28.7249	0.056	-223.885	0.1871
2592.333	-28.3675	0.0481	-221.589	0.0466
2596.542	-28.3688	0.0388	-220.792	0.1316
2600.75	-28.1862	0.0239	-221.589	0.2761
2604.958	-28.2484	0.083	-221.681	0.1195
2609.167	-28.2548	0.1145	-221.506	0.1035
2613.375	-27.85	0.0773	-221.195	0.3448
2617.583	-27.7988	0.0447	-222.025	0.1254
2621.792	-28.5506	0.101	-225.039	0.0926
2626	-28.0921	0.0919	-223.6	0.0736
2630.294	-25.8185	0.0908	-206.661	0.0641
2634.588	-26.7181	0.0455	-208.875	0.4382
2638.882	-26.9227	0.0904	-210.991	0.0935
2643.177	-27.0287	0.0319	-213.458	0.1982
2647.471	-27.4878	0.0878	-216.417	0.1246
2651.765	-27.9095	0.1272	-219.532	0.324
2656.059	-28.1278	0.0887	-220.215	0.1666
2660.353	-28.9004	0.1046	-220.161	0.5182
2664.647	-28.8788	0.0405	-218.351	0.0844
2668.941	-28.9014	0.105	-219.908	0.123
2673.235	-28.489	0.0232	-219.529	0.1149
2677.529	-28.2151	0.0165	-216.706	0.0189
2681.824	-28.127	0.0432	-215.646	0.2907
2686.118	-27.2438	0.052	-213.085	0.2558
2690.412	-27.7184	0.0212	-213.871	0.2092
2694.706	-27.8	0.0678	-212.8	0.2317
2699	-27.2977	0.0323	-211.906	0.4787
2703.154	-27.8575	0.1133	-219.763	0.2656

2707.308	-27.7808	0.0175	-222.122	0.4172
2711.462	-28.2527	0.0253	-220.16	0.1971
2715.615	-28.9569	0.0894	-222.51	0.2053
2719.769	-28.7883	0.0748	-220.325	0.603
2723.923	-28.7933	0.0361	-221.089	0.1089
2728.077	-28.6135	0.0571	-220.447	0.0723
2732.231	-28.5862	0.0689	-219.893	0.3217
2736.385	-28.3346	0.0248	-218.754	0.4325
2740.539	-28.1064	0.0546	-217.995	0.1413
2744.692	-27.3092	0.0131	-215.366	0.1081
2748.846	-28.105	0.044	-216.416	0.3377
2753	-27.7441	0.0381	-214.54	0.0647
2757.353	-28.215	0.099	-221.915	0.4943
2761.706	-28.8062	0.0563	-221.884	0.173
2766.059	-28.8964	0.0903	-221.562	0.0973
2770.412	-28.8354	0.0923	-221.572	0.4473
2774.765	-28.428	0.0614	-221.899	0.2723
2779.118	-29.0733	0.0357	-227.054	0.0813
2783.471	-29.5564	0.0279	-229.003	0.1748
2787.824	-29.5101	0.0392	-228.441	0.1253
2792.177	-29.055	0.0899	-225.9	0.2098
2796.529	-29.0745	0.078	-224.045	0.4173
2800.882	-26.9927	0.0672	-214.471	0.4713
2805.235	-27.3177	0.123	-213.572	0.1676
2809.588	-27.2063	0.0193	-212.236	0.3087
2813.941	-27.0336	0.0387	-212.73	0.0411
2818.294	-26.7522	0.0184	-212.505	0.3495
2822.647	-27.2319	0.0779	-216.345	0.1808
2827	-27.0618	0.0267	-216.921	0.0461
2831.286	-27.0189	0.0917	-208.285	0.0636
2835.571	-26.6458	0.1266	-205.403	0.3466
2839.857	-24.3846	0.0861	-194.873	0.218
2844.143	-26.658	0.114	-205.748	0.2269
2848.429	-24.7855	0.0221	-196.978	0.1551
2852.714	-26.7139	0.0372	-205.085	0.0773
2857	-26.9444	0.0935	-206.235	0.4011
2861.286	-26.8791	0.0351	-209.83	0.2144
2865.571	-27.0468	0.0898	-212.071	0.0912
2869.857	-27.2798	0.0522	-214.8	0.1637
2874.143	-27.2901	0.036	-216.043	0.1458
2878.429	-27.8624	0.1062	-217.996	0.3174

2882.714	-28.1348	0.0905	-220.731	0.3245
2887	-27.8345	0.1039	-221.074	0.2462
2891.286	-28.0966	0.1233	-223.052	0.2371
2895.571	-28.3829	0.066	-223.348	0.4312
2899.857	-28.6616	0.0184	-226.932	0.0264
2904.143	-26.4998	0.0504	-220.948	0.2072
2908.429	-28.6959	0.042	-226.973	0.1116
2912.714	-28.5738	0.0611	-225.092	0.2664
2917	-28.3384	0.0374	-223.219	0.0568
2921.333	-25.7817	0.1216	-202.541	0.5497
2925.667	-25.9366	0.0857	-199.315	0.3246
2930	-25.0861	0.0298	-195.537	0.2347
2934.333	-25.0217	0.0716	-194.712	0.2462
2938.667	-24.9572	0.1134	-193.887	0.2576
2943	-23.5268	0.0388	-189.756	0.0219
2947.333	-25.0886	0.0663	-195.857	0.1055
2951.667	-25.1089	0.0333	-197.276	0.141
2956	-25.0507	0.0819	-196.315	0.1648
2960.333	-25.9429	0.0393	-204.074	0.2724
2964.667	-25.7257	0.0768	-205.313	0.1691
2969	-26.1567	0.0709	-207.351	0.0401
2973.333	-26.4832	0.0877	-206.852	0.5814
2977.667	-26.7025	0.0392	-207.969	0.1839
2982	-26.7681	0.0663	-207.474	0.2109
2986.417	-27.9995	0.0529	-217.271	0.1652
2990.833	-27.4766	0.0342	-212.707	0.1875
2995.25	-27.502	0.1097	-211.774	0.3113
2999.667	-26.6587	0.045	-209.652	0.1371
3004.083	-27.1912	0.0165	-209.842	0.2623
3008.5	-26.9654	0.1095	-208.066	0.3415
3012.917	-27.0887	0.0483	-209.467	0.4357
3017.333	-27.0835	0.0301	-210.501	0.162
3021.75	-27.0043	0.0633	-211.209	0.1544
3026.167	-26.8499	0.0356	-209.828	0.1577
3030.583	-26.4929	0.0746	-207.691	0.1369
3035	-25.9985	0.0232	-205.387	0.1489
3039.348	-29.9384	0.1031	-235.043	0.2673
3043.696	-28.8123	0.0273	-231.685	0.1147
3048.044	-29.6996	0.1177	-231.67	0.6124
3052.391	-29.5694	0.1097	-230.359	0.2491
3056.739	-29.3217	0.0143	-229.471	0.1012

3061.087	-29.2157	0.0906	-230.451	0.084
3065.435	-29.5796	0.0613	-232.636	0.2282
3069.783	-29.983	0.0217	-235.831	0.1333
3074.13	-30.346	0.0895	-238.075	0.2568
3078.478	-28.7092	0.1112	-234.587	0.2728
3082.826	-30.2047	0.0132	-237.478	0.0525
3087.174	-30.4046	0.1099	-237.342	0.1001
3091.522	-29.9661	0.1214	-235.285	0.2881
3095.87	-29.0945	0.0254	-230.459	0.0664
3100.217	-29.0065	0.0811	-227.653	0.3131
3104.565	-29.3612	0.1294	-230.858	0.2839
3108.913	-28.9057	0.0219	-230.24	0.1414
3113.261	-29.4888	0.1161	-231.819	0.2686
3117.609	-28.5756	0.1374	-228.235	0.449
3121.957	-28.7364	0.0436	-228.578	0.0857
3126.304	-28.9466	0.0914	-226.008	0.4044
3130.652	-28.6035	0.0205	-224.379	0.2108
3135	-28.3097	0.0582	-221.007	0.1323
3139.174	-27.4708	0.1568	-217.195	0.4562
3143.348	-27.4682	0.1313	-215.106	0.3619
3147.522	-25.8723	0.1521	-206.665	0.4232
3151.696	-26.5552	0.0651	-207.376	0.0976
3155.87	-26.7133	0.1152	-208.963	0.1459
3160.044	-26.6301	0.0734	-209.011	0.1479
3164.217	-26.5495	0.0862	-208.657	0.3115
3168.391	-26.5999	0.0509	-208.772	0.3856
3172.565	-26.3206	0.0143	-209.212	0.0455
3176.739	-26.7747	0.0301	-210.495	0.1588
3180.913	-27.0062	0.0349	-212.423	0.2867
3185.087	-27.4177	0.0414	-211.687	0.1189
3189.261	-27.1547	0.0173	-211.475	0.0961
3193.435	-27.9561	0.0506	-213.648	0.3986
3197.609	-26.4956	0.0416	-212.352	0.1125
3201.783	-24.7774	0.046	-207.334	0.0721
3205.957	-27.6681	0.1038	-216.326	0.1998
3210.13	-28.0526	0.0259	-221.707	0.1355
3214.304	-28.6376	0.0131	-226.043	0.2439
3218.478	-29.0031	0.0649	-229.413	0.2921
3222.652	-29.0906	0.0323	-230.882	0.0429
3226.826	-29.583	0.09	-234.578	0.2063
3231	-29.9802	0.0762	-236.547	0.3389

3235.211	-28.7273	0.0678	-224.933	0.3286
3239.421	-28.6903	0.0585	-223.857	0.0934
3243.632	-28.2032	0.0436	-222.218	0.1856
3247.842	-28.4295	0.0705	-223.476	0.5374
3252.053	-28.5714	0.0532	-224.54	0.1839
3256.263	-28.2416	0.0539	-224.647	0.4678
3260.474	-28.4784	0.066	-223.918	0.1946
3264.684	-27.3103	0.0362	-220.592	0.2255
3268.895	-28.0531	0.1195	-221.117	0.164
3273.105	-28.6105	0.0973	-223.808	0.3303
3277.316	-27.8512	0.0272	-221.921	0.1571
3281.526	-28.3743	0.109	-223.334	0.1081
3285.737	-28.6828	0.1249	-225.141	0.2738
3289.947	-27.8131	0.0375	-222.759	0.2053
3294.158	-27.276	0.0563	-220.681	0.2249
3298.368	NA	NA	NA	NA
3302.579	-29.1104	0.0865	-228.722	0.2479
3306.79	-28.3003	0.0286	-226.683	0.438
3311	-28.461	0.0398	-226.917	0.1924
3315.333	-29.6435	0.0655	-232.012	0.1993
3319.667	-29.8935	0.1184	-232.737	0.0912
3324	-30.2717	0.067	-235.414	0.4585
3328.333	-30.2976	0.0831	-236.906	0.0844
3332.667	-30.6849	0.0442	-241.616	0.1009
3337	-31.0173	0.0801	-242.88	0.5517
3341.333	-30.7284	0.0889	-244.006	0.0697
3345.667	-31.1336	0.0575	-245.051	0.1964
3350	-29.7095	0.096	-237.712	0.1679
3354.333	-30.9943	0.0683	-242.653	0.0614
3358.667	-30.5648	0.0678	-240.316	0.0844
3363	-30.428	0.0268	-237.901	0.3507
3367.333	-29.3179	0.0541	-232.856	0.0605
3371.667	-29.456	0.1319	-231.019	0.1563
3376	-29.1032	0.0874	-226.765	0.3261
3380.182	-28.5567	0.1098	-223.934	0.2314
3384.364	-27.9845	0.0402	-218.285	0.2327
3388.546	-27.6522	0.0764	-220.562	0.1253
3392.727	-27.5992	0.0447	-219.859	0.2279
3396.909	-27.5909	0.0463	-218.443	0.1521
3401.091	-27.2539	0.0403	-217.37	0.1196
3405.273	-27.7138	0.0548	-220.36	0.1545

3409.455	-28.0954	0.1178	-222.589	0.0722
3413.636	-28.5862	0.1022	-226.432	0.1688
3417.818	-29.1623	0.1533	-229.258	0.2352
3422	-28.7624	0.0426	-229.581	0.2053