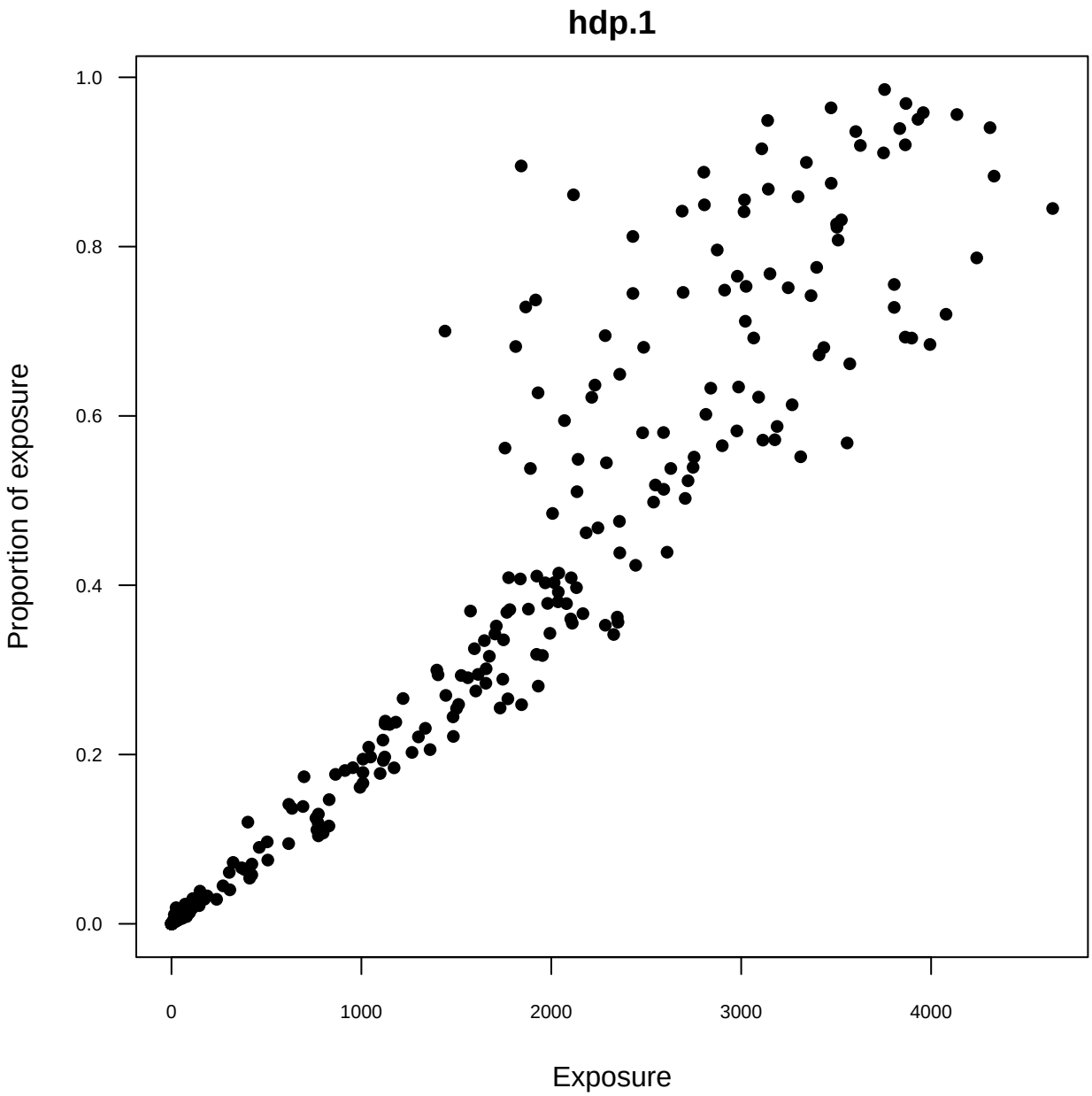
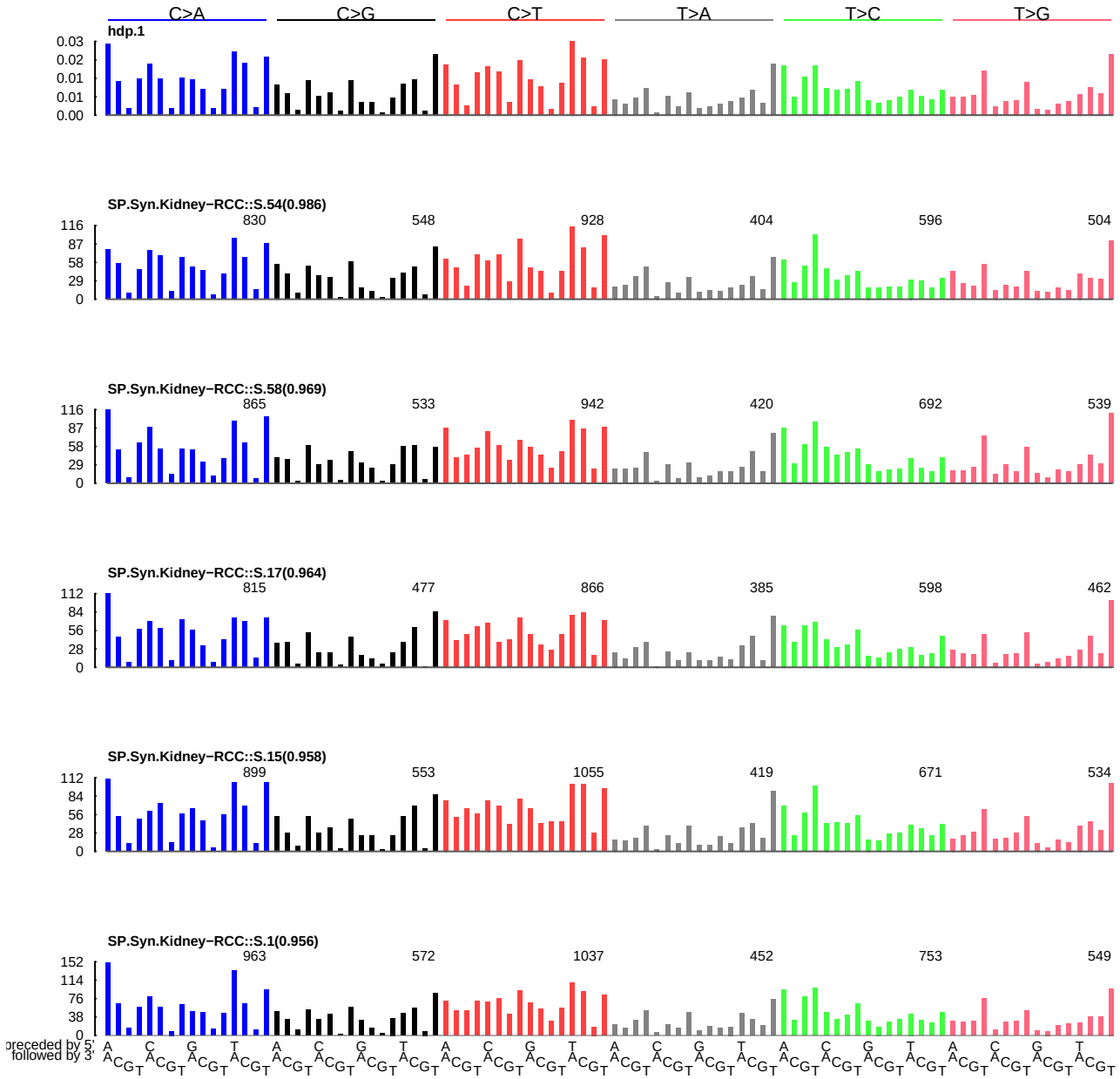
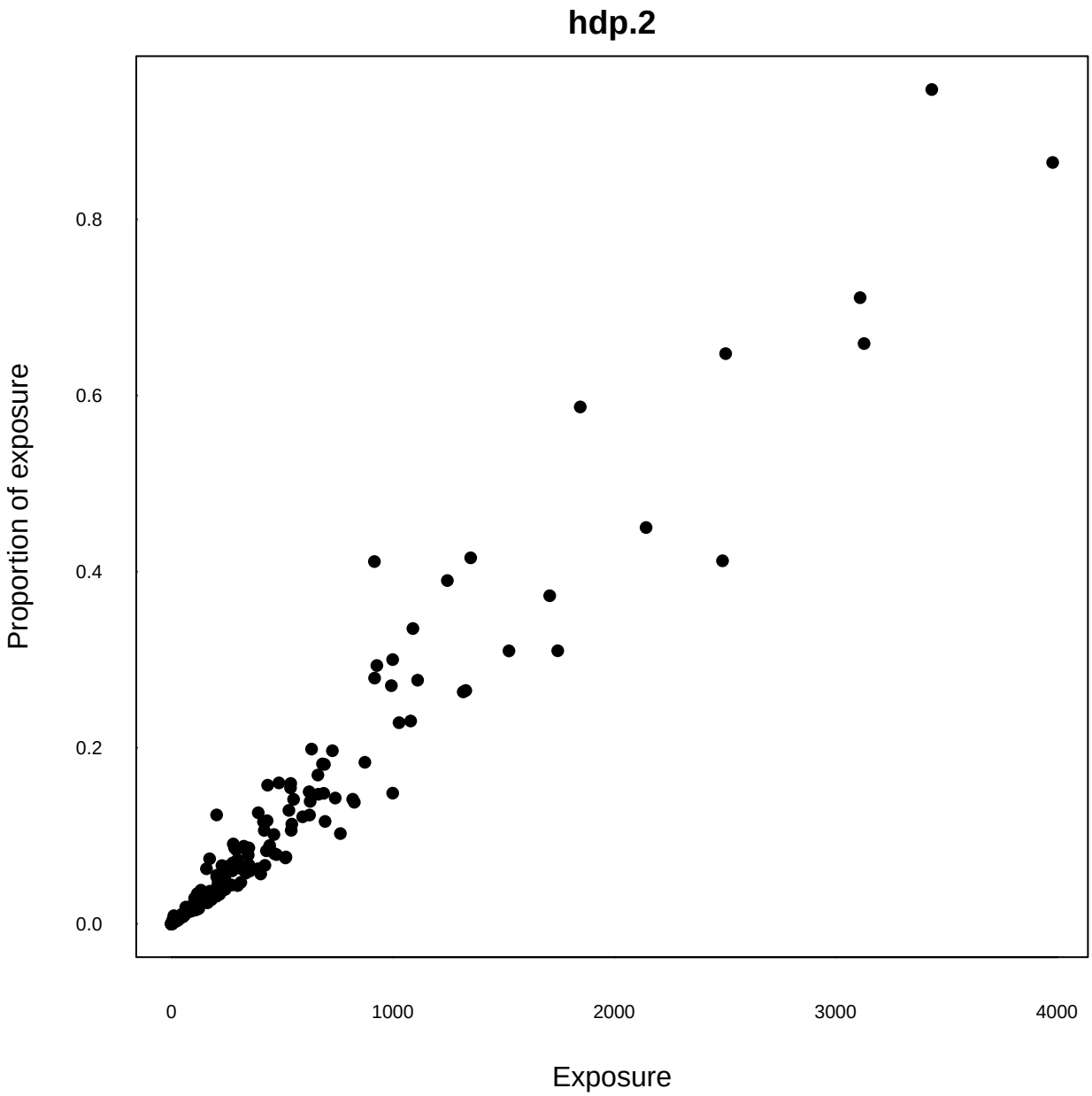
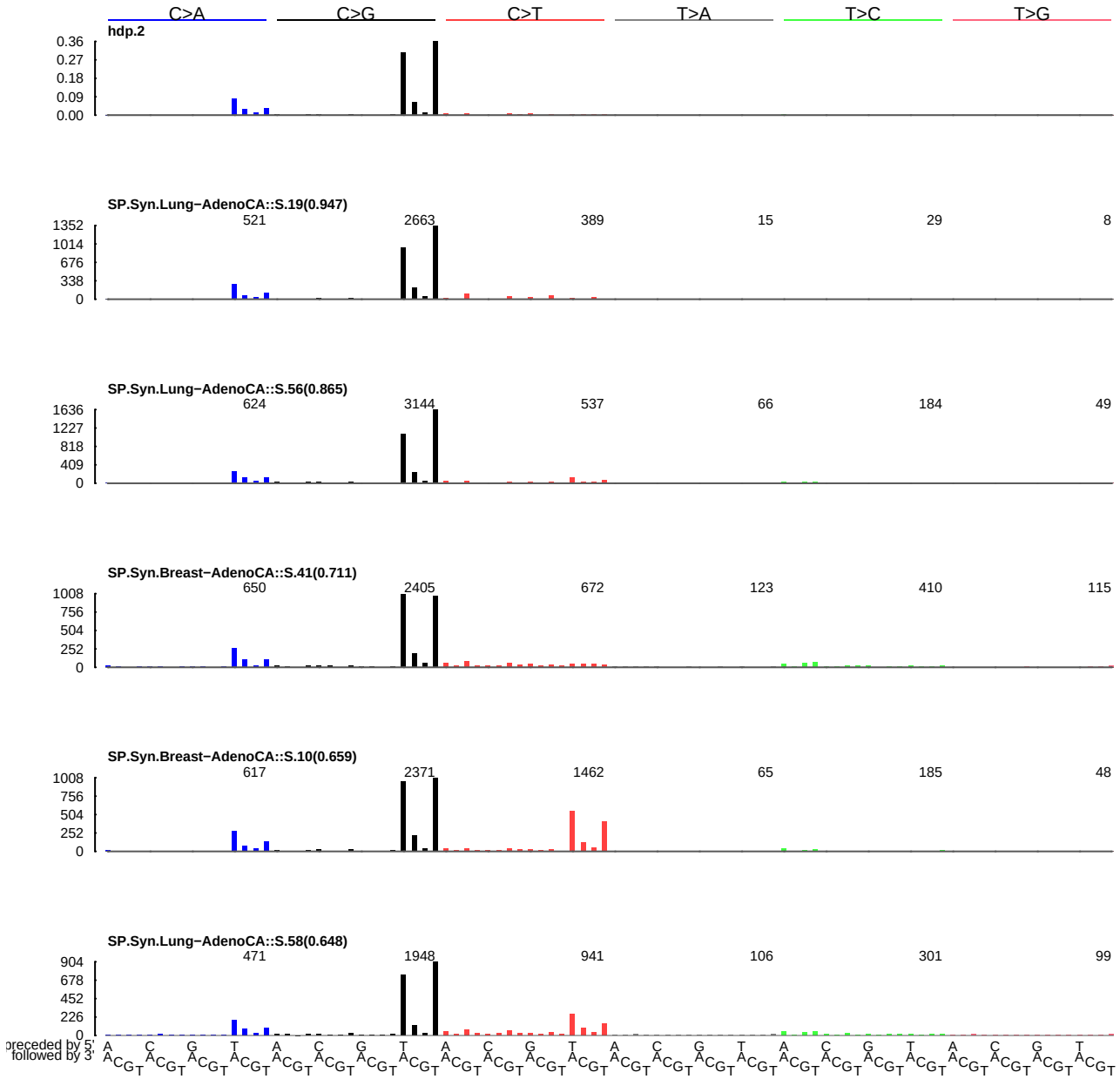
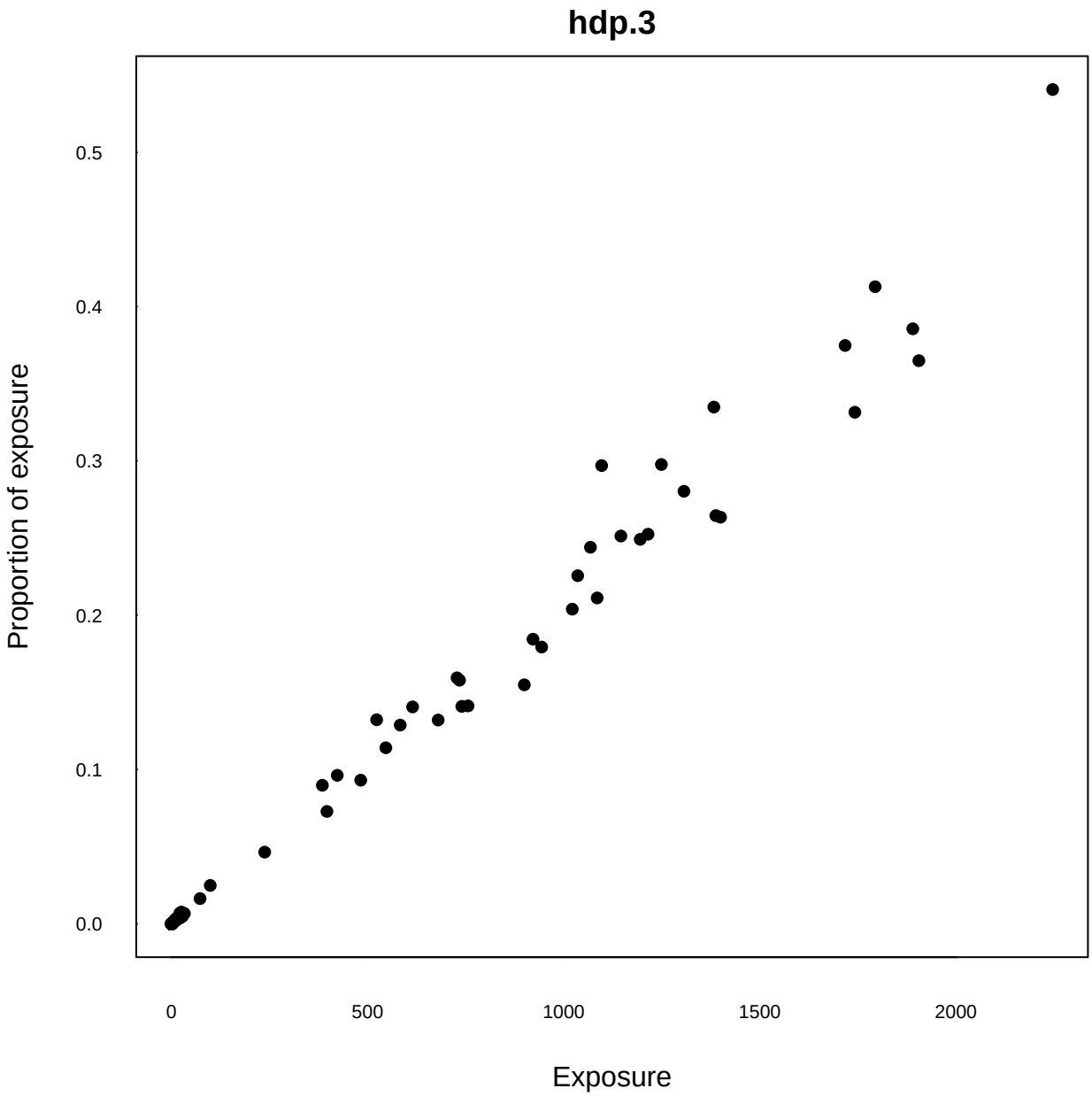
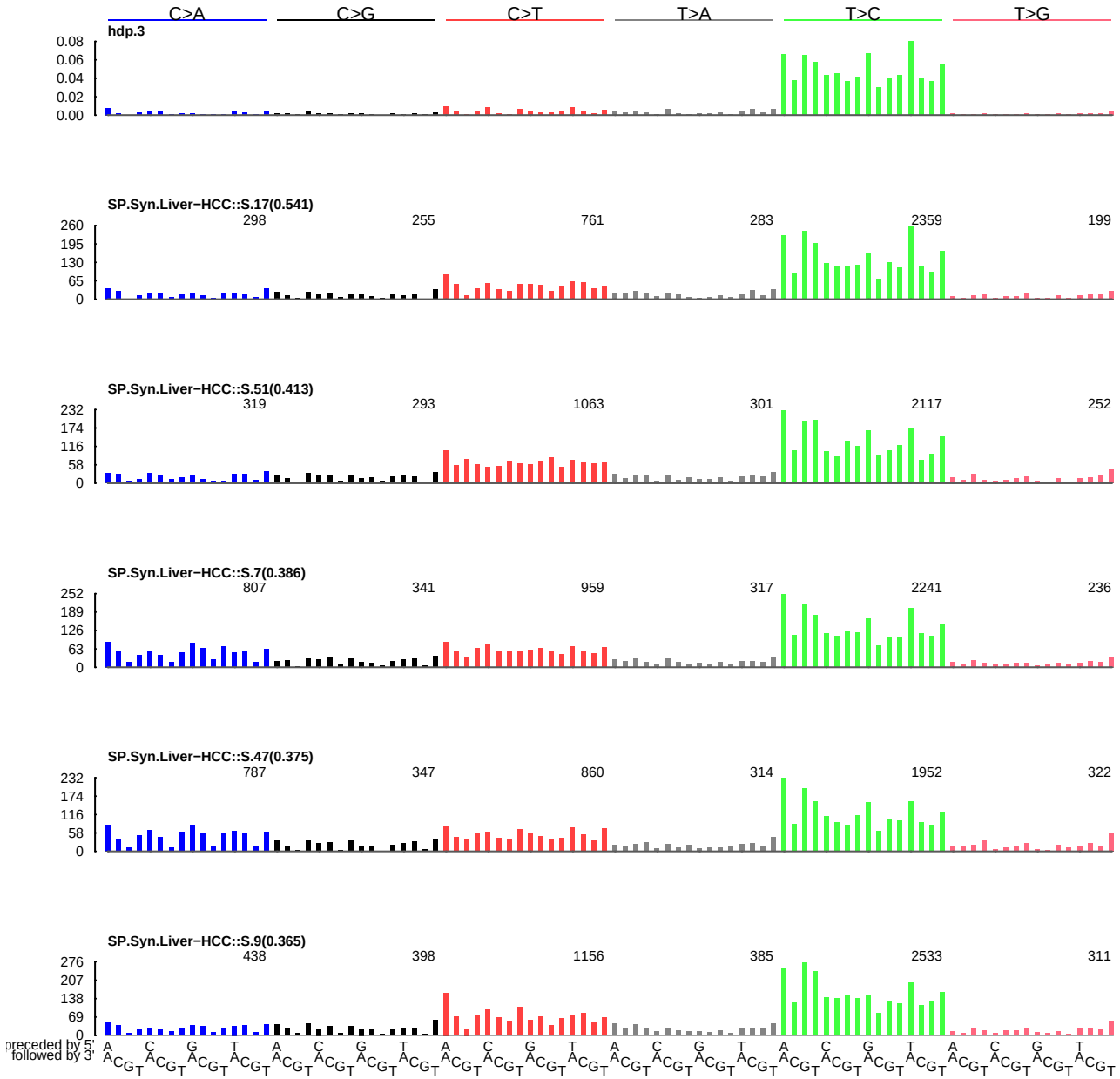

hdp.1
Proportion of exposure
1.0
0.8
0.6
0.4
0.2
0.0
0
1000
2000
3000
4000
Exposure

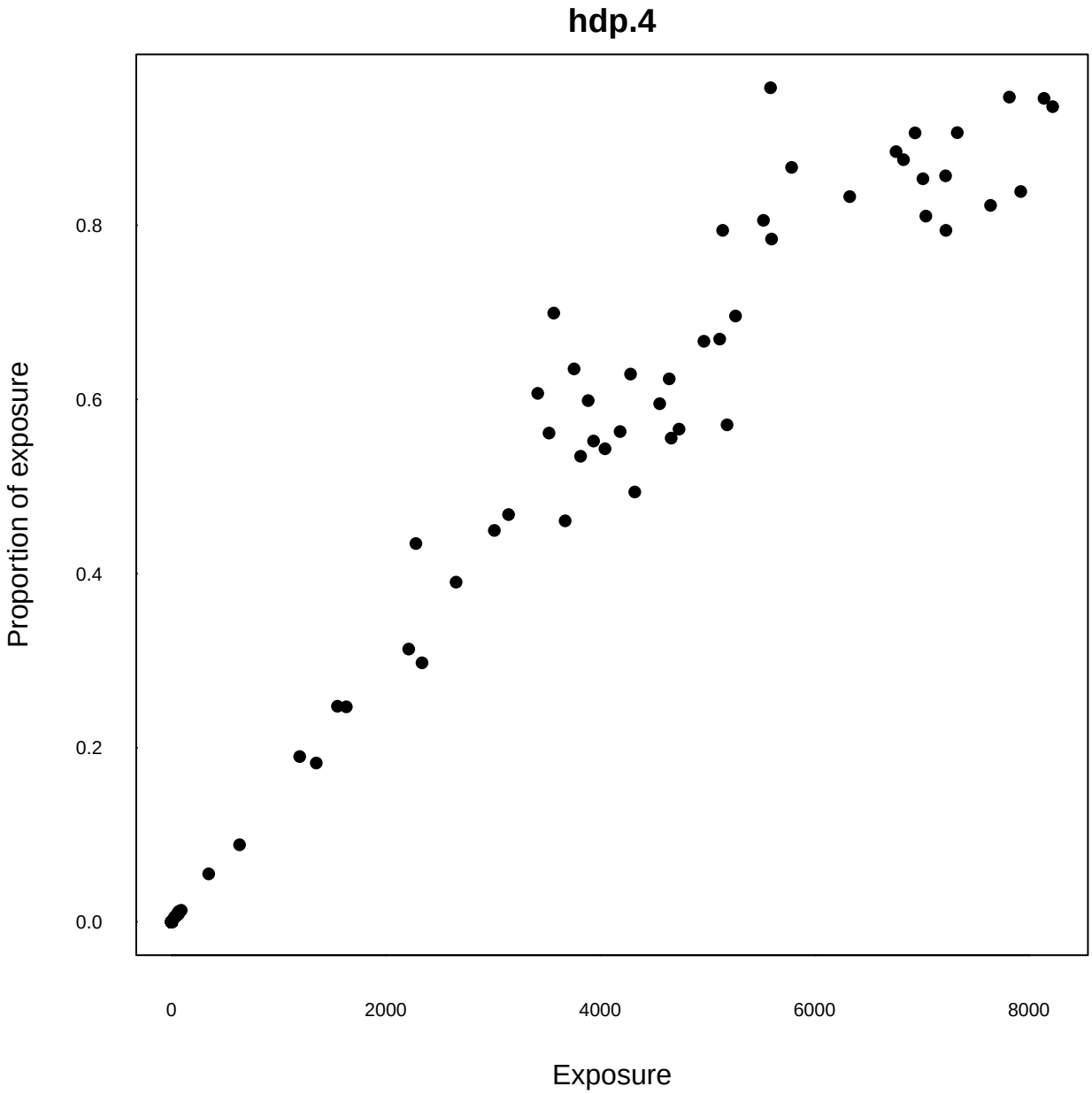

C>A
C>G
C>T
T>A
T>C
T>G
hdp.1
0.03
0.02
0.01
0.01
0.00
SP.Syn.Kidney−RCC::S.54(0.986)
830
548
928
404
596
504
116
87
58
29
0
SP.Syn.Kidney−RCC::S.58(0.969)
865
533
942
420
692
539
116
87
58
29
0
SP.Syn.Kidney−RCC::S.17(0.964)
815
477
866
385
598
462
112
84
56
28
0
SP.Syn.Kidney−RCC::S.15(0.958)
899
553
1055
419
671
534
112
84
56
28
0
SP.Syn.Kidney−RCC::S.1(0.956)
963
572
1037
452
753
549
152
114
76
38
0
preceded by 5'
followed by 3'
A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T

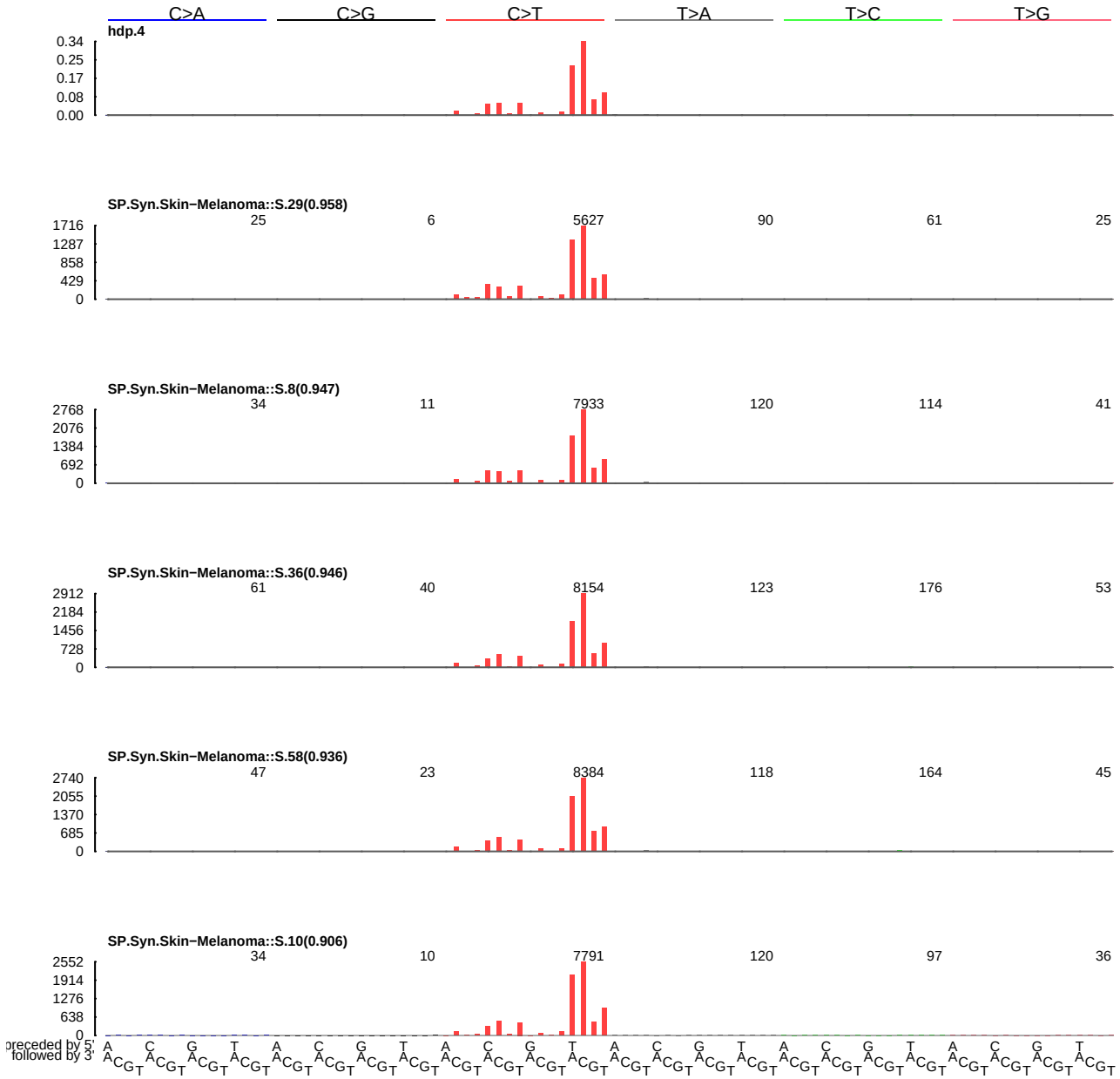

hdp.2
Proportion of exposure
0.0
0.2
0.4
0.6
0.8
0
1000
2000
3000
4000
Exposure

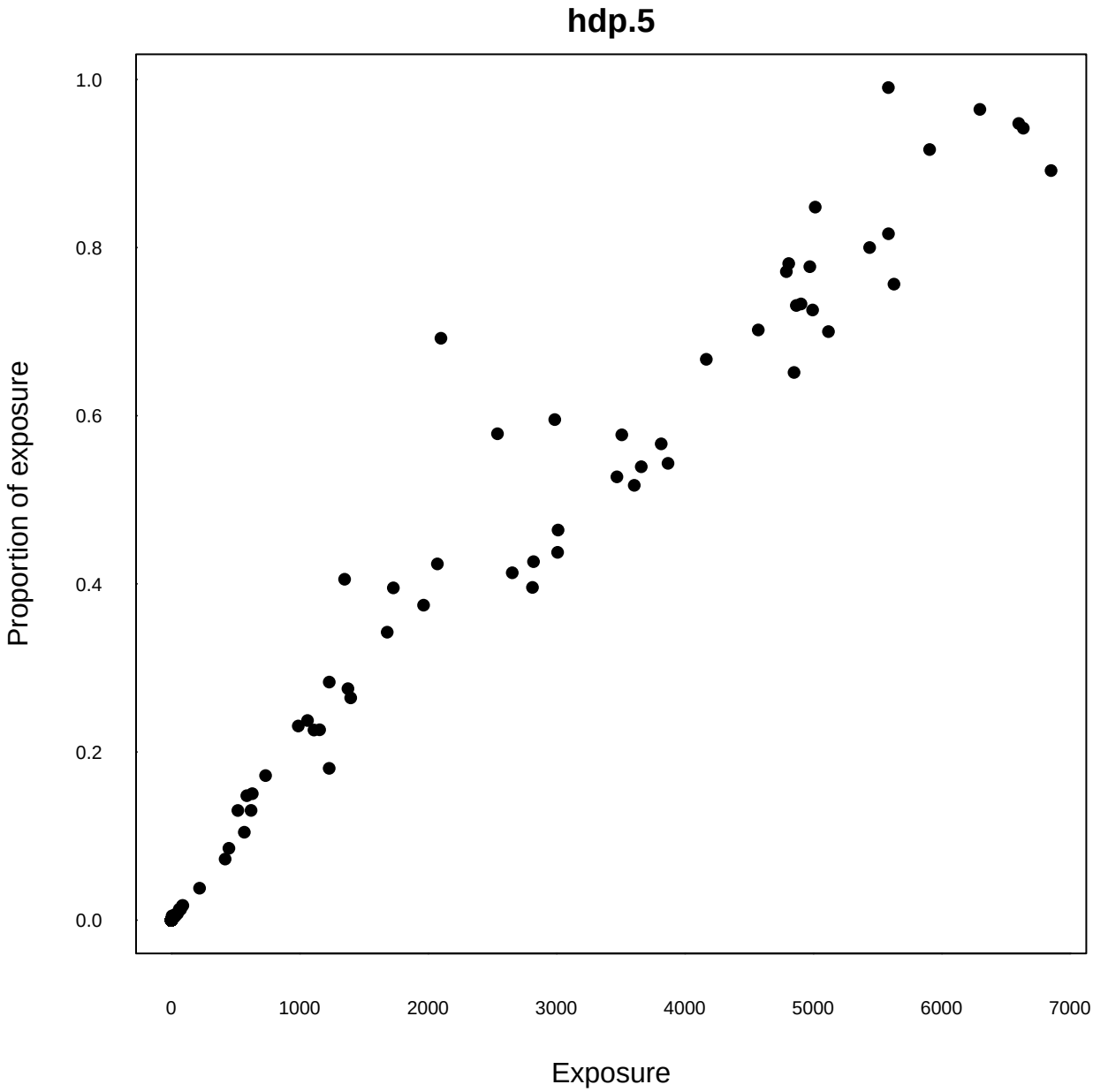

C>A
C>G
C>T
T>A
T>C
T>G
hdp.2
0.36
0.27
0.18
0.09
0.00
SP.Syn.Lung−AdenoCA::S.19(0.947)
521
2663
389
15
29
8
1352
1014
676
338
0
SP.Syn.Lung−AdenoCA::S.56(0.865)
624
3144
537
66
184
49
1636
1227
818
409
0
SP.Syn.Breast−AdenoCA::S.41(0.711)
650
2405
672
123
410
115
1008
756
504
252
0
SP.Syn.Breast−AdenoCA::S.10(0.659)
617
2371
1462
65
185
48
1008
756
504
252
0
SP.Syn.Lung−AdenoCA::S.58(0.648)
471
1948
941
106
301
99
904
678
452
226
0
preceded by 5'
followed by 3'

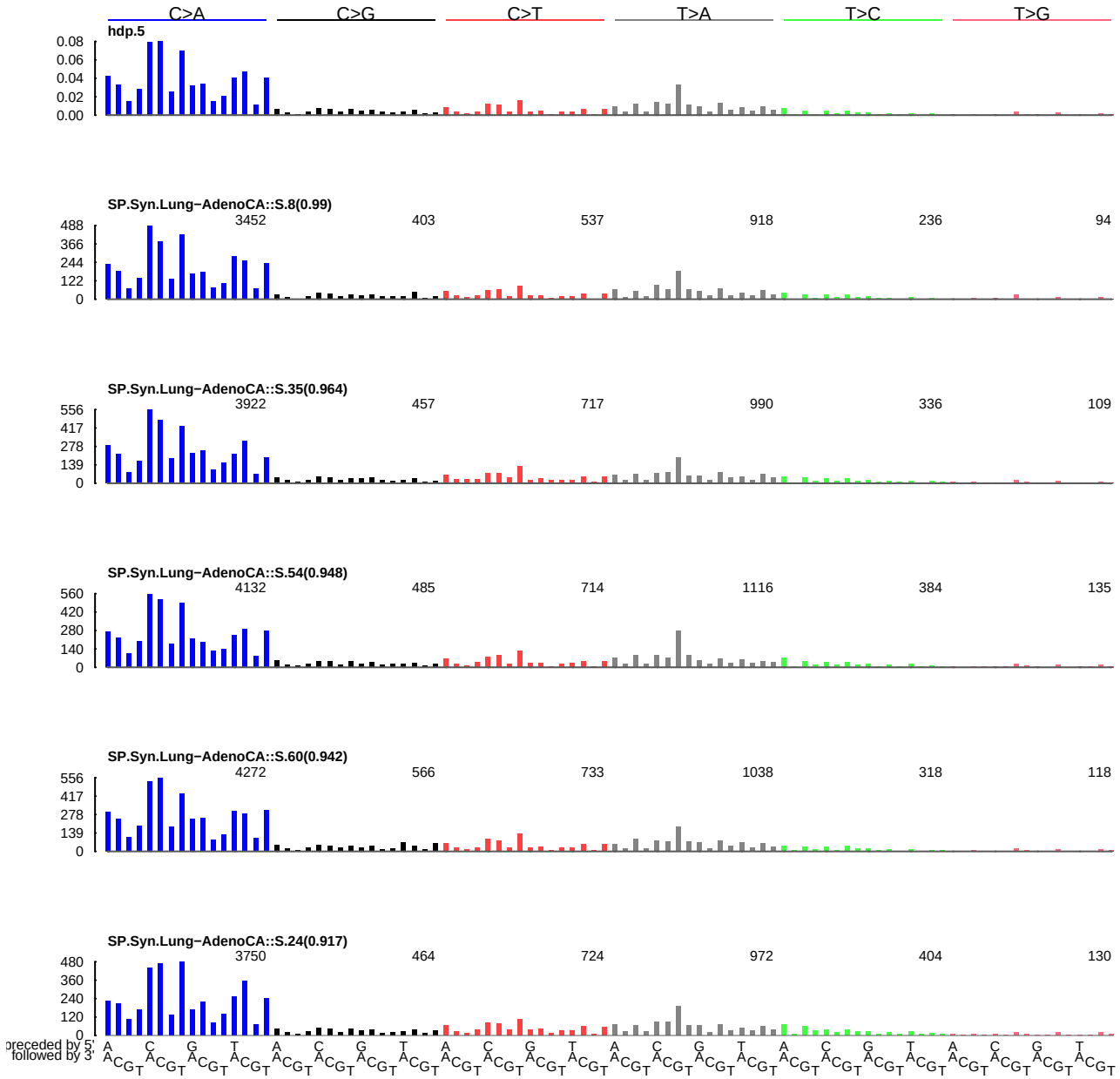

hdp.3
Proportion of exposure
0.0
0.1
0.2
0.3
0.4
0.5
0
500
1000
1500
2000
Exposure

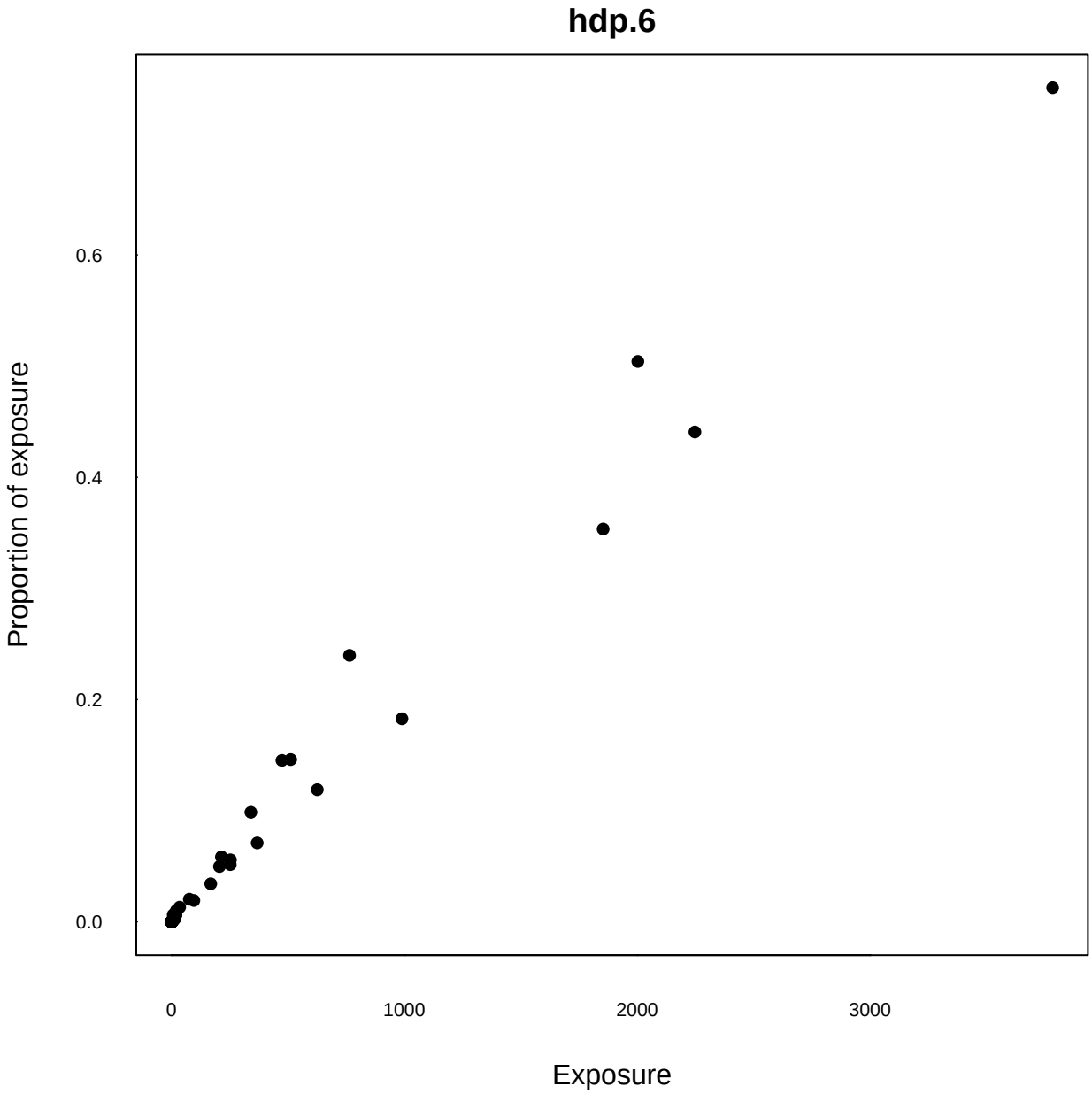

C>A
C>G
C>T
T>A
T>C
T>G
hdp.3
0.08
0.06
0.04
0.02
0.00
SP.Syn.Liver−HCC::S.17(0.541)
298
255
761
283
2359
199
260
195
130
65
0
SP.Syn.Liver−HCC::S.51(0.413)
319
293
1063
301
2117
252
232
174
116
58
0
SP.Syn.Liver−HCC::S.7(0.386)
807
341
959
317
2241
236
252
189
126
63
0
SP.Syn.Liver−HCC::S.47(0.375)
787
347
860
314
1952
322
232
174
116
58
0
SP.Syn.Liver−HCC::S.9(0.365)
438
398
1156
385
2533
311
276
207
138
69
0
preceded by 5'
followed by 3'
A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T

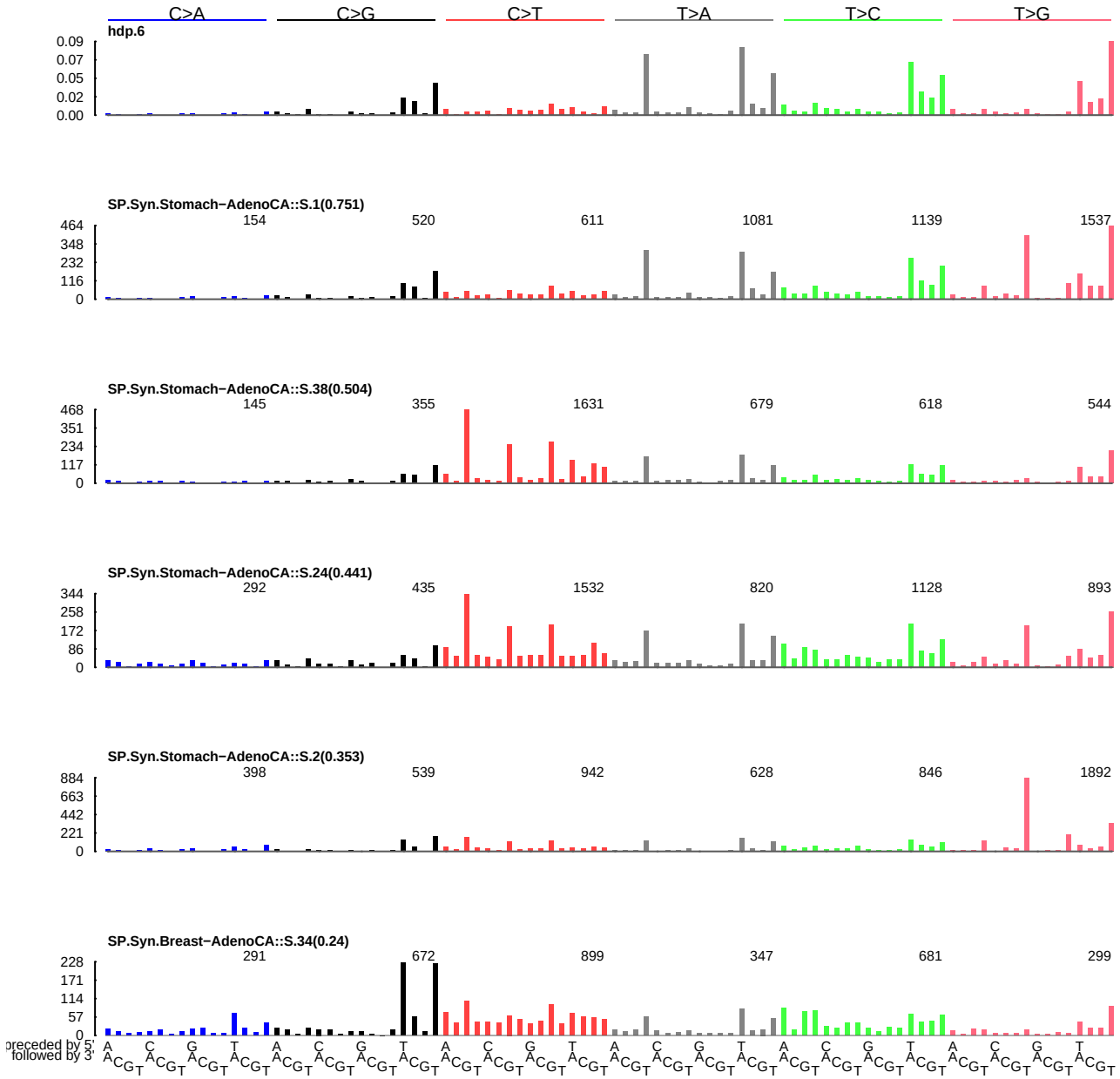

hdp.4
Proportion of exposure
0.0
0.2
0.4
0.6
0.8
0
2000
4000
6000
8000
Exposure

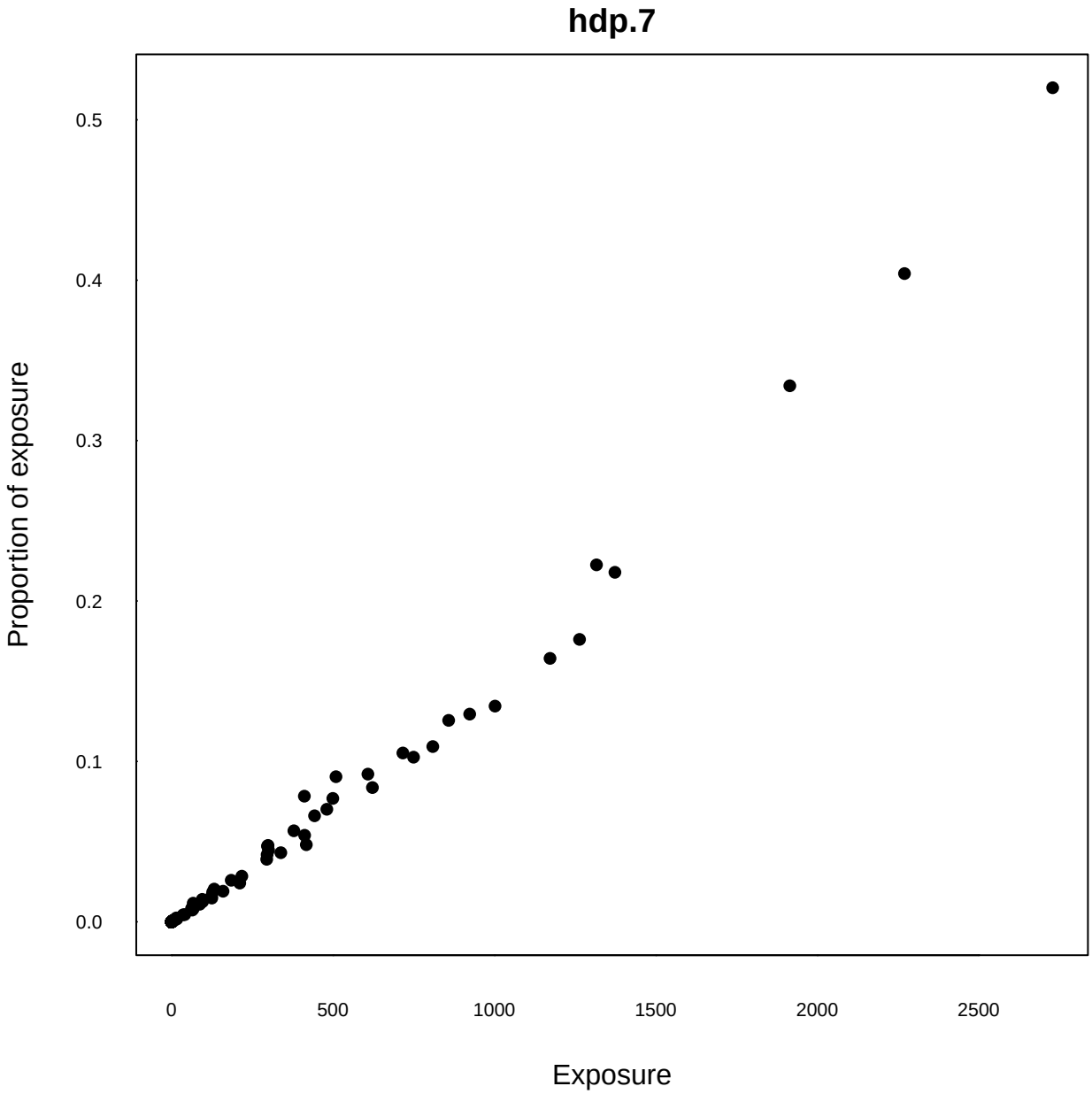

C>A
C>G
C>T
T>A
T>C
T>G
hdp.4
0.34
0.25
0.17
0.08
0.00
SP.Syn.Skin−Melanoma::S.29(0.958)
25
6
5627
90
61
25
1716
1287
858
429
0
SP.Syn.Skin−Melanoma::S.8(0.947)
34
11
7933
120
114
41
2768
2076
1384
692
0
SP.Syn.Skin−Melanoma::S.36(0.946)
61
40
8154
123
176
53
2912
2184
1456
728
0
SP.Syn.Skin−Melanoma::S.58(0.936)
47
23
8384
118
164
45
2740
2055
1370
685
0
SP.Syn.Skin−Melanoma::S.10(0.906)
34
10
7791
120
97
36
2552
1914
1276
638
0
preceded by 5'
followed by 3'

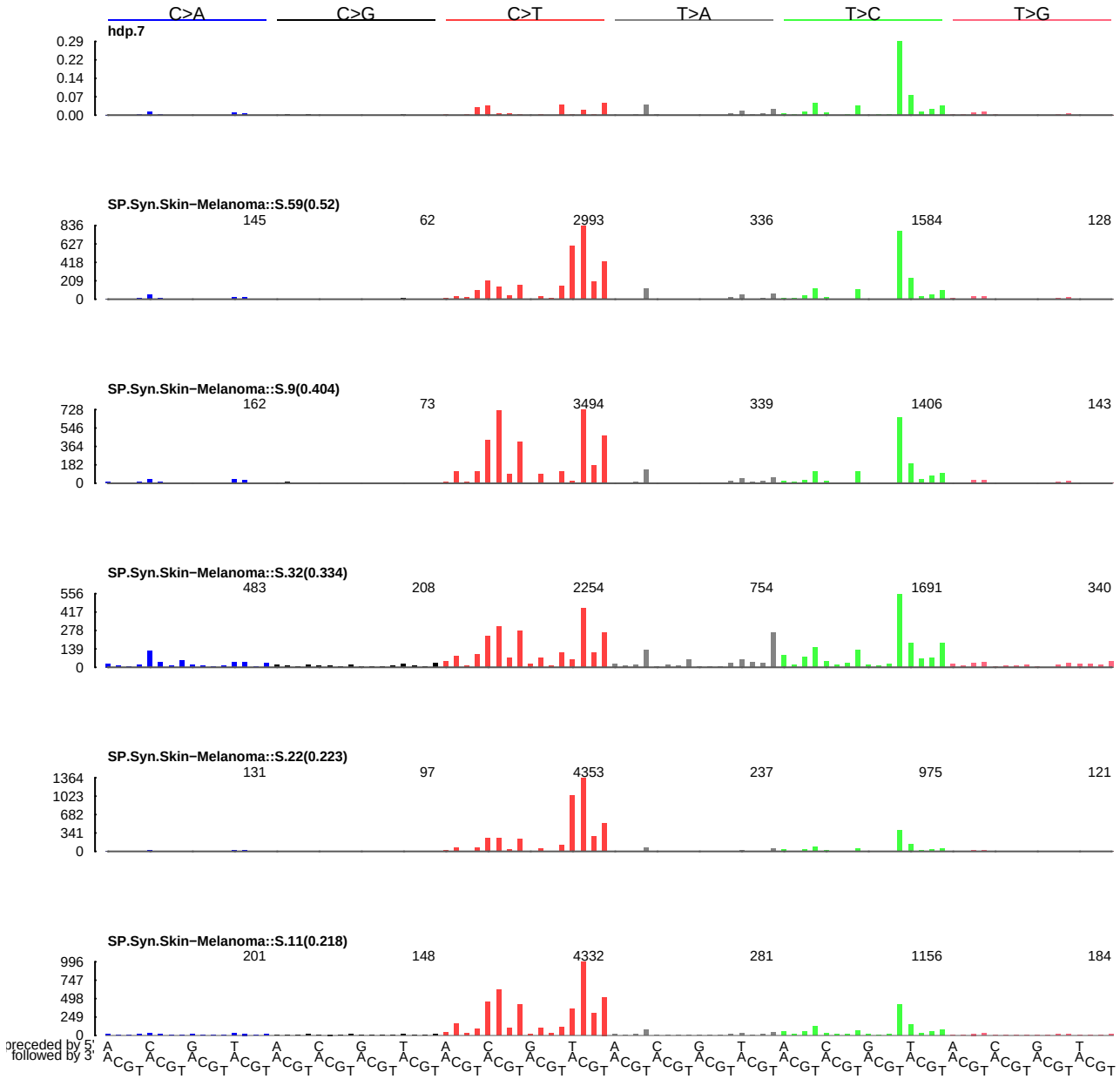

hdp.5
Proportion of exposure
1.0
0.8
0.6
0.4
0.2
0.0
0
1000
2000
3000
4000
5000
6000
7000
Exposure

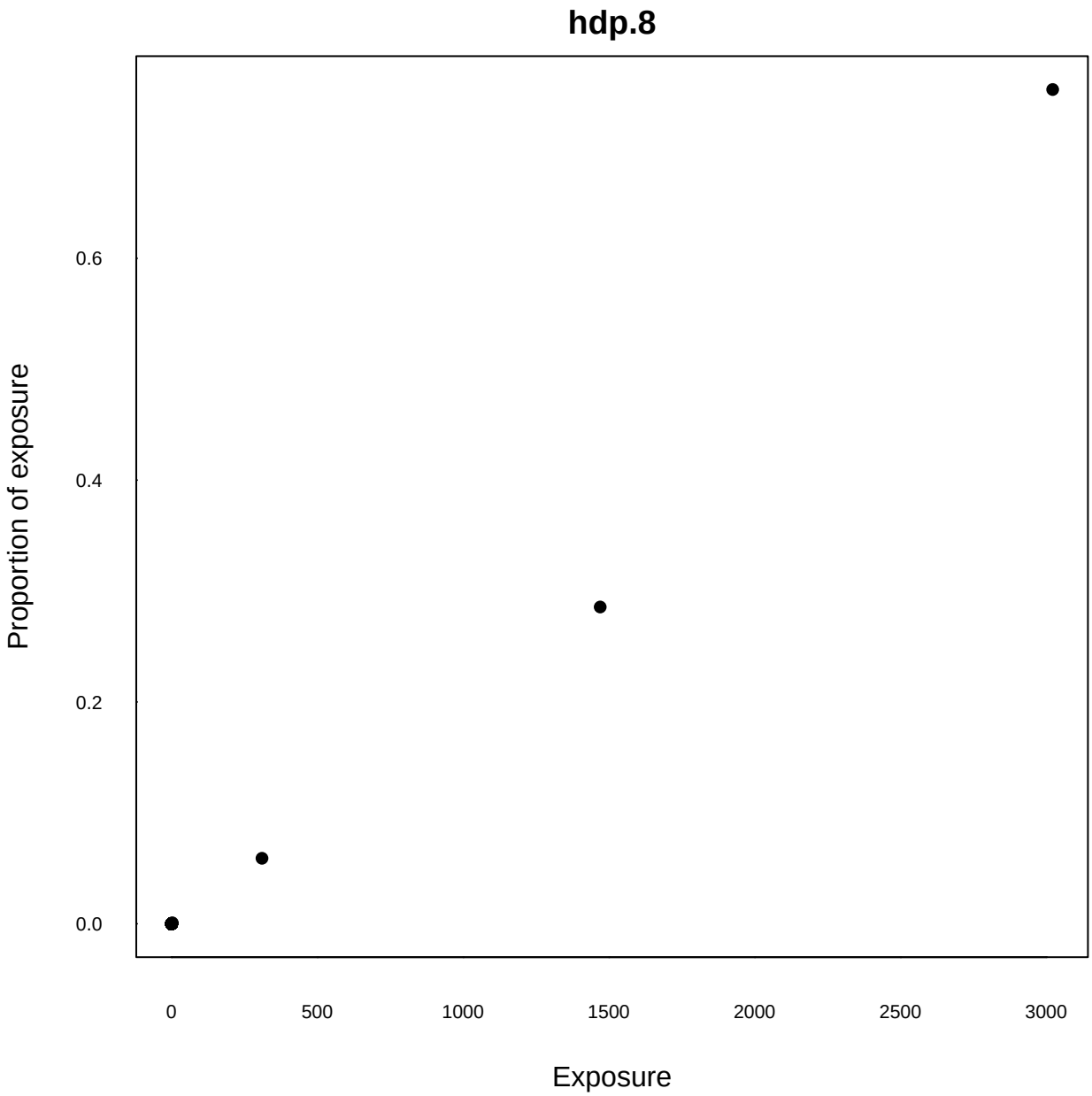

C>A
C>G
C>T
T>A
T>C
T>G
hdp.5
0.08
0.06
0.04
0.02
0.00
SP.Syn.Lung−AdenoCA::S.8(0.99)
3452
403
537
918
236
94
488
366
244
122
0
SP.Syn.Lung−AdenoCA::S.35(0.964)
3922
457
717
990
336
109
556
417
278
139
0
SP.Syn.Lung−AdenoCA::S.54(0.948)
4132
485
714
1116
384
135
560
420
280
140
0
SP.Syn.Lung−AdenoCA::S.60(0.942)
4272
566
733
1038
318
118
556
417
278
139
0
SP.Syn.Lung−AdenoCA::S.24(0.917)
3750
464
724
972
404
130
480
360
240
120
0
preceded by 5'
followed by 3'
A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T

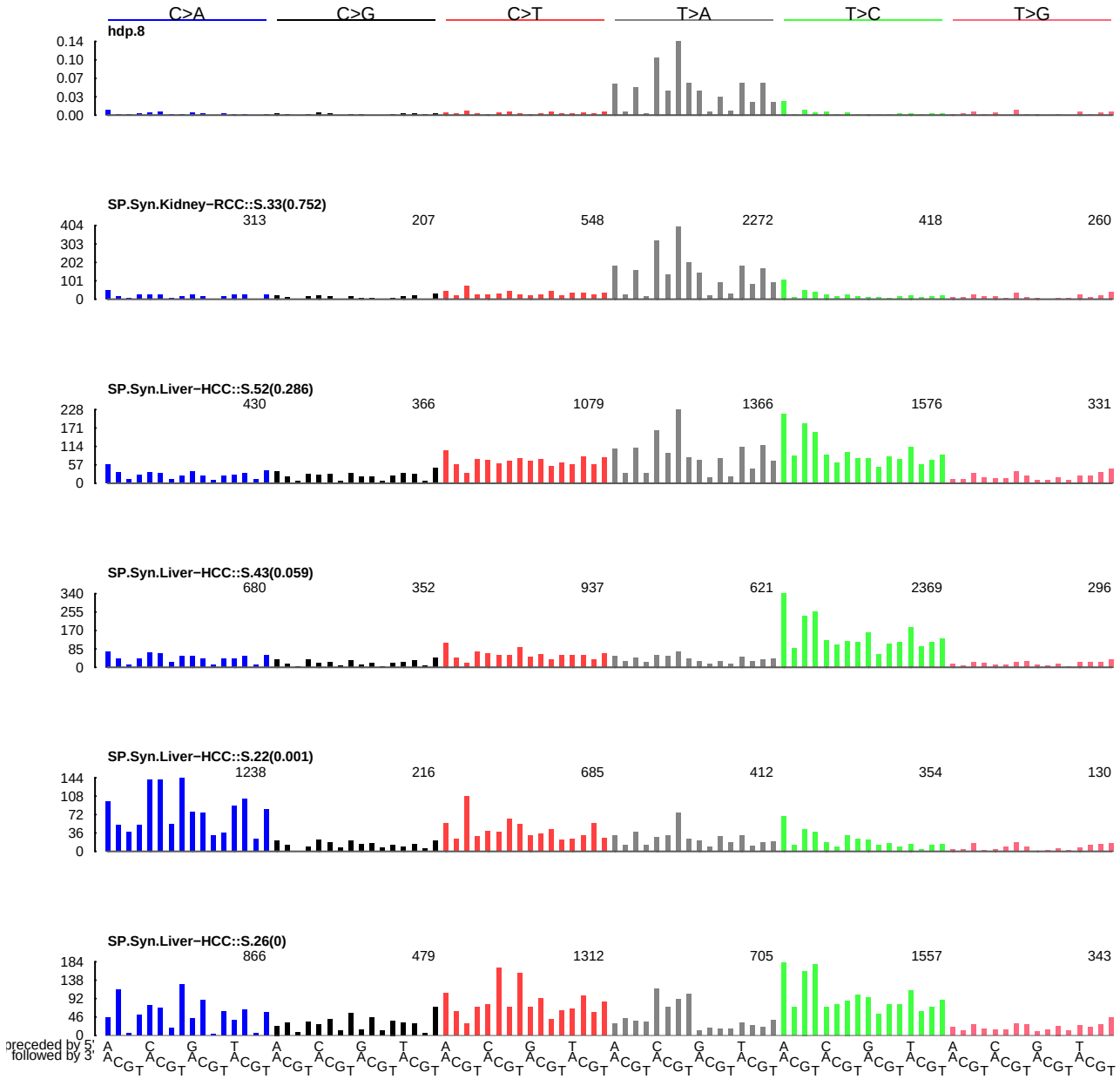

hdp.6
Proportion of exposure
0.0
0.2
0.4
0.6
0
1000
2000
3000
Exposure

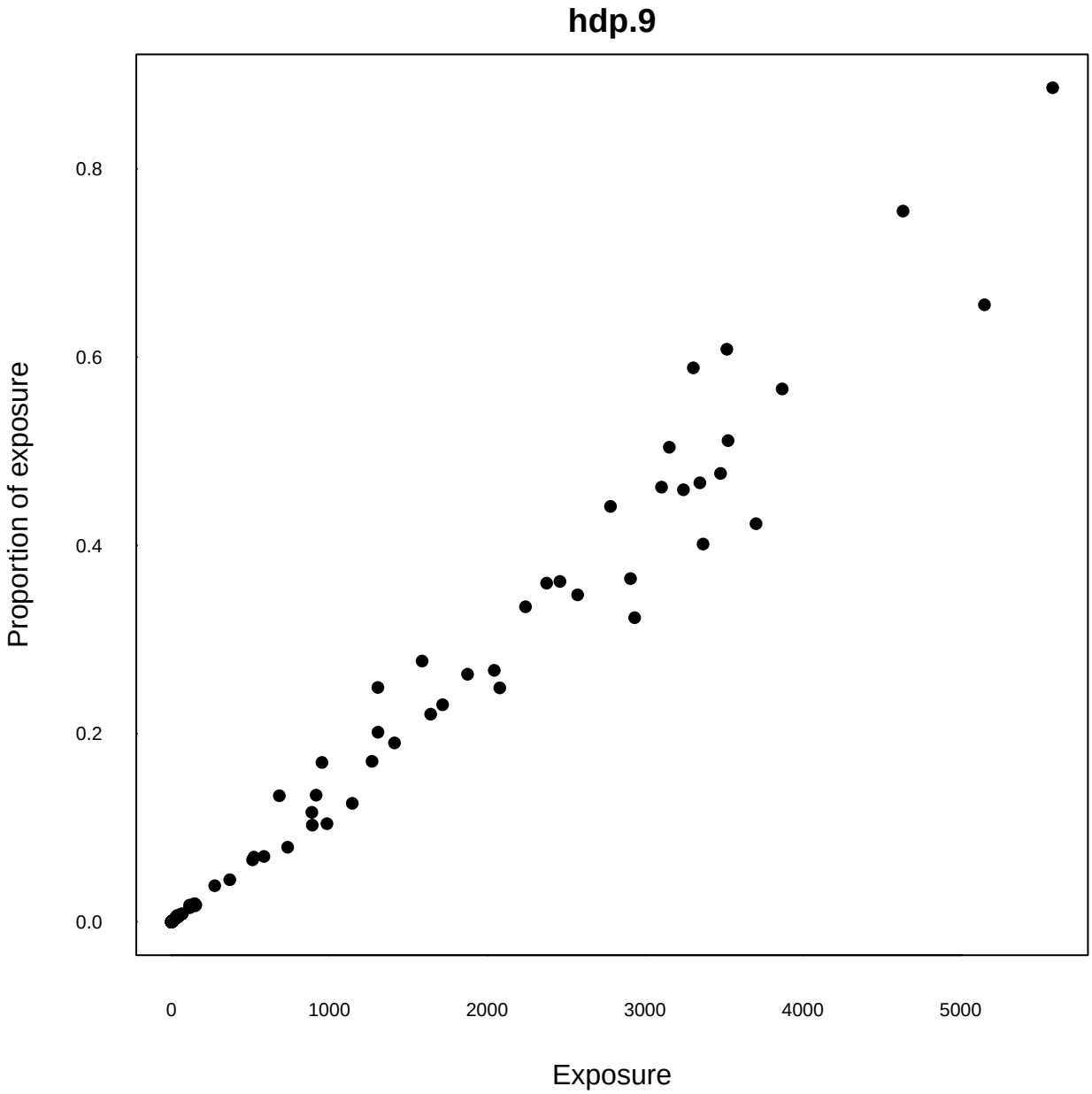

C>A
C>G
C>T
T>A
T>C
T>G
hdp.6
0.09
0.07
0.05
0.02
0.00
SP.Syn.Stomach−AdenoCA::S.1(0.751)
154
520
611
1081
1139
1537
464
348
232
116
0
SP.Syn.Stomach−AdenoCA::S.38(0.504)
145
355
1631
679
618
544
468
351
234
117
0
SP.Syn.Stomach−AdenoCA::S.24(0.441)
292
435
1532
820
1128
893
344
258
172
86
0
SP.Syn.Stomach−AdenoCA::S.2(0.353)
398
539
942
628
846
1892
884
663
442
221
0
SP.Syn.Breast−AdenoCA::S.34(0.24)
291
672
899
347
681
299
228
171
114
57
0
preceded by 5'
followed by 3'
A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T

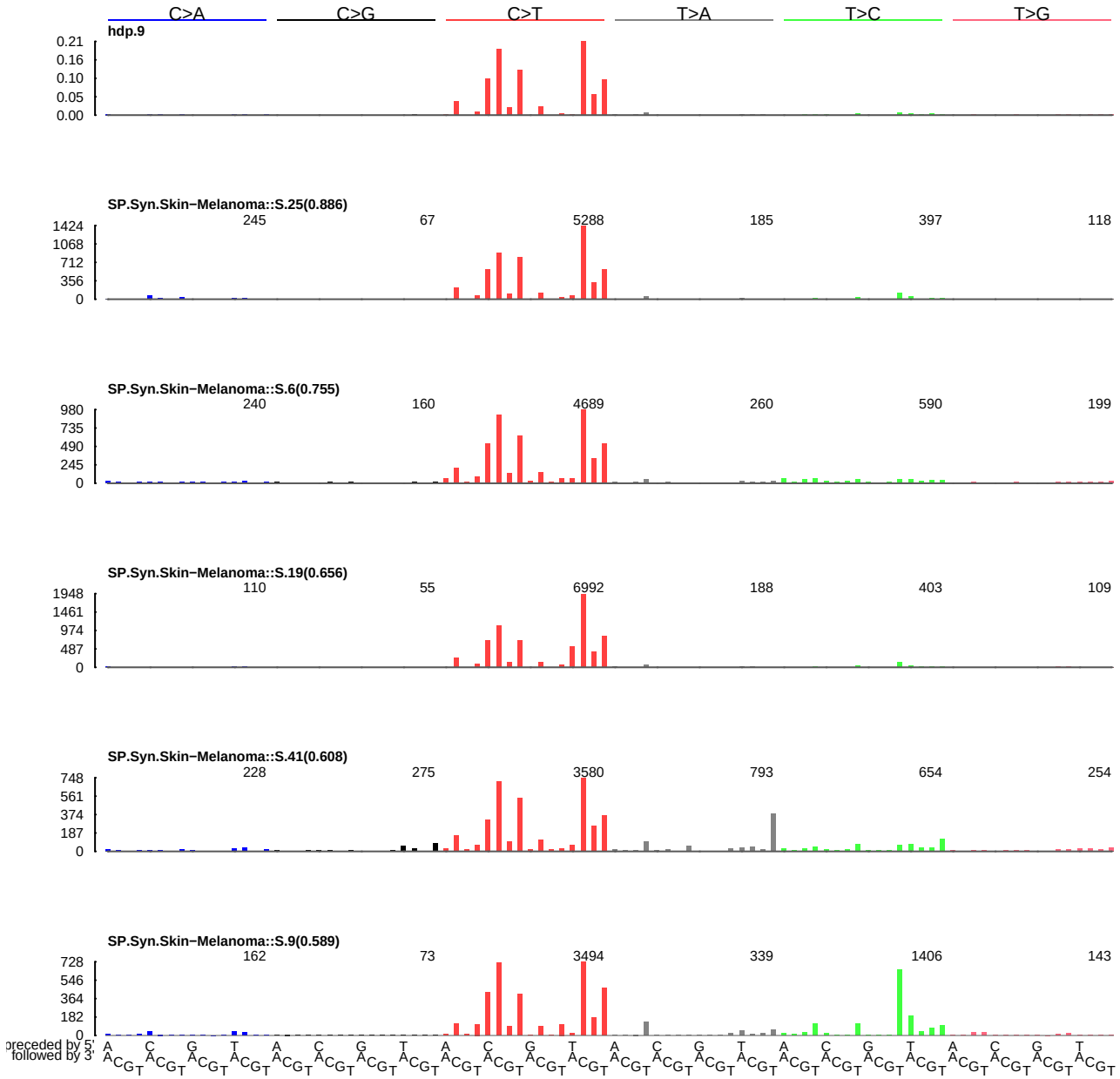

hdp.7
Proportion of exposure
0.0
0.1
0.2
0.3
0.4
0.5
0
500
1000
1500
2000
2500
Exposure

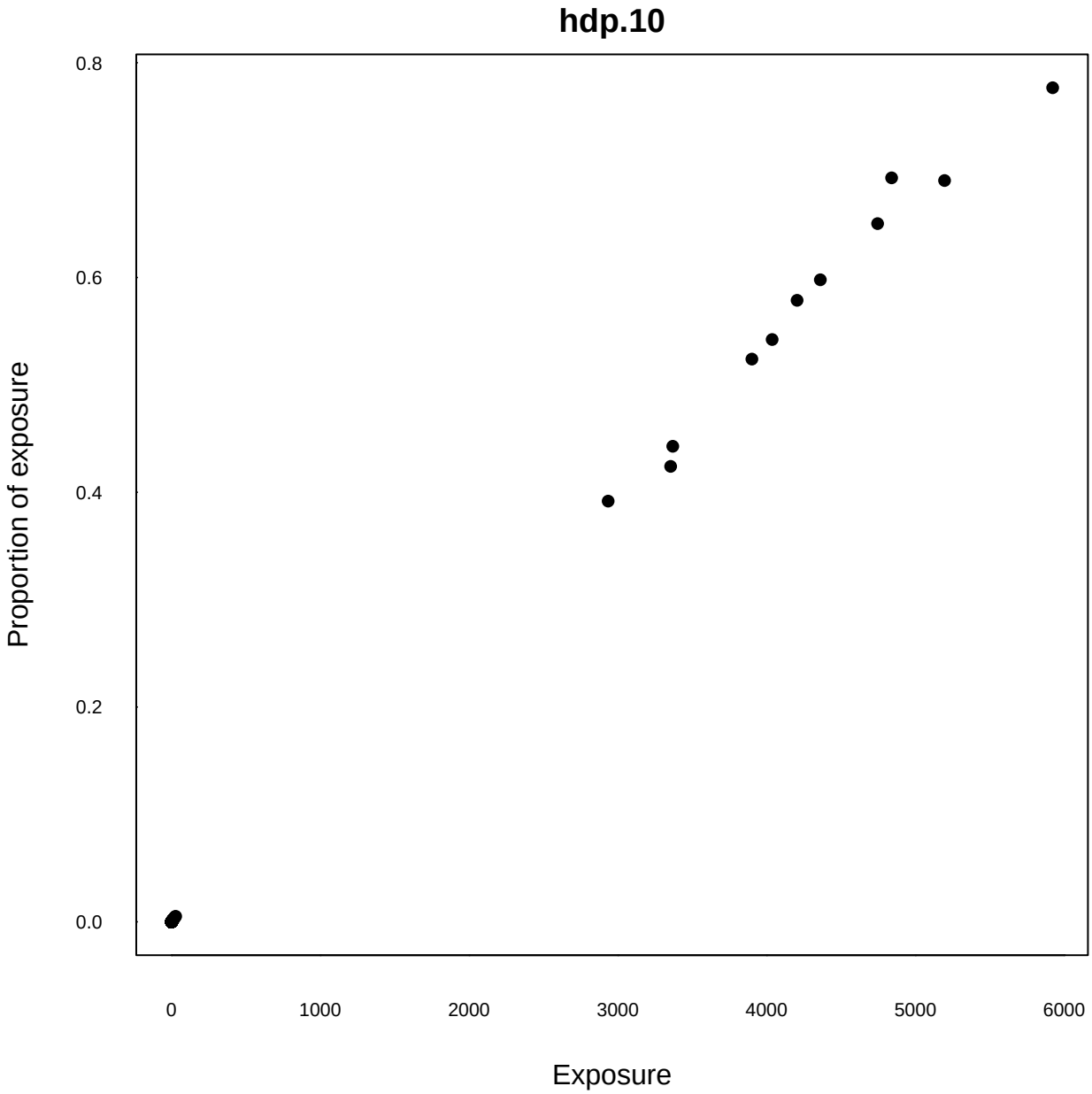

C>A
C>G
C>T
T>A
T>C
T>G
hdp.7
0.29
0.22
0.14
0.07
0.00
SP.Syn.Skin−Melanoma::S.59(0.52)
145
62
2993
336
1584
128
836
627
418
209
0
SP.Syn.Skin−Melanoma::S.9(0.404)
162
73
3494
339
1406
143
728
546
364
182
0
SP.Syn.Skin−Melanoma::S.32(0.334)
483
208
2254
754
1691
340
556
417
278
139
0
SP.Syn.Skin−Melanoma::S.22(0.223)
131
97
4353
237
975
121
1364
1023
682
341
0
SP.Syn.Skin−Melanoma::S.11(0.218)
201
148
4332
281
1156
184
996
747
498
249
0
preceded by 5'
followed by 3'

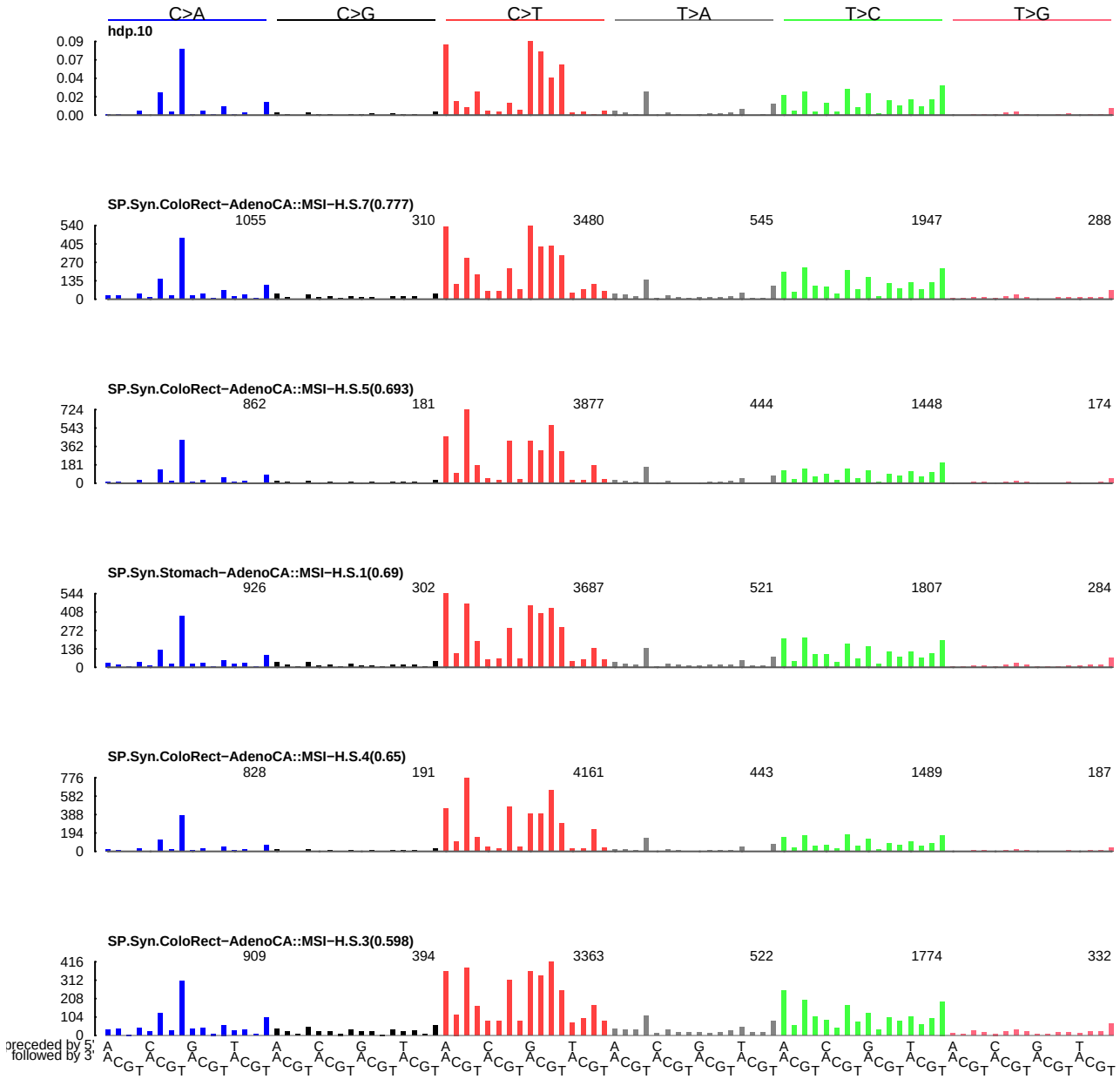

hdp.8
Proportion of exposure
0.0
0.2
0.4
0.6
0
500
1000
1500
2000
2500
3000
Exposure

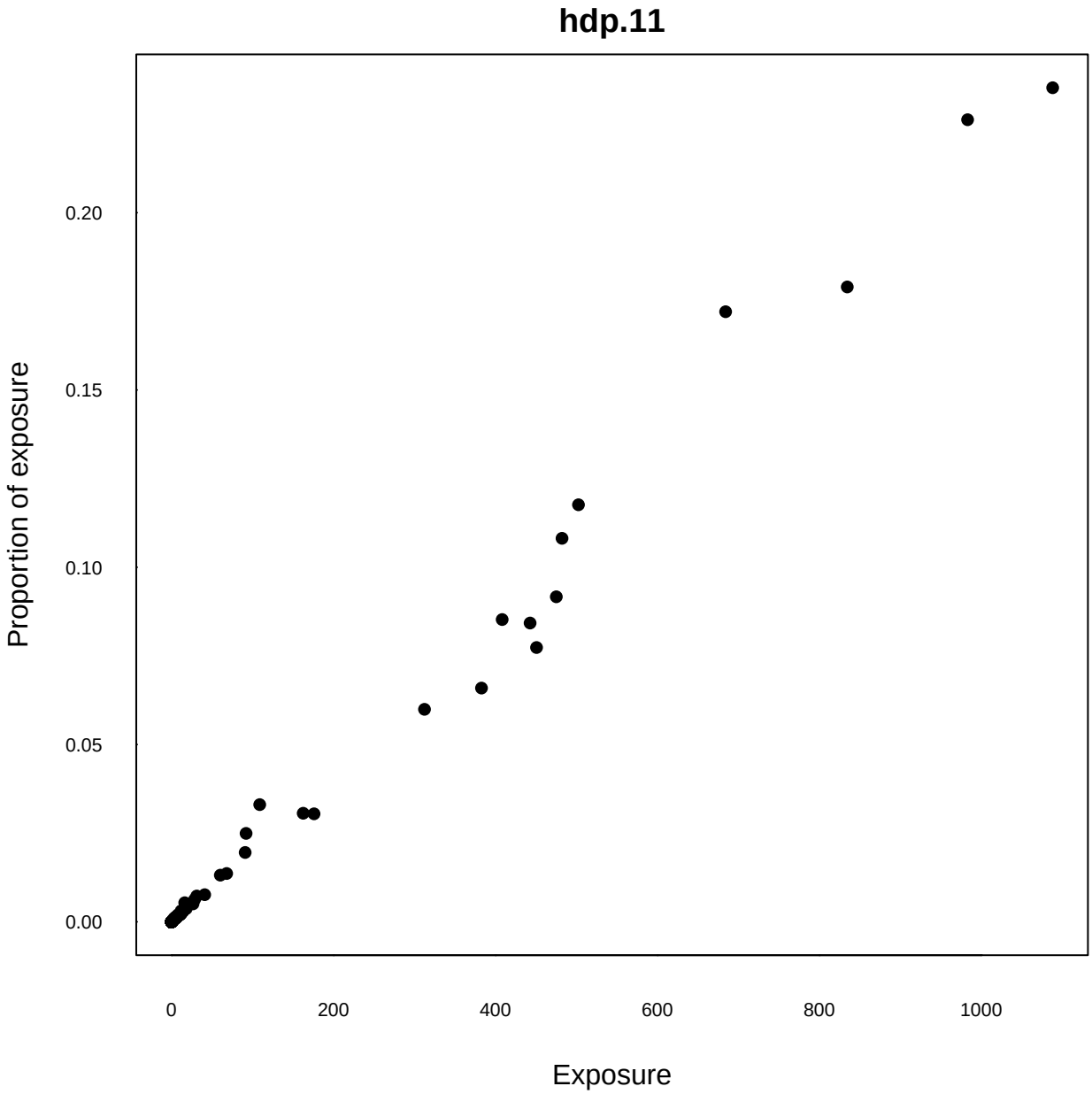

C>A
C>G
C>T
T>A
T>C
T>G
hdp.8
0.14
0.10
0.07
0.03
0.00
SP.Syn.Kidney−RCC::S.33(0.752)
313
207
548
2272
418
260
404
303
202
101
0
SP.Syn.Liver−HCC::S.52(0.286)
430
366
1079
1366
1576
331
228
171
114
57
0
SP.Syn.Liver−HCC::S.43(0.059)
680
352
937
621
2369
296
340
255
170
85
0
SP.Syn.Liver−HCC::S.22(0.001)
1238
216
685
412
354
130
144
108
72
36
0
SP.Syn.Liver−HCC::S.26(0)
866
479
1312
705
1557
343
184
138
92
46
0
preceded by 5'
followed by 3'
A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T

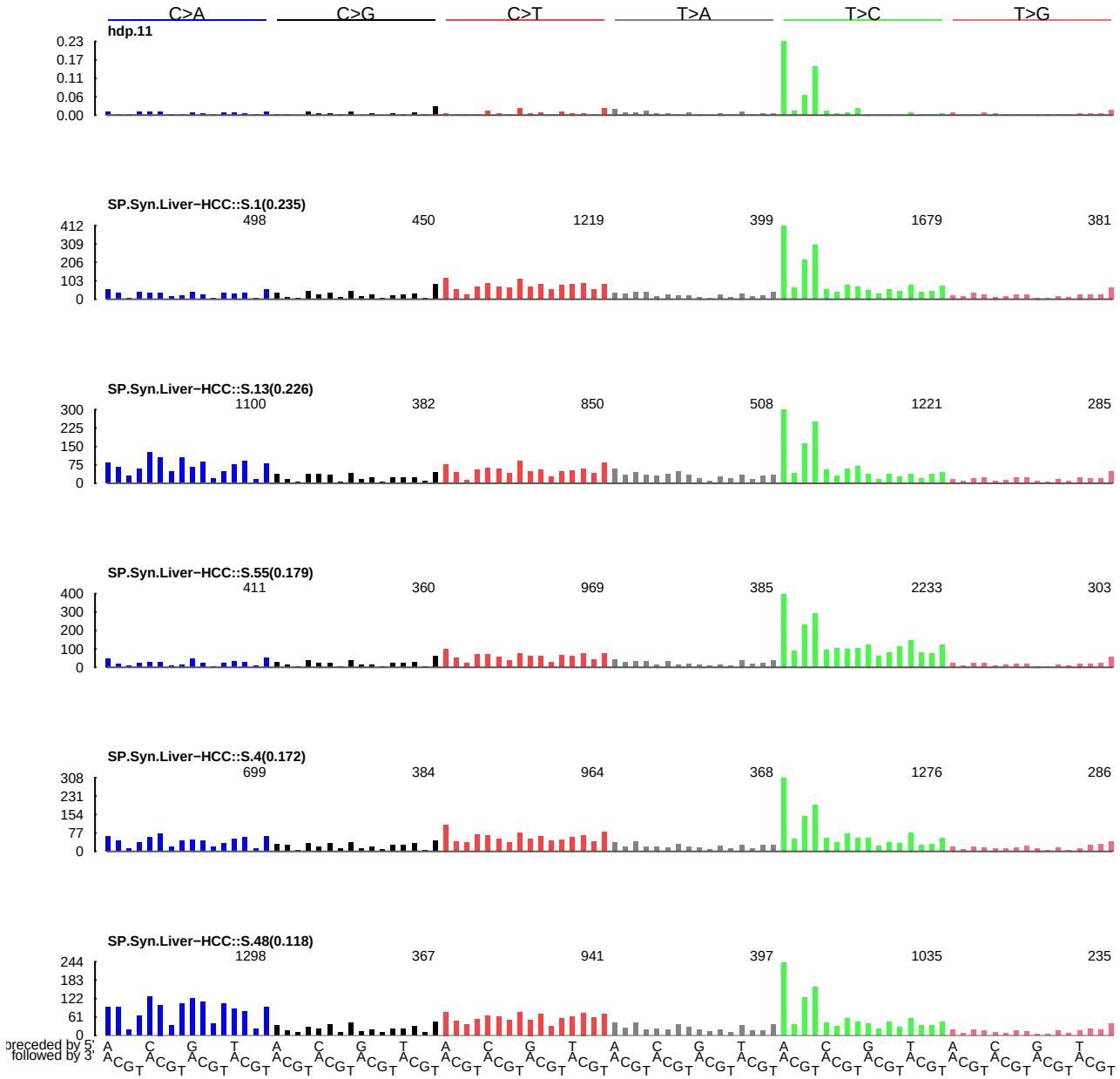

hdp.9
Proportion of exposure
0.0
0.2
0.4
0.6
0.8
0
1000
2000
3000
4000
5000
Exposure

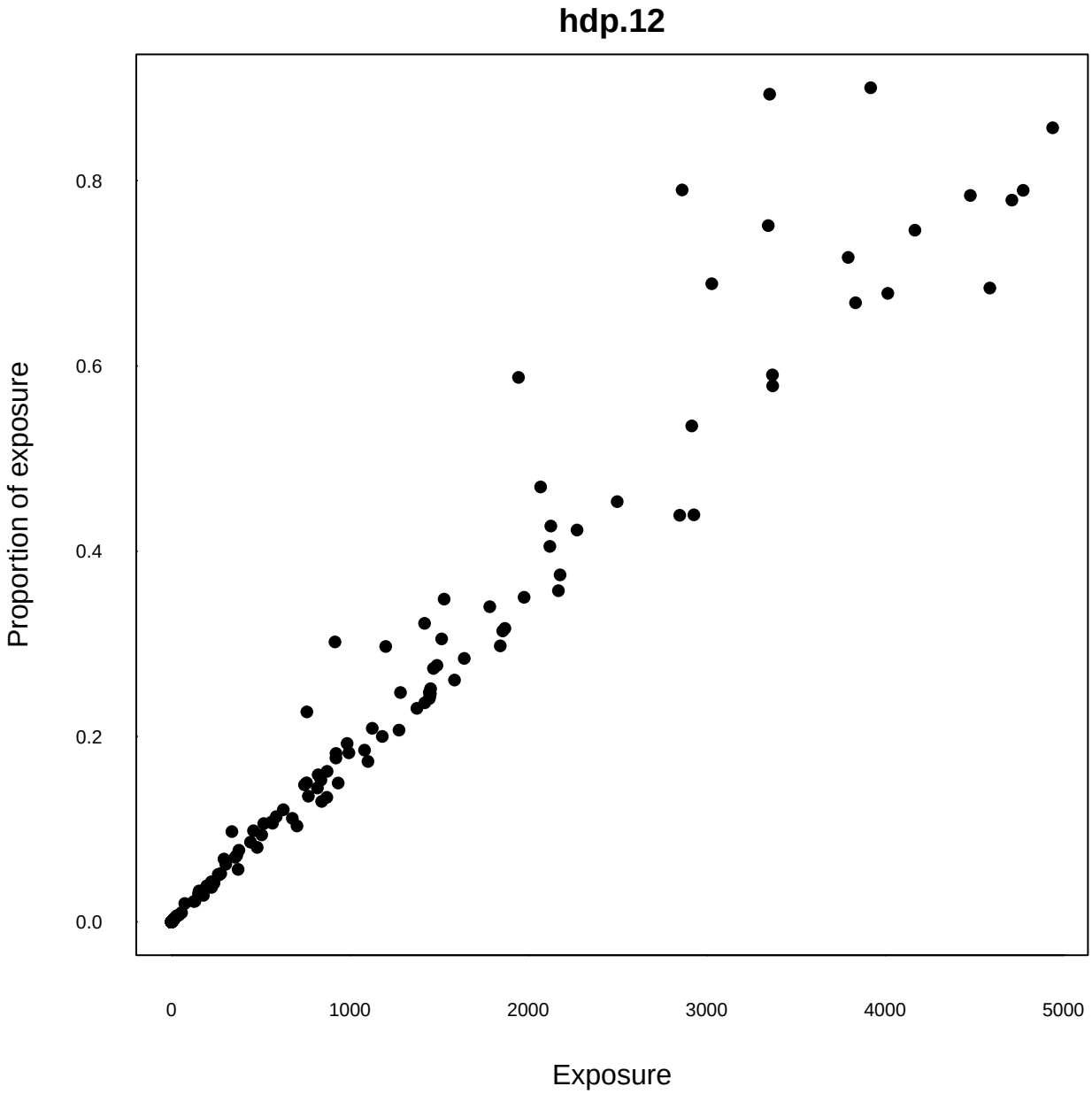

C>A
C>G
C>T
T>A
T>C
T>G
hdp.9
0.21
0.16
0.10
0.05
0.00
SP.Syn.Skin−Melanoma::S.25(0.886)
245
67
5288
185
397
118
1424
1068
712
356
0
SP.Syn.Skin−Melanoma::S.6(0.755)
240
160
4689
260
590
199
980
735
490
245
0
SP.Syn.Skin−Melanoma::S.19(0.656)
110
55
6992
188
403
109
1948
1461
974
487
0
SP.Syn.Skin−Melanoma::S.41(0.608)
228
275
3580
793
654
254
748
561
374
187
0
SP.Syn.Skin−Melanoma::S.9(0.589)
162
73
3494
339
1406
143
728
546
364
182
0
preceded by 5'
followed by 3'

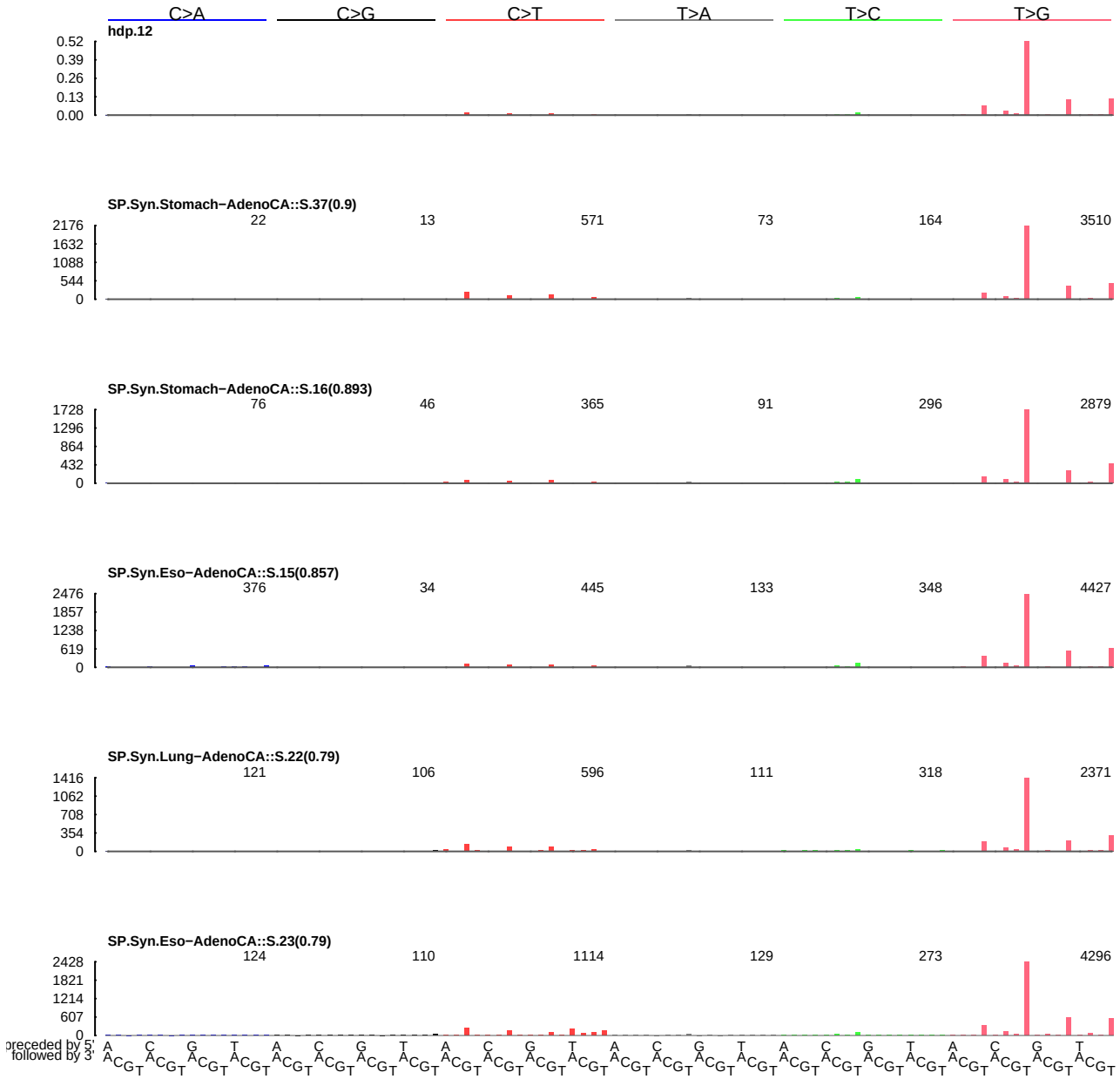

hdp.10
Proportion of exposure
0.0
0.2
0.4
0.6
0.8
0
1000
2000
3000
4000
5000
6000
Exposure

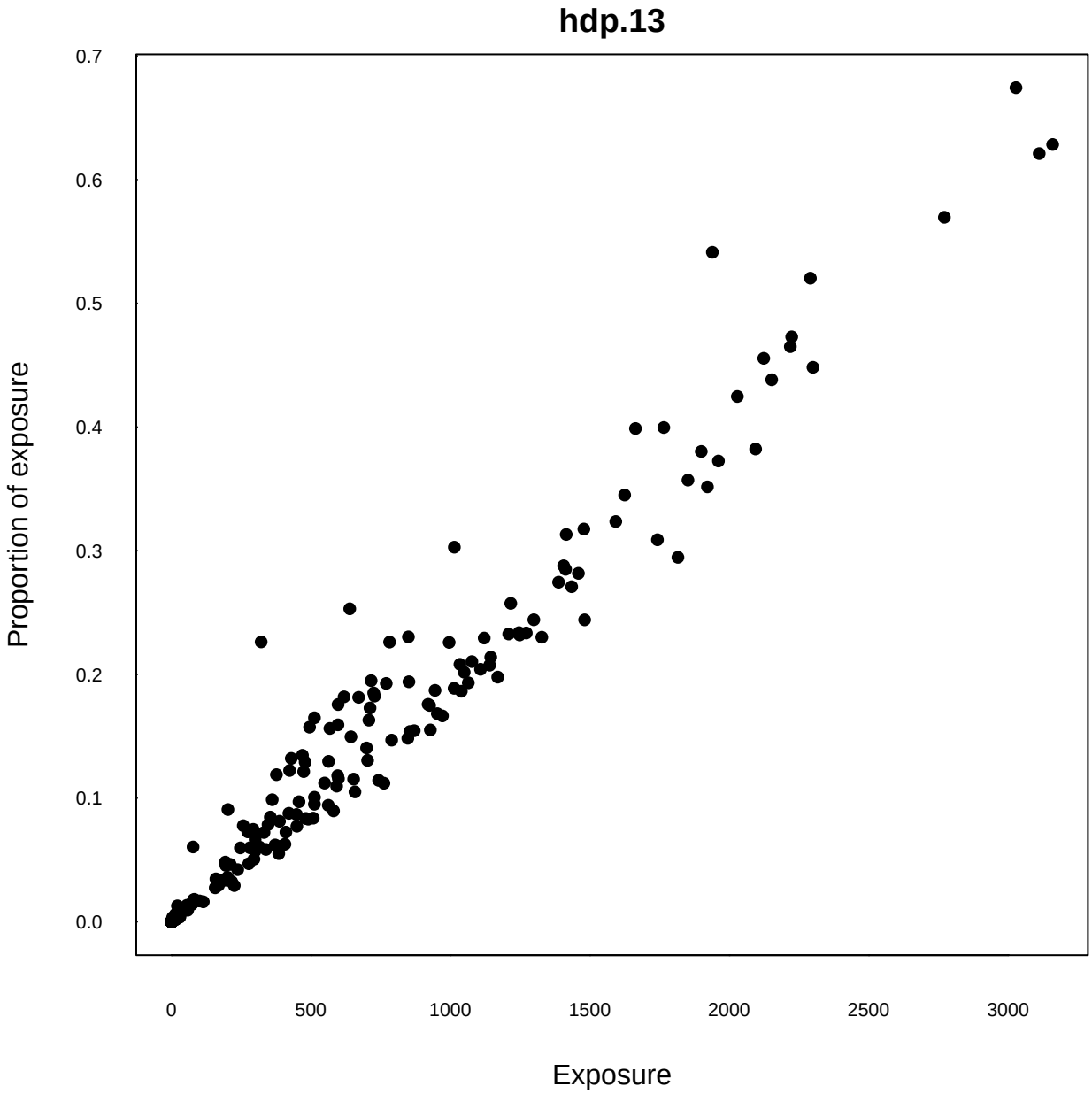

C>A
C>G
C>T
T>A
T>C
T>G
hdp.10
0.09
0.07
0.04
0.02
0.00
SP.Syn.ColoRect−AdenoCA::MSI−H.S.7(0.777)
1055
310
3480
545
1947
288
540
405
270
135
0
SP.Syn.ColoRect−AdenoCA::MSI−H.S.5(0.693)
862
181
3877
444
1448
174
724
543
362
181
0
SP.Syn.Stomach−AdenoCA::MSI−H.S.1(0.69)
926
302
3687
521
1807
284
544
408
272
136
0
SP.Syn.ColoRect−AdenoCA::MSI−H.S.4(0.65)
828
191
4161
443
1489
187
776
582
388
194
0
SP.Syn.ColoRect−AdenoCA::MSI−H.S.3(0.598)
909
394
3363
522
1774
332
416
312
208
104
0
preceded by 5'
followed by 3'
A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T

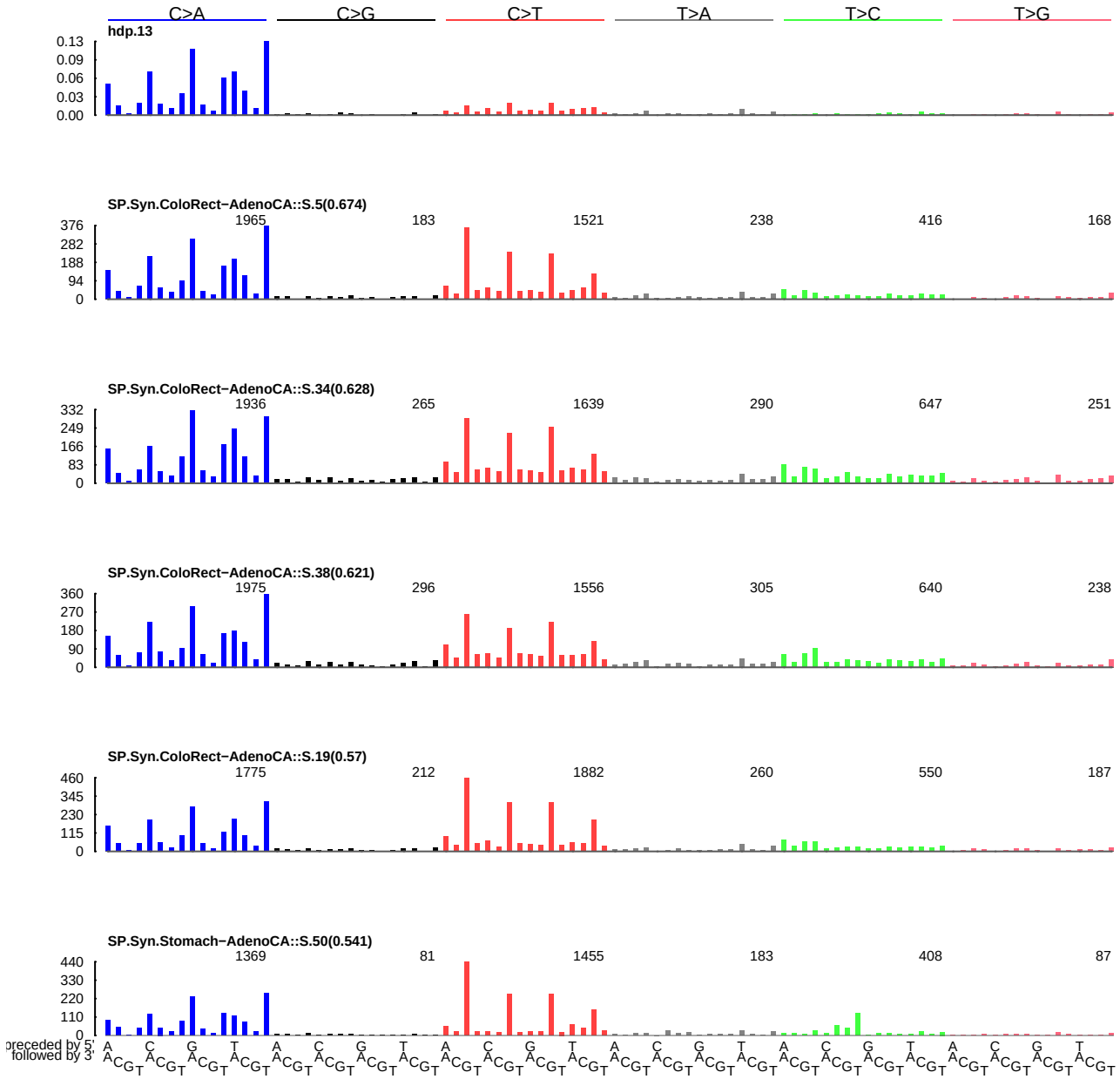

hdp.11
Proportion of exposure
0.00
0.05
0.10
0.15
0.20
0
200
400
600
800
1000
Exposure

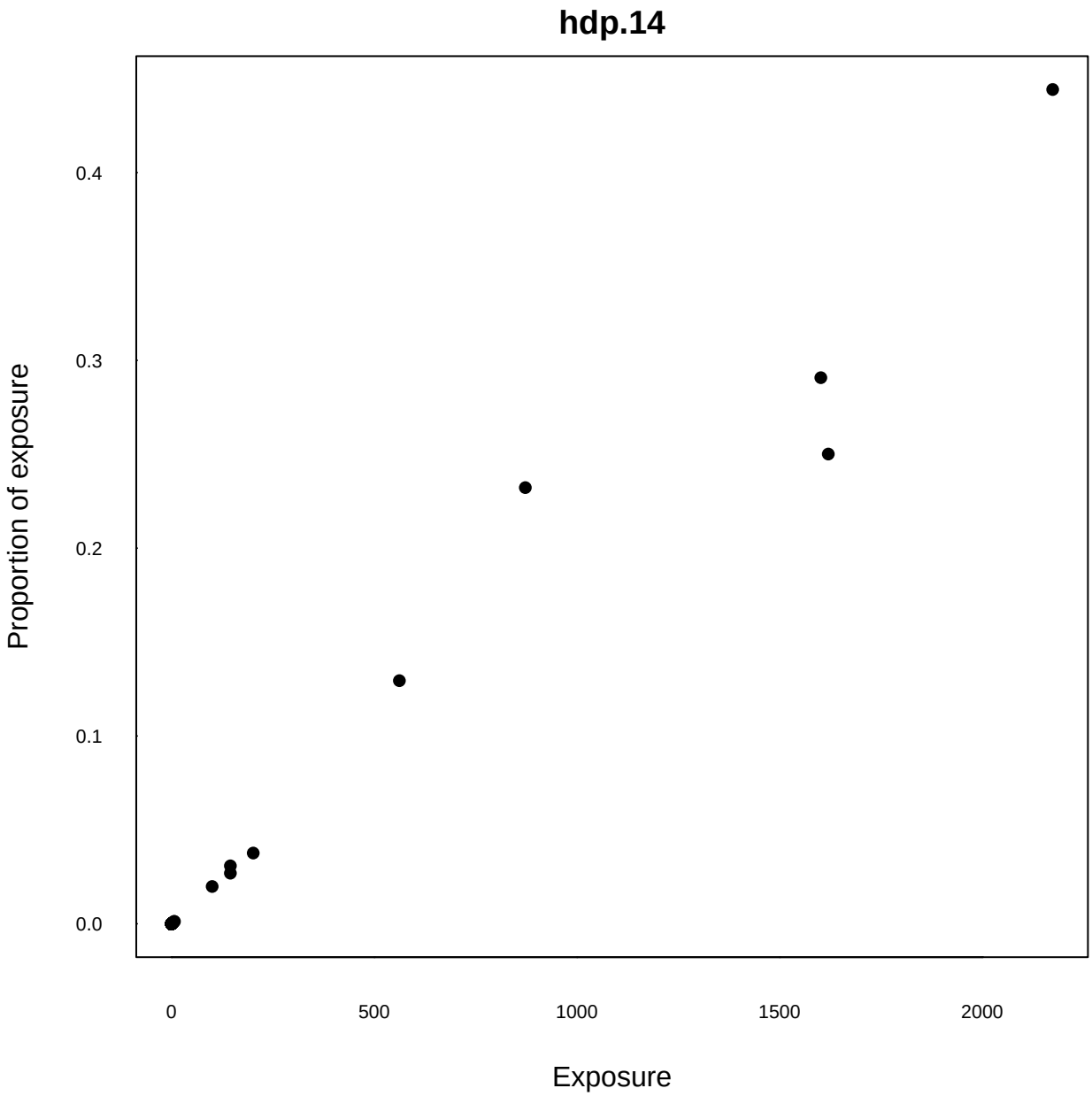

C>A
C>G
C>T
T>A
T>C
T>G
hdp.11
0.23
0.17
0.11
0.06
0.00
SP.Syn.Liver−HCC::S.1(0.235)
498
450
1219
399
1679
381
412
309
206
103
0
SP.Syn.Liver−HCC::S.13(0.226)
1100
382
850
508
1221
285
300
225
150
75
0
SP.Syn.Liver−HCC::S.55(0.179)
411
360
969
385
2233
303
400
300
200
100
0
SP.Syn.Liver−HCC::S.4(0.172)
699
384
964
368
1276
286
308
231
154
77
0
SP.Syn.Liver−HCC::S.48(0.118)
1298
367
941
397
1035
235
244
183
122
61
0
preceded by 5'
followed by 3'
A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T

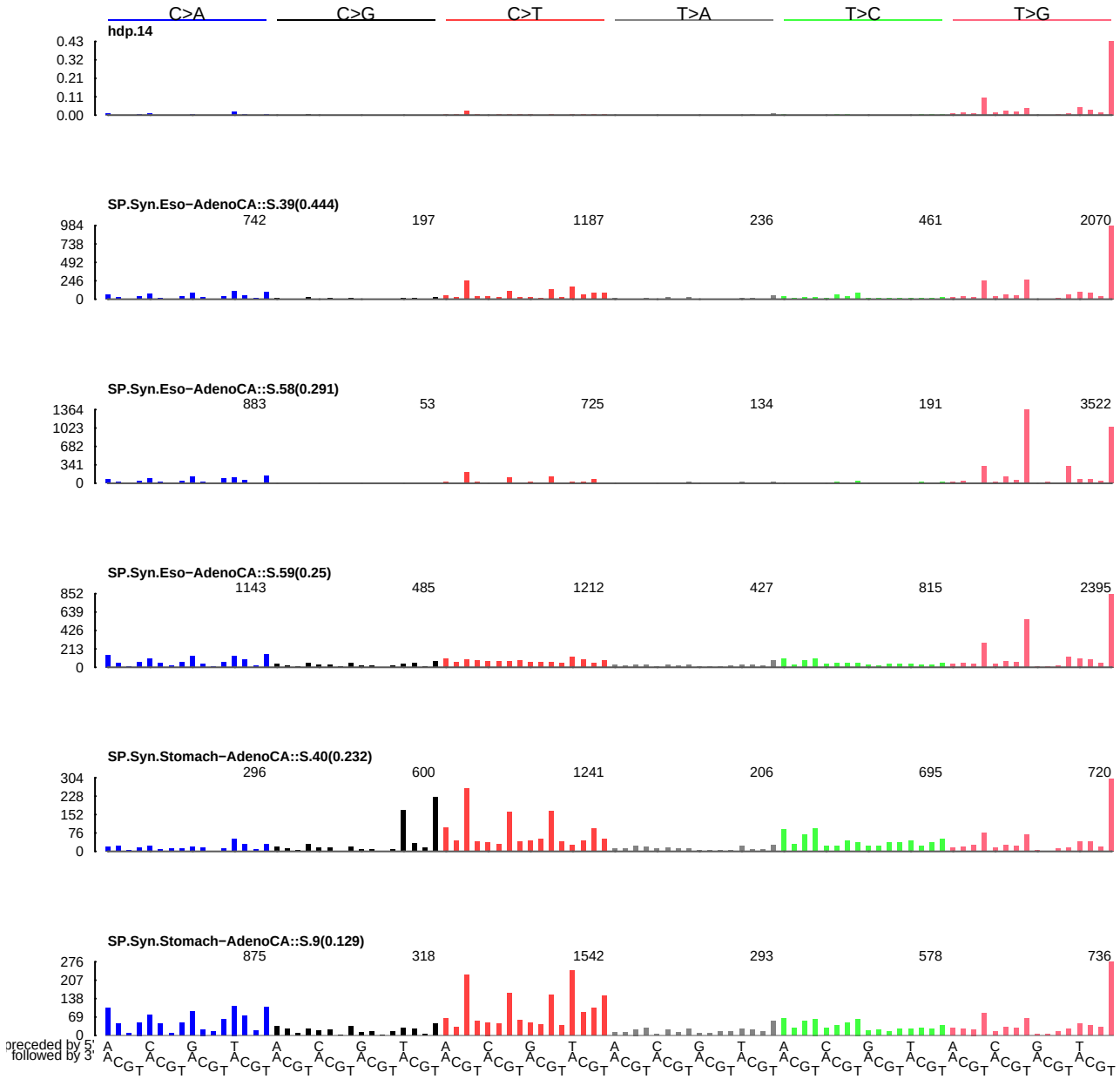

hdp.12
Proportion of exposure
0.0
0.2
0.4
0.6
0.8
0
1000
2000
3000
4000
5000
Exposure

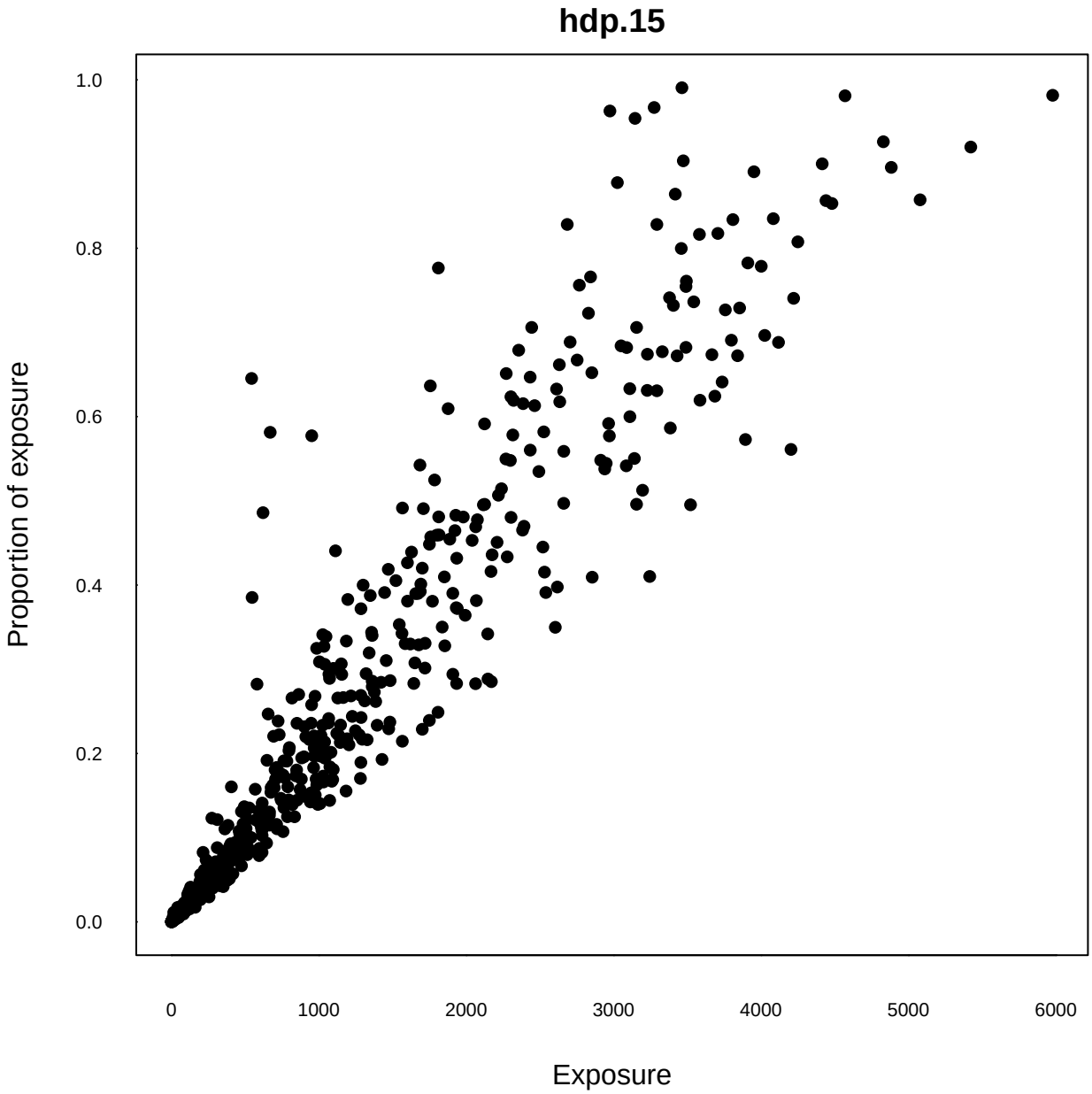

C>A
C>G
C>T
T>A
T>C
T>G
hdp.12
0.52
0.39
0.26
0.13
0.00
SP.Syn.Stomach−AdenoCA::S.37(0.9)
22
13
571
73
164
3510
2176
1632
1088
544
0
SP.Syn.Stomach−AdenoCA::S.16(0.893)
76
46
365
91
296
2879
1728
1296
864
432
0
SP.Syn.Eso−AdenoCA::S.15(0.857)
376
34
445
133
348
4427
2476
1857
1238
619
0
SP.Syn.Lung−AdenoCA::S.22(0.79)
121
106
596
111
318
2371
1416
1062
708
354
0
SP.Syn.Eso−AdenoCA::S.23(0.79)
124
110
1114
129
273
4296
2428
1821
1214
607
0
preceded by 5'
followed by 3'
A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T

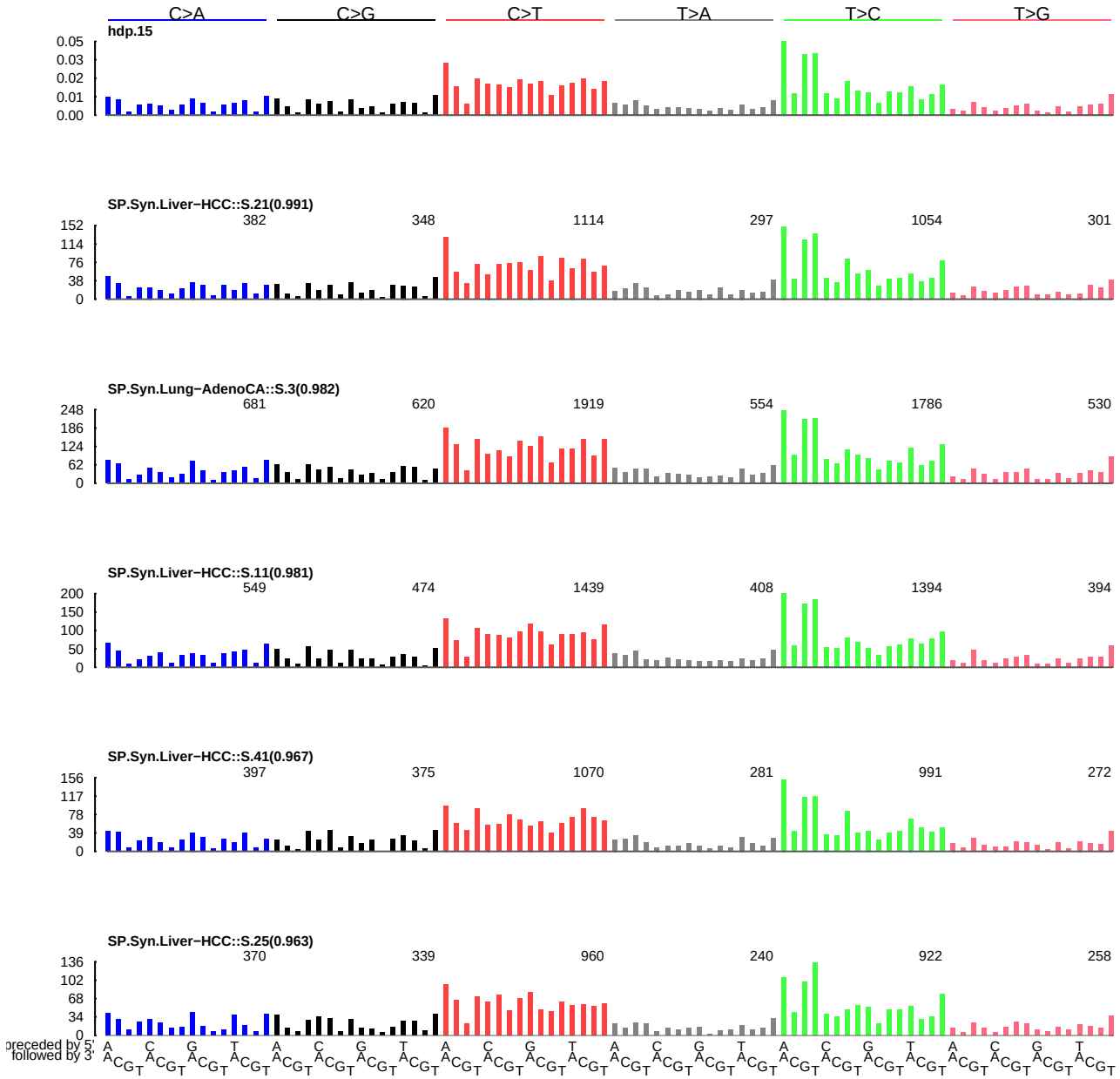

hdp.13
Proportion of exposure
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0
500
1000
1500
2000
2500
3000
Exposure

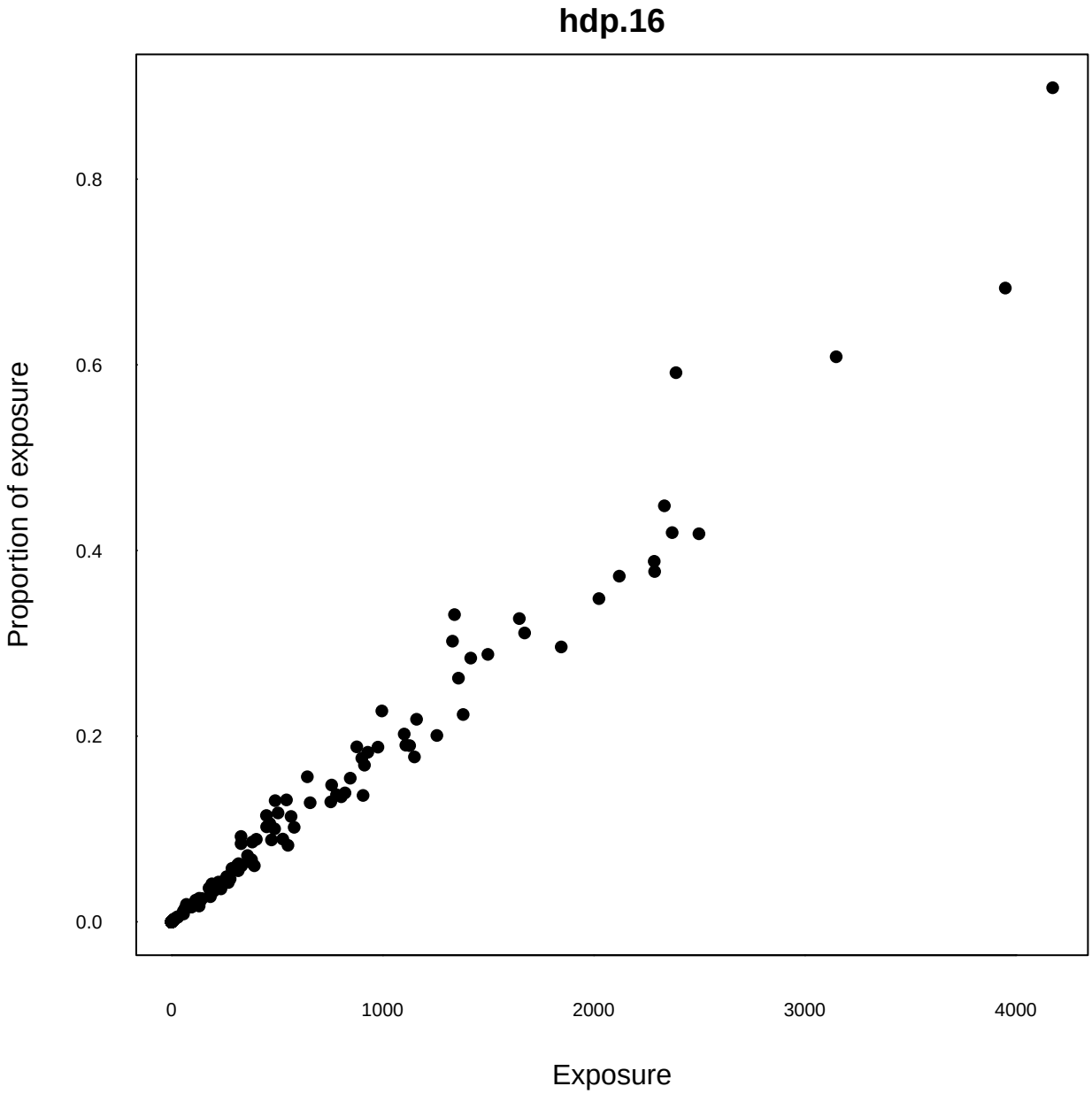

C>A
C>G
C>T
T>A
T>C
T>G
hdp.13
0.13
0.09
0.06
0.03
0.00
SP.Syn.ColoRect−AdenoCA::S.5(0.674)
1965
183
1521
238
416
168
376
282
188
94
0
SP.Syn.ColoRect−AdenoCA::S.34(0.628)
1936
265
1639
290
647
251
332
249
166
83
0
SP.Syn.ColoRect−AdenoCA::S.38(0.621)
1975
296
1556
305
640
238
360
270
180
90
0
SP.Syn.ColoRect−AdenoCA::S.19(0.57)
1775
212
1882
260
550
187
460
345
230
115
0
SP.Syn.Stomach−AdenoCA::S.50(0.541)
1369
81
1455
183
408
87
440
330
220
110
0
preceded by 5'
followed by 3'
A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T

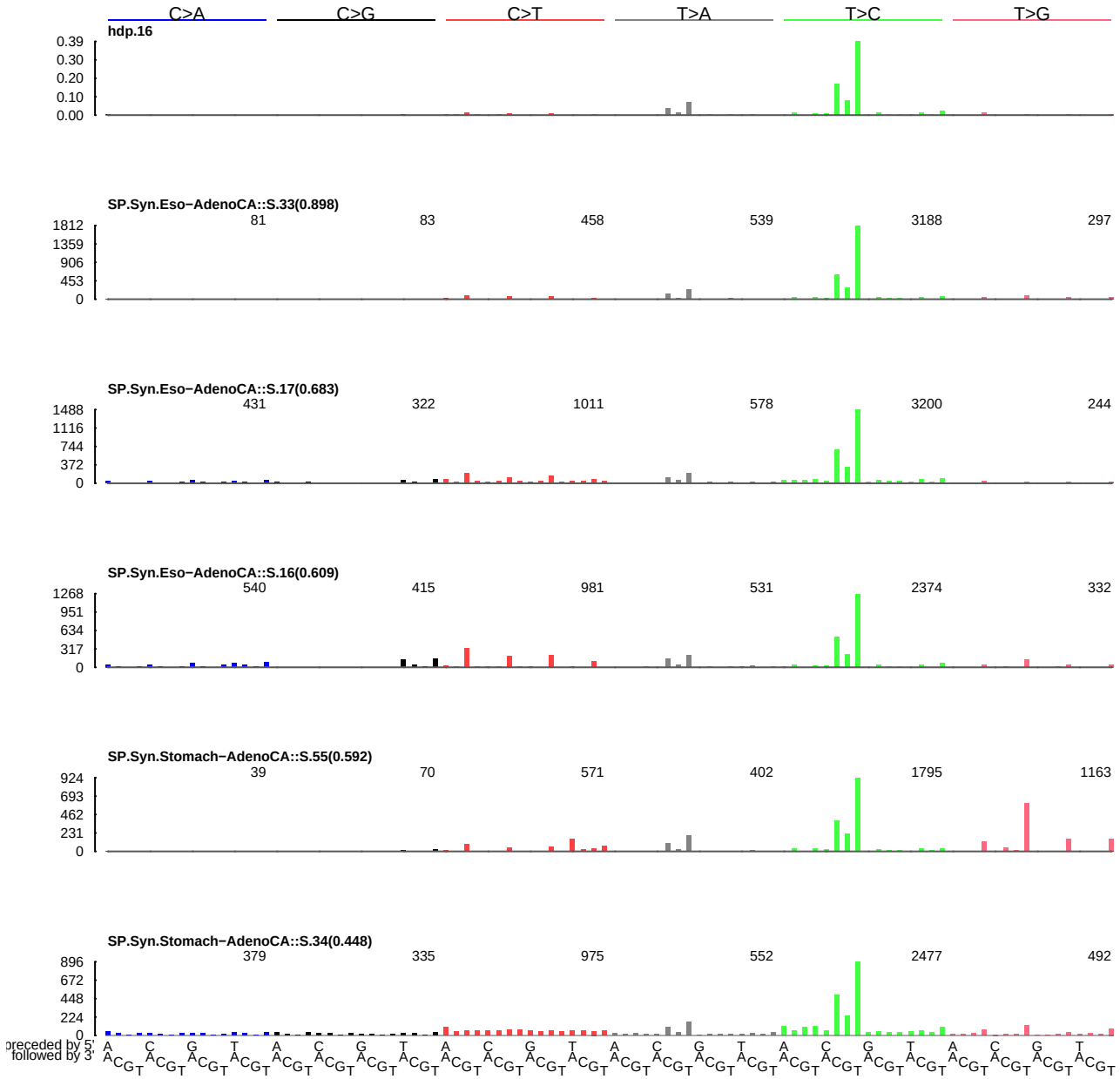

hdp.14
Proportion of exposure
0.0
0.1
0.2
0.3
0.4
0
500
1000
1500
2000
Exposure

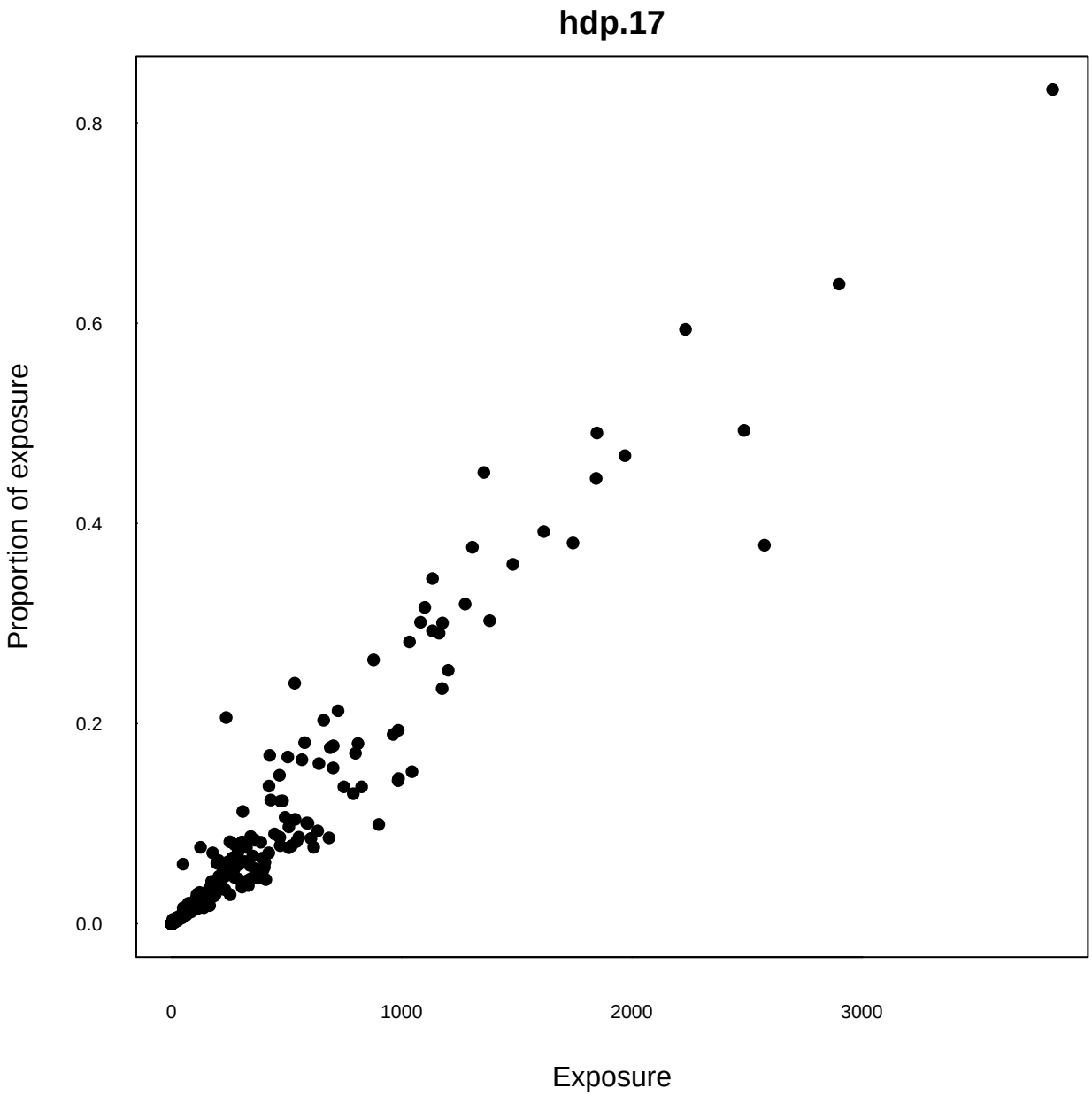

C>A
C>G
C>T
T>A
T>C
T>G
hdp.14
0.43
0.32
0.21
0.11
0.00
SP.Syn.Eso−AdenoCA::S.39(0.444)
742
197
1187
236
461
2070
984
738
492
246
0
SP.Syn.Eso−AdenoCA::S.58(0.291)
883
53
725
134
191
3522
1364
1023
682
341
0
SP.Syn.Eso−AdenoCA::S.59(0.25)
1143
485
1212
427
815
2395
852
639
426
213
0
SP.Syn.Stomach−AdenoCA::S.40(0.232)
296
600
1241
206
695
720
304
228
152
76
0
SP.Syn.Stomach−AdenoCA::S.9(0.129)
875
318
1542
293
578
736
276
207
138
69
0
preceded by 5'
followed by 3'
A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T

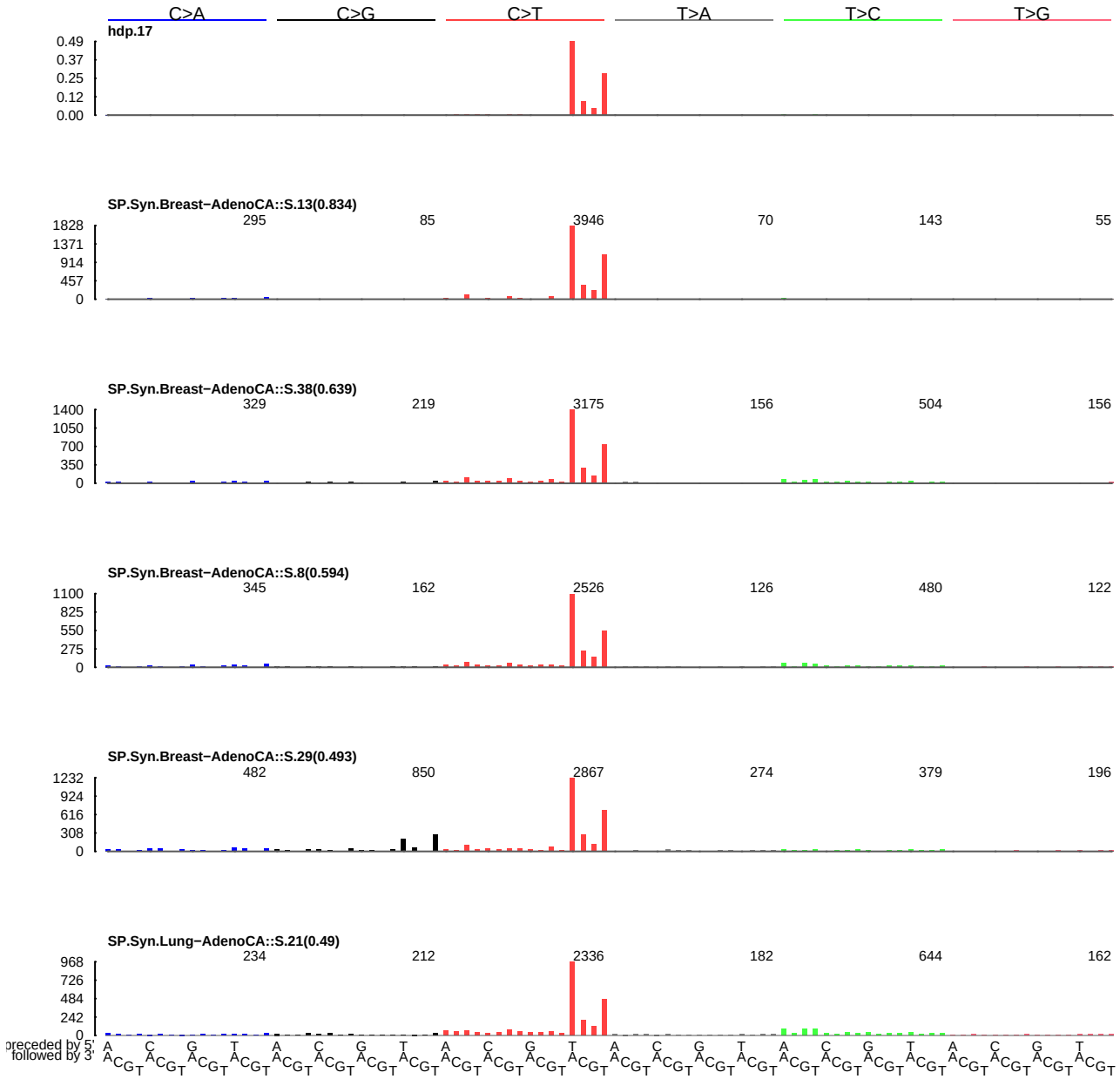

hdp.15
Proportion of exposure
1.0
0.8
0.6
0.4
0.2
0.0
0
1000
2000
3000
4000
5000
6000
Exposure

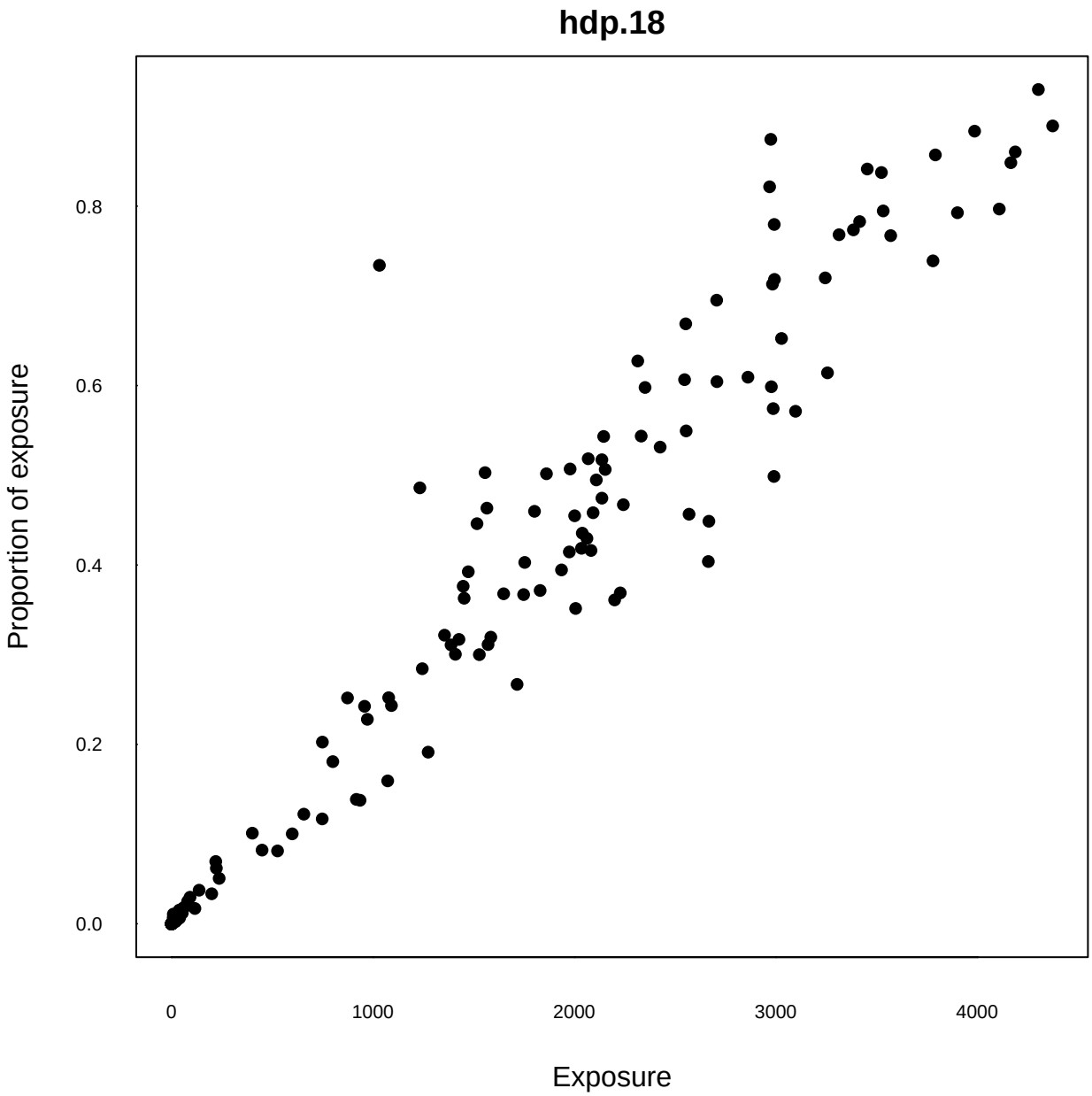

C>A
C>G
C>T
T>A
T>C
T>G
hdp.15
0.05
0.03
0.02
0.01
0.00
SP.Syn.Liver−HCC::S.21(0.991)
382
348
1114
297
1054
301
152
114
76
38
0
SP.Syn.Lung−AdenoCA::S.3(0.982)
681
620
1919
554
1786
530
248
186
124
62
0
SP.Syn.Liver−HCC::S.11(0.981)
549
474
1439
408
1394
394
200
150
100
50
0
SP.Syn.Liver−HCC::S.41(0.967)
397
375
1070
281
991
272
156
117
78
39
0
SP.Syn.Liver−HCC::S.25(0.963)
370
339
960
240
922
258
136
102
68
34
0
preceded by 5'
followed by 3'
A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T

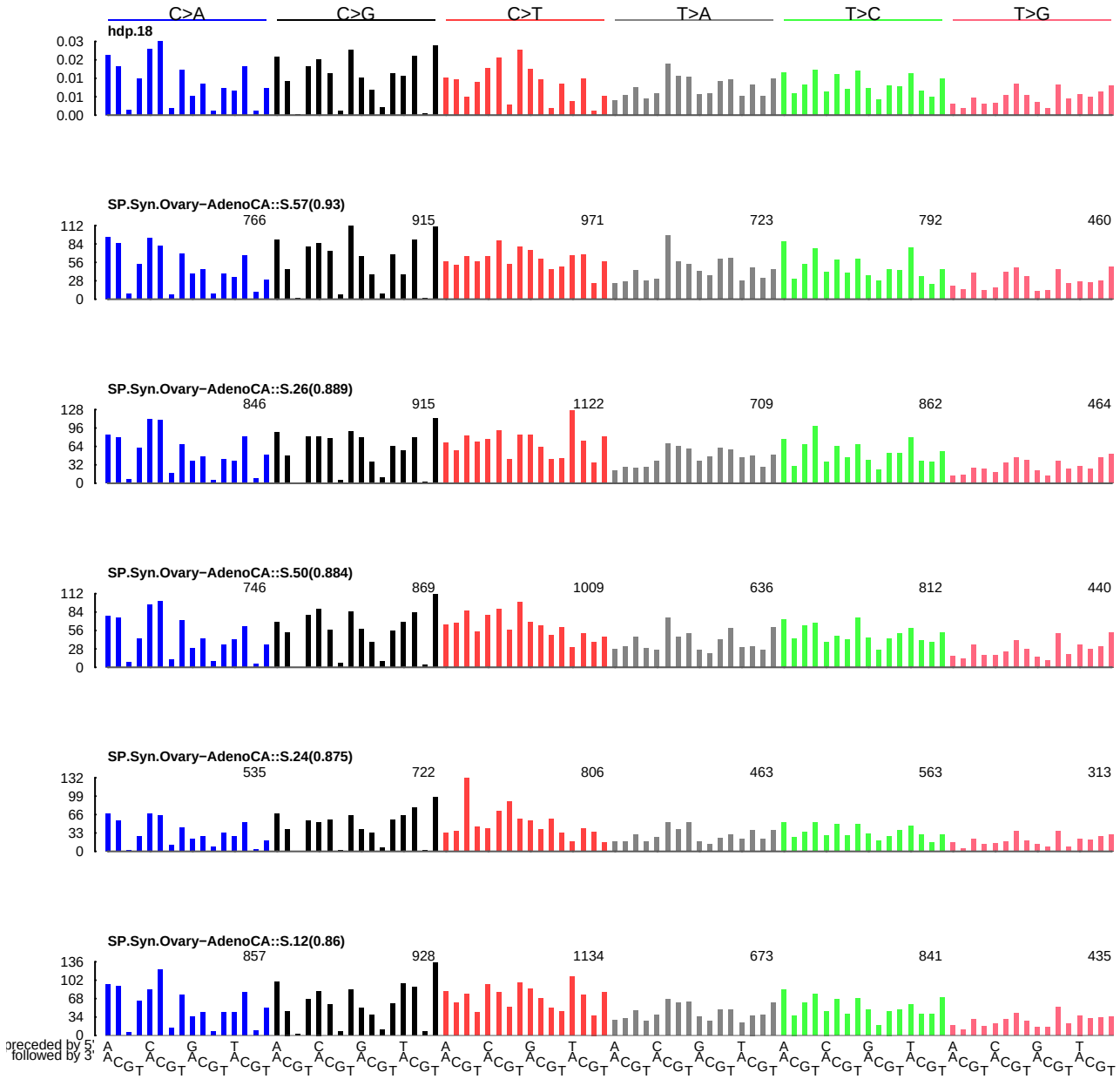

hdp.16
Proportion of exposure
0.0
0.2
0.4
0.6
0.8
0
1000
2000
3000
4000
Exposure

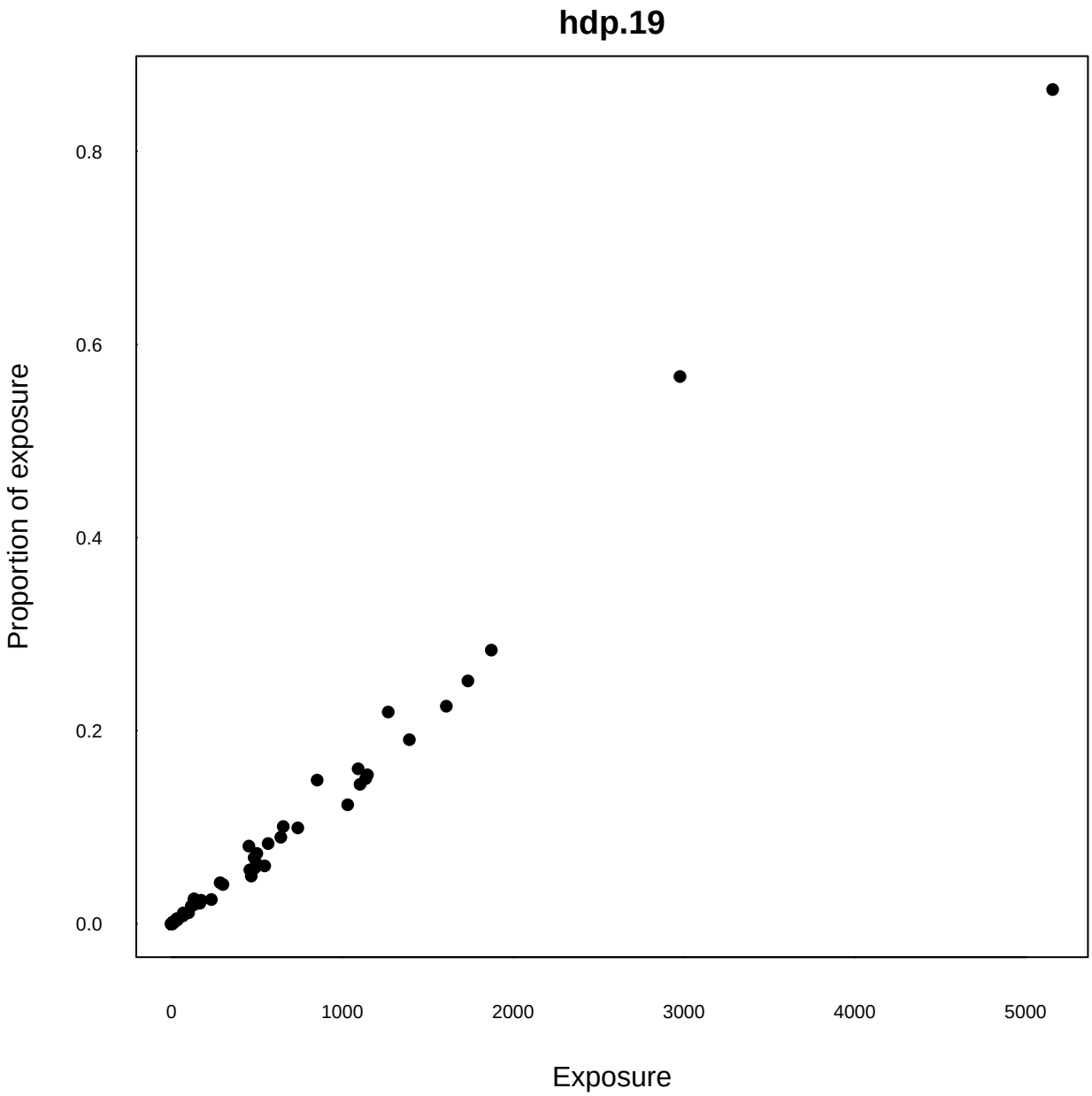

C>A
C>G
C>T
T>A
T>C
T>G
hdp.16
0.39
0.30
0.20
0.10
0.00
SP.Syn.Eso−AdenoCA::S.33(0.898)
81
83
458
539
3188
297
1812
1359
906
453
0
SP.Syn.Eso−AdenoCA::S.17(0.683)
431
322
1011
578
3200
244
1488
1116
744
372
0
SP.Syn.Eso−AdenoCA::S.16(0.609)
540
415
981
531
2374
332
1268
951
634
317
0
SP.Syn.Stomach−AdenoCA::S.55(0.592)
39
70
571
402
1795
1163
924
693
462
231
0
SP.Syn.Stomach−AdenoCA::S.34(0.448)
379
335
975
552
2477
492
896
672
448
224
0
preceded by 5'
followed by 3'
A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T

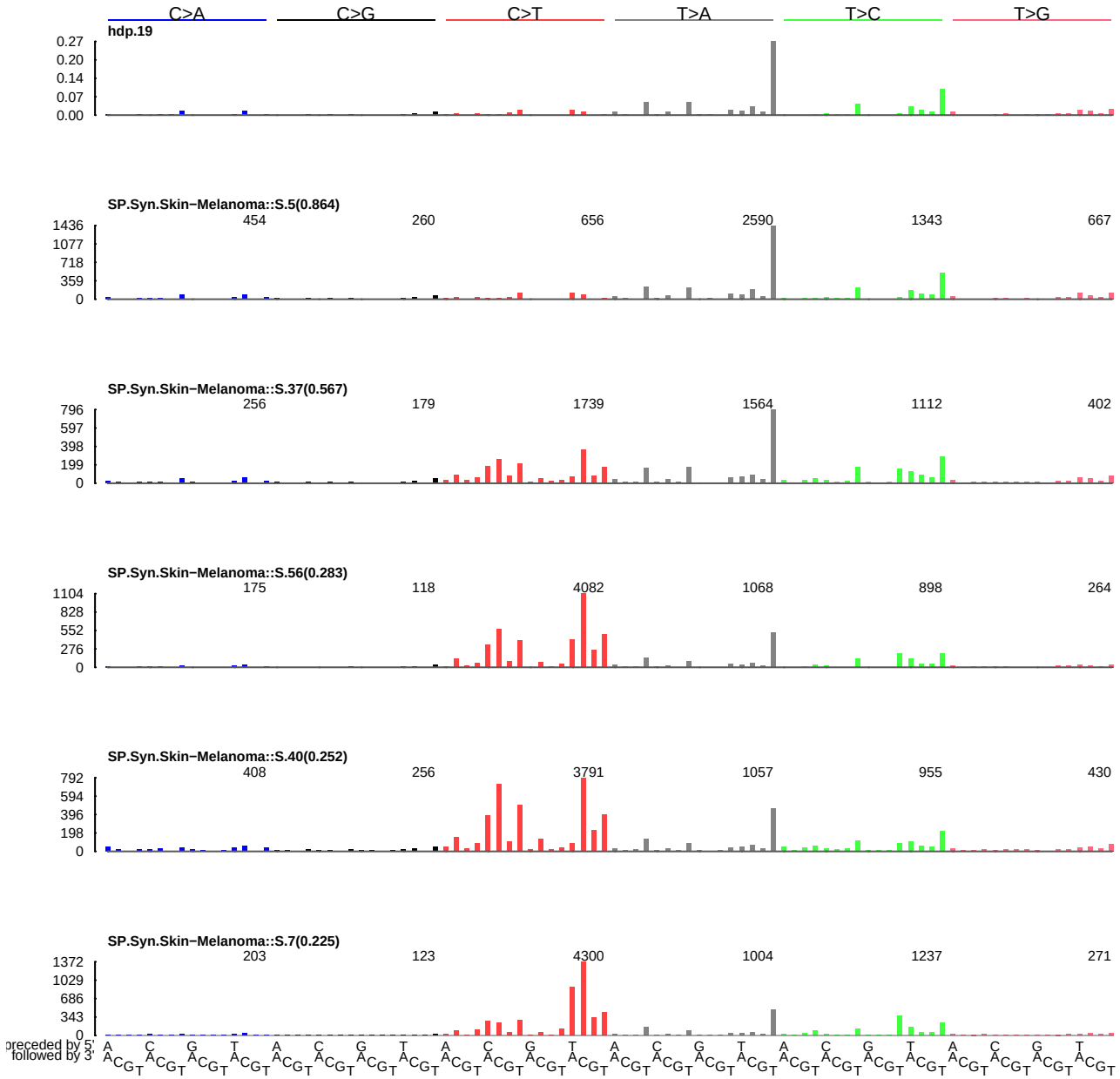

hdp.17
Proportion of exposure
0.0
0.2
0.4
0.6
0.8
0
1000
2000
3000
Exposure

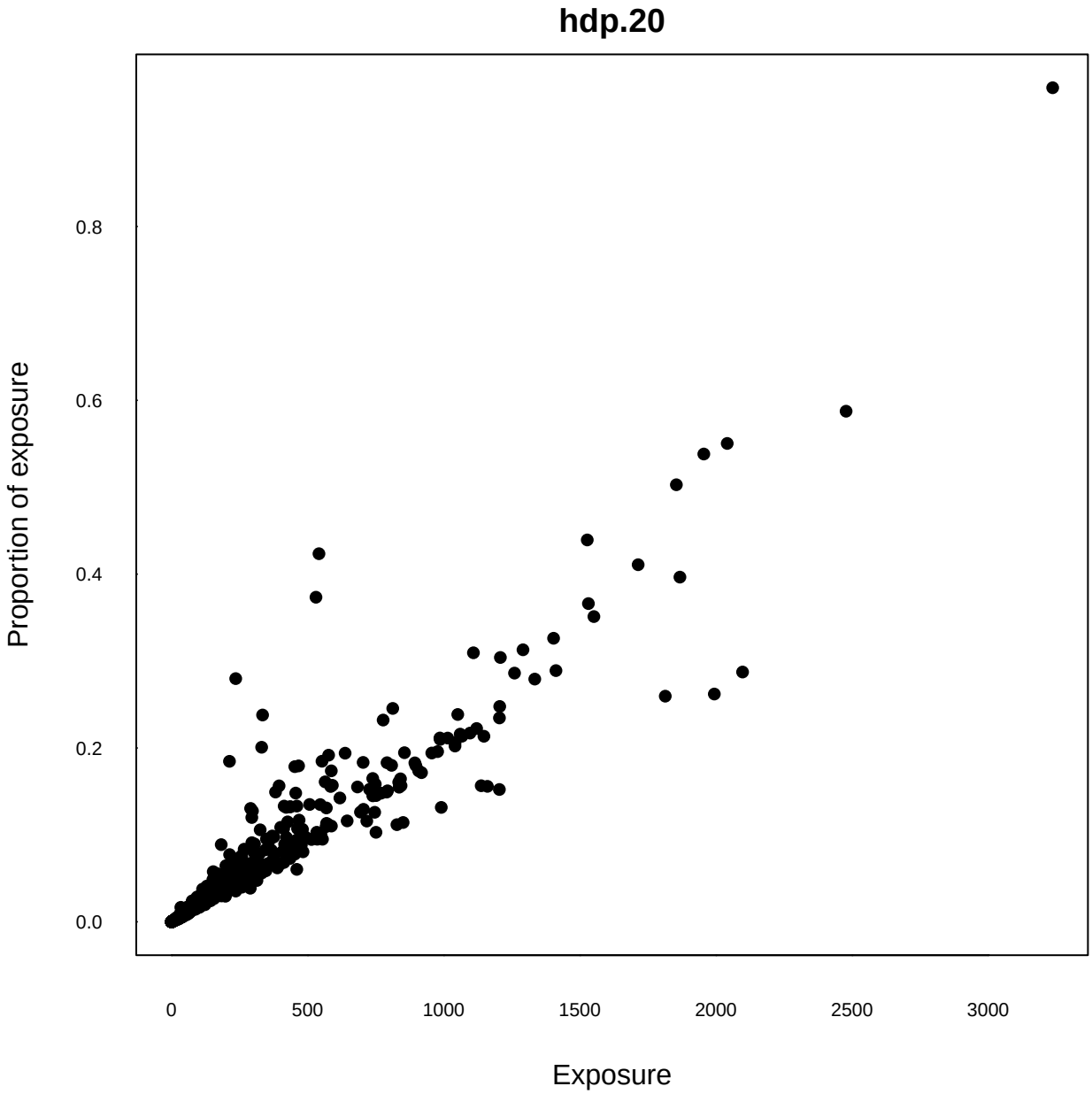

C>A
C>G
C>T
T>A
T>C
T>G
hdp.17
0.49
0.37
0.25
0.12
0.00
SP.Syn.Breast−AdenoCA::S.13(0.834)
295
85
3946
70
143
55
1828
1371
914
457
0
SP.Syn.Breast−AdenoCA::S.38(0.639)
329
219
3175
156
504
156
1400
1050
700
350
0
SP.Syn.Breast−AdenoCA::S.8(0.594)
345
162
2526
126
480
122
1100
825
550
275
0
SP.Syn.Breast−AdenoCA::S.29(0.493)
482
850
2867
274
379
196
1232
924
616
308
0
SP.Syn.Lung−AdenoCA::S.21(0.49)
234
212
2336
182
644
162
968
726
484
242
0
preceded by 5'
followed by 3'
A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T

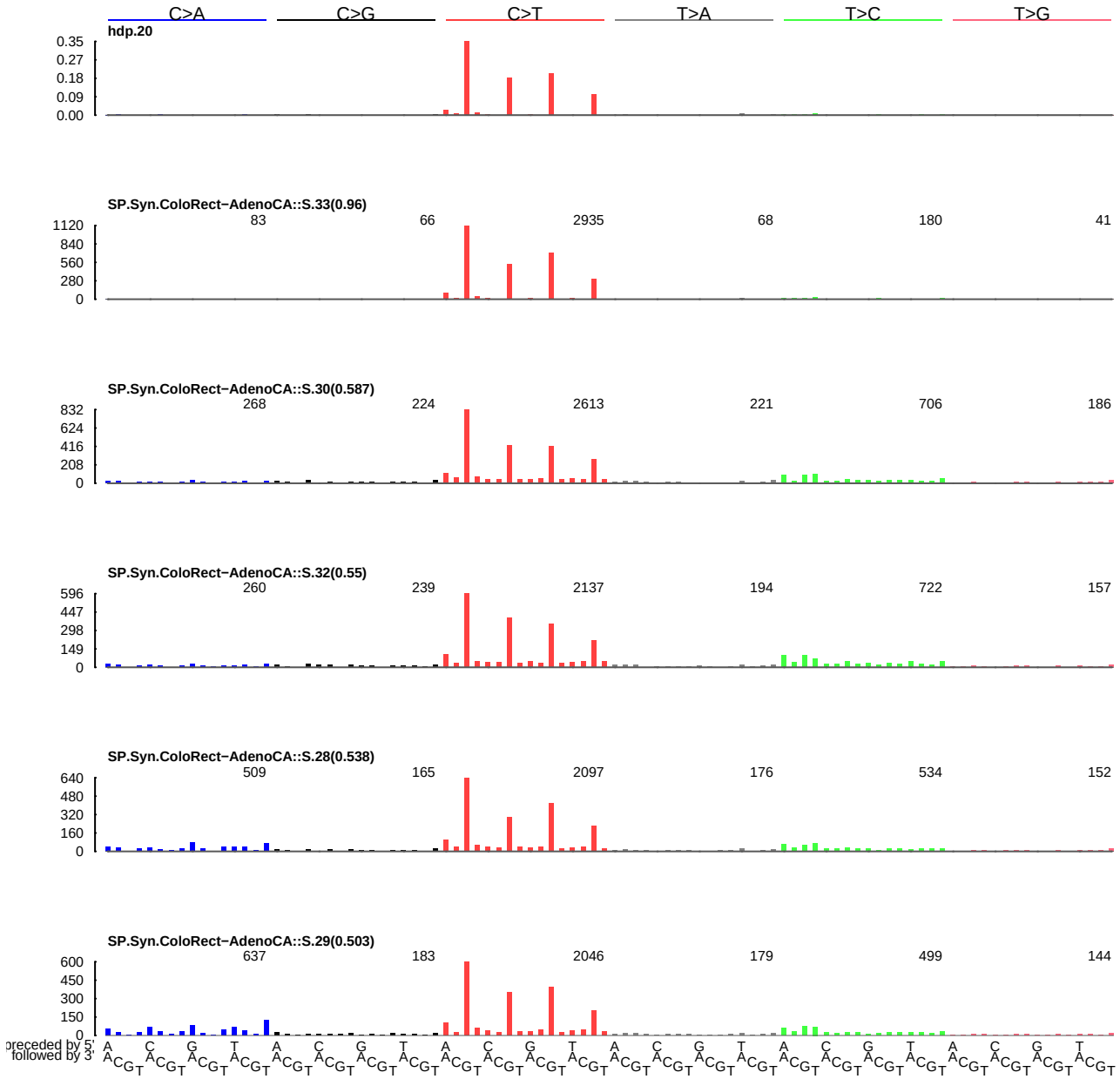

hdp.18
Proportion of exposure
0.0
0.2
0.4
0.6
0.8
0
1000
2000
3000
4000
Exposure

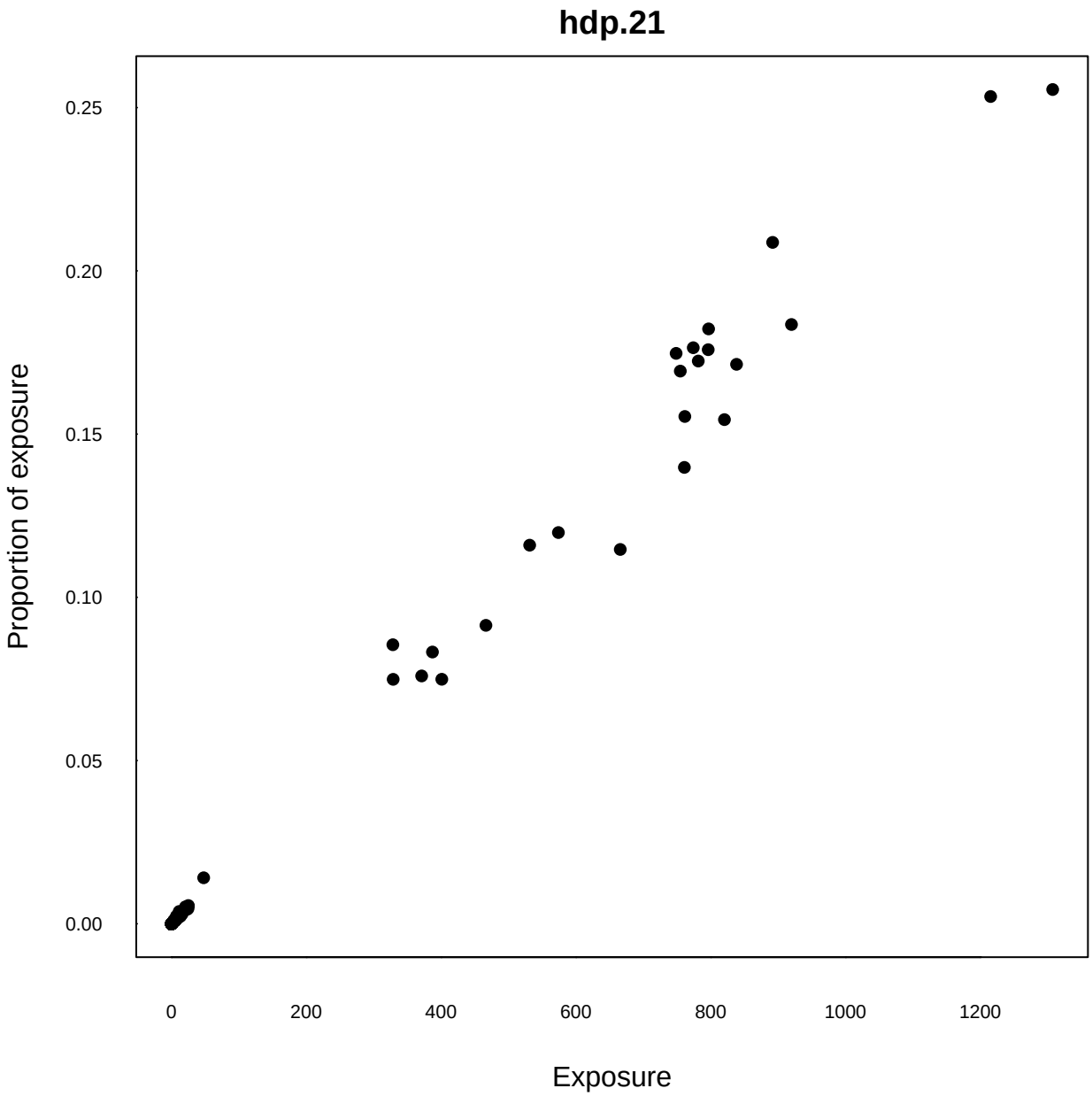

C>A
C>G
C>T
T>A
T>C
T>G
hdp.18
0.03
0.02
0.01
0.01
0.00
SP.Syn.Ovary−AdenoCA::S.57(0.93)
766
915
971
723
792
460
112
84
56
28
0
SP.Syn.Ovary−AdenoCA::S.26(0.889)
846
915
1122
709
862
464
128
96
64
32
0
SP.Syn.Ovary−AdenoCA::S.50(0.884)
746
869
1009
636
812
440
112
84
56
28
0
SP.Syn.Ovary−AdenoCA::S.24(0.875)
535
722
806
463
563
313
132
99
66
33
0
SP.Syn.Ovary−AdenoCA::S.12(0.86)
857
928
1134
673
841
435
136
102
68
34
0
preceded by 5'
followed by 3'

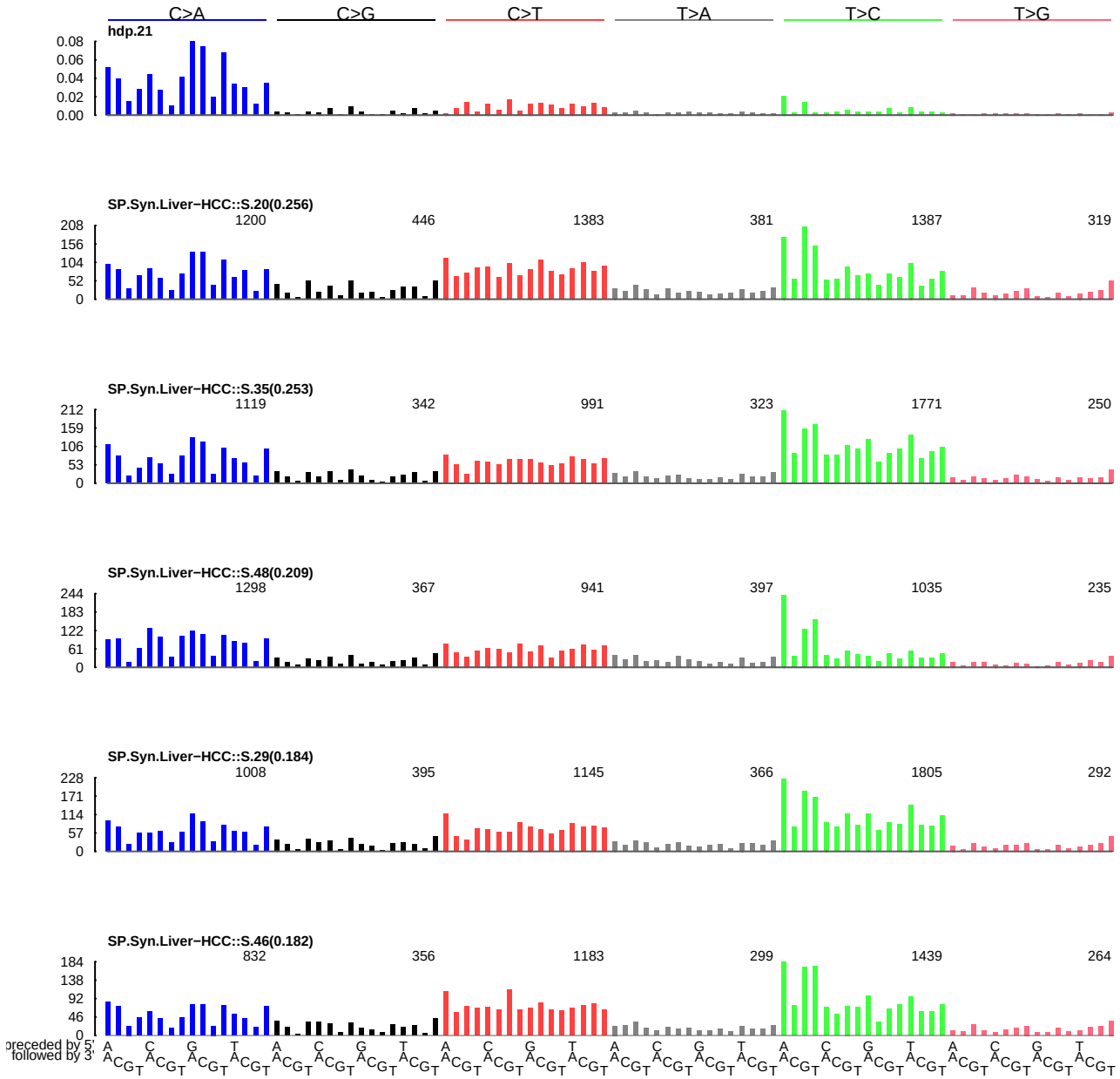

hdp.19
Proportion of exposure
0.0
0.2
0.4
0.6
0.8
0
1000
2000
3000
4000
5000
Exposure


C>A
C>G
C>T
T>A
T>C
T>G
hdp.19
0.27
0.20
0.14
0.07
0.00
SP.Syn.Skin−Melanoma::S.5(0.864)
454
260
656
2590
1343
667
1436
1077
718
359
0
SP.Syn.Skin−Melanoma::S.37(0.567)
256
179
1739
1564
1112
402
796
597
398
199
0
SP.Syn.Skin−Melanoma::S.56(0.283)
175
118
4082
1068
898
264
1104
828
552
276
0
SP.Syn.Skin−Melanoma::S.40(0.252)
408
256
3791
1057
955
430
792
594
396
198
0
SP.Syn.Skin−Melanoma::S.7(0.225)
203
123
4300
1004
1237
271
1372
1029
686
343
0
preceded by 5'
followed by 3'


hdp.20
Proportion of exposure
0.0
0.2
0.4
0.6
0.8
0
500
1000
1500
2000
2500
3000
Exposure


C>A
C>G
C>T
T>A
T>C
T>G
hdp.20
0.35
0.27
0.18
0.09
0.00
SP.Syn.ColoRect−AdenoCA::S.33(0.96)
83
66
2935
68
180
41
1120
840
560
280
0
SP.Syn.ColoRect−AdenoCA::S.30(0.587)
268
224
2613
221
706
186
832
624
416
208
0
SP.Syn.ColoRect−AdenoCA::S.32(0.55)
260
239
2137
194
722
157
596
447
298
149
0
SP.Syn.ColoRect−AdenoCA::S.28(0.538)
509
165
2097
176
534
152
640
480
320
160
0
SP.Syn.ColoRect−AdenoCA::S.29(0.503)
637
183
2046
179
499
144
600
450
300
150
0
preceded by 5'
followed by 3'
A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T


hdp.21
Proportion of exposure
0.25
0.20
0.15
0.10
0.05
0.00
0
200
400
600
800
1000
1200
Exposure


C>A
C>G
C>T
T>A
T>C
T>G
hdp.21
0.08
0.06
0.04
0.02
0.00
SP.Syn.Liver−HCC::S.20(0.256)
1200
446
1383
381
1387
319
208
156
104
52
0
SP.Syn.Liver−HCC::S.35(0.253)
1119
342
991
323
1771
250
212
159
106
53
0
SP.Syn.Liver−HCC::S.48(0.209)
1298
367
941
397
1035
235
244
183
122
61
0
SP.Syn.Liver−HCC::S.29(0.184)
1008
395
1145
366
1805
292
228
171
114
57
0
SP.Syn.Liver−HCC::S.46(0.182)
832
356
1183
299
1439
264
184
138
92
46
0
preceded by 5'
followed by 3'
A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T A C G T