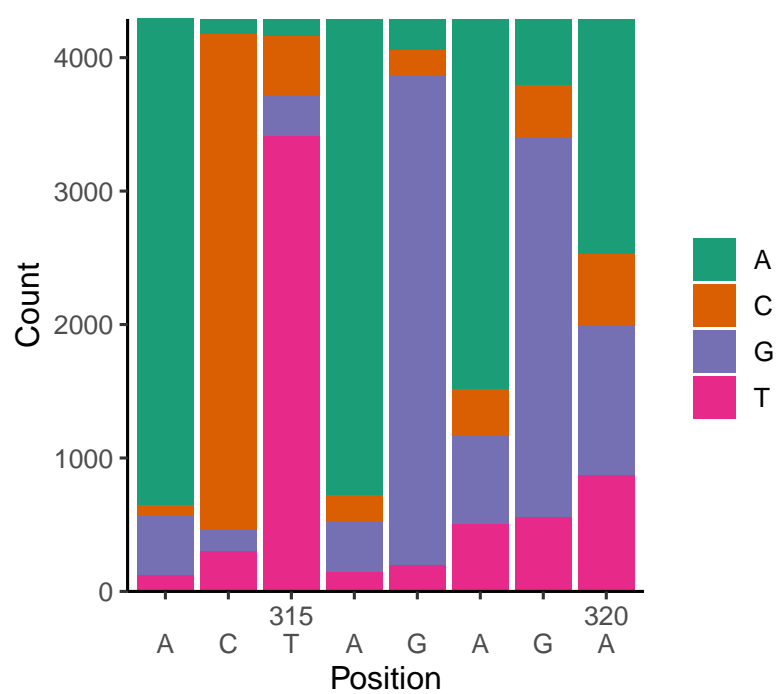
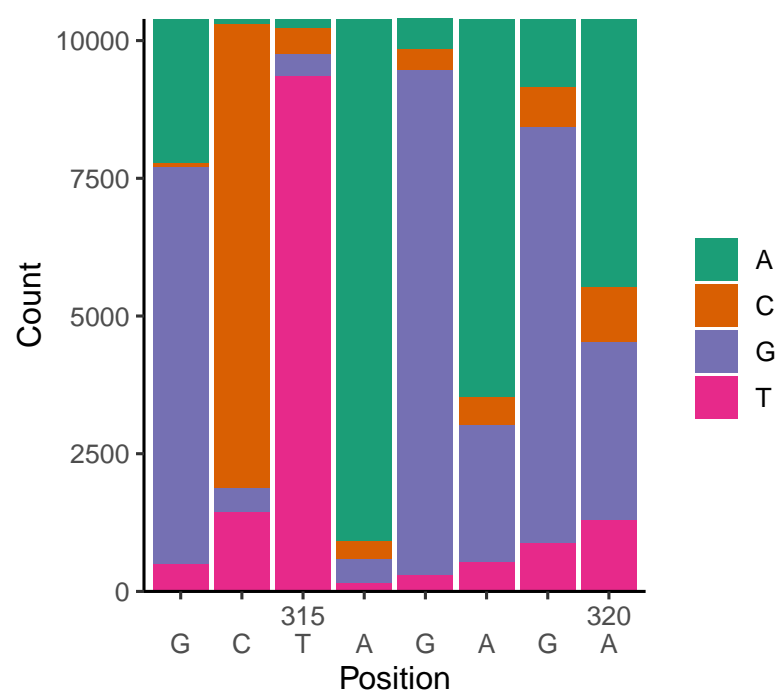


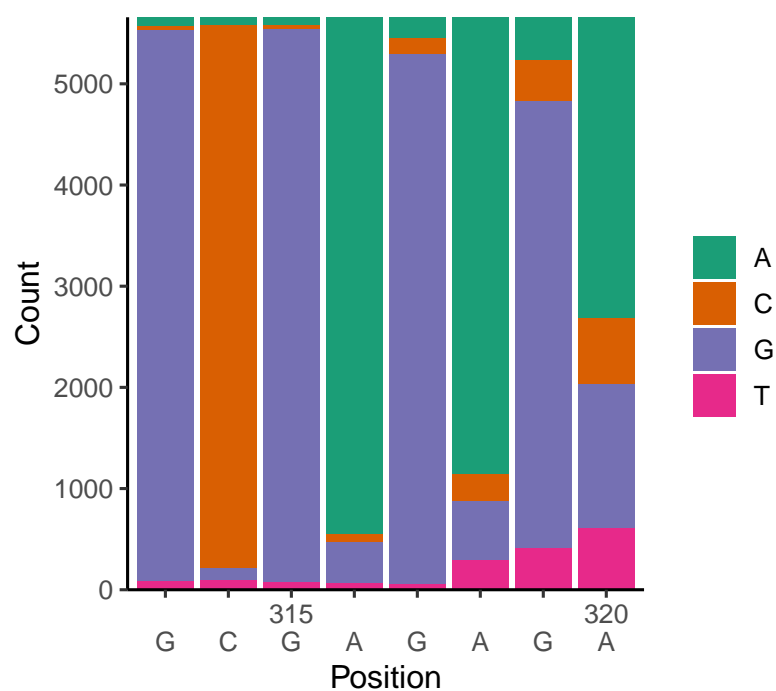
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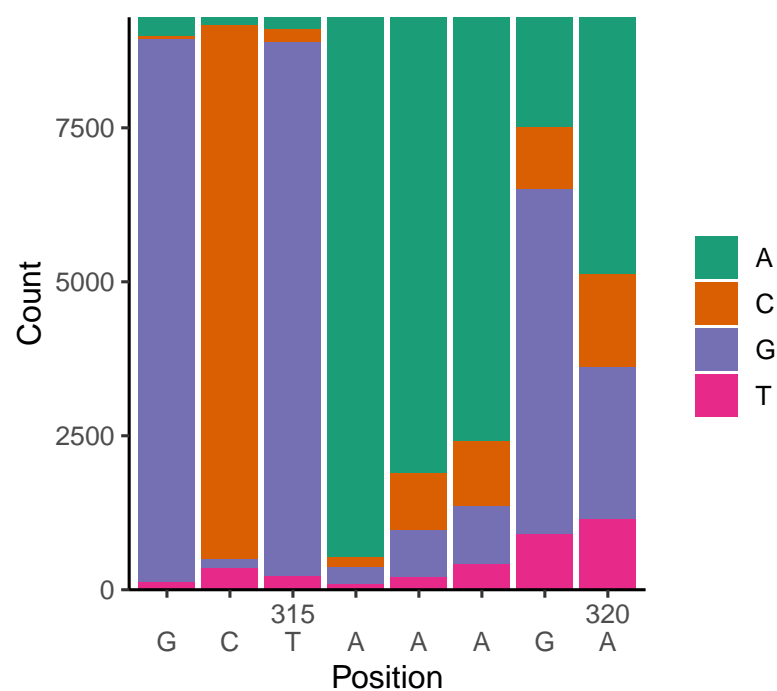
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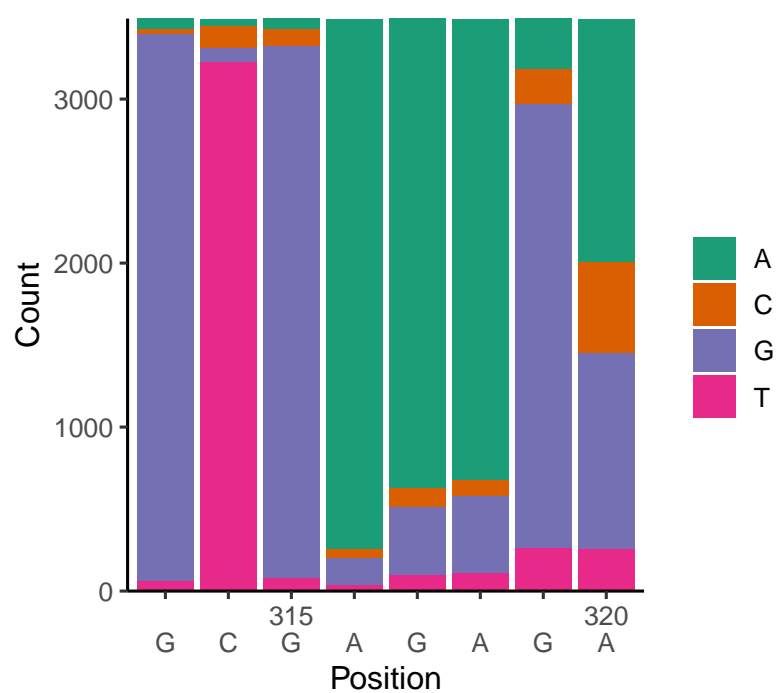
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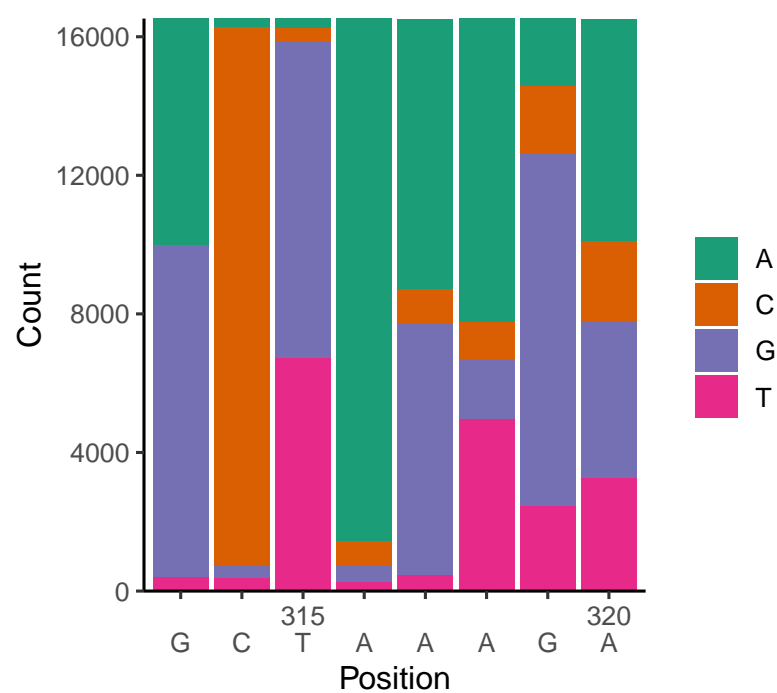
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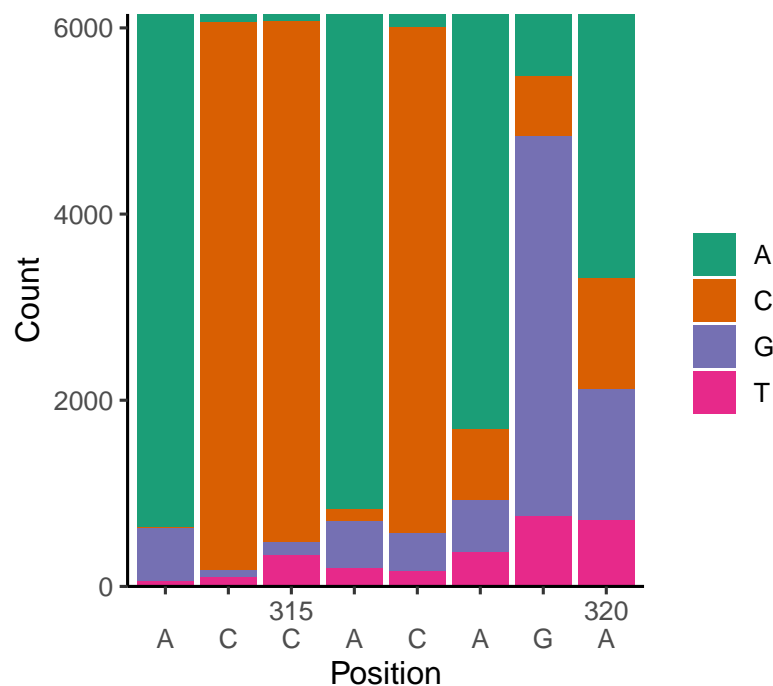
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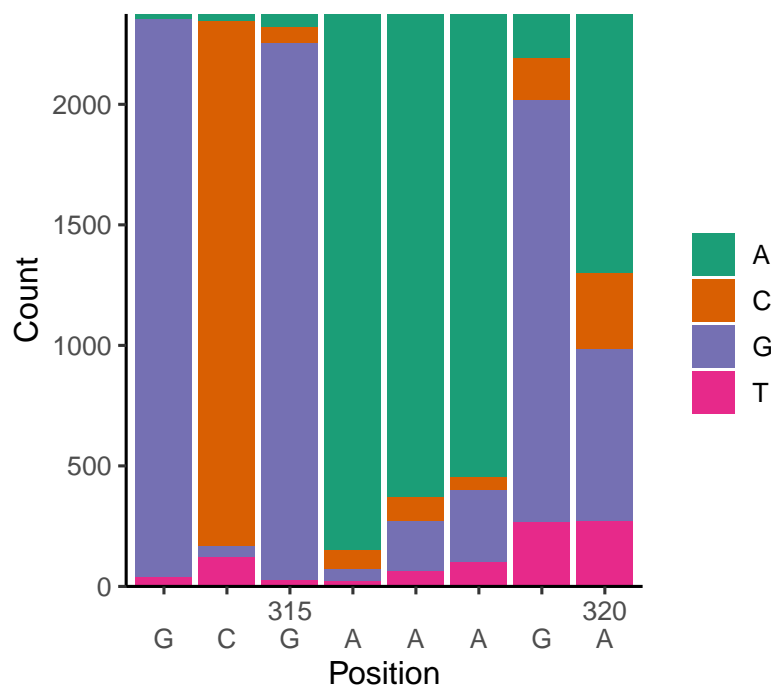
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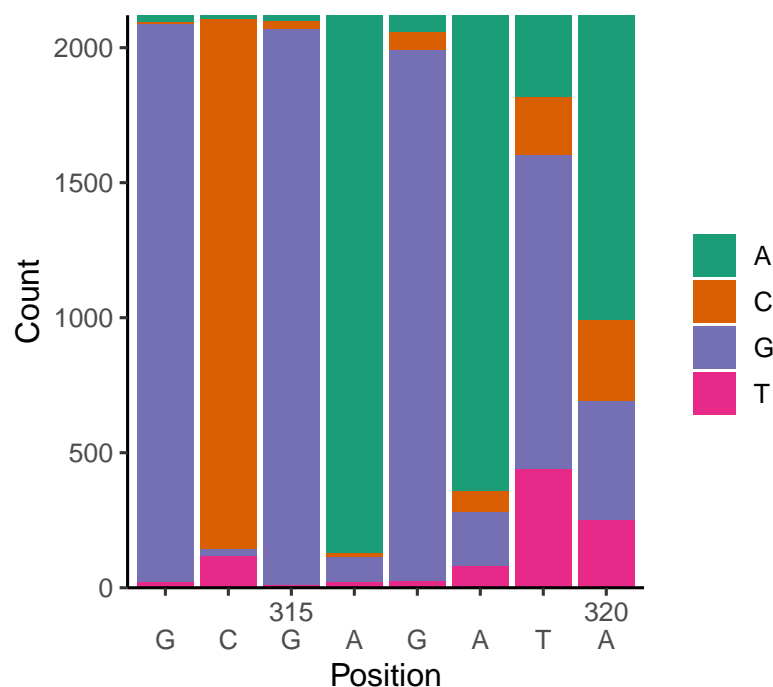
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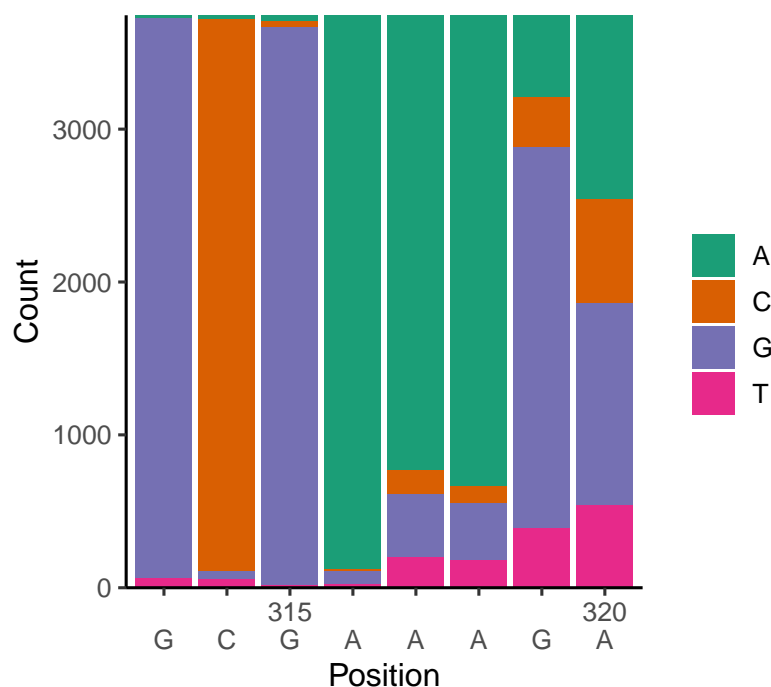
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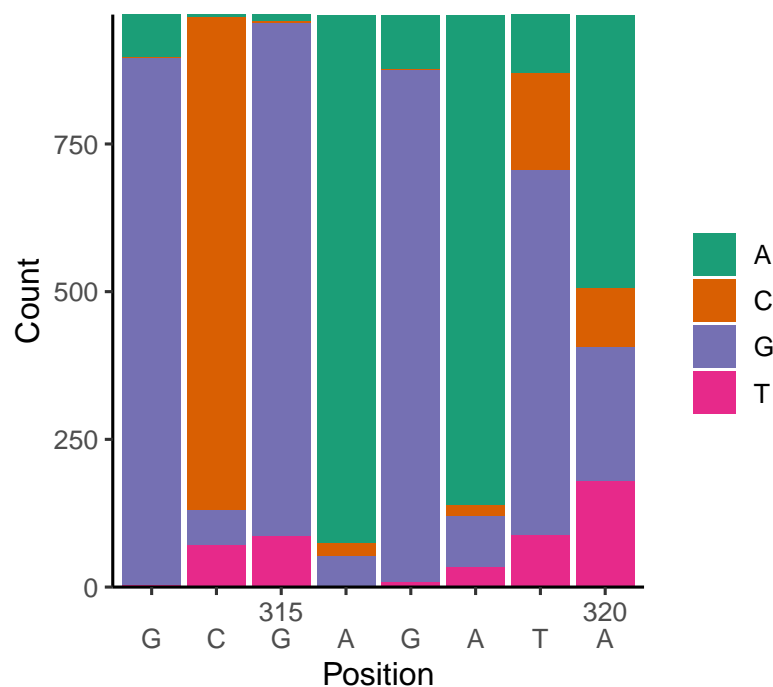
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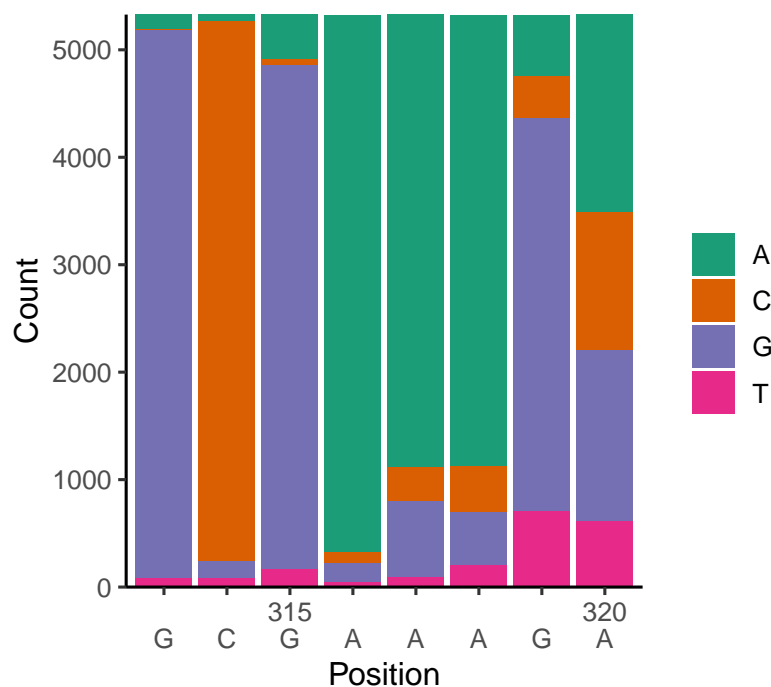
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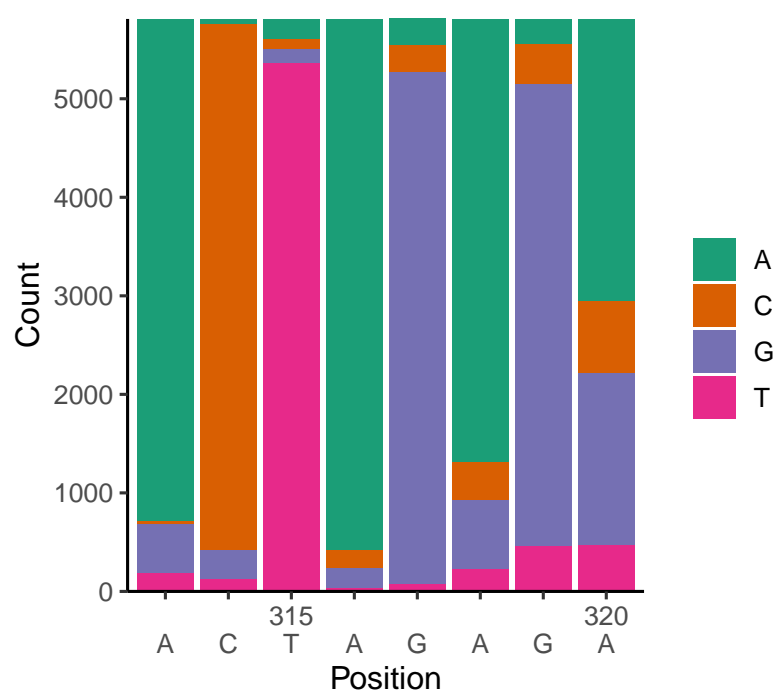
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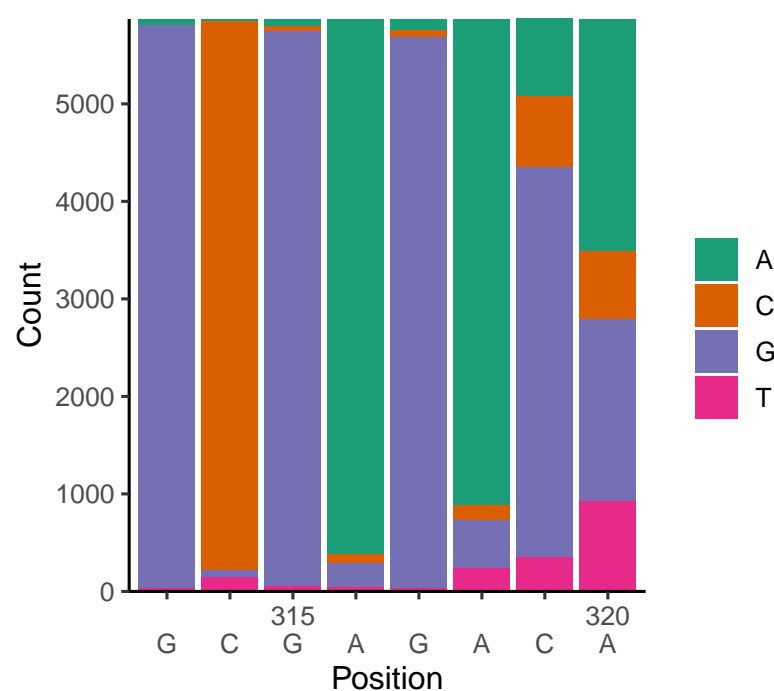
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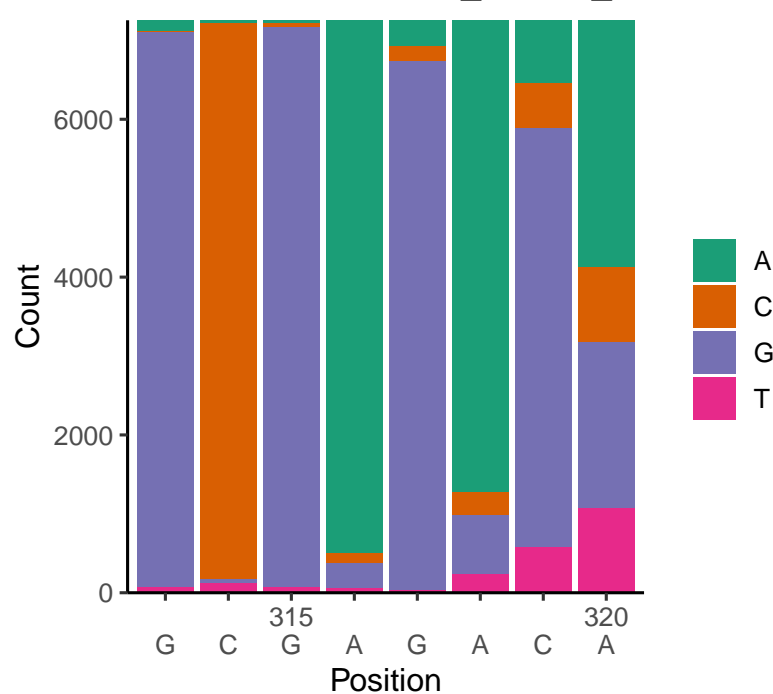
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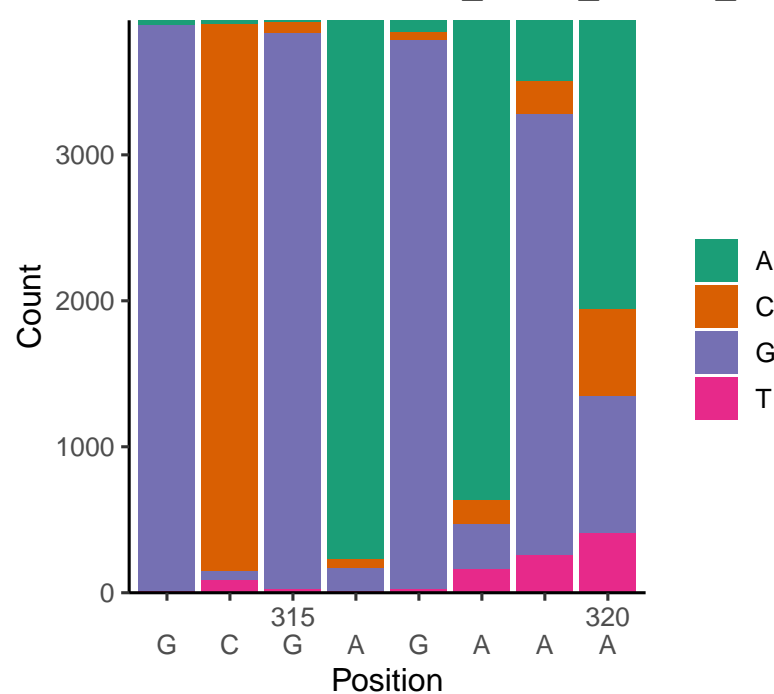
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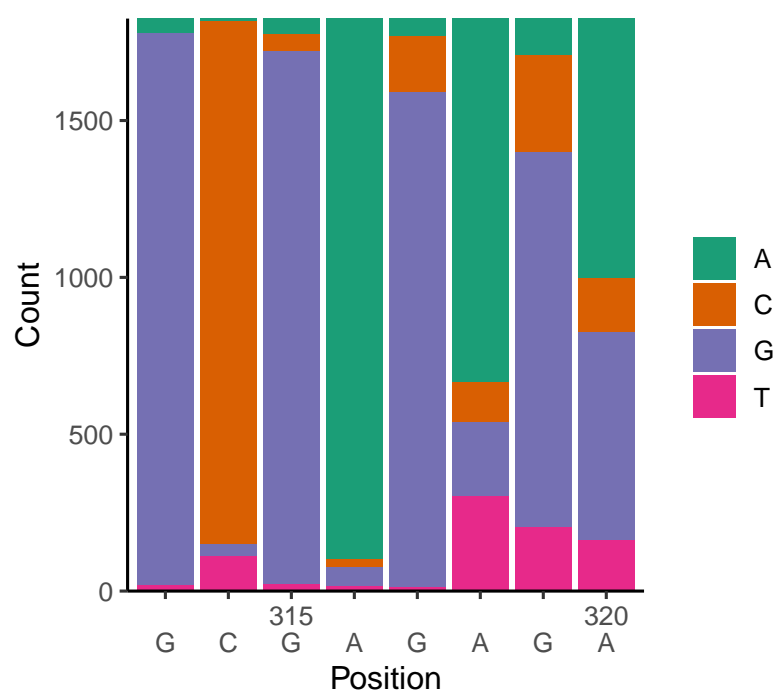
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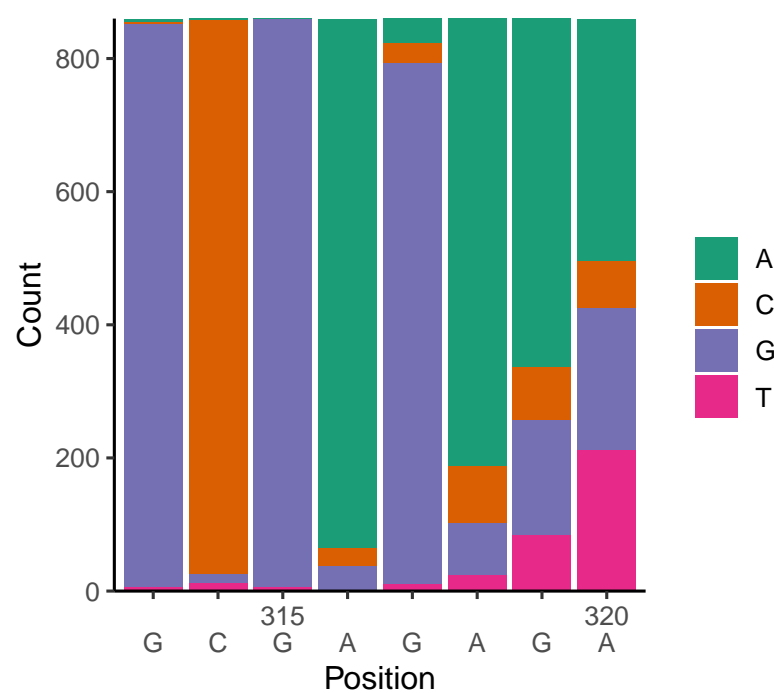
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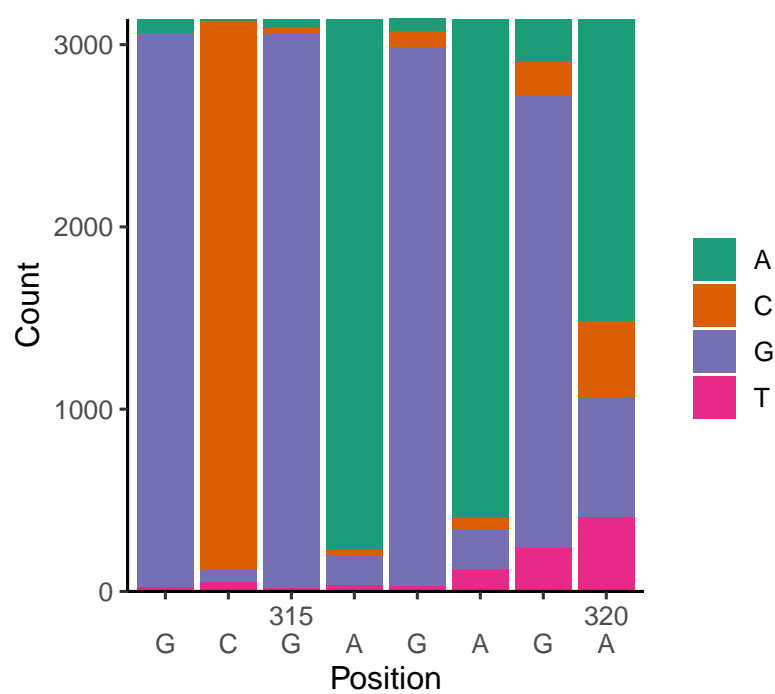
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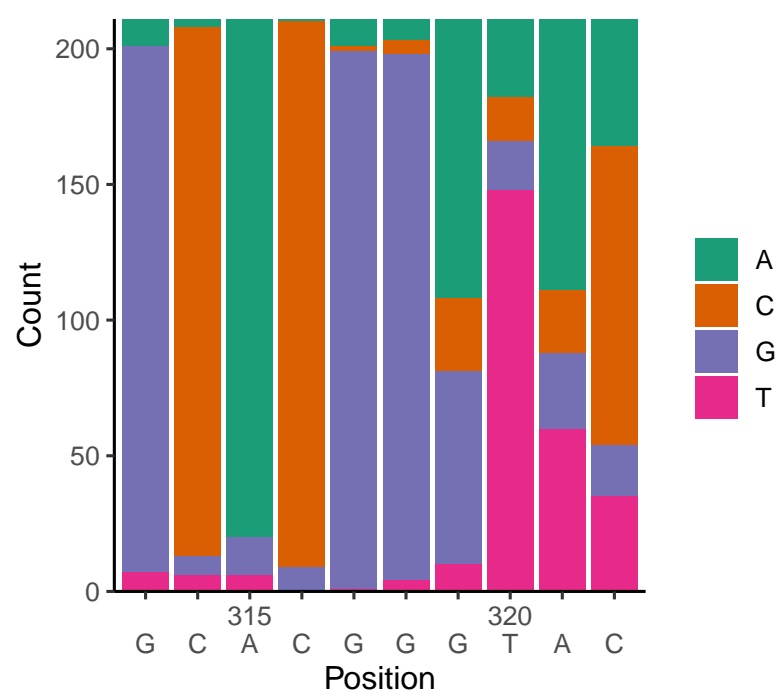
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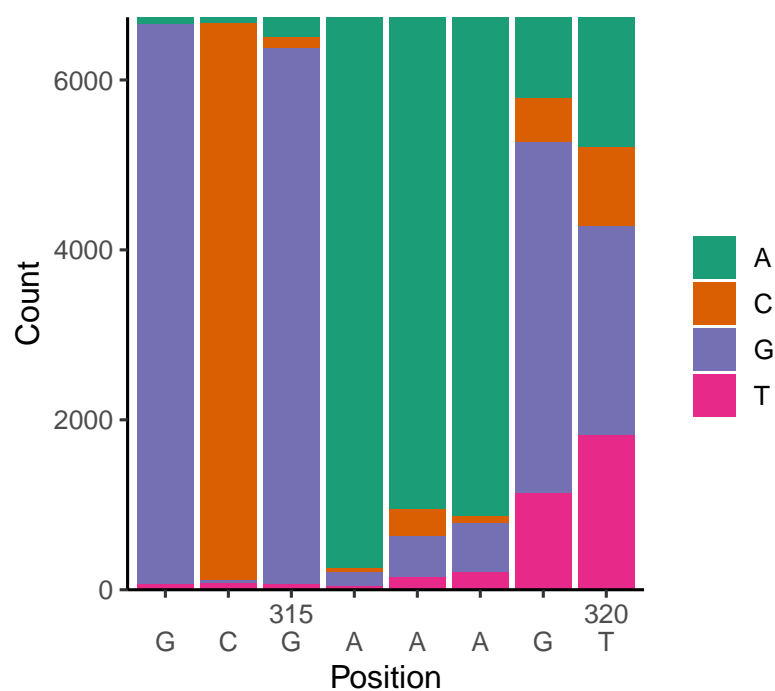
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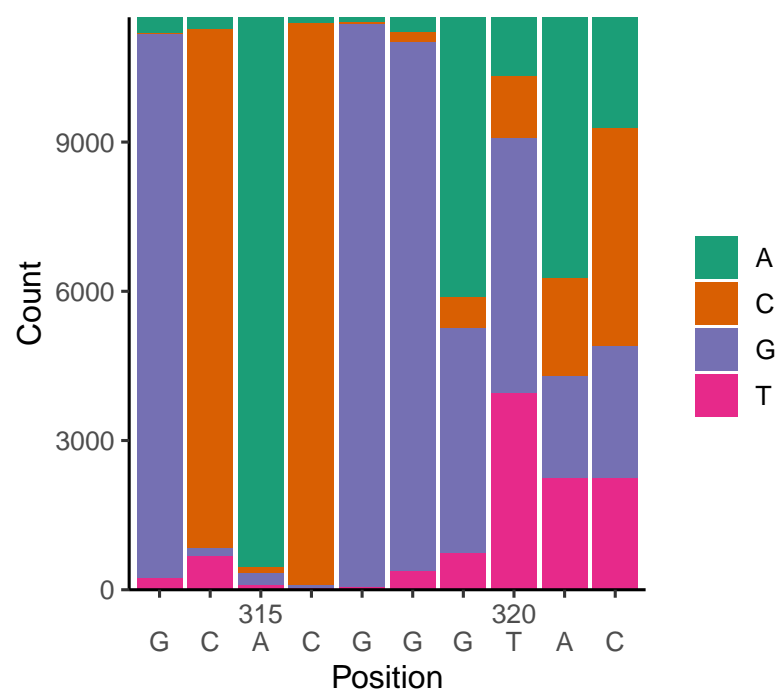
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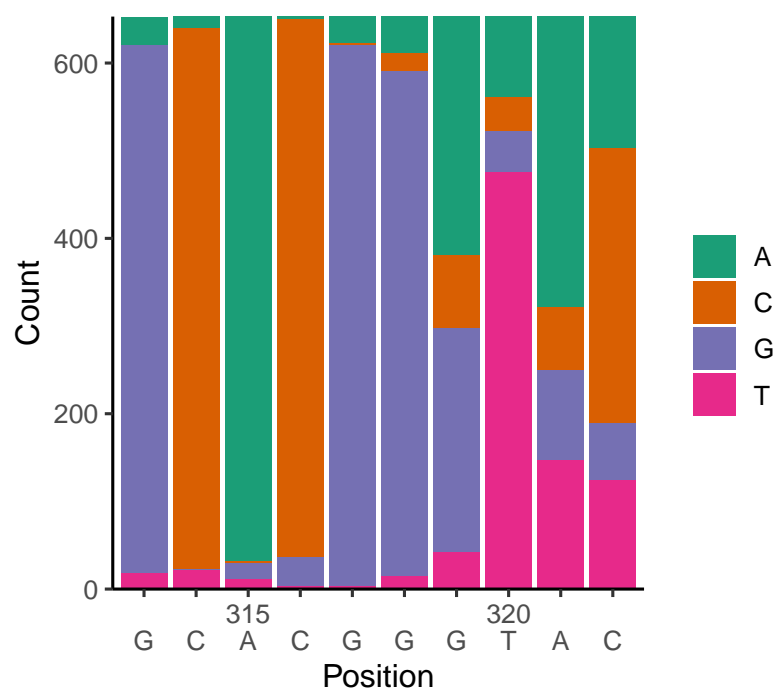
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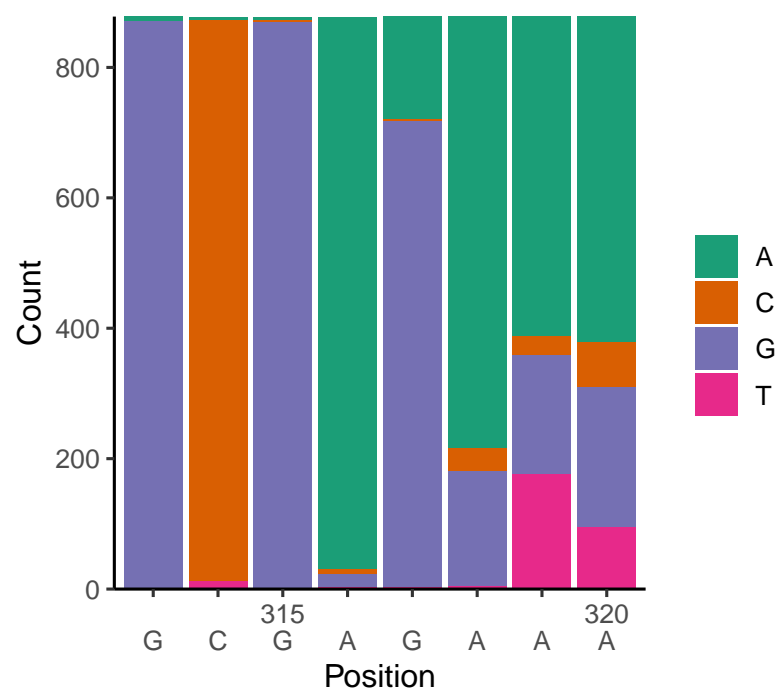
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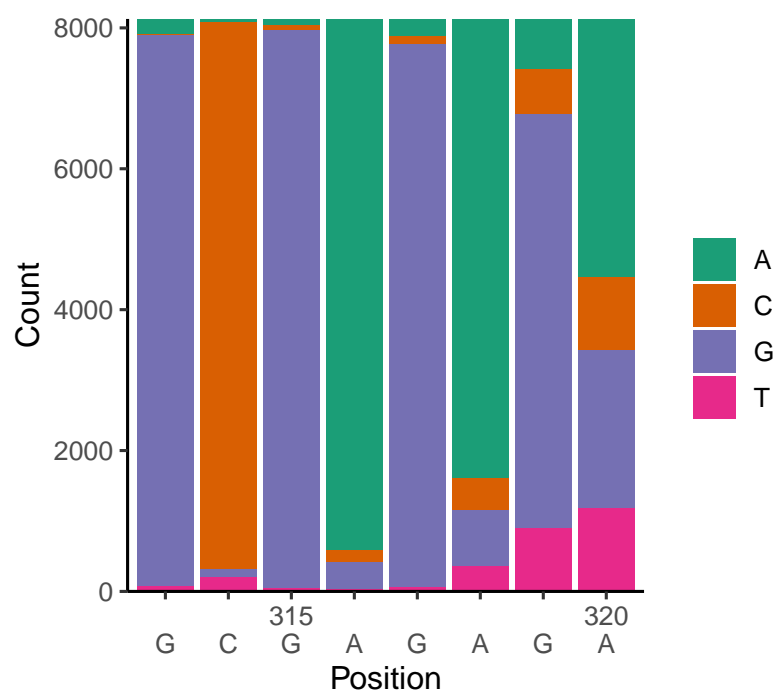
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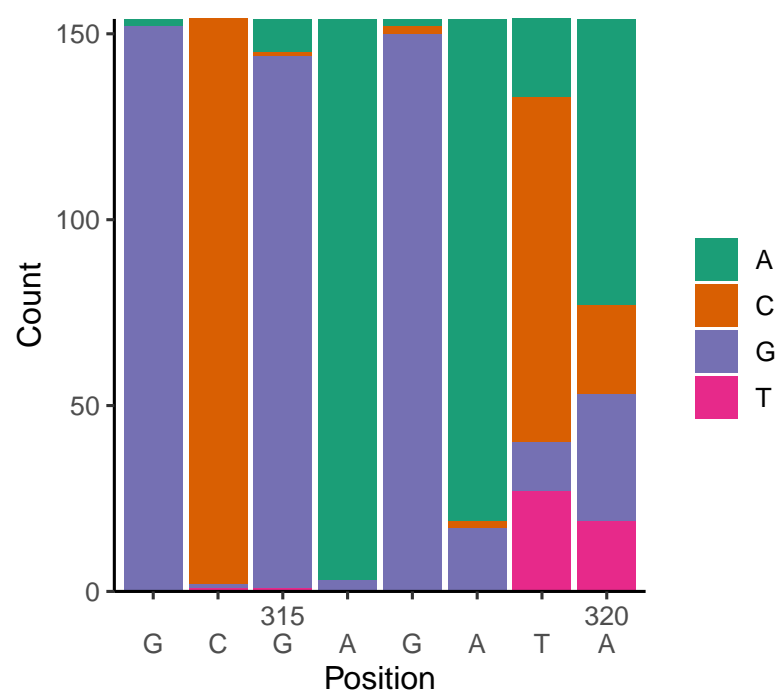
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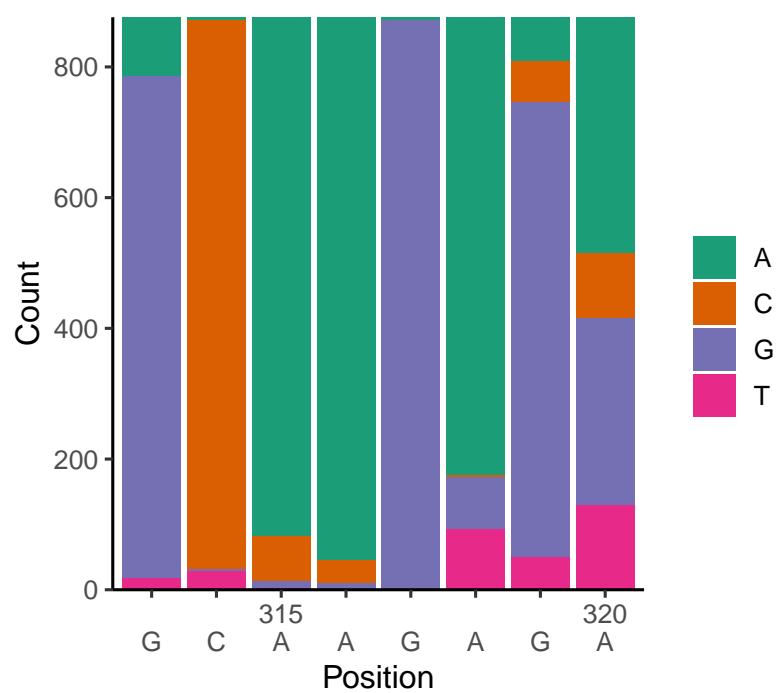
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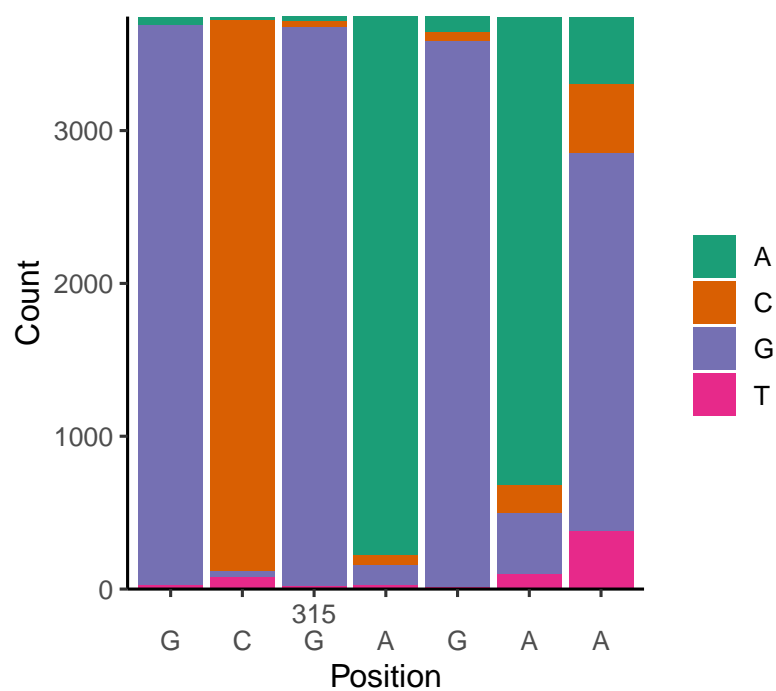
Gene IGHV7-193\*01\_C89T



Gene IGHV6-1\*01\_G280T



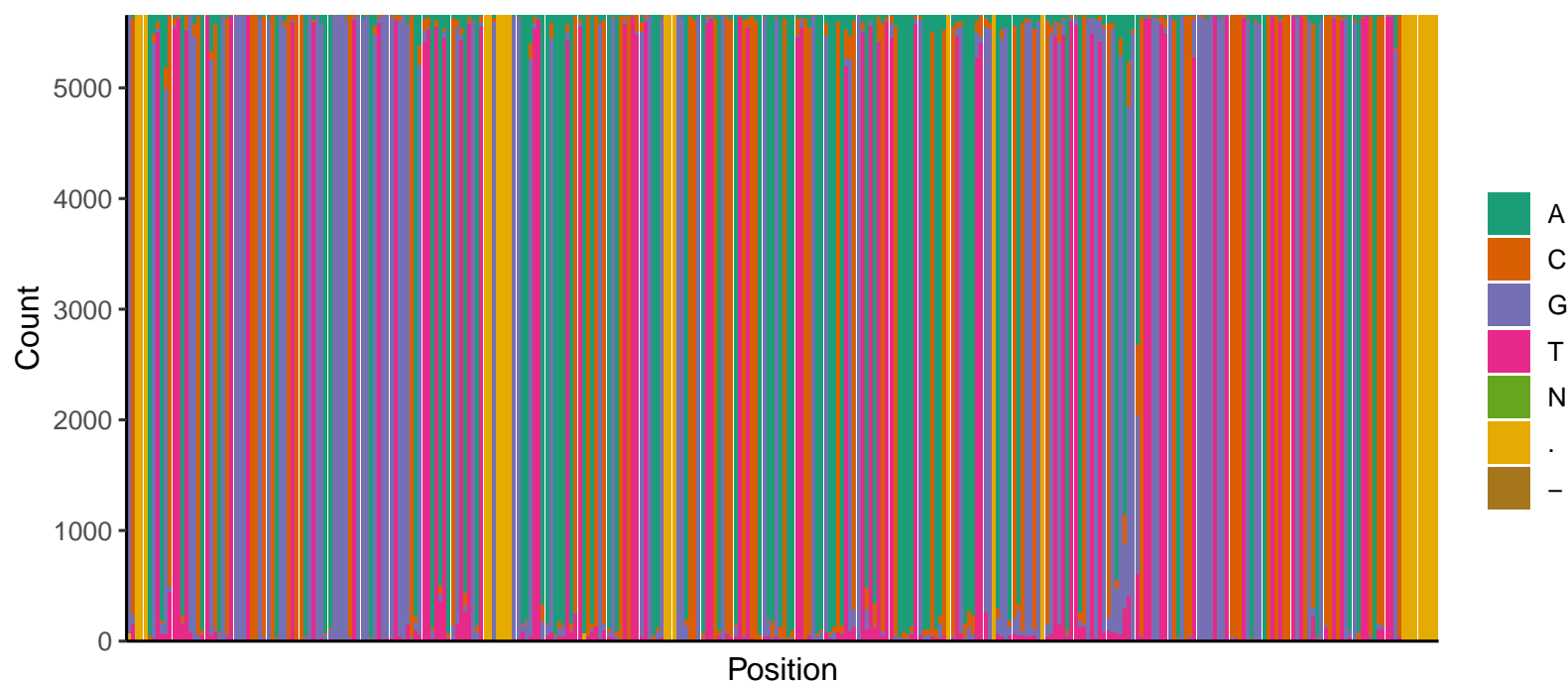
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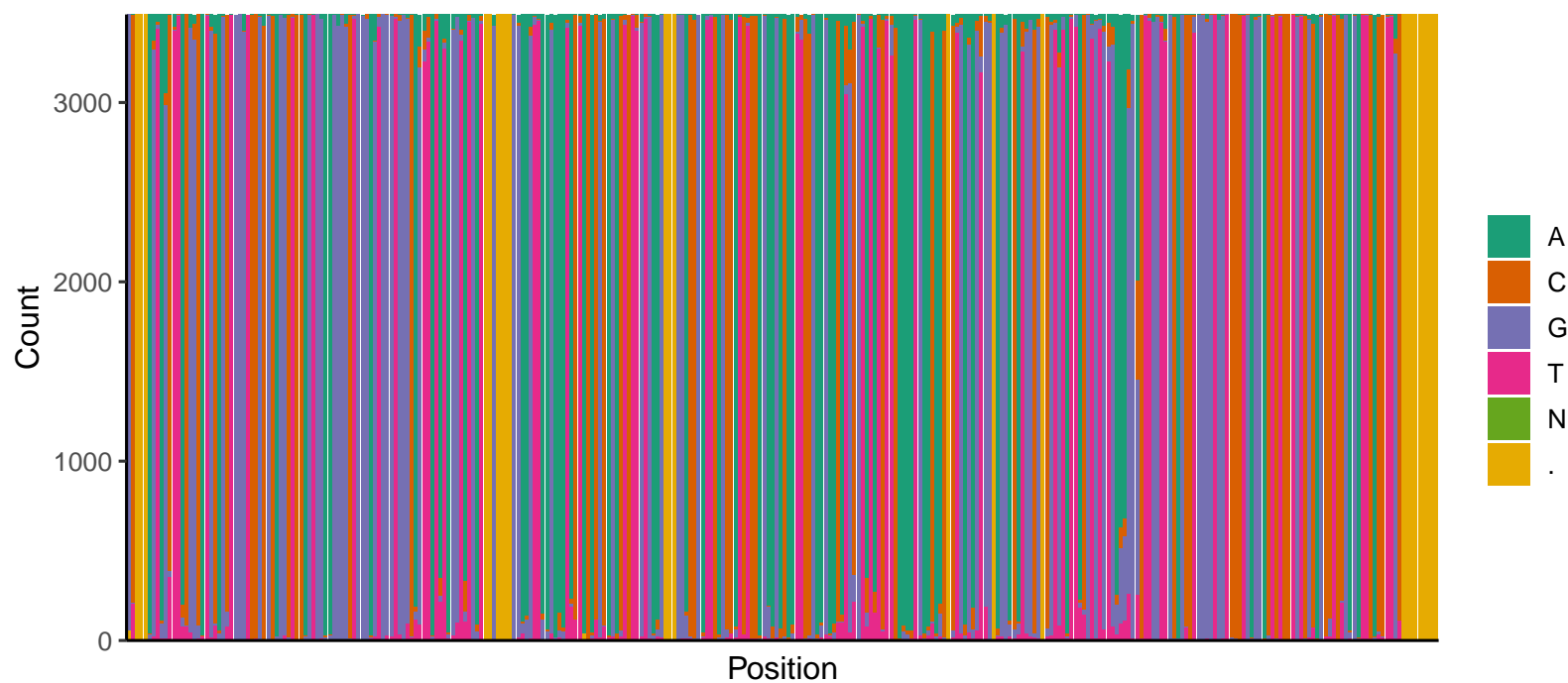
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Gene IGHV3-54\*02\_G170C



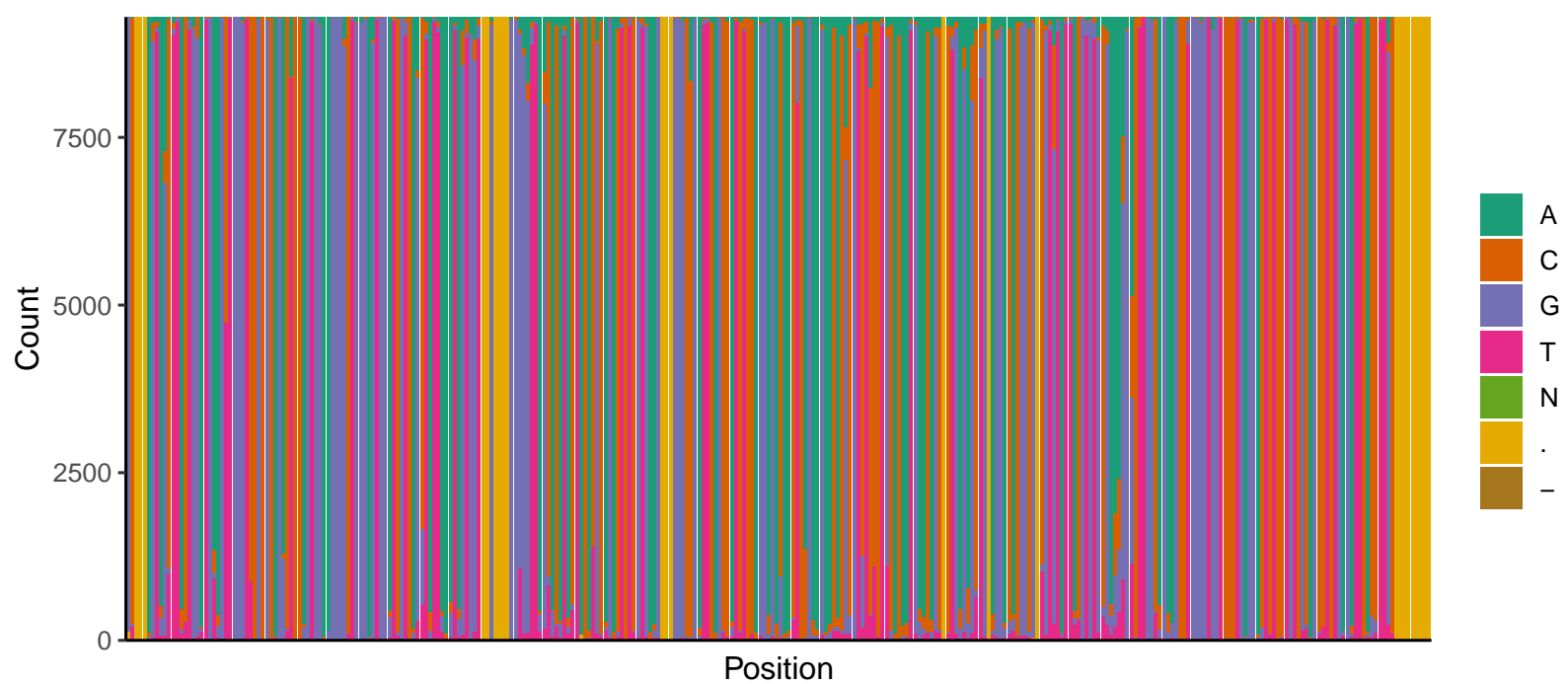
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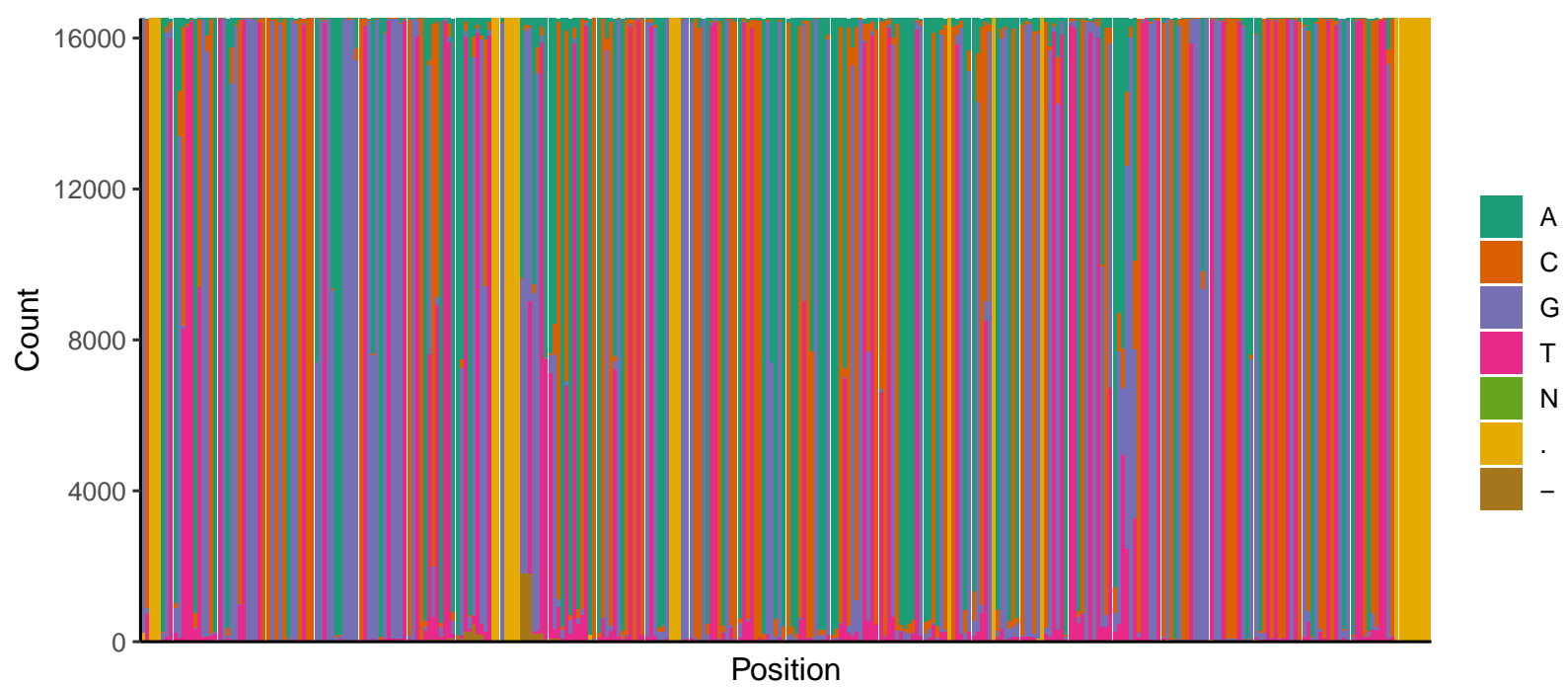
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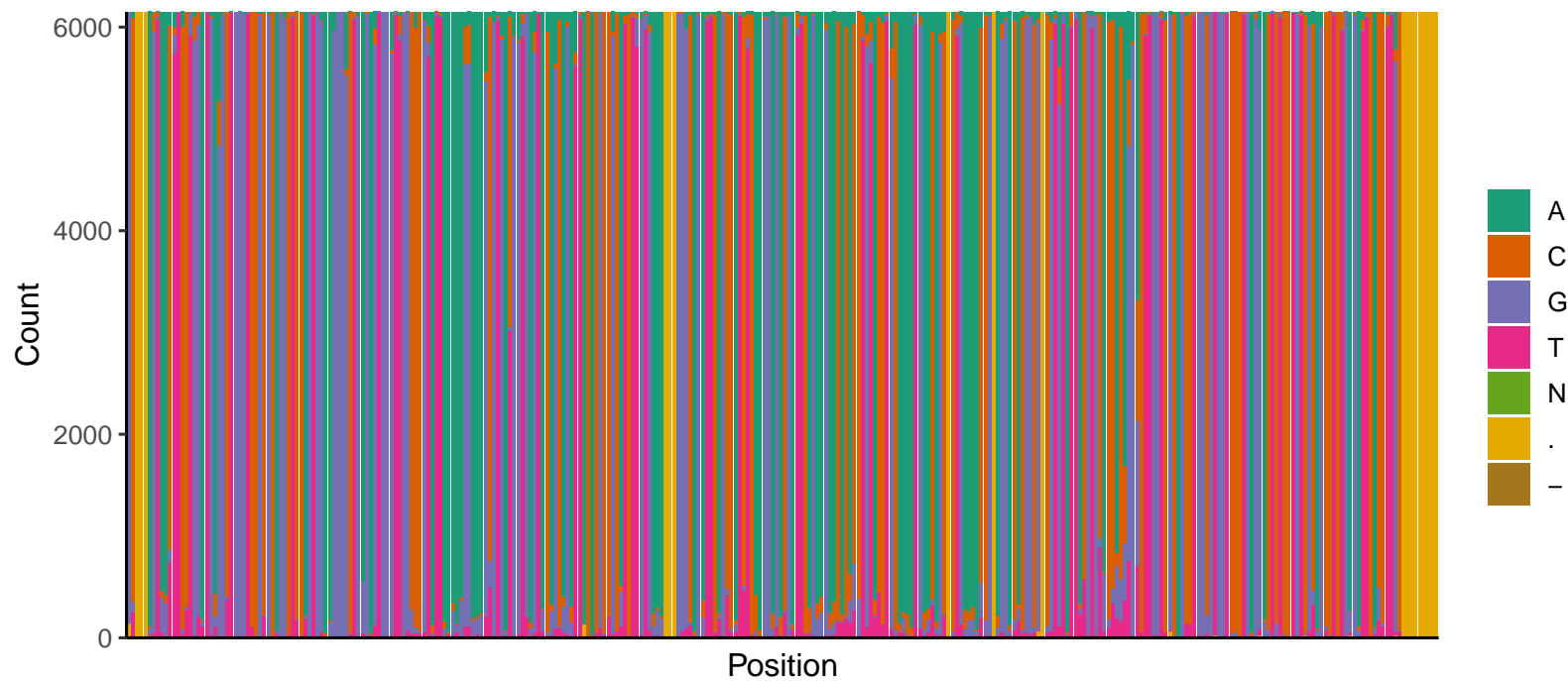
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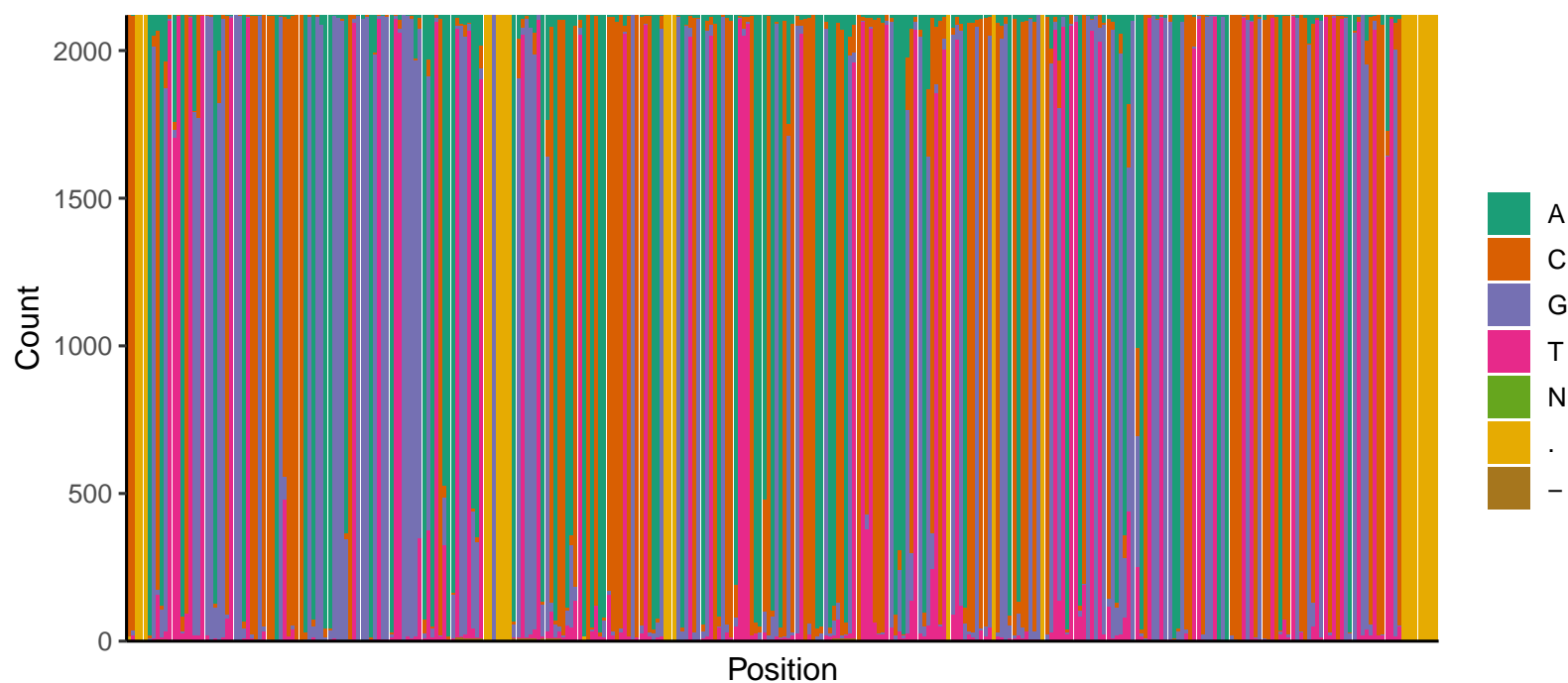
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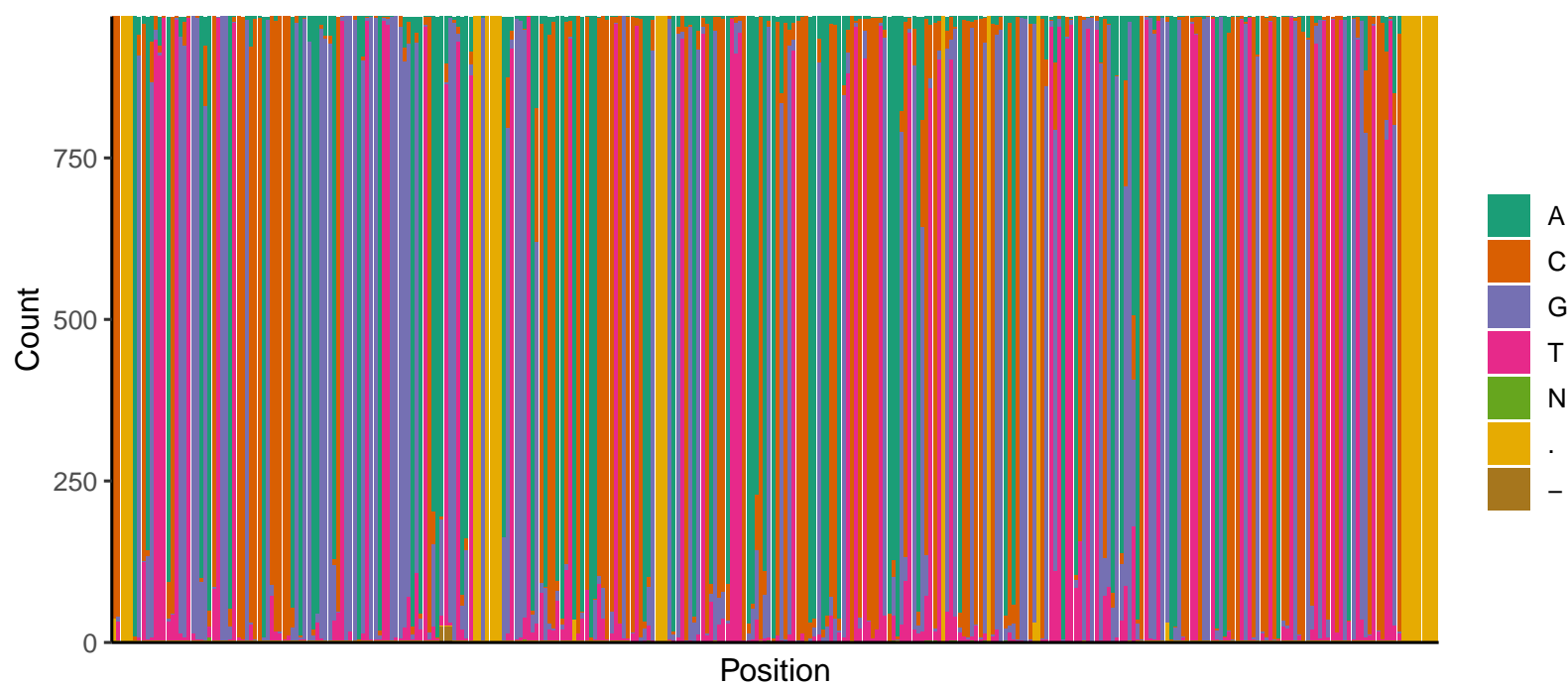
Gene IGHV3-30\*02\_C141G



Gene IGHV4-80\*01\_C83G\_A88T\_T105C\_T189G\_T196A\_G297C

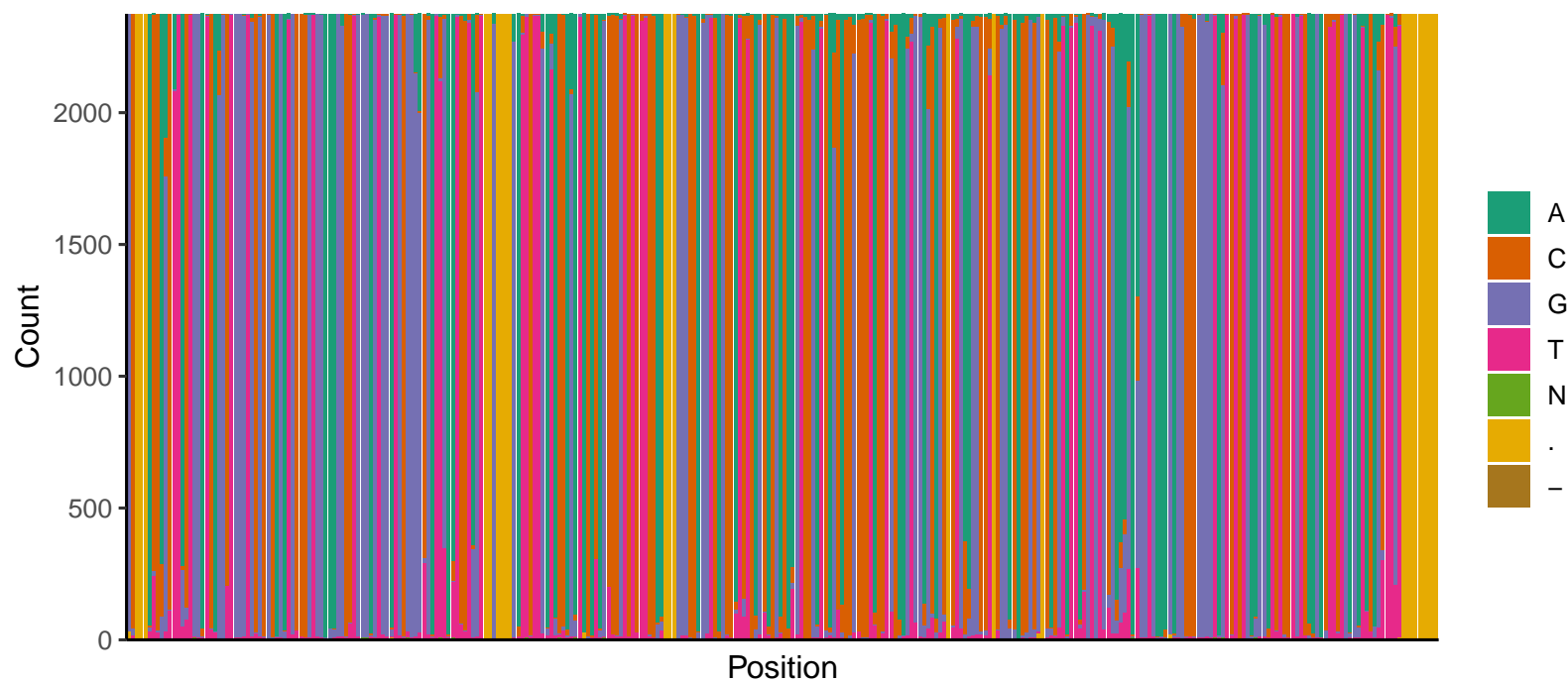


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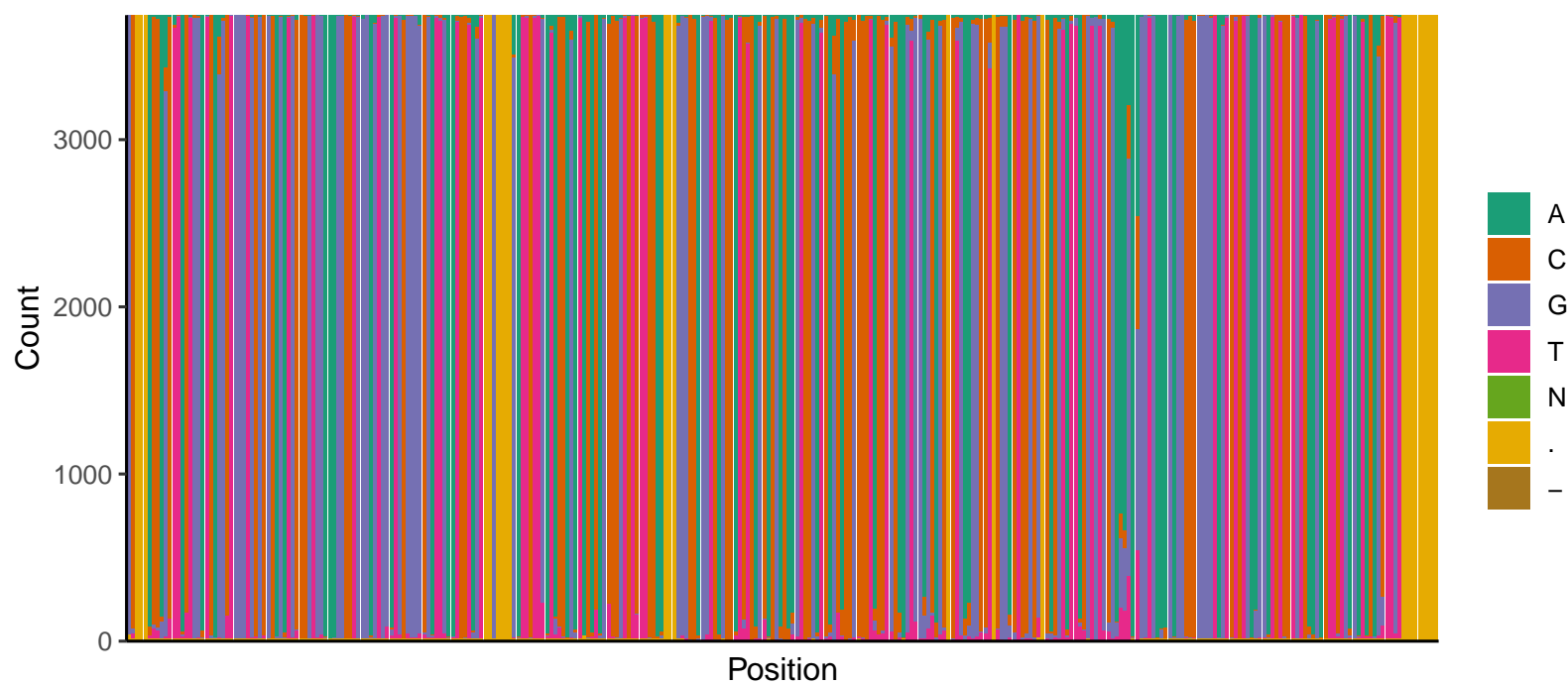




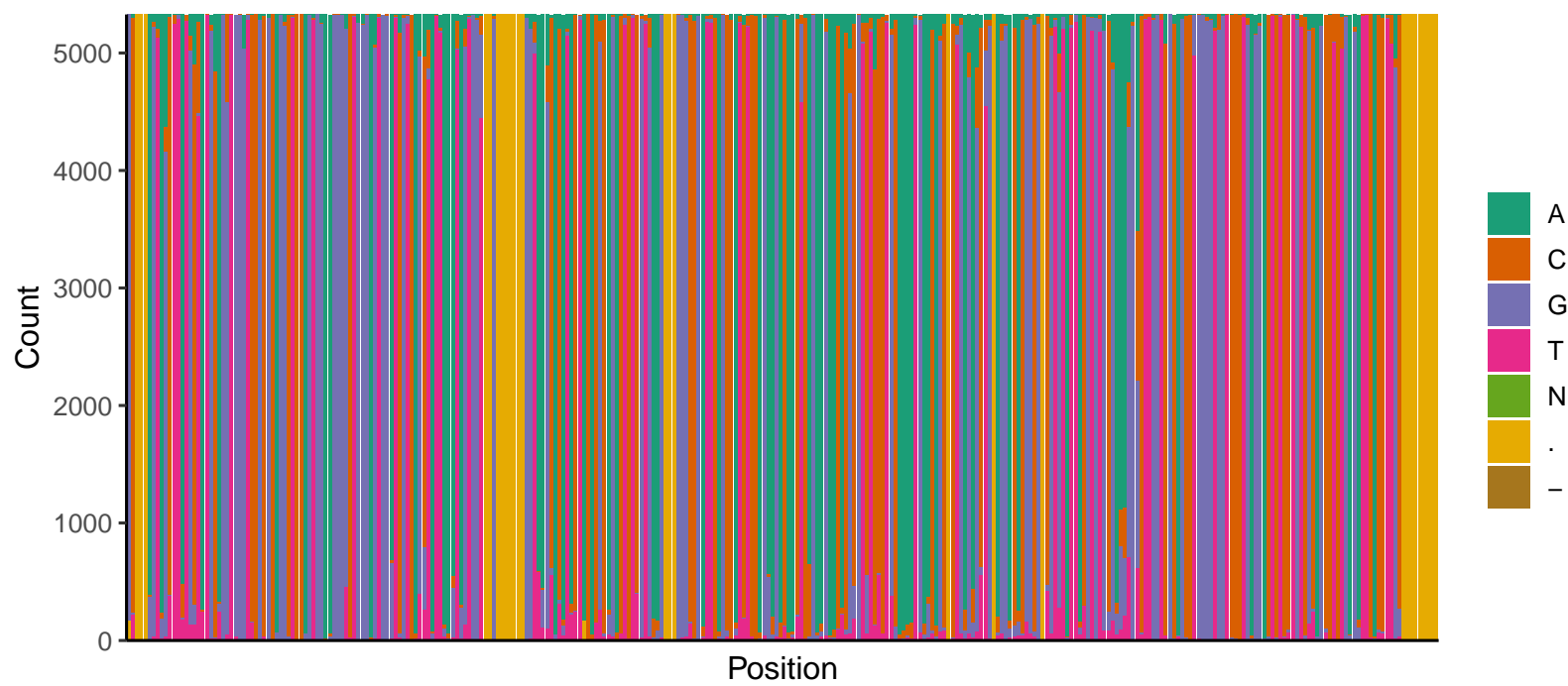
Gene IGHV5-20\*02\_A141G\_C312T



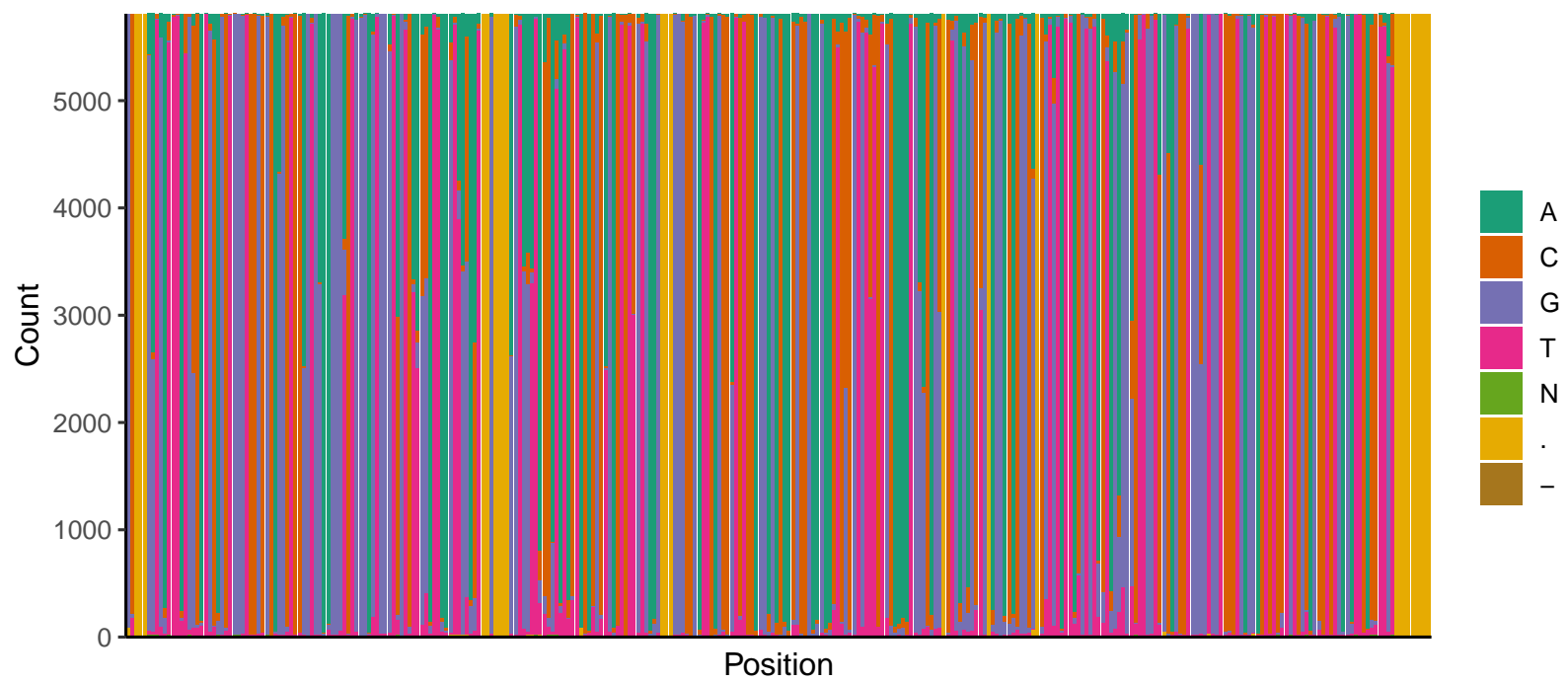
Gene IGHV5-20\*02\_A141G\_A295T\_C312T



Gene IGHV3-103\*01\_T19A\_G24A\_C27A\_C38T\_A39C\_A40C\_C120G\_G157A



Gene IGHV3-134\*01\_A3G\_A39C\_A40C\_A48C\_G87C\_A118C\_G119A\_C163A\_G175A\_C



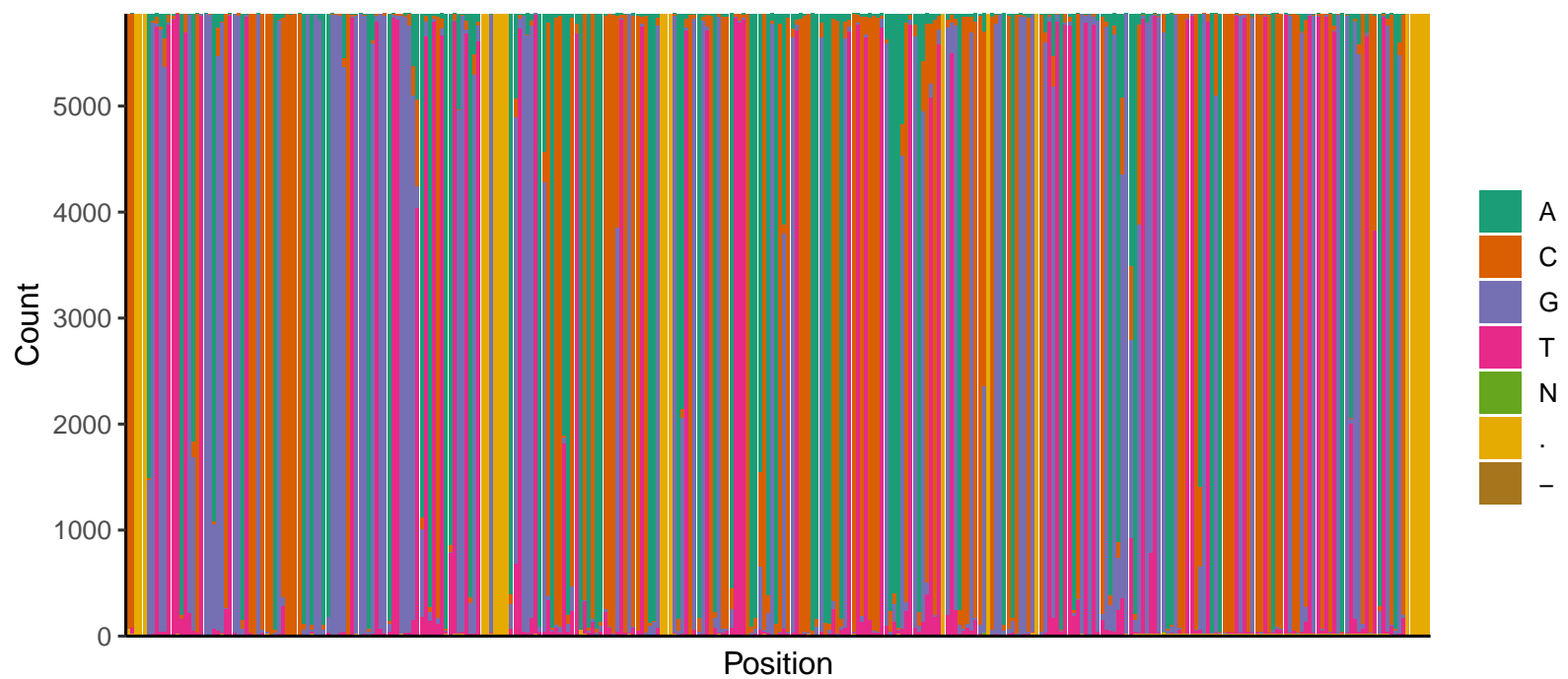
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Gene IGHV4-73\*01\_G147A



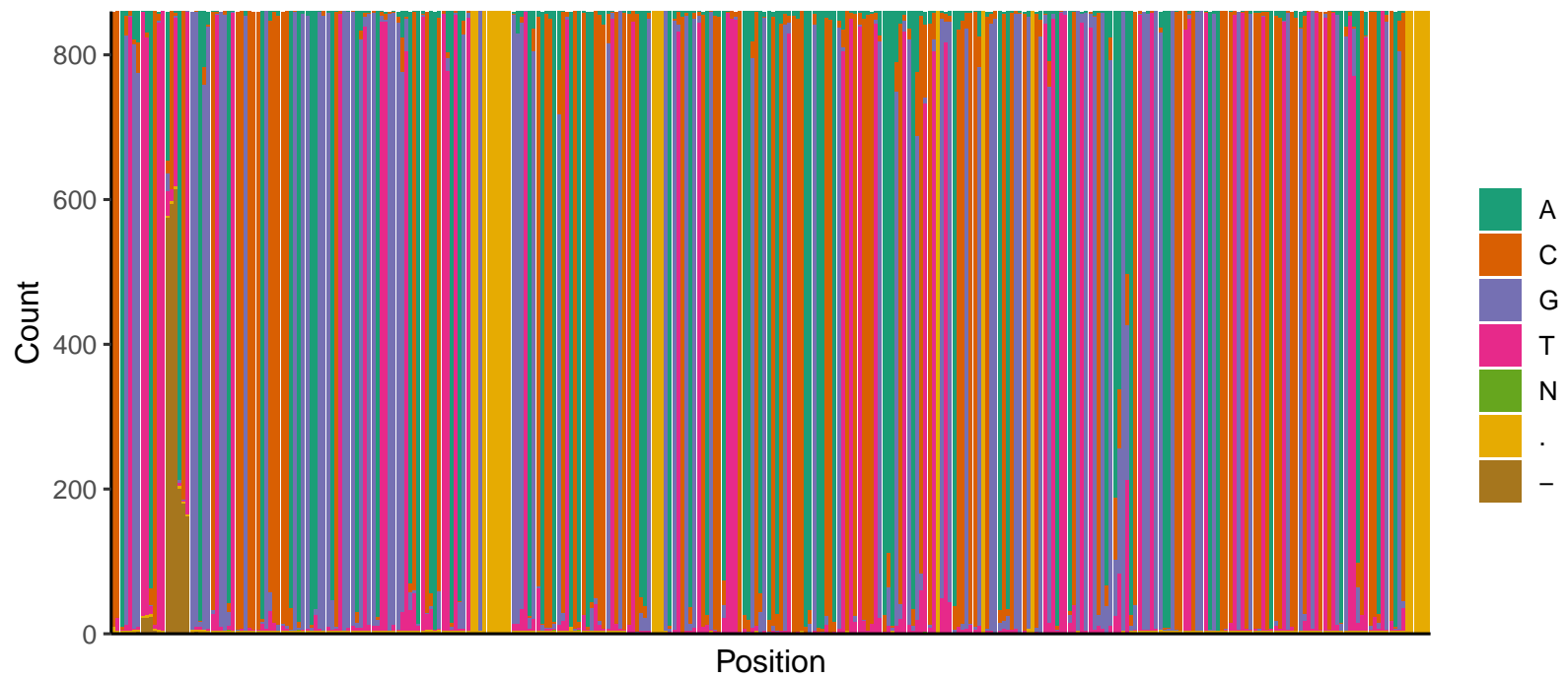
Gene IGHV4-76\*01\_C34G\_G103A\_A244G



Gene IGHV4-92\*01\_G70A\_A103G\_G104A\_A109T\_G113A\_G114C\_G119A\_G132A\_T15



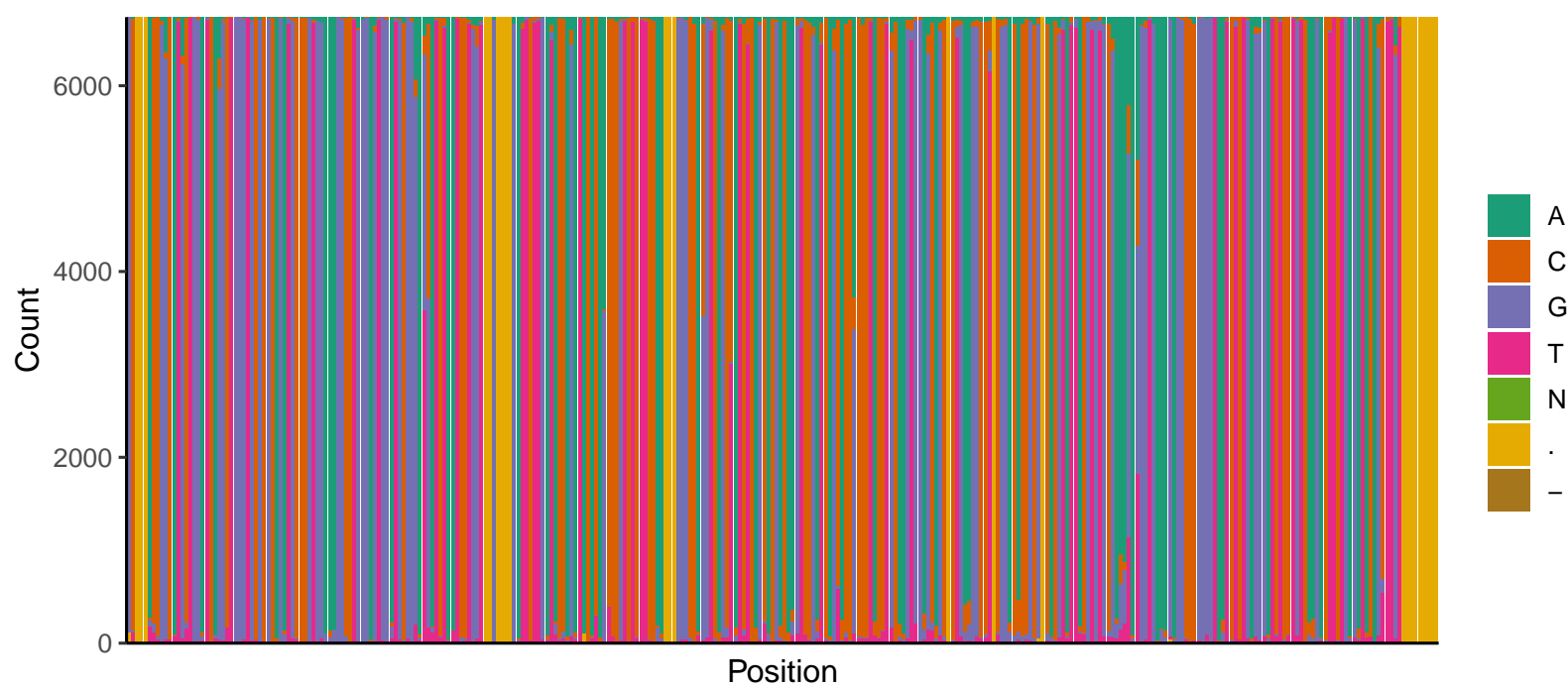
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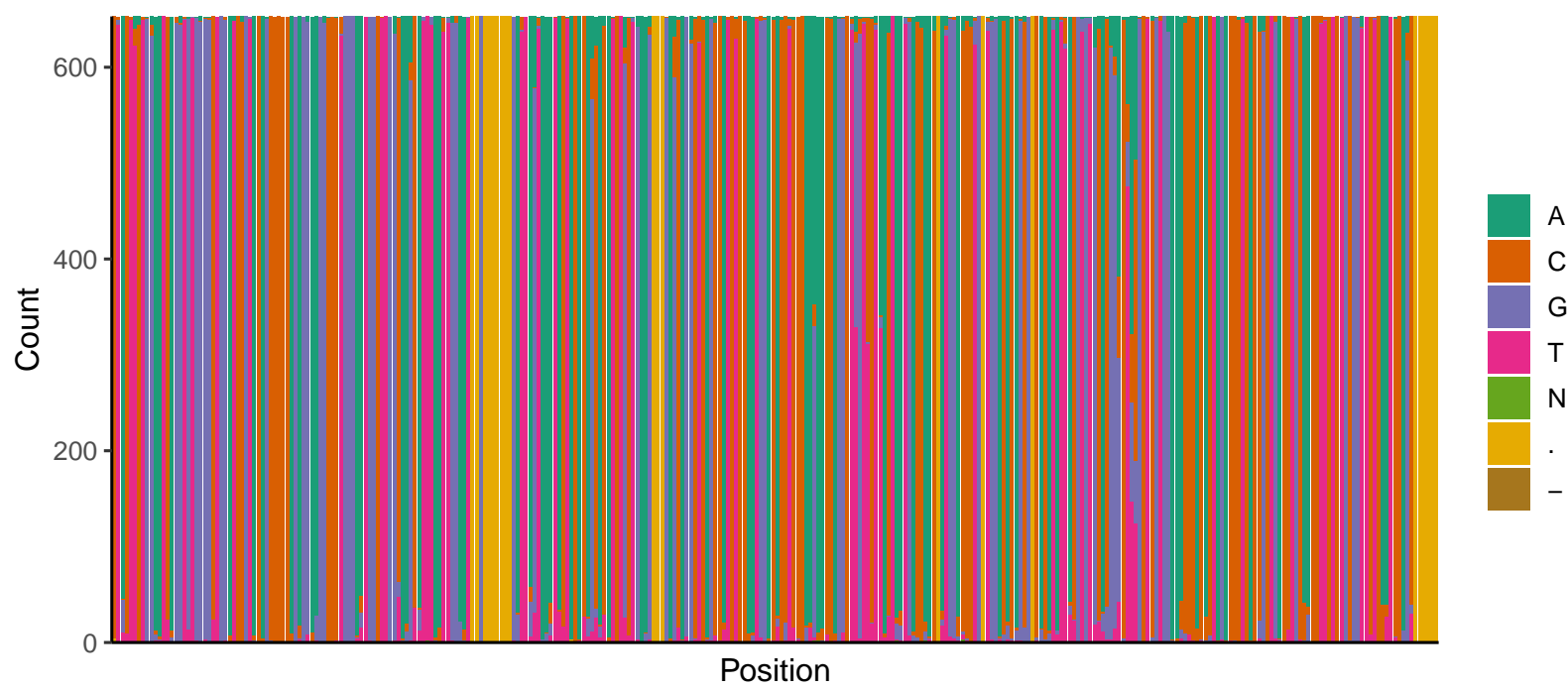
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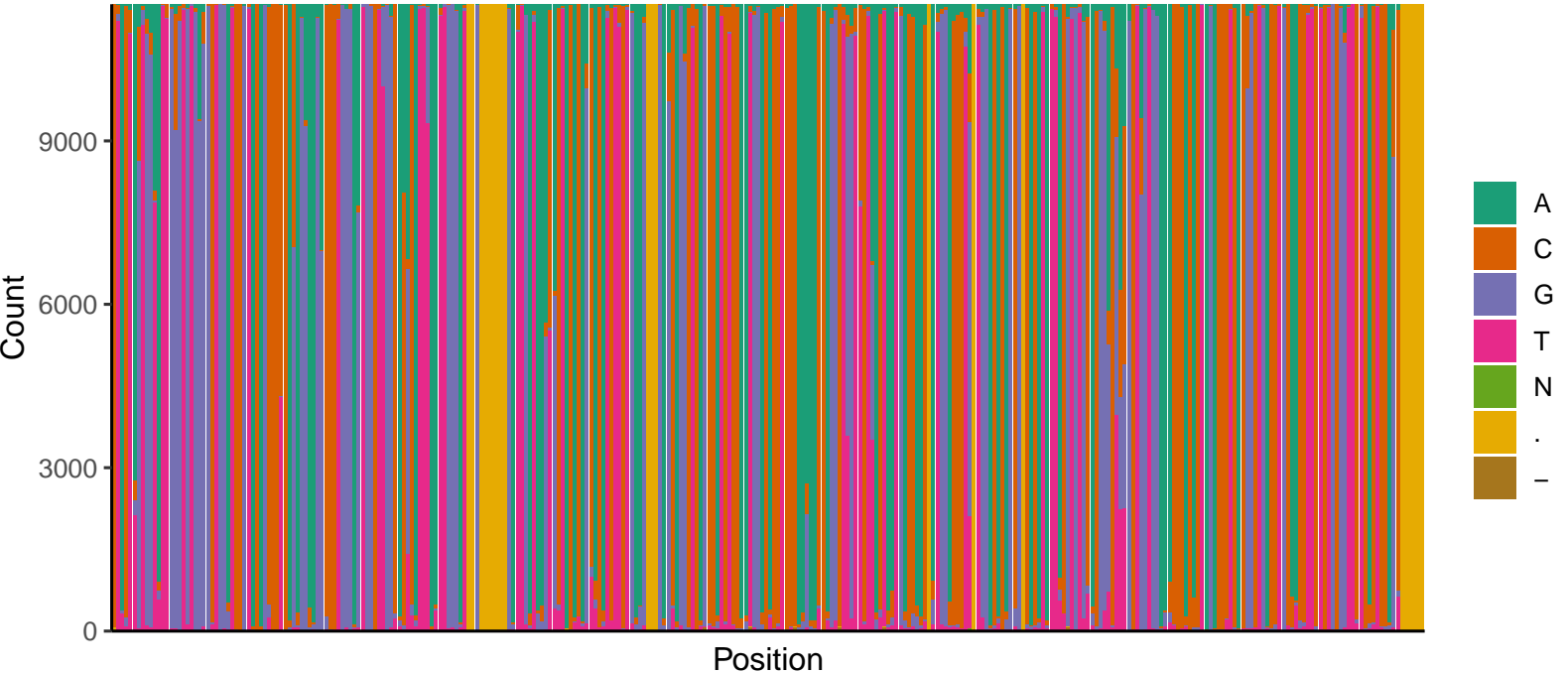
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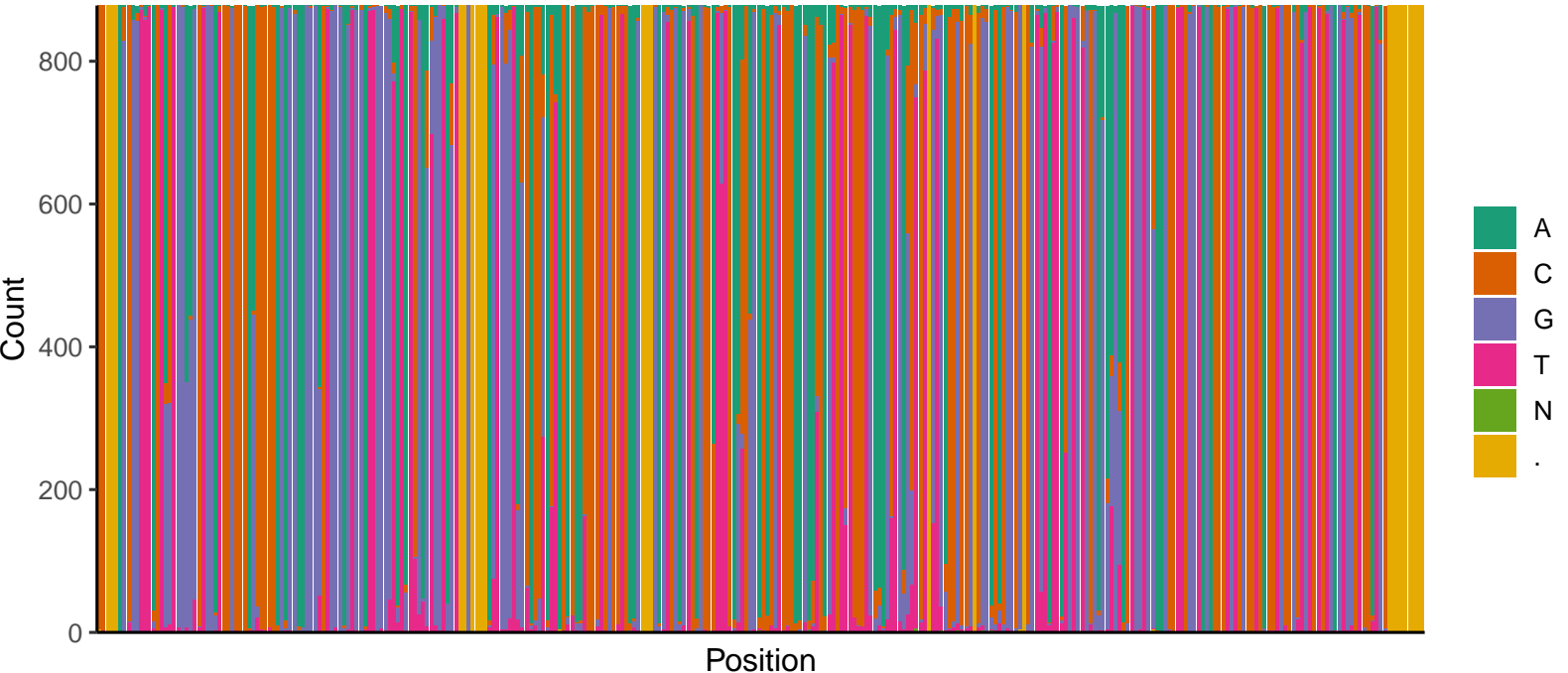
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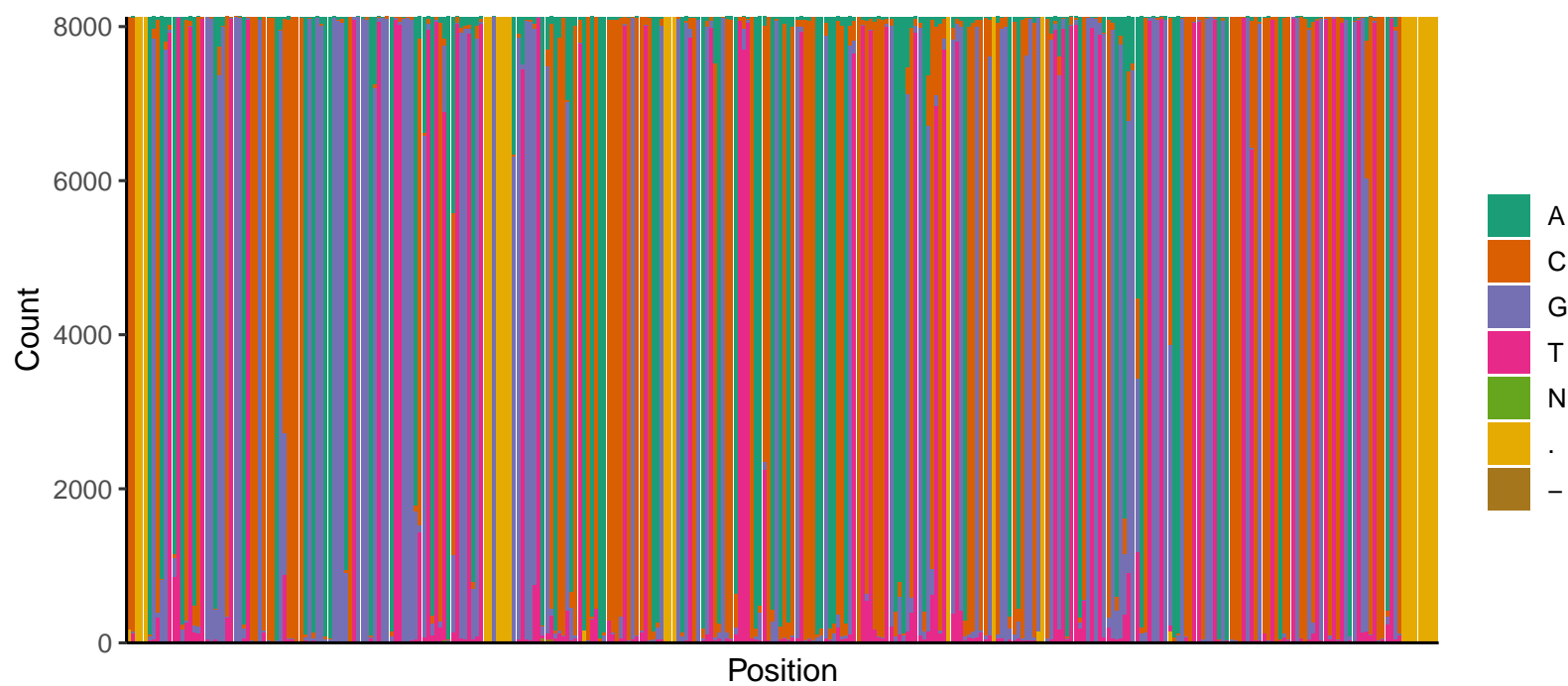
Gene IGHV2S1\*01\_G289T



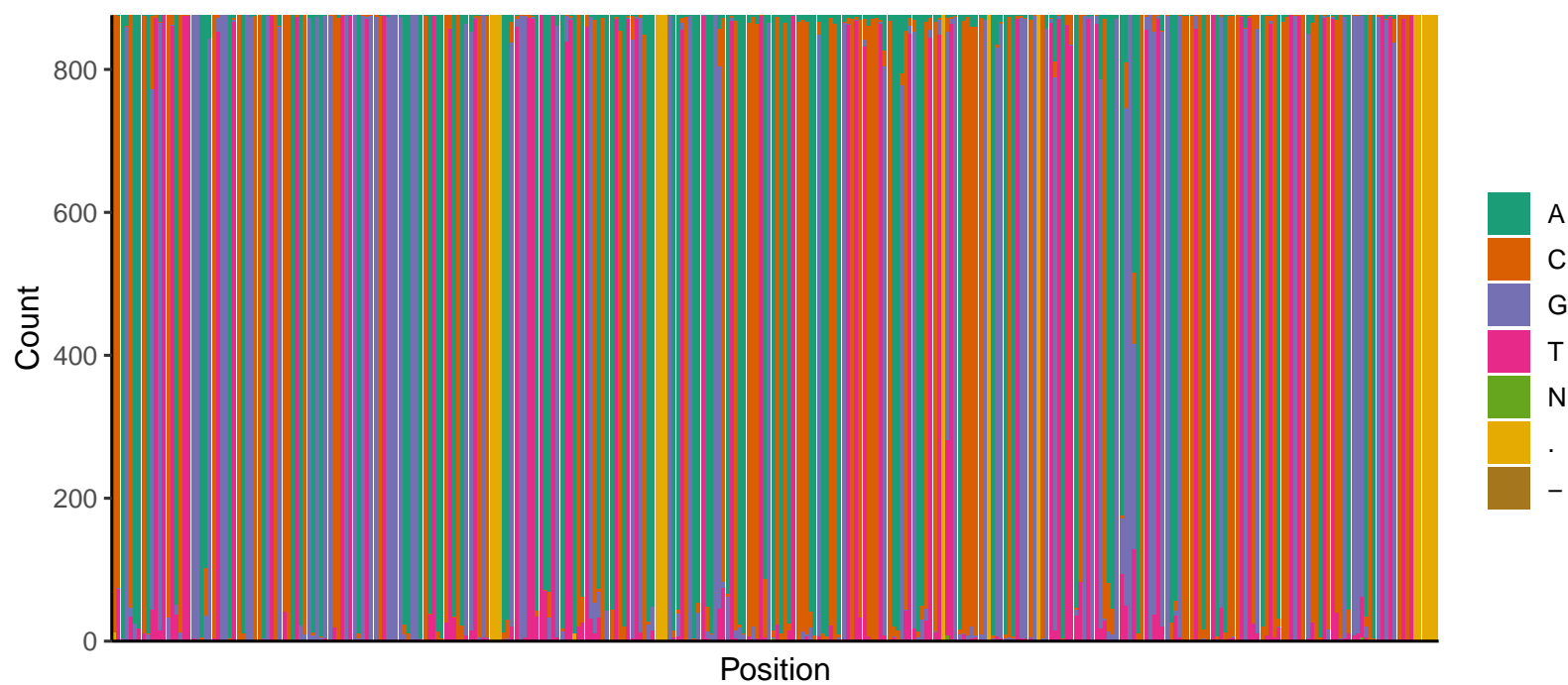
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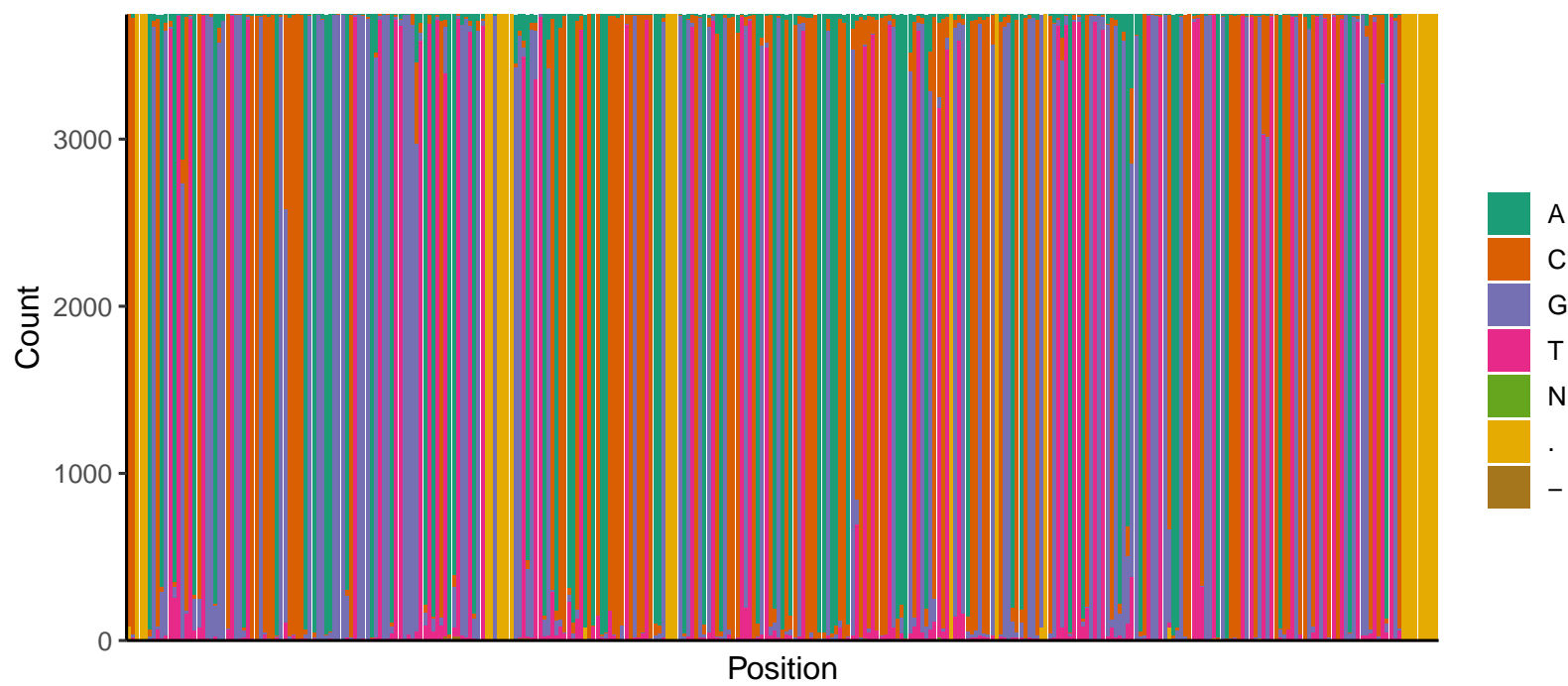
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Gene IGHV6-1\*01\_G280T



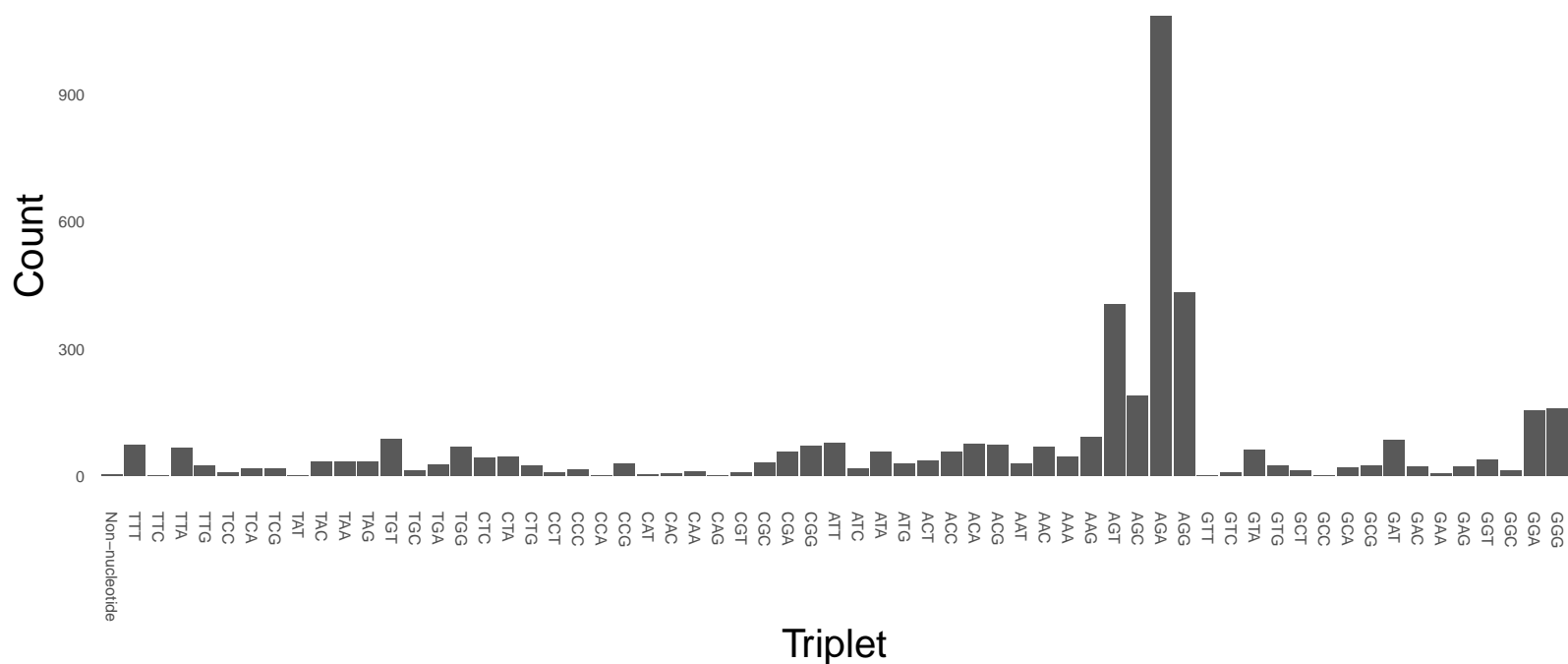
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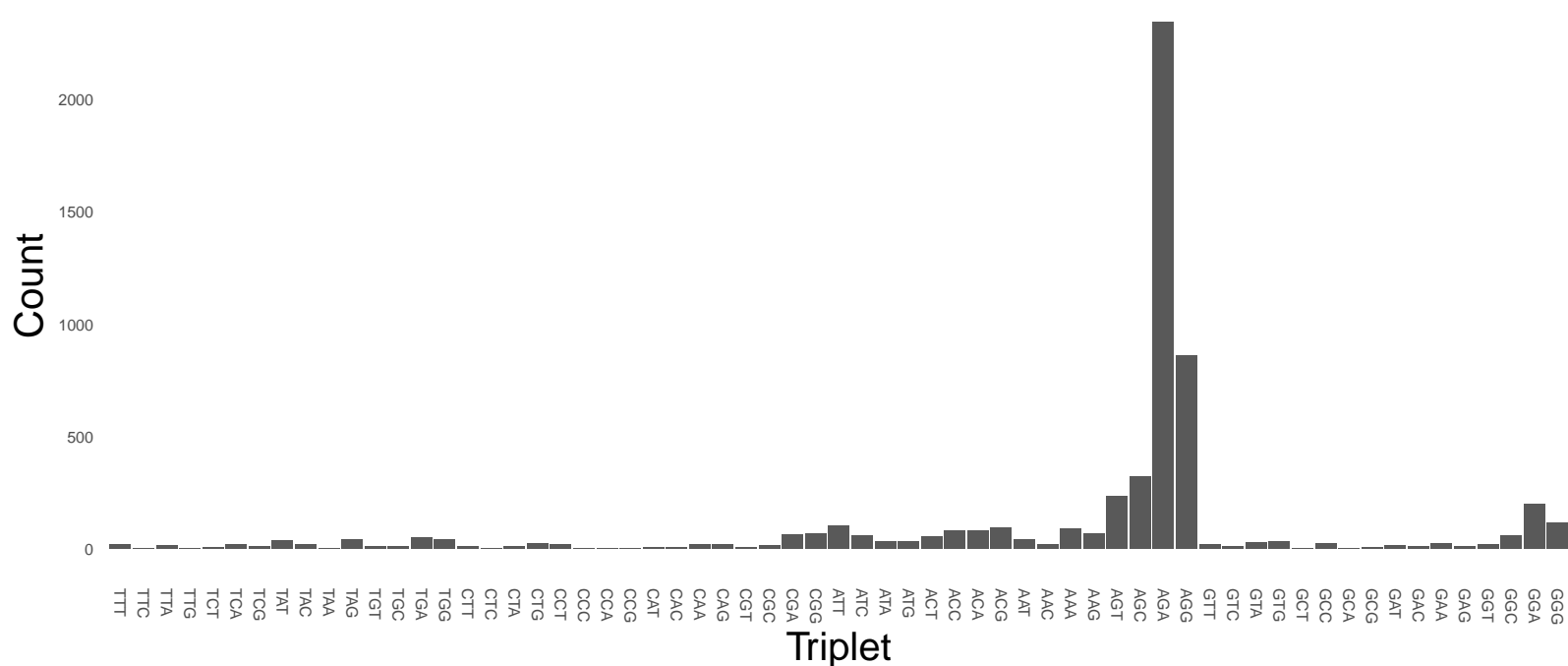
Gene IGHV7-193\*01\_C89T



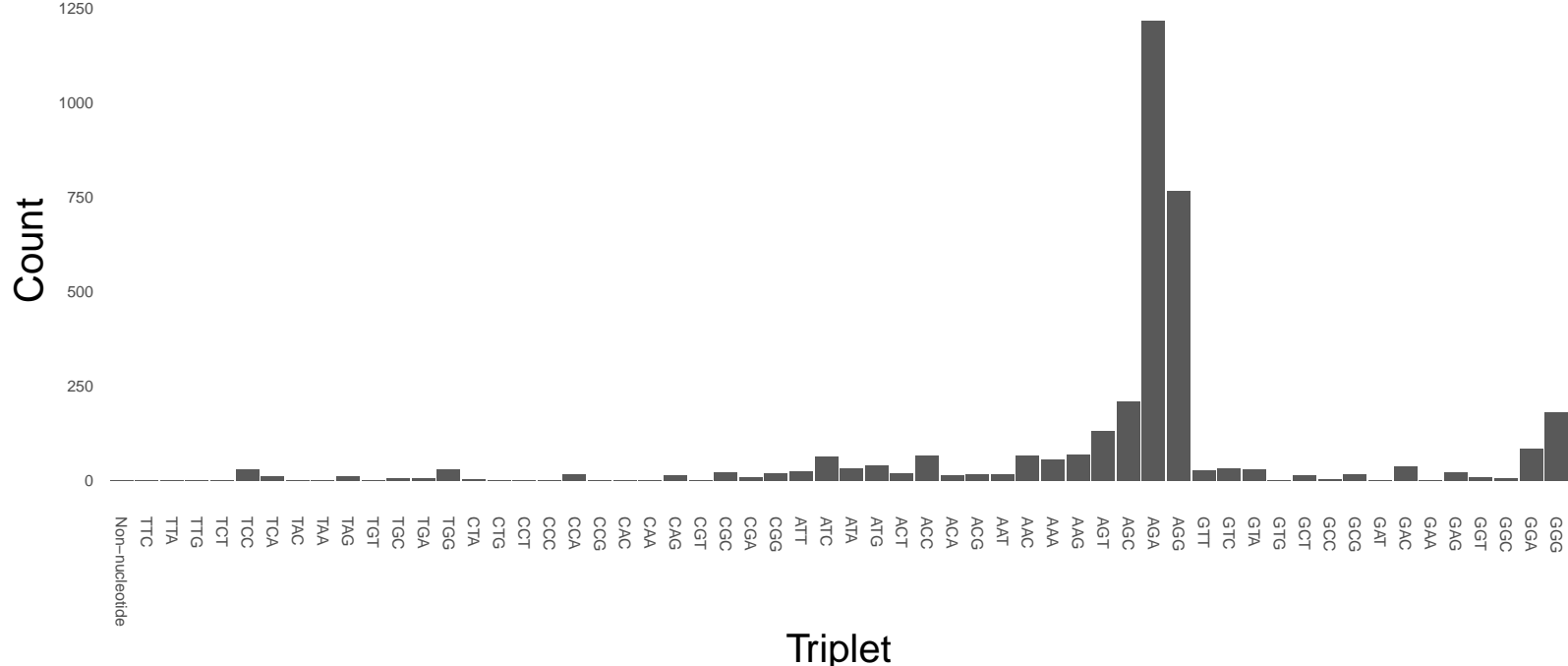
IGHV3-16\*01\_A51T\_T78C\_A119G\_C264T- Final 3 nucleotides as a triplet



IGHV3-54\*02\_G170C- Final 3 nucleotides as a triplet

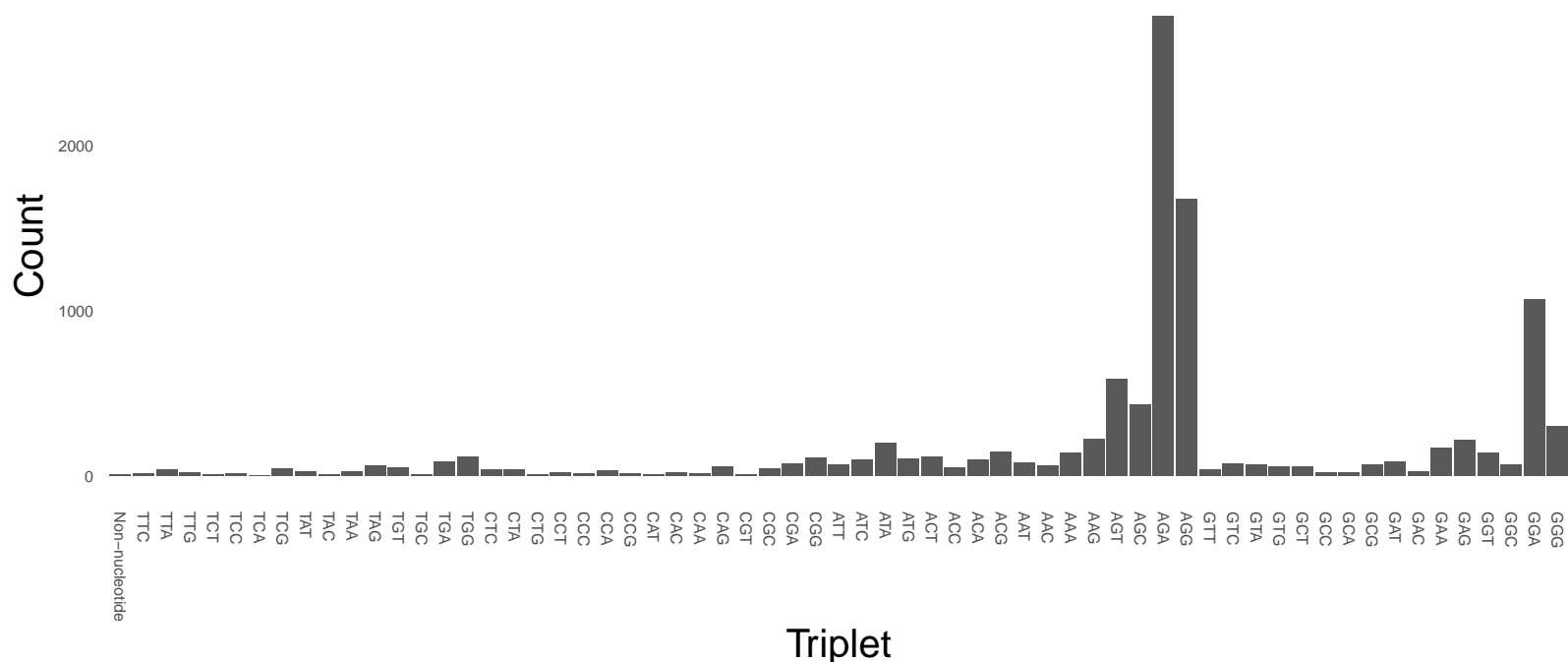


IGHV3-54\*02\_T78C\_T111C\_A284G\_T286G\_C296T- Final 3 nucleotides as a triplet

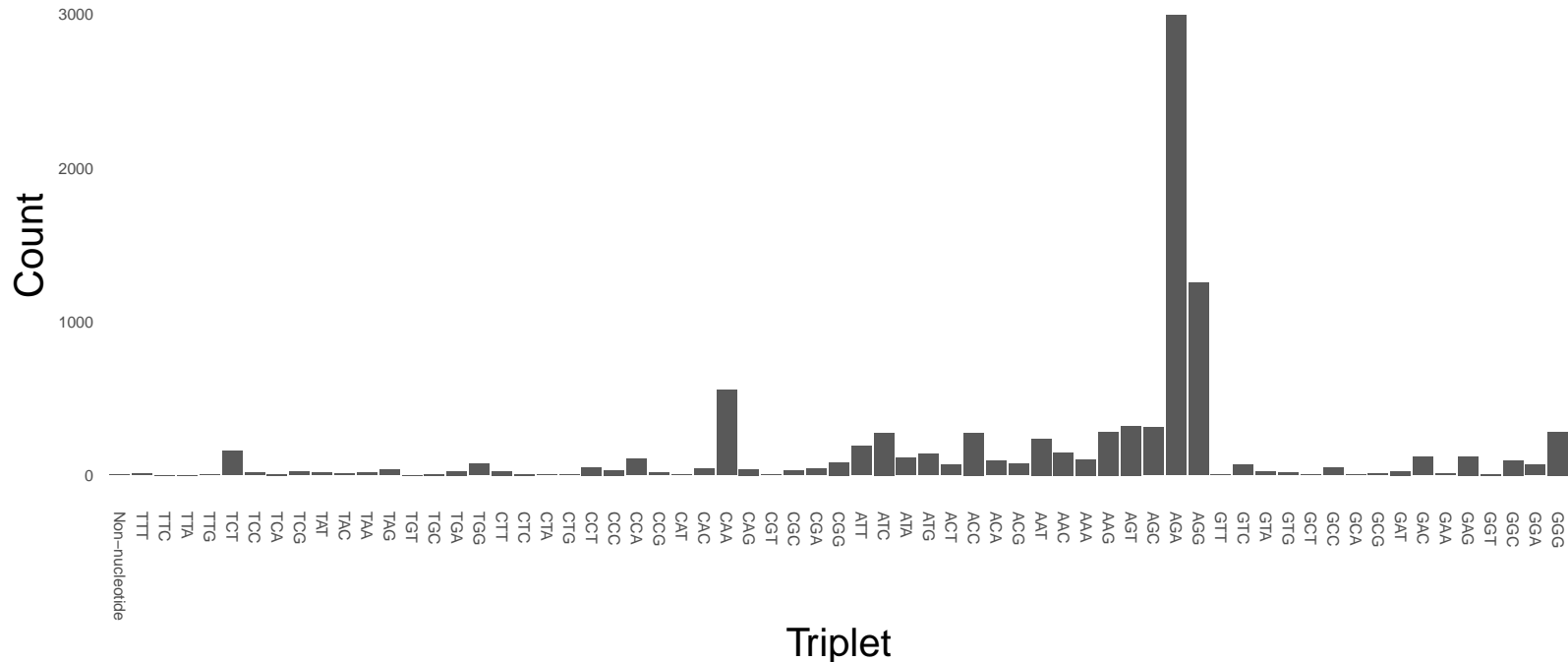




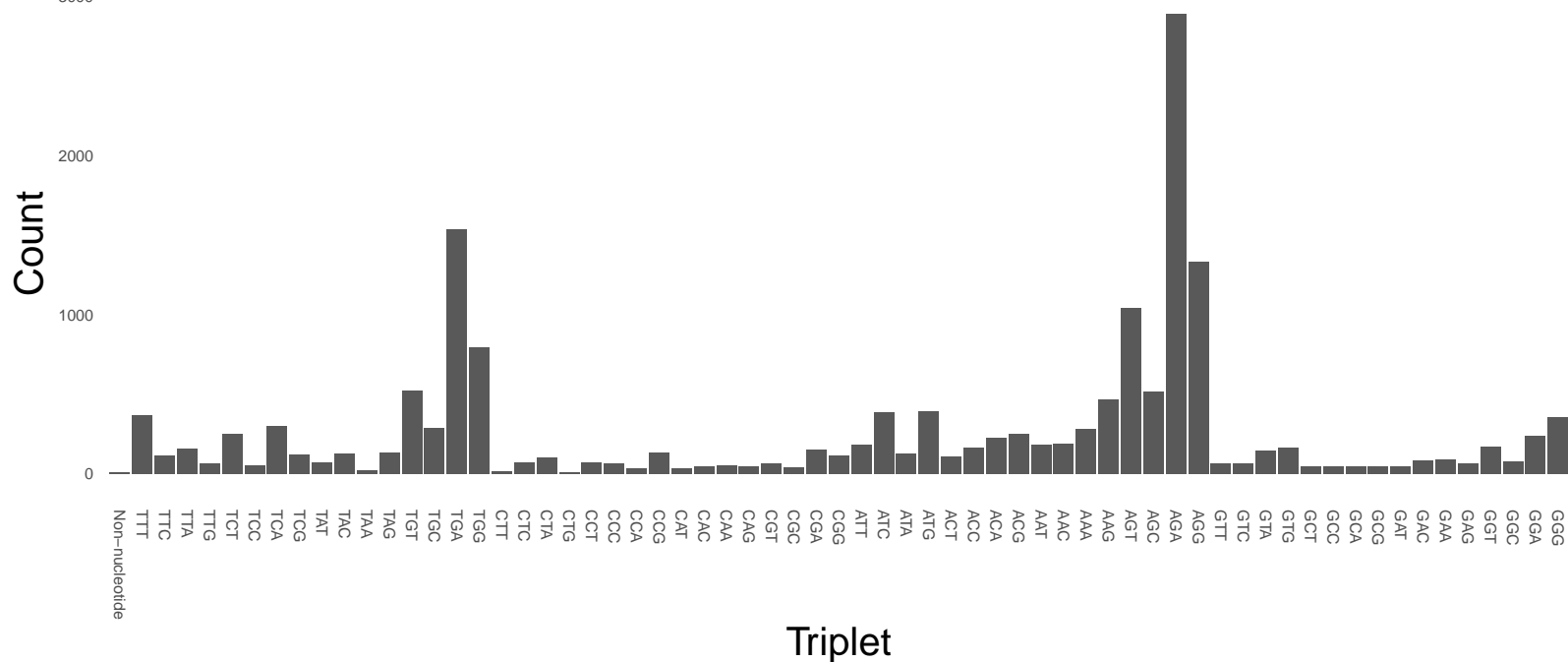
IGHV3-116\*02\_T109C- Final 3 nucleotides as a triplet



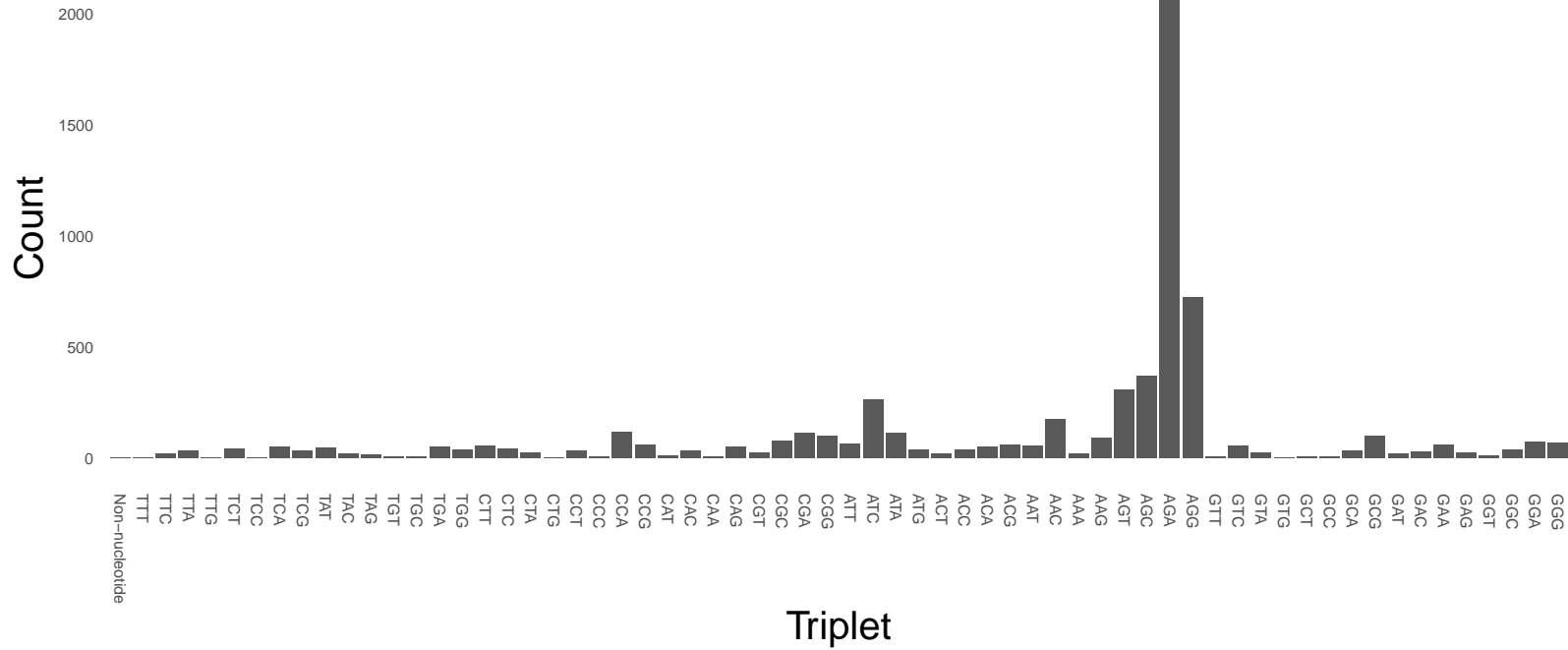
IGHV3S42\*01\_T120C- Final 3 nucleotides as a triplet



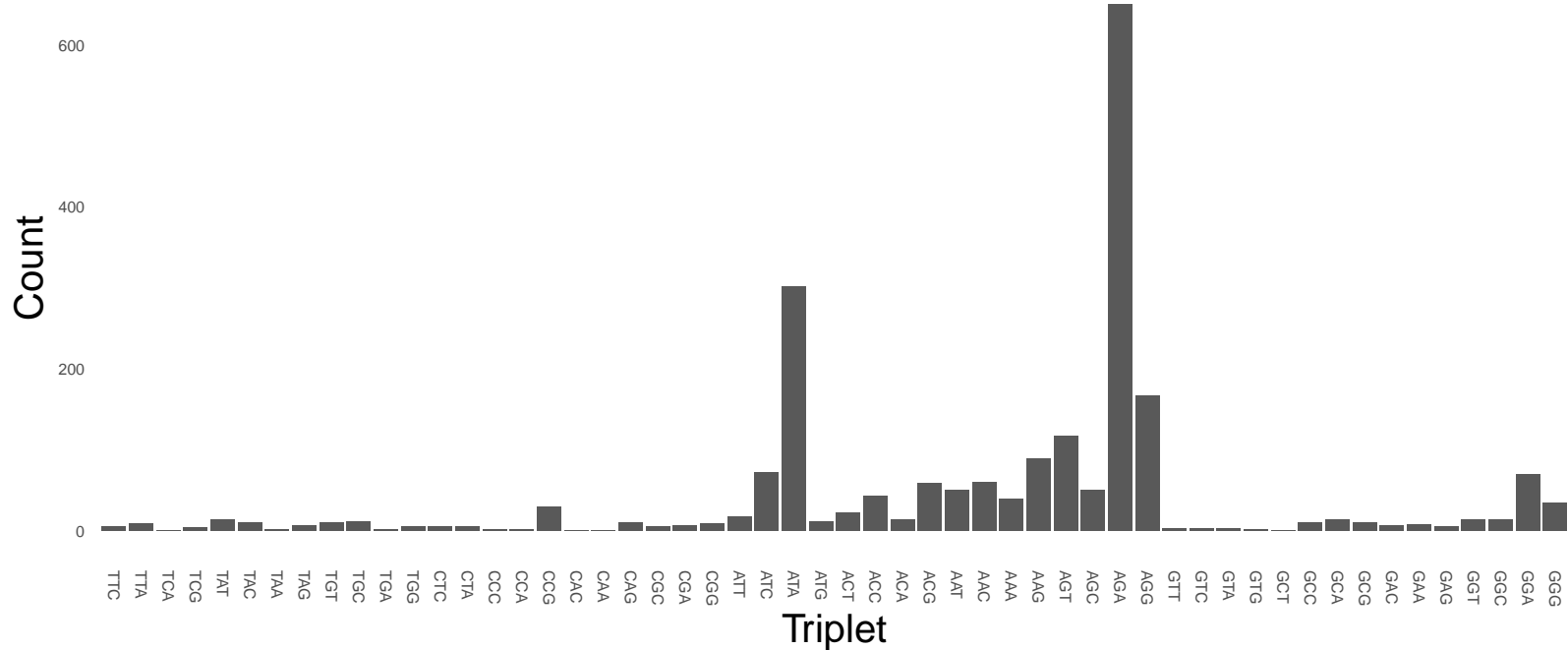
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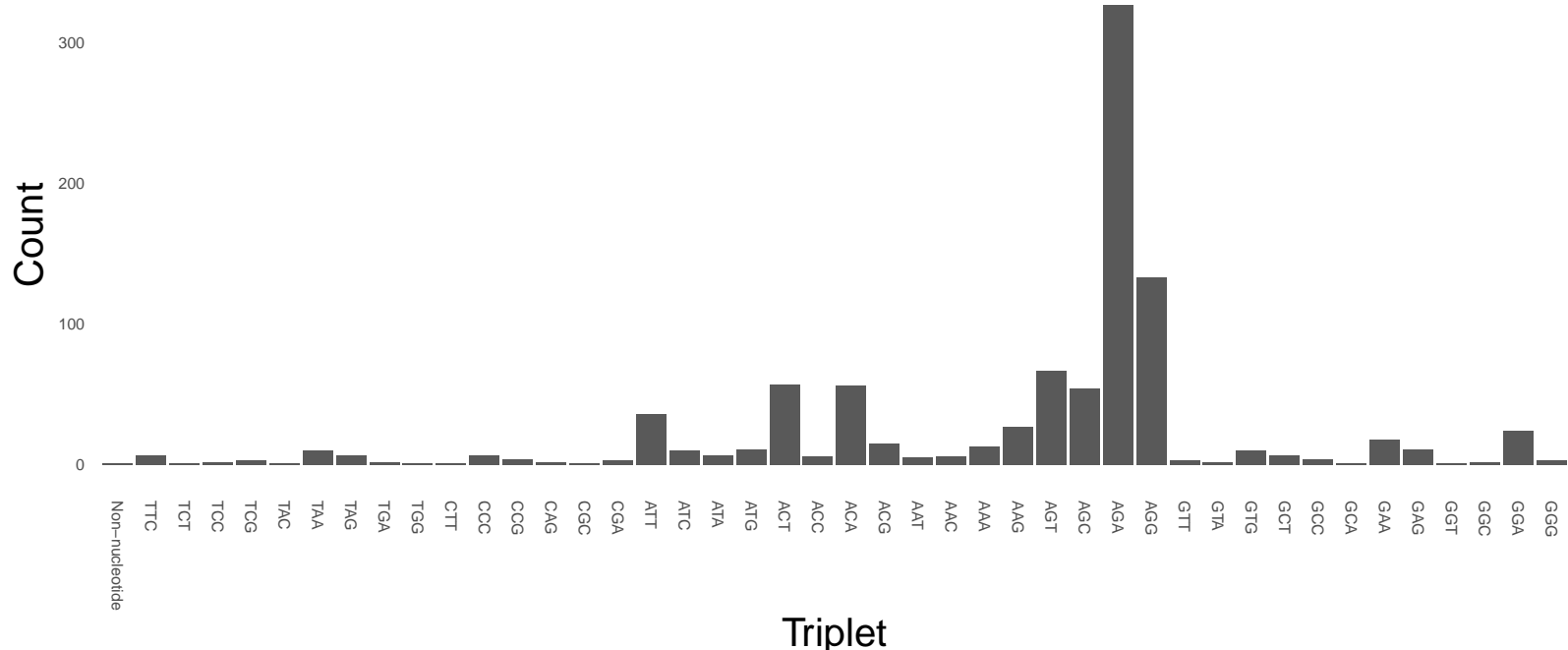
IGHV3-30\*02\_C141G- Final 3 nucleotides as a triplet



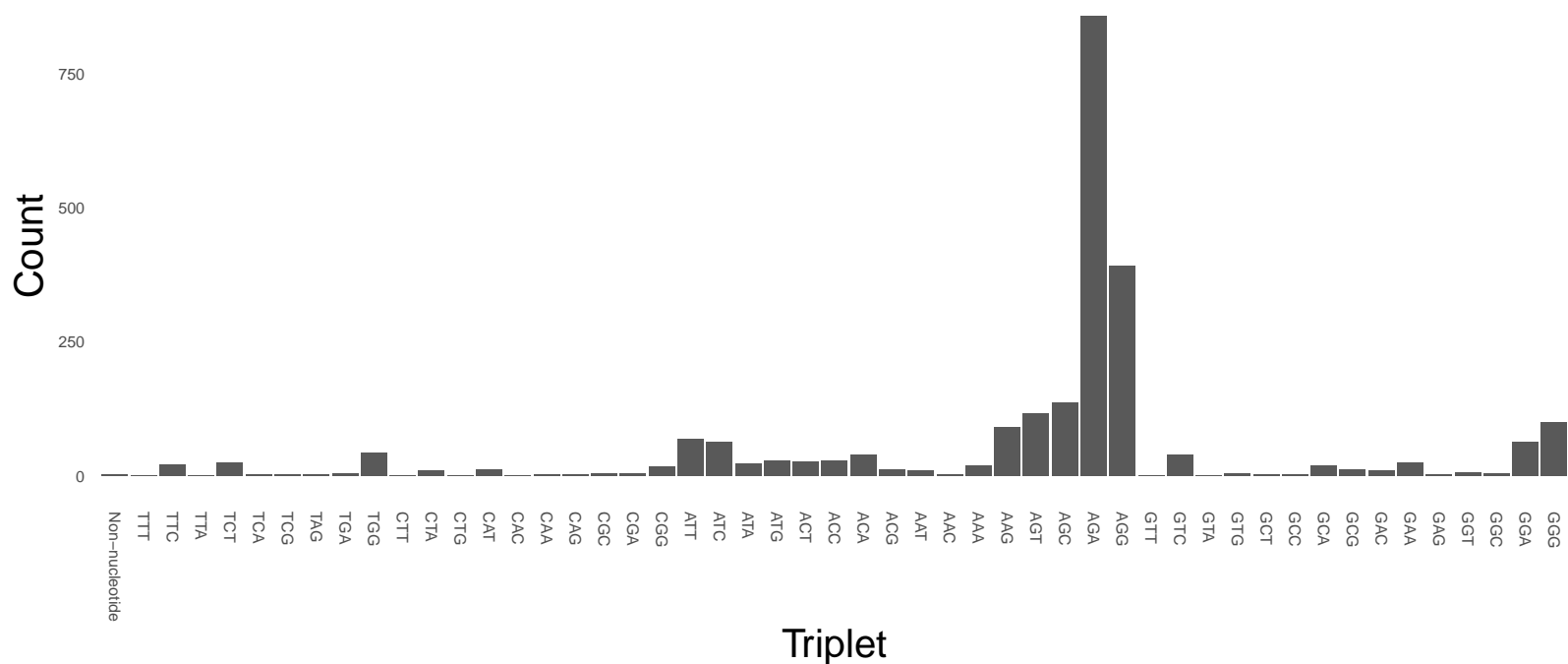
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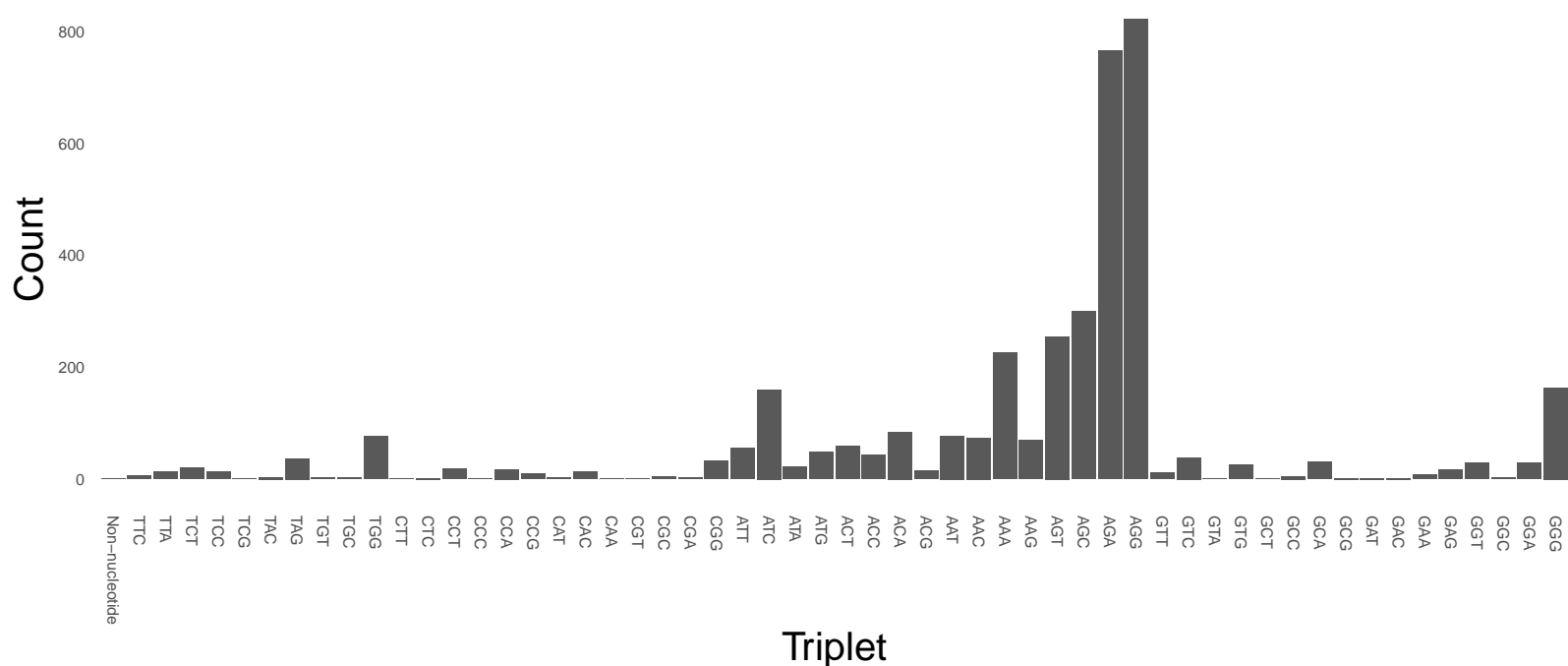
IGHV4-80\*01\_G12A\_C83G\_A88T\_T105C\_T189G\_T196A- Final 3 nucleotides as a triplet



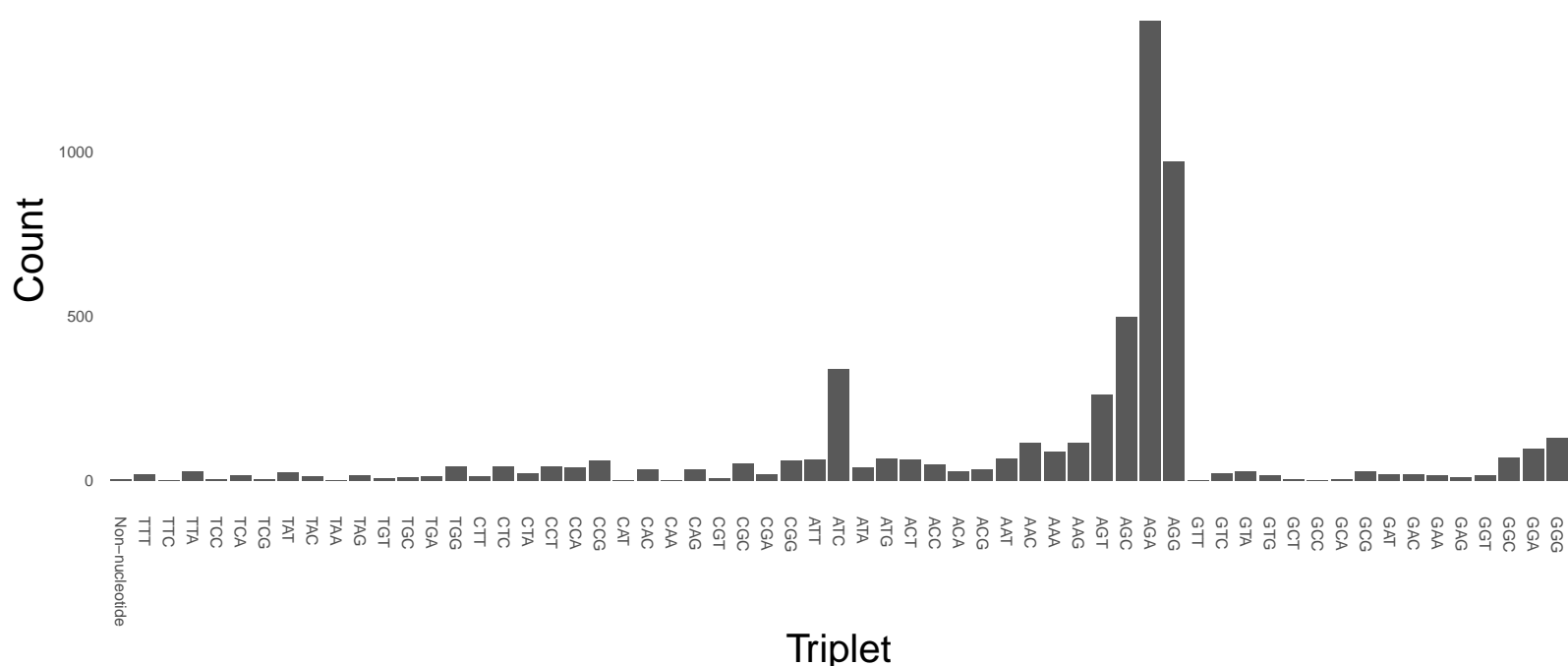
IGHV5-20\*02\_A141G\_C312T- Final 3 nucleotides as a triplet



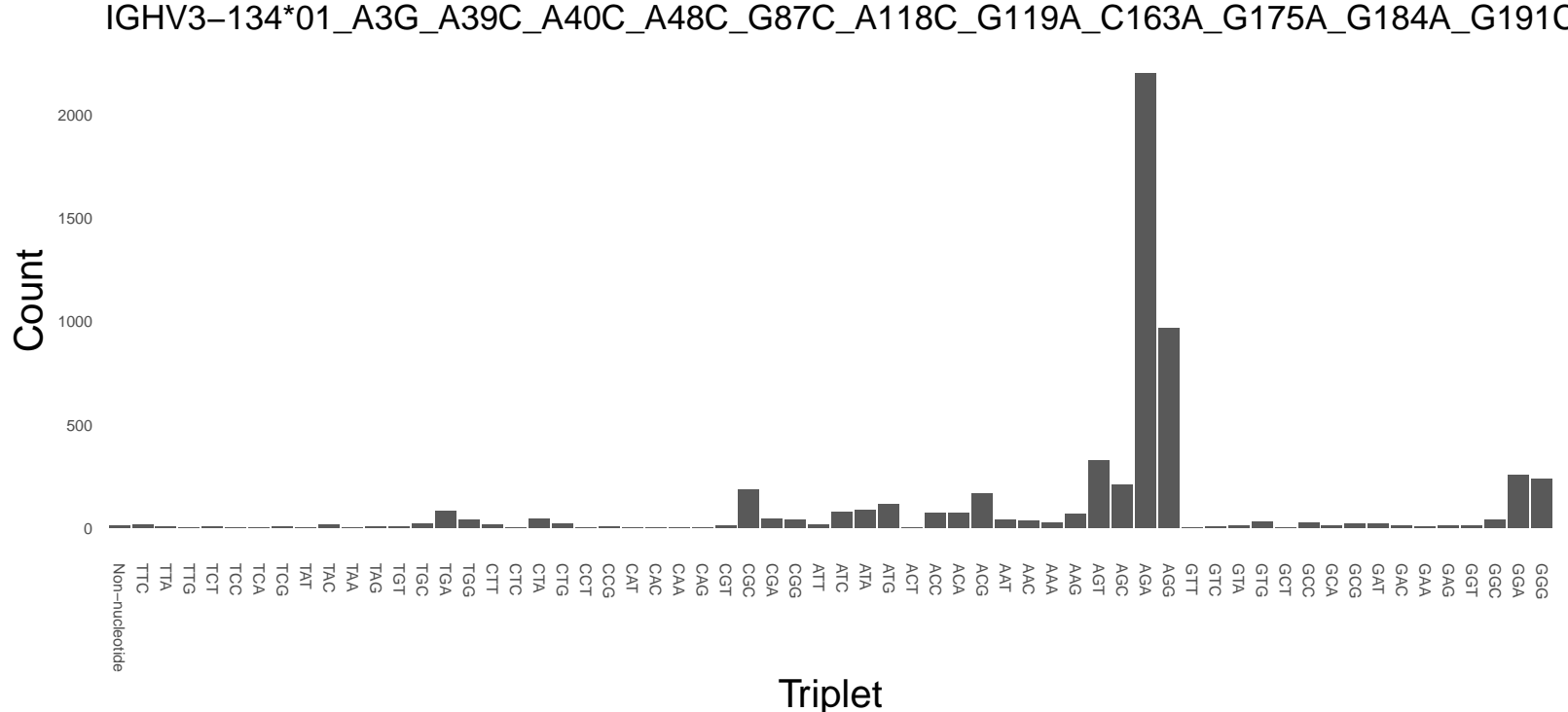
IGHV5-20\*02\_A141G\_A295T\_C312T- Final 3 nucleotides as a triplet



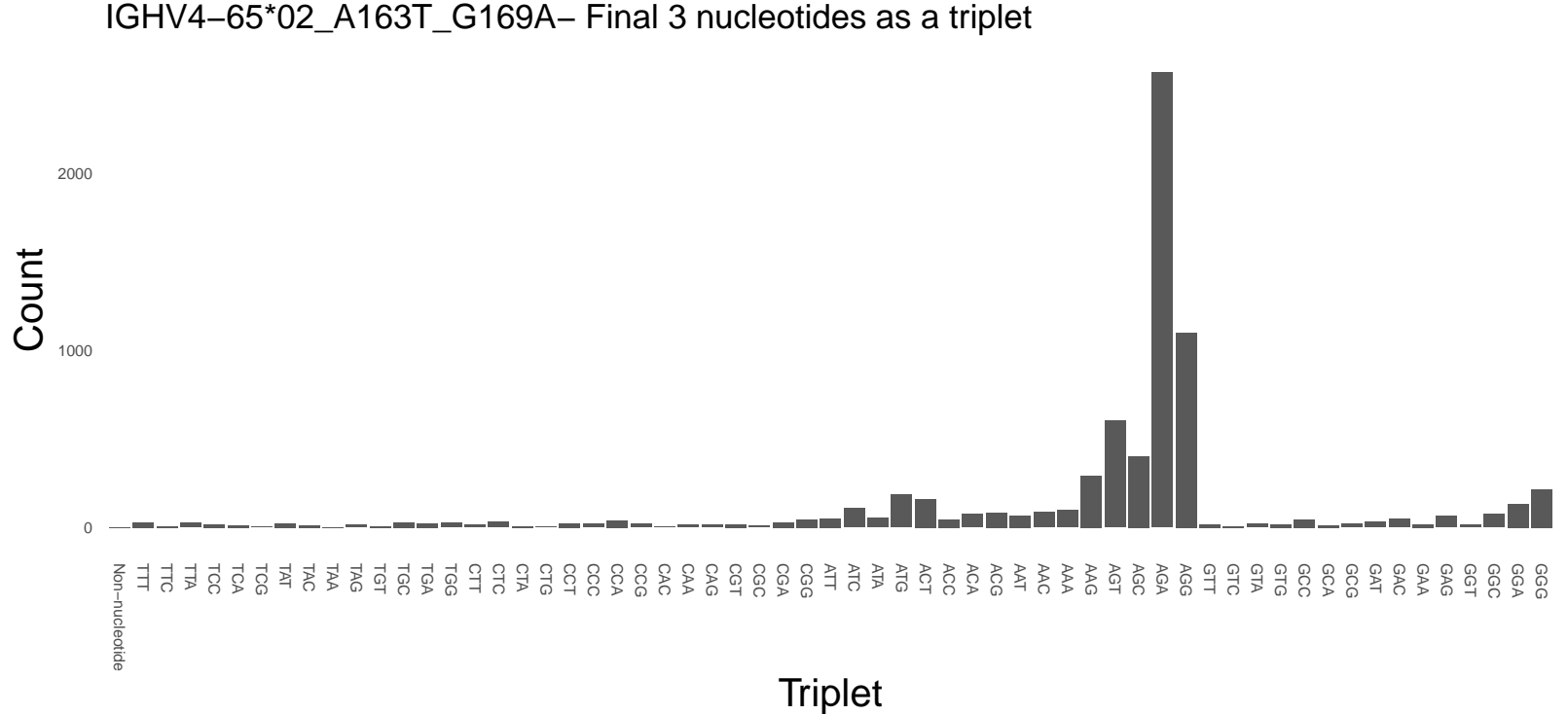
IGHV3-103\*01\_T19A\_G24A\_C27A\_C38T\_A39C\_A40C\_C120G\_G157A- Final 3 nucleotides as a triplet



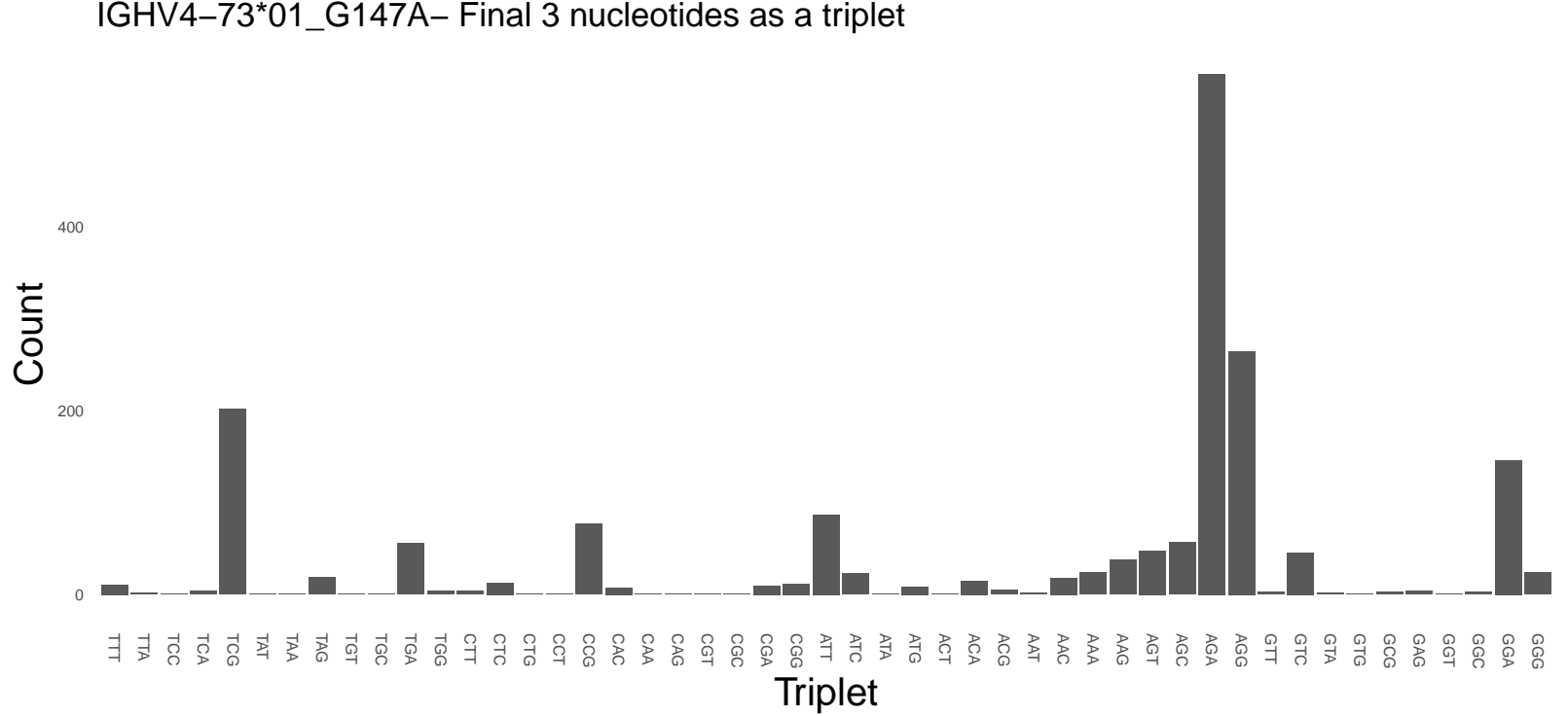
IGHV3-134\*01\_A3G\_A39C\_A40C\_A48C\_G87C\_A118C\_G119A\_C163A\_G175A\_G184A\_G191C



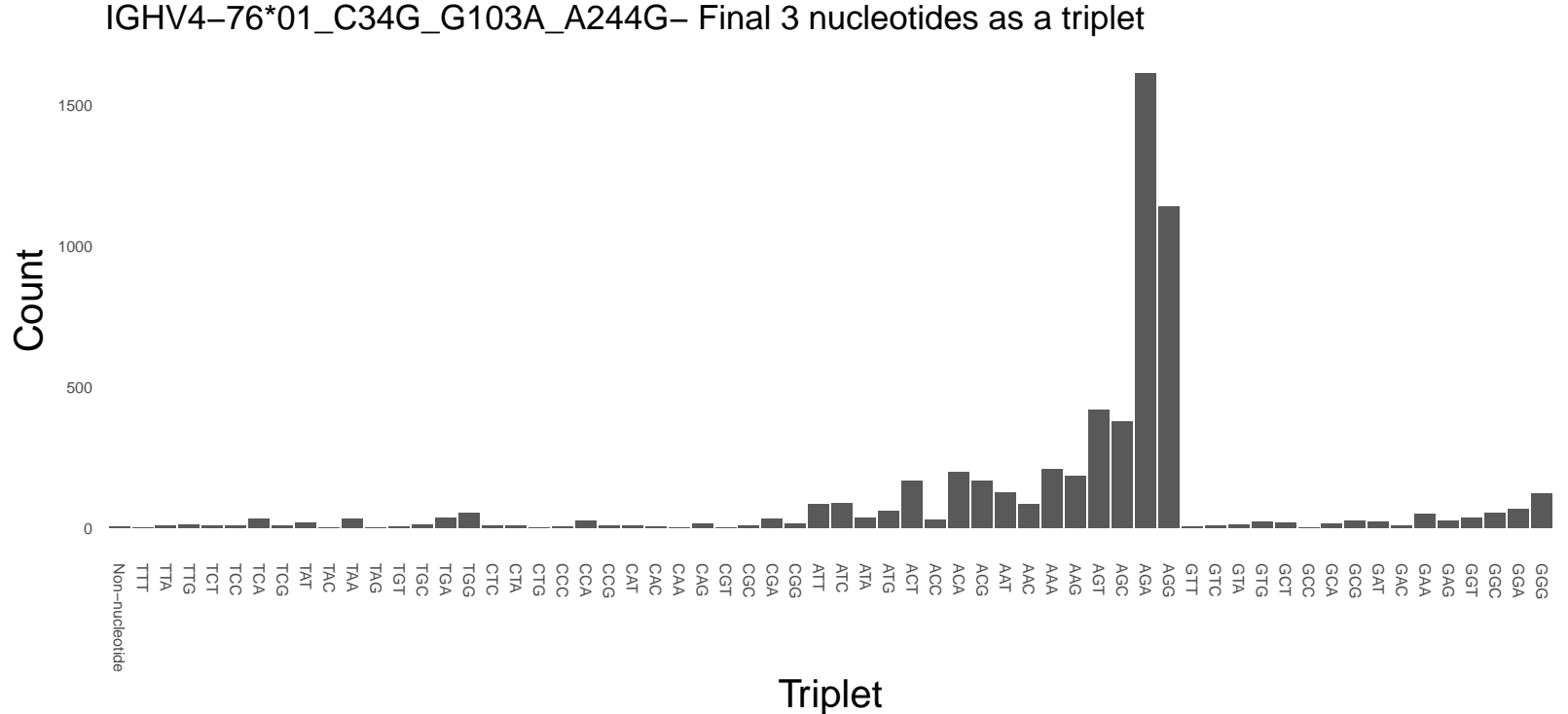
IGHV4-65\*02\_A163T\_G169A- Final 3 nucleotides as a triplet



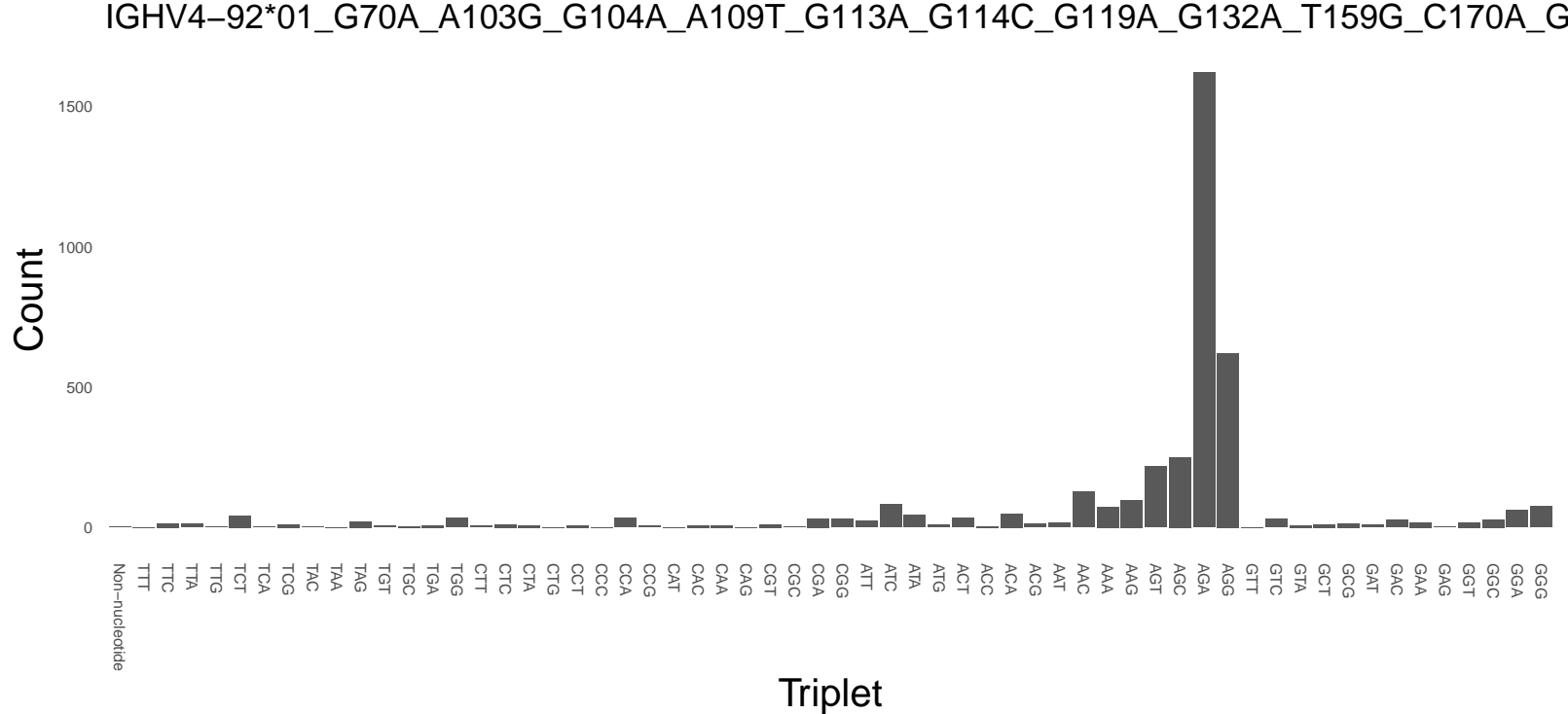
IGHV4-73\*01\_G147A- Final 3 nucleotides as a triplet



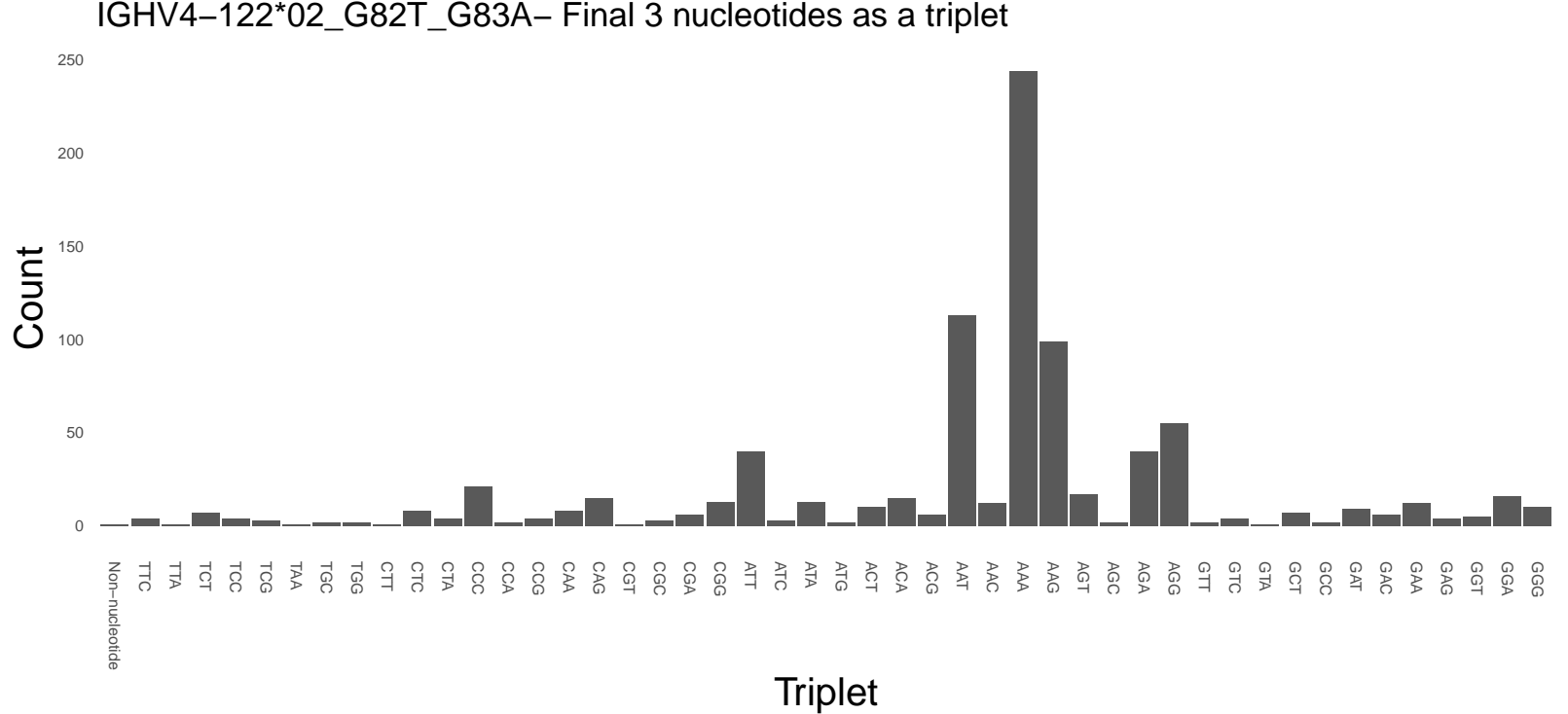
IGHV4-76\*01\_C34G\_G103A\_A244G- Final 3 nucleotides as a triplet



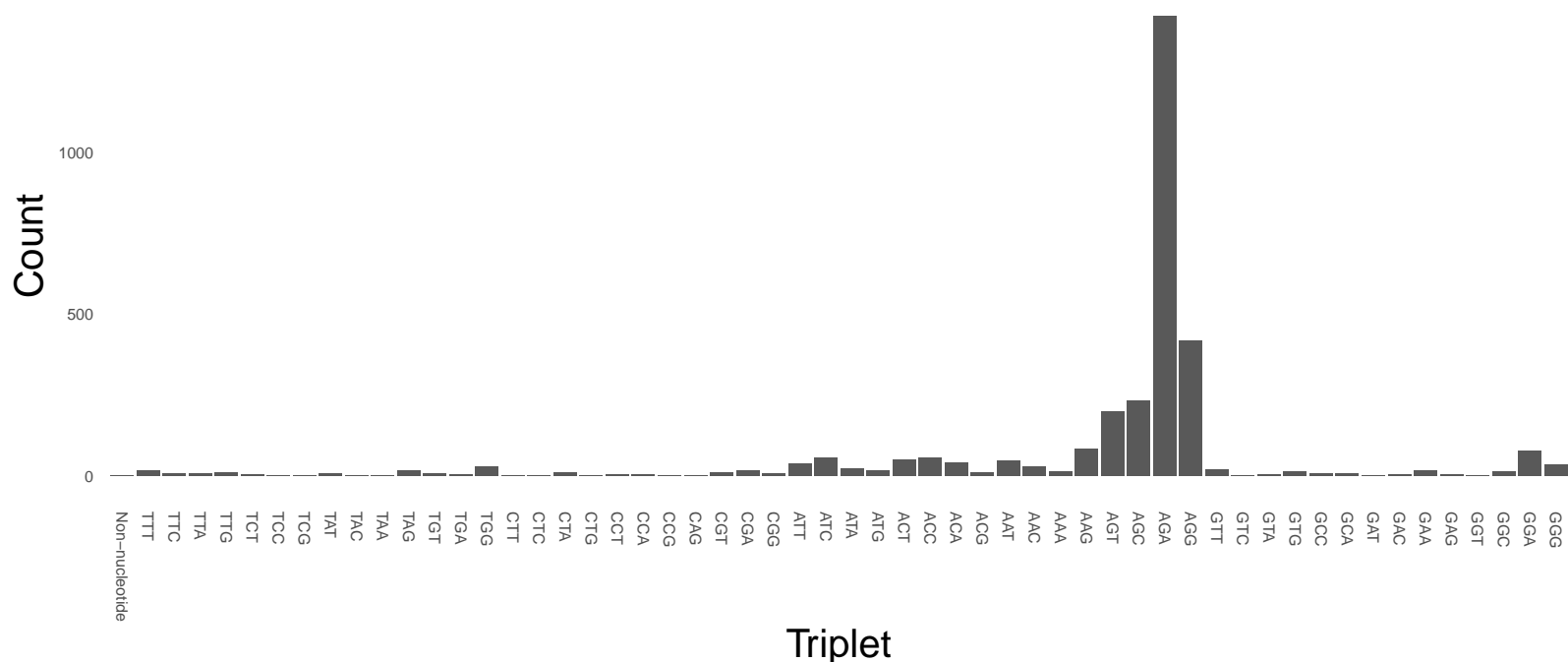
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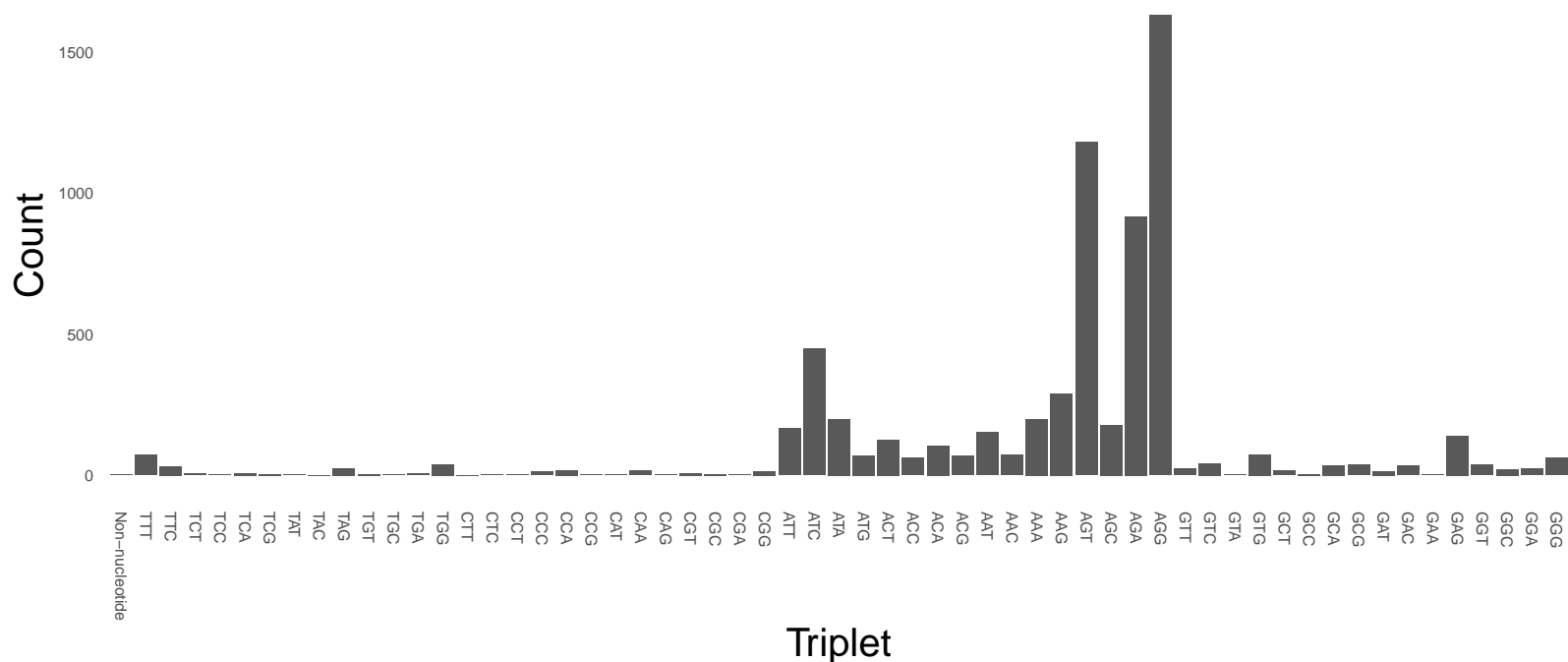
IGHV4-122\*02\_G82T\_G83A- Final 3 nucleotides as a triplet



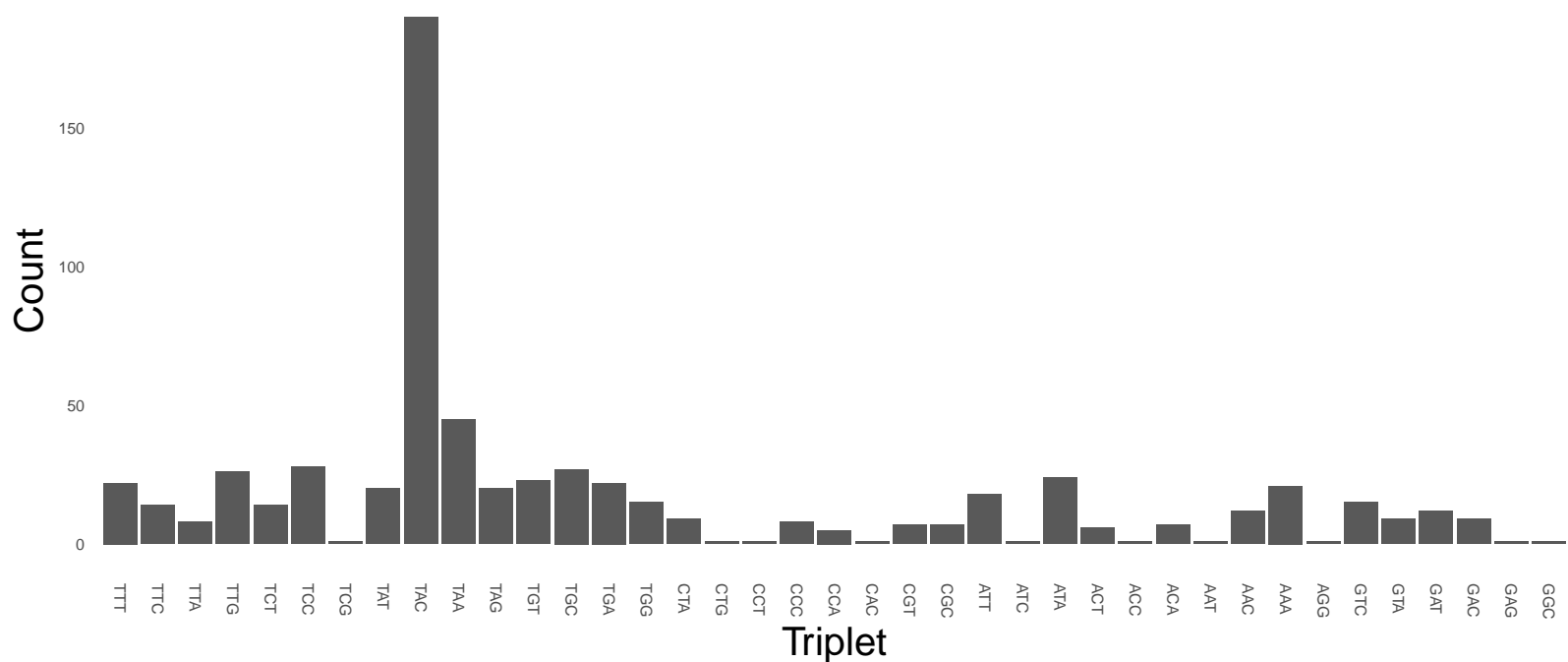
IGHV4S10\*01\_A48G\_T112A\_G216A– Final 3 nucleotides as a triplet



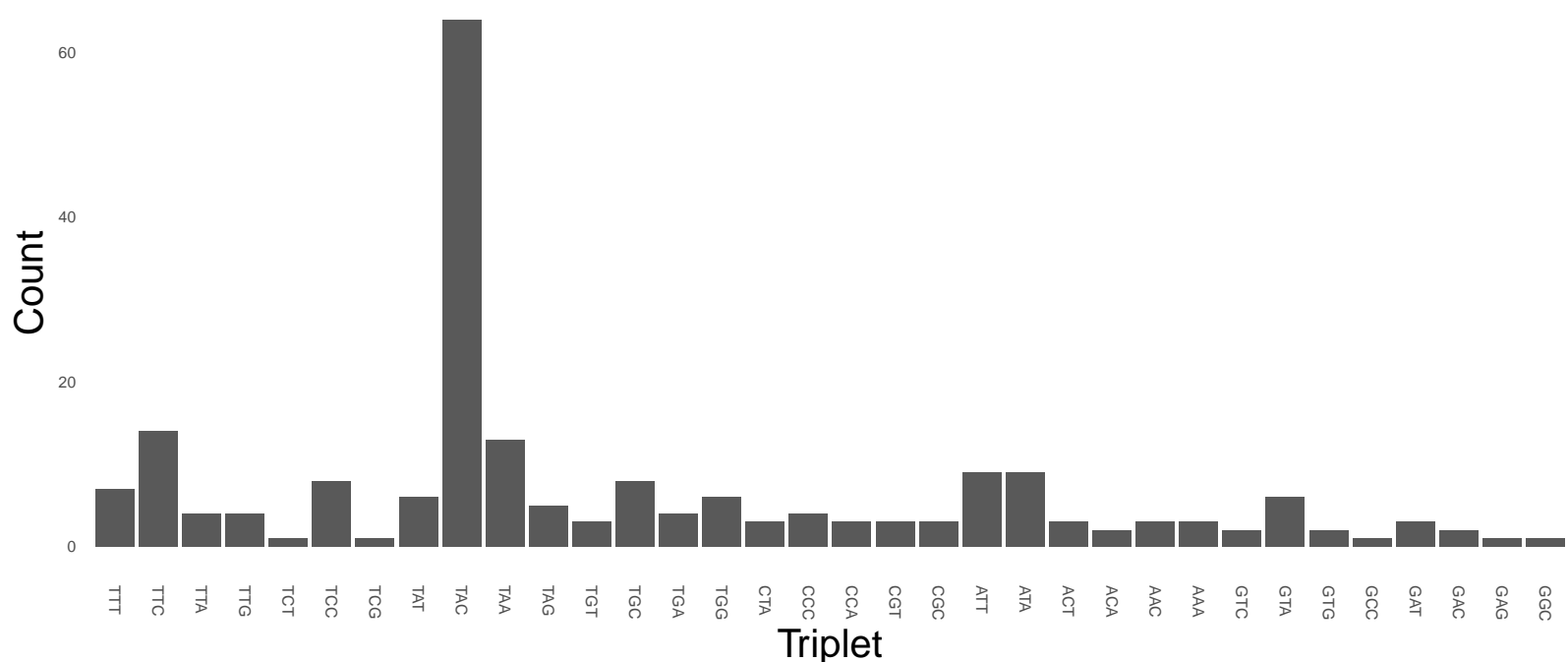
IGHV5–43\*01\_A106G– Final 3 nucleotides as a triplet



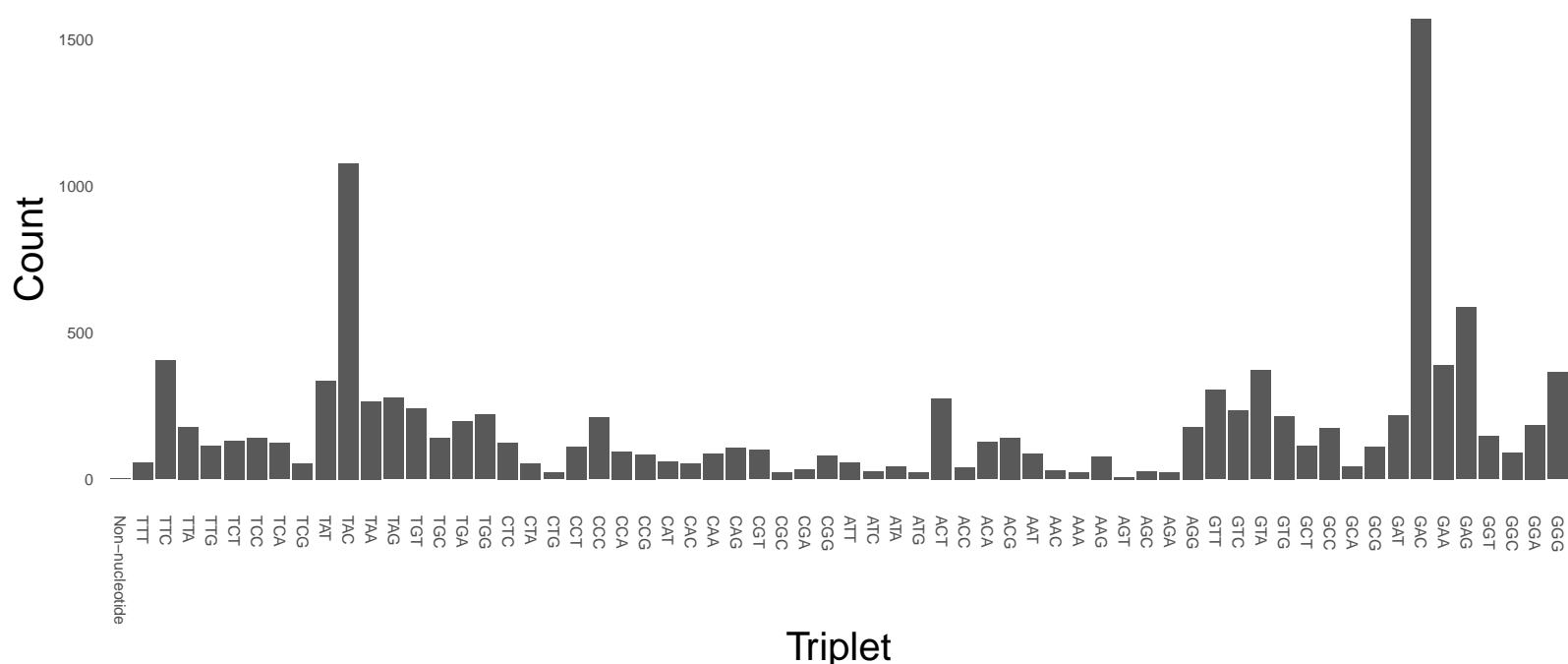
IGHV2–95\*01\_A103T– Final 3 nucleotides as a triplet



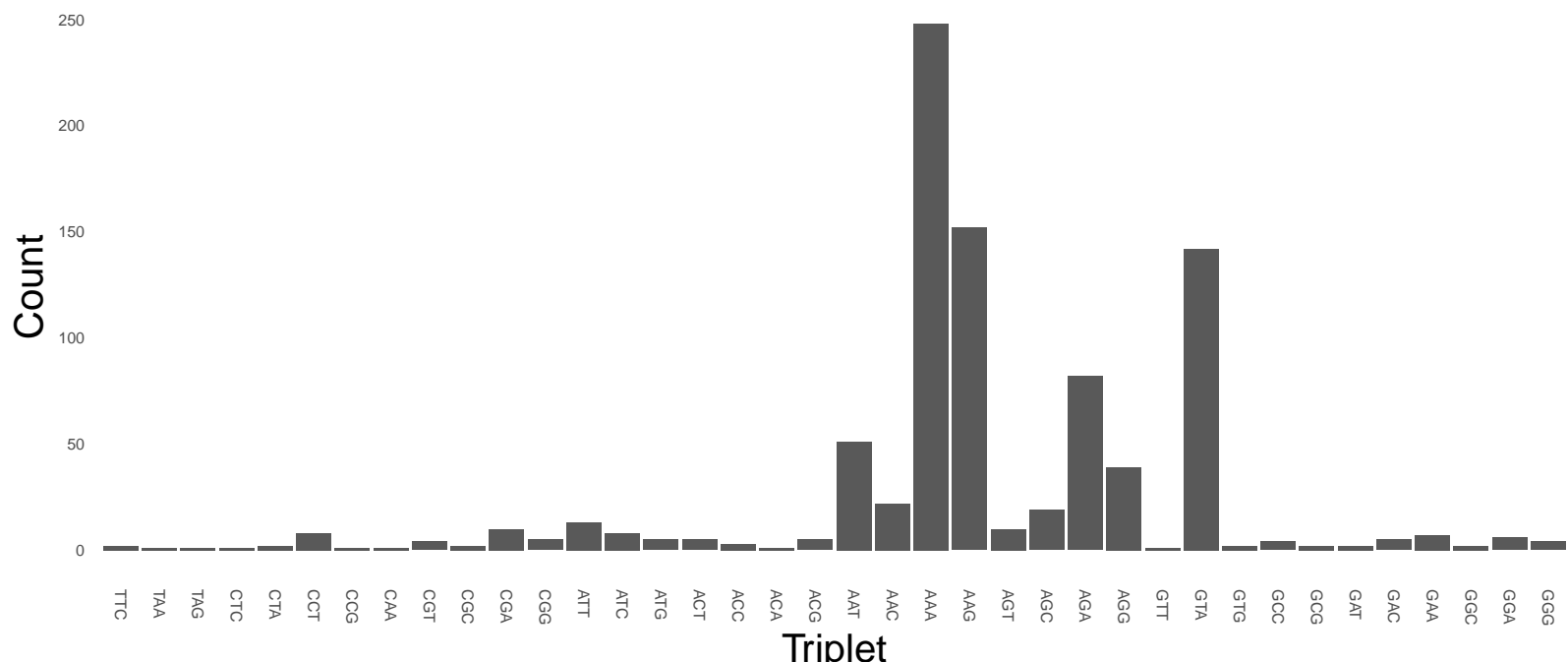
IGHV2-95\*01\_A103T\_G289T- Final 3 nucleotides as a triplet



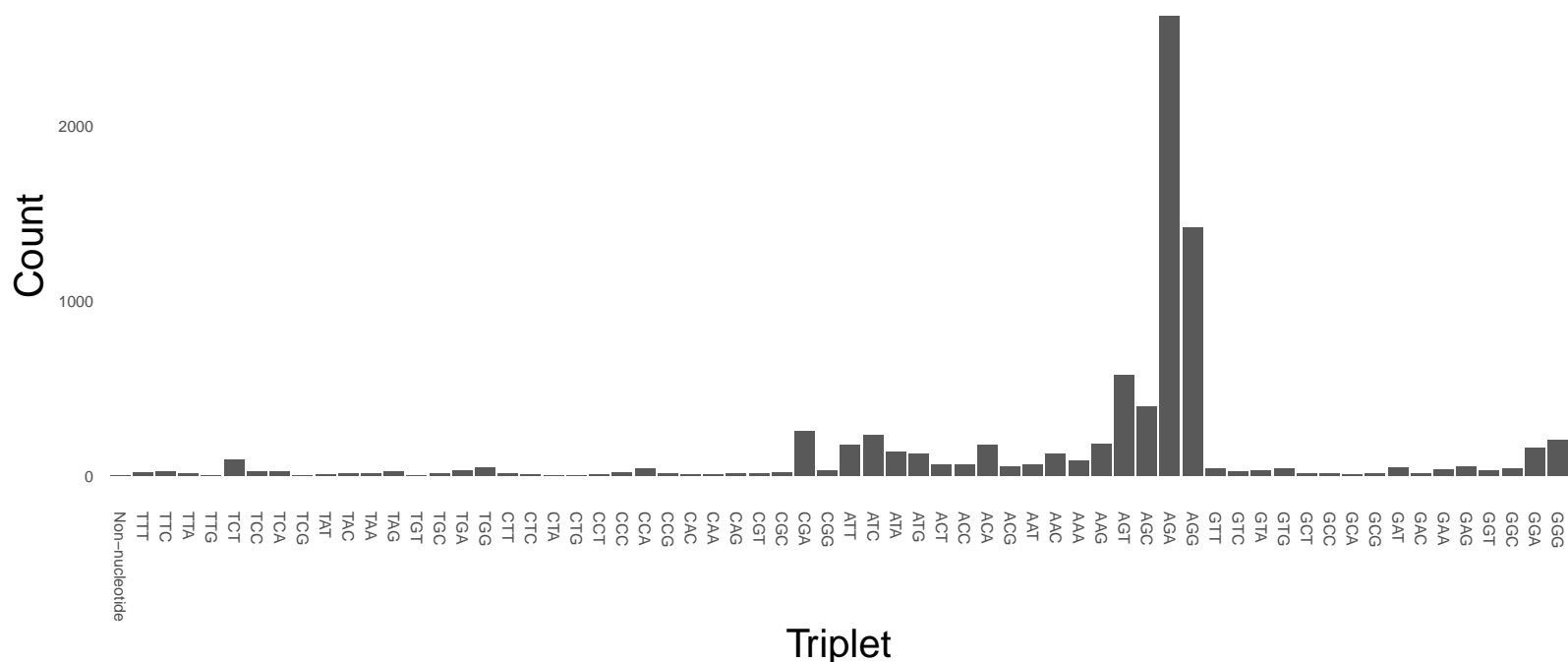
IGHV2S1\*01\_G289T- Final 3 nucleotides as a triplet



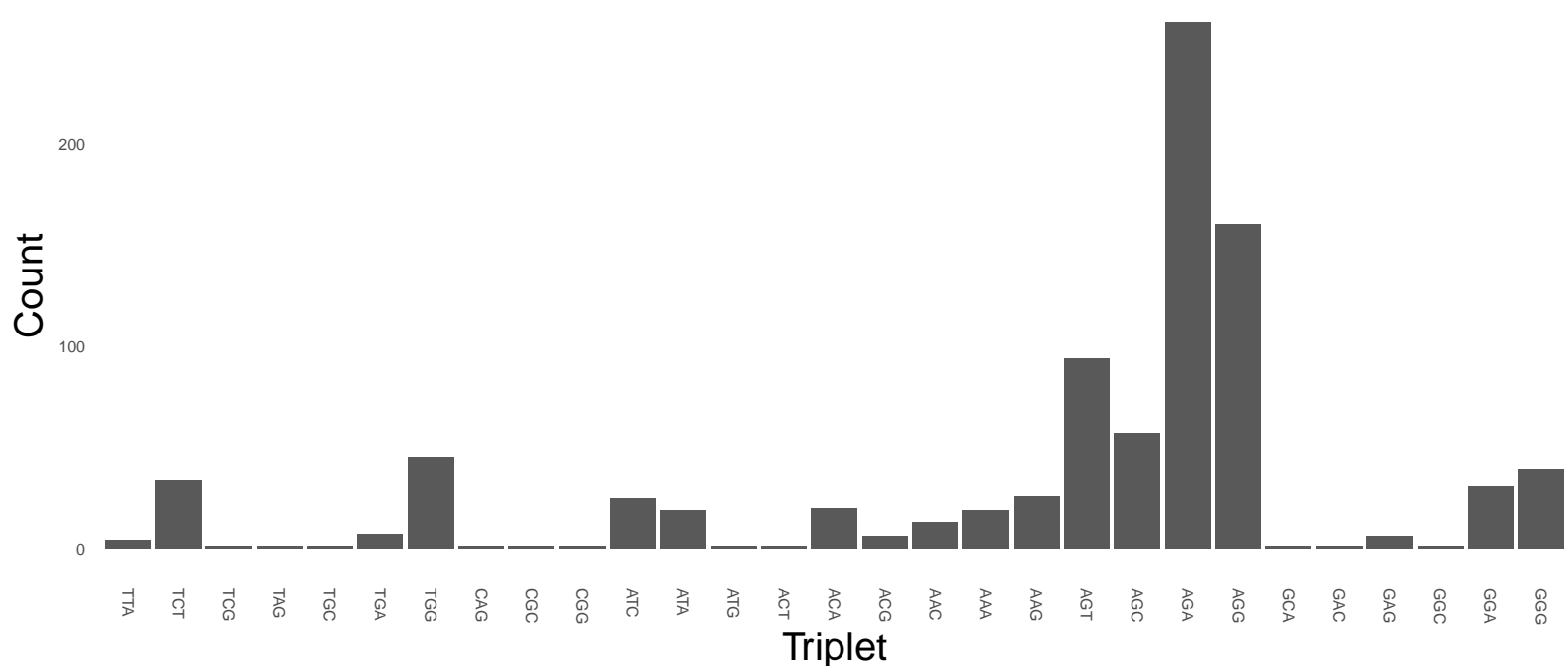
IGHV4-81\*01\_G280T- Final 3 nucleotides as a triplet



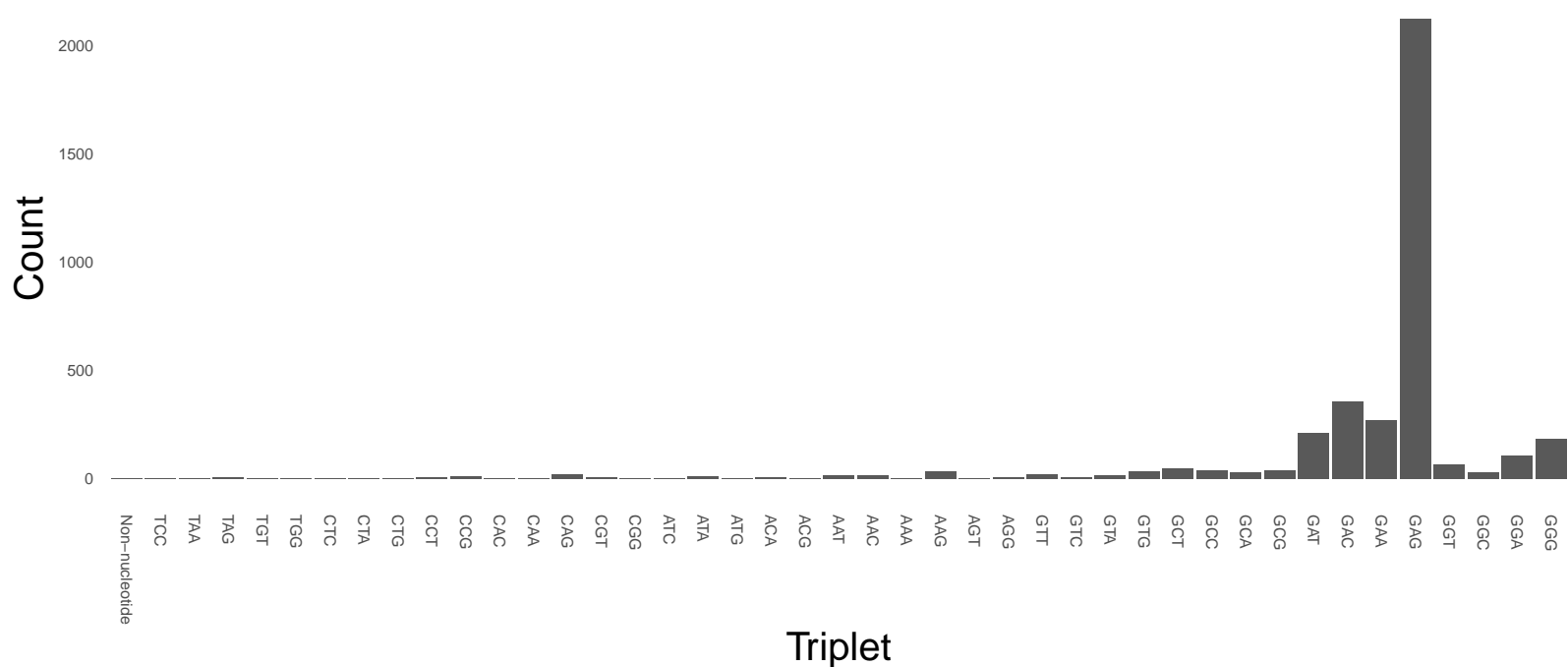
IGHV4S2\*01\_G248C– Final 3 nucleotides as a triplet



IGHV6–1\*01\_G280T– Final 3 nucleotides as a triplet

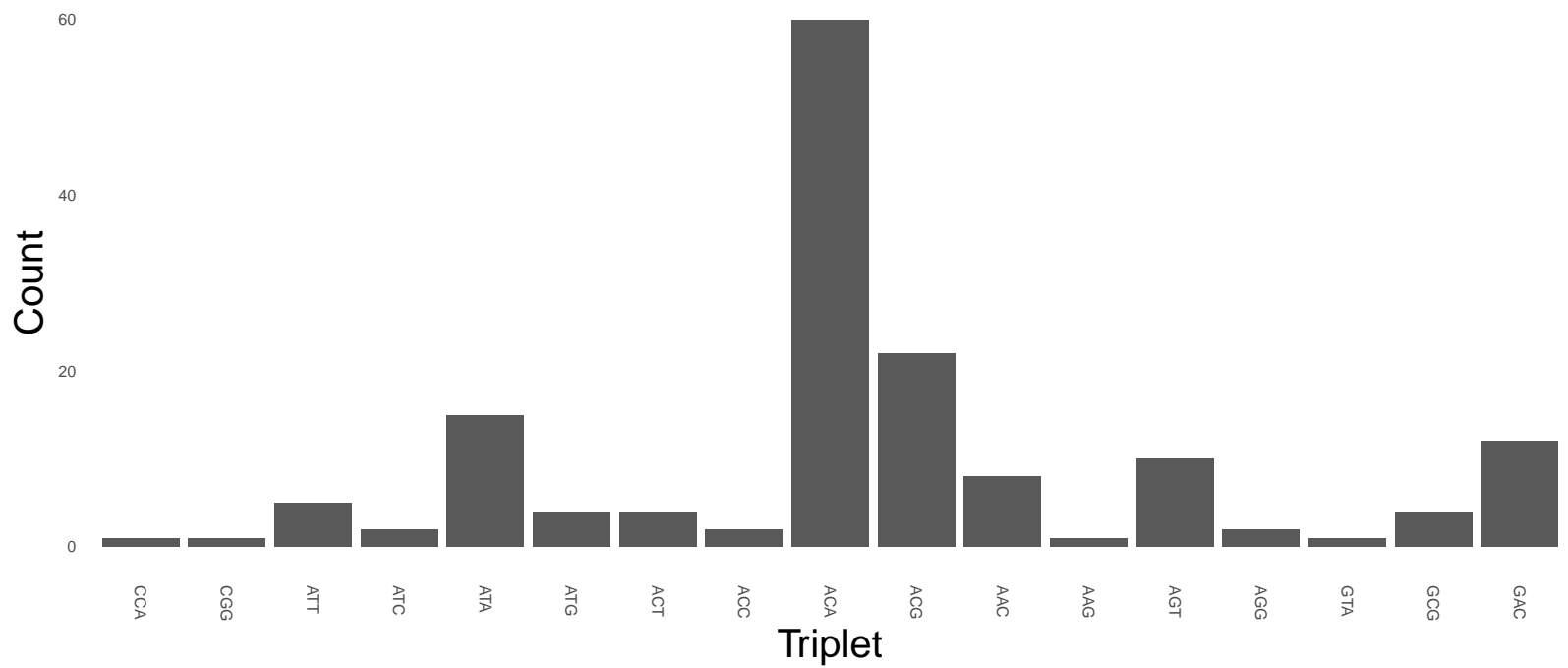


IGHV4–169\*01\_C4G\_C47T\_T60C\_G61C\_G110A\_G162C\_C259T– Final 3 nucleotides as a triplet



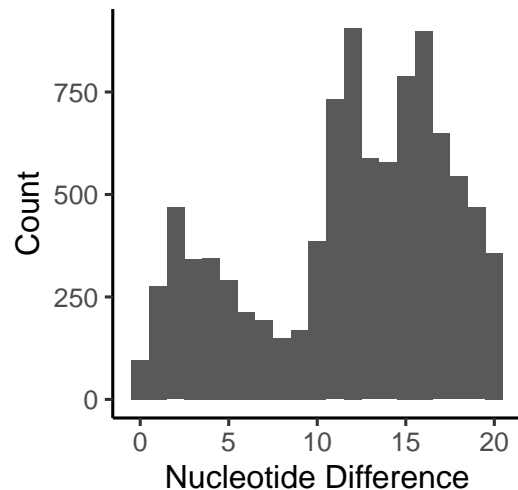


IGHV7-193\*01\_C89T- Final 3 nucleotides as a triplet



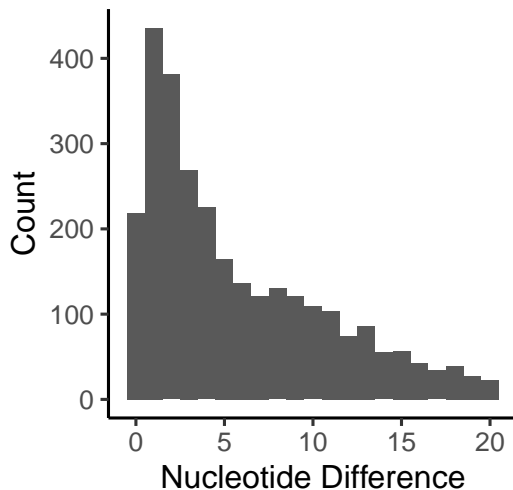
### IGHV2S1\*01\_G289T

11509 sequences assigned  
96 (0.8%) exact matches, in which:  
89 unique CDR3  
4 unique J



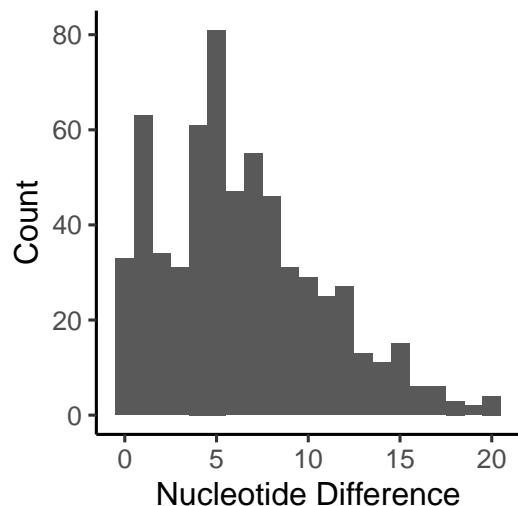
### IGHV4S10\*01\_A48G\_T1'

3141 sequences assigned  
219 (7%) exact matches, in which:  
199 unique CDR3  
4 unique J



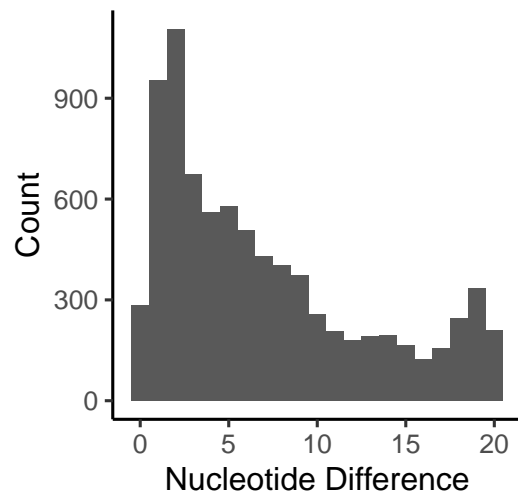
### IGHV2-95\*01\_A103T

653 sequences assigned  
33 (5.1%) exact matches, in which:  
29 unique CDR3  
4 unique J



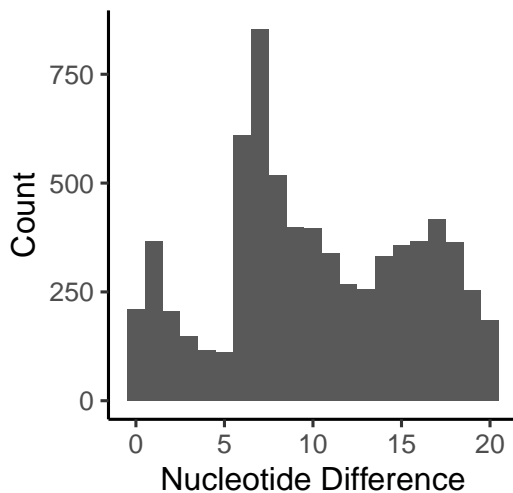
### IGHV3S42\*01\_T120C

9295 sequences assigned  
283 (3%) exact matches, in which:  
231 unique CDR3  
5 unique J



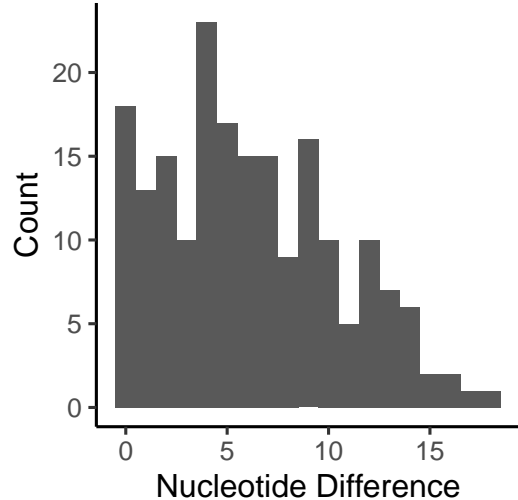
### IGHV4S2\*01\_G248C

8127 sequences assigned  
210 (2.6%) exact matches, in which:  
177 unique CDR3  
4 unique J



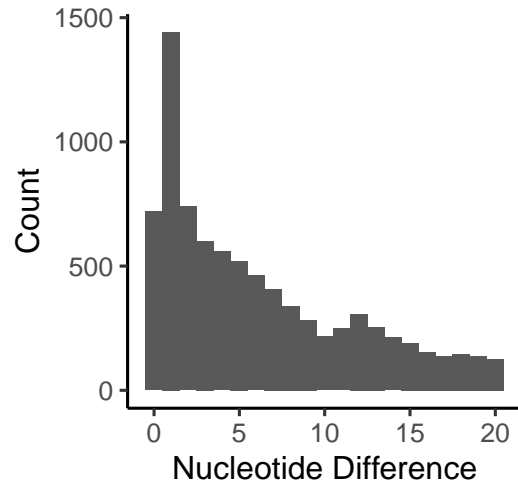
### IGHV2-95\*01\_A103T\_G2

211 sequences assigned  
18 (8.5%) exact matches, in which:  
17 unique CDR3  
4 unique J



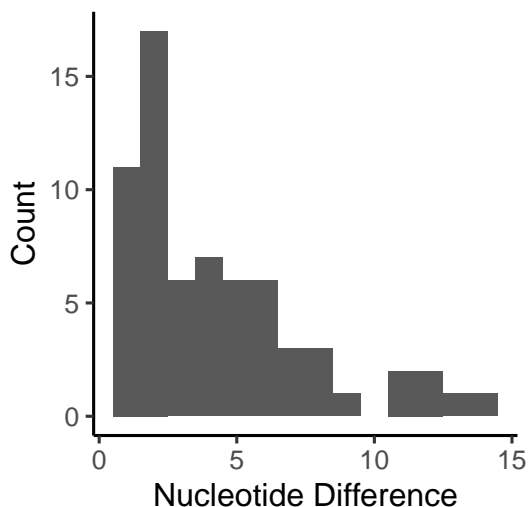
### IGHV3S42\*01\_T19A\_G2

16524 sequences assigned  
719 (4.4%) exact matches, in which:  
551 unique CDR3  
4 unique J



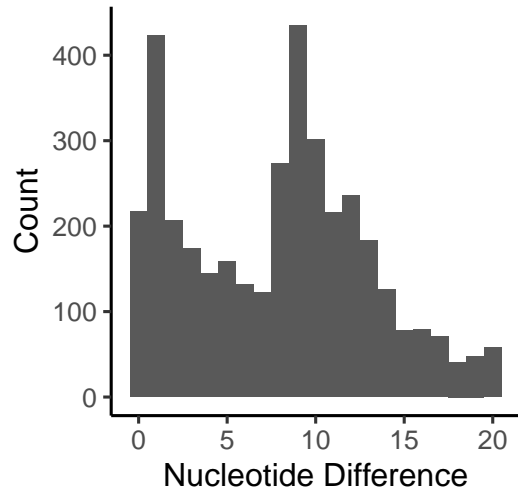
### IGHV1-156D\*01

748 sequences assigned  
No exact matches.



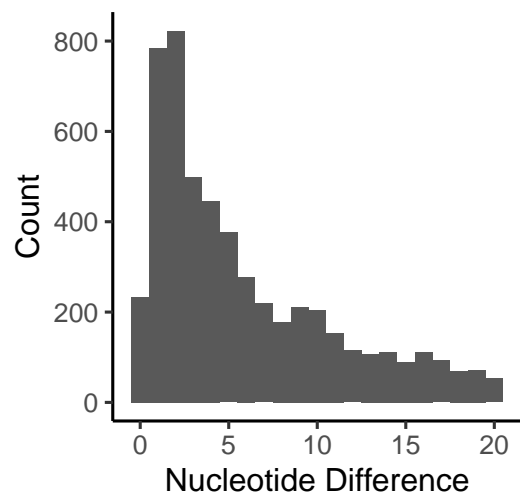
### IGHV3-16\*01\_A51T\_T78

4290 sequences assigned  
217 (5.1%) exact matches, in which:  
176 unique CDR3  
4 unique J



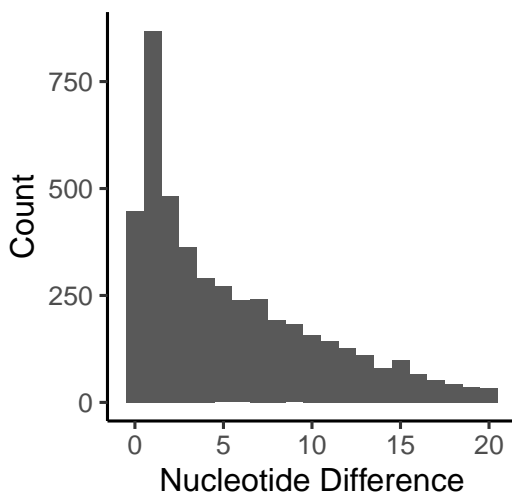
### IGHV3-30\*02\_C141G

6150 sequences assigned  
233 (3.8%) exact matches, in which:  
194 unique CDR3  
3 unique J



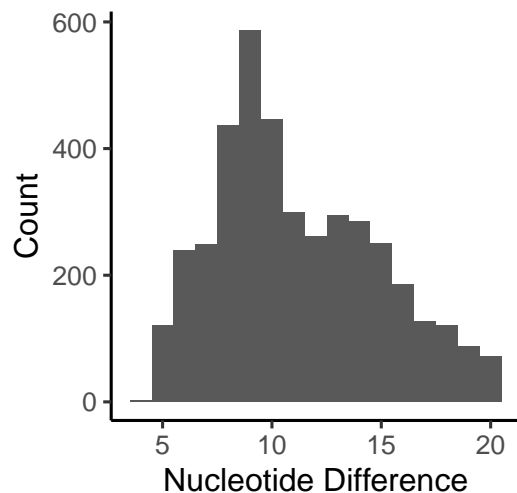
### IGHV3-103\*01\_T19A\_G2

5328 sequences assigned  
447 (8.4%) exact matches, in which:  
368 unique CDR3  
4 unique J



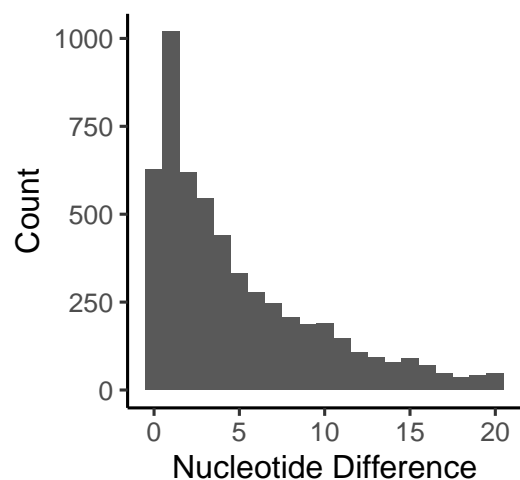
### IGHV3-124\*01

4691 sequences assigned  
No exact matches.



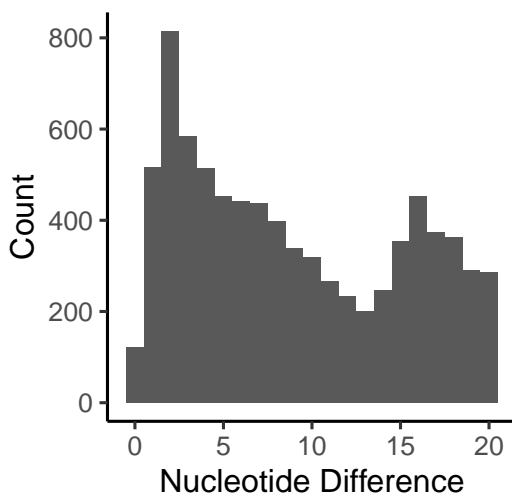
### IGHV3-54\*02\_G170C

5658 sequences assigned  
627 (11.1%) exact matches, in which:  
488 unique CDR3  
4 unique J



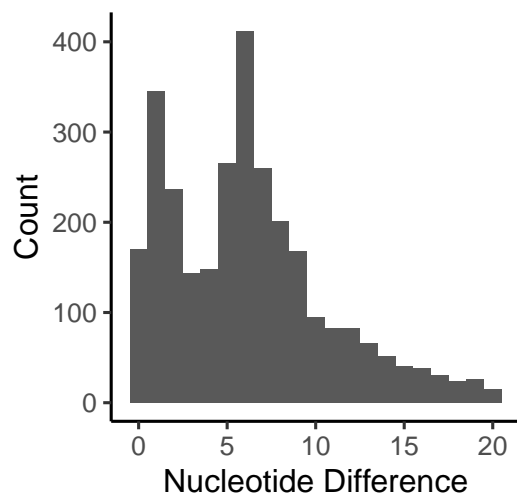
### IGHV3-116\*02\_T109C

10393 sequences assigned  
122 (1.2%) exact matches, in which:  
100 unique CDR3  
3 unique J



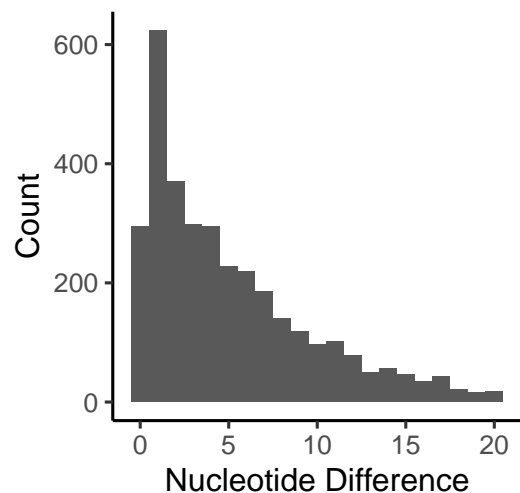
### IGHV3-134\*01\_A3G\_A3S

5810 sequences assigned  
170 (2.9%) exact matches, in which:  
147 unique CDR3  
4 unique J



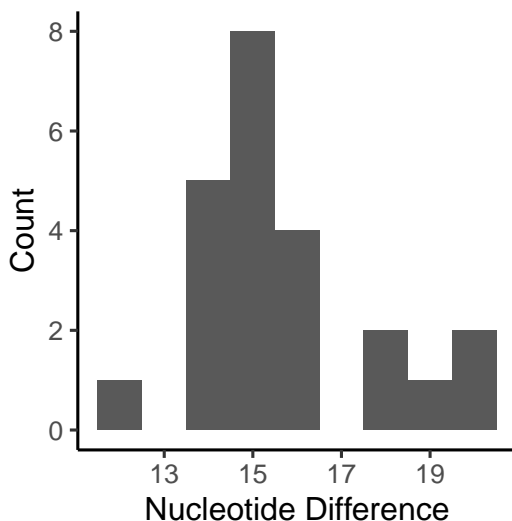
### IGHV3-54\*02\_T78C\_T11

3491 sequences assigned  
295 (8.5%) exact matches, in which:  
242 unique CDR3  
4 unique J



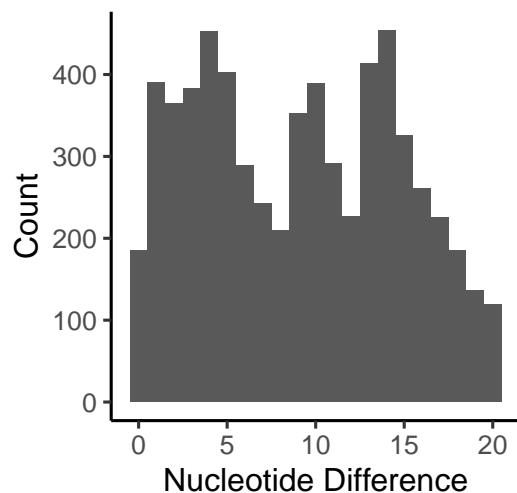
### IGHV3-117\*01

453 sequences assigned  
No exact matches.



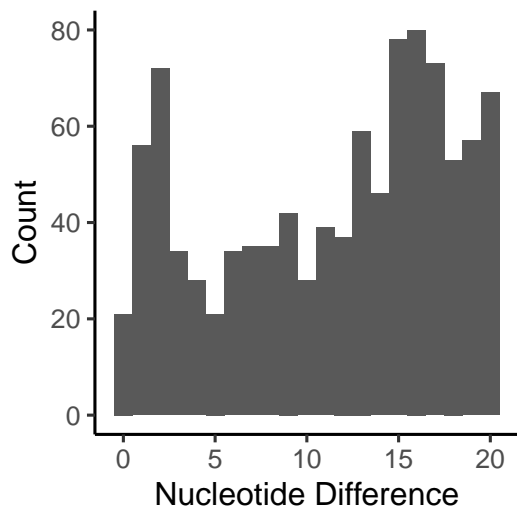
### IGHV4-65\*02\_A163T\_G1

7255 sequences assigned  
185 (2.5%) exact matches, in which:  
172 unique CDR3  
4 unique J



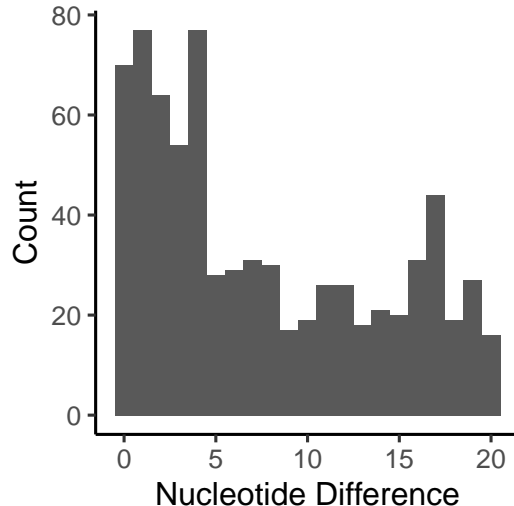
### IGHV4-73\*01\_G147A

1825 sequences assigned  
21 (1.2%) exact matches, in which:  
19 unique CDR3  
4 unique J



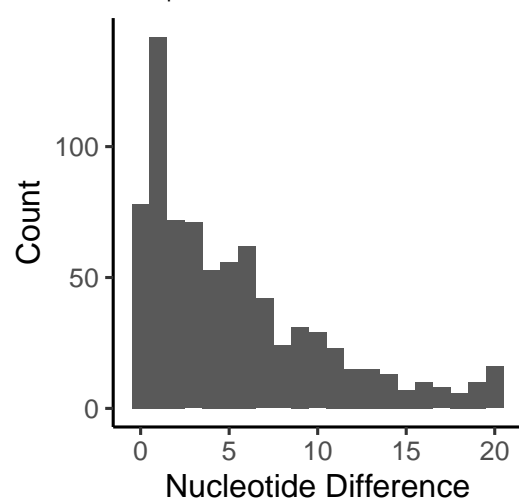
### IGHV4-80\*01\_G12A\_C83

969 sequences assigned  
70 (7.2%) exact matches, in which:  
64 unique CDR3  
4 unique J



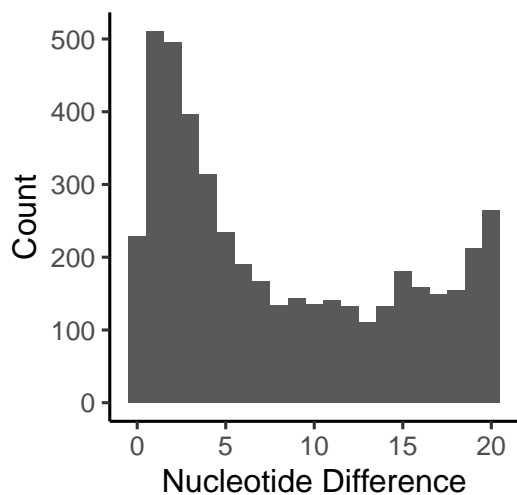
### IGHV4-122\*02\_G82T\_G83

860 sequences assigned  
78 (9.1%) exact matches, in which:  
69 unique CDR3  
4 unique J



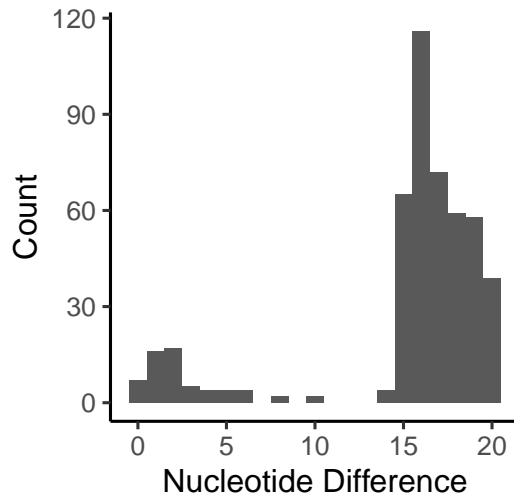
### IGHV4-76\*01\_C34G\_G147A

5871 sequences assigned  
229 (3.9%) exact matches, in which:  
215 unique CDR3  
4 unique J



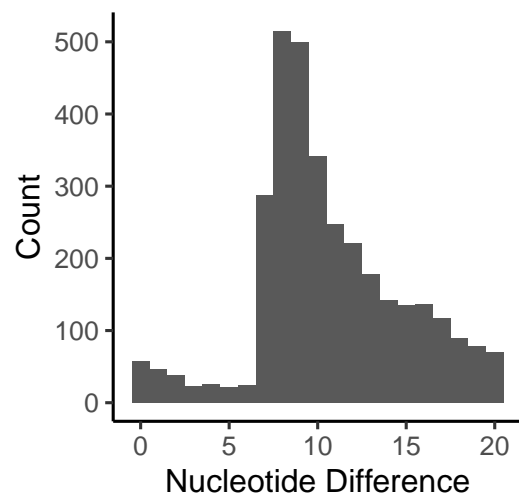
### IGHV4-81\*01\_G280T

878 sequences assigned  
7 (0.8%) exact matches, in which:  
7 unique CDR3  
2 unique J



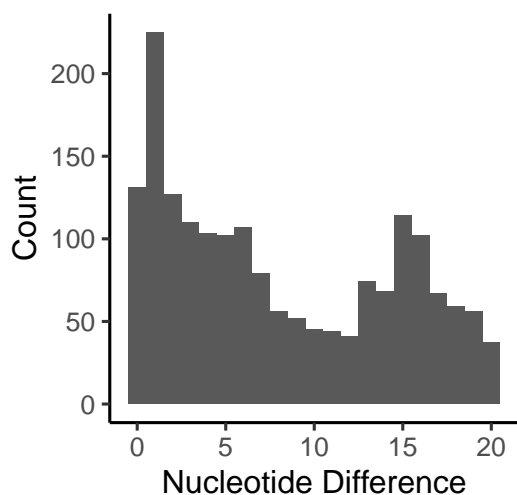
### IGHV4-169\*01\_C4G\_C47

3746 sequences assigned  
58 (1.5%) exact matches, in which:  
55 unique CDR3  
4 unique J



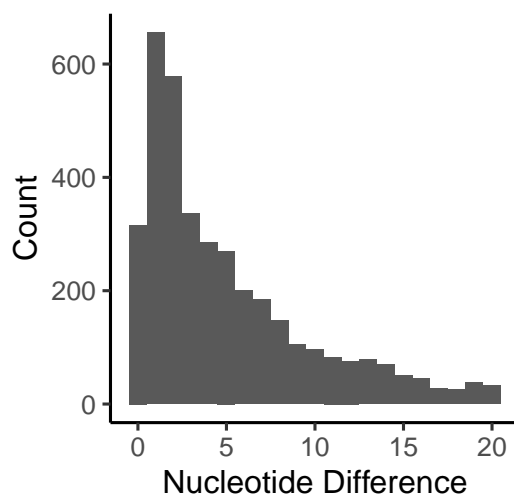
### IGHV4-80\*01\_C83G\_A83

2120 sequences assigned  
131 (6.2%) exact matches, in which:  
121 unique CDR3  
4 unique J



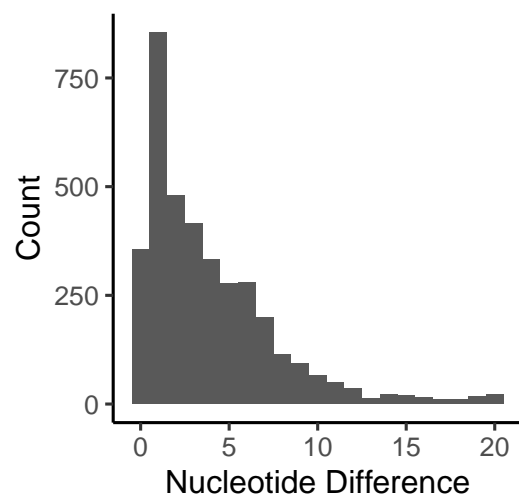
### IGHV4-92\*01\_G70A\_A10

3922 sequences assigned  
316 (8.1%) exact matches, in which:  
288 unique CDR3  
4 unique J



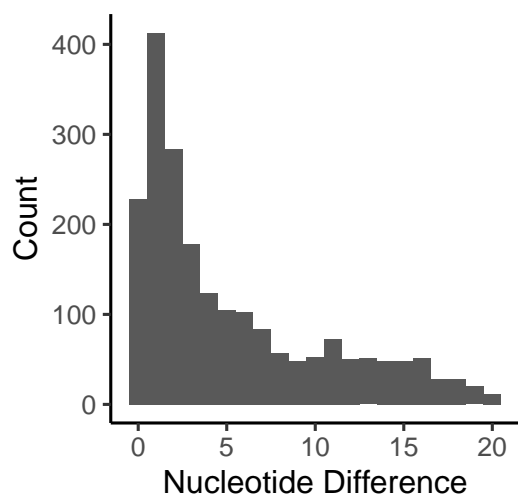
### IGHV5-20\*02\_A141G\_A2

3745 sequences assigned  
355 (9.5%) exact matches, in which:  
274 unique CDR3  
4 unique J



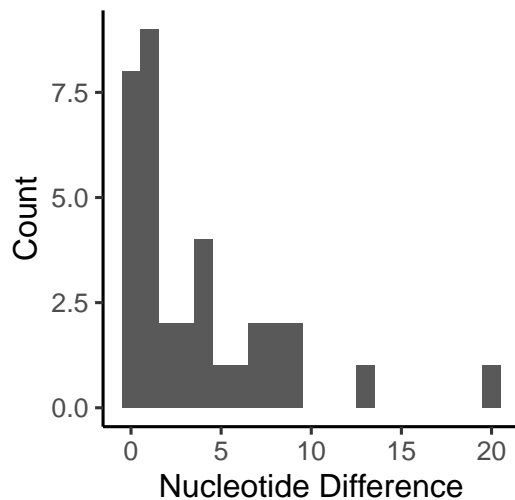
### IGHV5-20\*02\_A141G\_C:

2375 sequences assigned  
228 (9.6%) exact matches, in which:  
179 unique CDR3  
4 unique J



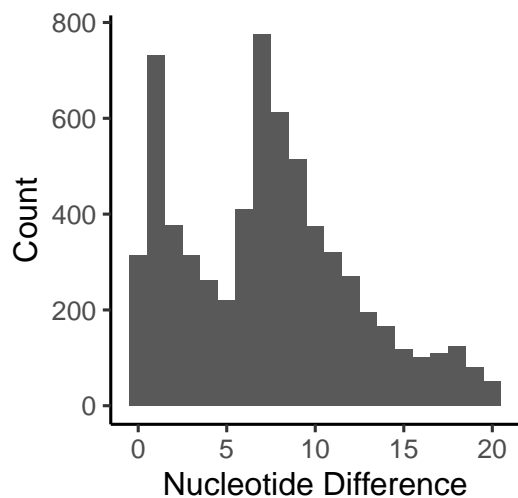
### IGHV7-193\*01\_C89T

154 sequences assigned  
8 (5.2%) exact matches, in which:  
8 unique CDR3  
3 unique J



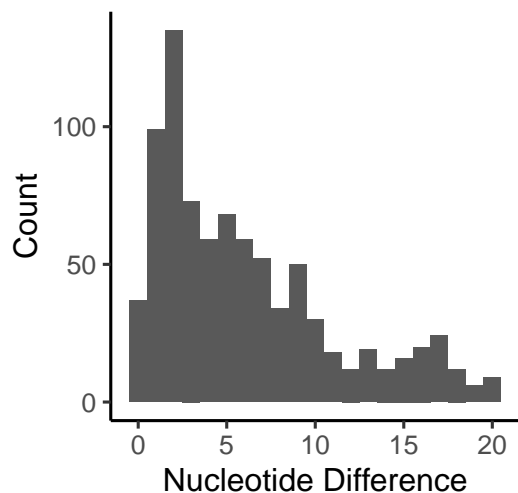
### IGHV5-43\*01\_A106G

6738 sequences assigned  
315 (4.7%) exact matches, in which:  
242 unique CDR3  
4 unique J

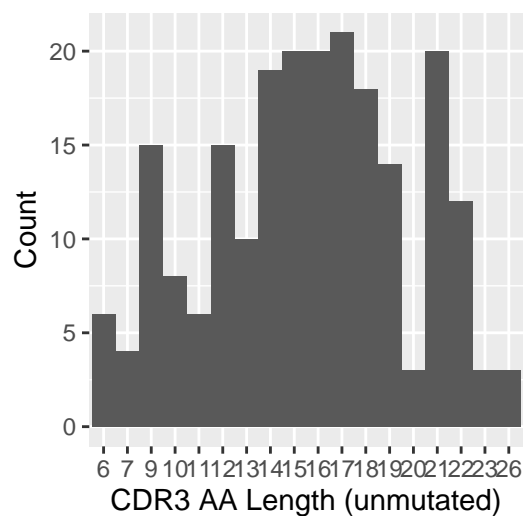


### IGHV6-1\*01\_G280T

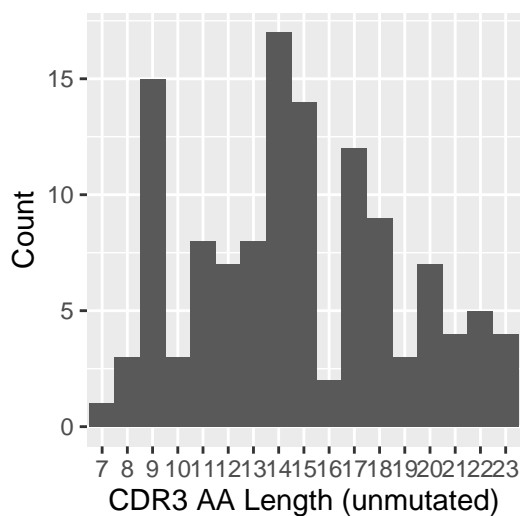
876 sequences assigned  
37 (4.2%) exact matches, in which:  
32 unique CDR3  
2 unique J



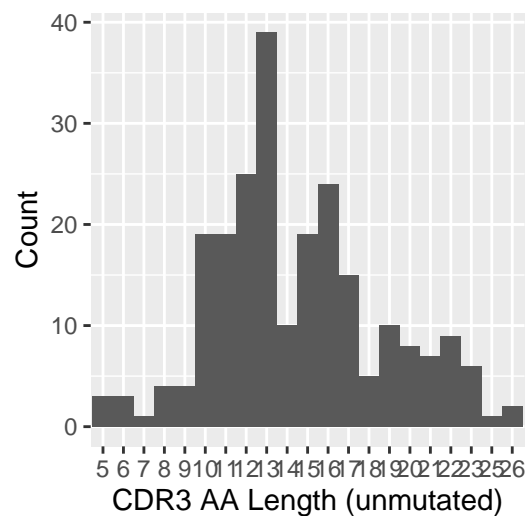
IGHV3-16\*01\_A51T\_T78C\_



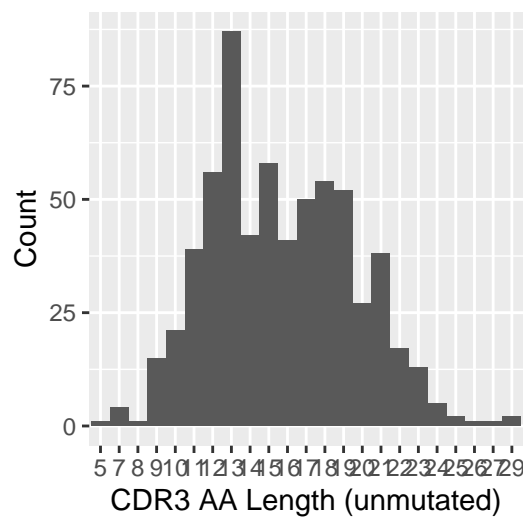
IGHV3-116\*02\_T109C



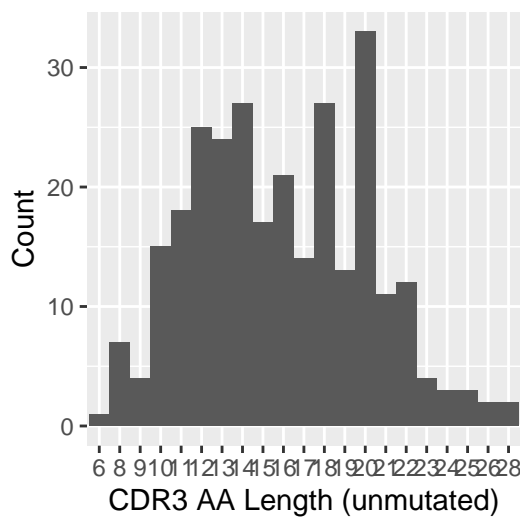
IGHV3-30\*02\_C141G



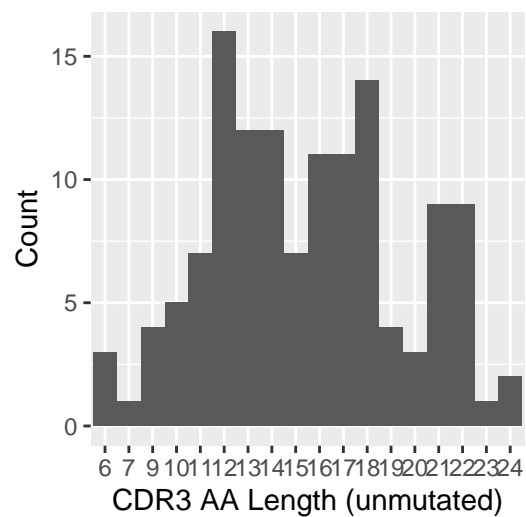
IGHV3-54\*02\_G170C



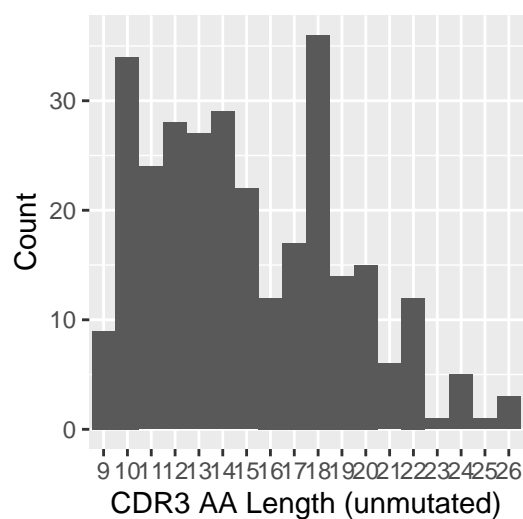
IGHV3S42\*01\_T120C



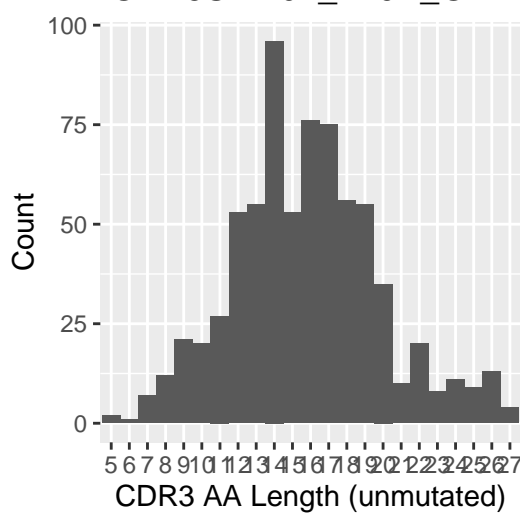
IGHV4-80\*01\_C83G\_A88T\_



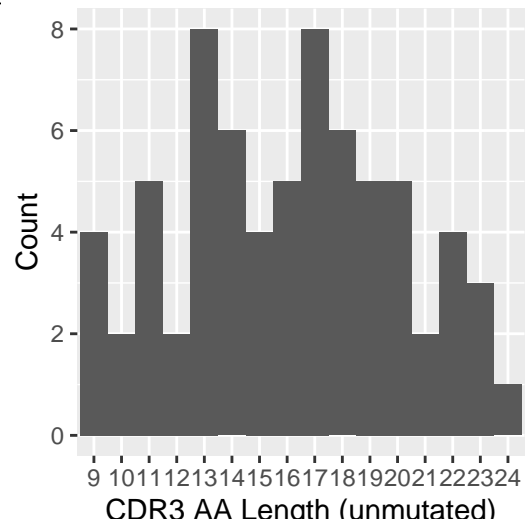
IGHV3-54\*02\_T78C\_T111C\_



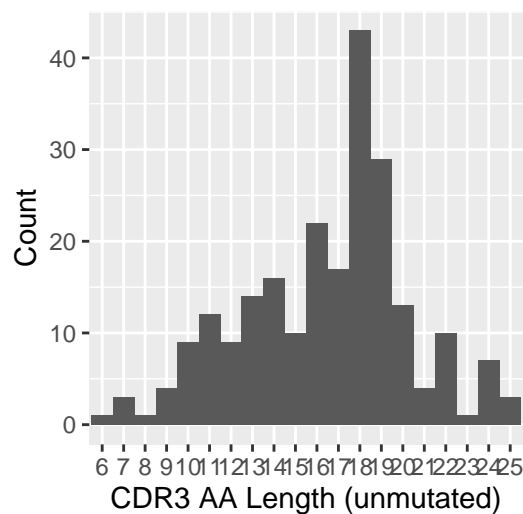
IGHV3S42\*01\_T19A\_G24A\_



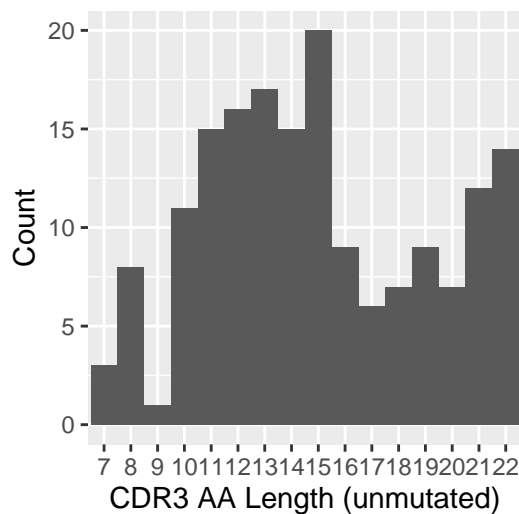
IGHV4-80\*01\_G12A\_C83G\_A



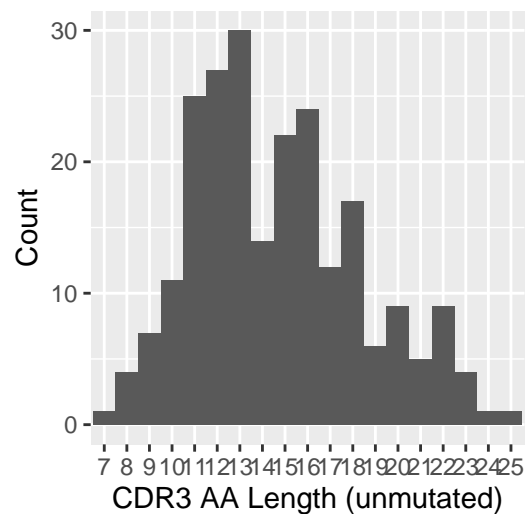
IGHV5-20\*02\_A141G\_C312



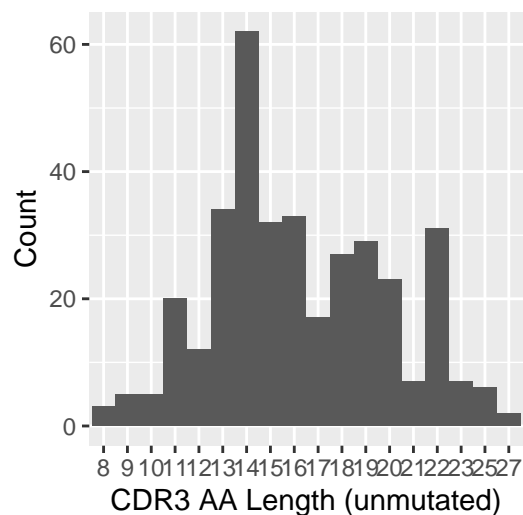
IGHV3-134\*01\_A3G\_A39C



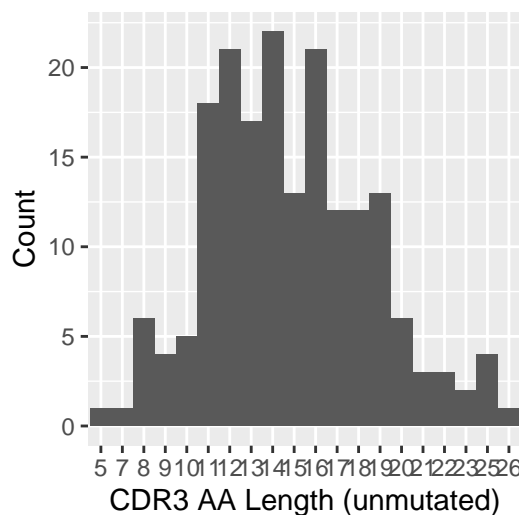
IGHV4-76\*01\_C34G\_G103A



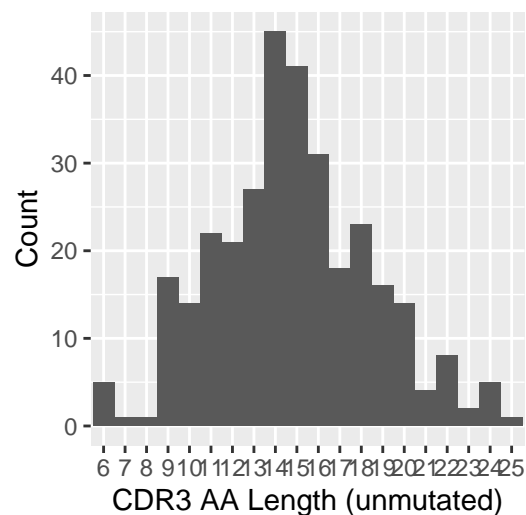
IGHV5-20\*02\_A141G\_A295



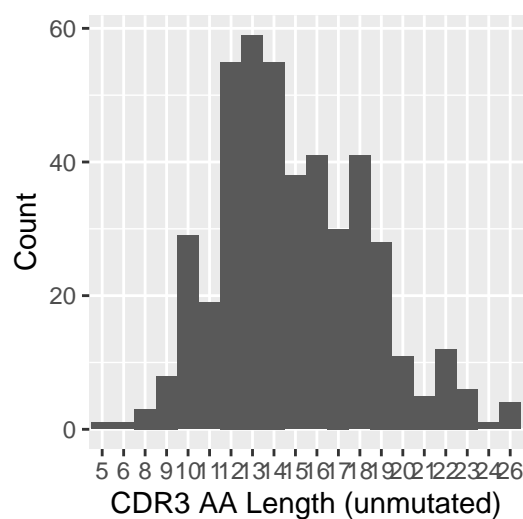
IGHV4-65\*02\_A163T\_G169



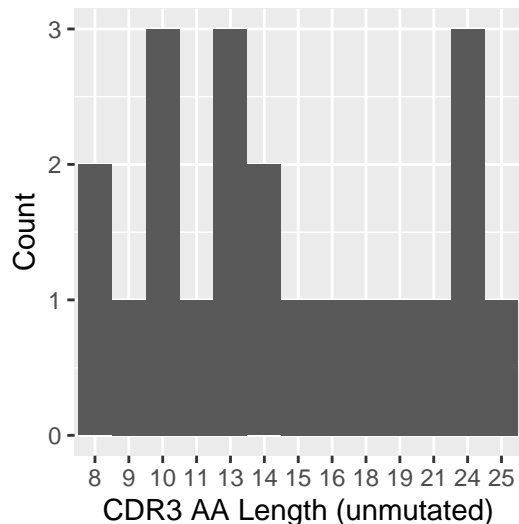
IGHV4-92\*01\_G70A\_A103G



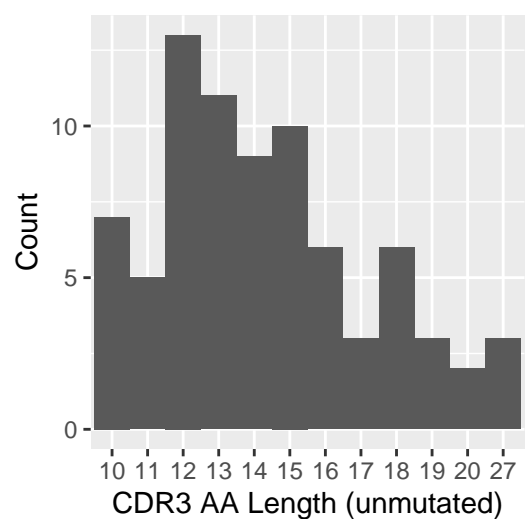
IGHV3-103\*01\_T19A\_G24A



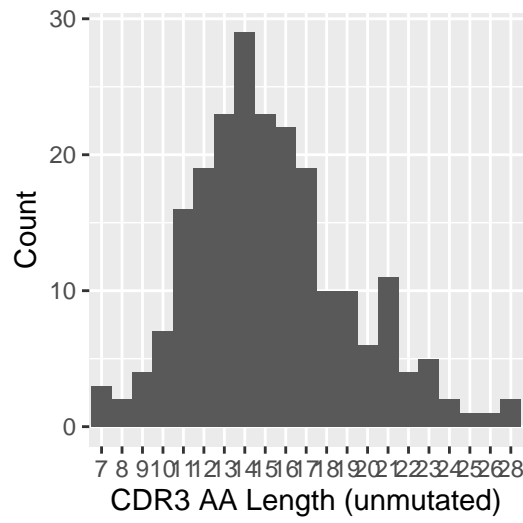
IGHV4-73\*01\_G147A



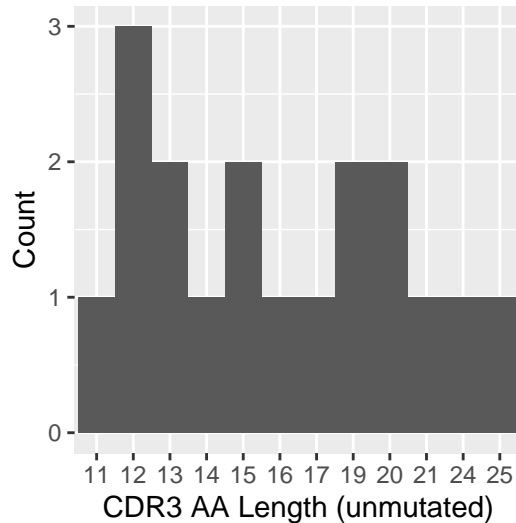
IGHV4-122\*02\_G82T\_G83A



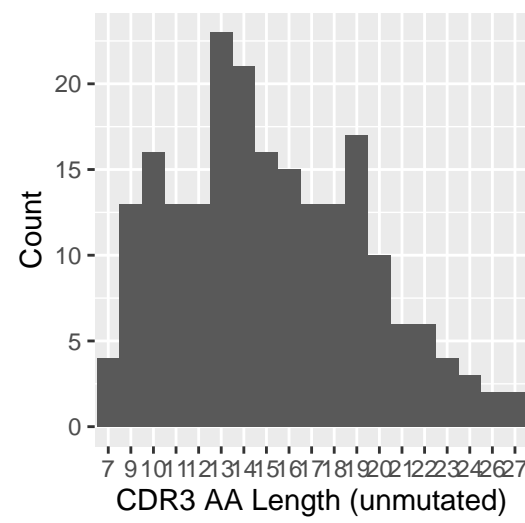
IGHV4S10\*01\_A48G\_T112A



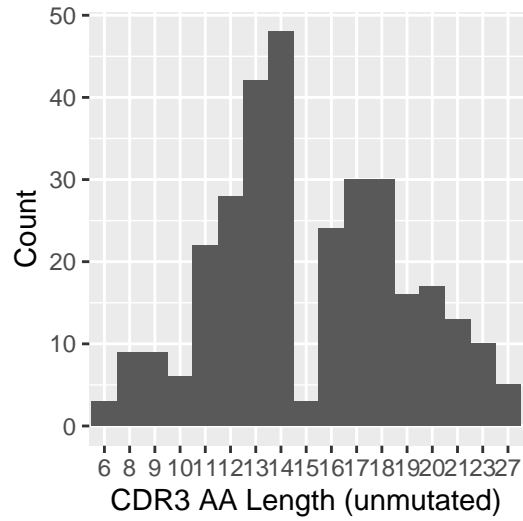
IGHV2-95\*01\_A103T\_G289T



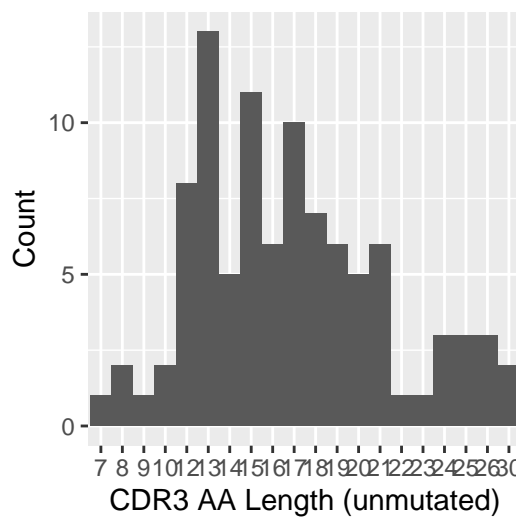
IGHV4S2\*01\_G248C



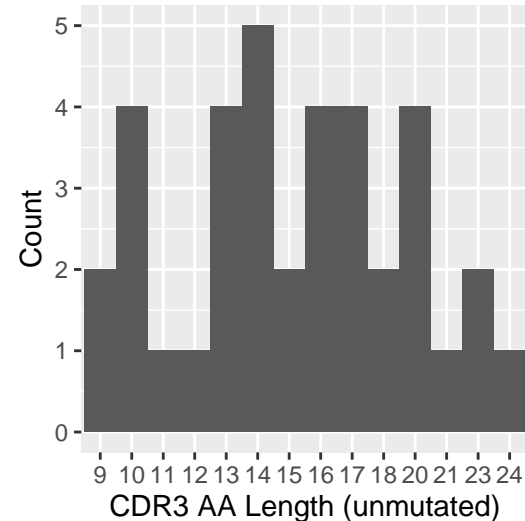
IGHV5-43\*01\_A106G



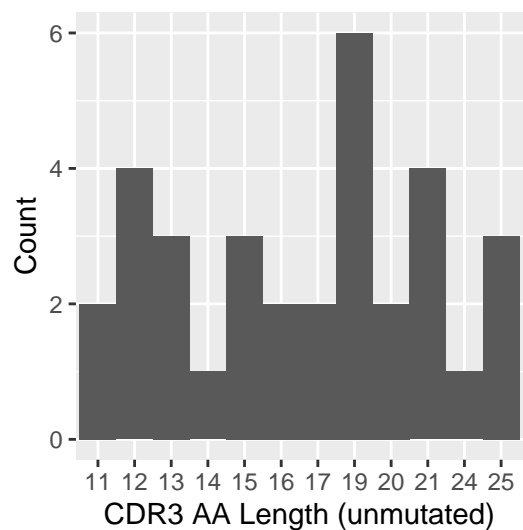
IGHV2S1\*01\_G289T



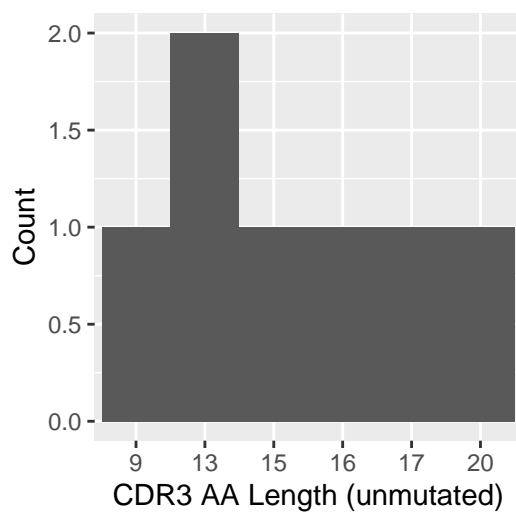
IGHV6-1\*01\_G280T



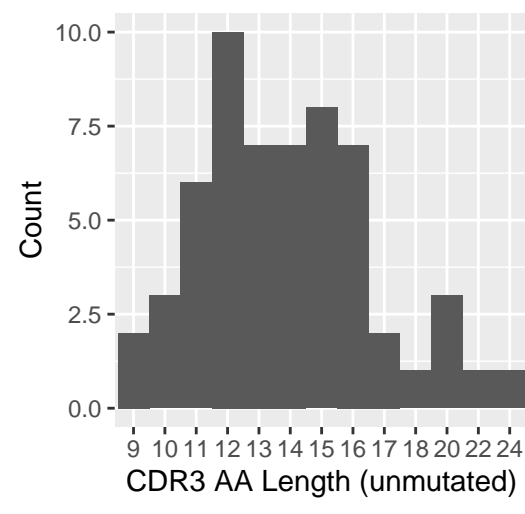
IGHV2-95\*01\_A103T



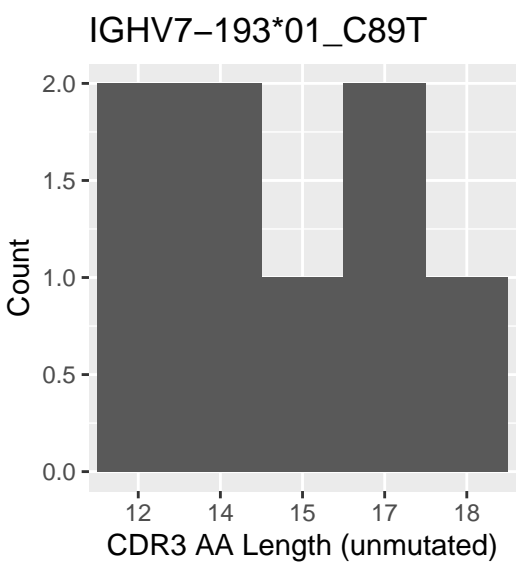
IGHV4-81\*01\_G280T

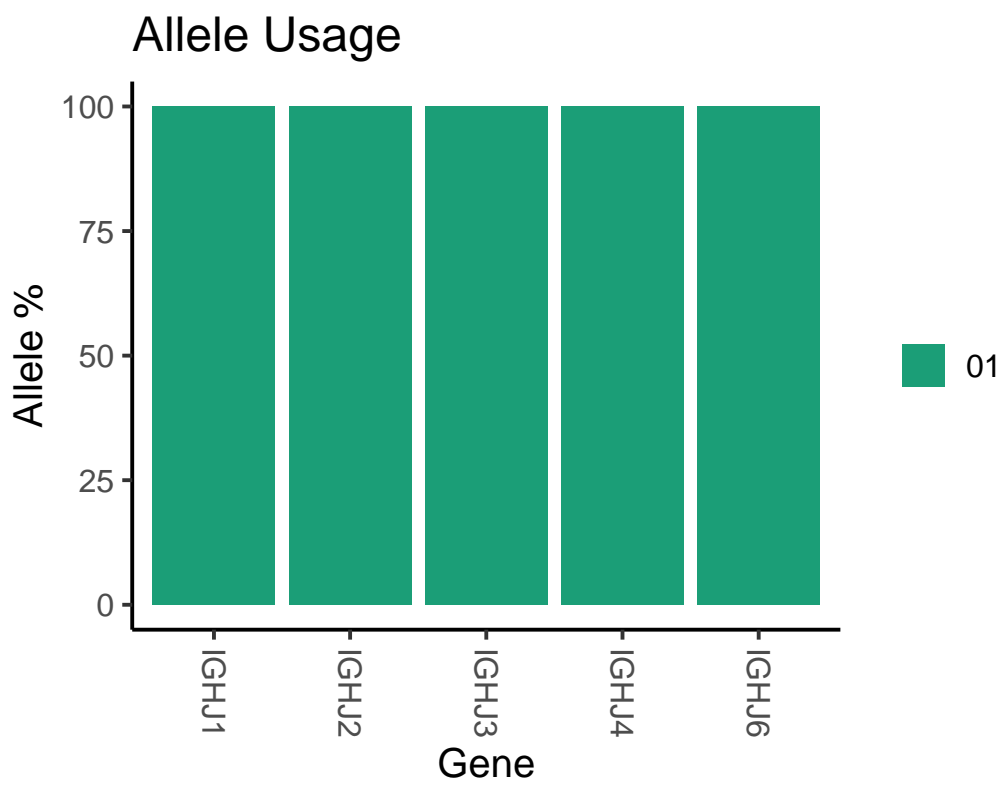


IGHV4-169\*01\_C4G\_C47T









Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.