

Stability changes in canine POR

```
#chain WT ResID Mut ddG (kcal/mol, >0 is stable, <0 is unstable)
A F 54 A -0.494
A F 54 R -0.228
A F 54 N -0.280
A F 54 D -0.285
A F 54 C -0.270
A F 54 Q -0.172
A F 54 E -0.225
A F 54 G -0.378
A F 54 H -0.137
A F 54 I -0.273
A F 54 L -0.360
A F 54 K -0.248
A F 54 M -0.233
A F 54 P -0.273
A F 54 S -0.418
A F 54 T -0.617
A F 54 W -0.165
A F 54 Y -0.168
A F 54 V -0.555
A T 55 A -0.515
A T 55 R -0.295
A T 55 N -0.332
A T 55 D -0.365
A T 55 C -0.293
A T 55 Q -0.239
A T 55 E -0.321
A T 55 G -0.544
A T 55 H -0.198
A T 55 I -0.230
A T 55 L -0.308
A T 55 K -0.282
A T 55 M -0.257
A T 55 F -0.309
A T 55 P -0.468
A T 55 S -0.267
A T 55 W -0.201
A T 55 Y -0.286
A T 55 V -0.403
A T 56 A -0.306
A T 56 R -0.189
A T 56 N -0.223
A T 56 D -0.226
A T 56 C -0.209
A T 56 Q -0.171
A T 56 E -0.226
A T 56 G -0.369
A T 56 H -0.130
A T 56 I -0.183
```

A T 56 L	-0.249
A T 56 K	-0.009
A T 56 M	-0.224
A T 56 F	-0.233
A T 56 P	-0.120
A T 56 S	-0.170
A T 56 W	-0.151
A T 56 Y	-0.201
A T 56 V	-0.342
A I 57 A	-0.735
A I 57 R	-0.357
A I 57 N	-0.374
A I 57 D	-0.493
A I 57 C	-0.254
A I 57 Q	-0.299
A I 57 E	-0.323
A I 57 G	-0.697
A I 57 H	-0.203
A I 57 L	-0.309
A I 57 K	-0.311
A I 57 M	-0.423
A I 57 F	-0.368
A I 57 P	-0.668
A I 57 S	-0.756
A I 57 T	-0.604
A I 57 W	-0.182
A I 57 Y	-0.361
A I 57 V	-0.318
A Q 58 A	-0.415
A Q 58 R	-0.232
A Q 58 N	-0.238
A Q 58 D	-0.296
A Q 58 C	-0.329
A Q 58 E	-0.216
A Q 58 G	-0.433
A Q 58 H	-0.210
A Q 58 I	-0.223
A Q 58 L	-0.287
A Q 58 K	-0.229
A Q 58 M	-0.264
A Q 58 F	-0.329
A Q 58 P	-0.453
A Q 58 S	-0.382
A Q 58 T	-0.442
A Q 58 W	-0.223
A Q 58 Y	-0.302
A Q 58 V	-0.428
A P 59 A	-0.779
A P 59 R	-0.471
A P 59 N	-0.759
A P 59 D	-0.655
A P 59 C	-0.657
A P 59 Q	-0.438
A P 59 E	-0.667
A P 59 G	-0.863
A P 59 H	-0.587
A P 59 I	-0.633

A P 59 L	-0.814
A P 59 K	-0.540
A P 59 M	-0.760
A P 59 F	-0.809
A P 59 S	-0.767
A P 59 T	-0.980
A P 59 W	-0.395
A P 59 Y	-0.528
A P 59 V	-0.934
A M 60 A	-0.512
A M 60 R	-0.198
A M 60 N	-0.273
A M 60 D	-0.236
A M 60 C	-0.232
A M 60 Q	-0.189
A M 60 E	-0.188
A M 60 G	-0.507
A M 60 H	-0.151
A M 60 I	-0.360
A M 60 L	-0.171
A M 60 K	-0.120
A M 60 F	-0.253
A M 60 P	-0.172
A M 60 S	-0.266
A M 60 T	-0.271
A M 60 W	-0.089
A M 60 Y	-0.224
A M 60 V	-0.241
A T 61 A	-0.195
A T 61 R	-0.408
A T 61 N	-0.364
A T 61 D	-0.498
A T 61 C	-0.399
A T 61 Q	-0.254
A T 61 E	-0.334
A T 61 G	-0.550
A T 61 H	-0.560
A T 61 I	-0.279
A T 61 L	-0.465
A T 61 K	-0.299
A T 61 M	-0.443
A T 61 F	-0.426
A T 61 P	-0.445
A T 61 S	-0.052
A T 61 W	-0.286
A T 61 Y	-0.440
A T 61 V	-0.621
A S 62 A	-0.097
A S 62 R	-0.143
A S 62 N	-0.178
A S 62 D	-0.142
A S 62 C	-0.188
A S 62 Q	-0.112
A S 62 E	-0.087
A S 62 G	-0.184
A S 62 H	-0.254
A S 62 I	-0.038

A S 62 L	-0.153
A S 62 K	-0.104
A S 62 M	-0.132
A S 62 F	-0.078
A S 62 P	-0.064
A S 62 T	-0.340
A S 62 W	-0.148
A S 62 Y	-0.183
A S 62 V	-0.229
A S 63 A	-0.160
A S 63 R	-0.185
A S 63 N	-0.193
A S 63 D	-0.125
A S 63 C	-0.181
A S 63 Q	-0.067
A S 63 E	-0.070
A S 63 G	-0.220
A S 63 H	-0.359
A S 63 I	-0.100
A S 63 L	-0.098
A S 63 K	-0.096
A S 63 M	-0.221
A S 63 F	-0.096
A S 63 P	-0.070
A S 63 T	-0.149
A S 63 W	-0.209
A S 63 Y	-0.296
A S 63 V	-0.163
A A 64 R	-0.218
A A 64 N	-0.166
A A 64 D	0.098
A A 64 C	-0.308
A A 64 Q	-0.158
A A 64 E	-0.122
A A 64 G	-0.096
A A 64 H	-0.496
A A 64 I	-0.090
A A 64 L	-0.279
A A 64 K	-0.112
A A 64 M	-0.226
A A 64 F	-0.238
A A 64 P	-0.074
A A 64 S	-0.103
A A 64 T	-0.268
A A 64 W	-0.146
A A 64 Y	-0.313
A A 64 V	-0.033
A K 65 A	-0.552
A K 65 R	-0.214
A K 65 N	-0.546
A K 65 D	-0.481
A K 65 C	-1.051
A K 65 Q	-0.285
A K 65 E	-0.720
A K 65 G	-1.188
A K 65 H	-0.777
A K 65 I	-0.638

A K 65 L	-0.995
A K 65 M	-0.694
A K 65 F	-0.552
A K 65 P	-0.482
A K 65 S	-0.518
A K 65 T	-0.742
A K 65 W	-0.694
A K 65 Y	-0.688
A K 65 V	-0.997
A D 66 A	-0.467
A D 66 R	-0.441
A D 66 N	-0.263
A D 66 C	-0.541
A D 66 Q	-0.620
A D 66 E	-0.013
A D 66 G	-0.481
A D 66 H	-0.672
A D 66 I	-0.605
A D 66 L	-0.413
A D 66 K	-0.405
A D 66 M	-0.618
A D 66 F	-0.613
A D 66 P	-0.533
A D 66 S	-0.222
A D 66 T	-0.061
A D 66 W	-0.376
A D 66 Y	-0.539
A D 66 V	-0.611
A S 67 A	-0.221
A S 67 R	0.240
A S 67 N	0.026
A S 67 D	-0.090
A S 67 C	-0.171
A S 67 Q	-0.387
A S 67 E	-0.034
A S 67 G	-0.238
A S 67 H	-0.097
A S 67 I	-0.192
A S 67 L	0.001
A S 67 K	0.045
A S 67 M	-0.081
A S 67 F	-0.109
A S 67 P	0.095
A S 67 T	-0.019
A S 67 W	0.019
A S 67 Y	-0.214
A S 67 V	-0.136
A S 68 A	-1.100
A S 68 R	-1.169
A S 68 N	-0.210
A S 68 D	-0.287
A S 68 C	-0.366
A S 68 Q	-1.723
A S 68 E	-1.368
A S 68 G	-0.562
A S 68 H	-1.260
A S 68 I	-1.018

A S 68 L	-0.932
A S 68 K	-0.645
A S 68 M	-0.891
A S 68 F	-0.885
A S 68 P	-1.298
A S 68 T	-0.847
A S 68 W	-0.564
A S 68 Y	-0.969
A S 68 V	-0.792
A F 69 A	-3.228
A F 69 R	-4.781
A F 69 N	-5.750
A F 69 D	-5.483
A F 69 C	-3.547
A F 69 Q	-4.978
A F 69 E	-4.886
A F 69 G	-4.538
A F 69 H	-5.112
A F 69 I	0.049
A F 69 L	-0.368
A F 69 K	-5.018
A F 69 M	-1.529
A F 69 P	-1.733
A F 69 S	-3.402
A F 69 T	-2.881
A F 69 W	-1.965
A F 69 Y	-3.532
A F 69 V	-1.491
A V 70 A	-1.339
A V 70 R	-4.107
A V 70 N	-5.491
A V 70 D	-5.441
A V 70 C	-2.657
A V 70 Q	-5.390
A V 70 E	-3.918
A V 70 G	-3.686
A V 70 H	-5.244
A V 70 I	0.079
A V 70 L	-0.601
A V 70 K	-4.223
A V 70 M	-2.044
A V 70 F	-2.082
A V 70 P	-3.354
A V 70 S	-1.383
A V 70 T	-1.686
A V 70 W	-2.937
A V 70 Y	-3.156
A E 71 A	-0.377
A E 71 R	-0.364
A E 71 N	-0.254
A E 71 D	-0.203
A E 71 C	-0.713
A E 71 Q	-0.070
A E 71 G	-0.706
A E 71 H	-0.531
A E 71 I	-0.350
A E 71 L	-0.477

A E 71 K	-0.215
A E 71 M	-0.485
A E 71 F	-0.516
A E 71 P	-0.708
A E 71 S	-0.306
A E 71 T	-0.380
A E 71 W	-0.587
A E 71 Y	-0.566
A E 71 V	-0.639
A K 72 A	-1.065
A K 72 R	-0.478
A K 72 N	-2.887
A K 72 D	-3.881
A K 72 C	-2.226
A K 72 Q	-1.221
A K 72 E	-2.040
A K 72 G	-3.452
A K 72 H	-2.418
A K 72 I	-0.373
A K 72 L	-0.787
A K 72 M	-0.714
A K 72 F	-1.675
A K 72 P	-2.193
A K 72 S	-1.055
A K 72 T	-1.708
A K 72 W	-2.098
A K 72 Y	-2.253
A K 72 V	-1.714
A M 73 A	-2.192
A M 73 R	-3.768
A M 73 N	-5.267
A M 73 D	-4.373
A M 73 C	-2.055
A M 73 Q	-3.527
A M 73 E	-4.492
A M 73 G	-3.934
A M 73 H	-4.117
A M 73 I	-1.440
A M 73 L	-0.848
A M 73 K	-3.405
A M 73 F	-2.059
A M 73 P	-2.987
A M 73 S	-2.593
A M 73 T	-3.162
A M 73 W	-3.194
A M 73 Y	-3.220
A M 73 V	-1.964
A K 74 A	-0.596
A K 74 R	-0.315
A K 74 N	-0.784
A K 74 D	-0.492
A K 74 C	-1.481
A K 74 Q	-0.117
A K 74 E	-0.236
A K 74 G	-1.224
A K 74 H	-1.142
A K 74 I	-0.205

A K 74 L	-0.405
A K 74 M	-0.313
A K 74 F	-0.905
A K 74 P	-1.056
A K 74 S	-0.551
A K 74 T	-0.981
A K 74 W	-1.064
A K 74 Y	-1.018
A K 74 V	-1.082
A K 75 A	-0.157
A K 75 R	-0.132
A K 75 N	-0.148
A K 75 D	-0.125
A K 75 C	-0.712
A K 75 Q	0.011
A K 75 E	0.064
A K 75 G	-0.523
A K 75 H	-0.721
A K 75 I	-0.074
A K 75 L	-0.164
A K 75 M	-0.251
A K 75 F	-0.367
A K 75 P	-0.580
A K 75 S	-0.135
A K 75 T	-0.333
A K 75 W	-0.538
A K 75 Y	-0.490
A K 75 V	-0.417
A T 76 A	-0.445
A T 76 R	-0.743
A T 76 N	-0.015
A T 76 D	-1.160
A T 76 C	-0.515
A T 76 Q	-0.087
A T 76 E	-0.304
A T 76 G	-0.688
A T 76 H	-0.563
A T 76 I	-0.108
A T 76 L	-0.029
A T 76 K	-0.476
A T 76 M	-0.132
A T 76 F	-0.284
A T 76 P	-1.164
A T 76 S	-0.223
A T 76 W	-0.652
A T 76 Y	-1.385
A T 76 V	-0.509
A G 77 A	-0.890
A G 77 R	-0.427
A G 77 N	-0.334
A G 77 D	-0.406
A G 77 C	-0.817
A G 77 Q	-0.461
A G 77 E	-0.557
A G 77 H	-0.693
A G 77 I	-0.921
A G 77 L	-0.964

A G 77 K	-0.420
A G 77 M	-0.909
A G 77 F	-1.259
A G 77 P	-0.536
A G 77 S	-0.851
A G 77 T	-1.202
A G 77 W	-0.831
A G 77 Y	-0.766
A G 77 V	-1.057
A R 78 A	-0.519
A R 78 N	-0.994
A R 78 D	-0.845
A R 78 C	-0.236
A R 78 Q	-0.594
A R 78 E	-0.622
A R 78 G	-1.096
A R 78 H	-0.594
A R 78 I	-0.023
A R 78 L	0.390
A R 78 K	0.360
A R 78 M	0.167
A R 78 F	-0.219
A R 78 P	-1.232
A R 78 S	-0.598
A R 78 T	-0.527
A R 78 W	-0.498
A R 78 Y	-0.830
A R 78 V	-0.327
A N 79 A	-1.084
A N 79 R	-0.754
A N 79 D	-1.250
A N 79 C	-1.952
A N 79 Q	-0.505
A N 79 E	-1.347
A N 79 G	-2.126
A N 79 H	-1.295
A N 79 I	-0.462
A N 79 L	-0.875
A N 79 K	-1.398
A N 79 M	-0.845
A N 79 F	-1.239
A N 79 P	-1.156
A N 79 S	-0.709
A N 79 T	-0.583
A N 79 W	-1.687
A N 79 Y	-1.517
A N 79 V	-0.943
A I 80 A	-2.430
A I 80 R	-4.868
A I 80 N	-5.057
A I 80 D	-6.049
A I 80 C	-0.135
A I 80 Q	-6.085
A I 80 E	-6.009
A I 80 G	-3.928
A I 80 H	-3.828
A I 80 L	-0.381

A I 80 K	-3.933
A I 80 M	-1.248
A I 80 F	-0.363
A I 80 P	-4.595
A I 80 S	-3.594
A I 80 T	-2.139
A I 80 W	-0.740
A I 80 Y	-1.819
A I 80 V	-0.545
A I 81 A	-2.608
A I 81 R	-4.077
A I 81 N	-4.854
A I 81 D	-5.397
A I 81 C	-1.836
A I 81 Q	-4.722
A I 81 E	-5.437
A I 81 G	-4.721
A I 81 H	-3.434
A I 81 L	-0.986
A I 81 K	-3.425
A I 81 M	-2.071
A I 81 F	-1.948
A I 81 P	-5.696
A I 81 S	-3.611
A I 81 T	-2.349
A I 81 W	-3.101
A I 81 Y	-3.778
A I 81 V	-0.304
A V 82 A	-1.850
A V 82 R	-5.785
A V 82 N	-6.401
A V 82 D	-6.330
A V 82 C	-2.162
A V 82 Q	-5.864
A V 82 E	-6.383
A V 82 G	-5.312
A V 82 H	-5.823
A V 82 I	-0.135
A V 82 L	-1.273
A V 82 K	-5.975
A V 82 M	-1.797
A V 82 F	-1.053
A V 82 P	-5.885
A V 82 S	-2.931
A V 82 T	-2.655
A V 82 W	-3.416
A V 82 Y	-4.335
A F 83 A	-2.015
A F 83 R	-4.534
A F 83 N	-5.651
A F 83 D	-5.195
A F 83 C	-1.480
A F 83 Q	-5.536
A F 83 E	-5.863
A F 83 G	-3.599
A F 83 H	-3.300
A F 83 I	-0.971

A F 83 L	-0.899
A F 83 K	-5.597
A F 83 M	-1.429
A F 83 P	-4.665
A F 83 S	-2.397
A F 83 T	-2.238
A F 83 W	-1.527
A F 83 Y	-0.609
A F 83 V	-1.829
A Y 84 A	-3.449
A Y 84 R	-4.663
A Y 84 N	-4.583
A Y 84 D	-5.465
A Y 84 C	-2.100
A Y 84 Q	-4.423
A Y 84 E	-5.412
A Y 84 G	-4.918
A Y 84 H	-3.439
A Y 84 I	-2.836
A Y 84 L	-3.302
A Y 84 K	-4.794
A Y 84 M	-3.711
A Y 84 F	-1.325
A Y 84 P	-5.463
A Y 84 S	-3.931
A Y 84 T	-3.781
A Y 84 W	-1.485
A Y 84 V	-2.530
A G 85 A	-1.813
A G 85 R	-3.973
A G 85 N	-4.137
A G 85 D	-4.084
A G 85 C	-1.263
A G 85 Q	-3.126
A G 85 E	-4.447
A G 85 H	-2.676
A G 85 I	-2.142
A G 85 L	-2.503
A G 85 K	-3.673
A G 85 M	-2.572
A G 85 F	-2.322
A G 85 P	-5.019
A G 85 S	-2.165
A G 85 T	-2.461
A G 85 W	-1.269
A G 85 Y	-1.973
A G 85 V	-2.097
A S 86 A	-1.744
A S 86 R	-2.295
A S 86 N	-3.753
A S 86 D	-3.180
A S 86 C	-1.257
A S 86 Q	-2.705
A S 86 E	-3.845
A S 86 G	-1.432
A S 86 H	-3.039
A S 86 I	-1.946

A S 86 L	-1.618
A S 86 K	-1.848
A S 86 M	-1.723
A S 86 F	-1.442
A S 86 P	-2.422
A S 86 T	-1.061
A S 86 W	-1.460
A S 86 Y	-2.263
A S 86 V	-1.678
A Q 87 A	-0.703
A Q 87 R	-0.637
A Q 87 N	-0.577
A Q 87 D	-0.660
A Q 87 C	-0.856
A Q 87 E	-0.551
A Q 87 G	-1.309
A Q 87 H	-0.656
A Q 87 I	-0.385
A Q 87 L	-0.397
A Q 87 K	-0.760
A Q 87 M	-0.437
A Q 87 F	-0.459
A Q 87 P	-0.982
A Q 87 S	-0.723
A Q 87 T	-0.729
A Q 87 W	-0.519
A Q 87 Y	-0.931
A Q 87 V	-0.649
A T 88 A	-0.660
A T 88 R	-0.515
A T 88 N	-0.688
A T 88 D	-1.239
A T 88 C	-0.639
A T 88 Q	-0.513
A T 88 E	-1.530
A T 88 G	-0.960
A T 88 H	-0.421
A T 88 I	-0.177
A T 88 L	-0.117
A T 88 K	-0.751
A T 88 M	-0.188
A T 88 F	-0.179
A T 88 P	-1.678
A T 88 S	-0.540
A T 88 W	-0.378
A T 88 Y	-0.402
A T 88 V	-1.012
A G 89 A	-2.245
A G 89 R	-1.420
A G 89 N	-2.414
A G 89 D	-2.202
A G 89 C	-1.998
A G 89 Q	-2.781
A G 89 E	-2.687
A G 89 H	-2.634
A G 89 I	-2.391
A G 89 L	-3.294

A G 89 K	-3.072
A G 89 M	-2.747
A G 89 F	-2.397
A G 89 P	-2.790
A G 89 S	-2.283
A G 89 T	-3.188
A G 89 W	-2.134
A G 89 Y	-2.049
A G 89 V	-2.947
A T 90 A	-0.780
A T 90 R	-0.833
A T 90 N	-0.992
A T 90 D	-1.468
A T 90 C	-0.654
A T 90 Q	-0.421
A T 90 E	-1.343
A T 90 G	-1.366
A T 90 H	-0.889
A T 90 I	-0.082
A T 90 L	-0.270
A T 90 K	-1.251
A T 90 M	-0.215
A T 90 F	-0.249
A T 90 P	-1.382
A T 90 S	-0.677
A T 90 W	-1.028
A T 90 Y	-0.901
A T 90 V	-0.607
A A 91 R	-2.787
A A 91 N	-3.123
A A 91 D	-4.008
A A 91 C	-0.864
A A 91 Q	-4.407
A A 91 E	-4.231
A A 91 G	-1.427
A A 91 H	-5.005
A A 91 I	-1.084
A A 91 L	-0.646
A A 91 K	-5.026
A A 91 M	-1.204
A A 91 F	-1.065
A A 91 P	-4.214
A A 91 S	-1.042
A A 91 T	-0.735
A A 91 W	-2.459
A A 91 Y	-2.742
A A 91 V	-1.240
A E 92 A	-0.729
A E 92 R	-0.731
A E 92 N	-0.746
A E 92 D	-0.841
A E 92 C	-0.977
A E 92 Q	-0.246
A E 92 G	-1.687
A E 92 H	-0.797
A E 92 I	-0.161
A E 92 L	-0.139

A E 92 K	-0.779
A E 92 M	-0.308
A E 92 F	-0.316
A E 92 P	-1.298
A E 92 S	-0.563
A E 92 T	-0.550
A E 92 W	-0.344
A E 92 Y	-0.475
A E 92 V	-0.749
A E 93 A	-0.727
A E 93 R	-0.757
A E 93 N	-0.738
A E 93 D	-0.143
A E 93 C	-0.875
A E 93 Q	-0.048
A E 93 G	-1.299
A E 93 H	-0.520
A E 93 I	-0.142
A E 93 L	-0.201
A E 93 K	-0.855
A E 93 M	-0.230
A E 93 F	-0.330
A E 93 P	-1.527
A E 93 S	-0.460
A E 93 T	-0.475
A E 93 W	-0.472
A E 93 Y	-1.045
A E 93 V	-0.595
A F 94 A	-2.194
A F 94 R	-3.652
A F 94 N	-4.366
A F 94 D	-5.317
A F 94 C	-1.465
A F 94 Q	-2.758
A F 94 E	-3.561
A F 94 G	-3.219
A F 94 H	-2.387
A F 94 I	-0.540
A F 94 L	-0.359
A F 94 K	-3.329
A F 94 M	-0.538
A F 94 P	-5.091
A F 94 S	-1.928
A F 94 T	-1.691
A F 94 W	-1.386
A F 94 Y	-0.431
A F 94 V	-1.718
A A 95 R	-5.465
A A 95 N	-5.646
A A 95 D	-5.643
A A 95 C	-1.403
A A 95 Q	-5.188
A A 95 E	-5.508
A A 95 G	-1.845
A A 95 H	-5.510
A A 95 I	-1.507
A A 95 L	-2.441

A	A	95	K	-5.361
A	A	95	M	-1.886
A	A	95	F	-3.274
A	A	95	P	-4.931
A	A	95	S	-1.663
A	A	95	T	-2.856
A	A	95	W	-3.610
A	A	95	Y	-4.232
A	A	95	V	-2.200
A	N	96	A	-0.461
A	N	96	R	-0.154
A	N	96	D	-0.878
A	N	96	C	-0.812
A	N	96	Q	-0.011
A	N	96	E	0.073
A	N	96	G	-1.188
A	N	96	H	0.148
A	N	96	I	0.171
A	N	96	L	0.345
A	N	96	K	0.351
A	N	96	M	-0.079
A	N	96	F	0.242
A	N	96	P	-1.584
A	N	96	S	-0.237
A	N	96	T	-0.198
A	N	96	W	-0.139
A	N	96	Y	-0.207
A	N	96	V	0.179
A	R	97	A	-0.911
A	R	97	N	-1.307
A	R	97	D	-1.163
A	R	97	C	-1.127
A	R	97	Q	-0.626
A	R	97	E	-1.108
A	R	97	G	-1.688
A	R	97	H	-1.461
A	R	97	I	-0.179
A	R	97	L	-0.214
A	R	97	K	-1.225
A	R	97	M	-0.553
A	R	97	F	-0.479
A	R	97	P	-2.414
A	R	97	S	-0.922
A	R	97	T	-1.113
A	R	97	W	-0.577
A	R	97	Y	-1.115
A	R	97	V	-1.034
A	L	98	A	-2.620
A	L	98	R	-5.405
A	L	98	N	-5.698
A	L	98	D	-5.686
A	L	98	C	-2.131
A	L	98	Q	-4.946
A	L	98	E	-4.847
A	L	98	G	-5.177
A	L	98	H	-4.976
A	L	98	I	-0.819

A L 98 K	-5.441
A L 98 M	-0.932
A L 98 F	-0.765
A L 98 P	-3.848
A L 98 S	-2.794
A L 98 T	-2.536
A L 98 W	-2.148
A L 98 Y	-2.554
A L 98 V	-1.884
A S 99 A	0.903
A S 99 R	-1.789
A S 99 N	-1.753
A S 99 D	-1.727
A S 99 C	0.022
A S 99 Q	-1.254
A S 99 E	-1.143
A S 99 G	-1.121
A S 99 H	-0.599
A S 99 I	0.730
A S 99 L	1.040
A S 99 K	-0.891
A S 99 M	-0.030
A S 99 F	0.558
A S 99 P	-3.596
A S 99 T	-0.222
A S 99 W	0.146
A S 99 Y	-0.093
A S 99 V	0.161
A K 100 A	-0.816
A K 100 R	-0.313
A K 100 N	-1.521
A K 100 D	-1.332
A K 100 C	-1.790
A K 100 Q	-0.438
A K 100 E	-1.172
A K 100 G	-1.649
A K 100 H	-1.267
A K 100 I	-0.243
A K 100 L	-0.569
A K 100 M	-0.512
A K 100 F	-0.758
A K 100 P	-2.011
A K 100 S	-0.642
A K 100 T	-1.090
A K 100 W	-1.570
A K 100 Y	-1.077
A K 100 V	-1.256
A D 101 A	-0.410
A D 101 R	-0.488
A D 101 N	-0.379
A D 101 C	-0.946
A D 101 Q	0.002
A D 101 E	0.467
A D 101 G	-1.659
A D 101 H	-0.115
A D 101 I	0.353
A D 101 L	0.742

A D 101 K	-0.364
A D 101 M	0.092
A D 101 F	0.475
A D 101 P	-1.983
A D 101 S	-0.274
A D 101 T	-0.089
A D 101 W	0.264
A D 101 Y	-0.786
A D 101 V	-0.274
A A 102 R	-3.794
A A 102 N	-4.369
A A 102 D	-3.899
A A 102 C	0.271
A A 102 Q	-3.945
A A 102 E	-4.470
A A 102 G	-0.697
A A 102 H	-3.378
A A 102 I	-0.055
A A 102 L	0.173
A A 102 K	-3.057
A A 102 M	-0.486
A A 102 F	-0.202
A A 102 P	-2.833
A A 102 S	-0.662
A A 102 T	-1.044
A A 102 W	-0.715
A A 102 Y	-0.465
A A 102 V	-0.791
A H 103 A	-0.447
A H 103 R	-0.193
A H 103 N	-0.728
A H 103 D	-0.589
A H 103 C	-0.735
A H 103 Q	-0.148
A H 103 E	-0.528
A H 103 G	-0.858
A H 103 I	-0.151
A H 103 L	-0.297
A H 103 K	-0.172
A H 103 M	-0.377
A H 103 F	-0.446
A H 103 P	-0.639
A H 103 S	-0.397
A H 103 T	-0.641
A H 103 W	-0.604
A H 103 Y	-0.396
A H 103 V	-0.494
A R 104 A	-1.041
A R 104 N	-1.486
A R 104 D	-1.437
A R 104 C	-1.647
A R 104 Q	-0.633
A R 104 E	-1.608
A R 104 G	-1.175
A R 104 H	-1.129
A R 104 I	-0.455
A R 104 L	-0.827

A R 104 K	-1.231
A R 104 M	-0.883
A R 104 F	-1.148
A R 104 P	-1.740
A R 104 S	-0.964
A R 104 T	-1.484
A R 104 W	-1.501
A R 104 Y	-0.638
A R 104 V	-1.249
A Y 105 A	-1.313
A Y 105 R	-0.832
A Y 105 N	-1.564
A Y 105 D	-2.316
A Y 105 C	-0.898
A Y 105 Q	-1.231
A Y 105 E	-2.341
A Y 105 G	-1.559
A Y 105 H	-0.909
A Y 105 I	-1.208
A Y 105 L	-1.227
A Y 105 K	-1.093
A Y 105 M	-1.357
A Y 105 F	-0.392
A Y 105 P	-2.278
A Y 105 S	-1.524
A Y 105 T	-1.704
A Y 105 W	-0.594
A Y 105 V	-1.195
A G 106 A	-1.332
A G 106 R	-0.853
A G 106 N	-1.378
A G 106 D	-1.109
A G 106 C	-1.219
A G 106 Q	-0.711
A G 106 E	-1.360
A G 106 H	-1.174
A G 106 I	-1.358
A G 106 L	-1.644
A G 106 K	-1.090
A G 106 M	-1.523
A G 106 F	-1.511
A G 106 P	-1.125
A G 106 S	-1.191
A G 106 T	-1.830
A G 106 W	-0.895
A G 106 Y	-0.475
A G 106 V	-1.774
A M 107 A	-1.433
A M 107 R	-0.798
A M 107 N	-1.417
A M 107 D	-2.389
A M 107 C	-0.706
A M 107 Q	-1.168
A M 107 E	-1.118
A M 107 G	-1.350
A M 107 H	-0.767
A M 107 I	-0.722

A M 107 L	0.490
A M 107 K	-0.311
A M 107 F	-0.247
A M 107 P	-1.709
A M 107 S	-1.245
A M 107 T	-1.196
A M 107 W	-0.310
A M 107 Y	-0.434
A M 107 V	-0.856
A R 108 A	-0.688
A R 108 N	-0.426
A R 108 D	-0.634
A R 108 C	-0.584
A R 108 Q	-0.296
A R 108 E	-0.398
A R 108 G	-0.842
A R 108 H	-0.205
A R 108 I	-0.355
A R 108 L	-0.460
A R 108 K	0.065
A R 108 M	-0.606
A R 108 F	-0.626
A R 108 P	-1.009
A R 108 S	-0.554
A R 108 T	-0.587
A R 108 W	-0.624
A R 108 Y	-0.575
A R 108 V	-0.599
A G 109 A	-1.195
A G 109 R	-1.495
A G 109 N	-1.604
A G 109 D	-2.272
A G 109 C	-0.434
A G 109 Q	-1.917
A G 109 E	-1.599
A G 109 H	-2.259
A G 109 I	-1.271
A G 109 L	-1.681
A G 109 K	-1.811
A G 109 M	-1.650
A G 109 F	-1.467
A G 109 P	-2.741
A G 109 S	-1.467
A G 109 T	-0.968
A G 109 W	-1.094
A G 109 Y	-2.640
A G 109 V	-1.128
A M 110 A	-1.552
A M 110 R	-1.590
A M 110 N	-2.372
A M 110 D	-2.302
A M 110 C	-0.524
A M 110 Q	-2.114
A M 110 E	-1.689
A M 110 G	-2.000
A M 110 H	-1.352
A M 110 I	-0.365

A M 110 L	-0.401
A M 110 K	-1.498
A M 110 F	-0.573
A M 110 P	-1.910
A M 110 S	-1.579
A M 110 T	-1.146
A M 110 W	-0.851
A M 110 Y	-0.530
A M 110 V	-0.835
A A 111 R	-0.984
A A 111 N	-1.448
A A 111 D	-1.998
A A 111 C	0.769
A A 111 Q	-1.590
A A 111 E	-0.805
A A 111 G	-1.319
A A 111 H	-0.477
A A 111 I	1.059
A A 111 L	1.065
A A 111 K	-0.655
A A 111 M	0.231
A A 111 F	0.897
A A 111 P	-0.812
A A 111 S	-0.101
A A 111 T	0.150
A A 111 W	1.426
A A 111 Y	1.454
A A 111 V	0.809
A A 112 R	-2.229
A A 112 N	-3.620
A A 112 D	-3.226
A A 112 C	0.010
A A 112 Q	-3.342
A A 112 E	-2.931
A A 112 G	-0.984
A A 112 H	-2.395
A A 112 I	0.152
A A 112 L	-0.070
A A 112 K	-2.650
A A 112 M	-0.483
A A 112 F	0.262
A A 112 P	-2.165
A A 112 S	-1.844
A A 112 T	-1.092
A A 112 W	-0.130
A A 112 Y	0.432
A A 112 V	-0.390
A D 113 A	-1.041
A D 113 R	-0.963
A D 113 N	-0.818
A D 113 C	-0.804
A D 113 Q	-0.740
A D 113 E	-1.072
A D 113 G	-1.395
A D 113 H	-1.038
A D 113 I	-0.659
A D 113 L	-0.858

A	D	113	K	-1.020
A	D	113	M	-0.952
A	D	113	F	-0.918
A	D	113	P	-1.150
A	D	113	S	-0.826
A	D	113	T	-1.115
A	D	113	W	-0.885
A	D	113	Y	-0.826
A	D	113	V	-1.071
A	P	114	A	-1.455
A	P	114	R	-1.692
A	P	114	N	-1.797
A	P	114	D	-2.333
A	P	114	C	-1.087
A	P	114	Q	-2.466
A	P	114	E	-2.241
A	P	114	G	-2.633
A	P	114	H	-1.931
A	P	114	I	-0.990
A	P	114	L	-0.402
A	P	114	K	-1.528
A	P	114	M	-1.023
A	P	114	F	-0.943
A	P	114	S	-1.639
A	P	114	T	-1.616
A	P	114	W	-2.192
A	P	114	Y	-2.216
A	P	114	V	-1.227
A	E	115	A	-0.446
A	E	115	R	-0.274
A	E	115	N	-0.308
A	E	115	D	-0.302
A	E	115	C	-0.429
A	E	115	Q	-0.183
A	E	115	G	-0.800
A	E	115	H	-0.345
A	E	115	I	-0.209
A	E	115	L	-0.295
A	E	115	K	-0.352
A	E	115	M	-0.319
A	E	115	F	-0.372
A	E	115	P	-0.657
A	E	115	S	-0.254
A	E	115	T	-0.549
A	E	115	W	-0.533
A	E	115	Y	-0.329
A	E	115	V	-0.516
A	E	116	A	-0.473
A	E	116	R	-0.269
A	E	116	N	-0.266
A	E	116	D	0.062
A	E	116	C	-0.644
A	E	116	Q	-0.083
A	E	116	G	-0.947
A	E	116	H	-0.349
A	E	116	I	-0.187
A	E	116	L	-0.201

A E 116 K	-0.122
A E 116 M	-0.235
A E 116 F	-0.258
A E 116 P	-0.824
A E 116 S	-0.296
A E 116 T	-0.567
A E 116 W	-0.530
A E 116 Y	-0.520
A E 116 V	-0.469
A Y 117 A	-2.500
A Y 117 R	-2.479
A Y 117 N	-2.236
A Y 117 D	-3.510
A Y 117 C	-0.855
A Y 117 Q	-2.481
A Y 117 E	-3.120
A Y 117 G	-3.030
A Y 117 H	-2.309
A Y 117 I	-1.658
A Y 117 L	-2.019
A Y 117 K	-2.295
A Y 117 M	-1.752
A Y 117 F	-1.244
A Y 117 P	-4.258
A Y 117 S	-2.811
A Y 117 T	-2.561
A Y 117 W	-1.290
A Y 117 V	-1.668
A D 118 A	-0.945
A D 118 R	-0.643
A D 118 N	-0.516
A D 118 C	-0.828
A D 118 Q	-0.654
A D 118 E	-0.605
A D 118 G	-1.082
A D 118 H	-0.852
A D 118 I	-0.639
A D 118 L	-0.833
A D 118 K	-0.983
A D 118 M	-0.878
A D 118 F	-0.927
A D 118 P	-1.042
A D 118 S	-0.766
A D 118 T	-1.076
A D 118 W	-0.787
A D 118 Y	-0.642
A D 118 V	-0.980
A L 119 A	-1.251
A L 119 R	-1.850
A L 119 N	-2.141
A L 119 D	-2.095
A L 119 C	-1.199
A L 119 Q	-1.606
A L 119 E	-2.269
A L 119 G	-2.423
A L 119 H	-1.297
A L 119 I	-0.298

A L 119 K	-1.367
A L 119 M	0.130
A L 119 F	-0.086
A L 119 P	-1.348
A L 119 S	-1.423
A L 119 T	-1.225
A L 119 W	0.107
A L 119 Y	-0.321
A L 119 V	-0.591
A A 120 R	-0.094
A A 120 N	0.048
A A 120 D	0.071
A A 120 C	-0.034
A A 120 Q	0.014
A A 120 E	0.285
A A 120 G	-0.185
A A 120 H	-0.171
A A 120 I	0.209
A A 120 L	0.386
A A 120 K	0.033
A A 120 M	0.110
A A 120 F	0.328
A A 120 P	-0.129
A A 120 S	-0.016
A A 120 T	-0.072
A A 120 W	0.104
A A 120 Y	0.016
A A 120 V	-0.020
A D 121 A	-0.742
A D 121 R	-0.869
A D 121 N	-0.218
A D 121 C	-0.723
A D 121 Q	-0.585
A D 121 E	-0.341
A D 121 G	-1.293
A D 121 H	-0.927
A D 121 I	-0.368
A D 121 L	-0.532
A D 121 K	-0.878
A D 121 M	-0.569
A D 121 F	-0.826
A D 121 P	-1.190
A D 121 S	-0.564
A D 121 T	-0.960
A D 121 W	-1.055
A D 121 Y	-0.414
A D 121 V	-0.871
A L 122 A	-2.327
A L 122 R	-3.118
A L 122 N	-3.048
A L 122 D	-3.197
A L 122 C	-1.781
A L 122 Q	-2.892
A L 122 E	-3.389
A L 122 G	-2.979
A L 122 H	-3.816
A L 122 I	-0.737

A L 122 K	-3.144
A L 122 M	-1.000
A L 122 F	-1.175
A L 122 P	-2.704
A L 122 S	-2.172
A L 122 T	-2.685
A L 122 W	-1.612
A L 122 Y	-2.446
A L 122 V	-1.926
A G 123 A	-0.009
A G 123 R	0.136
A G 123 N	0.390
A G 123 D	0.318
A G 123 C	0.091
A G 123 Q	0.255
A G 123 E	0.440
A G 123 H	0.179
A G 123 I	0.321
A G 123 L	0.602
A G 123 K	0.205
A G 123 M	0.181
A G 123 F	0.338
A G 123 P	0.009
A G 123 S	0.030
A G 123 T	0.174
A G 123 W	0.063
A G 123 Y	-0.141
A G 123 V	0.158
A S 124 A	-0.084
A S 124 R	0.038
A S 124 N	0.061
A S 124 D	-0.067
A S 124 C	-0.017
A S 124 Q	0.200
A S 124 E	0.155
A S 124 G	-0.390
A S 124 H	0.036
A S 124 I	0.280
A S 124 L	0.498
A S 124 K	0.133
A S 124 M	0.185
A S 124 F	0.230
A S 124 P	-0.468
A S 124 T	-0.050
A S 124 W	0.041
A S 124 Y	0.087
A S 124 V	-0.011
A L 125 A	-2.633
A L 125 R	-3.382
A L 125 N	-3.827
A L 125 D	-3.813
A L 125 C	-2.606
A L 125 Q	-2.983
A L 125 E	-3.557
A L 125 G	-3.508
A L 125 H	-3.925
A L 125 I	-0.746

A L 125 K	-3.839
A L 125 M	-1.042
A L 125 F	-0.882
A L 125 P	-2.989
A L 125 S	-2.540
A L 125 T	-2.790
A L 125 W	-1.857
A L 125 Y	-2.600
A L 125 V	-1.983
A P 126 A	-1.011
A P 126 R	-0.826
A P 126 N	-1.147
A P 126 D	-1.035
A P 126 C	-1.177
A P 126 Q	-0.641
A P 126 E	-1.066
A P 126 G	-0.996
A P 126 H	-0.964
A P 126 I	-0.667
A P 126 L	-1.128
A P 126 K	-0.873
A P 126 M	-1.080
A P 126 F	-0.991
A P 126 S	-0.918
A P 126 T	-1.197
A P 126 W	-1.337
A P 126 Y	-0.679
A P 126 V	-1.123
A E 127 A	-0.433
A E 127 R	-0.227
A E 127 N	-0.304
A E 127 D	-0.271
A E 127 C	-0.443
A E 127 Q	-0.105
A E 127 G	-0.637
A E 127 H	-0.285
A E 127 I	-0.180
A E 127 L	-0.278
A E 127 K	-0.155
A E 127 M	-0.302
A E 127 F	-0.453
A E 127 P	-0.517
A E 127 S	-0.266
A E 127 T	-0.362
A E 127 W	-0.485
A E 127 Y	-0.389
A E 127 V	-0.423
A I 128 A	-1.883
A I 128 R	-2.112
A I 128 N	-2.071
A I 128 D	-2.703
A I 128 C	-1.439
A I 128 Q	-2.061
A I 128 E	-2.038
A I 128 G	-2.032
A I 128 H	-2.086
A I 128 L	-1.085

A I 128 K	-1.621
A I 128 M	-1.647
A I 128 F	-1.697
A I 128 P	-2.804
A I 128 S	-1.940
A I 128 T	-1.680
A I 128 W	-2.034
A I 128 Y	-2.106
A I 128 V	-1.274
A E 129 A	-0.289
A E 129 R	-0.132
A E 129 N	-0.154
A E 129 D	-0.113
A E 129 C	-0.337
A E 129 Q	-0.080
A E 129 G	-0.452
A E 129 H	-0.087
A E 129 I	-0.343
A E 129 L	-0.297
A E 129 K	0.023
A E 129 M	-0.321
A E 129 F	-0.458
A E 129 P	-0.193
A E 129 S	-0.193
A E 129 T	-0.315
A E 129 W	-0.388
A E 129 Y	-0.508
A E 129 V	-0.418
A N 130 A	-0.703
A N 130 R	-0.258
A N 130 D	-0.110
A N 130 C	-0.323
A N 130 Q	-0.220
A N 130 E	-0.108
A N 130 G	-0.365
A N 130 H	-0.108
A N 130 I	-0.342
A N 130 L	-0.464
A N 130 K	-0.219
A N 130 M	-0.554
A N 130 F	-0.646
A N 130 P	-0.464
A N 130 S	-0.442
A N 130 T	-0.721
A N 130 W	-0.420
A N 130 Y	-0.223
A N 130 V	-0.901
A S 131 A	-0.006
A S 131 R	-0.428
A S 131 N	-0.441
A S 131 D	-0.676
A S 131 C	0.171
A S 131 Q	-0.368
A S 131 E	-0.343
A S 131 G	-0.612
A S 131 H	-0.018
A S 131 I	0.142

A S 131 L	0.094
A S 131 K	0.124
A S 131 M	-0.454
A S 131 F	-0.037
A S 131 P	-0.700
A S 131 T	-0.224
A S 131 W	-0.052
A S 131 Y	-0.012
A S 131 V	-0.128
A L 132 A	-2.096
A L 132 R	-2.295
A L 132 N	-2.768
A L 132 D	-3.839
A L 132 C	-0.785
A L 132 Q	-1.874
A L 132 E	-3.289
A L 132 G	-2.677
A L 132 H	-1.792
A L 132 I	-0.453
A L 132 K	-2.058
A L 132 M	-0.685
A L 132 F	-0.602
A L 132 P	-2.487
A L 132 S	-2.063
A L 132 T	-1.211
A L 132 W	-0.919
A L 132 Y	-1.418
A L 132 V	-0.989
A A 133 R	-2.820
A A 133 N	-2.765
A A 133 D	-5.427
A A 133 C	-0.022
A A 133 Q	-3.447
A A 133 E	-5.748
A A 133 G	-1.993
A A 133 H	-1.708
A A 133 I	0.873
A A 133 L	1.037
A A 133 K	-4.500
A A 133 M	0.201
A A 133 F	0.904
A A 133 P	-2.475
A A 133 S	-1.010
A A 133 T	-0.978
A A 133 W	0.851
A A 133 Y	0.921
A A 133 V	0.405
A V 134 A	-1.902
A V 134 R	-5.237
A V 134 N	-6.052
A V 134 D	-6.105
A V 134 C	-1.503
A V 134 Q	-6.048
A V 134 E	-5.255
A V 134 G	-3.380
A V 134 H	-4.518
A V 134 I	0.408

A V 134 L	-0.465
A V 134 K	-4.660
A V 134 M	-0.612
A V 134 F	-0.353
A V 134 P	-5.887
A V 134 S	-2.265
A V 134 T	-2.415
A V 134 W	-3.448
A V 134 Y	-1.703
A F 135 A	-2.189
A F 135 R	-5.121
A F 135 N	-5.265
A F 135 D	-4.749
A F 135 C	-1.575
A F 135 Q	-5.658
A F 135 E	-5.344
A F 135 G	-4.296
A F 135 H	-4.830
A F 135 I	-0.695
A F 135 L	-0.921
A F 135 K	-5.686
A F 135 M	-1.193
A F 135 P	-4.847
A F 135 S	-1.998
A F 135 T	-2.298
A F 135 W	-0.729
A F 135 Y	-1.221
A F 135 V	-1.600
A C 136 A	-1.772
A C 136 R	-2.709
A C 136 N	-4.444
A C 136 D	-4.138
A C 136 Q	-3.703
A C 136 E	-3.259
A C 136 G	-2.833
A C 136 H	-3.053
A C 136 I	-0.623
A C 136 L	-0.975
A C 136 K	-4.215
A C 136 M	-1.046
A C 136 F	-1.110
A C 136 P	-5.095
A C 136 S	-1.823
A C 136 T	-2.097
A C 136 W	-2.099
A C 136 Y	-1.391
A C 136 V	-1.039
A M 137 A	-1.610
A M 137 R	-4.996
A M 137 N	-3.913
A M 137 D	-5.117
A M 137 C	0.252
A M 137 Q	-2.504
A M 137 E	-4.630
A M 137 G	-2.363
A M 137 H	-3.446
A M 137 I	-0.481

A M 137 L	-0.336
A M 137 K	-4.954
A M 137 F	-0.447
A M 137 P	-4.084
A M 137 S	-1.904
A M 137 T	-1.342
A M 137 W	-2.216
A M 137 Y	-1.236
A M 137 V	-0.296
A A 138 R	-3.489
A A 138 N	-3.616
A A 138 D	-2.100
A A 138 C	-0.215
A A 138 Q	-4.261
A A 138 E	-2.135
A A 138 G	-0.782
A A 138 H	-2.816
A A 138 I	-1.586
A A 138 L	-0.876
A A 138 K	-2.800
A A 138 M	-1.448
A A 138 F	-1.201
A A 138 P	-1.163
A A 138 S	-0.767
A A 138 T	-1.201
A A 138 W	-0.773
A A 138 Y	-0.886
A A 138 V	-1.206
A T 139 A	-1.635
A T 139 R	-2.316
A T 139 N	-1.996
A T 139 D	-3.294
A T 139 C	-0.938
A T 139 Q	-2.947
A T 139 E	-4.005
A T 139 G	-2.691
A T 139 H	-2.047
A T 139 I	-1.883
A T 139 L	-1.861
A T 139 K	-3.981
A T 139 M	-2.010
A T 139 F	-2.160
A T 139 P	-3.654
A T 139 S	-1.141
A T 139 W	-1.475
A T 139 Y	-1.712
A T 139 V	-1.594
A Y 140 A	-1.605
A Y 140 R	-2.183
A Y 140 N	-1.962
A Y 140 D	-2.092
A Y 140 C	-0.849
A Y 140 Q	-1.559
A Y 140 E	-2.739
A Y 140 G	-2.775
A Y 140 H	-1.036
A Y 140 I	-1.647

A Y 140 L	-1.303
A Y 140 K	-2.856
A Y 140 M	-1.168
A Y 140 F	-1.098
A Y 140 P	-4.211
A Y 140 S	-1.837
A Y 140 T	-1.719
A Y 140 W	-0.773
A Y 140 V	-1.499
A G 141 A	-0.794
A G 141 R	-0.634
A G 141 N	-1.310
A G 141 D	-0.734
A G 141 C	-0.570
A G 141 Q	-1.100
A G 141 E	-1.108
A G 141 H	-1.106
A G 141 I	-0.540
A G 141 L	-1.109
A G 141 K	-1.083
A G 141 M	-0.913
A G 141 F	-0.873
A G 141 P	-1.340
A G 141 S	-0.999
A G 141 T	-1.478
A G 141 W	-0.650
A G 141 Y	-0.269
A G 141 V	-1.332
A E 142 A	-0.936
A E 142 R	-0.619
A E 142 N	-0.240
A E 142 D	-0.497
A E 142 C	-0.618
A E 142 Q	-0.406
A E 142 G	-0.990
A E 142 H	-0.792
A E 142 I	-0.502
A E 142 L	-0.643
A E 142 K	-0.853
A E 142 M	-0.553
A E 142 F	-0.795
A E 142 P	-1.089
A E 142 S	-0.810
A E 142 T	-1.182
A E 142 W	-0.628
A E 142 Y	-0.584
A E 142 V	-1.108
A G 143 A	-2.280
A G 143 R	-2.448
A G 143 N	-3.666
A G 143 D	-3.264
A G 143 C	-2.597
A G 143 Q	-2.557
A G 143 E	-2.840
A G 143 H	-3.648
A G 143 I	-2.044
A G 143 L	-3.103

A G 143 K	-2.549
A G 143 M	-2.570
A G 143 F	-3.498
A G 143 P	-1.928
A G 143 S	-2.347
A G 143 T	-3.657
A G 143 W	-2.326
A G 143 Y	-1.332
A G 143 V	-3.316
A D 144 A	-0.408
A D 144 R	-0.293
A D 144 N	-0.332
A D 144 C	-0.354
A D 144 Q	-0.013
A D 144 E	0.147
A D 144 G	-0.646
A D 144 H	-0.020
A D 144 I	-0.256
A D 144 L	-0.200
A D 144 K	-0.112
A D 144 M	-0.277
A D 144 F	-0.308
A D 144 P	-1.829
A D 144 S	-0.484
A D 144 T	-0.489
A D 144 W	-0.336
A D 144 Y	-0.566
A D 144 V	-0.390
A P 145 A	-1.772
A P 145 R	-1.791
A P 145 N	-2.811
A P 145 D	-3.280
A P 145 C	-1.221
A P 145 Q	-2.136
A P 145 E	-2.294
A P 145 G	-2.561
A P 145 H	-2.166
A P 145 I	-1.559
A P 145 L	-1.626
A P 145 K	-2.576
A P 145 M	-1.407
A P 145 F	-1.451
A P 145 S	-1.961
A P 145 T	-2.356
A P 145 W	-1.822
A P 145 Y	-1.479
A P 145 V	-1.570
A T 146 A	-1.080
A T 146 R	-2.704
A T 146 N	-2.188
A T 146 D	-2.621
A T 146 C	-0.396
A T 146 Q	-1.919
A T 146 E	-2.158
A T 146 G	-1.857
A T 146 H	-2.227
A T 146 I	-1.374

A T 146 L	-1.513
A T 146 K	-2.620
A T 146 M	-1.581
A T 146 F	-1.425
A T 146 P	-1.231
A T 146 S	-0.720
A T 146 W	-1.345
A T 146 Y	-0.841
A T 146 V	-1.581
A D 147 A	-0.457
A D 147 R	-0.389
A D 147 N	-0.503
A D 147 C	-0.753
A D 147 Q	-0.264
A D 147 E	-0.350
A D 147 G	-0.685
A D 147 H	-0.624
A D 147 I	-0.114
A D 147 L	-0.332
A D 147 K	-0.763
A D 147 M	-0.258
A D 147 F	-0.369
A D 147 P	-0.326
A D 147 S	-0.413
A D 147 T	-0.734
A D 147 W	-0.627
A D 147 Y	-0.357
A D 147 V	-0.618
A N 148 A	-1.041
A N 148 R	-1.073
A N 148 D	-0.927
A N 148 C	-0.897
A N 148 Q	-0.661
A N 148 E	-0.985
A N 148 G	-1.339
A N 148 H	-1.078
A N 148 I	-0.510
A N 148 L	-0.820
A N 148 K	-1.553
A N 148 M	-0.667
A N 148 F	-1.074
A N 148 P	-0.988
A N 148 S	-0.670
A N 148 T	-1.140
A N 148 W	-1.119
A N 148 Y	-0.945
A N 148 V	-1.449
A A 149 R	-3.382
A A 149 N	-3.792
A A 149 D	-4.513
A A 149 C	-0.247
A A 149 Q	-4.436
A A 149 E	-4.597
A A 149 G	-0.358
A A 149 H	-4.287
A A 149 I	-0.179
A A 149 L	-0.384

A	A	149	K	-3.133
A	A	149	M	-0.192
A	A	149	F	-0.324
A	A	149	P	-3.535
A	A	149	S	-0.642
A	A	149	T	-0.985
A	A	149	W	-0.455
A	A	149	Y	-0.719
A	A	149	V	-0.793
A	Q	150	A	-0.299
A	Q	150	R	-0.188
A	Q	150	N	-0.241
A	Q	150	D	-0.343
A	Q	150	C	-0.319
A	Q	150	E	-0.128
A	Q	150	G	-0.727
A	Q	150	H	-0.273
A	Q	150	I	-0.057
A	Q	150	L	-0.094
A	Q	150	K	-0.087
A	Q	150	M	-0.129
A	Q	150	F	-0.174
A	Q	150	P	-0.877
A	Q	150	S	-0.283
A	Q	150	T	-0.283
A	Q	150	W	-0.185
A	Q	150	Y	-0.482
A	Q	150	V	-0.127
A	D	151	A	-0.115
A	D	151	R	-0.039
A	D	151	N	-0.073
A	D	151	C	-0.371
A	D	151	Q	0.034
A	D	151	E	0.073
A	D	151	G	-0.678
A	D	151	H	-0.026
A	D	151	I	0.058
A	D	151	L	0.060
A	D	151	K	-0.020
A	D	151	M	-0.036
A	D	151	F	-0.018
A	D	151	P	-0.367
A	D	151	S	-0.093
A	D	151	T	-0.107
A	D	151	W	-0.051
A	D	151	Y	-0.298
A	D	151	V	-0.143
A	F	152	A	-1.532
A	F	152	R	-3.546
A	F	152	N	-3.800
A	F	152	D	-5.236
A	F	152	C	-1.495
A	F	152	Q	-1.921
A	F	152	E	-4.878
A	F	152	G	-3.486
A	F	152	H	-2.918
A	F	152	I	-0.539

A	F	152	L	-0.335
A	F	152	K	-4.114
A	F	152	M	-0.586
A	F	152	P	-2.837
A	F	152	S	-1.513
A	F	152	T	-1.669
A	F	152	W	-0.270
A	F	152	Y	-0.729
A	F	152	V	-1.559
A	Y	153	A	-0.684
A	Y	153	R	-0.924
A	Y	153	N	-0.381
A	Y	153	D	-0.589
A	Y	153	C	-0.461
A	Y	153	Q	-1.057
A	Y	153	E	-0.713
A	Y	153	G	-1.481
A	Y	153	H	-0.406
A	Y	153	I	-0.223
A	Y	153	L	-0.259
A	Y	153	K	-0.668
A	Y	153	M	-0.321
A	Y	153	F	-0.218
A	Y	153	P	-2.909
A	Y	153	S	-1.171
A	Y	153	T	-0.895
A	Y	153	W	0.367
A	Y	153	V	-0.519
A	D	154	A	-0.061
A	D	154	R	-0.068
A	D	154	N	-0.071
A	D	154	C	-0.305
A	D	154	Q	0.029
A	D	154	E	0.065
A	D	154	G	-0.549
A	D	154	H	-0.042
A	D	154	I	0.016
A	D	154	L	0.029
A	D	154	K	-0.020
A	D	154	M	-0.097
A	D	154	F	-0.071
A	D	154	P	-0.448
A	D	154	S	-0.080
A	D	154	T	-0.125
A	D	154	W	-0.243
A	D	154	Y	-0.166
A	D	154	V	-0.181
A	W	155	A	-1.280
A	W	155	R	-1.363
A	W	155	N	-1.997
A	W	155	D	-1.580
A	W	155	C	-1.266
A	W	155	Q	-0.941
A	W	155	E	-1.706
A	W	155	G	-1.809
A	W	155	H	-1.426
A	W	155	I	-0.761

A W 155 L	-1.071
A W 155 K	-1.962
A W 155 M	-0.864
A W 155 F	-1.097
A W 155 P	-3.644
A W 155 S	-1.333
A W 155 T	-1.662
A W 155 Y	-0.937
A W 155 V	-1.693
A L 156 A	-2.086
A L 156 R	-3.880
A L 156 N	-4.410
A L 156 D	-4.485
A L 156 C	-1.906
A L 156 Q	-4.448
A L 156 E	-4.440
A L 156 G	-4.114
A L 156 H	-4.243
A L 156 I	-0.647
A L 156 K	-4.192
A L 156 M	-0.776
A L 156 F	-0.938
A L 156 P	-4.641
A L 156 S	-2.388
A L 156 T	-2.012
A L 156 W	-1.919
A L 156 Y	-2.350
A L 156 V	-1.571
A Q 157 A	-0.288
A Q 157 R	-0.159
A Q 157 N	-0.195
A Q 157 D	-0.231
A Q 157 C	-0.283
A Q 157 E	-0.074
A Q 157 G	-0.701
A Q 157 H	-0.132
A Q 157 I	-0.071
A Q 157 L	-0.119
A Q 157 K	-0.072
A Q 157 M	-0.156
A Q 157 F	-0.179
A Q 157 P	-0.695
A Q 157 S	-0.237
A Q 157 T	-0.170
A Q 157 W	-0.343
A Q 157 Y	-0.391
A Q 157 V	-0.252
A E 158 A	-0.211
A E 158 R	-0.140
A E 158 N	-0.137
A E 158 D	-0.143
A E 158 C	-0.349
A E 158 Q	-0.058
A E 158 G	-0.456
A E 158 H	-0.137
A E 158 I	-0.090
A E 158 L	-0.125

A E 158 K	-0.113
A E 158 M	-0.147
A E 158 F	-0.192
A E 158 P	-0.335
A E 158 S	-0.164
A E 158 T	-0.195
A E 158 W	-0.292
A E 158 Y	-0.322
A E 158 V	-0.237
A T 159 A	-0.424
A T 159 R	-0.348
A T 159 N	-0.200
A T 159 D	-0.378
A T 159 C	-0.001
A T 159 Q	-0.339
A T 159 E	0.050
A T 159 G	-0.390
A T 159 H	-0.196
A T 159 I	-0.209
A T 159 L	-0.077
A T 159 K	-0.019
A T 159 M	-0.285
A T 159 F	-0.201
A T 159 P	-0.722
A T 159 S	0.051
A T 159 W	-0.031
A T 159 Y	-0.244
A T 159 V	-0.236
A D 160 A	-0.115
A D 160 R	-0.048
A D 160 N	-0.070
A D 160 C	-0.148
A D 160 Q	-0.028
A D 160 E	-0.036
A D 160 G	-0.202
A D 160 H	-0.048
A D 160 I	-0.041
A D 160 L	-0.078
A D 160 K	-0.032
A D 160 M	-0.093
A D 160 F	-0.117
A D 160 P	-0.131
A D 160 S	-0.071
A D 160 T	-0.051
A D 160 W	-0.108
A D 160 Y	-0.084
A D 160 V	-0.125
A V 161 A	-0.529
A V 161 R	-0.381
A V 161 N	-0.454
A V 161 D	-0.420
A V 161 C	-0.392
A V 161 Q	-0.224
A V 161 E	-0.292
A V 161 G	-0.624
A V 161 H	-0.311
A V 161 I	-0.050

A V 161 L	-0.151
A V 161 K	-0.287
A V 161 M	-0.363
A V 161 F	-0.359
A V 161 P	-0.383
A V 161 S	-0.507
A V 161 T	-0.255
A V 161 W	-0.453
A V 161 Y	-0.213
A D 162 A	-0.603
A D 162 R	-0.301
A D 162 N	-0.220
A D 162 C	-0.469
A D 162 Q	-0.221
A D 162 E	-0.276
A D 162 G	-0.632
A D 162 H	-0.304
A D 162 I	-0.320
A D 162 L	-0.482
A D 162 K	-0.369
A D 162 M	-0.583
A D 162 F	-0.553
A D 162 P	-0.259
A D 162 S	-0.429
A D 162 T	-0.563
A D 162 W	-0.122
A D 162 Y	-0.368
A D 162 V	-0.623
A L 163 A	-2.466
A L 163 R	-2.991
A L 163 N	-4.744
A L 163 D	-3.765
A L 163 C	-1.922
A L 163 Q	-3.684
A L 163 E	-4.405
A L 163 G	-3.447
A L 163 H	-3.687
A L 163 I	-1.353
A L 163 K	-4.171
A L 163 M	-1.558
A L 163 F	-1.606
A L 163 P	-3.044
A L 163 S	-2.267
A L 163 T	-3.116
A L 163 W	-1.674
A L 163 Y	-1.965
A L 163 V	-2.501
A S 164 A	-0.163
A S 164 R	-0.036
A S 164 N	-0.051
A S 164 D	-0.087
A S 164 C	-0.029
A S 164 Q	0.020
A S 164 E	0.027
A S 164 G	-0.181
A S 164 H	-0.018
A S 164 I	-0.055

A S 164 L	-0.084
A S 164 K	0.045
A S 164 M	-0.114
A S 164 F	-0.116
A S 164 P	-0.186
A S 164 T	-0.121
A S 164 W	-0.014
A S 164 Y	-0.153
A S 164 V	-0.174
A G 165 A	-0.677
A G 165 R	-0.443
A G 165 N	-0.263
A G 165 D	-0.540
A G 165 C	-0.666
A G 165 Q	-0.385
A G 165 E	-0.682
A G 165 H	-0.619
A G 165 I	-0.774
A G 165 L	-0.796
A G 165 K	-0.646
A G 165 M	-0.812
A G 165 F	-0.967
A G 165 P	-0.507
A G 165 S	-0.625
A G 165 T	-1.009
A G 165 W	-0.654
A G 165 Y	-0.473
A G 165 V	-1.224
A V 166 A	-1.755
A V 166 R	-1.985
A V 166 N	-4.958
A V 166 D	-4.861
A V 166 C	-1.205
A V 166 Q	-2.593
A V 166 E	-4.833
A V 166 G	-3.069
A V 166 H	-2.077
A V 166 I	-0.668
A V 166 L	-0.255
A V 166 K	-2.452
A V 166 M	-1.151
A V 166 F	-1.444
A V 166 P	-3.374
A V 166 S	-1.382
A V 166 T	-1.565
A V 166 W	-1.640
A V 166 Y	-1.961
A K 167 A	-0.840
A K 167 R	0.111
A K 167 N	-1.045
A K 167 D	-1.088
A K 167 C	-0.690
A K 167 Q	-0.321
A K 167 E	-0.774
A K 167 G	-1.415
A K 167 H	-0.343
A K 167 I	-0.319

A K 167 L	-0.575
A K 167 M	-0.847
A K 167 F	-0.762
A K 167 P	-1.372
A K 167 S	-0.629
A K 167 T	-0.877
A K 167 W	-0.910
A K 167 Y	-0.462
A K 167 V	-0.977
A Y 168 A	-3.679
A Y 168 R	-3.635
A Y 168 N	-5.397
A Y 168 D	-5.279
A Y 168 C	-2.316
A Y 168 Q	-4.634
A Y 168 E	-5.686
A Y 168 G	-4.955
A Y 168 H	-3.212
A Y 168 I	-2.544
A Y 168 L	-2.773
A Y 168 K	-5.056
A Y 168 M	-2.688
A Y 168 F	-1.568
A Y 168 P	-5.800
A Y 168 S	-4.279
A Y 168 T	-3.449
A Y 168 W	-2.977
A Y 168 V	-1.664
A A 169 R	-2.987
A A 169 N	-4.613
A A 169 D	-5.417
A A 169 C	0.192
A A 169 Q	-3.092
A A 169 E	-5.035
A A 169 G	-1.465
A A 169 H	-3.644
A A 169 I	0.515
A A 169 L	0.291
A A 169 K	-3.067
A A 169 M	0.260
A A 169 F	0.231
A A 169 P	-3.174
A A 169 S	-0.936
A A 169 T	-0.643
A A 169 W	-0.127
A A 169 Y	-2.250
A A 169 V	-0.102
A V 170 A	-1.672
A V 170 R	-5.172
A V 170 N	-6.070
A V 170 D	-5.946
A V 170 C	-1.098
A V 170 Q	-4.552
A V 170 E	-4.912
A V 170 G	-2.614
A V 170 H	-5.335
A V 170 I	-0.176

A V 170 L	-0.619
A V 170 K	-5.655
A V 170 M	-0.652
A V 170 F	0.399
A V 170 P	-4.726
A V 170 S	-1.825
A V 170 T	-1.846
A V 170 W	-1.573
A V 170 Y	-1.490
A F 171 A	-1.914
A F 171 R	-2.918
A F 171 N	-5.147
A F 171 D	-5.691
A F 171 C	-1.220
A F 171 Q	-3.460
A F 171 E	-5.497
A F 171 G	-4.013
A F 171 H	-3.581
A F 171 I	-0.789
A F 171 L	-0.798
A F 171 K	-5.181
A F 171 M	-0.239
A F 171 P	-4.012
A F 171 S	-1.528
A F 171 T	-2.059
A F 171 W	-0.597
A F 171 Y	-1.099
A F 171 V	-1.663
A G 172 A	-2.136
A G 172 R	-4.613
A G 172 N	-4.821
A G 172 D	-5.001
A G 172 C	-2.049
A G 172 Q	-5.423
A G 172 E	-5.705
A G 172 H	-5.043
A G 172 I	-2.886
A G 172 L	-4.116
A G 172 K	-4.984
A G 172 M	-3.034
A G 172 F	-3.687
A G 172 P	-5.300
A G 172 S	-2.521
A G 172 T	-3.232
A G 172 W	-2.612
A G 172 Y	-4.070
A G 172 V	-2.860
A L 173 A	-1.422
A L 173 R	-2.732
A L 173 N	-2.627
A L 173 D	-3.860
A L 173 C	-0.721
A L 173 Q	-3.342
A L 173 E	-3.438
A L 173 G	-2.123
A L 173 H	-2.368
A L 173 I	-0.547

A L 173 K	-2.204
A L 173 M	-0.476
A L 173 F	-0.525
A L 173 P	-3.182
A L 173 S	-1.483
A L 173 T	-1.462
A L 173 W	-1.197
A L 173 Y	-1.654
A L 173 V	-0.936
A G 174 A	-1.984
A G 174 R	-2.263
A G 174 N	-3.069
A G 174 D	-3.615
A G 174 C	-1.675
A G 174 Q	-2.778
A G 174 E	-4.716
A G 174 H	-3.445
A G 174 I	-2.275
A G 174 L	-2.848
A G 174 K	-3.075
A G 174 M	-2.312
A G 174 F	-2.097
A G 174 P	-3.918
A G 174 S	-2.092
A G 174 T	-3.372
A G 174 W	-2.094
A G 174 Y	-1.863
A G 174 V	-3.030
A N 175 A	-1.506
A N 175 R	-1.553
A N 175 D	-0.446
A N 175 C	-0.837
A N 175 Q	-1.317
A N 175 E	-1.511
A N 175 G	-2.233
A N 175 H	-1.027
A N 175 I	-1.038
A N 175 L	-1.165
A N 175 K	-1.871
A N 175 M	-1.159
A N 175 F	-1.511
A N 175 P	-1.710
A N 175 S	-0.797
A N 175 T	-1.481
A N 175 W	-1.226
A N 175 Y	-1.448
A N 175 V	-1.357
A K 176 A	-0.467
A K 176 R	-0.027
A K 176 N	-0.317
A K 176 D	-0.672
A K 176 C	-0.548
A K 176 Q	-0.398
A K 176 E	-0.510
A K 176 G	-0.648
A K 176 H	-0.425
A K 176 I	-0.105

A K 176 L	-0.305
A K 176 M	-0.227
A K 176 F	-0.462
A K 176 P	-0.438
A K 176 S	-0.076
A K 176 T	-0.520
A K 176 W	-0.630
A K 176 Y	-0.416
A K 176 V	-0.482
A T 177 A	-0.751
A T 177 R	-1.422
A T 177 N	-0.944
A T 177 D	-1.186
A T 177 C	-0.618
A T 177 Q	-0.446
A T 177 E	-1.854
A T 177 G	-1.198
A T 177 H	-2.062
A T 177 I	-0.546
A T 177 L	-0.697
A T 177 K	-1.495
A T 177 M	-0.602
A T 177 F	-0.754
A T 177 P	-2.946
A T 177 S	-0.886
A T 177 W	-0.949
A T 177 Y	-1.097
A T 177 V	-1.187
A Y 178 A	-2.094
A Y 178 R	-1.824
A Y 178 N	-2.124
A Y 178 D	-2.845
A Y 178 C	-0.949
A Y 178 Q	-2.991
A Y 178 E	-3.170
A Y 178 G	-3.010
A Y 178 H	-1.154
A Y 178 I	-2.436
A Y 178 L	-1.669
A Y 178 K	-2.438
A Y 178 M	-1.787
A Y 178 F	-1.035
A Y 178 P	-3.757
A Y 178 S	-2.651
A Y 178 T	-1.768
A Y 178 W	-0.795
A Y 178 V	-2.135
A E 179 A	-0.792
A E 179 R	-0.558
A E 179 N	-0.971
A E 179 D	-0.992
A E 179 C	-1.158
A E 179 Q	-0.547
A E 179 G	-1.304
A E 179 H	-1.042
A E 179 I	-0.279
A E 179 L	-0.307

A E 179 K	-0.680
A E 179 M	-0.461
A E 179 F	-0.530
A E 179 P	-0.948
A E 179 S	-0.696
A E 179 T	-0.843
A E 179 W	-0.601
A E 179 Y	-0.622
A E 179 V	-0.713
A H 180 A	-0.827
A H 180 R	-0.818
A H 180 N	-1.035
A H 180 D	-0.997
A H 180 C	-1.203
A H 180 Q	-0.558
A H 180 E	-0.939
A H 180 G	-1.440
A H 180 I	-0.457
A H 180 L	-0.616
A H 180 K	-1.057
A H 180 M	-0.647
A H 180 F	-0.658
A H 180 P	-1.693
A H 180 S	-0.670
A H 180 T	-0.919
A H 180 W	-0.463
A H 180 Y	-0.453
A H 180 V	-0.964
A F 181 A	-2.244
A F 181 R	-3.883
A F 181 N	-2.798
A F 181 D	-4.340
A F 181 C	-1.512
A F 181 Q	-2.719
A F 181 E	-4.687
A F 181 G	-3.225
A F 181 H	-1.230
A F 181 I	-1.516
A F 181 L	-1.514
A F 181 K	-4.113
A F 181 M	-2.079
A F 181 P	-3.986
A F 181 S	-2.422
A F 181 T	-2.209
A F 181 W	-0.464
A F 181 Y	0.384
A F 181 V	-1.753
A N 182 A	-1.324
A N 182 R	-1.681
A N 182 D	-2.006
A N 182 C	-0.317
A N 182 Q	-1.034
A N 182 E	-1.521
A N 182 G	-1.313
A N 182 H	-1.723
A N 182 I	-1.156
A N 182 L	-1.465

A N 182 K	-2.237
A N 182 M	-1.229
A N 182 F	-1.485
A N 182 P	-1.864
A N 182 S	-1.314
A N 182 T	-2.215
A N 182 W	-1.351
A N 182 Y	-0.716
A N 182 V	-2.056
A A 183 R	-0.390
A A 183 N	-0.753
A A 183 D	-1.104
A A 183 C	-0.863
A A 183 Q	-0.247
A A 183 E	-0.008
A A 183 G	-0.903
A A 183 H	-0.684
A A 183 I	0.470
A A 183 L	0.572
A A 183 K	-0.097
A A 183 M	0.334
A A 183 F	0.364
A A 183 P	-1.901
A A 183 S	-0.093
A A 183 T	-0.324
A A 183 W	-0.074
A A 183 Y	-0.254
A A 183 V	-0.242
A M 184 A	-1.890
A M 184 R	-3.471
A M 184 N	-4.083
A M 184 D	-4.064
A M 184 C	-1.302
A M 184 Q	-3.093
A M 184 E	-2.969
A M 184 G	-2.727
A M 184 H	-3.311
A M 184 I	-0.489
A M 184 L	-1.257
A M 184 K	-4.762
A M 184 F	-0.930
A M 184 P	-2.577
A M 184 S	-1.948
A M 184 T	-1.503
A M 184 W	-1.691
A M 184 Y	-1.472
A M 184 V	-1.025
A G 185 A	-0.829
A G 185 R	-2.458
A G 185 N	-4.508
A G 185 D	-4.272
A G 185 C	-1.482
A G 185 Q	-4.179
A G 185 E	-4.094
A G 185 H	-3.869
A G 185 I	-1.172
A G 185 L	-1.747

A G 185 K	-3.631
A G 185 M	-1.547
A G 185 F	-2.145
A G 185 P	-2.976
A G 185 S	-1.690
A G 185 T	-2.240
A G 185 W	-2.942
A G 185 Y	-3.010
A G 185 V	-1.795
A K 186 A	-0.605
A K 186 R	-0.250
A K 186 N	-1.042
A K 186 D	-0.919
A K 186 C	-1.071
A K 186 Q	-0.182
A K 186 E	-0.599
A K 186 G	-1.664
A K 186 H	-1.128
A K 186 I	-0.075
A K 186 L	-0.260
A K 186 M	-0.369
A K 186 F	-0.542
A K 186 P	-1.042
A K 186 S	-0.566
A K 186 T	-0.946
A K 186 W	-0.975
A K 186 Y	-0.743
A K 186 V	-0.822
A Y 187 A	-0.969
A Y 187 R	-0.426
A Y 187 N	-0.381
A Y 187 D	-0.935
A Y 187 C	-0.542
A Y 187 Q	-0.289
A Y 187 E	-0.427
A Y 187 G	-1.568
A Y 187 H	-0.313
A Y 187 I	-0.010
A Y 187 L	-0.086
A Y 187 K	0.040
A Y 187 M	-0.382
A Y 187 F	-0.134
A Y 187 P	-4.117
A Y 187 S	-1.104
A Y 187 T	-0.852
A Y 187 W	0.065
A Y 187 V	-0.413
A V 188 A	-1.845
A V 188 R	-4.196
A V 188 N	-4.659
A V 188 D	-5.793
A V 188 C	-1.567
A V 188 Q	-4.622
A V 188 E	-5.275
A V 188 G	-3.139
A V 188 H	-4.218
A V 188 I	-0.154

A V 188 L	-0.856
A V 188 K	-4.688
A V 188 M	-0.885
A V 188 F	-1.107
A V 188 P	-5.207
A V 188 S	-2.805
A V 188 T	-2.055
A V 188 W	-1.231
A V 188 Y	-2.101
A D 189 A	-1.057
A D 189 R	-1.460
A D 189 N	-0.836
A D 189 C	-0.992
A D 189 Q	-0.710
A D 189 E	-0.798
A D 189 G	-1.926
A D 189 H	-0.612
A D 189 I	-0.190
A D 189 L	0.384
A D 189 K	-1.572
A D 189 M	-0.306
A D 189 F	0.596
A D 189 P	-2.373
A D 189 S	-0.933
A D 189 T	-0.673
A D 189 W	0.055
A D 189 Y	-0.333
A D 189 V	-0.707
A K 190 A	-0.354
A K 190 R	-0.291
A K 190 N	-0.423
A K 190 D	-0.357
A K 190 C	-0.679
A K 190 Q	-0.117
A K 190 E	-0.198
A K 190 G	-0.900
A K 190 H	-0.418
A K 190 I	-0.134
A K 190 L	-0.243
A K 190 M	-0.261
A K 190 F	-0.379
A K 190 P	-0.796
A K 190 S	-0.290
A K 190 T	-0.579
A K 190 W	-0.426
A K 190 Y	-0.434
A K 190 V	-0.667
A R 191 A	-0.787
A R 191 N	-1.045
A R 191 D	-1.128
A R 191 C	-0.841
A R 191 Q	-0.399
A R 191 E	-0.714
A R 191 G	-1.386
A R 191 H	-0.891
A R 191 I	-0.222
A R 191 L	-0.272

A R 191 K	-0.804
A R 191 M	-0.437
A R 191 F	-0.523
A R 191 P	-2.556
A R 191 S	-0.780
A R 191 T	-0.906
A R 191 W	-0.462
A R 191 Y	-0.813
A R 191 V	-0.813
A L 192 A	-2.391
A L 192 R	-4.850
A L 192 N	-4.240
A L 192 D	-5.503
A L 192 C	-1.937
A L 192 Q	-3.858
A L 192 E	-5.029
A L 192 G	-4.470
A L 192 H	-4.488
A L 192 I	-0.855
A L 192 K	-5.328
A L 192 M	-0.544
A L 192 F	-0.743
A L 192 P	-5.059
A L 192 S	-2.373
A L 192 T	-3.027
A L 192 W	-2.295
A L 192 Y	-2.735
A L 192 V	-1.901
A E 193 A	-0.520
A E 193 R	-0.296
A E 193 N	-0.397
A E 193 D	-0.396
A E 193 C	-0.443
A E 193 Q	-0.093
A E 193 G	-0.969
A E 193 H	-0.261
A E 193 I	-0.156
A E 193 L	-0.208
A E 193 K	-0.249
A E 193 M	-0.289
A E 193 F	-0.311
A E 193 P	-0.771
A E 193 S	-0.394
A E 193 T	-0.356
A E 193 W	-0.231
A E 193 Y	-0.514
A E 193 V	-0.462
A Q 194 A	-0.273
A Q 194 R	-0.169
A Q 194 N	-0.154
A Q 194 D	-0.187
A Q 194 C	-0.359
A Q 194 E	-0.046
A Q 194 G	-0.584
A Q 194 H	-0.145
A Q 194 I	-0.078
A Q 194 L	-0.120

A Q 194 K	-0.089
A Q 194 M	-0.173
A Q 194 F	-0.194
A Q 194 P	-0.572
A Q 194 S	-0.227
A Q 194 T	-0.259
A Q 194 W	-0.261
A Q 194 Y	-0.282
A Q 194 V	-0.284
A L 195 A	-1.400
A L 195 R	-1.351
A L 195 N	-2.025
A L 195 D	-2.844
A L 195 C	-1.080
A L 195 Q	-0.978
A L 195 E	-2.883
A L 195 G	-2.397
A L 195 H	-1.486
A L 195 I	-0.370
A L 195 K	-1.745
A L 195 M	-0.281
A L 195 F	-0.505
A L 195 P	-2.183
A L 195 S	-1.130
A L 195 T	-1.388
A L 195 W	-1.264
A L 195 Y	-1.130
A L 195 V	-1.420
A G 196 A	-1.549
A G 196 R	-1.416
A G 196 N	-1.827
A G 196 D	-1.316
A G 196 C	-1.646
A G 196 Q	-1.161
A G 196 E	-1.676
A G 196 H	-1.625
A G 196 I	-2.108
A G 196 L	-2.252
A G 196 K	-1.681
A G 196 M	-1.652
A G 196 F	-2.048
A G 196 P	-1.945
A G 196 S	-1.545
A G 196 T	-2.349
A G 196 W	-1.153
A G 196 Y	-0.901
A G 196 V	-2.305
A A 197 R	-2.605
A A 197 N	-2.579
A A 197 D	-2.628
A A 197 C	-0.655
A A 197 Q	-2.285
A A 197 E	-2.689
A A 197 G	-0.866
A A 197 H	-2.087
A A 197 I	-1.128
A A 197 L	-1.129

A	A	197	K	-2.585
A	A	197	M	-0.804
A	A	197	F	-1.152
A	A	197	P	-1.674
A	A	197	S	-1.148
A	A	197	T	-1.721
A	A	197	W	-0.810
A	A	197	Y	-1.724
A	A	197	V	-1.382
A	Q	198	A	-0.835
A	Q	198	R	-0.395
A	Q	198	N	-0.308
A	Q	198	D	-0.587
A	Q	198	C	-0.318
A	Q	198	E	-0.129
A	Q	198	G	-1.180
A	Q	198	H	-0.094
A	Q	198	I	-0.246
A	Q	198	L	-0.274
A	Q	198	K	-0.092
A	Q	198	M	-0.549
A	Q	198	F	-0.404
A	Q	198	P	-1.570
A	Q	198	S	-0.806
A	Q	198	T	-0.352
A	Q	198	W	-0.558
A	Q	198	Y	-0.375
A	Q	198	V	-0.426
A	R	199	A	-1.468
A	R	199	N	-2.042
A	R	199	D	-2.753
A	R	199	C	-0.851
A	R	199	Q	-1.444
A	R	199	E	-2.028
A	R	199	G	-2.465
A	R	199	H	-1.569
A	R	199	I	-0.157
A	R	199	L	-0.232
A	R	199	K	-1.547
A	R	199	M	-0.891
A	R	199	F	-1.071
A	R	199	P	-1.635
A	R	199	S	-1.600
A	R	199	T	-1.703
A	R	199	W	-0.798
A	R	199	Y	-1.694
A	R	199	V	-1.205
A	I	200	A	-2.452
A	I	200	R	-4.415
A	I	200	N	-4.285
A	I	200	D	-4.599
A	I	200	C	-1.954
A	I	200	Q	-4.125
A	I	200	E	-4.580
A	I	200	G	-3.886
A	I	200	H	-3.237
A	I	200	L	-0.576

A I 200 K	-3.516
A I 200 M	-1.268
A I 200 F	-0.686
A I 200 P	-3.938
A I 200 S	-3.272
A I 200 T	-2.419
A I 200 W	-1.451
A I 200 Y	-2.981
A I 200 V	-0.660
A F 201 A	-1.733
A F 201 R	-2.050
A F 201 N	-2.928
A F 201 D	-4.317
A F 201 C	0.191
A F 201 Q	-2.429
A F 201 E	-2.619
A F 201 G	-1.044
A F 201 H	-0.731
A F 201 I	-0.523
A F 201 L	-0.382
A F 201 K	-1.684
A F 201 M	-0.914
A F 201 P	-3.791
A F 201 S	-1.506
A F 201 T	-0.460
A F 201 W	0.049
A F 201 Y	0.187
A F 201 V	0.321
A E 202 A	-0.439
A E 202 R	-0.248
A E 202 N	-0.285
A E 202 D	-0.281
A E 202 C	-0.552
A E 202 Q	-0.149
A E 202 G	-0.691
A E 202 H	-0.160
A E 202 I	-0.415
A E 202 L	-0.280
A E 202 K	-0.131
A E 202 M	-0.424
A E 202 F	-0.449
A E 202 P	-0.049
A E 202 S	-0.406
A E 202 T	-0.406
A E 202 W	-0.541
A E 202 Y	-0.601
A E 202 V	-0.421
A L 203 A	-1.776
A L 203 R	-1.016
A L 203 N	-3.433
A L 203 D	-4.584
A L 203 C	-0.265
A L 203 Q	-2.364
A L 203 E	-3.095
A L 203 G	-3.774
A L 203 H	-1.480
A L 203 I	-0.664

A L 203 K	-1.475
A L 203 M	-0.643
A L 203 F	-0.543
A L 203 P	-2.053
A L 203 S	-2.334
A L 203 T	-1.290
A L 203 W	-1.394
A L 203 Y	-0.610
A L 203 V	-0.432
A G 204 A	-2.268
A G 204 R	-2.732
A G 204 N	-3.767
A G 204 D	-4.232
A G 204 C	-0.517
A G 204 Q	-3.551
A G 204 E	-3.627
A G 204 H	-2.621
A G 204 I	-2.229
A G 204 L	-1.392
A G 204 K	-2.978
A G 204 M	-1.647
A G 204 F	-1.315
A G 204 P	-4.374
A G 204 S	-3.248
A G 204 T	-2.535
A G 204 W	-0.476
A G 204 Y	-1.542
A G 204 V	-2.040
A M 205 A	-0.936
A M 205 R	-0.483
A M 205 N	-0.571
A M 205 D	-1.830
A M 205 C	0.219
A M 205 Q	-0.244
A M 205 E	0.303
A M 205 G	-0.965
A M 205 H	-0.512
A M 205 I	0.223
A M 205 L	0.470
A M 205 K	-0.398
A M 205 F	0.106
A M 205 P	-1.913
A M 205 S	-0.792
A M 205 T	-0.757
A M 205 W	0.628
A M 205 Y	0.613
A M 205 V	-0.217
A G 206 A	-1.747
A G 206 R	-3.123
A G 206 N	-3.389
A G 206 D	-4.038
A G 206 C	-1.224
A G 206 Q	-4.686
A G 206 E	-2.396
A G 206 H	-1.791
A G 206 I	-1.195
A G 206 L	-0.866

A G 206 K	-2.124
A G 206 M	-1.800
A G 206 F	-1.389
A G 206 P	-3.579
A G 206 S	-2.152
A G 206 T	-1.970
A G 206 W	-2.143
A G 206 Y	-2.301
A G 206 V	-1.638
A D 207 A	-1.378
A D 207 R	-1.340
A D 207 N	-0.862
A D 207 C	-1.005
A D 207 Q	-2.154
A D 207 E	-1.909
A D 207 G	-1.762
A D 207 H	-1.616
A D 207 I	-1.306
A D 207 L	-1.350
A D 207 K	-2.056
A D 207 M	-1.401
A D 207 F	-1.466
A D 207 P	-2.221
A D 207 S	-1.165
A D 207 T	-1.382
A D 207 W	-1.253
A D 207 Y	-1.536
A D 207 V	-1.318
A D 208 A	-0.204
A D 208 R	-0.175
A D 208 N	-0.323
A D 208 C	-0.276
A D 208 Q	-0.115
A D 208 E	-0.123
A D 208 G	-0.456
A D 208 H	-0.344
A D 208 I	-0.069
A D 208 L	-0.038
A D 208 K	-0.281
A D 208 M	-0.126
A D 208 F	-0.166
A D 208 P	-0.436
A D 208 S	-0.176
A D 208 T	-0.227
A D 208 W	-0.204
A D 208 Y	-0.189
A D 208 V	-0.227
A D 209 A	-0.411
A D 209 R	-0.349
A D 209 N	-0.599
A D 209 C	-0.561
A D 209 Q	-0.194
A D 209 E	-0.431
A D 209 G	-0.614
A D 209 H	-0.626
A D 209 I	-0.211
A D 209 L	-0.386

A D 209 K	-0.548
A D 209 M	-0.317
A D 209 F	-0.363
A D 209 P	-0.967
A D 209 S	-0.232
A D 209 T	-0.252
A D 209 W	-0.398
A D 209 Y	-0.295
A D 209 V	-0.653
A G 210 A	-0.348
A G 210 R	-0.122
A G 210 N	-0.138
A G 210 D	-0.191
A G 210 C	-0.460
A G 210 Q	-0.014
A G 210 E	-0.061
A G 210 H	0.036
A G 210 I	-0.228
A G 210 L	-0.179
A G 210 K	0.008
A G 210 M	-0.454
A G 210 F	-0.454
A G 210 P	-0.983
A G 210 S	-0.337
A G 210 T	-0.383
A G 210 W	-0.398
A G 210 Y	-0.445
A G 210 V	-0.398
A N 211 A	-0.928
A N 211 R	-0.529
A N 211 D	-0.250
A N 211 C	-0.168
A N 211 Q	-0.796
A N 211 E	-0.662
A N 211 G	-1.146
A N 211 H	-0.528
A N 211 I	-0.996
A N 211 L	-0.642
A N 211 K	-0.720
A N 211 M	-0.704
A N 211 F	-0.854
A N 211 P	-1.300
A N 211 S	-0.531
A N 211 T	-0.529
A N 211 W	-0.657
A N 211 Y	-0.545
A N 211 V	-0.961
A L 212 A	-1.175
A L 212 R	-1.663
A L 212 N	-1.602
A L 212 D	-2.638
A L 212 C	-1.231
A L 212 Q	-0.841
A L 212 E	-1.428
A L 212 G	-2.796
A L 212 H	-1.333
A L 212 I	-0.063

A L 212 K	-1.457
A L 212 M	0.034
A L 212 F	-0.197
A L 212 P	-2.077
A L 212 S	-1.268
A L 212 T	-0.735
A L 212 W	-0.620
A L 212 Y	-1.109
A L 212 V	-0.519
A E 213 A	-1.144
A E 213 R	-1.211
A E 213 N	-1.406
A E 213 D	-0.856
A E 213 C	-1.864
A E 213 Q	-0.711
A E 213 G	-1.619
A E 213 H	-1.566
A E 213 I	-0.635
A E 213 L	-0.620
A E 213 K	-1.812
A E 213 M	-0.815
A E 213 F	-0.625
A E 213 P	-1.574
A E 213 S	-0.940
A E 213 T	-1.091
A E 213 W	-0.836
A E 213 Y	-0.998
A E 213 V	-1.271
A E 214 A	-0.875
A E 214 R	-1.259
A E 214 N	-0.818
A E 214 D	-0.802
A E 214 C	-1.161
A E 214 Q	-0.617
A E 214 G	-1.582
A E 214 H	-1.061
A E 214 I	-0.190
A E 214 L	0.075
A E 214 K	-1.266
A E 214 M	-0.409
A E 214 F	-0.531
A E 214 P	-1.227
A E 214 S	-0.781
A E 214 T	-0.757
A E 214 W	-0.962
A E 214 Y	-1.421
A E 214 V	-0.738
A D 215 A	-0.634
A D 215 R	-0.775
A D 215 N	-0.708
A D 215 C	-0.905
A D 215 Q	0.035
A D 215 E	-0.150
A D 215 G	-1.273
A D 215 H	-0.741
A D 215 I	-0.098
A D 215 L	-0.087

A	D	215	K	-0.953
A	D	215	M	-0.276
A	D	215	F	-0.268
A	D	215	P	-1.091
A	D	215	S	-0.474
A	D	215	T	-0.527
A	D	215	W	-0.633
A	D	215	Y	-0.615
A	D	215	V	-0.573
A	F	216	A	-2.013
A	F	216	R	-3.545
A	F	216	N	-3.785
A	F	216	D	-4.536
A	F	216	C	-2.651
A	F	216	Q	-3.417
A	F	216	E	-3.794
A	F	216	G	-3.918
A	F	216	H	-4.631
A	F	216	I	-0.777
A	F	216	L	-0.569
A	F	216	K	-3.804
A	F	216	M	-0.746
A	F	216	P	-3.185
A	F	216	S	-2.048
A	F	216	T	-2.013
A	F	216	W	-0.487
A	F	216	Y	-0.945
A	F	216	V	-1.843
A	I	217	A	-1.502
A	I	217	R	-1.826
A	I	217	N	-1.202
A	I	217	D	-1.402
A	I	217	C	-1.535
A	I	217	Q	-2.146
A	I	217	E	-1.238
A	I	217	G	-2.533
A	I	217	H	-1.876
A	I	217	L	-0.151
A	I	217	K	-1.483
A	I	217	M	-0.451
A	I	217	F	-0.646
A	I	217	P	-3.563
A	I	217	S	-1.621
A	I	217	T	-1.121
A	I	217	W	-2.087
A	I	217	Y	-3.098
A	I	217	V	-0.362
A	T	218	A	0.079
A	T	218	R	-0.319
A	T	218	N	-0.274
A	T	218	D	-0.507
A	T	218	C	-0.177
A	T	218	Q	-0.194
A	T	218	E	-0.081
A	T	218	G	-0.718
A	T	218	H	-0.771
A	T	218	I	0.057

A T 218 L	0.090
A T 218 K	-0.083
A T 218 M	-0.221
A T 218 F	-0.071
A T 218 P	-0.638
A T 218 S	-0.261
A T 218 W	-0.268
A T 218 Y	-0.502
A T 218 V	-0.125
A W 219 A	-2.420
A W 219 R	-2.461
A W 219 N	-3.738
A W 219 D	-2.737
A W 219 C	-2.051
A W 219 Q	-3.340
A W 219 E	-2.959
A W 219 G	-3.506
A W 219 H	-3.313
A W 219 I	-1.736
A W 219 L	-1.570
A W 219 K	-3.234
A W 219 M	-1.436
A W 219 F	-1.148
A W 219 P	-2.966
A W 219 S	-2.829
A W 219 T	-3.137
A W 219 Y	-1.792
A W 219 V	-2.324
A R 220 A	-0.358
A R 220 N	-0.838
A R 220 D	-0.962
A R 220 C	-0.297
A R 220 Q	-0.222
A R 220 E	-0.141
A R 220 G	-1.001
A R 220 H	-0.744
A R 220 I	0.408
A R 220 L	0.795
A R 220 K	0.418
A R 220 M	0.080
A R 220 F	0.402
A R 220 P	-1.458
A R 220 S	-0.221
A R 220 T	-0.256
A R 220 W	-0.044
A R 220 Y	-0.060
A R 220 V	-0.225
A E 221 A	-0.387
A E 221 R	-0.255
A E 221 N	-0.263
A E 221 D	-0.197
A E 221 C	-0.342
A E 221 Q	-0.125
A E 221 G	-0.774
A E 221 H	-0.089
A E 221 I	-0.107
A E 221 L	-0.156

A E	221	K	-0.229
A E	221	M	-0.299
A E	221	F	-0.209
A E	221	P	-0.565
A E	221	S	-0.266
A E	221	T	-0.254
A E	221	W	-0.139
A E	221	Y	-0.359
A E	221	V	-0.318
A Q	222	A	-0.437
A Q	222	R	-0.211
A Q	222	N	-0.268
A Q	222	D	-0.370
A Q	222	C	-0.435
A Q	222	E	-0.124
A Q	222	G	-1.060
A Q	222	H	-0.155
A Q	222	I	-0.021
A Q	222	L	-0.044
A Q	222	K	-0.081
A Q	222	M	-0.240
A Q	222	F	-0.229
A Q	222	P	-0.829
A Q	222	S	-0.341
A Q	222	T	-0.262
A Q	222	W	-0.322
A Q	222	Y	-1.002
A Q	222	V	-0.308
A F	223	A	-1.647
A F	223	R	-4.004
A F	223	N	-4.166
A F	223	D	-4.947
A F	223	C	-1.856
A F	223	Q	-2.625
A F	223	E	-4.519
A F	223	G	-3.678
A F	223	H	-2.008
A F	223	I	0.109
A F	223	L	-0.013
A F	223	K	-3.635
A F	223	M	-0.050
A F	223	P	-5.007
A F	223	S	-1.848
A F	223	T	-1.578
A F	223	W	-1.026
A F	223	Y	-1.624
A F	223	V	-0.703
A W	224	A	-1.888
A W	224	R	-1.905
A W	224	N	-2.635
A W	224	D	-2.677
A W	224	C	-1.524
A W	224	Q	-1.635
A W	224	E	-2.388
A W	224	G	-2.832
A W	224	H	-2.275
A W	224	I	-0.928

A W 224 L	-1.031
A W 224 K	-2.877
A W 224 M	-0.996
A W 224 F	-0.981
A W 224 P	-3.171
A W 224 S	-1.909
A W 224 T	-1.932
A W 224 Y	-1.356
A W 224 V	-1.785
A P 225 A	-0.801
A P 225 R	-0.534
A P 225 N	-0.745
A P 225 D	-0.692
A P 225 C	-0.852
A P 225 Q	-0.541
A P 225 E	-0.509
A P 225 G	-0.974
A P 225 H	-0.632
A P 225 I	-0.563
A P 225 L	-0.635
A P 225 K	-0.620
A P 225 M	-0.709
A P 225 F	-0.810
A P 225 S	-0.768
A P 225 T	-0.848
A P 225 W	-0.999
A P 225 Y	-1.436
A P 225 V	-0.795
A A 226 R	-0.841
A A 226 N	-0.738
A A 226 D	-1.150
A A 226 C	-0.358
A A 226 Q	-0.277
A A 226 E	-0.535
A A 226 G	-0.927
A A 226 H	-0.698
A A 226 I	0.061
A A 226 L	-0.031
A A 226 K	-0.709
A A 226 M	-0.236
A A 226 F	-0.185
A A 226 P	-1.262
A A 226 S	-0.548
A A 226 T	-0.575
A A 226 W	-0.340
A A 226 Y	-0.768
A A 226 V	-0.541
A V 227 A	-1.218
A V 227 R	-3.362
A V 227 N	-3.775
A V 227 D	-5.135
A V 227 C	-1.812
A V 227 Q	-3.656
A V 227 E	-4.451
A V 227 G	-2.218
A V 227 H	-3.467
A V 227 I	0.400

A V 227 L	0.671
A V 227 K	-4.566
A V 227 M	-0.131
A V 227 F	0.040
A V 227 P	-4.483
A V 227 S	-1.418
A V 227 T	-1.685
A V 227 W	-0.972
A V 227 Y	-1.494
A C 228 A	-0.847
A C 228 R	-0.699
A C 228 N	-1.427
A C 228 D	-1.128
A C 228 Q	-0.374
A C 228 E	-0.748
A C 228 G	-1.256
A C 228 H	-0.868
A C 228 I	-0.498
A C 228 L	-0.676
A C 228 K	-1.050
A C 228 M	-0.371
A C 228 F	-0.989
A C 228 P	-1.165
A C 228 S	-0.810
A C 228 T	-1.163
A C 228 W	-1.050
A C 228 Y	-0.824
A C 228 V	-1.236
A E 229 A	-0.255
A E 229 R	-0.152
A E 229 N	-0.194
A E 229 D	-0.174
A E 229 C	-0.370
A E 229 Q	-0.061
A E 229 G	-0.514
A E 229 H	-0.197
A E 229 I	-0.133
A E 229 L	-0.177
A E 229 K	-0.110
A E 229 M	-0.211
A E 229 F	-0.290
A E 229 P	-0.294
A E 229 S	-0.214
A E 229 T	-0.256
A E 229 W	-0.327
A E 229 Y	-0.291
A E 229 V	-0.307
A H 230 A	-0.590
A H 230 R	-0.565
A H 230 N	-0.673
A H 230 D	-0.804
A H 230 C	-0.911
A H 230 Q	-0.254
A H 230 E	-0.485
A H 230 G	-1.361
A H 230 I	-0.189
A H 230 L	-0.250

A H 230 K	-0.508
A H 230 M	-0.389
A H 230 F	-0.312
A H 230 P	-0.899
A H 230 S	-0.524
A H 230 T	-0.611
A H 230 W	-0.648
A H 230 Y	-0.385
A H 230 V	-0.633
A F 231 A	-2.167
A F 231 R	-3.680
A F 231 N	-3.617
A F 231 D	-3.824
A F 231 C	-2.157
A F 231 Q	-2.013
A F 231 E	-2.372
A F 231 G	-2.954
A F 231 H	-1.744
A F 231 I	-1.159
A F 231 L	-0.837
A F 231 K	-3.612
A F 231 M	-1.093
A F 231 P	-2.859
A F 231 S	-1.585
A F 231 T	-1.929
A F 231 W	-1.160
A F 231 Y	-0.406
A F 231 V	-2.208
A G 232 A	-1.146
A G 232 R	-0.709
A G 232 N	-0.777
A G 232 D	-0.797
A G 232 C	-0.718
A G 232 Q	-0.720
A G 232 E	-0.951
A G 232 H	-0.764
A G 232 I	-0.940
A G 232 L	-1.173
A G 232 K	-0.881
A G 232 M	-1.191
A G 232 F	-1.740
A G 232 P	-0.767
A G 232 S	-1.025
A G 232 T	-1.585
A G 232 W	-1.063
A G 232 Y	-0.661
A G 232 V	-1.515
A V 233 A	-0.738
A V 233 R	-0.474
A V 233 N	-0.879
A V 233 D	-1.123
A V 233 C	-0.031
A V 233 Q	-0.895
A V 233 E	-0.815
A V 233 G	-0.702
A V 233 H	-0.823
A V 233 I	0.040

A V 233 L	0.483
A V 233 K	-0.049
A V 233 M	-0.485
A V 233 F	-0.289
A V 233 P	-0.688
A V 233 S	-0.622
A V 233 T	-0.616
A V 233 W	0.304
A V 233 Y	-0.220
A E 234 A	-0.516
A E 234 R	-0.171
A E 234 N	-0.246
A E 234 D	-0.276
A E 234 C	-0.350
A E 234 Q	-0.116
A E 234 G	-0.542
A E 234 H	-0.168
A E 234 I	-0.271
A E 234 L	-0.247
A E 234 K	-0.096
A E 234 M	-0.419
A E 234 F	-0.389
A E 234 P	-0.412
A E 234 S	-0.362
A E 234 T	-0.305
A E 234 W	-0.337
A E 234 Y	-0.434
A E 234 V	-0.393
A A 235 R	0.059
A A 235 N	0.115
A A 235 D	0.045
A A 235 C	-0.027
A A 235 Q	0.092
A A 235 E	0.255
A A 235 G	-0.076
A A 235 H	0.105
A A 235 I	0.112
A A 235 L	0.212
A A 235 K	0.130
A A 235 M	0.025
A A 235 F	0.155
A A 235 P	0.059
A A 235 S	-0.032
A A 235 T	-0.041
A A 235 W	0.153
A A 235 Y	0.066
A A 235 V	-0.031
A T 236 A	-0.379
A T 236 R	-0.140
A T 236 N	-0.269
A T 236 D	-0.523
A T 236 C	-0.297
A T 236 Q	-0.077
A T 236 E	-0.213
A T 236 G	-0.421
A T 236 H	-0.453
A T 236 I	-0.076

A T	236	L	-0.064
A T	236	K	-0.121
A T	236	M	-0.253
A T	236	F	-0.395
A T	236	P	-0.498
A T	236	S	-0.307
A T	236	W	-0.698
A T	236	Y	-0.487
A T	236	V	-0.263
A G	237	A	-0.573
A G	237	R	-0.331
A G	237	N	-0.496
A G	237	D	-0.390
A G	237	C	-0.872
A G	237	Q	-0.279
A G	237	E	-0.418
A G	237	H	-0.486
A G	237	I	-0.417
A G	237	L	-0.628
A G	237	K	-0.447
A G	237	M	-0.587
A G	237	F	-1.123
A G	237	P	-0.198
A G	237	S	-0.535
A G	237	T	-0.780
A G	237	W	-0.783
A G	237	Y	-0.505
A G	237	V	-0.755
A E	238	A	-0.808
A E	238	R	-0.554
A E	238	N	-0.439
A E	238	D	-0.529
A E	238	C	-0.932
A E	238	Q	-0.259
A E	238	G	-0.997
A E	238	H	-0.285
A E	238	I	-0.318
A E	238	L	-0.422
A E	238	K	-0.433
A E	238	M	-0.686
A E	238	F	-0.978
A E	238	P	-0.856
A E	238	S	-0.590
A E	238	T	-0.593
A E	238	W	-0.566
A E	238	Y	-0.720
A E	238	V	-0.651
A E	239	A	-0.265
A E	239	R	-0.072
A E	239	N	-0.142
A E	239	D	-0.092
A E	239	C	-0.464
A E	239	Q	-0.069
A E	239	G	-0.437
A E	239	H	-0.213
A E	239	I	-0.111
A E	239	L	-0.109

A E 239 K	-0.075
A E 239 M	-0.303
A E 239 F	-0.190
A E 239 P	-0.390
A E 239 S	-0.212
A E 239 T	-0.092
A E 239 W	-0.241
A E 239 Y	-0.304
A E 239 V	-0.207
A S 240 A	-0.151
A S 240 R	-0.132
A S 240 N	-0.120
A S 240 D	-0.092
A S 240 C	-0.060
A S 240 Q	-0.061
A S 240 E	0.051
A S 240 G	-0.195
A S 240 H	-0.221
A S 240 I	0.054
A S 240 L	0.007
A S 240 K	-0.125
A S 240 M	-0.124
A S 240 F	-0.077
A S 240 P	-0.082
A S 240 T	-0.168
A S 240 W	-0.301
A S 240 Y	-0.129
A S 240 V	-0.113
A S 241 A	-0.255
A S 241 R	-0.464
A S 241 N	-0.154
A S 241 D	-0.433
A S 241 C	-0.059
A S 241 Q	-0.241
A S 241 E	-0.230
A S 241 G	-0.305
A S 241 H	-0.181
A S 241 I	-0.175
A S 241 L	0.067
A S 241 K	-0.392
A S 241 M	-0.361
A S 241 F	-0.172
A S 241 P	-0.467
A S 241 T	-0.400
A S 241 W	-0.109
A S 241 Y	0.176
A S 241 V	-0.374
A I 242 A	-0.532
A I 242 R	-0.251
A I 242 N	-0.188
A I 242 D	-0.191
A I 242 C	-0.226
A I 242 Q	-0.107
A I 242 E	-0.016
A I 242 G	-0.392
A I 242 H	-0.346
A I 242 L	-0.122

A I 242 K	-0.045
A I 242 M	-0.262
A I 242 F	-0.231
A I 242 P	-0.509
A I 242 S	-0.436
A I 242 T	-0.288
A I 242 W	-0.216
A I 242 Y	-0.536
A I 242 V	-0.155
A R 243 A	-0.483
A R 243 N	-0.286
A R 243 D	-0.517
A R 243 C	-0.407
A R 243 Q	-0.276
A R 243 E	-0.230
A R 243 G	-0.574
A R 243 H	-0.266
A R 243 I	-0.238
A R 243 L	-0.041
A R 243 K	-0.184
A R 243 M	-0.396
A R 243 F	-0.299
A R 243 P	-0.097
A R 243 S	-0.389
A R 243 T	-0.343
A R 243 W	-0.607
A R 243 Y	-0.407
A R 243 V	-0.375
A Q 244 A	-0.301
A Q 244 R	-0.175
A Q 244 N	-0.239
A Q 244 D	-0.304
A Q 244 C	-0.370
A Q 244 E	-0.053
A Q 244 G	-0.677
A Q 244 H	-0.147
A Q 244 I	0.027
A Q 244 L	-0.003
A Q 244 K	-0.130
A Q 244 M	-0.131
A Q 244 F	-0.095
A Q 244 P	-0.735
A Q 244 S	-0.230
A Q 244 T	-0.183
A Q 244 W	-0.278
A Q 244 Y	-0.453
A Q 244 V	-0.135
A Y 245 A	-2.643
A Y 245 R	-3.042
A Y 245 N	-2.859
A Y 245 D	-3.734
A Y 245 C	-1.746
A Y 245 Q	-4.358
A Y 245 E	-3.550
A Y 245 G	-3.076
A Y 245 H	-2.326
A Y 245 I	-2.345

A Y 245 L	-2.151
A Y 245 K	-2.205
A Y 245 M	-2.059
A Y 245 F	-0.944
A Y 245 P	-3.747
A Y 245 S	-2.954
A Y 245 T	-2.517
A Y 245 W	-1.416
A Y 245 V	-1.873
A E 246 A	-0.404
A E 246 R	-0.005
A E 246 N	-0.198
A E 246 D	-0.329
A E 246 C	-0.237
A E 246 Q	-0.062
A E 246 G	-0.623
A E 246 H	-0.077
A E 246 I	-0.171
A E 246 L	-0.180
A E 246 K	-0.060
A E 246 M	-0.388
A E 246 F	-0.283
A E 246 P	-0.764
A E 246 S	-0.209
A E 246 T	-0.194
A E 246 W	-0.187
A E 246 Y	-0.348
A E 246 V	-0.264
A L 247 A	-1.166
A L 247 R	-1.715
A L 247 N	-1.598
A L 247 D	-2.041
A L 247 C	-0.973
A L 247 Q	-2.547
A L 247 E	-1.005
A L 247 G	-2.485
A L 247 H	-1.046
A L 247 I	-0.410
A L 247 K	-1.536
A L 247 M	-0.341
A L 247 F	-0.129
A L 247 P	-1.611
A L 247 S	-1.182
A L 247 T	-0.928
A L 247 W	-0.035
A L 247 Y	-0.894
A L 247 V	-0.177
A V 248 A	-0.642
A V 248 R	-0.212
A V 248 N	-0.844
A V 248 D	-1.313
A V 248 C	-0.319
A V 248 Q	-0.124
A V 248 E	-0.006
A V 248 G	-1.137
A V 248 H	-0.740
A V 248 I	-0.060

A V 248 L	-0.139
A V 248 K	-0.088
A V 248 M	-0.165
A V 248 F	-0.434
A V 248 P	-1.376
A V 248 S	-0.476
A V 248 T	-0.372
A V 248 W	-0.392
A V 248 Y	-0.536
A V 249 A	-0.539
A V 249 R	-0.237
A V 249 N	-0.389
A V 249 D	-0.767
A V 249 C	-0.442
A V 249 Q	-0.116
A V 249 E	0.069
A V 249 G	-0.798
A V 249 H	-0.367
A V 249 I	0.147
A V 249 L	0.039
A V 249 K	0.025
A V 249 M	-0.210
A V 249 F	0.121
A V 249 P	-0.388
A V 249 S	-0.449
A V 249 T	-0.276
A V 249 W	0.069
A V 249 Y	0.148
A H 250 A	-0.693
A H 250 R	-0.612
A H 250 N	-0.610
A H 250 D	-0.649
A H 250 C	-0.592
A H 250 Q	-0.275
A H 250 E	-0.498
A H 250 G	-0.888
A H 250 I	-0.309
A H 250 L	-0.367
A H 250 K	-0.678
A H 250 M	-0.542
A H 250 F	-0.363
A H 250 P	-0.825
A H 250 S	-0.516
A H 250 T	-0.645
A H 250 W	-0.346
A H 250 Y	-0.292
A H 250 V	-0.652
A T 251 A	-0.266
A T 251 R	-0.184
A T 251 N	-0.135
A T 251 D	-0.162
A T 251 C	-0.248
A T 251 Q	-0.187
A T 251 E	-0.061
A T 251 G	-0.568
A T 251 H	-0.250
A T 251 I	-0.078

A T 251 L	-0.091
A T 251 K	-0.108
A T 251 M	-0.145
A T 251 F	-0.114
A T 251 P	-0.228
A T 251 S	-0.193
A T 251 W	-0.441
A T 251 Y	-0.224
A T 251 V	-0.234
A D 252 A	-0.176
A D 252 R	-0.118
A D 252 N	-0.086
A D 252 C	-0.247
A D 252 Q	-0.056
A D 252 E	-0.072
A D 252 G	-0.253
A D 252 H	-0.112
A D 252 I	-0.105
A D 252 L	-0.138
A D 252 K	-0.139
A D 252 M	-0.164
A D 252 F	-0.231
A D 252 P	-0.153
A D 252 S	-0.100
A D 252 T	-0.195
A D 252 W	-0.182
A D 252 Y	-0.160
A D 252 V	-0.215
A I 253 A	-0.413
A I 253 R	-0.848
A I 253 N	-0.140
A I 253 D	-0.468
A I 253 C	-0.228
A I 253 Q	-0.539
A I 253 E	0.019
A I 253 G	-0.810
A I 253 H	-0.312
A I 253 L	-0.020
A I 253 K	-0.045
A I 253 M	-0.084
A I 253 F	-0.247
A I 253 P	-0.372
A I 253 S	-0.532
A I 253 T	-0.432
A I 253 W	-0.465
A I 253 Y	-0.510
A I 253 V	-0.166
A D 254 A	-0.525
A D 254 R	-0.410
A D 254 N	-0.292
A D 254 C	-0.905
A D 254 Q	-0.194
A D 254 E	-0.209
A D 254 G	-0.688
A D 254 H	-0.334
A D 254 I	-0.500
A D 254 L	-0.375

A D 254 K	-0.381
A D 254 M	-0.832
A D 254 F	-0.912
A D 254 P	-0.327
A D 254 S	-0.391
A D 254 T	-0.639
A D 254 W	-0.708
A D 254 Y	-0.460
A D 254 V	-0.851
A M 255 A	-0.231
A M 255 R	-0.092
A M 255 N	-0.282
A M 255 D	-0.035
A M 255 C	-0.608
A M 255 Q	0.027
A M 255 E	0.075
A M 255 G	-0.345
A M 255 H	-0.298
A M 255 I	-0.022
A M 255 L	0.004
A M 255 K	-0.026
A M 255 F	-0.044
A M 255 P	0.163
A M 255 S	-0.169
A M 255 T	-0.271
A M 255 W	-0.396
A M 255 Y	-0.026
A M 255 V	-0.205
A A 256 R	-0.208
A A 256 N	0.093
A A 256 D	0.044
A A 256 C	-0.177
A A 256 Q	-0.037
A A 256 E	0.207
A A 256 G	-0.100
A A 256 H	-0.598
A A 256 I	0.150
A A 256 L	0.165
A A 256 K	0.036
A A 256 M	-0.119
A A 256 F	-0.028
A A 256 P	0.068
A A 256 S	0.032
A A 256 T	-0.088
A A 256 W	-0.124
A A 256 Y	-0.279
A A 256 V	-0.069
A K 257 A	-0.249
A K 257 R	-0.101
A K 257 N	-0.150
A K 257 D	0.008
A K 257 C	-0.753
A K 257 Q	-0.198
A K 257 E	-0.034
A K 257 G	-0.396
A K 257 H	-0.331
A K 257 I	-0.047

A K 257 L	-0.108
A K 257 M	-0.467
A K 257 F	-0.469
A K 257 P	-0.192
A K 257 S	-0.285
A K 257 T	-0.461
A K 257 W	-0.698
A K 257 Y	-0.476
A K 257 V	-0.406
A V 258 A	-1.512
A V 258 R	-1.546
A V 258 N	-2.358
A V 258 D	-3.556
A V 258 C	-1.706
A V 258 Q	-2.453
A V 258 E	-2.451
A V 258 G	-1.914
A V 258 H	-3.614
A V 258 I	0.002
A V 258 L	-0.918
A V 258 K	-2.131
A V 258 M	-1.079
A V 258 F	-1.708
A V 258 P	-1.321
A V 258 S	-1.267
A V 258 T	-1.724
A V 258 W	-2.106
A V 258 Y	-1.344
A Y 259 A	-1.465
A Y 259 R	-0.962
A Y 259 N	-1.362
A Y 259 D	-1.250
A Y 259 C	-1.497
A Y 259 Q	-1.425
A Y 259 E	-1.060
A Y 259 G	-1.871
A Y 259 H	-1.268
A Y 259 I	-1.346
A Y 259 L	-1.060
A Y 259 K	-0.915
A Y 259 M	-1.825
A Y 259 F	-0.753
A Y 259 P	-1.762
A Y 259 S	-1.445
A Y 259 T	-1.709
A Y 259 W	-0.773
A Y 259 V	-1.204
A V 260 A	-0.296
A V 260 R	-0.051
A V 260 N	-0.352
A V 260 D	-0.576
A V 260 C	-0.382
A V 260 Q	-0.018
A V 260 E	-0.340
A V 260 G	-0.609
A V 260 H	-0.319
A V 260 I	0.164

A V 260 L	0.335
A V 260 K	-0.010
A V 260 M	0.065
A V 260 F	0.029
A V 260 P	-0.560
A V 260 S	-0.262
A V 260 T	0.022
A V 260 W	-0.637
A V 260 Y	-0.874
A G 261 A	-1.798
A G 261 R	-1.454
A G 261 N	-2.228
A G 261 D	-1.869
A G 261 C	-1.966
A G 261 Q	-1.879
A G 261 E	-1.978
A G 261 H	-3.178
A G 261 I	-1.639
A G 261 L	-2.453
A G 261 K	-1.955
A G 261 M	-2.620
A G 261 F	-2.469
A G 261 P	-1.461
A G 261 S	-1.760
A G 261 T	-2.638
A G 261 W	-1.479
A G 261 Y	-1.122
A G 261 V	-2.228
A E 262 A	-1.101
A E 262 R	-0.957
A E 262 N	-0.939
A E 262 D	-0.639
A E 262 C	-1.215
A E 262 Q	-0.905
A E 262 G	-1.140
A E 262 H	-1.020
A E 262 I	-1.038
A E 262 L	-0.794
A E 262 K	-1.022
A E 262 M	-1.230
A E 262 F	-1.237
A E 262 P	-1.183
A E 262 S	-0.723
A E 262 T	-0.785
A E 262 W	-0.989
A E 262 Y	-1.125
A E 262 V	-1.181
A M 263 A	-0.720
A M 263 R	-0.416
A M 263 N	-0.208
A M 263 D	-0.741
A M 263 C	-1.196
A M 263 Q	-0.186
A M 263 E	-0.237
A M 263 G	-0.764
A M 263 H	-0.136
A M 263 I	0.040

A M 263 L	0.125
A M 263 K	-0.090
A M 263 F	0.461
A M 263 P	0.420
A M 263 S	-0.722
A M 263 T	-0.702
A M 263 W	-0.354
A M 263 Y	0.310
A M 263 V	-0.282
A G 264 A	-0.832
A G 264 R	-0.864
A G 264 N	-0.529
A G 264 D	-0.601
A G 264 C	-0.668
A G 264 Q	-0.470
A G 264 E	-0.794
A G 264 H	-0.604
A G 264 I	-0.624
A G 264 L	-1.074
A G 264 K	-1.007
A G 264 M	-1.071
A G 264 F	-0.878
A G 264 P	-0.588
A G 264 S	-0.668
A G 264 T	-1.100
A G 264 W	-1.110
A G 264 Y	-0.557
A G 264 V	-1.082
A R 265 A	-0.536
A R 265 N	-0.357
A R 265 D	-0.342
A R 265 C	-0.398
A R 265 Q	-0.324
A R 265 E	-0.271
A R 265 G	-0.622
A R 265 H	-0.409
A R 265 I	-0.270
A R 265 L	-0.422
A R 265 K	-0.174
A R 265 M	-0.603
A R 265 F	-0.599
A R 265 P	-0.439
A R 265 S	-0.473
A R 265 T	-0.622
A R 265 W	-0.662
A R 265 Y	-0.396
A R 265 V	-0.700
A L 266 A	-0.766
A L 266 R	-0.404
A L 266 N	-0.604
A L 266 D	-0.478
A L 266 C	-0.526
A L 266 Q	-0.293
A L 266 E	-0.223
A L 266 G	-0.623
A L 266 H	-0.217
A L 266 I	-0.190

A L 266 K	-0.291
A L 266 M	-0.298
A L 266 F	-0.336
A L 266 P	-0.475
A L 266 S	-0.542
A L 266 T	-0.647
A L 266 W	-0.180
A L 266 Y	-0.808
A L 266 V	-0.506
A K 267 A	-0.590
A K 267 R	-0.092
A K 267 N	-0.299
A K 267 D	-0.385
A K 267 C	-0.914
A K 267 Q	-0.174
A K 267 E	-0.648
A K 267 G	-0.303
A K 267 H	0.664
A K 267 I	-0.232
A K 267 L	-0.601
A K 267 M	-0.801
A K 267 F	-0.623
A K 267 P	-0.401
A K 267 S	-0.484
A K 267 T	-0.935
A K 267 W	-0.219
A K 267 Y	-0.043
A K 267 V	-1.150
A S 268 A	-0.533
A S 268 R	-0.914
A S 268 N	-2.059
A S 268 D	-1.384
A S 268 C	-0.654
A S 268 Q	-1.140
A S 268 E	-1.760
A S 268 G	-0.885
A S 268 H	-1.443
A S 268 I	-0.352
A S 268 L	-0.474
A S 268 K	-1.141
A S 268 M	-1.118
A S 268 F	-1.146
A S 268 P	-0.647
A S 268 T	-0.986
A S 268 W	-1.083
A S 268 Y	-0.858
A S 268 V	-0.921
A Y 269 A	-0.587
A Y 269 R	-0.388
A Y 269 N	-0.419
A Y 269 D	-0.357
A Y 269 C	-0.771
A Y 269 Q	-0.350
A Y 269 E	-0.547
A Y 269 G	-1.158
A Y 269 H	-0.651
A Y 269 I	-0.190

A Y 269 L	-0.165
A Y 269 K	-0.290
A Y 269 M	-0.388
A Y 269 F	-0.175
A Y 269 P	-1.072
A Y 269 S	-0.571
A Y 269 T	-0.654
A Y 269 W	-0.206
A Y 269 V	-0.460
A E 270 A	-0.174
A E 270 R	-0.054
A E 270 N	-0.118
A E 270 D	-0.100
A E 270 C	-0.441
A E 270 Q	-0.115
A E 270 G	-0.263
A E 270 H	-0.083
A E 270 I	-0.166
A E 270 L	-0.180
A E 270 K	-0.034
A E 270 M	-0.250
A E 270 F	-0.251
A E 270 P	-0.236
A E 270 S	-0.125
A E 270 T	-0.174
A E 270 W	-0.377
A E 270 Y	-0.391
A E 270 V	-0.309
A N 271 A	-0.383
A N 271 R	-0.105
A N 271 D	-0.369
A N 271 C	-0.587
A N 271 Q	-0.036
A N 271 E	-0.251
A N 271 G	-0.529
A N 271 H	-0.187
A N 271 I	-0.101
A N 271 L	-0.208
A N 271 K	-0.096
A N 271 M	-0.396
A N 271 F	-0.345
A N 271 P	-0.368
A N 271 S	-0.258
A N 271 T	-0.361
A N 271 W	-0.494
A N 271 Y	-0.550
A N 271 V	-0.458
A Q 272 A	-0.690
A Q 272 R	-0.373
A Q 272 N	-0.475
A Q 272 D	-0.548
A Q 272 C	-0.634
A Q 272 E	-0.380
A Q 272 G	-0.853
A Q 272 H	-0.680
A Q 272 I	-0.446
A Q 272 L	-0.480

A Q 272 K	-0.457
A Q 272 M	-0.455
A Q 272 F	-0.554
A Q 272 P	-0.769
A Q 272 S	-0.582
A Q 272 T	-0.623
A Q 272 W	-0.833
A Q 272 Y	-0.662
A Q 272 V	-0.612
A K 273 A	-0.439
A K 273 R	-0.027
A K 273 N	-0.258
A K 273 D	-0.333
A K 273 C	-0.511
A K 273 Q	-0.098
A K 273 E	-0.154
A K 273 G	-0.620
A K 273 H	-0.143
A K 273 I	-0.178
A K 273 L	-0.286
A K 273 M	-0.314
A K 273 F	-0.411
A K 273 P	-0.388
A K 273 S	-0.286
A K 273 T	-0.382
A K 273 W	-0.465
A K 273 Y	-0.271
A K 273 V	-0.422
A P 274 A	-0.802
A P 274 R	-0.561
A P 274 N	-0.599
A P 274 D	-0.775
A P 274 C	-0.923
A P 274 Q	-0.378
A P 274 E	-0.492
A P 274 G	-0.480
A P 274 H	-0.447
A P 274 I	-0.590
A P 274 L	-0.707
A P 274 K	-0.452
A P 274 M	-0.767
A P 274 F	-0.683
A P 274 S	-0.663
A P 274 T	-0.728
A P 274 W	-0.757
A P 274 Y	-0.561
A P 274 V	-0.742
A P 275 A	-1.256
A P 275 R	-0.862
A P 275 N	-0.885
A P 275 D	-1.048
A P 275 C	-0.732
A P 275 Q	-0.684
A P 275 E	-0.666
A P 275 G	-1.125
A P 275 H	-0.621
A P 275 I	-0.981

A P 275 L	-0.868
A P 275 K	-0.702
A P 275 M	-1.142
A P 275 F	-1.007
A P 275 S	-1.133
A P 275 T	-0.993
A P 275 W	-0.849
A P 275 Y	-0.816
A P 275 V	-1.015
A F 276 A	-2.344
A F 276 R	-1.850
A F 276 N	-2.530
A F 276 D	-3.327
A F 276 C	-1.302
A F 276 Q	-1.524
A F 276 E	-2.102
A F 276 G	-2.252
A F 276 H	-1.043
A F 276 I	-0.951
A F 276 L	-1.306
A F 276 K	-2.203
A F 276 M	-1.604
A F 276 P	-1.752
A F 276 S	-1.549
A F 276 T	-1.787
A F 276 W	-0.409
A F 276 Y	0.102
A F 276 V	-1.856
A D 277 A	-0.808
A D 277 R	-0.523
A D 277 N	-0.200
A D 277 C	-0.588
A D 277 Q	-0.320
A D 277 E	-0.477
A D 277 G	-0.885
A D 277 H	-0.307
A D 277 I	-0.349
A D 277 L	-0.444
A D 277 K	-0.591
A D 277 M	-0.571
A D 277 F	-0.603
A D 277 P	-0.742
A D 277 S	-0.542
A D 277 T	-0.705
A D 277 W	-0.692
A D 277 Y	-0.544
A D 277 V	-0.831
A A 278 R	-0.357
A A 278 N	-0.669
A A 278 D	-0.550
A A 278 C	-0.527
A A 278 Q	-0.052
A A 278 E	-0.401
A A 278 G	-0.492
A A 278 H	-0.822
A A 278 I	0.105
A A 278 L	0.137

A A 278 K	-0.750
A A 278 M	-0.027
A A 278 F	-0.382
A A 278 P	-0.149
A A 278 S	-0.450
A A 278 T	-0.841
A A 278 W	-0.549
A A 278 Y	-0.759
A A 278 V	-0.402
A K 279 A	-0.235
A K 279 R	-0.100
A K 279 N	-0.241
A K 279 D	-0.069
A K 279 C	-0.931
A K 279 Q	-0.047
A K 279 E	-0.112
A K 279 G	-0.458
A K 279 H	0.038
A K 279 I	-0.049
A K 279 L	-0.137
A K 279 M	-0.221
A K 279 F	-0.254
A K 279 P	-0.291
A K 279 S	-0.151
A K 279 T	-0.411
A K 279 W	-0.171
A K 279 Y	-0.347
A K 279 V	-0.280
A N 280 A	-0.860
A N 280 R	-0.243
A N 280 D	-0.945
A N 280 C	-1.186
A N 280 Q	-0.414
A N 280 E	-0.739
A N 280 G	-0.992
A N 280 H	0.060
A N 280 I	-0.674
A N 280 L	-0.237
A N 280 K	-0.559
A N 280 M	-0.668
A N 280 F	-0.765
A N 280 P	-0.892
A N 280 S	-0.535
A N 280 T	-0.702
A N 280 W	-0.727
A N 280 Y	-0.615
A N 280 V	-0.613
A P 281 A	-1.774
A P 281 R	-1.403
A P 281 N	-3.645
A P 281 D	-2.184
A P 281 C	-2.077
A P 281 Q	-1.779
A P 281 E	-2.082
A P 281 G	-2.096
A P 281 H	-1.362
A P 281 I	-1.321

A P 281 L	-1.448
A P 281 K	-2.264
A P 281 M	-1.828
A P 281 F	-1.907
A P 281 S	-1.623
A P 281 T	-2.097
A P 281 W	-1.550
A P 281 Y	-2.034
A P 281 V	-1.574
A F 282 A	-1.315
A F 282 R	-1.966
A F 282 N	-3.310
A F 282 D	-4.431
A F 282 C	-0.580
A F 282 Q	-1.615
A F 282 E	-1.985
A F 282 G	-2.692
A F 282 H	-0.779
A F 282 I	-0.530
A F 282 L	-0.535
A F 282 K	-1.834
A F 282 M	-1.140
A F 282 P	-2.532
A F 282 S	-1.276
A F 282 T	-1.166
A F 282 W	0.204
A F 282 Y	0.445
A F 282 V	-1.177
A L 283 A	-1.188
A L 283 R	-1.031
A L 283 N	-1.563
A L 283 D	-1.827
A L 283 C	-0.838
A L 283 Q	-1.135
A L 283 E	-1.494
A L 283 G	-1.600
A L 283 H	-0.896
A L 283 I	-0.328
A L 283 K	-1.188
A L 283 M	-0.328
A L 283 F	-0.394
A L 283 P	-0.457
A L 283 S	-1.077
A L 283 T	-1.142
A L 283 W	-0.053
A L 283 Y	-0.878
A L 283 V	-0.871
A A 284 R	-3.535
A A 284 N	-4.562
A A 284 D	-4.361
A A 284 C	-0.101
A A 284 Q	-5.227
A A 284 E	-4.791
A A 284 G	-1.592
A A 284 H	-2.842
A A 284 I	-0.583
A A 284 L	-0.210

A A 284 K	-3.100
A A 284 M	-0.786
A A 284 F	-0.595
A A 284 P	-3.779
A A 284 S	-1.526
A A 284 T	-1.370
A A 284 W	0.035
A A 284 Y	-2.034
A A 284 V	-0.922
A A 285 R	0.363
A A 285 N	-0.340
A A 285 D	-1.216
A A 285 C	0.704
A A 285 Q	0.898
A A 285 E	0.576
A A 285 G	0.105
A A 285 H	0.356
A A 285 I	1.510
A A 285 L	1.577
A A 285 K	0.534
A A 285 M	0.457
A A 285 F	1.190
A A 285 P	2.380
A A 285 S	-0.358
A A 285 T	0.257
A A 285 W	1.168
A A 285 Y	1.248
A A 285 V	0.506
A V 286 A	-1.833
A V 286 R	-4.578
A V 286 N	-6.475
A V 286 D	-6.290
A V 286 C	-2.166
A V 286 Q	-5.173
A V 286 E	-5.688
A V 286 G	-4.669
A V 286 H	-5.247
A V 286 I	0.112
A V 286 L	-1.223
A V 286 K	-5.735
A V 286 M	-1.093
A V 286 F	-1.817
A V 286 P	-4.725
A V 286 S	-2.930
A V 286 T	-2.314
A V 286 W	-2.903
A V 286 Y	-3.813
A T 287 A	-0.389
A T 287 R	-0.724
A T 287 N	-0.613
A T 287 D	-1.146
A T 287 C	-0.128
A T 287 Q	-0.342
A T 287 E	-1.040
A T 287 G	-0.840
A T 287 H	-1.301
A T 287 I	0.342

A T 287 L	0.292
A T 287 K	-0.392
A T 287 M	0.113
A T 287 F	0.003
A T 287 P	-1.041
A T 287 S	-0.501
A T 287 W	-0.602
A T 287 Y	-0.199
A T 287 V	0.294
A T 288 A	-0.302
A T 288 R	-0.237
A T 288 N	-0.240
A T 288 D	-0.473
A T 288 C	0.095
A T 288 Q	-0.236
A T 288 E	0.012
A T 288 G	-0.645
A T 288 H	0.046
A T 288 I	0.300
A T 288 L	0.165
A T 288 K	0.034
A T 288 M	-0.015
A T 288 F	0.137
A T 288 P	-3.522
A T 288 S	-0.360
A T 288 W	0.434
A T 288 Y	0.355
A T 288 V	0.192
A N 289 A	-0.860
A N 289 R	-0.758
A N 289 D	-2.103
A N 289 C	-0.361
A N 289 Q	-0.623
A N 289 E	-1.174
A N 289 G	-1.481
A N 289 H	-0.250
A N 289 I	-0.229
A N 289 L	-0.356
A N 289 K	-0.637
A N 289 M	-0.613
A N 289 F	-0.454
A N 289 P	-1.166
A N 289 S	-0.556
A N 289 T	-0.636
A N 289 W	-0.008
A N 289 Y	-0.809
A N 289 V	-0.699
A R 290 A	-0.525
A R 290 N	-0.697
A R 290 D	-0.408
A R 290 C	-0.477
A R 290 Q	-0.172
A R 290 E	-0.211
A R 290 G	-0.845
A R 290 H	-0.334
A R 290 I	-0.151
A R 290 L	-0.246

A R 290 K	-0.268
A R 290 M	-0.318
A R 290 F	-0.349
A R 290 P	-0.759
A R 290 S	-0.465
A R 290 T	-0.475
A R 290 W	-0.300
A R 290 Y	-0.283
A R 290 V	-0.493
A K 291 A	-0.844
A K 291 R	-0.154
A K 291 N	-0.690
A K 291 D	-0.703
A K 291 C	-0.309
A K 291 Q	-0.134
A K 291 E	0.315
A K 291 G	-1.356
A K 291 H	-0.315
A K 291 I	0.099
A K 291 L	-0.079
A K 291 M	-0.475
A K 291 F	-0.445
A K 291 P	-1.032
A K 291 S	-0.532
A K 291 T	-0.558
A K 291 W	-0.177
A K 291 Y	-0.613
A K 291 V	-0.328
A L 292 A	-1.844
A L 292 R	-2.872
A L 292 N	-3.657
A L 292 D	-3.261
A L 292 C	-2.304
A L 292 Q	-2.931
A L 292 E	-3.523
A L 292 G	-4.008
A L 292 H	-4.033
A L 292 I	-0.788
A L 292 K	-4.206
A L 292 M	-0.526
A L 292 F	-1.204
A L 292 P	-3.155
A L 292 S	-2.359
A L 292 T	-2.274
A L 292 W	-1.960
A L 292 Y	-3.041
A L 292 V	-1.977
A N 293 A	-0.811
A N 293 R	-1.058
A N 293 D	-1.062
A N 293 C	0.312
A N 293 Q	-0.548
A N 293 E	-0.624
A N 293 G	-1.816
A N 293 H	0.289
A N 293 I	-0.258
A N 293 L	-0.026

A N 293 K	-0.146
A N 293 M	-0.541
A N 293 F	0.198
A N 293 P	-1.329
A N 293 S	-0.628
A N 293 T	-0.127
A N 293 W	-0.449
A N 293 Y	-0.389
A N 293 V	-0.022
A Q 294 A	-0.281
A Q 294 R	-0.047
A Q 294 N	-0.063
A Q 294 D	-0.178
A Q 294 C	-0.175
A Q 294 E	-0.038
A Q 294 G	-0.465
A Q 294 H	-0.047
A Q 294 I	-0.255
A Q 294 L	-0.188
A Q 294 K	0.023
A Q 294 M	-0.328
A Q 294 F	-0.223
A Q 294 P	-0.427
A Q 294 S	-0.129
A Q 294 T	-0.064
A Q 294 W	-0.181
A Q 294 Y	-0.365
A Q 294 V	-0.217
A G 295 A	-0.727
A G 295 R	-0.632
A G 295 N	-0.665
A G 295 D	-0.529
A G 295 C	-0.669
A G 295 Q	-0.439
A G 295 E	-0.499
A G 295 H	-0.655
A G 295 I	-0.767
A G 295 L	-0.982
A G 295 K	-0.766
A G 295 M	-1.027
A G 295 F	-1.103
A G 295 P	-0.297
A G 295 S	-0.621
A G 295 T	-1.006
A G 295 W	-0.884
A G 295 Y	-0.508
A G 295 V	-0.940
A T 296 A	-0.155
A T 296 R	-0.104
A T 296 N	-0.102
A T 296 D	-0.082
A T 296 C	-0.246
A T 296 Q	-0.131
A T 296 E	-0.117
A T 296 G	-0.193
A T 296 H	-0.175
A T 296 I	-0.062

A T 296 L	-0.116
A T 296 K	-0.071
A T 296 M	-0.151
A T 296 F	-0.104
A T 296 P	-0.240
A T 296 S	0.017
A T 296 W	-0.186
A T 296 Y	-0.191
A T 296 V	-0.142
A E 297 A	-0.310
A E 297 R	-0.202
A E 297 N	-0.220
A E 297 D	0.045
A E 297 C	-0.654
A E 297 Q	-0.110
A E 297 G	-0.711
A E 297 H	-0.170
A E 297 I	-0.124
A E 297 L	-0.187
A E 297 K	-0.144
A E 297 M	-0.214
A E 297 F	-0.289
A E 297 P	-0.506
A E 297 S	-0.225
A E 297 T	-0.336
A E 297 W	-0.353
A E 297 Y	-0.614
A E 297 V	-0.381
A R 298 A	-0.850
A R 298 N	-0.900
A R 298 D	-0.833
A R 298 C	-0.875
A R 298 Q	-0.552
A R 298 E	-0.801
A R 298 G	-1.039
A R 298 H	-0.694
A R 298 I	-0.489
A R 298 L	-0.466
A R 298 K	-0.474
A R 298 M	-0.651
A R 298 F	-0.728
A R 298 P	-1.063
A R 298 S	-0.640
A R 298 T	-0.770
A R 298 W	-0.706
A R 298 Y	-0.858
A R 298 V	-0.732
A H 299 A	-0.601
A H 299 R	-0.272
A H 299 N	-0.372
A H 299 D	-0.669
A H 299 C	-0.606
A H 299 Q	-0.346
A H 299 E	-0.404
A H 299 G	-1.041
A H 299 I	-0.286
A H 299 L	-0.313

A H 299 K	-0.283
A H 299 M	-0.516
A H 299 F	-0.545
A H 299 P	-1.039
A H 299 S	-0.235
A H 299 T	-0.532
A H 299 W	-0.328
A H 299 Y	-0.375
A H 299 V	-0.481
A L 300 A	-1.978
A L 300 R	-3.993
A L 300 N	-4.288
A L 300 D	-4.526
A L 300 C	0.805
A L 300 Q	-3.810
A L 300 E	-3.478
A L 300 G	-3.831
A L 300 H	-2.094
A L 300 I	-0.652
A L 300 K	-2.105
A L 300 M	-1.363
A L 300 F	-0.158
A L 300 P	-4.025
A L 300 S	-2.444
A L 300 T	-1.443
A L 300 W	-0.762
A L 300 Y	-1.183
A L 300 V	-1.067
A M 301 A	-2.391
A M 301 R	-1.739
A M 301 N	-3.099
A M 301 D	-5.098
A M 301 C	-0.928
A M 301 Q	-2.922
A M 301 E	-4.097
A M 301 G	-4.446
A M 301 H	-1.820
A M 301 I	-0.792
A M 301 L	-0.573
A M 301 K	-2.590
A M 301 F	0.005
A M 301 P	-4.940
A M 301 S	-2.620
A M 301 T	-2.436
A M 301 W	0.791
A M 301 Y	0.345
A M 301 V	-1.008
A H 302 A	-1.014
A H 302 R	-0.848
A H 302 N	-1.391
A H 302 D	-1.307
A H 302 C	-0.909
A H 302 Q	-0.880
A H 302 E	-0.839
A H 302 G	-1.855
A H 302 I	-0.292
A H 302 L	-0.321

A H 302 K	-0.856
A H 302 M	-0.582
A H 302 F	-0.506
A H 302 P	-1.610
A H 302 S	-0.911
A H 302 T	-0.822
A H 302 W	-0.560
A H 302 Y	-0.837
A H 302 V	-0.774
A L 303 A	-2.136
A L 303 R	-4.826
A L 303 N	-5.782
A L 303 D	-6.160
A L 303 C	-1.516
A L 303 Q	-5.310
A L 303 E	-5.981
A L 303 G	-5.341
A L 303 H	-2.445
A L 303 I	-0.103
A L 303 K	-3.325
A L 303 M	-0.372
A L 303 F	-0.168
A L 303 P	-5.696
A L 303 S	-2.428
A L 303 T	-1.579
A L 303 W	-2.303
A L 303 Y	-0.542
A L 303 V	-0.864
A E 304 A	-0.750
A E 304 R	-0.372
A E 304 N	-0.807
A E 304 D	-0.736
A E 304 C	-0.524
A E 304 Q	-0.271
A E 304 G	-1.356
A E 304 H	-0.352
A E 304 I	-0.289
A E 304 L	-0.333
A E 304 K	-0.424
A E 304 M	-0.505
A E 304 F	-0.484
A E 304 P	-2.238
A E 304 S	-0.659
A E 304 T	-0.460
A E 304 W	-0.502
A E 304 Y	-1.139
A E 304 V	-0.419
A L 305 A	-3.940
A L 305 R	-5.443
A L 305 N	-6.228
A L 305 D	-6.083
A L 305 C	-4.870
A L 305 Q	-6.094
A L 305 E	-5.955
A L 305 G	-5.741
A L 305 H	-4.918
A L 305 I	-2.005

A L 305 K	-5.372
A L 305 M	-2.448
A L 305 F	-0.223
A L 305 P	-6.237
A L 305 S	-4.558
A L 305 T	-3.671
A L 305 W	-2.862
A L 305 Y	-4.672
A L 305 V	-2.033
A D 306 A	-0.966
A D 306 R	-0.800
A D 306 N	-0.525
A D 306 C	-0.870
A D 306 Q	-0.545
A D 306 E	-0.783
A D 306 G	-1.310
A D 306 H	-0.769
A D 306 I	-0.675
A D 306 L	-0.674
A D 306 K	-0.807
A D 306 M	-0.935
A D 306 F	-0.948
A D 306 P	-1.305
A D 306 S	-0.874
A D 306 T	-1.085
A D 306 W	-0.934
A D 306 Y	-1.632
A D 306 V	-0.973
A I 307 A	-2.146
A I 307 R	-2.966
A I 307 N	-2.956
A I 307 D	-3.080
A I 307 C	-1.442
A I 307 Q	-3.846
A I 307 E	-4.332
A I 307 G	-3.027
A I 307 H	-2.791
A I 307 L	-0.751
A I 307 K	-2.712
A I 307 M	-1.310
A I 307 F	-1.252
A I 307 P	-3.274
A I 307 S	-2.266
A I 307 T	-1.857
A I 307 W	-1.760
A I 307 Y	-2.667
A I 307 V	-1.093
A S 308 A	-0.455
A S 308 R	-0.311
A S 308 N	-0.235
A S 308 D	-0.256
A S 308 C	-0.270
A S 308 Q	-0.275
A S 308 E	-0.164
A S 308 G	-0.378
A S 308 H	-0.238
A S 308 I	-0.328

A S 308 L	-0.272
A S 308 K	-0.238
A S 308 M	-0.361
A S 308 F	-0.464
A S 308 P	-0.324
A S 308 T	-0.423
A S 308 W	-0.477
A S 308 Y	-0.401
A S 308 V	-0.562
A D 309 A	-0.167
A D 309 R	-0.060
A D 309 N	0.019
A D 309 C	-0.176
A D 309 Q	-0.024
A D 309 E	-0.027
A D 309 G	0.089
A D 309 H	0.000
A D 309 I	-0.136
A D 309 L	-0.163
A D 309 K	-0.037
A D 309 M	-0.294
A D 309 F	-0.206
A D 309 P	-0.119
A D 309 S	-0.122
A D 309 T	-0.209
A D 309 W	-0.177
A D 309 Y	-0.072
A D 309 V	-0.308
A S 310 A	-1.055
A S 310 R	-1.642
A S 310 N	-1.658
A S 310 D	-1.652
A S 310 C	-0.418
A S 310 Q	-1.550
A S 310 E	-1.927
A S 310 G	-1.026
A S 310 H	-1.811
A S 310 I	-0.750
A S 310 L	-0.588
A S 310 K	-1.635
A S 310 M	-0.916
A S 310 F	-0.850
A S 310 P	-1.034
A S 310 T	-0.541
A S 310 W	-1.968
A S 310 Y	-0.694
A S 310 V	-1.164
A K 311 A	-0.262
A K 311 R	-0.040
A K 311 N	0.086
A K 311 D	-0.098
A K 311 C	-0.214
A K 311 Q	-0.017
A K 311 E	-0.099
A K 311 G	-0.013
A K 311 H	-0.078
A K 311 I	-0.090

A K 311 L	-0.279
A K 311 M	-0.208
A K 311 F	-0.339
A K 311 P	-0.169
A K 311 S	-0.216
A K 311 T	-0.439
A K 311 W	-0.370
A K 311 Y	-0.195
A K 311 V	-0.440
A L 312 A	-1.471
A L 312 R	-1.397
A L 312 N	-1.728
A L 312 D	-1.924
A L 312 C	-0.712
A L 312 Q	-1.451
A L 312 E	-1.168
A L 312 G	-2.053
A L 312 H	-0.995
A L 312 I	0.263
A L 312 K	-0.931
A L 312 M	-0.428
A L 312 F	-0.528
A L 312 P	-1.761
A L 312 S	-1.307
A L 312 T	-1.131
A L 312 W	-0.298
A L 312 Y	-1.091
A L 312 V	-0.408
A R 313 A	-0.406
A R 313 N	-0.240
A R 313 D	-0.254
A R 313 C	-0.322
A R 313 Q	-0.071
A R 313 E	-0.141
A R 313 G	-0.495
A R 313 H	-0.148
A R 313 I	-0.149
A R 313 L	-0.230
A R 313 K	-0.082
A R 313 M	-0.252
A R 313 F	-0.365
A R 313 P	-0.382
A R 313 S	-0.220
A R 313 T	-0.269
A R 313 W	-0.269
A R 313 Y	-0.344
A R 313 V	-0.377
A Y 314 A	-1.971
A Y 314 R	-2.662
A Y 314 N	-2.846
A Y 314 D	-3.495
A Y 314 C	-1.236
A Y 314 Q	-3.071
A Y 314 E	-4.360
A Y 314 G	-3.512
A Y 314 H	-1.475
A Y 314 I	-1.594

A Y 314 L	-1.524
A Y 314 K	-2.064
A Y 314 M	-1.790
A Y 314 F	-0.961
A Y 314 P	-3.296
A Y 314 S	-2.789
A Y 314 T	-2.071
A Y 314 W	-0.547
A Y 314 V	-1.819
A E 315 A	-0.659
A E 315 R	-0.261
A E 315 N	-0.476
A E 315 D	-0.523
A E 315 C	-0.415
A E 315 Q	-0.015
A E 315 G	-1.141
A E 315 H	-0.129
A E 315 I	-0.311
A E 315 L	-0.264
A E 315 K	-0.150
A E 315 M	-0.489
A E 315 F	-0.403
A E 315 P	-1.132
A E 315 S	-0.407
A E 315 T	-0.278
A E 315 W	-0.271
A E 315 Y	-0.601
A E 315 V	-0.389
A S 316 A	-0.023
A S 316 R	-2.051
A S 316 N	-0.171
A S 316 D	-0.843
A S 316 C	0.531
A S 316 Q	-1.491
A S 316 E	0.204
A S 316 G	-0.500
A S 316 H	0.464
A S 316 I	0.990
A S 316 L	1.117
A S 316 K	-0.922
A S 316 M	0.455
A S 316 F	0.114
A S 316 P	1.665
A S 316 T	1.013
A S 316 W	0.609
A S 316 Y	-0.962
A S 316 V	0.424
A G 317 A	-2.698
A G 317 R	-4.116
A G 317 N	-3.908
A G 317 D	-3.661
A G 317 C	-2.485
A G 317 Q	-3.846
A G 317 E	-3.034
A G 317 H	-4.706
A G 317 I	-3.048
A G 317 L	-3.687

A G 317 K	-4.656
A G 317 M	-2.614
A G 317 F	-3.295
A G 317 P	-3.704
A G 317 S	-3.352
A G 317 T	-3.831
A G 317 W	-3.033
A G 317 Y	-2.971
A G 317 V	-4.185
A D 318 A	-1.787
A D 318 R	-3.010
A D 318 N	-2.625
A D 318 C	-1.250
A D 318 Q	-2.455
A D 318 E	-2.594
A D 318 G	-2.552
A D 318 H	-2.808
A D 318 I	-1.987
A D 318 L	-1.610
A D 318 K	-4.317
A D 318 M	-1.656
A D 318 F	-2.594
A D 318 P	-2.948
A D 318 S	-1.735
A D 318 T	-1.906
A D 318 W	-1.704
A D 318 Y	-2.531
A D 318 V	-2.801
A H 319 A	-1.013
A H 319 R	-0.886
A H 319 N	-1.318
A H 319 D	-1.440
A H 319 C	-0.685
A H 319 Q	-1.124
A H 319 E	-1.543
A H 319 G	-1.616
A H 319 I	-0.427
A H 319 L	-0.457
A H 319 K	-2.117
A H 319 M	-0.689
A H 319 F	-0.586
A H 319 P	-2.099
A H 319 S	-0.848
A H 319 T	-0.774
A H 319 W	-0.443
A H 319 Y	-0.369
A H 319 V	-0.813
A V 320 A	-2.283
A V 320 R	-5.482
A V 320 N	-5.835
A V 320 D	-6.389
A V 320 C	-2.152
A V 320 Q	-4.118
A V 320 E	-5.655
A V 320 G	-4.935
A V 320 H	-5.887
A V 320 I	-0.354

A V 320 L	-0.872
A V 320 K	-6.061
A V 320 M	-1.304
A V 320 F	-1.700
A V 320 P	-5.956
A V 320 S	-3.051
A V 320 T	-2.954
A V 320 W	-3.549
A V 320 Y	-3.964
A A 321 R	-1.875
A A 321 N	-3.014
A A 321 D	-3.472
A A 321 C	0.290
A A 321 Q	-2.699
A A 321 E	-2.824
A A 321 G	-0.047
A A 321 H	-2.027
A A 321 I	-0.675
A A 321 L	0.110
A A 321 K	-2.265
A A 321 M	-0.418
A A 321 F	-0.202
A A 321 P	-3.193
A A 321 S	-1.287
A A 321 T	-1.608
A A 321 W	0.523
A A 321 Y	0.292
A A 321 V	-0.247
A V 322 A	-2.181
A V 322 R	-5.359
A V 322 N	-6.108
A V 322 D	-6.000
A V 322 C	-2.796
A V 322 Q	-5.537
A V 322 E	-6.040
A V 322 G	-4.936
A V 322 H	-3.400
A V 322 I	-0.016
A V 322 L	-1.070
A V 322 K	-5.636
A V 322 M	-0.959
A V 322 F	-1.197
A V 322 P	-4.043
A V 322 S	-2.202
A V 322 T	-2.867
A V 322 W	-1.896
A V 322 Y	-1.687
A Y 323 A	-0.949
A Y 323 R	-0.590
A Y 323 N	-1.579
A Y 323 D	-3.146
A Y 323 C	-0.423
A Y 323 Q	-1.111
A Y 323 E	-1.855
A Y 323 G	-2.225
A Y 323 H	-0.346
A Y 323 I	-0.795

A Y 323 L	-0.616
A Y 323 K	-0.671
A Y 323 M	-0.947
A Y 323 F	-0.251
A Y 323 P	-2.818
A Y 323 S	-1.500
A Y 323 T	-1.200
A Y 323 W	0.428
A Y 323 V	-0.686
A P 324 A	-1.847
A P 324 R	-1.890
A P 324 N	-3.896
A P 324 D	-4.714
A P 324 C	-1.234
A P 324 Q	-3.087
A P 324 E	-3.808
A P 324 G	-2.710
A P 324 H	-2.174
A P 324 I	-1.844
A P 324 L	-1.909
A P 324 K	-2.465
A P 324 M	-2.068
A P 324 F	-1.674
A P 324 S	-1.987
A P 324 T	-1.875
A P 324 W	-1.608
A P 324 Y	-2.169
A P 324 V	-1.578
A A 325 R	0.336
A A 325 N	0.302
A A 325 D	-0.177
A A 325 C	0.381
A A 325 Q	0.453
A A 325 E	0.483
A A 325 G	-0.253
A A 325 H	0.441
A A 325 I	0.663
A A 325 L	0.789
A A 325 K	0.537
A A 325 M	0.356
A A 325 F	0.597
A A 325 P	0.016
A A 325 S	0.091
A A 325 T	0.538
A A 325 W	0.638
A A 325 Y	0.343
A A 325 V	0.451
A N 326 A	-1.026
A N 326 R	-1.229
A N 326 D	-1.702
A N 326 C	-1.138
A N 326 Q	-0.525
A N 326 E	-1.914
A N 326 G	-2.201
A N 326 H	-0.852
A N 326 I	-0.595
A N 326 L	-0.600

A N 326 K	-1.353
A N 326 M	-0.751
A N 326 F	-1.410
A N 326 P	-1.446
A N 326 S	-0.826
A N 326 T	-1.055
A N 326 W	-1.227
A N 326 Y	-1.071
A N 326 V	-1.070
A D 327 A	-0.465
A D 327 R	-0.199
A D 327 N	-0.126
A D 327 C	-0.258
A D 327 Q	-0.159
A D 327 E	-0.177
A D 327 G	-0.538
A D 327 H	-0.137
A D 327 I	-0.428
A D 327 L	-0.360
A D 327 K	-0.180
A D 327 M	-0.510
A D 327 F	-0.421
A D 327 P	-0.168
A D 327 S	-0.299
A D 327 T	-0.456
A D 327 W	-0.198
A D 327 Y	-0.331
A D 327 V	-0.482
A S 328 A	-0.049
A S 328 R	-0.019
A S 328 N	-0.027
A S 328 D	0.012
A S 328 C	-0.051
A S 328 Q	0.107
A S 328 E	0.112
A S 328 G	-0.185
A S 328 H	-0.000
A S 328 I	0.309
A S 328 L	0.278
A S 328 K	0.015
A S 328 M	0.065
A S 328 F	0.087
A S 328 P	0.234
A S 328 T	-0.001
A S 328 W	0.181
A S 328 Y	0.196
A S 328 V	0.012
A A 329 R	-0.034
A A 329 N	0.053
A A 329 D	0.027
A A 329 C	-0.191
A A 329 Q	0.101
A A 329 E	0.215
A A 329 G	-0.206
A A 329 H	-0.018
A A 329 I	0.236
A A 329 L	0.269

A A 329 K	0.060
A A 329 M	0.074
A A 329 F	0.150
A A 329 P	-0.091
A A 329 S	-0.056
A A 329 T	-0.049
A A 329 W	0.106
A A 329 Y	-0.067
A A 329 V	-0.013
A L 330 A	-0.902
A L 330 R	-0.830
A L 330 N	-0.440
A L 330 D	-0.634
A L 330 C	-0.799
A L 330 Q	-0.229
A L 330 E	-0.005
A L 330 G	-1.941
A L 330 H	-0.337
A L 330 I	-0.099
A L 330 K	-0.252
A L 330 M	-0.213
A L 330 F	-0.218
A L 330 P	-2.876
A L 330 S	-0.823
A L 330 T	-0.597
A L 330 W	-0.314
A L 330 Y	-0.675
A L 330 V	-0.405
A V 331 A	-2.099
A V 331 R	-3.922
A V 331 N	-6.152
A V 331 D	-5.782
A V 331 C	-2.886
A V 331 Q	-5.160
A V 331 E	-6.088
A V 331 G	-4.741
A V 331 H	-4.843
A V 331 I	-1.095
A V 331 L	-1.672
A V 331 K	-5.862
A V 331 M	-2.119
A V 331 F	-4.035
A V 331 P	-4.885
A V 331 S	-2.865
A V 331 T	-2.648
A V 331 W	-4.052
A V 331 Y	-3.089
A N 332 A	-0.201
A N 332 R	-0.041
A N 332 D	-0.014
A N 332 C	-0.528
A N 332 Q	0.051
A N 332 E	0.181
A N 332 G	-0.720
A N 332 H	-0.058
A N 332 I	-0.040
A N 332 L	-0.000

A N 332 K	0.026
A N 332 M	-0.112
A N 332 F	-0.180
A N 332 P	-0.773
A N 332 S	-0.150
A N 332 T	-0.183
A N 332 W	-0.159
A N 332 Y	-0.291
A N 332 V	-0.199
A Q 333 A	-0.394
A Q 333 R	0.061
A Q 333 N	-0.270
A Q 333 D	-0.292
A Q 333 C	-0.442
A Q 333 E	-0.055
A Q 333 G	-0.875
A Q 333 H	-0.227
A Q 333 I	-0.177
A Q 333 L	-0.115
A Q 333 K	-0.123
A Q 333 M	-0.243
A Q 333 F	-0.233
A Q 333 P	-1.117
A Q 333 S	-0.371
A Q 333 T	-0.367
A Q 333 W	-0.189
A Q 333 Y	-0.658
A Q 333 V	-0.333
A L 334 A	-1.456
A L 334 R	-3.883
A L 334 N	-5.051
A L 334 D	-4.256
A L 334 C	-1.569
A L 334 Q	-3.585
A L 334 E	-3.024
A L 334 G	-4.279
A L 334 H	-3.055
A L 334 I	-0.359
A L 334 K	-3.087
A L 334 M	-0.377
A L 334 F	0.112
A L 334 P	-4.937
A L 334 S	-2.058
A L 334 T	-1.127
A L 334 W	-0.565
A L 334 Y	-0.893
A L 334 V	-0.972
A G 335 A	0.224
A G 335 R	-0.351
A G 335 N	-1.874
A G 335 D	-2.761
A G 335 C	1.091
A G 335 Q	-0.084
A G 335 E	0.658
A G 335 H	-0.338
A G 335 I	1.121
A G 335 L	1.861

A G 335 K	-1.065
A G 335 M	0.573
A G 335 F	1.213
A G 335 P	-2.417
A G 335 S	-0.157
A G 335 T	-0.350
A G 335 W	0.534
A G 335 Y	0.258
A G 335 V	0.457
A E 336 A	-0.267
A E 336 R	-0.084
A E 336 N	-0.188
A E 336 D	-0.171
A E 336 C	-0.327
A E 336 Q	-0.014
A E 336 G	-0.589
A E 336 H	-0.104
A E 336 I	-0.133
A E 336 L	-0.148
A E 336 K	-0.049
A E 336 M	-0.242
A E 336 F	-0.248
A E 336 P	-0.659
A E 336 S	-0.214
A E 336 T	-0.280
A E 336 W	-0.306
A E 336 Y	-0.460
A E 336 V	-0.305
A I 337 A	-0.804
A I 337 R	-0.491
A I 337 N	-0.769
A I 337 D	-1.005
A I 337 C	-0.383
A I 337 Q	-0.386
A I 337 E	-0.312
A I 337 G	-1.631
A I 337 H	-0.439
A I 337 L	0.017
A I 337 K	-0.375
A I 337 M	-0.231
A I 337 F	-0.249
A I 337 P	-2.207
A I 337 S	-0.842
A I 337 T	-0.758
A I 337 W	-0.171
A I 337 Y	-0.640
A I 337 V	-0.293
A L 338 A	-1.216
A L 338 R	-1.378
A L 338 N	-1.784
A L 338 D	-3.612
A L 338 C	-0.804
A L 338 Q	-1.000
A L 338 E	-3.366
A L 338 G	-2.883
A L 338 H	-1.749
A L 338 I	-0.334

A L 338 K	-2.047
A L 338 M	-0.428
A L 338 F	-0.414
A L 338 P	-2.528
A L 338 S	-1.006
A L 338 T	-0.951
A L 338 W	-0.812
A L 338 Y	-1.042
A L 338 V	-0.964
A G 339 A	-0.805
A G 339 R	-0.506
A G 339 N	-0.677
A G 339 D	-0.514
A G 339 C	-0.521
A G 339 Q	-0.396
A G 339 E	-0.646
A G 339 H	-0.579
A G 339 I	-0.819
A G 339 L	-0.870
A G 339 K	-0.676
A G 339 M	-0.838
A G 339 F	-1.324
A G 339 P	-0.519
A G 339 S	-0.761
A G 339 T	-1.194
A G 339 W	-0.698
A G 339 Y	-0.698
A G 339 V	-1.116
A A 340 R	0.066
A A 340 N	0.014
A A 340 D	-0.124
A A 340 C	0.098
A A 340 Q	0.170
A A 340 E	0.287
A A 340 G	-0.171
A A 340 H	0.293
A A 340 I	0.386
A A 340 L	0.816
A A 340 K	0.234
A A 340 M	0.029
A A 340 F	0.507
A A 340 P	-0.150
A A 340 S	-0.090
A A 340 T	0.128
A A 340 W	0.739
A A 340 Y	0.437
A A 340 V	0.200
A D 341 A	-0.508
A D 341 R	-0.252
A D 341 N	-0.195
A D 341 C	-0.496
A D 341 Q	-0.204
A D 341 E	-0.234
A D 341 G	-0.542
A D 341 H	-0.276
A D 341 I	-0.257
A D 341 L	-0.377

A D 341 K	-0.214
A D 341 M	-0.447
A D 341 F	-0.625
A D 341 P	-0.460
A D 341 S	-0.359
A D 341 T	-0.522
A D 341 W	-0.399
A D 341 Y	-0.398
A D 341 V	-0.499
A L 342 A	-1.483
A L 342 R	-1.036
A L 342 N	-1.653
A L 342 D	-2.083
A L 342 C	-1.161
A L 342 Q	-1.356
A L 342 E	-1.684
A L 342 G	-1.765
A L 342 H	-1.286
A L 342 I	-1.253
A L 342 K	-1.381
A L 342 M	-0.663
A L 342 F	-0.566
A L 342 P	-1.017
A L 342 S	-1.465
A L 342 T	-1.475
A L 342 W	-0.340
A L 342 Y	-1.235
A L 342 V	-1.014
A D 343 A	-0.410
A D 343 R	-0.238
A D 343 N	-0.252
A D 343 C	-0.521
A D 343 Q	-0.181
A D 343 E	-0.228
A D 343 G	-0.498
A D 343 H	-0.284
A D 343 I	-0.208
A D 343 L	-0.333
A D 343 K	-0.278
A D 343 M	-0.286
A D 343 F	-0.366
A D 343 P	-0.474
A D 343 S	-0.317
A D 343 T	-0.418
A D 343 W	-0.347
A D 343 Y	-0.324
A D 343 V	-0.457
A V 344 A	-0.314
A V 344 R	-0.033
A V 344 N	-0.188
A V 344 D	-0.252
A V 344 C	-0.244
A V 344 Q	0.022
A V 344 E	-0.006
A V 344 G	-0.580
A V 344 H	-0.152
A V 344 I	0.070

A V 344 L	0.039
A V 344 K	-0.084
A V 344 M	-0.040
A V 344 F	-0.167
A V 344 P	-0.999
A V 344 S	-0.267
A V 344 T	0.199
A V 344 W	-0.502
A V 344 Y	-0.305
A V 345 A	-1.007
A V 345 R	-0.964
A V 345 N	-1.500
A V 345 D	-2.240
A V 345 C	-0.285
A V 345 Q	-1.445
A V 345 E	-2.160
A V 345 G	-0.751
A V 345 H	-1.086
A V 345 I	-0.086
A V 345 L	-0.379
A V 345 K	-1.227
A V 345 M	-0.600
A V 345 F	-0.718
A V 345 P	-0.995
A V 345 S	-1.134
A V 345 T	-0.913
A V 345 W	-0.473
A V 345 Y	-0.104
A M 346 A	-1.531
A M 346 R	-2.882
A M 346 N	-2.930
A M 346 D	-3.192
A M 346 C	0.059
A M 346 Q	-3.367
A M 346 E	-3.223
A M 346 G	-3.281
A M 346 H	-1.285
A M 346 I	-0.030
A M 346 L	-0.187
A M 346 K	-1.998
A M 346 F	0.371
A M 346 P	-4.102
A M 346 S	-2.174
A M 346 T	-1.021
A M 346 W	-0.041
A M 346 Y	0.521
A M 346 V	-0.649
A S 347 A	-1.022
A S 347 R	-0.917
A S 347 N	-1.602
A S 347 D	-1.896
A S 347 C	-0.163
A S 347 Q	-1.237
A S 347 E	-1.316
A S 347 G	-1.849
A S 347 H	-1.081
A S 347 I	-0.271

A S 347 L	-0.498
A S 347 K	-0.709
A S 347 M	-0.298
A S 347 F	-0.633
A S 347 P	-2.271
A S 347 T	-0.904
A S 347 W	-1.070
A S 347 Y	-0.942
A S 347 V	-0.687
A L 348 A	-1.802
A L 348 R	-2.866
A L 348 N	-3.756
A L 348 D	-4.987
A L 348 C	-1.206
A L 348 Q	-3.377
A L 348 E	-3.698
A L 348 G	-3.207
A L 348 H	-3.045
A L 348 I	-0.592
A L 348 K	-3.414
A L 348 M	-0.873
A L 348 F	-0.875
A L 348 P	-3.623
A L 348 S	-1.898
A L 348 T	-1.739
A L 348 W	-1.439
A L 348 Y	-1.940
A L 348 V	-1.060
A N 349 A	-0.639
A N 349 R	-0.010
A N 349 D	-0.471
A N 349 C	-0.330
A N 349 Q	0.089
A N 349 E	0.069
A N 349 G	-0.968
A N 349 H	0.175
A N 349 I	0.237
A N 349 L	0.099
A N 349 K	0.304
A N 349 M	-0.354
A N 349 F	-0.228
A N 349 P	-0.750
A N 349 S	-0.266
A N 349 T	-0.154
A N 349 W	-0.049
A N 349 Y	-0.180
A N 349 V	0.312
A N 350 A	-0.341
A N 350 R	-0.284
A N 350 D	-0.790
A N 350 C	-0.357
A N 350 Q	-0.097
A N 350 E	-0.288
A N 350 G	-0.808
A N 350 H	-0.163
A N 350 I	-0.118
A N 350 L	-0.207

A N 350 K	-0.357
A N 350 M	-0.538
A N 350 F	-0.562
A N 350 P	0.066
A N 350 S	0.082
A N 350 T	-0.370
A N 350 W	-0.370
A N 350 Y	-0.239
A N 350 V	-0.485
A L 351 A	-0.601
A L 351 R	-0.283
A L 351 N	-0.236
A L 351 D	-0.285
A L 351 C	-0.579
A L 351 Q	-0.144
A L 351 E	-0.355
A L 351 G	-0.813
A L 351 H	-0.562
A L 351 I	-0.074
A L 351 K	-0.110
A L 351 M	-0.206
A L 351 F	-0.249
A L 351 P	-0.590
A L 351 S	-0.514
A L 351 T	-0.369
A L 351 W	-0.671
A L 351 Y	-0.726
A L 351 V	-0.250
A D 352 A	-0.570
A D 352 R	-0.387
A D 352 N	-0.484
A D 352 C	-0.312
A D 352 Q	-0.198
A D 352 E	-0.295
A D 352 G	-0.753
A D 352 H	-0.305
A D 352 I	-0.433
A D 352 L	-0.281
A D 352 K	-0.297
A D 352 M	-0.659
A D 352 F	-0.497
A D 352 P	-0.625
A D 352 S	-0.383
A D 352 T	-0.580
A D 352 W	-0.466
A D 352 Y	-0.482
A D 352 V	-0.718
A E 353 A	-0.198
A E 353 R	-0.121
A E 353 N	-0.159
A E 353 D	-0.145
A E 353 C	-0.277
A E 353 Q	-0.053
A E 353 G	-0.279
A E 353 H	-0.208
A E 353 I	-0.115
A E 353 L	-0.124

A E 353 K	-0.024
A E 353 M	-0.237
A E 353 F	-0.241
A E 353 P	-0.050
A E 353 S	-0.161
A E 353 T	-0.162
A E 353 W	-0.267
A E 353 Y	-0.356
A E 353 V	-0.218
A E 354 A	-0.576
A E 354 R	-0.874
A E 354 N	-0.666
A E 354 D	0.013
A E 354 C	-0.910
A E 354 Q	-0.331
A E 354 G	-1.489
A E 354 H	-0.816
A E 354 I	-0.603
A E 354 L	-0.303
A E 354 K	-0.105
A E 354 M	-0.375
A E 354 F	-0.290
A E 354 P	-1.877
A E 354 S	-0.543
A E 354 T	-0.607
A E 354 W	-0.468
A E 354 Y	-0.340
A E 354 V	-0.717
A S 355 A	-0.350
A S 355 R	-0.712
A S 355 N	-1.128
A S 355 D	-1.057
A S 355 C	-0.671
A S 355 Q	-0.959
A S 355 E	-1.292
A S 355 G	-0.854
A S 355 H	-1.388
A S 355 I	-0.829
A S 355 L	-0.480
A S 355 K	-0.674
A S 355 M	-0.716
A S 355 F	-0.508
A S 355 P	-0.779
A S 355 T	-0.685
A S 355 W	-0.486
A S 355 Y	-0.478
A S 355 V	-0.542
A N 356 A	-0.305
A N 356 R	-0.165
A N 356 D	-0.628
A N 356 C	-0.788
A N 356 Q	-0.082
A N 356 E	-0.382
A N 356 G	-0.747
A N 356 H	-0.147
A N 356 I	0.032
A N 356 L	0.085

A N 356 K	-0.121
A N 356 M	-0.133
A N 356 F	-0.004
A N 356 P	-0.505
A N 356 S	-0.059
A N 356 T	0.153
A N 356 W	-0.270
A N 356 Y	-0.478
A N 356 V	-0.146
A K 357 A	-0.427
A K 357 R	-0.386
A K 357 N	-1.846
A K 357 D	-0.677
A K 357 C	-0.786
A K 357 Q	-0.809
A K 357 E	-0.782
A K 357 G	-0.825
A K 357 H	-0.368
A K 357 I	-0.241
A K 357 L	-0.340
A K 357 M	-0.486
A K 357 F	-0.436
A K 357 P	-1.052
A K 357 S	-0.381
A K 357 T	-0.749
A K 357 W	-0.567
A K 357 Y	-0.297
A K 357 V	-0.648
A K 358 A	-0.401
A K 358 R	-0.172
A K 358 N	-0.537
A K 358 D	-0.372
A K 358 C	-0.696
A K 358 Q	-0.123
A K 358 E	-0.347
A K 358 G	-0.584
A K 358 H	-0.437
A K 358 I	-0.166
A K 358 L	-0.330
A K 358 M	-0.387
A K 358 F	-0.566
A K 358 P	-0.280
A K 358 S	-0.318
A K 358 T	-0.504
A K 358 W	-0.507
A K 358 Y	-0.475
A K 358 V	-0.697
A H 359 A	-0.602
A H 359 R	-0.448
A H 359 N	-0.416
A H 359 D	-0.554
A H 359 C	-0.413
A H 359 Q	-0.267
A H 359 E	-0.426
A H 359 G	-0.917
A H 359 I	-0.272
A H 359 L	-0.373

A H 359 K	-0.373
A H 359 M	-0.521
A H 359 F	-0.339
A H 359 P	-0.629
A H 359 S	-0.415
A H 359 T	-0.373
A H 359 W	-0.490
A H 359 Y	-0.284
A H 359 V	-0.456
A P 360 A	-1.200
A P 360 R	-0.896
A P 360 N	-1.986
A P 360 D	-1.560
A P 360 C	-1.086
A P 360 Q	-0.885
A P 360 E	-1.644
A P 360 G	-1.535
A P 360 H	-1.206
A P 360 I	-0.755
A P 360 L	-0.922
A P 360 K	-1.448
A P 360 M	-1.136
A P 360 F	-1.047
A P 360 S	-1.209
A P 360 T	-1.734
A P 360 W	-1.560
A P 360 Y	-1.221
A P 360 V	-1.226
A F 361 A	-1.802
A F 361 R	-1.569
A F 361 N	-2.868
A F 361 D	-2.626
A F 361 C	-1.293
A F 361 Q	-1.484
A F 361 E	-1.927
A F 361 G	-1.942
A F 361 H	-0.857
A F 361 I	-0.665
A F 361 L	-0.806
A F 361 K	-1.792
A F 361 M	-1.267
A F 361 P	-1.188
A F 361 S	-1.488
A F 361 T	-1.704
A F 361 W	-0.304
A F 361 Y	-0.602
A F 361 V	-1.255
A P 362 A	-1.022
A P 362 R	-0.918
A P 362 N	-1.130
A P 362 D	-1.339
A P 362 C	-1.250
A P 362 Q	-1.320
A P 362 E	-1.428
A P 362 G	-1.271
A P 362 H	-0.758
A P 362 I	-0.939

A P 362 L	-1.309
A P 362 K	-0.938
A P 362 M	-1.458
A P 362 F	-0.957
A P 362 S	-0.967
A P 362 T	-1.389
A P 362 W	-1.068
A P 362 Y	-1.015
A P 362 V	-1.240
A C 363 A	-1.344
A C 363 R	-1.413
A C 363 N	-2.133
A C 363 D	-1.961
A C 363 Q	-0.833
A C 363 E	-1.614
A C 363 G	-1.611
A C 363 H	-1.252
A C 363 I	-0.836
A C 363 L	-1.395
A C 363 K	-1.771
A C 363 M	-1.468
A C 363 F	-1.450
A C 363 P	-1.531
A C 363 S	-0.958
A C 363 T	-1.409
A C 363 W	-1.461
A C 363 Y	-1.634
A C 363 V	-1.540
A P 364 A	-2.955
A P 364 R	-3.149
A P 364 N	-3.723
A P 364 D	-4.047
A P 364 C	-2.143
A P 364 Q	-3.527
A P 364 E	-3.481
A P 364 G	-3.356
A P 364 H	-3.195
A P 364 I	-2.686
A P 364 L	-2.583
A P 364 K	-2.671
A P 364 M	-3.369
A P 364 F	-2.401
A P 364 S	-2.895
A P 364 T	-3.042
A P 364 W	-2.875
A P 364 Y	-3.072
A P 364 V	-2.742
A T 365 A	-0.882
A T 365 R	-1.967
A T 365 N	-2.065
A T 365 D	-3.390
A T 365 C	0.823
A T 365 Q	-2.638
A T 365 E	-3.115
A T 365 G	-2.171
A T 365 H	-2.315
A T 365 I	-0.110

A T 365 L	-0.206
A T 365 K	-2.013
A T 365 M	-0.343
A T 365 F	-0.457
A T 365 P	-2.901
A T 365 S	-1.109
A T 365 W	-0.532
A T 365 Y	-0.706
A T 365 V	-0.597
A S 366 A	-0.896
A S 366 R	-1.159
A S 366 N	-1.064
A S 366 D	-2.442
A S 366 C	-0.796
A S 366 Q	-2.046
A S 366 E	-2.153
A S 366 G	-1.258
A S 366 H	-1.925
A S 366 I	-0.716
A S 366 L	-0.002
A S 366 K	-0.904
A S 366 M	-0.891
A S 366 F	-0.332
A S 366 P	-1.756
A S 366 T	0.365
A S 366 W	-1.076
A S 366 Y	-2.434
A S 366 V	-0.538
A Y 367 A	-1.969
A Y 367 R	-1.971
A Y 367 N	-3.117
A Y 367 D	-4.140
A Y 367 C	-1.821
A Y 367 Q	-2.285
A Y 367 E	-3.139
A Y 367 G	-3.384
A Y 367 H	-2.576
A Y 367 I	-0.946
A Y 367 L	-0.656
A Y 367 K	-2.133
A Y 367 M	-1.081
A Y 367 F	-0.824
A Y 367 P	-2.370
A Y 367 S	-2.680
A Y 367 T	-2.167
A Y 367 W	-1.763
A Y 367 V	-1.454
A R 368 A	-0.845
A R 368 N	-0.941
A R 368 D	-0.865
A R 368 C	-0.802
A R 368 Q	-0.320
A R 368 E	-0.537
A R 368 G	-1.106
A R 368 H	-0.674
A R 368 I	-0.193
A R 368 L	-0.227

A R 368 K	-0.793
A R 368 M	-0.451
A R 368 F	-0.310
A R 368 P	-0.846
A R 368 S	-0.816
A R 368 T	-1.037
A R 368 W	-0.508
A R 368 Y	-0.490
A R 368 V	-0.841
A T 369 A	-0.697
A T 369 R	-1.528
A T 369 N	-1.286
A T 369 D	-1.402
A T 369 C	-1.274
A T 369 Q	-0.817
A T 369 E	-1.022
A T 369 G	-1.477
A T 369 H	-0.740
A T 369 I	-0.186
A T 369 L	-0.357
A T 369 K	-1.544
A T 369 M	-0.633
A T 369 F	-0.669
A T 369 P	-1.427
A T 369 S	-0.816
A T 369 W	-0.617
A T 369 Y	-0.935
A T 369 V	-0.762
A A 370 R	-2.620
A A 370 N	-3.376
A A 370 D	-3.643
A A 370 C	-0.513
A A 370 Q	-1.457
A A 370 E	-2.468
A A 370 G	-2.342
A A 370 H	-1.206
A A 370 I	0.602
A A 370 L	0.702
A A 370 K	-2.557
A A 370 M	0.176
A A 370 F	0.091
A A 370 P	-2.476
A A 370 S	-1.322
A A 370 T	-0.846
A A 370 W	-0.525
A A 370 Y	-0.866
A A 370 V	-0.276
A L 371 A	-1.825
A L 371 R	-4.200
A L 371 N	-3.942
A L 371 D	-4.812
A L 371 C	-1.786
A L 371 Q	-4.488
A L 371 E	-4.249
A L 371 G	-4.146
A L 371 H	-4.132
A L 371 I	-0.665

A L 371 K	-4.509
A L 371 M	-0.669
A L 371 F	-0.255
A L 371 P	-2.611
A L 371 S	-2.165
A L 371 T	-2.422
A L 371 W	-2.580
A L 371 Y	-2.174
A L 371 V	-1.274
A T 372 A	-0.505
A T 372 R	0.266
A T 372 N	-1.050
A T 372 D	-1.843
A T 372 C	-0.294
A T 372 Q	-0.440
A T 372 E	-0.488
A T 372 G	-1.352
A T 372 H	-0.630
A T 372 I	0.147
A T 372 L	0.268
A T 372 K	-0.236
A T 372 M	0.149
A T 372 F	0.013
A T 372 P	-0.696
A T 372 S	-0.527
A T 372 W	-0.233
A T 372 Y	-0.343
A T 372 V	-0.226
A Y 373 A	-0.851
A Y 373 R	-0.585
A Y 373 N	-0.421
A Y 373 D	-0.724
A Y 373 C	-0.305
A Y 373 Q	-0.557
A Y 373 E	-0.524
A Y 373 G	-1.407
A Y 373 H	0.042
A Y 373 I	-0.394
A Y 373 L	-0.320
A Y 373 K	-0.527
A Y 373 M	-0.605
A Y 373 F	-0.162
A Y 373 P	-1.963
A Y 373 S	-0.771
A Y 373 T	-0.694
A Y 373 W	-0.211
A Y 373 V	-0.693
A Y 374 A	-1.544
A Y 374 R	-1.769
A Y 374 N	-1.851
A Y 374 D	-1.779
A Y 374 C	-1.152
A Y 374 Q	-1.612
A Y 374 E	-2.028
A Y 374 G	-1.953
A Y 374 H	-0.959
A Y 374 I	-1.181

A Y 374 L	-1.056
A Y 374 K	-1.923
A Y 374 M	-1.304
A Y 374 F	-0.663
A Y 374 P	-3.884
A Y 374 S	-1.945
A Y 374 T	-1.675
A Y 374 W	-0.994
A Y 374 V	-1.323
A L 375 A	-1.315
A L 375 R	-1.725
A L 375 N	-4.131
A L 375 D	-3.408
A L 375 C	-0.713
A L 375 Q	-2.313
A L 375 E	-4.097
A L 375 G	-3.023
A L 375 H	-1.657
A L 375 I	-0.233
A L 375 K	-1.219
A L 375 M	-0.878
A L 375 F	-0.682
A L 375 P	-1.858
A L 375 S	-1.403
A L 375 T	-1.253
A L 375 W	-0.565
A L 375 Y	-0.747
A L 375 V	-0.563
A D 376 A	-0.572
A D 376 R	-0.822
A D 376 N	-0.622
A D 376 C	-0.530
A D 376 Q	-0.471
A D 376 E	-0.525
A D 376 G	-1.402
A D 376 H	-1.200
A D 376 I	-0.471
A D 376 L	-0.712
A D 376 K	-1.058
A D 376 M	-0.891
A D 376 F	-1.138
A D 376 P	-1.229
A D 376 S	-0.513
A D 376 T	-0.986
A D 376 W	-0.862
A D 376 Y	-1.236
A D 376 V	-1.046
A I 377 A	-1.813
A I 377 R	-2.605
A I 377 N	-3.192
A I 377 D	-2.971
A I 377 C	-1.098
A I 377 Q	-2.938
A I 377 E	-3.781
A I 377 G	-2.863
A I 377 H	-2.687
A I 377 L	-0.647

A I 377 K	-4.271
A I 377 M	-0.670
A I 377 F	-0.697
A I 377 P	-1.373
A I 377 S	-2.037
A I 377 T	-1.939
A I 377 W	-1.560
A I 377 Y	-1.885
A I 377 V	-0.997
A T 378 A	-0.349
A T 378 R	-0.498
A T 378 N	-0.701
A T 378 D	-1.312
A T 378 C	0.975
A T 378 Q	-0.655
A T 378 E	-0.627
A T 378 G	-0.906
A T 378 H	-0.151
A T 378 I	0.355
A T 378 L	0.692
A T 378 K	-0.485
A T 378 M	0.178
A T 378 F	0.678
A T 378 P	-1.497
A T 378 S	-0.501
A T 378 W	0.377
A T 378 Y	0.013
A T 378 V	0.036
A N 379 A	0.058
A N 379 R	-0.142
A N 379 D	-0.229
A N 379 C	-0.150
A N 379 Q	-0.033
A N 379 E	-0.089
A N 379 G	-0.413
A N 379 H	-0.130
A N 379 I	-0.100
A N 379 L	-0.186
A N 379 K	-0.072
A N 379 M	-0.228
A N 379 F	-0.299
A N 379 P	-0.794
A N 379 S	-0.177
A N 379 T	-0.350
A N 379 W	-0.482
A N 379 Y	-0.336
A N 379 V	-0.504
A P 380 A	-1.437
A P 380 R	-1.265
A P 380 N	-1.844
A P 380 D	-3.902
A P 380 C	-0.890
A P 380 Q	-1.605
A P 380 E	-3.146
A P 380 G	-2.650
A P 380 H	-1.315
A P 380 I	-1.384

A P 380 L	-1.473
A P 380 K	-1.310
A P 380 M	-1.397
A P 380 F	-1.755
A P 380 S	-1.490
A P 380 T	-1.453
A P 380 W	-1.878
A P 380 Y	-1.560
A P 380 V	-1.365
A P 381 A	-1.953
A P 381 R	-2.463
A P 381 N	-2.621
A P 381 D	-3.455
A P 381 C	-1.934
A P 381 Q	-3.037
A P 381 E	-4.099
A P 381 G	-2.404
A P 381 H	-2.381
A P 381 I	-1.740
A P 381 L	-1.774
A P 381 K	-2.377
A P 381 M	-2.442
A P 381 F	-2.124
A P 381 S	-1.957
A P 381 T	-2.041
A P 381 W	-2.571
A P 381 Y	-2.809
A P 381 V	-1.549
A R 382 A	-0.582
A R 382 N	-0.763
A R 382 D	-0.591
A R 382 C	-0.461
A R 382 Q	-0.461
A R 382 E	-0.733
A R 382 G	-0.719
A R 382 H	-0.439
A R 382 I	-0.487
A R 382 L	-0.464
A R 382 K	-0.237
A R 382 M	-0.658
A R 382 F	-0.704
A R 382 P	-0.717
A R 382 S	-0.321
A R 382 T	-0.641
A R 382 W	-0.564
A R 382 Y	-0.782
A R 382 V	-0.762
A T 383 A	-0.807
A T 383 R	0.400
A T 383 N	-2.853
A T 383 D	-4.028
A T 383 C	-1.163
A T 383 Q	-0.948
A T 383 E	-1.063
A T 383 G	-2.377
A T 383 H	-0.531
A T 383 I	-0.111

A T 383 L	0.382
A T 383 K	-0.615
A T 383 M	-0.275
A T 383 F	0.110
A T 383 P	0.037
A T 383 S	-0.897
A T 383 W	-1.172
A T 383 Y	-2.103
A T 383 V	-0.158
A N 384 A	-0.448
A N 384 R	-0.204
A N 384 D	-0.495
A N 384 C	-0.558
A N 384 Q	0.166
A N 384 E	0.033
A N 384 G	-1.066
A N 384 H	0.204
A N 384 I	0.050
A N 384 L	-0.016
A N 384 K	-0.203
A N 384 M	-0.360
A N 384 F	0.076
A N 384 P	-0.919
A N 384 S	-0.188
A N 384 T	-0.233
A N 384 W	0.207
A N 384 Y	-0.163
A N 384 V	-0.356
A V 385 A	-1.033
A V 385 R	-2.309
A V 385 N	-2.390
A V 385 D	-2.652
A V 385 C	-0.937
A V 385 Q	-1.369
A V 385 E	-2.396
A V 385 G	-2.091
A V 385 H	-1.832
A V 385 I	0.052
A V 385 L	0.085
A V 385 K	-2.245
A V 385 M	-0.211
A V 385 F	0.874
A V 385 P	-1.791
A V 385 S	-1.010
A V 385 T	-0.699
A V 385 W	-0.809
A V 385 Y	-1.656
A L 386 A	-2.822
A L 386 R	-3.401
A L 386 N	-4.932
A L 386 D	-4.782
A L 386 C	-2.329
A L 386 Q	-4.423
A L 386 E	-5.324
A L 386 G	-4.708
A L 386 H	-4.511
A L 386 I	-0.755

A L 386 K	-3.738
A L 386 M	-0.917
A L 386 F	-0.633
A L 386 P	-5.154
A L 386 S	-3.024
A L 386 T	-2.221
A L 386 W	-1.824
A L 386 Y	-2.340
A L 386 V	-1.710
A Y 387 A	-1.062
A Y 387 R	-0.533
A Y 387 N	-0.436
A Y 387 D	-1.287
A Y 387 C	-1.240
A Y 387 Q	-0.691
A Y 387 E	-0.667
A Y 387 G	-1.844
A Y 387 H	-0.321
A Y 387 I	-0.576
A Y 387 L	-0.390
A Y 387 K	-0.114
A Y 387 M	-0.772
A Y 387 F	-0.188
A Y 387 P	-2.969
A Y 387 S	-1.471
A Y 387 T	-1.265
A Y 387 W	-0.617
A Y 387 V	-0.836
A E 388 A	-0.632
A E 388 R	-0.810
A E 388 N	-1.049
A E 388 D	-0.937
A E 388 C	-0.989
A E 388 Q	-0.260
A E 388 G	-1.877
A E 388 H	-0.830
A E 388 I	0.001
A E 388 L	-0.020
A E 388 K	-0.699
A E 388 M	-0.541
A E 388 F	-0.269
A E 388 P	-1.692
A E 388 S	-0.617
A E 388 T	-0.278
A E 388 W	-0.744
A E 388 Y	-0.655
A E 388 V	-0.565
A L 389 A	-2.236
A L 389 R	-3.543
A L 389 N	-4.689
A L 389 D	-4.557
A L 389 C	-2.042
A L 389 Q	-3.414
A L 389 E	-3.460
A L 389 G	-4.277
A L 389 H	-3.237
A L 389 I	-0.701

A L 389 K	-4.177
A L 389 M	-0.678
A L 389 F	-0.702
A L 389 P	-3.850
A L 389 S	-2.279
A L 389 T	-1.694
A L 389 W	-1.290
A L 389 Y	-2.116
A L 389 V	-1.516
A A 390 R	-2.240
A A 390 N	-4.033
A A 390 D	-4.120
A A 390 C	-1.251
A A 390 Q	-3.025
A A 390 E	-2.687
A A 390 G	-1.083
A A 390 H	-2.879
A A 390 I	-1.157
A A 390 L	-1.561
A A 390 K	-2.122
A A 390 M	-1.559
A A 390 F	-1.528
A A 390 P	-3.137
A A 390 S	-1.193
A A 390 T	-2.119
A A 390 W	-1.415
A A 390 Y	-0.963
A A 390 V	-1.364
A Q 391 A	-0.374
A Q 391 R	-0.247
A Q 391 N	-0.274
A Q 391 D	-0.249
A Q 391 C	-0.315
A Q 391 E	-0.183
A Q 391 G	-0.383
A Q 391 H	-0.187
A Q 391 I	-0.271
A Q 391 L	-0.258
A Q 391 K	-0.266
A Q 391 M	-0.324
A Q 391 F	-0.360
A Q 391 P	-0.488
A Q 391 S	-0.337
A Q 391 T	-0.439
A Q 391 W	-0.321
A Q 391 Y	-0.370
A Q 391 V	-0.396
A Y 392 A	-0.646
A Y 392 R	-0.412
A Y 392 N	-0.615
A Y 392 D	-0.685
A Y 392 C	-0.331
A Y 392 Q	-0.546
A Y 392 E	-0.764
A Y 392 G	-0.841
A Y 392 H	-0.200
A Y 392 I	-0.464

A Y 392 L	-0.495
A Y 392 K	-0.443
A Y 392 M	-0.547
A Y 392 F	-0.252
A Y 392 P	-2.084
A Y 392 S	-0.704
A Y 392 T	-0.732
A Y 392 W	-0.213
A Y 392 V	-0.558
A A 393 R	-0.876
A A 393 N	-0.568
A A 393 D	-1.569
A A 393 C	0.095
A A 393 Q	-1.713
A A 393 E	-1.103
A A 393 G	-0.918
A A 393 H	-1.054
A A 393 I	-0.388
A A 393 L	-0.274
A A 393 K	-0.955
A A 393 M	-0.635
A A 393 F	-0.542
A A 393 P	-1.036
A A 393 S	-0.646
A A 393 T	-0.620
A A 393 W	-0.602
A A 393 Y	-0.666
A A 393 V	-0.528
A S 394 A	-0.115
A S 394 R	-0.067
A S 394 N	-0.061
A S 394 D	-0.070
A S 394 C	-0.075
A S 394 Q	-0.009
A S 394 E	-0.020
A S 394 G	-0.178
A S 394 H	-0.054
A S 394 I	0.052
A S 394 L	0.015
A S 394 K	-0.016
A S 394 M	-0.063
A S 394 F	-0.047
A S 394 P	0.034
A S 394 T	0.010
A S 394 W	-0.075
A S 394 Y	-0.138
A S 394 V	-0.080
A E 395 A	-0.340
A E 395 R	-0.097
A E 395 N	0.079
A E 395 D	0.224
A E 395 C	-0.184
A E 395 Q	-0.109
A E 395 G	-0.585
A E 395 H	-0.095
A E 395 I	-0.152
A E 395 L	-0.121

A E 395 K	0.007
A E 395 M	-0.558
A E 395 F	-0.344
A E 395 P	-0.572
A E 395 S	-0.247
A E 395 T	-0.213
A E 395 W	-0.224
A E 395 Y	-0.708
A E 395 V	-0.276
A P 396 A	-0.514
A P 396 R	-0.355
A P 396 N	-0.350
A P 396 D	-0.325
A P 396 C	-0.526
A P 396 Q	-0.256
A P 396 E	-0.199
A P 396 G	-0.647
A P 396 H	-0.432
A P 396 I	-0.337
A P 396 L	-0.334
A P 396 K	-0.366
A P 396 M	-0.506
A P 396 F	-0.503
A P 396 S	-0.447
A P 396 T	-0.558
A P 396 W	-0.597
A P 396 Y	-0.479
A P 396 V	-0.524
A T 397 A	-0.030
A T 397 R	-0.018
A T 397 N	-0.036
A T 397 D	0.020
A T 397 C	-0.077
A T 397 Q	0.057
A T 397 E	0.126
A T 397 G	-0.227
A T 397 H	-0.013
A T 397 I	0.123
A T 397 L	0.085
A T 397 K	0.049
A T 397 M	0.001
A T 397 F	0.038
A T 397 P	-0.086
A T 397 S	-0.017
A T 397 W	-0.058
A T 397 Y	-0.152
A T 397 V	0.014
A E 398 A	-0.913
A E 398 R	-1.182
A E 398 N	-1.106
A E 398 D	-0.584
A E 398 C	-1.334
A E 398 Q	-0.268
A E 398 G	-1.660
A E 398 H	-0.610
A E 398 I	-0.403
A E 398 L	-0.472

A E 398 K	-1.125
A E 398 M	-0.741
A E 398 F	-0.958
A E 398 P	-1.267
A E 398 S	-0.730
A E 398 T	-0.825
A E 398 W	-1.302
A E 398 Y	-1.172
A E 398 V	-0.950
A Q 399 A	-0.705
A Q 399 R	-0.247
A Q 399 N	-0.659
A Q 399 D	-0.813
A Q 399 C	-0.887
A Q 399 E	-0.446
A Q 399 G	-1.534
A Q 399 H	-0.580
A Q 399 I	-0.404
A Q 399 L	-0.392
A Q 399 K	-0.070
A Q 399 M	-0.521
A Q 399 F	-0.594
A Q 399 P	-2.033
A Q 399 S	-0.903
A Q 399 T	-0.757
A Q 399 W	-1.239
A Q 399 Y	-1.502
A Q 399 V	-0.620
A E 400 A	-0.403
A E 400 R	-0.309
A E 400 N	-0.313
A E 400 D	-0.274
A E 400 C	-0.699
A E 400 Q	-0.118
A E 400 G	-0.908
A E 400 H	-0.347
A E 400 I	-0.160
A E 400 L	-0.225
A E 400 K	-0.298
A E 400 M	-0.270
A E 400 F	-0.369
A E 400 P	-0.702
A E 400 S	-0.353
A E 400 T	-0.415
A E 400 W	-0.622
A E 400 Y	-0.423
A E 400 V	-0.483
A H 401 A	-0.266
A H 401 R	0.085
A H 401 N	-0.182
A H 401 D	-0.423
A H 401 C	-0.382
A H 401 Q	-0.002
A H 401 E	-0.009
A H 401 G	-1.245
A H 401 I	0.079
A H 401 L	0.079

A H 401 K	0.121
A H 401 M	-0.094
A H 401 F	0.038
A H 401 P	-0.892
A H 401 S	-0.199
A H 401 T	-0.176
A H 401 W	-0.184
A H 401 Y	-0.126
A H 401 V	-0.117
A L 402 A	-1.844
A L 402 R	-2.673
A L 402 N	-3.714
A L 402 D	-4.197
A L 402 C	-2.112
A L 402 Q	-2.304
A L 402 E	-2.239
A L 402 G	-4.301
A L 402 H	-4.477
A L 402 I	-0.602
A L 402 K	-2.246
A L 402 M	-0.442
A L 402 F	-0.741
A L 402 P	-3.550
A L 402 S	-2.099
A L 402 T	-1.617
A L 402 W	-1.857
A L 402 Y	-2.789
A L 402 V	-1.564
A R 403 A	-0.455
A R 403 N	-0.479
A R 403 D	-0.690
A R 403 C	-0.863
A R 403 Q	-0.023
A R 403 E	-0.194
A R 403 G	-1.231
A R 403 H	-0.346
A R 403 I	0.130
A R 403 L	0.300
A R 403 K	-0.163
A R 403 M	-0.185
A R 403 F	-0.247
A R 403 P	-1.948
A R 403 S	-0.440
A R 403 T	-0.514
A R 403 W	-0.318
A R 403 Y	-0.558
A R 403 V	-0.555
A K 404 A	-0.284
A K 404 R	-0.054
A K 404 N	-0.461
A K 404 D	-0.402
A K 404 C	-0.962
A K 404 Q	-0.079
A K 404 E	-0.120
A K 404 G	-0.959
A K 404 H	-0.483
A K 404 I	-0.030

A K 404 L	-0.040
A K 404 M	-0.162
A K 404 F	-0.221
A K 404 P	-1.167
A K 404 S	-0.215
A K 404 T	-0.508
A K 404 W	-0.203
A K 404 Y	-0.316
A K 404 V	-0.551
A M 405 A	-1.388
A M 405 R	-2.317
A M 405 N	-3.332
A M 405 D	-2.548
A M 405 C	-1.422
A M 405 Q	-1.780
A M 405 E	-2.743
A M 405 G	-2.861
A M 405 H	-1.656
A M 405 I	-0.455
A M 405 L	-0.044
A M 405 K	-2.005
A M 405 F	-0.786
A M 405 P	-4.018
A M 405 S	-1.829
A M 405 T	-1.457
A M 405 W	-0.425
A M 405 Y	-1.715
A M 405 V	-0.963
A A 406 R	-0.564
A A 406 N	-0.573
A A 406 D	-0.784
A A 406 C	0.116
A A 406 Q	-0.415
A A 406 E	-0.637
A A 406 G	-0.239
A A 406 H	-0.787
A A 406 I	0.147
A A 406 L	0.444
A A 406 K	-0.453
A A 406 M	-0.146
A A 406 F	0.105
A A 406 P	-1.462
A A 406 S	0.055
A A 406 T	-0.150
A A 406 W	0.046
A A 406 Y	-0.250
A A 406 V	-0.010
A S 407 A	-0.540
A S 407 R	-0.322
A S 407 N	-0.388
A S 407 D	-0.420
A S 407 C	-0.352
A S 407 Q	-0.191
A S 407 E	-0.229
A S 407 G	-0.525
A S 407 H	-0.372
A S 407 I	-0.213

A S 407 L	-0.209
A S 407 K	-0.324
A S 407 M	-0.300
A S 407 F	-0.392
A S 407 P	-1.126
A S 407 T	-0.418
A S 407 W	-0.214
A S 407 Y	-0.641
A S 407 V	-0.429
A S 408 A	-0.032
A S 408 R	-0.415
A S 408 N	0.199
A S 408 D	0.110
A S 408 C	0.100
A S 408 Q	-0.051
A S 408 E	0.315
A S 408 G	-0.435
A S 408 H	-1.461
A S 408 I	0.918
A S 408 L	1.101
A S 408 K	0.213
A S 408 M	0.165
A S 408 F	0.662
A S 408 P	1.210
A S 408 T	0.257
A S 408 W	0.781
A S 408 Y	-0.822
A S 408 V	0.322
A S 409 A	-0.323
A S 409 R	-0.050
A S 409 N	-0.047
A S 409 D	-0.289
A S 409 C	0.001
A S 409 Q	-0.102
A S 409 E	-0.028
A S 409 G	-0.364
A S 409 H	-0.102
A S 409 I	-0.171
A S 409 L	-0.014
A S 409 K	0.065
A S 409 M	-0.323
A S 409 F	-0.120
A S 409 P	-0.670
A S 409 T	-0.087
A S 409 W	-0.003
A S 409 Y	-0.420
A S 409 V	-0.104
A G 410 A	-0.626
A G 410 R	-0.391
A G 410 N	-0.460
A G 410 D	-0.352
A G 410 C	-0.700
A G 410 Q	-0.255
A G 410 E	-0.275
A G 410 H	-0.620
A G 410 I	-0.458
A G 410 L	-0.523

A G 410 K	-0.387
A G 410 M	-0.807
A G 410 F	-0.897
A G 410 P	-0.371
A G 410 S	-0.604
A G 410 T	-0.715
A G 410 W	-0.653
A G 410 Y	-0.389
A G 410 V	-0.748
A E 411 A	-0.291
A E 411 R	-0.192
A E 411 N	-0.249
A E 411 D	-0.206
A E 411 C	-0.545
A E 411 Q	-0.032
A E 411 G	-0.753
A E 411 H	-0.348
A E 411 I	-0.147
A E 411 L	-0.239
A E 411 K	-0.188
A E 411 M	-0.311
A E 411 F	-0.322
A E 411 P	-0.457
A E 411 S	-0.220
A E 411 T	-0.327
A E 411 W	-0.426
A E 411 Y	-0.575
A E 411 V	-0.437
A G 412 A	-1.004
A G 412 R	-1.911
A G 412 N	-2.090
A G 412 D	-1.802
A G 412 C	-1.266
A G 412 Q	-2.322
A G 412 E	-1.682
A G 412 H	-2.299
A G 412 I	-1.531
A G 412 L	-1.083
A G 412 K	-1.954
A G 412 M	-1.522
A G 412 F	-1.072
A G 412 P	-2.587
A G 412 S	-1.021
A G 412 T	-1.980
A G 412 W	-1.832
A G 412 Y	-1.912
A G 412 V	-1.771
A K 413 A	-0.667
A K 413 R	-0.556
A K 413 N	-1.253
A K 413 D	-1.151
A K 413 C	-1.053
A K 413 Q	-0.366
A K 413 E	-0.855
A K 413 G	-1.173
A K 413 H	-1.359
A K 413 I	-0.227

A K 413 L	-0.394
A K 413 M	-0.576
A K 413 F	-0.559
A K 413 P	-0.832
A K 413 S	-0.592
A K 413 T	-1.235
A K 413 W	-0.915
A K 413 Y	-0.606
A K 413 V	-1.098
A E 414 A	-0.277
A E 414 R	-0.204
A E 414 N	-0.193
A E 414 D	-0.098
A E 414 C	-0.500
A E 414 Q	-0.067
A E 414 G	-0.645
A E 414 H	-0.121
A E 414 I	-0.133
A E 414 L	-0.166
A E 414 K	-0.142
A E 414 M	-0.238
A E 414 F	-0.254
A E 414 P	-0.369
A E 414 S	-0.274
A E 414 T	-0.268
A E 414 W	-0.376
A E 414 Y	-0.471
A E 414 V	-0.299
A L 415 A	-1.316
A L 415 R	-1.569
A L 415 N	-1.601
A L 415 D	-1.933
A L 415 C	-1.698
A L 415 Q	-1.399
A L 415 E	-0.190
A L 415 G	-2.548
A L 415 H	-1.438
A L 415 I	-0.254
A L 415 K	-0.885
A L 415 M	-0.412
A L 415 F	-0.683
A L 415 P	-4.555
A L 415 S	-1.491
A L 415 T	-1.113
A L 415 W	-1.135
A L 415 Y	-1.368
A L 415 V	-0.883
A Y 416 A	-2.706
A Y 416 R	-2.808
A Y 416 N	-2.863
A Y 416 D	-3.311
A Y 416 C	-2.147
A Y 416 Q	-3.069
A Y 416 E	-4.039
A Y 416 G	-4.042
A Y 416 H	-3.272
A Y 416 I	-2.322

A Y 416 L	-1.545
A Y 416 K	-2.599
A Y 416 M	-1.839
A Y 416 F	-0.803
A Y 416 P	-4.410
A Y 416 S	-3.327
A Y 416 T	-3.441
A Y 416 W	-1.995
A Y 416 V	-2.564
A L 417 A	-0.718
A L 417 R	-0.732
A L 417 N	-0.318
A L 417 D	-0.935
A L 417 C	-0.709
A L 417 Q	-0.173
A L 417 E	-0.313
A L 417 G	-1.332
A L 417 H	0.148
A L 417 I	0.086
A L 417 K	-0.311
A L 417 M	-0.149
A L 417 F	-0.111
A L 417 P	-1.130
A L 417 S	-0.582
A L 417 T	-0.463
A L 417 W	-0.617
A L 417 Y	-0.768
A L 417 V	-0.104
A S 418 A	-0.193
A S 418 R	-0.113
A S 418 N	-0.054
A S 418 D	-0.132
A S 418 C	-0.278
A S 418 Q	0.108
A S 418 E	0.061
A S 418 G	-0.419
A S 418 H	-0.295
A S 418 I	0.203
A S 418 L	0.166
A S 418 K	-0.058
A S 418 M	-0.041
A S 418 F	-0.020
A S 418 P	-0.874
A S 418 T	-0.131
A S 418 W	-0.214
A S 418 Y	-0.259
A S 418 V	-0.134
A W 419 A	-0.836
A W 419 R	-0.676
A W 419 N	-0.695
A W 419 D	-0.441
A W 419 C	-0.904
A W 419 Q	-0.284
A W 419 E	-0.432
A W 419 G	-1.108
A W 419 H	-0.619
A W 419 I	-0.447

A W 419 L	-0.470
A W 419 K	-0.736
A W 419 M	-0.536
A W 419 F	-0.536
A W 419 P	-1.600
A W 419 S	-0.921
A W 419 T	-0.951
A W 419 Y	-0.583
A W 419 V	-1.037
A V 420 A	-1.824
A V 420 R	-2.720
A V 420 N	-4.472
A V 420 D	-4.697
A V 420 C	-0.502
A V 420 Q	-3.609
A V 420 E	-4.137
A V 420 G	-3.165
A V 420 H	-3.354
A V 420 I	0.216
A V 420 L	-0.155
A V 420 K	-3.356
A V 420 M	-1.085
A V 420 F	-0.561
A V 420 P	-2.808
A V 420 S	-1.585
A V 420 T	-1.832
A V 420 W	-1.720
A V 420 Y	-2.137
A V 421 A	-0.765
A V 421 R	-1.017
A V 421 N	-0.847
A V 421 D	-2.494
A V 421 C	-0.940
A V 421 Q	-0.825
A V 421 E	-1.730
A V 421 G	-1.237
A V 421 H	-0.858
A V 421 I	0.076
A V 421 L	-0.002
A V 421 K	-0.864
A V 421 M	-0.379
A V 421 F	-0.058
A V 421 P	-0.860
A V 421 S	-0.833
A V 421 T	-0.943
A V 421 W	-0.290
A V 421 Y	-0.298
A E 422 A	-0.408
A E 422 R	-0.145
A E 422 N	-0.155
A E 422 D	-0.103
A E 422 C	-0.782
A E 422 Q	-0.045
A E 422 G	-1.101
A E 422 H	-0.283
A E 422 I	-0.246
A E 422 L	-0.197

A E 422 K	-0.057
A E 422 M	-0.350
A E 422 F	-0.400
A E 422 P	-0.730
A E 422 S	-0.336
A E 422 T	-0.451
A E 422 W	-0.475
A E 422 Y	-0.472
A E 422 V	-0.592
A A 423 R	-0.232
A A 423 N	-0.125
A A 423 D	-0.553
A A 423 C	-0.162
A A 423 Q	-0.338
A A 423 E	-0.096
A A 423 G	-0.921
A A 423 H	-0.407
A A 423 I	-0.066
A A 423 L	0.498
A A 423 K	-0.096
A A 423 M	-0.013
A A 423 F	0.255
A A 423 P	0.219
A A 423 S	-0.120
A A 423 T	-0.376
A A 423 W	-0.095
A A 423 Y	-0.103
A A 423 V	-0.366
A R 424 A	-0.438
A R 424 N	-0.153
A R 424 D	-0.274
A R 424 C	-0.062
A R 424 Q	-0.015
A R 424 E	-0.215
A R 424 G	-0.308
A R 424 H	0.083
A R 424 I	-0.276
A R 424 L	-0.317
A R 424 K	-0.116
A R 424 M	-0.297
A R 424 F	-0.355
A R 424 P	-0.258
A R 424 S	-0.412
A R 424 T	-0.745
A R 424 W	-0.157
A R 424 Y	-0.154
A R 424 V	-0.477
A R 425 A	-0.877
A R 425 N	-0.941
A R 425 D	-1.267
A R 425 C	-0.587
A R 425 Q	-0.785
A R 425 E	-1.208
A R 425 G	-1.035
A R 425 H	-0.781
A R 425 I	-0.399
A R 425 L	-0.327

A R 425 K	-0.647
A R 425 M	-0.525
A R 425 F	-0.781
A R 425 P	-1.043
A R 425 S	-0.888
A R 425 T	-0.989
A R 425 W	-0.452
A R 425 Y	-0.493
A R 425 V	-0.807
A H 426 A	-0.893
A H 426 R	-0.406
A H 426 N	0.094
A H 426 D	-0.682
A H 426 C	-0.512
A H 426 Q	-0.705
A H 426 E	-0.793
A H 426 G	-0.914
A H 426 I	-0.698
A H 426 L	-0.840
A H 426 K	-0.869
A H 426 M	-0.668
A H 426 F	-0.642
A H 426 P	-1.416
A H 426 S	-0.387
A H 426 T	-0.367
A H 426 W	-0.506
A H 426 Y	-1.544
A H 426 V	-1.052
A I 427 A	-1.477
A I 427 R	-3.070
A I 427 N	-2.335
A I 427 D	-3.548
A I 427 C	-0.829
A I 427 Q	-2.402
A I 427 E	-3.041
A I 427 G	-2.451
A I 427 H	-1.924
A I 427 L	-0.168
A I 427 K	-3.087
A I 427 M	-0.462
A I 427 F	-0.272
A I 427 P	-1.632
A I 427 S	-1.876
A I 427 T	-1.485
A I 427 W	-0.505
A I 427 Y	-1.224
A I 427 V	-0.800
A L 428 A	-1.406
A L 428 R	-2.427
A L 428 N	-3.128
A L 428 D	-3.208
A L 428 C	-1.521
A L 428 Q	-2.725
A L 428 E	-2.193
A L 428 G	-2.466
A L 428 H	-3.041
A L 428 I	-0.307

A L 428 K	-2.522
A L 428 M	-0.647
A L 428 F	-0.503
A L 428 P	-2.249
A L 428 S	-1.475
A L 428 T	-1.163
A L 428 W	-0.766
A L 428 Y	-1.386
A L 428 V	-0.878
A A 429 R	-1.369
A A 429 N	-0.497
A A 429 D	-0.037
A A 429 C	-0.080
A A 429 Q	0.157
A A 429 E	0.830
A A 429 G	-0.629
A A 429 H	0.074
A A 429 I	0.245
A A 429 L	0.823
A A 429 K	-0.759
A A 429 M	0.408
A A 429 F	0.259
A A 429 P	-1.370
A A 429 S	-0.501
A A 429 T	-0.486
A A 429 W	-0.673
A A 429 Y	-1.320
A A 429 V	-0.553
A I 430 A	-1.528
A I 430 R	-2.448
A I 430 N	-3.027
A I 430 D	-4.137
A I 430 C	-1.080
A I 430 Q	-2.824
A I 430 E	-2.793
A I 430 G	-3.299
A I 430 H	-2.810
A I 430 L	-0.178
A I 430 K	-2.995
A I 430 M	-0.899
A I 430 F	-0.303
A I 430 P	-3.481
A I 430 S	-2.155
A I 430 T	-1.084
A I 430 W	-1.130
A I 430 Y	-2.022
A I 430 V	-0.251
A L 431 A	-1.946
A L 431 R	-3.637
A L 431 N	-4.371
A L 431 D	-4.050
A L 431 C	-2.065
A L 431 Q	-3.244
A L 431 E	-3.713
A L 431 G	-4.434
A L 431 H	-3.383
A L 431 I	-0.643

A L 431 K	-3.914
A L 431 M	-0.530
A L 431 F	-0.643
A L 431 P	-4.153
A L 431 S	-2.120
A L 431 T	-1.954
A L 431 W	-1.912
A L 431 Y	-2.501
A L 431 V	-1.394
A Q 432 A	-0.415
A Q 432 R	-0.260
A Q 432 N	-0.316
A Q 432 D	-0.314
A Q 432 C	-0.385
A Q 432 E	-0.043
A Q 432 G	-1.119
A Q 432 H	-0.223
A Q 432 I	-0.071
A Q 432 L	-0.111
A Q 432 K	-0.167
A Q 432 M	-0.206
A Q 432 F	-0.231
A Q 432 P	-0.875
A Q 432 S	-0.362
A Q 432 T	-0.314
A Q 432 W	-0.267
A Q 432 Y	-0.517
A Q 432 V	-0.316
A D 433 A	-0.273
A D 433 R	-0.247
A D 433 N	-0.146
A D 433 C	-0.437
A D 433 Q	-0.113
A D 433 E	-0.084
A D 433 G	-0.752
A D 433 H	-0.118
A D 433 I	-0.006
A D 433 L	-0.001
A D 433 K	-0.299
A D 433 M	-0.120
A D 433 F	-0.184
A D 433 P	-0.934
A D 433 S	-0.163
A D 433 T	-0.223
A D 433 W	-0.305
A D 433 Y	-0.358
A D 433 V	-0.328
A Y 434 A	-1.354
A Y 434 R	-1.045
A Y 434 N	-1.145
A Y 434 D	-1.942
A Y 434 C	-0.011
A Y 434 Q	-1.611
A Y 434 E	-1.994
A Y 434 G	-2.344
A Y 434 H	0.158
A Y 434 I	-0.731

A Y 434 L	0.358
A Y 434 K	-1.056
A Y 434 M	-0.739
A Y 434 F	0.330
A Y 434 P	-4.101
A Y 434 S	-1.608
A Y 434 T	-0.618
A Y 434 W	0.008
A Y 434 V	-0.387
A P 435 A	-0.659
A P 435 R	-0.440
A P 435 N	-0.591
A P 435 D	-0.586
A P 435 C	-0.548
A P 435 Q	-0.383
A P 435 E	-0.440
A P 435 G	-0.802
A P 435 H	-0.670
A P 435 I	-0.586
A P 435 L	-0.696
A P 435 K	-0.462
A P 435 M	-0.589
A P 435 F	-0.572
A P 435 S	-0.641
A P 435 T	-0.781
A P 435 W	-0.823
A P 435 Y	-0.649
A P 435 V	-0.810
A S 436 A	-0.405
A S 436 R	-0.305
A S 436 N	-0.423
A S 436 D	-0.484
A S 436 C	-0.261
A S 436 Q	-0.539
A S 436 E	-0.530
A S 436 G	-0.625
A S 436 H	-0.407
A S 436 I	-0.125
A S 436 L	-0.312
A S 436 K	-0.747
A S 436 M	-0.341
A S 436 F	-0.265
A S 436 P	-0.756
A S 436 T	-0.403
A S 436 W	0.180
A S 436 Y	-0.566
A S 436 V	-0.380
A L 437 A	-0.876
A L 437 R	-0.932
A L 437 N	-1.231
A L 437 D	-1.767
A L 437 C	0.367
A L 437 Q	-2.338
A L 437 E	-1.357
A L 437 G	-1.573
A L 437 H	-1.150
A L 437 I	-0.612

A L 437 K -0.457
A L 437 M -0.781
A L 437 F -0.078
A L 437 P -2.297
A L 437 S -0.893
A L 437 T -0.780
A L 437 W 0.268
A L 437 Y -1.348
A L 437 V -0.676
A R 438 A -0.442
A R 438 N -0.304
A R 438 D -0.423
A R 438 C -0.267
A R 438 Q -0.114
A R 438 E -0.333
A R 438 G -0.756
A R 438 H -0.139
A R 438 I -0.213
A R 438 L -0.262
A R 438 K 0.016
A R 438 M -0.411
A R 438 F -0.398
A R 438 P -0.717
A R 438 S -0.330
A R 438 T -0.389
A R 438 W -0.249
A R 438 Y -0.583
A R 438 V -0.348
A P 439 A -1.593
A P 439 R -1.525
A P 439 N -2.160
A P 439 D -2.464
A P 439 C -1.057
A P 439 Q -3.014
A P 439 E -2.332
A P 439 G -2.157
A P 439 H -1.585
A P 439 I -1.052
A P 439 L -1.250
A P 439 K -1.305
A P 439 M -1.379
A P 439 F -1.390
A P 439 S -1.785
A P 439 T -1.624
A P 439 W -0.844
A P 439 Y -1.687
A P 439 V -1.171
A P 440 A -0.927
A P 440 R -0.772
A P 440 N -0.819
A P 440 D -0.775
A P 440 C -0.826
A P 440 Q -0.523
A P 440 E -0.780
A P 440 G -0.967
A P 440 H -0.632
A P 440 I -1.031

A P 440 L	-0.942
A P 440 K	-0.622
A P 440 M	-1.135
A P 440 F	-1.117
A P 440 S	-0.844
A P 440 T	-0.947
A P 440 W	-0.807
A P 440 Y	-1.065
A P 440 V	-1.065
A I 441 A	-1.147
A I 441 R	-1.903
A I 441 N	-3.150
A I 441 D	-3.572
A I 441 C	-0.959
A I 441 Q	-2.752
A I 441 E	-2.799
A I 441 G	-2.043
A I 441 H	-2.530
A I 441 L	-0.034
A I 441 K	-2.023
A I 441 M	-0.330
A I 441 F	-0.051
A I 441 P	-2.162
A I 441 S	-1.594
A I 441 T	-1.225
A I 441 W	-0.311
A I 441 Y	-1.959
A I 441 V	-0.524
A D 442 A	-0.271
A D 442 R	-0.610
A D 442 N	-0.523
A D 442 C	-0.961
A D 442 Q	-0.155
A D 442 E	-0.124
A D 442 G	-1.213
A D 442 H	0.024
A D 442 I	0.434
A D 442 L	0.688
A D 442 K	-0.897
A D 442 M	0.040
A D 442 F	0.734
A D 442 P	-1.242
A D 442 S	-0.011
A D 442 T	0.077
A D 442 W	0.175
A D 442 Y	-0.809
A D 442 V	0.176
A H 443 A	-0.567
A H 443 R	-0.457
A H 443 N	-1.192
A H 443 D	-0.942
A H 443 C	-1.005
A H 443 Q	-0.356
A H 443 E	-0.606
A H 443 G	-2.202
A H 443 I	0.023
A H 443 L	0.023

A H 443 K	-0.676
A H 443 M	-0.293
A H 443 F	0.091
A H 443 P	-1.495
A H 443 S	-0.532
A H 443 T	-0.436
A H 443 W	-0.237
A H 443 Y	-0.201
A H 443 V	-0.319
A L 444 A	-2.134
A L 444 R	-4.666
A L 444 N	-5.021
A L 444 D	-4.986
A L 444 C	-1.474
A L 444 Q	-4.602
A L 444 E	-4.958
A L 444 G	-5.117
A L 444 H	-4.837
A L 444 I	-0.290
A L 444 K	-4.673
A L 444 M	-1.124
A L 444 F	-0.118
A L 444 P	-4.187
A L 444 S	-3.211
A L 444 T	-2.834
A L 444 W	-0.879
A L 444 Y	-2.490
A L 444 V	-1.009
A C 445 A	-1.043
A C 445 R	-1.393
A C 445 N	-3.266
A C 445 D	-3.122
A C 445 Q	-1.844
A C 445 E	-2.725
A C 445 G	-2.239
A C 445 H	-1.901
A C 445 I	-0.154
A C 445 L	-0.097
A C 445 K	-2.078
A C 445 M	-0.432
A C 445 F	-0.862
A C 445 P	-1.690
A C 445 S	-1.011
A C 445 T	-1.777
A C 445 W	-1.641
A C 445 Y	-1.051
A C 445 V	-1.185
A E 446 A	-0.633
A E 446 R	-1.196
A E 446 N	-0.911
A E 446 D	-0.870
A E 446 C	-0.929
A E 446 Q	-0.290
A E 446 G	-1.385
A E 446 H	-0.752
A E 446 I	-0.379
A E 446 L	-0.309

A E	446	K	-1.320
A E	446	M	-0.444
A E	446	F	-0.600
A E	446	P	-1.235
A E	446	S	-0.577
A E	446	T	-0.689
A E	446	W	-0.946
A E	446	Y	-0.939
A E	446	V	-0.808
A L	447	A	-1.654
A L	447	R	-2.620
A L	447	N	-2.323
A L	447	D	-3.214
A L	447	C	-0.903
A L	447	Q	-2.253
A L	447	E	-2.981
A L	447	G	-3.731
A L	447	H	-1.445
A L	447	I	-0.588
A L	447	K	-2.694
A L	447	M	-0.611
A L	447	F	-0.499
A L	447	P	-3.978
A L	447	S	-1.534
A L	447	T	-1.356
A L	447	W	-1.396
A L	447	Y	-1.769
A L	447	V	-1.043
A L	448	A	-1.469
A L	448	R	-3.082
A L	448	N	-4.029
A L	448	D	-4.498
A L	448	C	-0.589
A L	448	Q	-3.075
A L	448	E	-4.173
A L	448	G	-2.669
A L	448	H	-2.919
A L	448	I	-0.280
A L	448	K	-3.177
A L	448	M	-0.163
A L	448	F	-0.529
A L	448	P	-3.493
A L	448	S	-1.815
A L	448	T	-1.647
A L	448	W	-1.481
A L	448	Y	-2.264
A L	448	V	-1.024
A P	449	A	-2.214
A P	449	R	-1.611
A P	449	N	-2.355
A P	449	D	-3.476
A P	449	C	-1.302
A P	449	Q	-2.150
A P	449	E	-3.260
A P	449	G	-2.975
A P	449	H	-2.005
A P	449	I	-2.146

A P 449 L	-2.274
A P 449 K	-1.668
A P 449 M	-1.854
A P 449 F	-2.485
A P 449 S	-1.887
A P 449 T	-1.976
A P 449 W	-2.334
A P 449 Y	-2.973
A P 449 V	-1.826
A R 450 A	-0.791
A R 450 N	-1.618
A R 450 D	-1.581
A R 450 C	-0.665
A R 450 Q	-0.688
A R 450 E	-1.770
A R 450 G	-1.613
A R 450 H	-0.945
A R 450 I	-0.328
A R 450 L	-0.477
A R 450 K	-0.872
A R 450 M	-0.630
A R 450 F	-0.735
A R 450 P	-0.124
A R 450 S	-0.759
A R 450 T	-1.110
A R 450 W	-0.375
A R 450 Y	-1.070
A R 450 V	-0.974
A L 451 A	-2.068
A L 451 R	-1.811
A L 451 N	-2.473
A L 451 D	-4.053
A L 451 C	-1.356
A L 451 Q	-1.596
A L 451 E	-3.619
A L 451 G	-3.223
A L 451 H	-1.454
A L 451 I	-0.514
A L 451 K	-1.929
A L 451 M	-0.728
A L 451 F	-1.178
A L 451 P	-3.656
A L 451 S	-1.826
A L 451 T	-1.898
A L 451 W	-0.973
A L 451 Y	-1.634
A L 451 V	-1.627
A Q 452 A	-0.839
A Q 452 R	-0.478
A Q 452 N	-0.808
A Q 452 D	-1.239
A Q 452 C	-0.825
A Q 452 E	-1.020
A Q 452 G	-1.596
A Q 452 H	-0.680
A Q 452 I	-0.525
A Q 452 L	-0.544

A Q	452	K	-0.422
A Q	452	M	-0.603
A Q	452	F	-0.606
A Q	452	P	-1.014
A Q	452	S	-0.761
A Q	452	T	-0.389
A Q	452	W	-0.438
A Q	452	Y	-0.966
A Q	452	V	-0.601
A A	453	R	-1.144
A A	453	N	-1.447
A A	453	D	-1.582
A A	453	C	0.252
A A	453	Q	-1.019
A A	453	E	-1.167
A A	453	G	-0.797
A A	453	H	-0.053
A A	453	I	-0.057
A A	453	L	0.312
A A	453	K	-0.897
A A	453	M	-0.145
A A	453	F	0.479
A A	453	P	1.050
A A	453	S	-0.728
A A	453	T	-0.766
A A	453	W	0.276
A A	453	Y	-0.086
A A	453	V	-0.165
A R	454	A	-1.134
A R	454	N	-1.867
A R	454	D	-2.269
A R	454	C	-0.767
A R	454	Q	-1.028
A R	454	E	-1.823
A R	454	G	-1.770
A R	454	H	-1.218
A R	454	I	-0.178
A R	454	L	-0.487
A R	454	K	-1.244
A R	454	M	-0.645
A R	454	F	-0.492
A R	454	P	-1.693
A R	454	S	-1.367
A R	454	T	-1.254
A R	454	W	-0.175
A R	454	Y	-0.886
A R	454	V	-0.753
A Y	455	A	-3.166
A Y	455	R	-2.801
A Y	455	N	-3.745
A Y	455	D	-3.543
A Y	455	C	-2.177
A Y	455	Q	-3.812
A Y	455	E	-3.154
A Y	455	G	-4.376
A Y	455	H	-3.319
A Y	455	I	-2.705

A Y 455 L	-1.867
A Y 455 K	-2.440
A Y 455 M	-2.012
A Y 455 F	-1.151
A Y 455 P	-4.890
A Y 455 S	-3.746
A Y 455 T	-3.078
A Y 455 W	-1.435
A Y 455 V	-2.204
A Y 456 A	-3.860
A Y 456 R	-4.635
A Y 456 N	-3.584
A Y 456 D	-5.355
A Y 456 C	-2.212
A Y 456 Q	-4.787
A Y 456 E	-4.808
A Y 456 G	-4.520
A Y 456 H	-3.677
A Y 456 I	-3.665
A Y 456 L	-2.976
A Y 456 K	-3.217
A Y 456 M	-3.133
A Y 456 F	-1.124
A Y 456 P	-5.747
A Y 456 S	-4.107
A Y 456 T	-4.107
A Y 456 W	-2.836
A Y 456 V	-2.835
A S 457 A	-2.046
A S 457 R	-2.059
A S 457 N	-3.869
A S 457 D	-3.302
A S 457 C	-0.908
A S 457 Q	-4.935
A S 457 E	-4.628
A S 457 G	-2.944
A S 457 H	-2.485
A S 457 I	-1.380
A S 457 L	-0.228
A S 457 K	-2.693
A S 457 M	-1.029
A S 457 F	-0.778
A S 457 P	-2.578
A S 457 T	-2.131
A S 457 W	-1.589
A S 457 Y	-2.606
A S 457 V	-1.183
A I 458 A	-2.683
A I 458 R	-4.876
A I 458 N	-4.870
A I 458 D	-4.784
A I 458 C	-0.994
A I 458 Q	-5.303
A I 458 E	-5.127
A I 458 G	-3.924
A I 458 H	-3.505
A I 458 L	-2.048

A	I	458	K	-3.713
A	I	458	M	-2.218
A	I	458	F	-1.667
A	I	458	P	-5.093
A	I	458	S	-3.676
A	I	458	T	-2.642
A	I	458	W	-3.189
A	I	458	Y	-4.082
A	I	458	V	-1.208
A	A	459	R	-2.923
A	A	459	N	-4.046
A	A	459	D	-4.716
A	A	459	C	-1.194
A	A	459	Q	-4.173
A	A	459	E	-4.414
A	A	459	G	-1.371
A	A	459	H	-3.573
A	A	459	I	-1.207
A	A	459	L	-1.244
A	A	459	K	-3.742
A	A	459	M	-1.294
A	A	459	F	-0.728
A	A	459	P	-2.052
A	A	459	S	0.095
A	A	459	T	-2.134
A	A	459	W	-1.432
A	A	459	Y	-1.849
A	A	459	V	-1.339
A	S	460	A	-1.259
A	S	460	R	-1.582
A	S	460	N	-1.691
A	S	460	D	-2.284
A	S	460	C	-0.349
A	S	460	Q	-2.074
A	S	460	E	-2.424
A	S	460	G	-1.875
A	S	460	H	-1.946
A	S	460	I	-0.524
A	S	460	L	-0.630
A	S	460	K	-1.198
A	S	460	M	-0.757
A	S	460	F	-0.507
A	S	460	P	-2.615
A	S	460	T	-1.287
A	S	460	W	-0.470
A	S	460	Y	-1.327
A	S	460	V	-0.958
A	S	461	A	-1.724
A	S	461	R	-2.316
A	S	461	N	-2.841
A	S	461	D	-3.389
A	S	461	C	-0.779
A	S	461	Q	-3.355
A	S	461	E	-3.654
A	S	461	G	-1.876
A	S	461	H	-2.122
A	S	461	I	-1.520

A S 461 L	-1.590
A S 461 K	-2.407
A S 461 M	-1.579
A S 461 F	-1.527
A S 461 P	-3.131
A S 461 T	-1.850
A S 461 W	-1.012
A S 461 Y	-1.672
A S 461 V	-1.431
A S 462 A	-0.500
A S 462 R	-0.618
A S 462 N	-0.625
A S 462 D	-1.118
A S 462 C	-0.114
A S 462 Q	-0.271
A S 462 E	-1.206
A S 462 G	-0.702
A S 462 H	-0.709
A S 462 I	0.254
A S 462 L	0.349
A S 462 K	-0.480
A S 462 M	0.123
A S 462 F	0.196
A S 462 P	-0.024
A S 462 T	-0.397
A S 462 W	0.002
A S 462 Y	-0.141
A S 462 V	-0.280
A K 463 A	-0.471
A K 463 R	-0.213
A K 463 N	-0.849
A K 463 D	-0.688
A K 463 C	-0.521
A K 463 Q	-0.192
A K 463 E	-0.554
A K 463 G	-0.980
A K 463 H	-0.834
A K 463 I	-0.132
A K 463 L	-0.134
A K 463 M	-0.260
A K 463 F	-0.508
A K 463 P	-0.735
A K 463 S	-0.376
A K 463 T	-0.821
A K 463 W	-0.608
A K 463 Y	-0.523
A K 463 V	-0.645
A V 464 A	-0.970
A V 464 R	-1.059
A V 464 N	-2.333
A V 464 D	-2.054
A V 464 C	-0.892
A V 464 Q	-1.320
A V 464 E	-1.897
A V 464 G	-1.800
A V 464 H	-1.437
A V 464 I	-0.225

A V 464 L	-0.622
A V 464 K	-1.095
A V 464 M	-0.424
A V 464 F	-0.643
A V 464 P	-1.860
A V 464 S	-1.100
A V 464 T	-1.446
A V 464 W	-0.467
A V 464 Y	-0.553
A H 465 A	-0.703
A H 465 R	-0.782
A H 465 N	-0.716
A H 465 D	-0.963
A H 465 C	-0.522
A H 465 Q	-0.501
A H 465 E	-0.863
A H 465 G	-1.295
A H 465 I	-0.341
A H 465 L	-0.493
A H 465 K	-0.846
A H 465 M	-0.575
A H 465 F	-0.400
A H 465 P	-1.319
A H 465 S	-0.553
A H 465 T	-0.685
A H 465 W	-0.424
A H 465 Y	-0.202
A H 465 V	-0.631
A P 466 A	-1.013
A P 466 R	-0.853
A P 466 N	-1.119
A P 466 D	-1.093
A P 466 C	-1.025
A P 466 Q	-0.707
A P 466 E	-0.999
A P 466 G	-1.117
A P 466 H	-1.052
A P 466 I	-0.691
A P 466 L	-0.995
A P 466 K	-0.954
A P 466 M	-0.803
A P 466 F	-0.935
A P 466 S	-0.960
A P 466 T	-1.304
A P 466 W	-0.792
A P 466 Y	-0.696
A P 466 V	-1.172
A N 467 A	-0.714
A N 467 R	-0.457
A N 467 D	-0.032
A N 467 C	-0.747
A N 467 Q	-0.157
A N 467 E	-0.361
A N 467 G	-1.082
A N 467 H	-0.333
A N 467 I	-0.401
A N 467 L	-0.478

A N 467 K	-0.396
A N 467 M	-0.393
A N 467 F	-0.547
A N 467 P	-1.128
A N 467 S	-0.396
A N 467 T	-0.402
A N 467 W	-0.459
A N 467 Y	-0.701
A N 467 V	-0.679
A S 468 A	-0.302
A S 468 R	0.415
A S 468 N	-0.773
A S 468 D	-1.787
A S 468 C	0.162
A S 468 Q	-0.079
A S 468 E	0.136
A S 468 G	-1.389
A S 468 H	-0.506
A S 468 I	0.902
A S 468 L	0.449
A S 468 K	0.201
A S 468 M	0.402
A S 468 F	0.260
A S 468 P	-1.909
A S 468 T	-0.139
A S 468 W	0.654
A S 468 Y	0.410
A S 468 V	0.193
A V 469 A	-1.695
A V 469 R	-4.007
A V 469 N	-4.699
A V 469 D	-4.318
A V 469 C	-1.589
A V 469 Q	-3.988
A V 469 E	-3.298
A V 469 G	-2.953
A V 469 H	-3.014
A V 469 I	0.587
A V 469 L	-0.773
A V 469 K	-3.278
A V 469 M	-1.651
A V 469 F	-1.678
A V 469 P	-3.305
A V 469 S	-1.920
A V 469 T	-1.745
A V 469 W	-1.257
A V 469 Y	-2.908
A H 470 A	-1.004
A H 470 R	-1.282
A H 470 N	-1.591
A H 470 D	-1.651
A H 470 C	-0.810
A H 470 Q	-0.798
A H 470 E	-1.277
A H 470 G	-2.245
A H 470 I	-0.452
A H 470 L	-0.425

A H 470 K	-1.215
A H 470 M	-0.580
A H 470 F	-0.411
A H 470 P	-2.171
A H 470 S	-0.895
A H 470 T	-0.910
A H 470 W	-0.487
A H 470 Y	-0.843
A H 470 V	-0.965
A I 471 A	-2.987
A I 471 R	-4.541
A I 471 N	-4.715
A I 471 D	-5.621
A I 471 C	-1.750
A I 471 Q	-5.494
A I 471 E	-4.815
A I 471 G	-4.394
A I 471 H	-4.524
A I 471 L	-0.508
A I 471 K	-4.841
A I 471 M	-1.967
A I 471 F	-0.899
A I 471 P	-5.199
A I 471 S	-3.746
A I 471 T	-2.738
A I 471 W	-3.552
A I 471 Y	-3.708
A I 471 V	-1.354
A C 472 A	-2.346
A C 472 R	-2.570
A C 472 N	-3.459
A C 472 D	-4.268
A C 472 Q	-3.719
A C 472 E	-2.510
A C 472 G	-4.071
A C 472 H	-2.585
A C 472 I	-0.109
A C 472 L	-0.049
A C 472 K	-2.508
A C 472 M	-1.639
A C 472 F	-1.060
A C 472 P	-4.354
A C 472 S	-2.591
A C 472 T	-0.073
A C 472 W	-0.618
A C 472 Y	-2.311
A C 472 V	-1.176
A A 473 R	-3.002
A A 473 N	-2.611
A A 473 D	-3.922
A A 473 C	0.750
A A 473 Q	-3.988
A A 473 E	-3.551
A A 473 G	-1.940
A A 473 H	-2.282
A A 473 I	0.886
A A 473 L	0.891

A	A	473	K	-2.608
A	A	473	M	0.424
A	A	473	F	0.704
A	A	473	P	-2.220
A	A	473	S	-1.822
A	A	473	T	-0.788
A	A	473	W	1.335
A	A	473	Y	0.393
A	A	473	V	0.224
A	V	474	A	-1.094
A	V	474	R	-1.892
A	V	474	N	-3.478
A	V	474	D	-3.322
A	V	474	C	-1.174
A	V	474	Q	-3.284
A	V	474	E	-2.803
A	V	474	G	-1.806
A	V	474	H	-2.723
A	V	474	I	-0.750
A	V	474	L	-1.235
A	V	474	K	-2.723
A	V	474	M	-0.957
A	V	474	F	-1.129
A	V	474	P	-2.602
A	V	474	S	-1.375
A	V	474	T	-1.228
A	V	474	W	-0.855
A	V	474	Y	-1.900
A	A	475	R	-0.002
A	A	475	N	-0.281
A	A	475	D	-0.934
A	A	475	C	0.355
A	A	475	Q	-0.817
A	A	475	E	0.522
A	A	475	G	-0.807
A	A	475	H	0.115
A	A	475	I	1.051
A	A	475	L	1.398
A	A	475	K	0.341
A	A	475	M	0.706
A	A	475	F	0.939
A	A	475	P	-0.425
A	A	475	S	-0.375
A	A	475	T	0.351
A	A	475	W	1.073
A	A	475	Y	0.637
A	A	475	V	1.453
A	V	476	A	-0.991
A	V	476	R	-0.651
A	V	476	N	-1.388
A	V	476	D	-1.043
A	V	476	C	-0.732
A	V	476	Q	-0.525
A	V	476	E	-0.759
A	V	476	G	-1.242
A	V	476	H	-0.745
A	V	476	I	-0.212

A V 476 L	-0.411
A V 476 K	-0.891
A V 476 M	-0.450
A V 476 F	-0.440
A V 476 P	-1.398
A V 476 S	-0.882
A V 476 T	-1.184
A V 476 W	-0.537
A V 476 Y	-0.816
A E 477 A	-0.556
A E 477 R	-0.123
A E 477 N	-0.233
A E 477 D	-0.421
A E 477 C	-0.183
A E 477 Q	-0.170
A E 477 G	-1.019
A E 477 H	0.031
A E 477 I	-0.136
A E 477 L	-0.097
A E 477 K	0.030
A E 477 M	-0.401
A E 477 F	-0.201
A E 477 P	-1.145
A E 477 S	-0.270
A E 477 T	-0.222
A E 477 W	0.193
A E 477 Y	0.041
A E 477 V	-0.215
A Y 478 A	-1.465
A Y 478 R	-1.096
A Y 478 N	-1.248
A Y 478 D	-1.226
A Y 478 C	-0.745
A Y 478 Q	-1.370
A Y 478 E	-1.078
A Y 478 G	-1.517
A Y 478 H	-1.042
A Y 478 I	-1.095
A Y 478 L	-1.262
A Y 478 K	-1.183
A Y 478 M	-1.131
A Y 478 F	-0.702
A Y 478 P	-2.234
A Y 478 S	-1.608
A Y 478 T	-1.471
A Y 478 W	-0.348
A Y 478 V	-1.230
A Q 479 A	-0.513
A Q 479 R	-0.161
A Q 479 N	-0.343
A Q 479 D	-0.352
A Q 479 C	-0.255
A Q 479 E	-0.069
A Q 479 G	-0.866
A Q 479 H	-0.255
A Q 479 I	-0.207
A Q 479 L	-0.293

A Q 479 K	-0.044
A Q 479 M	-0.300
A Q 479 F	-0.404
A Q 479 P	-0.294
A Q 479 S	-0.461
A Q 479 T	-0.199
A Q 479 W	-0.181
A Q 479 Y	-0.316
A Q 479 V	-0.296
A T 480 A	-1.365
A T 480 R	-1.585
A T 480 N	-2.277
A T 480 D	-2.632
A T 480 C	-1.565
A T 480 Q	-2.204
A T 480 E	-2.072
A T 480 G	-1.688
A T 480 H	-1.518
A T 480 I	-1.297
A T 480 L	-1.065
A T 480 K	-1.903
A T 480 M	-1.118
A T 480 F	-1.526
A T 480 P	-1.724
A T 480 S	-0.955
A T 480 W	-1.213
A T 480 Y	-1.528
A T 480 V	-1.553
A R 481 A	-0.071
A R 481 N	-0.039
A R 481 D	-0.138
A R 481 C	-0.231
A R 481 Q	0.037
A R 481 E	-0.020
A R 481 G	-0.285
A R 481 H	-0.110
A R 481 I	0.185
A R 481 L	0.202
A R 481 K	0.092
A R 481 M	0.030
A R 481 F	0.018
A R 481 P	0.152
A R 481 S	-0.020
A R 481 T	-0.173
A R 481 W	-0.065
A R 481 Y	-0.134
A R 481 V	-0.126
A S 482 A	-0.154
A S 482 R	-0.344
A S 482 N	0.062
A S 482 D	-0.207
A S 482 C	0.020
A S 482 Q	-0.189
A S 482 E	-0.295
A S 482 G	-0.362
A S 482 H	-0.326
A S 482 I	0.410

A S 482 L	0.617
A S 482 K	-0.226
A S 482 M	0.102
A S 482 F	0.288
A S 482 P	-0.549
A S 482 T	0.389
A S 482 W	-0.219
A S 482 Y	0.010
A S 482 V	-0.129
A G 483 A	-1.458
A G 483 R	-1.294
A G 483 N	-1.342
A G 483 D	-1.186
A G 483 C	-1.472
A G 483 Q	-1.019
A G 483 E	-1.332
A G 483 H	-1.504
A G 483 I	-1.374
A G 483 L	-2.169
A G 483 K	-1.846
A G 483 M	-1.303
A G 483 F	-1.805
A G 483 P	-1.060
A G 483 S	-1.291
A G 483 T	-2.076
A G 483 W	-1.305
A G 483 Y	-0.836
A G 483 V	-2.040
A R 484 A	-1.046
A R 484 N	-1.295
A R 484 D	-0.955
A R 484 C	-1.088
A R 484 Q	-0.443
A R 484 E	-0.609
A R 484 G	-1.119
A R 484 H	-0.922
A R 484 I	-0.685
A R 484 L	-0.848
A R 484 K	-0.681
A R 484 M	-0.699
A R 484 F	-0.903
A R 484 P	-1.077
A R 484 S	-0.849
A R 484 T	-0.795
A R 484 W	-0.818
A R 484 Y	-0.647
A R 484 V	-0.850
A I 485 A	-0.645
A I 485 R	-0.175
A I 485 N	-0.259
A I 485 D	-0.548
A I 485 C	-0.186
A I 485 Q	-0.068
A I 485 E	-0.130
A I 485 G	-0.938
A I 485 H	-0.162
A I 485 L	-0.092

A I 485 K	-0.084
A I 485 M	-0.223
A I 485 F	-0.170
A I 485 P	-0.145
A I 485 S	-0.662
A I 485 T	-0.219
A I 485 W	0.007
A I 485 Y	-0.519
A I 485 V	-0.235
A N 486 A	-1.102
A N 486 R	0.347
A N 486 D	-2.491
A N 486 C	0.298
A N 486 Q	-0.550
A N 486 E	-1.310
A N 486 G	-2.444
A N 486 H	0.834
A N 486 I	1.547
A N 486 L	0.894
A N 486 K	-0.049
A N 486 M	0.169
A N 486 F	0.972
A N 486 P	-2.168
A N 486 S	-0.744
A N 486 T	-0.188
A N 486 W	1.049
A N 486 Y	1.063
A N 486 V	2.347
A K 487 A	-0.607
A K 487 R	-0.215
A K 487 N	-0.623
A K 487 D	-0.728
A K 487 C	-0.386
A K 487 Q	-0.260
A K 487 E	-0.398
A K 487 G	-0.935
A K 487 H	-0.138
A K 487 I	-0.180
A K 487 L	-0.310
A K 487 M	-0.354
A K 487 F	-0.299
A K 487 P	-0.859
A K 487 S	-0.509
A K 487 T	-0.506
A K 487 W	-0.059
A K 487 Y	-0.178
A K 487 V	-0.636
A G 488 A	-1.351
A G 488 R	-1.316
A G 488 N	-1.914
A G 488 D	-1.689
A G 488 C	-1.053
A G 488 Q	-1.448
A G 488 E	-1.809
A G 488 H	-1.301
A G 488 I	-1.573
A G 488 L	-1.467

A G 488 K	-1.648
A G 488 M	-1.708
A G 488 F	-1.256
A G 488 P	-1.608
A G 488 S	-1.332
A G 488 T	-1.958
A G 488 W	-0.862
A G 488 Y	-1.208
A G 488 V	-1.528
A V 489 A	-1.800
A V 489 R	-3.602
A V 489 N	-4.345
A V 489 D	-4.401
A V 489 C	-1.786
A V 489 Q	-2.171
A V 489 E	-3.825
A V 489 G	-2.882
A V 489 H	-3.001
A V 489 I	-0.219
A V 489 L	-0.588
A V 489 K	-4.356
A V 489 M	-0.711
A V 489 F	-1.158
A V 489 P	-2.673
A V 489 S	-1.874
A V 489 T	-1.738
A V 489 W	-1.930
A V 489 Y	-1.766
A A 490 R	-2.220
A A 490 N	-1.724
A A 490 D	-3.127
A A 490 C	1.281
A A 490 Q	-2.898
A A 490 E	-3.095
A A 490 G	-1.295
A A 490 H	-2.334
A A 490 I	0.384
A A 490 L	0.529
A A 490 K	-2.689
A A 490 M	0.037
A A 490 F	0.665
A A 490 P	-2.309
A A 490 S	-0.774
A A 490 T	-0.478
A A 490 W	-0.162
A A 490 Y	-0.201
A A 490 V	-0.621
A T 491 A	-1.424
A T 491 R	-2.909
A T 491 N	-3.612
A T 491 D	-3.487
A T 491 C	-1.850
A T 491 Q	-2.305
A T 491 E	-3.974
A T 491 G	-2.781
A T 491 H	-4.263
A T 491 I	-0.642

A T 491 L	-0.766
A T 491 K	-3.661
A T 491 M	-0.839
A T 491 F	-0.659
A T 491 P	-2.665
A T 491 S	-0.789
A T 491 W	-2.059
A T 491 Y	-2.214
A T 491 V	-1.397
A S 492 A	-0.003
A S 492 R	-0.308
A S 492 N	0.250
A S 492 D	-0.661
A S 492 C	0.251
A S 492 Q	-0.322
A S 492 E	-0.200
A S 492 G	-0.585
A S 492 H	-0.169
A S 492 I	1.148
A S 492 L	1.112
A S 492 K	-0.163
A S 492 M	0.684
A S 492 F	0.842
A S 492 P	-0.453
A S 492 T	0.260
A S 492 W	0.720
A S 492 Y	0.916
A S 492 V	0.517
A W 493 A	-1.987
A W 493 R	-2.678
A W 493 N	-3.416
A W 493 D	-2.607
A W 493 C	-1.699
A W 493 Q	-1.396
A W 493 E	-3.072
A W 493 G	-3.027
A W 493 H	-2.432
A W 493 I	-1.226
A W 493 L	-1.234
A W 493 K	-3.330
A W 493 M	-0.987
A W 493 F	-1.074
A W 493 P	-3.012
A W 493 S	-2.019
A W 493 T	-2.432
A W 493 Y	-0.897
A W 493 V	-2.278
A L 494 A	-2.954
A L 494 R	-5.011
A L 494 N	-5.717
A L 494 D	-5.325
A L 494 C	-2.628
A L 494 Q	-4.148
A L 494 E	-5.412
A L 494 G	-4.294
A L 494 H	-4.883
A L 494 I	-0.420

A L 494 K	-4.967
A L 494 M	-1.001
A L 494 F	-1.033
A L 494 P	-4.317
A L 494 S	-2.476
A L 494 T	-2.449
A L 494 W	-2.569
A L 494 Y	-3.958
A L 494 V	-2.004
A R 495 A	0.381
A R 495 N	-0.219
A R 495 D	-0.688
A R 495 C	-0.157
A R 495 Q	0.026
A R 495 E	0.045
A R 495 G	-0.999
A R 495 H	-0.511
A R 495 I	1.158
A R 495 L	1.585
A R 495 K	0.534
A R 495 M	0.755
A R 495 F	1.715
A R 495 P	-0.667
A R 495 S	0.188
A R 495 T	0.272
A R 495 W	0.785
A R 495 Y	0.404
A R 495 V	0.625
A A 496 R	-0.083
A A 496 N	0.020
A A 496 D	-0.119
A A 496 C	-0.199
A A 496 Q	-0.003
A A 496 E	-0.024
A A 496 G	-0.331
A A 496 H	-0.163
A A 496 I	0.097
A A 496 L	0.092
A A 496 K	-0.117
A A 496 M	0.006
A A 496 F	0.026
A A 496 P	-0.289
A A 496 S	-0.107
A A 496 T	-0.252
A A 496 W	-0.116
A A 496 Y	-0.076
A A 496 V	-0.209
A K 497 A	-0.564
A K 497 R	-0.287
A K 497 N	-1.126
A K 497 D	-1.203
A K 497 C	-0.341
A K 497 Q	-0.393
A K 497 E	-0.945
A K 497 G	-1.199
A K 497 H	-0.468
A K 497 I	0.064

A K 497 L	1.152
A K 497 M	0.236
A K 497 F	-0.110
A K 497 P	-0.884
A K 497 S	-0.586
A K 497 T	-0.874
A K 497 W	-0.065
A K 497 Y	-0.495
A K 497 V	-0.407
A E 498 A	-0.361
A E 498 R	-0.091
A E 498 N	-0.189
A E 498 D	-0.217
A E 498 C	-0.242
A E 498 Q	0.009
A E 498 G	-0.788
A E 498 H	0.080
A E 498 I	-0.133
A E 498 L	-0.164
A E 498 K	0.084
A E 498 M	-0.281
A E 498 F	-0.261
A E 498 P	-0.808
A E 498 S	-0.291
A E 498 T	-0.299
A E 498 W	-0.157
A E 498 Y	-0.497
A E 498 V	-0.295
A P 499 A	-1.204
A P 499 R	-1.038
A P 499 N	-1.012
A P 499 D	-0.665
A P 499 C	-0.996
A P 499 Q	-0.722
A P 499 E	-0.721
A P 499 G	-1.243
A P 499 H	-0.852
A P 499 I	-0.839
A P 499 L	-0.808
A P 499 K	-0.831
A P 499 M	-0.873
A P 499 F	-1.035
A P 499 S	-1.190
A P 499 T	-1.287
A P 499 W	-0.844
A P 499 Y	-0.993
A P 499 V	-1.051
A A 500 R	-0.666
A A 500 N	-0.796
A A 500 D	-0.744
A A 500 C	-0.280
A A 500 Q	-0.807
A A 500 E	-1.720
A A 500 G	-0.675
A A 500 H	-0.415
A A 500 I	0.134
A A 500 L	0.580

A A 500 K	-0.774
A A 500 M	-0.366
A A 500 F	-0.028
A A 500 P	-0.962
A A 500 S	0.218
A A 500 T	-1.108
A A 500 W	-0.387
A A 500 Y	-0.887
A A 500 V	-0.527
A G 501 A	0.156
A G 501 R	0.194
A G 501 N	0.515
A G 501 D	0.274
A G 501 C	0.263
A G 501 Q	0.352
A G 501 E	0.454
A G 501 H	0.278
A G 501 I	0.635
A G 501 L	0.885
A G 501 K	0.303
A G 501 M	0.413
A G 501 F	0.732
A G 501 P	0.219
A G 501 S	0.311
A G 501 T	0.254
A G 501 W	0.398
A G 501 Y	0.188
A G 501 V	0.388
A E 502 A	-0.447
A E 502 R	-0.126
A E 502 N	-0.008
A E 502 D	-0.332
A E 502 C	-0.330
A E 502 Q	-0.085
A E 502 G	-0.645
A E 502 H	0.002
A E 502 I	-0.086
A E 502 L	-0.094
A E 502 K	0.013
A E 502 M	-0.292
A E 502 F	-0.198
A E 502 P	-0.663
A E 502 S	-0.312
A E 502 T	-0.148
A E 502 W	-0.135
A E 502 Y	-0.438
A E 502 V	-0.190
A N 503 A	-0.228
A N 503 R	-0.130
A N 503 D	-0.075
A N 503 C	-0.266
A N 503 Q	-0.068
A N 503 E	-0.075
A N 503 G	-0.227
A N 503 H	-0.101
A N 503 I	-0.149
A N 503 L	-0.221

A N 503 K	-0.091
A N 503 M	-0.218
A N 503 F	-0.270
A N 503 P	-0.088
A N 503 S	-0.131
A N 503 T	-0.336
A N 503 W	-0.197
A N 503 Y	-0.199
A N 503 V	-0.326
A G 504 A	-0.660
A G 504 R	-0.476
A G 504 N	-0.689
A G 504 D	-0.420
A G 504 C	-0.826
A G 504 Q	-0.293
A G 504 E	-0.550
A G 504 H	-0.646
A G 504 I	-0.429
A G 504 L	-0.882
A G 504 K	-0.730
A G 504 M	-0.679
A G 504 F	-0.928
A G 504 P	-0.429
A G 504 S	-0.685
A G 504 T	-1.110
A G 504 W	-0.733
A G 504 Y	-0.506
A G 504 V	-1.106
A R 505 A	-0.628
A R 505 N	-0.131
A R 505 D	-0.780
A R 505 C	-0.488
A R 505 Q	-0.074
A R 505 E	-0.145
A R 505 G	-0.729
A R 505 H	0.077
A R 505 I	0.083
A R 505 L	0.265
A R 505 K	0.089
A R 505 M	-0.297
A R 505 F	-0.193
A R 505 P	0.323
A R 505 S	-0.408
A R 505 T	-0.434
A R 505 W	-0.091
A R 505 Y	-0.182
A R 505 V	-0.367
A R 506 A	-0.273
A R 506 N	-0.065
A R 506 D	-0.148
A R 506 C	-0.116
A R 506 Q	-0.100
A R 506 E	-0.167
A R 506 G	-0.371
A R 506 H	-0.161
A R 506 I	-0.057
A R 506 L	-0.131

A R 506 K	-0.174
A R 506 M	-0.214
A R 506 F	-0.228
A R 506 P	-0.288
A R 506 S	-0.164
A R 506 T	-0.379
A R 506 W	-0.202
A R 506 Y	-0.271
A R 506 V	-0.274
A A 507 R	-0.195
A A 507 N	0.264
A A 507 D	-0.242
A A 507 C	0.089
A A 507 Q	-0.072
A A 507 E	-0.195
A A 507 G	-0.272
A A 507 H	-0.048
A A 507 I	0.172
A A 507 L	0.258
A A 507 K	0.004
A A 507 M	-0.226
A A 507 F	0.243
A A 507 P	-0.117
A A 507 S	0.195
A A 507 T	-0.204
A A 507 W	-0.032
A A 507 Y	0.213
A A 507 V	-0.173
A L 508 A	-1.561
A L 508 R	-0.817
A L 508 N	-1.798
A L 508 D	-2.623
A L 508 C	-0.461
A L 508 Q	-0.646
A L 508 E	-1.265
A L 508 G	-2.490
A L 508 H	-0.592
A L 508 I	-0.789
A L 508 K	0.198
A L 508 M	-0.464
A L 508 F	-0.277
A L 508 P	-2.408
A L 508 S	-1.604
A L 508 T	-0.373
A L 508 W	0.772
A L 508 Y	-0.213
A L 508 V	-0.618
A V 509 A	-1.802
A V 509 R	-4.255
A V 509 N	-5.302
A V 509 D	-5.033
A V 509 C	-1.256
A V 509 Q	-4.254
A V 509 E	-5.009
A V 509 G	-3.844
A V 509 H	-3.936
A V 509 I	-0.182

A V 509 L	-0.703
A V 509 K	-4.261
A V 509 M	-0.560
A V 509 F	-1.773
A V 509 P	-2.580
A V 509 S	-1.993
A V 509 T	-2.169
A V 509 W	-2.046
A V 509 Y	-2.150
A P 510 A	-1.946
A P 510 R	-1.946
A P 510 N	-3.073
A P 510 D	-4.201
A P 510 C	-1.084
A P 510 Q	-3.152
A P 510 E	-4.370
A P 510 G	-3.272
A P 510 H	-2.632
A P 510 I	-1.899
A P 510 L	-2.093
A P 510 K	-2.145
A P 510 M	-1.883
A P 510 F	-1.482
A P 510 S	-2.308
A P 510 T	-2.340
A P 510 W	-1.976
A P 510 Y	-2.015
A P 510 V	-1.684
A M 511 A	-2.245
A M 511 R	-3.035
A M 511 N	-4.249
A M 511 D	-5.355
A M 511 C	0.354
A M 511 Q	-4.204
A M 511 E	-5.241
A M 511 G	-2.755
A M 511 H	-2.108
A M 511 I	-0.248
A M 511 L	-1.625
A M 511 K	-4.636
A M 511 F	-1.312
A M 511 P	-4.766
A M 511 S	-2.586
A M 511 T	-2.451
A M 511 W	-1.120
A M 511 Y	-1.451
A M 511 V	-0.627
A F 512 A	-3.081
A F 512 R	-4.233
A F 512 N	-4.939
A F 512 D	-5.759
A F 512 C	-1.099
A F 512 Q	-4.456
A F 512 E	-5.473
A F 512 G	-4.620
A F 512 H	-0.220
A F 512 I	-2.079

A F 512 L	-2.496
A F 512 K	-4.793
A F 512 M	-3.125
A F 512 P	-3.934
A F 512 S	-2.875
A F 512 T	-2.674
A F 512 W	0.242
A F 512 Y	-0.082
A F 512 V	-2.648
A V 513 A	-2.358
A V 513 R	-2.963
A V 513 N	-5.310
A V 513 D	-5.184
A V 513 C	-1.026
A V 513 Q	-4.636
A V 513 E	-5.355
A V 513 G	-3.945
A V 513 H	-2.960
A V 513 I	0.065
A V 513 L	-0.720
A V 513 K	-3.239
A V 513 M	-0.995
A V 513 F	-0.545
A V 513 P	-3.747
A V 513 S	-1.770
A V 513 T	-2.111
A V 513 W	-0.923
A V 513 Y	-1.248
A R 514 A	-1.449
A R 514 N	-2.176
A R 514 D	-2.251
A R 514 C	-0.794
A R 514 Q	-1.214
A R 514 E	-1.696
A R 514 G	-2.112
A R 514 H	-0.970
A R 514 I	-0.076
A R 514 L	-0.811
A R 514 K	-1.338
A R 514 M	-0.924
A R 514 F	-0.883
A R 514 P	-2.954
A R 514 S	-1.372
A R 514 T	-1.440
A R 514 W	-0.553
A R 514 Y	-0.823
A R 514 V	-0.796
A K 515 A	-0.747
A K 515 R	-0.228
A K 515 N	-0.488
A K 515 D	-0.704
A K 515 C	-0.969
A K 515 Q	-0.205
A K 515 E	-0.474
A K 515 G	-1.053
A K 515 H	-0.057
A K 515 I	-0.382

A K 515 L	-0.841
A K 515 M	-0.653
A K 515 F	-0.925
A K 515 P	-0.484
A K 515 S	-0.453
A K 515 T	-0.766
A K 515 W	-0.806
A K 515 Y	-0.893
A K 515 V	-1.089
A S 516 A	-1.223
A S 516 R	-1.639
A S 516 N	-3.164
A S 516 D	-2.223
A S 516 C	-0.885
A S 516 Q	-2.210
A S 516 E	-2.415
A S 516 G	-2.613
A S 516 H	-1.855
A S 516 I	-1.213
A S 516 L	-1.031
A S 516 K	-2.134
A S 516 M	-1.356
A S 516 F	-1.149
A S 516 P	-1.874
A S 516 T	-0.961
A S 516 W	-0.639
A S 516 Y	-1.588
A S 516 V	-1.359
A Q 517 A	-0.419
A Q 517 R	-0.415
A Q 517 N	-0.001
A Q 517 D	-1.088
A Q 517 C	-0.365
A Q 517 E	-0.737
A Q 517 G	-1.165
A Q 517 H	-0.231
A Q 517 I	0.154
A Q 517 L	0.112
A Q 517 K	-0.378
A Q 517 M	-0.138
A Q 517 F	-0.027
A Q 517 P	-1.345
A Q 517 S	-0.222
A Q 517 T	0.079
A Q 517 W	-0.443
A Q 517 Y	-0.582
A Q 517 V	-0.052
A F 518 A	-2.617
A F 518 R	-4.122
A F 518 N	-4.991
A F 518 D	-4.800
A F 518 C	-1.525
A F 518 Q	-3.786
A F 518 E	-4.647
A F 518 G	-3.538
A F 518 H	-4.221
A F 518 I	-1.529

A F 518 L	-1.798
A F 518 K	-4.352
A F 518 M	-1.251
A F 518 P	-3.576
A F 518 S	-2.368
A F 518 T	-3.213
A F 518 W	-2.199
A F 518 Y	-2.438
A F 518 V	-3.210
A R 519 A	-0.620
A R 519 N	-0.720
A R 519 D	-0.947
A R 519 C	-0.533
A R 519 Q	-0.184
A R 519 E	-0.813
A R 519 G	-0.865
A R 519 H	-0.338
A R 519 I	-0.322
A R 519 L	-0.500
A R 519 K	-0.027
A R 519 M	-0.516
A R 519 F	-0.678
A R 519 P	-1.108
A R 519 S	-0.606
A R 519 T	-0.940
A R 519 W	-0.475
A R 519 Y	-0.555
A R 519 V	-0.702
A L 520 A	-1.951
A L 520 R	-1.632
A L 520 N	-2.692
A L 520 D	-3.296
A L 520 C	-1.629
A L 520 Q	-1.747
A L 520 E	-2.567
A L 520 G	-2.076
A L 520 H	-1.805
A L 520 I	-1.036
A L 520 K	-1.503
A L 520 M	-0.856
A L 520 F	-0.939
A L 520 P	-1.613
A L 520 S	-1.816
A L 520 T	-1.943
A L 520 W	-0.984
A L 520 Y	-1.610
A L 520 V	-1.558
A P 521 A	-2.109
A P 521 R	-2.159
A P 521 N	-2.769
A P 521 D	-2.692
A P 521 C	-1.509
A P 521 Q	-2.094
A P 521 E	-2.639
A P 521 G	-2.029
A P 521 H	-1.870
A P 521 I	-1.800

A P 521 L	-2.067
A P 521 K	-2.256
A P 521 M	-2.101
A P 521 F	-2.080
A P 521 S	-2.217
A P 521 T	-2.444
A P 521 W	-1.338
A P 521 Y	-1.888
A P 521 V	-2.045
A F 522 A	-0.092
A F 522 R	-0.053
A F 522 N	-0.097
A F 522 D	-0.074
A F 522 C	-0.211
A F 522 Q	0.012
A F 522 E	0.046
A F 522 G	-0.428
A F 522 H	-0.043
A F 522 I	-0.044
A F 522 L	-0.107
A F 522 K	0.058
A F 522 M	-0.061
A F 522 P	-0.269
A F 522 S	-0.122
A F 522 T	-0.182
A F 522 W	-0.169
A F 522 Y	-0.207
A F 522 V	-0.226
A K 523 A	-0.215
A K 523 R	-0.027
A K 523 N	0.152
A K 523 D	0.390
A K 523 C	-0.259
A K 523 Q	0.015
A K 523 E	-0.083
A K 523 G	-0.429
A K 523 H	-0.031
A K 523 I	0.023
A K 523 L	-0.029
A K 523 M	-0.114
A K 523 F	-0.128
A K 523 P	-0.359
A K 523 S	-0.120
A K 523 T	-0.298
A K 523 W	-0.169
A K 523 Y	-0.192
A K 523 V	-0.259
A A 524 R	-0.206
A A 524 N	0.092
A A 524 D	-0.246
A A 524 C	0.144
A A 524 Q	-0.169
A A 524 E	-0.143
A A 524 G	-0.298
A A 524 H	-0.312
A A 524 I	0.765
A A 524 L	1.165

A A 524 K	-0.295
A A 524 M	0.377
A A 524 F	1.062
A A 524 P	0.653
A A 524 S	-0.104
A A 524 T	-0.063
A A 524 W	0.636
A A 524 Y	0.251
A A 524 V	0.361
A A 525 R	-0.168
A A 525 N	-0.022
A A 525 D	-0.216
A A 525 C	-0.239
A A 525 Q	0.059
A A 525 E	-0.067
A A 525 G	-0.285
A A 525 H	-0.711
A A 525 I	0.353
A A 525 L	0.563
A A 525 K	-0.088
A A 525 M	0.239
A A 525 F	0.299
A A 525 P	-0.320
A A 525 S	0.370
A A 525 T	-0.195
A A 525 W	-0.073
A A 525 Y	-0.138
A A 525 V	-0.246
A T 526 A	-0.816
A T 526 R	-0.810
A T 526 N	-1.474
A T 526 D	-1.643
A T 526 C	-0.403
A T 526 Q	-0.739
A T 526 E	-1.606
A T 526 G	-1.342
A T 526 H	-1.102
A T 526 I	-0.146
A T 526 L	-0.343
A T 526 K	-0.923
A T 526 M	-0.282
A T 526 F	-0.426
A T 526 P	-1.451
A T 526 S	-0.904
A T 526 W	-0.394
A T 526 Y	-0.462
A T 526 V	-0.665
A P 527 A	-1.894
A P 527 R	-2.215
A P 527 N	-3.105
A P 527 D	-3.007
A P 527 C	-1.837
A P 527 Q	-2.549
A P 527 E	-3.459
A P 527 G	-2.798
A P 527 H	-2.378
A P 527 I	-1.857

A P 527 L	-2.116
A P 527 K	-2.223
A P 527 M	-1.901
A P 527 F	-1.764
A P 527 S	-1.960
A P 527 T	-2.312
A P 527 W	-1.620
A P 527 Y	-2.590
A P 527 V	-1.896
A V 528 A	-2.116
A V 528 R	-4.288
A V 528 N	-5.675
A V 528 D	-5.511
A V 528 C	-1.632
A V 528 Q	-4.842
A V 528 E	-5.380
A V 528 G	-4.077
A V 528 H	-4.324
A V 528 I	0.426
A V 528 L	-1.137
A V 528 K	-5.001
A V 528 M	-1.216
A V 528 F	-1.762
A V 528 P	-4.817
A V 528 S	-2.392
A V 528 T	-2.155
A V 528 W	-0.899
A V 528 Y	-3.007
A I 529 A	-2.307
A I 529 R	-4.556
A I 529 N	-4.445
A I 529 D	-4.245
A I 529 C	-1.540
A I 529 Q	-3.812
A I 529 E	-4.717
A I 529 G	-3.922
A I 529 H	-3.412
A I 529 L	-0.774
A I 529 K	-4.415
A I 529 M	-1.144
A I 529 F	-0.424
A I 529 P	-4.609
A I 529 S	-2.863
A I 529 T	-2.159
A I 529 W	-1.335
A I 529 Y	-2.729
A I 529 V	-1.386
A M 530 A	-2.326
A M 530 R	-3.932
A M 530 N	-5.673
A M 530 D	-5.683
A M 530 C	-0.775
A M 530 Q	-5.004
A M 530 E	-5.688
A M 530 G	-3.590
A M 530 H	-3.939
A M 530 I	-0.826

A M 530 L	-0.586
A M 530 K	-5.257
A M 530 F	-0.793
A M 530 P	-4.209
A M 530 S	-2.675
A M 530 T	-2.157
A M 530 W	-0.655
A M 530 Y	-2.009
A M 530 V	-1.356
A V 531 A	-2.095
A V 531 R	-4.603
A V 531 N	-6.198
A V 531 D	-5.310
A V 531 C	-0.933
A V 531 Q	-5.559
A V 531 E	-6.192
A V 531 G	-3.910
A V 531 H	-5.512
A V 531 I	0.550
A V 531 L	-1.655
A V 531 K	-5.710
A V 531 M	-1.633
A V 531 F	-1.709
A V 531 P	-5.627
A V 531 S	-2.302
A V 531 T	-1.998
A V 531 W	-2.362
A V 531 Y	-2.702
A G 532 A	-1.803
A G 532 R	-2.842
A G 532 N	-3.839
A G 532 D	-4.776
A G 532 C	-1.458
A G 532 Q	-3.327
A G 532 E	-5.048
A G 532 H	-4.108
A G 532 I	-1.788
A G 532 L	-2.539
A G 532 K	-3.188
A G 532 M	-2.009
A G 532 F	-3.181
A G 532 P	-4.295
A G 532 S	-1.922
A G 532 T	-2.636
A G 532 W	-1.772
A G 532 Y	-1.728
A G 532 V	-2.245
A P 533 A	-1.677
A P 533 R	-1.921
A P 533 N	-2.275
A P 533 D	-2.678
A P 533 C	-1.210
A P 533 Q	-2.041
A P 533 E	-2.493
A P 533 G	-2.283
A P 533 H	-1.541
A P 533 I	-1.278

A	P	533	L	-1.585
A	P	533	K	-2.751
A	P	533	M	-1.537
A	P	533	F	-1.518
A	P	533	S	-1.612
A	P	533	T	-1.773
A	P	533	W	-1.403
A	P	533	Y	-1.968
A	P	533	V	-1.429
A	G	534	A	-1.451
A	G	534	R	-1.303
A	G	534	N	-2.113
A	G	534	D	-1.497
A	G	534	C	-1.305
A	G	534	Q	-1.747
A	G	534	E	-1.897
A	G	534	H	-2.602
A	G	534	I	-1.437
A	G	534	L	-1.867
A	G	534	K	-2.600
A	G	534	M	-1.498
A	G	534	F	-1.975
A	G	534	P	-1.734
A	G	534	S	-1.522
A	G	534	T	-2.424
A	G	534	W	-1.020
A	G	534	Y	-1.013
A	G	534	V	-2.285
A	T	535	A	-1.394
A	T	535	R	-2.547
A	T	535	N	-3.089
A	T	535	D	-2.839
A	T	535	C	-1.258
A	T	535	Q	-2.850
A	T	535	E	-3.186
A	T	535	G	-2.082
A	T	535	H	-2.028
A	T	535	I	-0.270
A	T	535	L	-0.776
A	T	535	K	-3.634
A	T	535	M	-0.715
A	T	535	F	-0.901
A	T	535	P	-2.403
A	T	535	S	-1.246
A	T	535	W	-1.700
A	T	535	Y	-1.452
A	T	535	V	-0.896
A	G	536	A	-2.362
A	G	536	R	-2.745
A	G	536	N	-4.986
A	G	536	D	-4.436
A	G	536	C	-2.145
A	G	536	Q	-5.039
A	G	536	E	-5.092
A	G	536	H	-4.495
A	G	536	I	-2.795
A	G	536	L	-3.451

A G 536 K	-4.956
A G 536 M	-3.308
A G 536 F	-2.719
A G 536 P	-3.935
A G 536 S	-2.753
A G 536 T	-4.362
A G 536 W	-2.366
A G 536 Y	-2.852
A G 536 V	-3.597
A V 537 A	-1.969
A V 537 R	-4.056
A V 537 N	-4.623
A V 537 D	-5.471
A V 537 C	-1.846
A V 537 Q	-3.757
A V 537 E	-4.402
A V 537 G	-3.400
A V 537 H	-4.223
A V 537 I	-0.049
A V 537 L	-0.711
A V 537 K	-4.237
A V 537 M	-0.758
A V 537 F	-1.094
A V 537 P	-4.616
A V 537 S	-2.002
A V 537 T	-2.630
A V 537 W	-1.548
A V 537 Y	-1.454
A A 538 R	-3.694
A A 538 N	-3.924
A A 538 D	-5.155
A A 538 C	-1.242
A A 538 Q	-4.470
A A 538 E	-4.629
A A 538 G	-1.389
A A 538 H	-4.233
A A 538 I	-0.490
A A 538 L	-0.806
A A 538 K	-3.916
A A 538 M	-0.707
A A 538 F	-0.695
A A 538 P	-1.957
A A 538 S	-1.400
A A 538 T	-2.099
A A 538 W	-2.459
A A 538 Y	-3.092
A A 538 V	-1.554
A P 539 A	-2.296
A P 539 R	-4.009
A P 539 N	-5.116
A P 539 D	-4.371
A P 539 C	-2.877
A P 539 Q	-4.055
A P 539 E	-4.587
A P 539 G	-3.301
A P 539 H	-4.163
A P 539 I	-1.694

A P 539 L	-1.831
A P 539 K	-4.222
A P 539 M	-1.545
A P 539 F	-1.748
A P 539 S	-2.584
A P 539 T	-2.806
A P 539 W	-3.211
A P 539 Y	-4.081
A P 539 V	-2.024
A F 540 A	-2.947
A F 540 R	-5.316
A F 540 N	-5.148
A F 540 D	-5.088
A F 540 C	-2.469
A F 540 Q	-3.163
A F 540 E	-4.447
A F 540 G	-4.493
A F 540 H	-2.623
A F 540 I	-1.358
A F 540 L	-1.404
A F 540 K	-5.235
A F 540 M	-1.418
A F 540 P	-3.820
A F 540 S	-2.338
A F 540 T	-3.128
A F 540 W	-1.149
A F 540 Y	-1.328
A F 540 V	-2.976
A I 541 A	-1.670
A I 541 R	-0.423
A I 541 N	-2.999
A I 541 D	-4.259
A I 541 C	-0.942
A I 541 Q	-3.123
A I 541 E	-3.371
A I 541 G	-3.514
A I 541 H	-2.057
A I 541 L	-0.359
A I 541 K	-2.132
A I 541 M	-0.668
A I 541 F	-0.394
A I 541 P	-3.573
A I 541 S	-2.367
A I 541 T	-1.861
A I 541 W	-0.839
A I 541 Y	-2.427
A I 541 V	-0.801
A G 542 A	-1.536
A G 542 R	-3.255
A G 542 N	-4.403
A G 542 D	-4.328
A G 542 C	-2.279
A G 542 Q	-3.891
A G 542 E	-4.731
A G 542 H	-3.802
A G 542 I	-1.833
A G 542 L	-2.137

A G	542	K	-4.313
A G	542	M	-1.728
A G	542	F	-2.111
A G	542	P	-3.649
A G	542	S	-1.877
A G	542	T	-2.672
A G	542	W	-2.095
A G	542	Y	-2.417
A G	542	V	-2.386
A F	543	A	-2.542
A F	543	R	-3.783
A F	543	N	-5.204
A F	543	D	-4.732
A F	543	C	-3.142
A F	543	Q	-3.328
A F	543	E	-3.862
A F	543	G	-3.972
A F	543	H	-3.285
A F	543	I	-1.088
A F	543	L	-1.495
A F	543	K	-4.449
A F	543	M	-1.452
A F	543	P	-3.912
A F	543	S	-2.733
A F	543	T	-2.963
A F	543	W	-1.930
A F	543	Y	-1.466
A F	543	V	-2.461
A I	544	A	-2.873
A I	544	R	-4.585
A I	544	N	-4.349
A I	544	D	-5.232
A I	544	C	-1.918
A I	544	Q	-4.561
A I	544	E	-5.097
A I	544	G	-4.684
A I	544	H	-4.110
A I	544	L	-0.565
A I	544	K	-4.461
A I	544	M	-1.196
A I	544	F	-1.095
A I	544	P	-5.372
A I	544	S	-3.138
A I	544	T	-2.439
A I	544	W	-1.646
A I	544	Y	-4.160
A I	544	V	-0.836
A Q	545	A	-0.882
A Q	545	R	-1.066
A Q	545	N	-0.954
A Q	545	D	-0.944
A Q	545	C	-1.013
A Q	545	E	-0.614
A Q	545	G	-1.552
A Q	545	H	-0.856
A Q	545	I	-0.317
A Q	545	L	-0.272

A Q	545	K	-1.023
A Q	545	M	-0.388
A Q	545	F	-0.518
A Q	545	P	-1.713
A Q	545	S	-0.986
A Q	545	T	-0.908
A Q	545	W	-0.507
A Q	545	Y	-1.145
A Q	545	V	-0.841
A E	546	A	-1.556
A E	546	R	-2.182
A E	546	N	-2.171
A E	546	D	-1.401
A E	546	C	-1.895
A E	546	Q	-0.744
A E	546	G	-2.769
A E	546	H	-1.932
A E	546	I	-0.885
A E	546	L	-1.058
A E	546	K	-2.500
A E	546	M	-1.058
A E	546	F	-1.084
A E	546	P	-2.387
A E	546	S	-1.366
A E	546	T	-1.706
A E	546	W	-1.223
A E	546	Y	-1.498
A E	546	V	-1.886
A R	547	A	-1.654
A R	547	N	-2.320
A R	547	D	-2.633
A R	547	C	-1.548
A R	547	Q	-1.583
A R	547	E	-2.739
A R	547	G	-2.646
A R	547	H	-2.109
A R	547	I	0.121
A R	547	L	0.521
A R	547	K	-1.964
A R	547	M	-0.335
A R	547	F	-0.354
A R	547	P	-2.274
A R	547	S	-1.560
A R	547	T	-1.772
A R	547	W	-1.011
A R	547	Y	-1.694
A R	547	V	-1.409
A A	548	R	-0.629
A A	548	N	-1.582
A A	548	D	-1.736
A A	548	C	-0.368
A A	548	Q	-0.737
A A	548	E	-0.974
A A	548	G	-1.202
A A	548	H	-1.587
A A	548	I	0.356
A A	548	L	0.477

A A 548 K	-1.251
A A 548 M	0.088
A A 548 F	0.114
A A 548 P	-2.131
A A 548 S	-0.838
A A 548 T	-0.781
A A 548 W	0.068
A A 548 Y	-0.441
A A 548 V	-0.012
A W 549 A	-0.455
A W 549 R	-0.780
A W 549 N	-0.976
A W 549 D	-1.130
A W 549 C	-0.639
A W 549 Q	-0.489
A W 549 E	-0.706
A W 549 G	-1.895
A W 549 H	-0.411
A W 549 I	-0.344
A W 549 L	-0.449
A W 549 K	-0.722
A W 549 M	-0.403
A W 549 F	-0.406
A W 549 P	-1.935
A W 549 S	-1.012
A W 549 T	-1.121
A W 549 Y	-0.853
A W 549 V	-0.790
A L 550 A	-1.821
A L 550 R	-2.366
A L 550 N	-2.737
A L 550 D	-3.234
A L 550 C	-1.951
A L 550 Q	-0.263
A L 550 E	-2.124
A L 550 G	-3.596
A L 550 H	-1.428
A L 550 I	-0.614
A L 550 K	-2.017
A L 550 M	-0.443
A L 550 F	-0.557
A L 550 P	-3.782
A L 550 S	-1.860
A L 550 T	-1.723
A L 550 W	-0.255
A L 550 Y	-1.588
A L 550 V	-1.300
A R 551 A	-0.367
A R 551 N	-0.573
A R 551 D	-0.667
A R 551 C	-0.484
A R 551 Q	-0.072
A R 551 E	-0.507
A R 551 G	-1.081
A R 551 H	-0.400
A R 551 I	0.216
A R 551 L	0.178

A R 551 K	0.371
A R 551 M	-0.094
A R 551 F	-0.124
A R 551 P	-1.110
A R 551 S	-0.393
A R 551 T	-0.506
A R 551 W	-0.173
A R 551 Y	-0.424
A R 551 V	-0.354
A Q 552 A	-0.228
A Q 552 R	-0.147
A Q 552 N	-0.196
A Q 552 D	-0.182
A Q 552 C	-0.340
A Q 552 E	0.004
A Q 552 G	-0.755
A Q 552 H	-0.130
A Q 552 I	-0.053
A Q 552 L	-0.095
A Q 552 K	-0.079
A Q 552 M	-0.153
A Q 552 F	-0.175
A Q 552 P	-0.620
A Q 552 S	-0.201
A Q 552 T	-0.268
A Q 552 W	-0.235
A Q 552 Y	-0.434
A Q 552 V	-0.253
A Q 553 A	-0.356
A Q 553 R	-0.266
A Q 553 N	-0.321
A Q 553 D	-0.359
A Q 553 C	-0.387
A Q 553 E	-0.152
A Q 553 G	-1.003
A Q 553 H	-0.238
A Q 553 I	-0.113
A Q 553 L	-0.162
A Q 553 K	-0.154
A Q 553 M	-0.242
A Q 553 F	-0.267
A Q 553 P	-0.766
A Q 553 S	-0.315
A Q 553 T	-0.385
A Q 553 W	-0.251
A Q 553 Y	-0.426
A Q 553 V	-0.423
A G 554 A	-1.122
A G 554 R	-0.756
A G 554 N	-1.106
A G 554 D	-0.843
A G 554 C	-0.909
A G 554 Q	-0.699
A G 554 E	-1.112
A G 554 H	-1.021
A G 554 I	-0.948
A G 554 L	-1.372

A G 554 K	-1.077
A G 554 M	-1.077
A G 554 F	-1.199
A G 554 P	-0.997
A G 554 S	-1.114
A G 554 T	-1.717
A G 554 W	-0.621
A G 554 Y	-0.548
A G 554 V	-1.392
A K 555 A	-0.590
A K 555 R	-0.237
A K 555 N	-0.659
A K 555 D	-0.620
A K 555 C	-0.555
A K 555 Q	-0.197
A K 555 E	-0.308
A K 555 G	-0.836
A K 555 H	-0.316
A K 555 I	-0.310
A K 555 L	-0.489
A K 555 M	-0.420
A K 555 F	-0.601
A K 555 P	-0.829
A K 555 S	-0.561
A K 555 T	-0.842
A K 555 W	-0.410
A K 555 Y	-0.379
A K 555 V	-0.656
A E 556 A	-0.335
A E 556 R	-0.116
A E 556 N	-0.147
A E 556 D	-0.159
A E 556 C	-0.180
A E 556 Q	-0.066
A E 556 G	-0.437
A E 556 H	-0.054
A E 556 I	-0.165
A E 556 L	-0.205
A E 556 K	-0.002
A E 556 M	-0.269
A E 556 F	-0.266
A E 556 P	-0.273
A E 556 S	-0.273
A E 556 T	-0.219
A E 556 W	-0.129
A E 556 Y	-0.230
A E 556 V	-0.244
A V 557 A	-2.324
A V 557 R	-2.945
A V 557 N	-4.471
A V 557 D	-4.566
A V 557 C	-1.897
A V 557 Q	-3.624
A V 557 E	-3.957
A V 557 G	-3.323
A V 557 H	-2.514
A V 557 I	-1.032

A V 557 L	-1.594
A V 557 K	-3.221
A V 557 M	-1.960
A V 557 F	-2.293
A V 557 P	-3.488
A V 557 S	-2.230
A V 557 T	-2.324
A V 557 W	-0.036
A V 557 Y	-2.573
A G 558 A	-1.511
A G 558 R	-1.703
A G 558 N	-3.084
A G 558 D	-2.874
A G 558 C	-1.537
A G 558 Q	-1.794
A G 558 E	-3.075
A G 558 H	-1.888
A G 558 I	-1.485
A G 558 L	-1.948
A G 558 K	-2.211
A G 558 M	-1.562
A G 558 F	-1.962
A G 558 P	-1.767
A G 558 S	-1.717
A G 558 T	-2.380
A G 558 W	-1.555
A G 558 Y	-1.247
A G 558 V	-2.112
A E 559 A	-0.347
A E 559 R	-0.005
A E 559 N	-0.229
A E 559 D	-0.225
A E 559 C	-0.260
A E 559 Q	-0.039
A E 559 G	-0.716
A E 559 H	-0.037
A E 559 I	-0.040
A E 559 L	0.009
A E 559 K	0.182
A E 559 M	-0.151
A E 559 F	-0.114
A E 559 P	0.387
A E 559 S	-0.323
A E 559 T	-0.268
A E 559 W	0.026
A E 559 Y	-0.339
A E 559 V	-0.187
A T 560 A	-0.972
A T 560 R	-2.421
A T 560 N	-2.329
A T 560 D	-3.883
A T 560 C	-0.409
A T 560 Q	-3.156
A T 560 E	-4.506
A T 560 G	-2.801
A T 560 H	-1.982
A T 560 I	0.311

A T 560 L	0.637
A T 560 K	-2.942
A T 560 M	0.367
A T 560 F	0.771
A T 560 P	-4.434
A T 560 S	-1.034
A T 560 W	0.211
A T 560 Y	-0.960
A T 560 V	-0.169
A L 561 A	-2.261
A L 561 R	-3.916
A L 561 N	-4.534
A L 561 D	-4.939
A L 561 C	-2.041
A L 561 Q	-4.367
A L 561 E	-4.970
A L 561 G	-4.480
A L 561 H	-1.896
A L 561 I	-0.181
A L 561 K	-3.692
A L 561 M	-0.505
A L 561 F	-0.280
A L 561 P	-5.311
A L 561 S	-2.436
A L 561 T	-2.119
A L 561 W	0.409
A L 561 Y	-1.653
A L 561 V	-1.058
A L 562 A	-2.220
A L 562 R	-3.325
A L 562 N	-4.770
A L 562 D	-4.724
A L 562 C	-1.616
A L 562 Q	-3.900
A L 562 E	-4.811
A L 562 G	-4.191
A L 562 H	-2.864
A L 562 I	-0.569
A L 562 K	-3.362
A L 562 M	-1.006
A L 562 F	-0.809
A L 562 P	-5.068
A L 562 S	-2.297
A L 562 T	-2.149
A L 562 W	-1.397
A L 562 Y	-1.988
A L 562 V	-1.240
A Y 563 A	-3.616
A Y 563 R	-3.931
A Y 563 N	-4.280
A Y 563 D	-5.270
A Y 563 C	-2.145
A Y 563 Q	-5.095
A Y 563 E	-5.156
A Y 563 G	-4.910
A Y 563 H	-4.211
A Y 563 I	-2.141

A Y 563 L	-0.271
A Y 563 K	-3.268
A Y 563 M	-2.799
A Y 563 F	1.448
A Y 563 P	-6.042
A Y 563 S	-4.125
A Y 563 T	-3.579
A Y 563 W	-0.326
A Y 563 V	-2.051
A Y 564 A	-2.866
A Y 564 R	-4.020
A Y 564 N	-3.831
A Y 564 D	-4.836
A Y 564 C	-1.203
A Y 564 Q	-4.246
A Y 564 E	-3.958
A Y 564 G	-4.674
A Y 564 H	-3.485
A Y 564 I	0.451
A Y 564 L	1.539
A Y 564 K	-3.314
A Y 564 M	-0.712
A Y 564 F	0.677
A Y 564 P	-4.945
A Y 564 S	-3.652
A Y 564 T	-1.907
A Y 564 W	1.765
A Y 564 V	-0.408
A G 565 A	-1.173
A G 565 R	-2.330
A G 565 N	-3.073
A G 565 D	-2.981
A G 565 C	-0.616
A G 565 Q	-1.986
A G 565 E	-2.974
A G 565 H	-2.064
A G 565 I	-0.959
A G 565 L	-0.861
A G 565 K	-1.829
A G 565 M	-1.355
A G 565 F	-0.757
A G 565 P	-3.205
A G 565 S	-1.413
A G 565 T	-1.625
A G 565 W	0.264
A G 565 Y	-0.886
A G 565 V	-1.274
A C 566 A	-1.638
A C 566 R	-2.332
A C 566 N	-3.437
A C 566 D	-2.555
A C 566 Q	-2.598
A C 566 E	-2.305
A C 566 G	-2.305
A C 566 H	-1.708
A C 566 I	-1.085
A C 566 L	-1.545

A C 566 K	-3.675
A C 566 M	-1.462
A C 566 F	-1.787
A C 566 P	-2.743
A C 566 S	-1.346
A C 566 T	-1.963
A C 566 W	-1.251
A C 566 Y	-1.557
A C 566 V	-1.991
A R 567 A	-0.557
A R 567 N	-1.108
A R 567 D	-0.585
A R 567 C	-0.680
A R 567 Q	-0.293
A R 567 E	-1.047
A R 567 G	-1.077
A R 567 H	-1.408
A R 567 I	-0.072
A R 567 L	-0.296
A R 567 K	-1.117
A R 567 M	-0.309
A R 567 F	-0.378
A R 567 P	-0.774
A R 567 S	-0.625
A R 567 T	-1.067
A R 567 W	-0.342
A R 567 Y	-0.541
A R 567 V	-0.826
A R 568 A	-0.634
A R 568 N	-0.199
A R 568 D	-0.543
A R 568 C	-0.293
A R 568 Q	-0.285
A R 568 E	-0.554
A R 568 G	-0.840
A R 568 H	0.015
A R 568 I	-0.255
A R 568 L	-0.245
A R 568 K	-0.162
A R 568 M	-0.399
A R 568 F	-0.167
A R 568 P	-1.274
A R 568 S	-0.131
A R 568 T	-0.524
A R 568 W	-0.105
A R 568 Y	-0.223
A R 568 V	-0.461
A S 569 A	-0.051
A S 569 R	0.223
A S 569 N	-0.204
A S 569 D	-0.508
A S 569 C	0.101
A S 569 Q	0.092
A S 569 E	0.180
A S 569 G	-0.493
A S 569 H	-0.220
A S 569 I	0.745

A S 569 L	0.899
A S 569 K	0.155
A S 569 M	0.432
A S 569 F	0.750
A S 569 P	0.030
A S 569 T	-0.223
A S 569 W	0.509
A S 569 Y	0.266
A S 569 V	0.294
A D 570 A	-0.181
A D 570 R	-0.138
A D 570 N	-0.110
A D 570 C	-0.361
A D 570 Q	-0.051
A D 570 E	-0.069
A D 570 G	-0.556
A D 570 H	-0.151
A D 570 I	-0.075
A D 570 L	-0.122
A D 570 K	-0.133
A D 570 M	-0.129
A D 570 F	-0.192
A D 570 P	-0.374
A D 570 S	-0.120
A D 570 T	-0.254
A D 570 W	-0.206
A D 570 Y	-0.188
A D 570 V	-0.275
A E 571 A	-0.575
A E 571 R	-0.639
A E 571 N	-0.605
A E 571 D	-0.672
A E 571 C	-0.456
A E 571 Q	-0.206
A E 571 G	-1.414
A E 571 H	-0.324
A E 571 I	-0.062
A E 571 L	-0.124
A E 571 K	-0.565
A E 571 M	-0.161
A E 571 F	-0.104
A E 571 P	-0.959
A E 571 S	-0.412
A E 571 T	-0.381
A E 571 W	-0.228
A E 571 Y	-0.407
A E 571 V	-0.272
A D 572 A	-1.091
A D 572 R	-1.468
A D 572 N	-1.180
A D 572 C	-1.077
A D 572 Q	-1.157
A D 572 E	-1.618
A D 572 G	-1.522
A D 572 H	-1.050
A D 572 I	-0.569
A D 572 L	-0.875

A	D	572	K	-1.699
A	D	572	M	-0.725
A	D	572	F	-0.851
A	D	572	P	-1.627
A	D	572	S	-1.044
A	D	572	T	-1.332
A	D	572	W	-0.810
A	D	572	Y	-0.928
A	D	572	V	-1.237
A	Y	573	A	-1.098
A	Y	573	R	-0.633
A	Y	573	N	-0.670
A	Y	573	D	-0.950
A	Y	573	C	-0.384
A	Y	573	Q	-0.958
A	Y	573	E	-0.572
A	Y	573	G	-1.426
A	Y	573	H	-0.528
A	Y	573	I	-0.854
A	Y	573	L	-0.392
A	Y	573	K	-0.381
A	Y	573	M	-0.760
A	Y	573	F	-0.043
A	Y	573	P	-2.474
A	Y	573	S	-1.271
A	Y	573	T	-1.244
A	Y	573	W	0.174
A	Y	573	V	-0.803
A	L	574	A	-2.070
A	L	574	R	-1.839
A	L	574	N	-2.908
A	L	574	D	-3.912
A	L	574	C	-1.274
A	L	574	Q	-2.337
A	L	574	E	-2.980
A	L	574	G	-3.136
A	L	574	H	-1.267
A	L	574	I	0.293
A	L	574	K	-2.231
A	L	574	M	-1.011
A	L	574	F	-0.851
A	L	574	P	-3.369
A	L	574	S	-2.078
A	L	574	T	-1.783
A	L	574	W	-0.791
A	L	574	Y	-1.309
A	L	574	V	-1.029
A	Y	575	A	-2.154
A	Y	575	R	-1.798
A	Y	575	N	-2.050
A	Y	575	D	-2.036
A	Y	575	C	-0.992
A	Y	575	Q	-1.997
A	Y	575	E	-2.678
A	Y	575	G	-1.682
A	Y	575	H	-1.607
A	Y	575	I	-1.766

A Y 575 L	-1.906
A Y 575 K	-2.042
A Y 575 M	-1.502
A Y 575 F	-1.158
A Y 575 P	-2.014
A Y 575 S	-2.659
A Y 575 T	-2.858
A Y 575 W	-1.006
A Y 575 V	-2.058
A R 576 A	-0.333
A R 576 N	-0.829
A R 576 D	-0.758
A R 576 C	-0.633
A R 576 Q	0.018
A R 576 E	-0.233
A R 576 G	-1.038
A R 576 H	-0.787
A R 576 I	0.259
A R 576 L	0.098
A R 576 K	-0.436
A R 576 M	-0.040
A R 576 F	0.016
A R 576 P	-0.737
A R 576 S	-0.295
A R 576 T	-0.776
A R 576 W	-0.334
A R 576 Y	-0.555
A R 576 V	-0.557
A E 577 A	-0.362
A E 577 R	-0.400
A E 577 N	-0.352
A E 577 D	-0.075
A E 577 C	-0.619
A E 577 Q	-0.150
A E 577 G	-0.981
A E 577 H	-0.302
A E 577 I	-0.146
A E 577 L	-0.180
A E 577 K	-0.344
A E 577 M	-0.242
A E 577 F	-0.261
A E 577 P	-0.685
A E 577 S	-0.281
A E 577 T	-0.327
A E 577 W	-0.315
A E 577 Y	-0.528
A E 577 V	-0.388
A E 578 A	-0.407
A E 578 R	-0.368
A E 578 N	-0.420
A E 578 D	-0.350
A E 578 C	-0.568
A E 578 Q	-0.128
A E 578 G	-0.981
A E 578 H	-0.358
A E 578 I	-0.119
A E 578 L	-0.167

A E 578 K	-0.345
A E 578 M	-0.218
A E 578 F	-0.244
A E 578 P	-0.660
A E 578 S	-0.314
A E 578 T	-0.329
A E 578 W	-0.284
A E 578 Y	-0.396
A E 578 V	-0.389
A L 579 A	-2.296
A L 579 R	-3.144
A L 579 N	-4.095
A L 579 D	-4.942
A L 579 C	-2.235
A L 579 Q	-3.235
A L 579 E	-3.831
A L 579 G	-4.561
A L 579 H	-3.299
A L 579 I	-0.396
A L 579 K	-2.959
A L 579 M	-0.743
A L 579 F	-0.271
A L 579 P	-4.305
A L 579 S	-2.538
A L 579 T	-1.789
A L 579 W	0.727
A L 579 Y	-2.708
A L 579 V	-1.391
A A 580 R	-0.089
A A 580 N	-0.040
A A 580 D	-0.390
A A 580 C	-0.041
A A 580 Q	0.237
A A 580 E	0.319
A A 580 G	-0.581
A A 580 H	-0.087
A A 580 I	0.547
A A 580 L	0.667
A A 580 K	0.168
A A 580 M	0.328
A A 580 F	0.492
A A 580 P	-0.212
A A 580 S	-0.097
A A 580 T	-0.014
A A 580 W	0.157
A A 580 Y	-0.002
A A 580 V	0.107
A Q 581 A	-0.361
A Q 581 R	-0.268
A Q 581 N	-0.268
A Q 581 D	-0.349
A Q 581 C	-0.446
A Q 581 E	-0.004
A Q 581 G	-0.953
A Q 581 H	-0.193
A Q 581 I	-0.050
A Q 581 L	-0.110

A Q 581 K	-0.199
A Q 581 M	-0.207
A Q 581 F	-0.194
A Q 581 P	-0.919
A Q 581 S	-0.346
A Q 581 T	-0.351
A Q 581 W	-0.276
A Q 581 Y	-0.581
A Q 581 V	-0.336
A F 582 A	-1.251
A F 582 R	-1.929
A F 582 N	-2.342
A F 582 D	-2.764
A F 582 C	-0.913
A F 582 Q	-1.635
A F 582 E	-1.893
A F 582 G	-2.918
A F 582 H	-1.004
A F 582 I	-0.515
A F 582 L	0.010
A F 582 K	-1.733
A F 582 M	-0.265
A F 582 P	-2.377
A F 582 S	-1.157
A F 582 T	-1.189
A F 582 W	0.010
A F 582 Y	0.274
A F 582 V	-1.323
A H 583 A	-0.358
A H 583 R	-0.600
A H 583 N	-0.792
A H 583 D	-0.977
A H 583 C	-0.698
A H 583 Q	0.004
A H 583 E	-0.320
A H 583 G	-1.717
A H 583 I	0.099
A H 583 L	0.085
A H 583 K	-0.601
A H 583 M	-0.149
A H 583 F	0.038
A H 583 P	-1.382
A H 583 S	-0.351
A H 583 T	-0.350
A H 583 W	-0.282
A H 583 Y	-0.456
A H 583 V	-0.094
A Q 584 A	-0.218
A Q 584 R	-0.130
A Q 584 N	-0.161
A Q 584 D	-0.162
A Q 584 C	-0.305
A Q 584 E	-0.023
A Q 584 G	-0.620
A Q 584 H	-0.121
A Q 584 I	-0.050
A Q 584 L	-0.093

A Q 584 K	-0.063
A Q 584 M	-0.137
A Q 584 F	-0.165
A Q 584 P	-0.463
A Q 584 S	-0.185
A Q 584 T	-0.213
A Q 584 W	-0.214
A Q 584 Y	-0.390
A Q 584 V	-0.242
A D 585 A	0.005
A D 585 R	0.041
A D 585 N	-0.030
A D 585 C	-0.112
A D 585 Q	0.126
A D 585 E	0.129
A D 585 G	-0.557
A D 585 H	0.065
A D 585 I	0.198
A D 585 L	0.269
A D 585 K	0.106
A D 585 M	0.070
A D 585 F	0.072
A D 585 P	-0.460
A D 585 S	0.128
A D 585 T	0.018
A D 585 W	0.100
A D 585 Y	-0.076
A D 585 V	-0.016
A G 586 A	-1.546
A G 586 R	-1.134
A G 586 N	-1.745
A G 586 D	-1.383
A G 586 C	-0.975
A G 586 Q	-1.151
A G 586 E	-1.786
A G 586 H	-1.647
A G 586 I	-1.425
A G 586 L	-1.889
A G 586 K	-1.516
A G 586 M	-1.373
A G 586 F	-1.731
A G 586 P	-1.170
A G 586 S	-1.611
A G 586 T	-2.174
A G 586 W	-1.006
A G 586 Y	-0.899
A G 586 V	-2.085
A S 587 A	0.726
A S 587 R	-0.482
A S 587 N	-0.489
A S 587 D	-0.194
A S 587 C	0.544
A S 587 Q	-0.507
A S 587 E	-0.175
A S 587 G	-0.831
A S 587 H	-0.115
A S 587 I	1.454

A S 587 L	1.592
A S 587 K	-0.031
A S 587 M	0.657
A S 587 F	1.156
A S 587 P	-0.987
A S 587 T	0.523
A S 587 W	1.270
A S 587 Y	1.009
A S 587 V	0.917
A L 588 A	-1.935
A L 588 R	-2.244
A L 588 N	-2.719
A L 588 D	-3.422
A L 588 C	-1.276
A L 588 Q	-2.802
A L 588 E	-2.954
A L 588 G	-3.070
A L 588 H	-1.654
A L 588 I	0.702
A L 588 K	-0.827
A L 588 M	-1.124
A L 588 F	-0.698
A L 588 P	-3.206
A L 588 S	-1.878
A L 588 T	-1.542
A L 588 W	-0.453
A L 588 Y	-1.945
A L 588 V	-0.196
A T 589 A	-0.698
A T 589 R	-1.061
A T 589 N	-0.949
A T 589 D	-0.519
A T 589 C	-0.747
A T 589 Q	-0.834
A T 589 E	-1.134
A T 589 G	-1.202
A T 589 H	-1.133
A T 589 I	-0.088
A T 589 L	-0.193
A T 589 K	-1.174
A T 589 M	-0.276
A T 589 F	0.381
A T 589 P	-1.179
A T 589 S	-0.252
A T 589 W	-0.858
A T 589 Y	-0.822
A T 589 V	-0.568
A Q 590 A	-0.524
A Q 590 R	-0.184
A Q 590 N	-0.234
A Q 590 D	-0.452
A Q 590 C	-0.218
A Q 590 E	-0.033
A Q 590 G	-0.933
A Q 590 H	-0.066
A Q 590 I	-0.115
A Q 590 L	-0.102

A Q 590 K	-0.058
A Q 590 M	-0.296
A Q 590 F	-0.170
A Q 590 P	-1.364
A Q 590 S	-0.551
A Q 590 T	-0.248
A Q 590 W	-0.062
A Q 590 Y	-0.395
A Q 590 V	-0.208
A L 591 A	-1.625
A L 591 R	-2.024
A L 591 N	-2.437
A L 591 D	-3.352
A L 591 C	-0.761
A L 591 Q	-2.894
A L 591 E	-2.990
A L 591 G	-2.870
A L 591 H	-1.189
A L 591 I	-0.851
A L 591 K	-1.611
A L 591 M	-0.086
A L 591 F	-0.324
A L 591 P	-3.908
A L 591 S	-1.761
A L 591 T	-1.423
A L 591 W	-0.059
A L 591 Y	-1.313
A L 591 V	-0.848
A N 592 A	0.569
A N 592 R	0.232
A N 592 D	-1.654
A N 592 C	1.481
A N 592 Q	-0.122
A N 592 E	0.164
A N 592 G	-1.708
A N 592 H	1.283
A N 592 I	2.549
A N 592 L	3.046
A N 592 K	1.059
A N 592 M	1.461
A N 592 F	2.565
A N 592 P	-1.694
A N 592 S	0.560
A N 592 T	1.303
A N 592 W	2.403
A N 592 Y	1.890
A N 592 V	2.702
A V 593 A	-1.152
A V 593 R	-1.953
A V 593 N	-3.432
A V 593 D	-4.502
A V 593 C	-0.374
A V 593 Q	-2.804
A V 593 E	-3.621
A V 593 G	-2.610
A V 593 H	-2.497
A V 593 I	-0.006

A V 593 L	-0.016
A V 593 K	-2.078
A V 593 M	-0.417
A V 593 F	-0.473
A V 593 P	-2.802
A V 593 S	-1.241
A V 593 T	-0.124
A V 593 W	0.023
A V 593 Y	-1.205
A A 594 R	-3.577
A A 594 N	-4.765
A A 594 D	-4.751
A A 594 C	-0.759
A A 594 Q	-4.776
A A 594 E	-4.246
A A 594 G	-1.178
A A 594 H	-3.268
A A 594 I	-1.445
A A 594 L	-1.711
A A 594 K	-3.086
A A 594 M	-1.551
A A 594 F	-1.316
A A 594 P	-3.821
A A 594 S	-1.303
A A 594 T	-2.175
A A 594 W	-1.081
A A 594 Y	-1.262
A A 594 V	-1.597
A F 595 A	-1.527
A F 595 R	-1.462
A F 595 N	-2.457
A F 595 D	-2.161
A F 595 C	-0.710
A F 595 Q	-1.099
A F 595 E	-1.464
A F 595 G	-1.495
A F 595 H	-0.816
A F 595 I	-0.557
A F 595 L	-0.757
A F 595 K	-1.575
A F 595 M	-0.820
A F 595 P	-1.405
A F 595 S	-1.315
A F 595 T	-1.522
A F 595 W	-0.084
A F 595 Y	-0.159
A F 595 V	-1.433
A S 596 A	-0.983
A S 596 R	-1.541
A S 596 N	-1.884
A S 596 D	-1.530
A S 596 C	-0.406
A S 596 Q	-1.509
A S 596 E	-2.028
A S 596 G	-1.374
A S 596 H	-2.366
A S 596 I	-0.217

A S 596 L	-0.584
A S 596 K	-1.804
A S 596 M	-0.418
A S 596 F	-0.235
A S 596 P	-1.138
A S 596 T	-1.207
A S 596 W	-0.375
A S 596 Y	-0.456
A S 596 V	-0.747
A R 597 A	-0.478
A R 597 N	-0.557
A R 597 D	-0.421
A R 597 C	-0.470
A R 597 Q	-0.238
A R 597 E	-0.547
A R 597 G	-0.750
A R 597 H	-0.639
A R 597 I	-0.199
A R 597 L	-0.318
A R 597 K	-0.685
A R 597 M	-0.317
A R 597 F	-0.355
A R 597 P	-0.689
A R 597 S	-0.452
A R 597 T	-0.831
A R 597 W	-0.357
A R 597 Y	-0.382
A R 597 V	-0.692
A E 598 A	-0.573
A E 598 R	-0.496
A E 598 N	-0.550
A E 598 D	-0.289
A E 598 C	-0.383
A E 598 Q	-0.206
A E 598 G	-0.882
A E 598 H	-0.439
A E 598 I	-0.211
A E 598 L	-0.315
A E 598 K	-0.551
A E 598 M	-0.320
A E 598 F	-0.442
A E 598 P	-0.613
A E 598 S	-0.370
A E 598 T	-0.565
A E 598 W	-0.430
A E 598 Y	-0.378
A E 598 V	-0.565
A Q 599 A	-0.513
A Q 599 R	-0.203
A Q 599 N	-0.254
A Q 599 D	-0.368
A Q 599 C	-0.295
A Q 599 E	-0.140
A Q 599 G	-0.453
A Q 599 H	-0.128
A Q 599 I	-0.240
A Q 599 L	-0.260

A Q 599 K	-0.127
A Q 599 M	-0.382
A Q 599 F	-0.295
A Q 599 P	-0.665
A Q 599 S	-0.355
A Q 599 T	-0.304
A Q 599 W	-0.204
A Q 599 Y	-0.386
A Q 599 V	-0.374
A P 600 A	-0.493
A P 600 R	-0.262
A P 600 N	-0.371
A P 600 D	-0.305
A P 600 C	-0.508
A P 600 Q	-0.202
A P 600 E	-0.285
A P 600 G	-0.615
A P 600 H	-0.358
A P 600 I	-0.321
A P 600 L	-0.468
A P 600 K	-0.330
A P 600 M	-0.422
A P 600 F	-0.512
A P 600 S	-0.466
A P 600 T	-0.652
A P 600 W	-0.330
A P 600 Y	-0.414
A P 600 V	-0.614
A H 601 A	-0.188
A H 601 R	-0.078
A H 601 N	-0.090
A H 601 D	-0.112
A H 601 C	-0.145
A H 601 Q	-0.028
A H 601 E	-0.038
A H 601 G	-0.293
A H 601 I	-0.085
A H 601 L	-0.133
A H 601 K	0.072
A H 601 M	-0.149
A H 601 F	-0.155
A H 601 P	-0.239
A H 601 S	-0.148
A H 601 T	-0.144
A H 601 W	-0.093
A H 601 Y	-0.170
A H 601 V	-0.144
A K 602 A	-0.659
A K 602 R	-0.265
A K 602 N	-0.815
A K 602 D	-0.739
A K 602 C	-0.497
A K 602 Q	-0.287
A K 602 E	-0.663
A K 602 G	-0.832
A K 602 H	-0.522
A K 602 I	-0.310

A K 602 L	-0.531
A K 602 M	-0.470
A K 602 F	-0.638
A K 602 P	-0.674
A K 602 S	-0.583
A K 602 T	-0.905
A K 602 W	-0.428
A K 602 Y	-0.353
A K 602 V	-0.788
A V 603 A	-1.037
A V 603 R	-0.533
A V 603 N	-1.355
A V 603 D	-1.355
A V 603 C	-0.337
A V 603 Q	-0.477
A V 603 E	-0.644
A V 603 G	-1.133
A V 603 H	-0.515
A V 603 I	-0.107
A V 603 L	-0.618
A V 603 K	-0.683
A V 603 M	-0.451
A V 603 F	-0.560
A V 603 P	-1.332
A V 603 S	-1.023
A V 603 T	-0.908
A V 603 W	-0.363
A V 603 Y	-0.361
A Y 604 A	-1.217
A Y 604 R	-0.853
A Y 604 N	-0.762
A Y 604 D	-0.972
A Y 604 C	-0.727
A Y 604 Q	-0.857
A Y 604 E	-0.880
A Y 604 G	-1.799
A Y 604 H	-0.585
A Y 604 I	-0.784
A Y 604 L	-0.820
A Y 604 K	-0.607
A Y 604 M	-0.861
A Y 604 F	-0.643
A Y 604 P	-1.867
A Y 604 S	-1.385
A Y 604 T	-0.207
A Y 604 W	-0.645
A Y 604 V	-0.939
A V 605 A	-2.090
A V 605 R	-4.259
A V 605 N	-4.683
A V 605 D	-4.347
A V 605 C	-1.991
A V 605 Q	-3.941
A V 605 E	-4.731
A V 605 G	-2.961
A V 605 H	-4.321
A V 605 I	-0.372

A V	605	L	-0.984
A V	605	K	-4.809
A V	605	M	-1.127
A V	605	F	-1.361
A V	605	P	-0.229
A V	605	S	-2.115
A V	605	T	-2.532
A V	605	W	-1.562
A V	605	Y	-2.009
A Q	606	A	-0.733
A Q	606	R	-1.029
A Q	606	N	-0.691
A Q	606	D	-0.957
A Q	606	C	-0.681
A Q	606	E	-0.736
A Q	606	G	-1.657
A Q	606	H	-0.675
A Q	606	I	-0.210
A Q	606	L	-0.252
A Q	606	K	-0.880
A Q	606	M	-0.373
A Q	606	F	-0.339
A Q	606	P	-1.346
A Q	606	S	-0.636
A Q	606	T	-0.523
A Q	606	W	-0.475
A Q	606	Y	-1.226
A Q	606	V	-0.560
A H	607	A	-0.566
A H	607	R	-0.621
A H	607	N	-0.593
A H	607	D	-0.304
A H	607	C	-0.760
A H	607	Q	-0.166
A H	607	E	-0.328
A H	607	G	-1.188
A H	607	I	-0.173
A H	607	L	-0.311
A H	607	K	-0.854
A H	607	M	-0.276
A H	607	F	-0.366
A H	607	P	-0.808
A H	607	S	-0.520
A H	607	T	-0.590
A H	607	W	-0.567
A H	607	Y	-0.595
A H	607	V	-0.645
A L	608	A	-2.434
A L	608	R	-1.842
A L	608	N	-3.291
A L	608	D	-4.337
A L	608	C	-2.080
A L	608	Q	-2.982
A L	608	E	-3.400
A L	608	G	-4.475
A L	608	H	-2.921
A L	608	I	-0.967

A L 608 K	-2.105
A L 608 M	-1.034
A L 608 F	-0.896
A L 608 P	-4.270
A L 608 S	-2.452
A L 608 T	-2.358
A L 608 W	-1.299
A L 608 Y	-3.016
A L 608 V	-1.603
A L 609 A	-2.742
A L 609 R	-4.504
A L 609 N	-4.884
A L 609 D	-5.125
A L 609 C	-2.509
A L 609 Q	-4.701
A L 609 E	-4.697
A L 609 G	-4.995
A L 609 H	-4.685
A L 609 I	-0.549
A L 609 K	-4.238
A L 609 M	-0.196
A L 609 F	-0.972
A L 609 P	-5.233
A L 609 S	-2.916
A L 609 T	-2.624
A L 609 W	-2.923
A L 609 Y	-3.781
A L 609 V	-1.579
A K 610 A	-0.341
A K 610 R	-0.130
A K 610 N	-0.764
A K 610 D	-1.006
A K 610 C	-0.564
A K 610 Q	-0.112
A K 610 E	-0.330
A K 610 G	-1.117
A K 610 H	-0.453
A K 610 I	-0.029
A K 610 L	-0.004
A K 610 M	-0.106
A K 610 F	-0.247
A K 610 P	-1.043
A K 610 S	-0.297
A K 610 T	-0.560
A K 610 W	0.444
A K 610 Y	-0.506
A K 610 V	-0.349
A R 611 A	-0.140
A R 611 N	-0.154
A R 611 D	-0.171
A R 611 C	-0.322
A R 611 Q	0.095
A R 611 E	0.174
A R 611 G	-0.733
A R 611 H	-0.112
A R 611 I	0.231
A R 611 L	0.213

A R 611 K	0.028
A R 611 M	0.048
A R 611 F	0.079
A R 611 P	-0.566
A R 611 S	-0.107
A R 611 T	-0.156
A R 611 W	-0.274
A R 611 Y	-0.198
A R 611 V	-0.120
A D 612 A	0.485
A D 612 R	0.301
A D 612 N	0.404
A D 612 C	0.227
A D 612 Q	0.345
A D 612 E	0.432
A D 612 G	-1.106
A D 612 H	0.446
A D 612 I	1.444
A D 612 L	2.060
A D 612 K	0.445
A D 612 M	1.097
A D 612 F	1.629
A D 612 P	-0.757
A D 612 S	0.644
A D 612 T	1.029
A D 612 W	0.872
A D 612 Y	0.584
A D 612 V	1.178
A K 613 A	0.147
A K 613 R	0.040
A K 613 N	-1.319
A K 613 D	-1.209
A K 613 C	-0.740
A K 613 Q	-0.297
A K 613 E	-0.703
A K 613 G	-0.725
A K 613 H	-1.084
A K 613 I	0.185
A K 613 L	0.449
A K 613 M	-0.036
A K 613 F	0.260
A K 613 P	-1.125
A K 613 S	-0.159
A K 613 T	-0.642
A K 613 W	-0.412
A K 613 Y	-0.808
A K 613 V	-0.278
A E 614 A	-0.256
A E 614 R	-0.199
A E 614 N	-0.209
A E 614 D	-0.134
A E 614 C	-0.349
A E 614 Q	-0.088
A E 614 G	-0.661
A E 614 H	-0.146
A E 614 I	-0.106
A E 614 L	-0.163

A E 614 K	-0.123
A E 614 M	-0.195
A E 614 F	-0.230
A E 614 P	-0.450
A E 614 S	-0.198
A E 614 T	-0.241
A E 614 W	-0.242
A E 614 Y	-0.388
A E 614 V	-0.286
A H 615 A	-0.347
A H 615 R	-0.300
A H 615 N	-0.380
A H 615 D	-0.319
A H 615 C	-0.482
A H 615 Q	-0.089
A H 615 E	-0.104
A H 615 G	-0.880
A H 615 I	-0.045
A H 615 L	-0.114
A H 615 K	-0.298
A H 615 M	-0.187
A H 615 F	-0.161
A H 615 P	-0.649
A H 615 S	-0.297
A H 615 T	-0.331
A H 615 W	-0.273
A H 615 Y	-0.376
A H 615 V	-0.318
A L 616 A	-2.293
A L 616 R	-3.894
A L 616 N	-4.377
A L 616 D	-4.684
A L 616 C	-1.716
A L 616 Q	-3.968
A L 616 E	-4.038
A L 616 G	-4.613
A L 616 H	-3.387
A L 616 I	0.148
A L 616 K	-3.529
A L 616 M	-0.686
A L 616 F	-0.369
A L 616 P	-4.634
A L 616 S	-2.453
A L 616 T	-1.574
A L 616 W	-1.588
A L 616 Y	-3.672
A L 616 V	-0.244
A W 617 A	-1.833
A W 617 R	-2.281
A W 617 N	-2.589
A W 617 D	-3.003
A W 617 C	-1.383
A W 617 Q	-2.349
A W 617 E	-2.838
A W 617 G	-3.086
A W 617 H	-1.987
A W 617 I	-1.207

A	W	617	L	-1.401
A	W	617	K	-2.407
A	W	617	M	-1.061
A	W	617	F	-0.917
A	W	617	P	-3.482
A	W	617	S	-2.244
A	W	617	T	-2.365
A	W	617	Y	-1.588
A	W	617	V	-1.735
A	Q	618	A	-0.198
A	Q	618	R	-0.118
A	Q	618	N	-0.130
A	Q	618	D	-0.100
A	Q	618	C	-0.311
A	Q	618	E	-0.007
A	Q	618	G	-0.638
A	Q	618	H	-0.073
A	Q	618	I	-0.072
A	Q	618	L	-0.102
A	Q	618	K	-0.026
A	Q	618	M	-0.180
A	Q	618	F	-0.145
A	Q	618	P	-0.629
A	Q	618	S	-0.182
A	Q	618	T	-0.220
A	Q	618	W	-0.189
A	Q	618	Y	-0.612
A	Q	618	V	-0.219
A	L	619	A	-2.033
A	L	619	R	-3.360
A	L	619	N	-3.518
A	L	619	D	-3.695
A	L	619	C	-1.771
A	L	619	Q	-2.453
A	L	619	E	-3.180
A	L	619	G	-3.689
A	L	619	H	-3.119
A	L	619	I	-0.239
A	L	619	K	-3.515
A	L	619	M	-0.702
A	L	619	F	-0.830
A	L	619	P	-3.256
A	L	619	S	-1.831
A	L	619	T	-1.896
A	L	619	W	-0.824
A	L	619	Y	-2.161
A	L	619	V	-1.444
A	I	620	A	-2.024
A	I	620	R	-2.882
A	I	620	N	-2.496
A	I	620	D	-2.748
A	I	620	C	-1.431
A	I	620	Q	-2.417
A	I	620	E	-2.668
A	I	620	G	-3.021
A	I	620	H	-2.597
A	I	620	L	-0.001

A I 620 K	-2.478
A I 620 M	-0.698
A I 620 F	-0.524
A I 620 P	-3.091
A I 620 S	-2.174
A I 620 T	-1.814
A I 620 W	-0.625
A I 620 Y	-1.949
A I 620 V	-1.115
A H 621 A	-0.188
A H 621 R	-0.101
A H 621 N	-0.236
A H 621 D	-0.233
A H 621 C	-0.241
A H 621 Q	-0.039
A H 621 E	-0.118
A H 621 G	-0.548
A H 621 I	-0.038
A H 621 L	-0.070
A H 621 K	-0.108
A H 621 M	-0.089
A H 621 F	-0.174
A H 621 P	-0.494
A H 621 S	-0.153
A H 621 T	-0.285
A H 621 W	-0.141
A H 621 Y	-0.235
A H 621 V	-0.234
A E 622 A	-0.470
A E 622 R	-0.156
A E 622 N	-0.339
A E 622 D	-0.369
A E 622 C	-0.419
A E 622 Q	-0.038
A E 622 G	-0.828
A E 622 H	-0.120
A E 622 I	-0.234
A E 622 L	-0.272
A E 622 K	-0.112
A E 622 M	-0.356
A E 622 F	-0.403
A E 622 P	-0.857
A E 622 S	-0.356
A E 622 T	-0.346
A E 622 W	-0.166
A E 622 Y	-0.406
A E 622 V	-0.441
A A 623 R	0.070
A A 623 N	0.101
A A 623 D	0.070
A A 623 C	0.058
A A 623 Q	0.165
A A 623 E	0.178
A A 623 G	-0.066
A A 623 H	0.080
A A 623 I	0.130
A A 623 L	0.205

A A 623 K	0.177
A A 623 M	0.071
A A 623 F	0.137
A A 623 P	0.138
A A 623 S	-0.032
A A 623 T	-0.075
A A 623 W	0.115
A A 623 Y	0.011
A A 623 V	0.007
A G 624 A	-1.826
A G 624 R	-1.454
A G 624 N	-1.853
A G 624 D	-1.635
A G 624 C	-1.345
A G 624 Q	-1.275
A G 624 E	-2.033
A G 624 H	-2.080
A G 624 I	-1.669
A G 624 L	-2.103
A G 624 K	-1.711
A G 624 M	-1.631
A G 624 F	-2.342
A G 624 P	-1.389
A G 624 S	-1.751
A G 624 T	-2.816
A G 624 W	-1.421
A G 624 Y	-1.243
A G 624 V	-2.533
A A 625 R	-2.086
A A 625 N	-3.250
A A 625 D	-3.538
A A 625 C	-0.649
A A 625 Q	-2.265
A A 625 E	-3.306
A A 625 G	-0.675
A A 625 H	-2.459
A A 625 I	-1.281
A A 625 L	-1.223
A A 625 K	-2.249
A A 625 M	-1.058
A A 625 F	-1.236
A A 625 P	-1.903
A A 625 S	-1.044
A A 625 T	-1.541
A A 625 W	-0.583
A A 625 Y	-1.110
A A 625 V	-1.447
A H 626 A	-0.973
A H 626 R	-1.014
A H 626 N	-1.582
A H 626 D	-2.361
A H 626 C	-0.769
A H 626 Q	-1.080
A H 626 E	-2.137
A H 626 G	-2.176
A H 626 I	-0.520
A H 626 L	-0.778

A H 626 K	-1.173
A H 626 M	-0.825
A H 626 F	-0.672
A H 626 P	-2.173
A H 626 S	-0.845
A H 626 T	-0.967
A H 626 W	-0.312
A H 626 Y	-0.262
A H 626 V	-0.895
A I 627 A	-3.034
A I 627 R	-4.438
A I 627 N	-5.364
A I 627 D	-5.796
A I 627 C	-2.469
A I 627 Q	-5.914
A I 627 E	-5.798
A I 627 G	-4.699
A I 627 H	-4.383
A I 627 L	-1.001
A I 627 K	-4.318
A I 627 M	-1.642
A I 627 F	-0.527
A I 627 P	-5.518
A I 627 S	-3.629
A I 627 T	-2.823
A I 627 W	-1.995
A I 627 Y	-3.999
A I 627 V	-1.033
A Y 628 A	-3.279
A Y 628 R	-3.114
A Y 628 N	-4.464
A Y 628 D	-4.884
A Y 628 C	-2.164
A Y 628 Q	-4.446
A Y 628 E	-4.881
A Y 628 G	-4.611
A Y 628 H	-3.230
A Y 628 I	-1.879
A Y 628 L	-1.553
A Y 628 K	-3.439
A Y 628 M	-2.191
A Y 628 F	-1.395
A Y 628 P	-5.182
A Y 628 S	-3.599
A Y 628 T	-2.936
A Y 628 W	-2.253
A Y 628 V	-2.024
A V 629 A	-2.691
A V 629 R	-5.034
A V 629 N	-5.801
A V 629 D	-6.087
A V 629 C	-2.689
A V 629 Q	-5.065
A V 629 E	-5.855
A V 629 G	-4.478
A V 629 H	-4.885
A V 629 I	0.402

A V 629 L	-1.531
A V 629 K	-5.832
A V 629 M	-1.789
A V 629 F	-1.829
A V 629 P	-4.895
A V 629 S	-2.413
A V 629 T	-2.352
A V 629 W	-2.651
A V 629 Y	-2.749
A C 630 A	-1.856
A C 630 R	-2.951
A C 630 N	-4.017
A C 630 D	-3.884
A C 630 Q	-3.881
A C 630 E	-4.620
A C 630 G	-2.992
A C 630 H	-3.331
A C 630 I	-1.557
A C 630 L	-2.093
A C 630 K	-4.254
A C 630 M	-1.654
A C 630 F	-2.071
A C 630 P	-3.392
A C 630 S	-1.654
A C 630 T	-1.912
A C 630 W	-2.159
A C 630 Y	-2.944
A C 630 V	-2.394
A G 631 A	-2.154
A G 631 R	-2.134
A G 631 N	-4.110
A G 631 D	-2.782
A G 631 C	-1.848
A G 631 Q	-3.241
A G 631 E	-4.115
A G 631 H	-4.079
A G 631 I	-2.283
A G 631 L	-2.960
A G 631 K	-3.768
A G 631 M	-2.402
A G 631 F	-3.055
A G 631 P	-1.944
A G 631 S	-2.497
A G 631 T	-3.134
A G 631 W	-1.622
A G 631 Y	-2.299
A G 631 V	-2.695
A D 632 A	-0.835
A D 632 R	-0.609
A D 632 N	-0.526
A D 632 C	-0.788
A D 632 Q	-0.399
A D 632 E	-0.420
A D 632 G	-0.860
A D 632 H	-0.661
A D 632 I	-0.625
A D 632 L	-0.722

A	D	632	K	-0.707
A	D	632	M	-0.723
A	D	632	F	-0.708
A	D	632	P	-0.958
A	D	632	S	-0.636
A	D	632	T	-0.908
A	D	632	W	-0.409
A	D	632	Y	-0.418
A	D	632	V	-0.978
A	A	633	R	-2.728
A	A	633	N	-4.479
A	A	633	D	-4.348
A	A	633	C	-1.212
A	A	633	Q	-4.005
A	A	633	E	-4.148
A	A	633	G	-0.597
A	A	633	H	-4.171
A	A	633	I	-1.243
A	A	633	L	-1.394
A	A	633	K	-3.030
A	A	633	M	-1.398
A	A	633	F	-1.893
A	A	633	P	-3.210
A	A	633	S	-1.758
A	A	633	T	-2.715
A	A	633	W	-2.035
A	A	633	Y	-2.223
A	A	633	V	-1.801
A	R	634	A	-0.322
A	R	634	N	-0.280
A	R	634	D	-0.259
A	R	634	C	-0.514
A	R	634	Q	-0.123
A	R	634	E	-0.206
A	R	634	G	-0.676
A	R	634	H	-0.464
A	R	634	I	-0.070
A	R	634	L	-0.214
A	R	634	K	0.135
A	R	634	M	-0.164
A	R	634	F	-0.266
A	R	634	P	-0.865
A	R	634	S	-0.235
A	R	634	T	-0.358
A	R	634	W	-0.449
A	R	634	Y	-0.356
A	R	634	V	-0.389
A	N	635	A	-0.254
A	N	635	R	-0.129
A	N	635	D	-0.168
A	N	635	C	-0.249
A	N	635	Q	-0.052
A	N	635	E	-0.090
A	N	635	G	-0.506
A	N	635	H	-0.049
A	N	635	I	-0.068
A	N	635	L	-0.104

A N 635 K	-0.107
A N 635 M	-0.144
A N 635 F	-0.173
A N 635 P	-0.303
A N 635 S	-0.114
A N 635 T	-0.124
A N 635 W	-0.193
A N 635 Y	-0.187
A N 635 V	-0.221
A M 636 A	-1.712
A M 636 R	-2.762
A M 636 N	-2.517
A M 636 D	-2.995
A M 636 C	-1.598
A M 636 Q	-2.718
A M 636 E	-3.024
A M 636 G	-2.398
A M 636 H	-2.710
A M 636 I	-0.572
A M 636 L	-0.578
A M 636 K	-3.299
A M 636 F	-0.411
A M 636 P	-1.758
A M 636 S	-2.025
A M 636 T	-1.856
A M 636 W	-0.731
A M 636 Y	-1.396
A M 636 V	-1.358
A A 637 R	-4.312
A A 637 N	-4.462
A A 637 D	-4.494
A A 637 C	-1.382
A A 637 Q	-4.242
A A 637 E	-4.057
A A 637 G	-1.990
A A 637 H	-4.619
A A 637 I	-1.355
A A 637 L	-1.521
A A 637 K	-4.441
A A 637 M	-1.153
A A 637 F	-1.308
A A 637 P	-2.509
A A 637 S	-1.386
A A 637 T	-2.545
A A 637 W	-1.817
A A 637 Y	-1.985
A A 637 V	-1.924
A R 638 A	-0.907
A R 638 N	-1.183
A R 638 D	-1.292
A R 638 C	-0.994
A R 638 Q	-0.435
A R 638 E	-1.267
A R 638 G	-1.429
A R 638 H	-0.891
A R 638 I	-0.287
A R 638 L	-0.504

A R 638 K	-0.811
A R 638 M	-0.575
A R 638 F	-0.711
A R 638 P	-0.951
A R 638 S	-0.920
A R 638 T	-1.137
A R 638 W	-0.786
A R 638 Y	-1.150
A R 638 V	-0.901
A D 639 A	-0.363
A D 639 R	-0.378
A D 639 N	-0.415
A D 639 C	-0.493
A D 639 Q	-0.034
A D 639 E	-0.027
A D 639 G	-1.071
A D 639 H	-0.365
A D 639 I	0.042
A D 639 L	0.124
A D 639 K	-0.345
A D 639 M	-0.195
A D 639 F	-0.112
A D 639 P	-0.884
A D 639 S	-0.294
A D 639 T	-0.354
A D 639 W	-0.340
A D 639 Y	-0.616
A D 639 V	-0.306
A V 640 A	-2.295
A V 640 R	-4.683
A V 640 N	-5.737
A V 640 D	-5.664
A V 640 C	-2.601
A V 640 Q	-4.957
A V 640 E	-5.740
A V 640 G	-3.909
A V 640 H	-4.762
A V 640 I	-0.132
A V 640 L	-1.057
A V 640 K	-5.507
A V 640 M	-1.503
A V 640 F	-1.706
A V 640 P	-4.656
A V 640 S	-2.246
A V 640 T	-2.946
A V 640 W	-2.204
A V 640 Y	-3.287
A Q 641 A	-1.142
A Q 641 R	-1.051
A Q 641 N	-0.532
A Q 641 D	-1.050
A Q 641 C	-0.927
A Q 641 E	-0.279
A Q 641 G	-2.796
A Q 641 H	0.409
A Q 641 I	0.250
A Q 641 L	1.040

A Q	641	K	-0.648
A Q	641	M	-0.188
A Q	641	F	0.488
A Q	641	P	-3.295
A Q	641	S	-1.342
A Q	641	T	-0.313
A Q	641	W	0.397
A Q	641	Y	-1.415
A Q	641	V	-0.003
A N	642	A	-0.248
A N	642	R	-0.078
A N	642	D	-0.200
A N	642	C	-0.329
A N	642	Q	0.015
A N	642	E	0.025
A N	642	G	-0.985
A N	642	H	-0.131
A N	642	I	-0.082
A N	642	L	-0.085
A N	642	K	-0.087
A N	642	M	-0.155
A N	642	F	-0.235
A N	642	P	-0.964
A N	642	S	-0.177
A N	642	T	-0.274
A N	642	W	-0.228
A N	642	Y	-0.523
A N	642	V	-0.287
A T	643	A	-0.810
A T	643	R	-3.819
A T	643	N	-4.382
A T	643	D	-4.592
A T	643	C	-0.756
A T	643	Q	-3.886
A T	643	E	-3.770
A T	643	G	-3.643
A T	643	H	-3.628
A T	643	I	-0.501
A T	643	L	-0.911
A T	643	K	-3.010
A T	643	M	-0.770
A T	643	F	-0.819
A T	643	P	-4.458
A T	643	S	-1.436
A T	643	W	-1.417
A T	643	Y	-2.324
A T	643	V	-0.885
A F	644	A	-2.430
A F	644	R	-3.463
A F	644	N	-4.885
A F	644	D	-5.104
A F	644	C	-1.815
A F	644	Q	-4.209
A F	644	E	-3.185
A F	644	G	-3.867
A F	644	H	-3.681
A F	644	I	-0.322

A	F	644	L	0.053
A	F	644	K	-3.242
A	F	644	M	-0.705
A	F	644	P	-4.673
A	F	644	S	-2.284
A	F	644	T	-2.379
A	F	644	W	-0.260
A	F	644	Y	-2.275
A	F	644	V	-1.274
A	Y	645	A	-1.702
A	Y	645	R	-1.403
A	Y	645	N	-1.156
A	Y	645	D	-2.433
A	Y	645	C	0.002
A	Y	645	Q	-1.410
A	Y	645	E	-1.129
A	Y	645	G	-2.498
A	Y	645	H	0.046
A	Y	645	I	1.071
A	Y	645	L	0.526
A	Y	645	K	-0.658
A	Y	645	M	-0.466
A	Y	645	F	-0.574
A	Y	645	P	-4.218
A	Y	645	S	-2.649
A	Y	645	T	-1.171
A	Y	645	W	-1.064
A	Y	645	V	0.252
A	D	646	A	-0.176
A	D	646	R	0.034
A	D	646	N	-0.038
A	D	646	C	-0.386
A	D	646	Q	0.183
A	D	646	E	0.207
A	D	646	G	-0.961
A	D	646	H	-0.040
A	D	646	I	0.174
A	D	646	L	0.486
A	D	646	K	0.129
A	D	646	M	-0.023
A	D	646	F	0.191
A	D	646	P	-0.682
A	D	646	S	-0.118
A	D	646	T	-0.020
A	D	646	W	-0.132
A	D	646	Y	-0.791
A	D	646	V	-0.084
A	I	647	A	-2.344
A	I	647	R	-4.367
A	I	647	N	-4.246
A	I	647	D	-5.013
A	I	647	C	-1.460
A	I	647	Q	-4.625
A	I	647	E	-4.398
A	I	647	G	-2.945
A	I	647	H	-3.928
A	I	647	L	-1.057

A I	647	K	-4.109
A I	647	M	-1.114
A I	647	F	-1.172
A I	647	P	-4.749
A I	647	S	-2.509
A I	647	T	-2.106
A I	647	W	-2.173
A I	647	Y	-3.503
A I	647	V	-1.198
A V	648	A	-0.848
A V	648	R	-2.431
A V	648	N	-4.454
A V	648	D	-4.784
A V	648	C	-0.578
A V	648	Q	-3.129
A V	648	E	-4.997
A V	648	G	-2.133
A V	648	H	-2.039
A V	648	I	0.366
A V	648	L	0.565
A V	648	K	-2.964
A V	648	M	0.188
A V	648	F	0.342
A V	648	P	-3.903
A V	648	S	-1.241
A V	648	T	-1.607
A V	648	W	-0.455
A V	648	Y	-0.584
A A	649	R	-0.537
A A	649	N	-2.008
A A	649	D	-1.466
A A	649	C	-0.536
A A	649	Q	0.001
A A	649	E	-0.445
A A	649	G	-1.215
A A	649	H	-1.289
A A	649	I	-0.082
A A	649	L	-0.261
A A	649	K	-0.462
A A	649	M	-0.397
A A	649	F	-0.505
A A	649	P	-2.131
A A	649	S	-0.323
A A	649	T	-0.663
A A	649	W	-0.786
A A	649	Y	-1.656
A A	649	V	-0.419
A E	650	A	-0.511
A E	650	R	-0.348
A E	650	N	-0.374
A E	650	D	-0.355
A E	650	C	-0.483
A E	650	Q	-0.172
A E	650	G	-0.858
A E	650	H	-0.336
A E	650	I	-0.157
A E	650	L	-0.249

A E 650 K	-0.283
A E 650 M	-0.291
A E 650 F	-0.309
A E 650 P	-0.700
A E 650 S	-0.361
A E 650 T	-0.401
A E 650 W	-0.436
A E 650 Y	-0.761
A E 650 V	-0.522
A V 651 A	-0.289
A V 651 R	-0.400
A V 651 N	-0.464
A V 651 D	-1.104
A V 651 C	-0.025
A V 651 Q	-0.066
A V 651 E	-0.182
A V 651 G	-0.970
A V 651 H	-0.023
A V 651 I	0.199
A V 651 L	0.411
A V 651 K	-0.220
A V 651 M	-0.035
A V 651 F	0.559
A V 651 P	-1.147
A V 651 S	-0.331
A V 651 T	-0.449
A V 651 W	-0.168
A V 651 Y	0.285
A G 652 A	-0.939
A G 652 R	-0.823
A G 652 N	-1.489
A G 652 D	-1.762
A G 652 C	-0.851
A G 652 Q	-1.204
A G 652 E	-1.182
A G 652 H	-1.197
A G 652 I	-0.713
A G 652 L	-0.855
A G 652 K	-0.937
A G 652 M	-1.061
A G 652 F	-1.248
A G 652 P	-1.578
A G 652 S	-0.996
A G 652 T	-1.288
A G 652 W	-1.033
A G 652 Y	-1.109
A G 652 V	-1.148
A A 653 R	0.090
A A 653 N	0.201
A A 653 D	0.046
A A 653 C	0.134
A A 653 Q	0.137
A A 653 E	0.179
A A 653 G	0.336
A A 653 H	0.206
A A 653 I	-0.020
A A 653 L	0.156

A A 653 K	0.209
A A 653 M	-0.076
A A 653 F	0.088
A A 653 P	0.020
A A 653 S	0.027
A A 653 T	-0.086
A A 653 W	0.259
A A 653 Y	0.154
A A 653 V	-0.054
A M 654 A	-1.239
A M 654 R	-0.420
A M 654 N	-0.689
A M 654 D	-0.926
A M 654 C	-0.148
A M 654 Q	-0.605
A M 654 E	-0.299
A M 654 G	-0.983
A M 654 H	-0.297
A M 654 I	-0.093
A M 654 L	-0.252
A M 654 K	-0.157
A M 654 F	-0.437
A M 654 P	-1.176
A M 654 S	-1.095
A M 654 T	-0.651
A M 654 W	0.255
A M 654 Y	-0.125
A M 654 V	-0.249
A E 655 A	-0.330
A E 655 R	-0.180
A E 655 N	-0.090
A E 655 D	-0.080
A E 655 C	-0.430
A E 655 Q	-0.073
A E 655 G	-0.378
A E 655 H	-0.102
A E 655 I	-0.320
A E 655 L	-0.219
A E 655 K	-0.038
A E 655 M	-0.442
A E 655 F	-0.304
A E 655 P	-0.285
A E 655 S	0.045
A E 655 T	-0.132
A E 655 W	-0.243
A E 655 Y	-0.514
A E 655 V	-0.302
A H 656 A	-0.317
A H 656 R	-0.149
A H 656 N	-0.271
A H 656 D	-0.228
A H 656 C	-0.439
A H 656 Q	-0.040
A H 656 E	0.057
A H 656 G	-0.678
A H 656 I	0.004
A H 656 L	-0.013

A H 656 K	-0.139
A H 656 M	-0.132
A H 656 F	-0.171
A H 656 P	-0.440
A H 656 S	-0.271
A H 656 T	-0.272
A H 656 W	-0.143
A H 656 Y	-0.524
A H 656 V	-0.212
A A 657 R	-0.048
A A 657 N	0.004
A A 657 D	0.053
A A 657 C	-0.223
A A 657 Q	0.054
A A 657 E	0.164
A A 657 G	-0.202
A A 657 H	-0.105
A A 657 I	0.135
A A 657 L	0.158
A A 657 K	0.044
A A 657 M	0.024
A A 657 F	0.053
A A 657 P	-0.046
A A 657 S	-0.029
A A 657 T	-0.050
A A 657 W	-0.057
A A 657 Y	-0.126
A A 657 V	-0.029
A Q 658 A	-0.492
A Q 658 R	-0.302
A Q 658 N	-0.362
A Q 658 D	-0.222
A Q 658 C	-0.443
A Q 658 E	0.011
A Q 658 G	-0.873
A Q 658 H	-0.232
A Q 658 I	-0.417
A Q 658 L	-0.226
A Q 658 K	-0.143
A Q 658 M	-0.338
A Q 658 F	-0.414
A Q 658 P	-1.165
A Q 658 S	-0.457
A Q 658 T	-0.413
A Q 658 W	-0.636
A Q 658 Y	-1.016
A Q 658 V	-0.397
A A 659 R	-3.995
A A 659 N	-4.440
A A 659 D	-3.905
A A 659 C	-1.689
A A 659 Q	-2.311
A A 659 E	-4.025
A A 659 G	-1.454
A A 659 H	-3.899
A A 659 I	-1.395
A A 659 L	-1.244

A	A	659	K	-4.153
A	A	659	M	-1.318
A	A	659	F	-1.974
A	A	659	P	-3.107
A	A	659	S	-1.384
A	A	659	T	-1.528
A	A	659	W	-1.357
A	A	659	Y	-2.367
A	A	659	V	-1.536
A	V	660	A	-0.449
A	V	660	R	-0.370
A	V	660	N	-0.681
A	V	660	D	-0.646
A	V	660	C	-1.012
A	V	660	Q	-0.159
A	V	660	E	0.259
A	V	660	G	-0.962
A	V	660	H	-0.372
A	V	660	I	0.116
A	V	660	L	0.078
A	V	660	K	-0.001
A	V	660	M	-0.195
A	V	660	F	-0.088
A	V	660	P	-1.513
A	V	660	S	-0.565
A	V	660	T	-0.458
A	V	660	W	-0.469
A	V	660	Y	-1.315
A	D	661	A	-0.050
A	D	661	R	-0.086
A	D	661	N	-0.039
A	D	661	C	-0.569
A	D	661	Q	0.068
A	D	661	E	0.145
A	D	661	G	-0.648
A	D	661	H	-0.056
A	D	661	I	-0.012
A	D	661	L	0.060
A	D	661	K	0.032
A	D	661	M	-0.111
A	D	661	F	-0.105
A	D	661	P	-0.770
A	D	661	S	-0.112
A	D	661	T	-0.184
A	D	661	W	-0.205
A	D	661	Y	-0.764
A	D	661	V	-0.184
A	Y	662	A	-1.254
A	Y	662	R	-0.827
A	Y	662	N	-1.800
A	Y	662	D	-2.197
A	Y	662	C	-0.755
A	Y	662	Q	-1.200
A	Y	662	E	-0.672
A	Y	662	G	-2.584
A	Y	662	H	-0.560
A	Y	662	I	-0.584

A Y 662 L	-0.419
A Y 662 K	-0.443
A Y 662 M	-0.607
A Y 662 F	-0.293
A Y 662 P	-3.832
A Y 662 S	-2.261
A Y 662 T	-1.195
A Y 662 W	0.408
A Y 662 V	-0.748
A I 663 A	-2.076
A I 663 R	-2.467
A I 663 N	-3.360
A I 663 D	-5.136
A I 663 C	-1.364
A I 663 Q	-2.558
A I 663 E	-3.721
A I 663 G	-4.128
A I 663 H	-2.511
A I 663 L	-0.214
A I 663 K	-1.854
A I 663 M	-0.711
A I 663 F	-0.366
A I 663 P	-4.387
A I 663 S	-2.538
A I 663 T	-2.069
A I 663 W	-0.886
A I 663 Y	-2.107
A I 663 V	-0.202
A K 664 A	-0.528
A K 664 R	-0.377
A K 664 N	-0.427
A K 664 D	-0.528
A K 664 C	-0.972
A K 664 Q	-0.176
A K 664 E	-0.359
A K 664 G	-0.974
A K 664 H	-0.631
A K 664 I	-0.131
A K 664 L	-0.263
A K 664 M	-0.296
A K 664 F	-0.419
A K 664 P	-1.123
A K 664 S	-0.404
A K 664 T	-0.728
A K 664 W	-0.519
A K 664 Y	-0.682
A K 664 V	-0.714
A K 665 A	-0.260
A K 665 R	-0.178
A K 665 N	-0.172
A K 665 D	-0.237
A K 665 C	-0.780
A K 665 Q	-0.026
A K 665 E	-0.131
A K 665 G	-0.692
A K 665 H	-0.310
A K 665 I	-0.108

A K 665 L	-0.194
A K 665 M	-0.210
A K 665 F	-0.421
A K 665 P	-1.036
A K 665 S	-0.198
A K 665 T	-0.451
A K 665 W	-0.471
A K 665 Y	-0.347
A K 665 V	-0.489
A L 666 A	-2.039
A L 666 R	-3.324
A L 666 N	-3.574
A L 666 D	-4.480
A L 666 C	-1.962
A L 666 Q	-3.141
A L 666 E	-3.996
A L 666 G	-4.343
A L 666 H	-3.837
A L 666 I	-0.547
A L 666 K	-3.106
A L 666 M	0.184
A L 666 F	-0.771
A L 666 P	-4.295
A L 666 S	-2.509
A L 666 T	-2.311
A L 666 W	-0.267
A L 666 Y	-2.614
A L 666 V	-1.380
A M 667 A	-1.156
A M 667 R	-1.001
A M 667 N	-1.551
A M 667 D	-1.322
A M 667 C	-1.096
A M 667 Q	-0.335
A M 667 E	-0.614
A M 667 G	-1.826
A M 667 H	-1.078
A M 667 I	-0.100
A M 667 L	0.048
A M 667 K	-0.299
A M 667 F	-0.436
A M 667 P	-2.120
A M 667 S	-0.960
A M 667 T	-1.008
A M 667 W	-1.196
A M 667 Y	-1.602
A M 667 V	-0.689
A T 668 A	-0.125
A T 668 R	0.074
A T 668 N	-0.062
A T 668 D	-0.102
A T 668 C	-0.328
A T 668 Q	0.032
A T 668 E	0.022
A T 668 G	-0.401
A T 668 H	-0.057
A T 668 I	0.069

A T 668 L	0.041
A T 668 K	0.078
A T 668 M	-0.004
A T 668 F	-0.081
A T 668 P	-0.488
A T 668 S	-0.081
A T 668 W	-0.161
A T 668 Y	-0.386
A T 668 V	-0.073
A K 669 A	-0.115
A K 669 R	-0.016
A K 669 N	-0.179
A K 669 D	-0.129
A K 669 C	-0.394
A K 669 Q	0.066
A K 669 E	-0.024
A K 669 G	-0.579
A K 669 H	-0.200
A K 669 I	-0.007
A K 669 L	-0.098
A K 669 M	-0.101
A K 669 F	-0.234
A K 669 P	-0.918
A K 669 S	-0.042
A K 669 T	-0.239
A K 669 W	-0.532
A K 669 Y	-0.226
A K 669 V	-0.366
A G 670 A	-1.204
A G 670 R	-0.787
A G 670 N	-1.227
A G 670 D	-1.013
A G 670 C	-1.329
A G 670 Q	-0.833
A G 670 E	-1.169
A G 670 H	-1.082
A G 670 I	-1.215
A G 670 L	-1.495
A G 670 K	-1.009
A G 670 M	-1.292
A G 670 F	-1.572
A G 670 P	-1.267
A G 670 S	-1.156
A G 670 T	-2.024
A G 670 W	-1.012
A G 670 Y	-1.078
A G 670 V	-1.580
A R 671 A	-0.954
A R 671 N	-1.814
A R 671 D	-1.516
A R 671 C	-0.968
A R 671 Q	-0.640
A R 671 E	-2.295
A R 671 G	-1.307
A R 671 H	-1.036
A R 671 I	-0.422
A R 671 L	-0.686

A R 671 K	-0.931
A R 671 M	-0.686
A R 671 F	-1.051
A R 671 P	-1.463
A R 671 S	-0.918
A R 671 T	-1.375
A R 671 W	-0.648
A R 671 Y	-0.750
A R 671 V	-1.096
A Y 672 A	-3.723
A Y 672 R	-3.801
A Y 672 N	-4.140
A Y 672 D	-5.095
A Y 672 C	-2.051
A Y 672 Q	-5.441
A Y 672 E	-4.824
A Y 672 G	-4.351
A Y 672 H	-3.561
A Y 672 I	-2.696
A Y 672 L	-1.699
A Y 672 K	-3.192
A Y 672 M	-2.060
A Y 672 F	-1.145
A Y 672 P	-5.417
A Y 672 S	-4.348
A Y 672 T	-3.678
A Y 672 W	-0.802
A Y 672 V	-1.927
A S 673 A	-0.309
A S 673 R	0.095
A S 673 N	-1.849
A S 673 D	-4.181
A S 673 C	0.418
A S 673 Q	0.219
A S 673 E	-1.976
A S 673 G	-1.742
A S 673 H	-0.112
A S 673 I	1.278
A S 673 L	0.984
A S 673 K	-0.008
A S 673 M	0.797
A S 673 F	0.529
A S 673 P	-3.671
A S 673 T	-0.462
A S 673 W	1.363
A S 673 Y	0.420
A S 673 V	0.465
A L 674 A	-1.901
A L 674 R	-2.005
A L 674 N	-3.132
A L 674 D	-4.413
A L 674 C	-0.679
A L 674 Q	-2.324
A L 674 E	-0.430
A L 674 G	-4.196
A L 674 H	-2.200
A L 674 I	-0.621

A L 674 K	-1.438
A L 674 M	-0.817
A L 674 F	0.413
A L 674 P	-3.842
A L 674 S	-1.571
A L 674 T	-1.127
A L 674 W	-0.172
A L 674 Y	-0.855
A L 674 V	-1.055
A D 675 A	-0.196
A D 675 R	-0.937
A D 675 N	-1.186
A D 675 C	-0.277
A D 675 Q	-0.974
A D 675 E	-0.838
A D 675 G	-0.909
A D 675 H	-0.267
A D 675 I	0.451
A D 675 L	0.302
A D 675 K	-1.773
A D 675 M	-0.152
A D 675 F	0.167
A D 675 P	-1.324
A D 675 S	-0.467
A D 675 T	-0.657
A D 675 W	0.141
A D 675 Y	-0.122
A D 675 V	-0.170
A V 676 A	-1.585
A V 676 R	-4.447
A V 676 N	-4.344
A V 676 D	-4.250
A V 676 C	-0.523
A V 676 Q	-5.271
A V 676 E	-5.697
A V 676 G	-2.745
A V 676 H	-4.211
A V 676 I	-0.524
A V 676 L	-1.027
A V 676 K	-4.128
A V 676 M	-1.212
A V 676 F	-1.236
A V 676 P	-3.103
A V 676 S	-1.663
A V 676 T	-1.649
A V 676 W	-2.305
A V 676 Y	-1.082
A W 677 A	-1.066
A W 677 R	-0.868
A W 677 N	-0.543
A W 677 D	-0.806
A W 677 C	-0.638
A W 677 Q	-0.648
A W 677 E	-1.184
A W 677 G	-1.789
A W 677 H	-0.494
A W 677 I	-0.558

A W 677 L	-0.665
A W 677 K	-1.045
A W 677 M	-0.847
A W 677 F	-0.557
A W 677 P	-1.524
A W 677 S	-0.614
A W 677 T	-1.017
A W 677 Y	-0.469
A W 677 V	-0.941
A S 678 A	-0.499
A S 678 R	-0.329
A S 678 N	-0.651
A S 678 D	-0.693
A S 678 C	-0.227
A S 678 Q	-0.996
A S 678 E	-0.997
A S 678 G	-0.540
A S 678 H	-1.597
A S 678 I	-0.182
A S 678 L	-0.440
A S 678 K	-1.026
A S 678 M	-0.539
A S 678 F	-0.342
A S 678 P	-0.780
A S 678 T	-0.656
A S 678 W	-0.297
A S 678 Y	-0.431
A S 678 V	-0.369