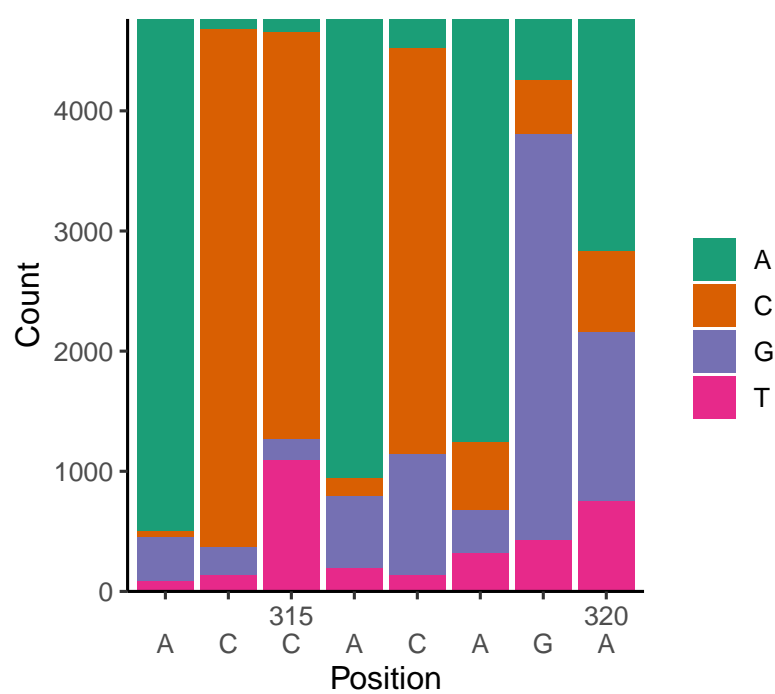
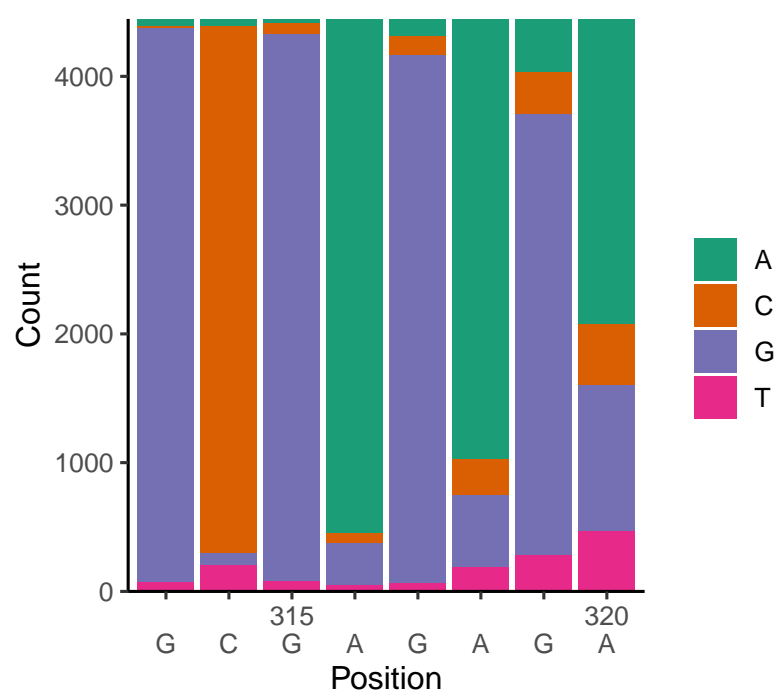


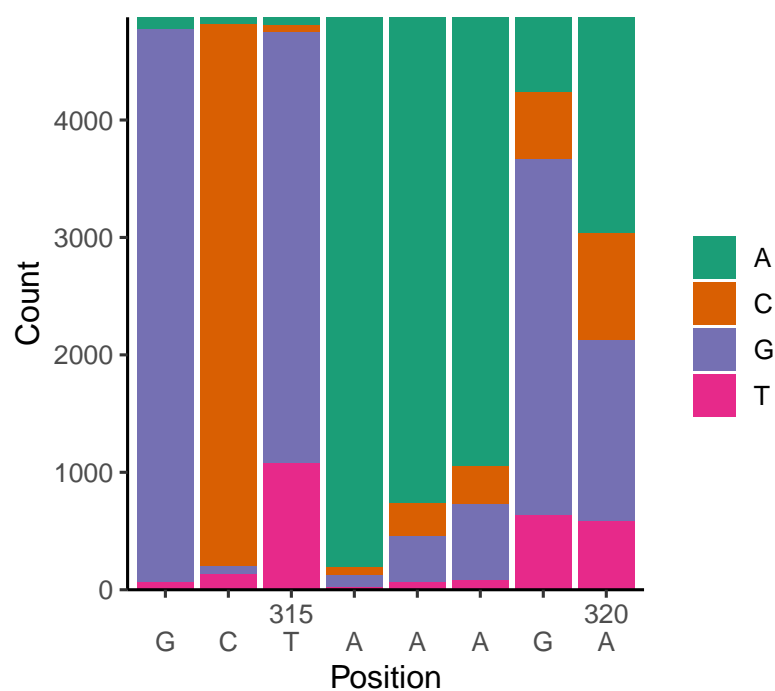
Gene IGHV3-30\*02\_C141G\_C183T



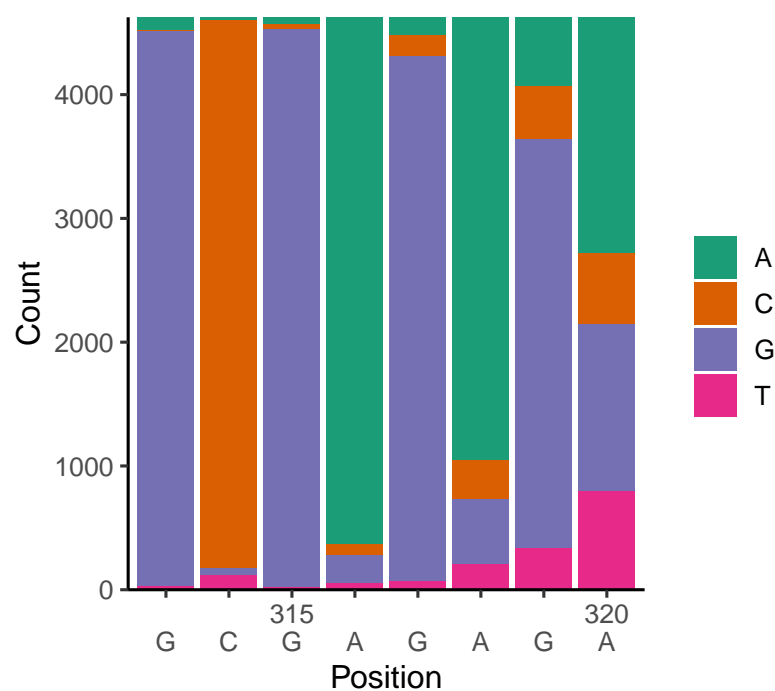
Gene IGHV3-54\*02\_G170C



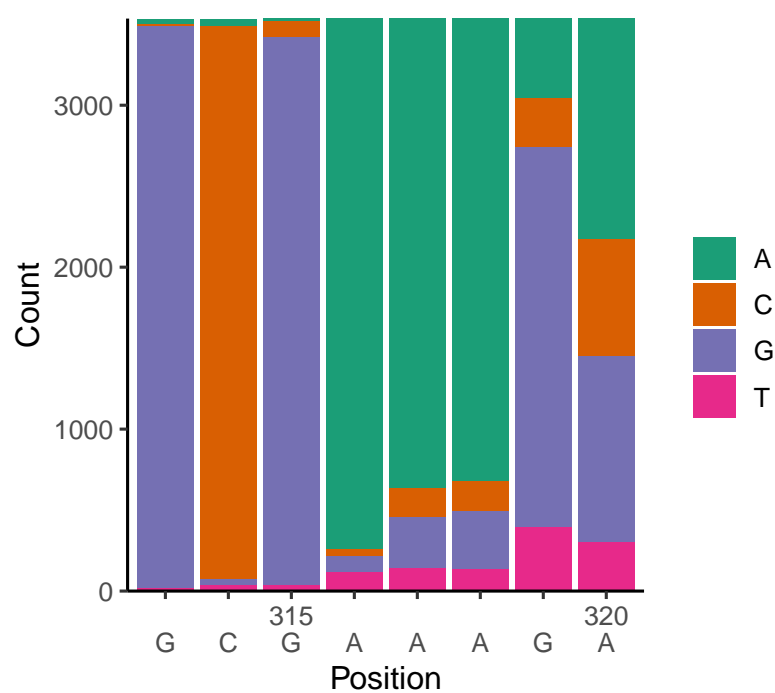
Gene IGHV3S42\*01\_T19A\_G24A\_C27A



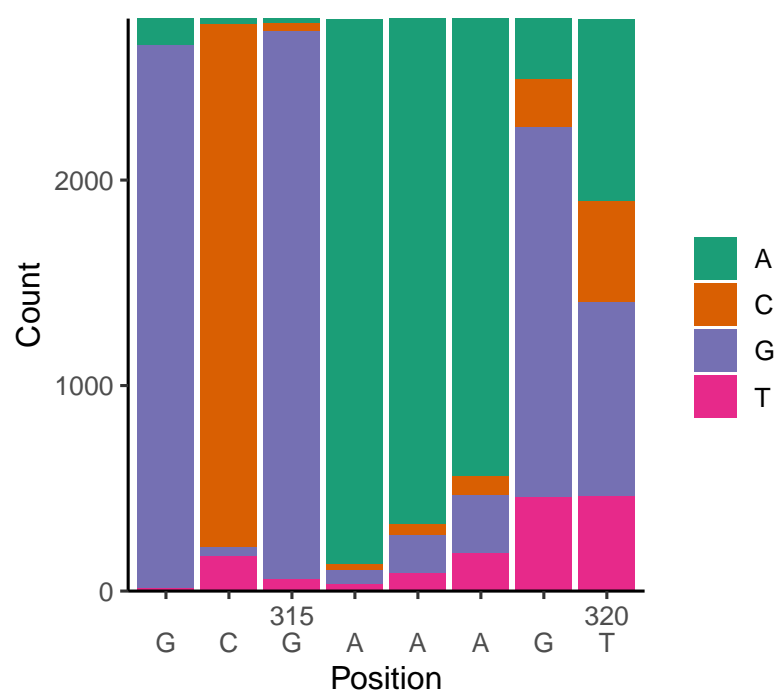
Gene IGHV4-173\*01\_C47T



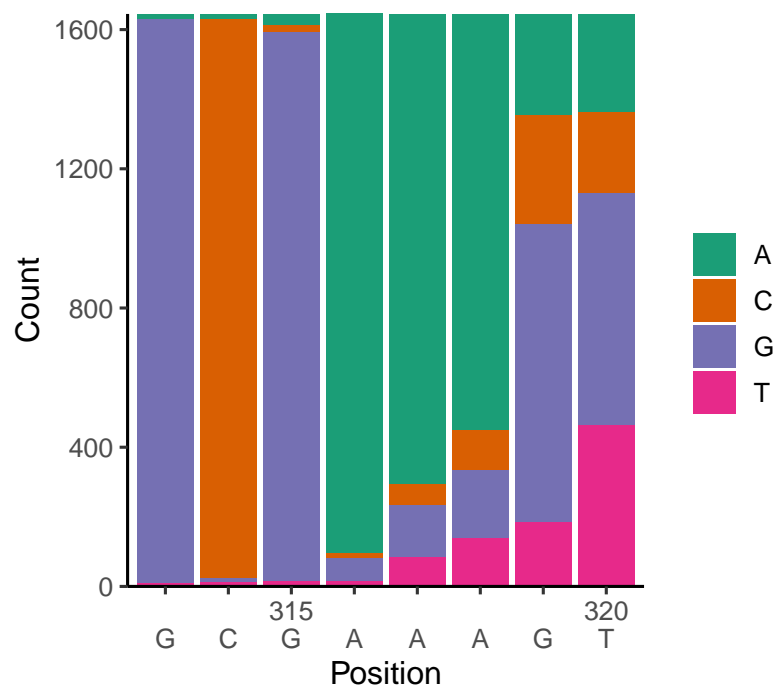
Gene IGHV5-20\*02\_A295T\_C312T



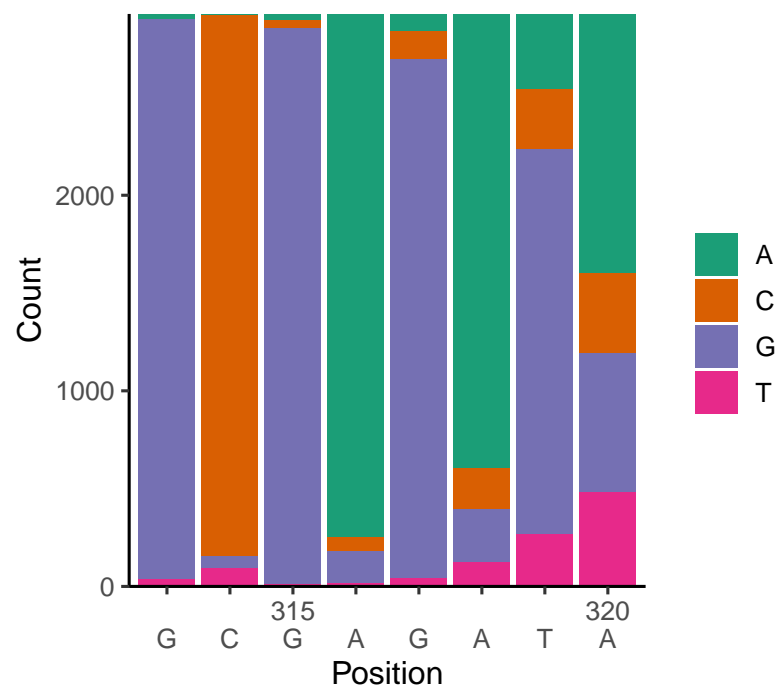
Gene IGHV5-43\*01\_A109T\_G110A\_G111A



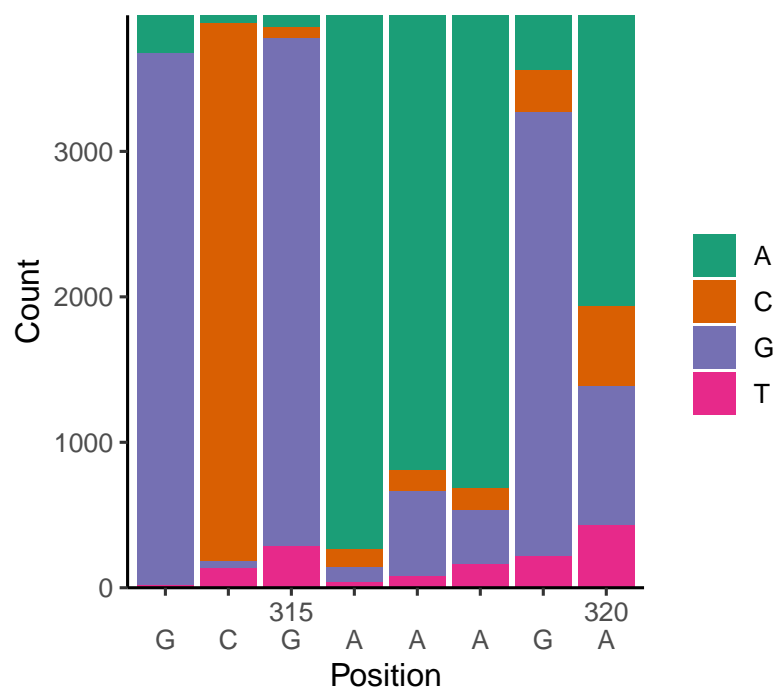
Gene IGHV5-43\*02\_A59G



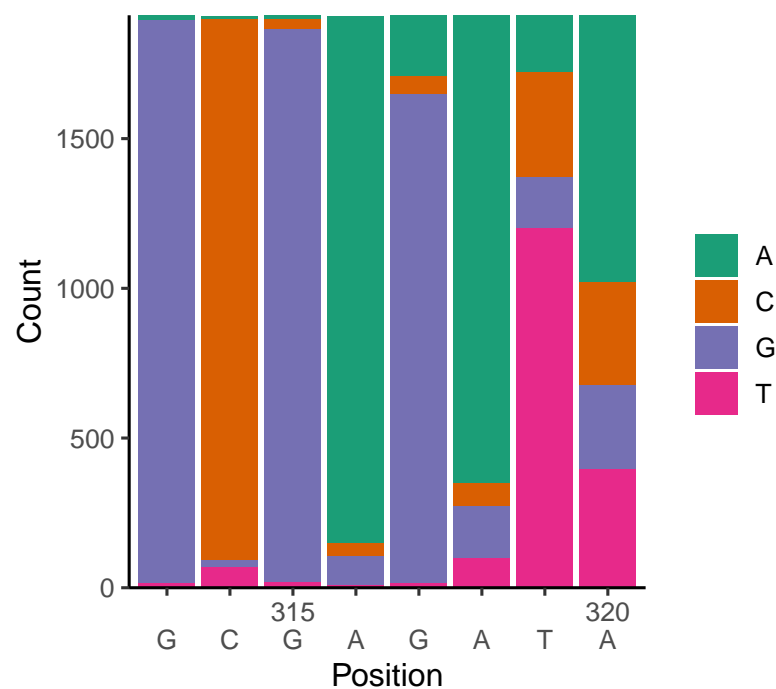
Gene IGHV4-80\*01\_C83G\_A88T\_T105C



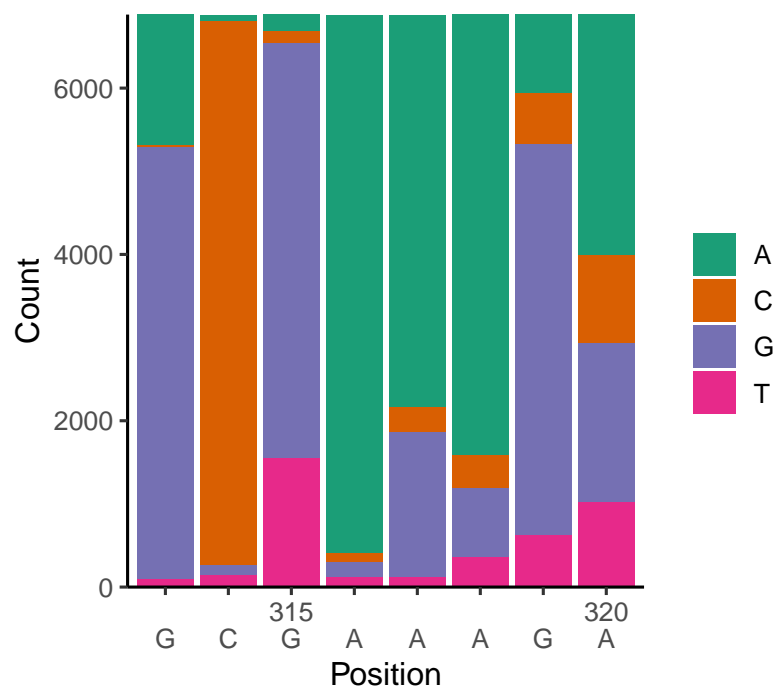
Gene IGHV3-103\*01\_G51A\_A170G



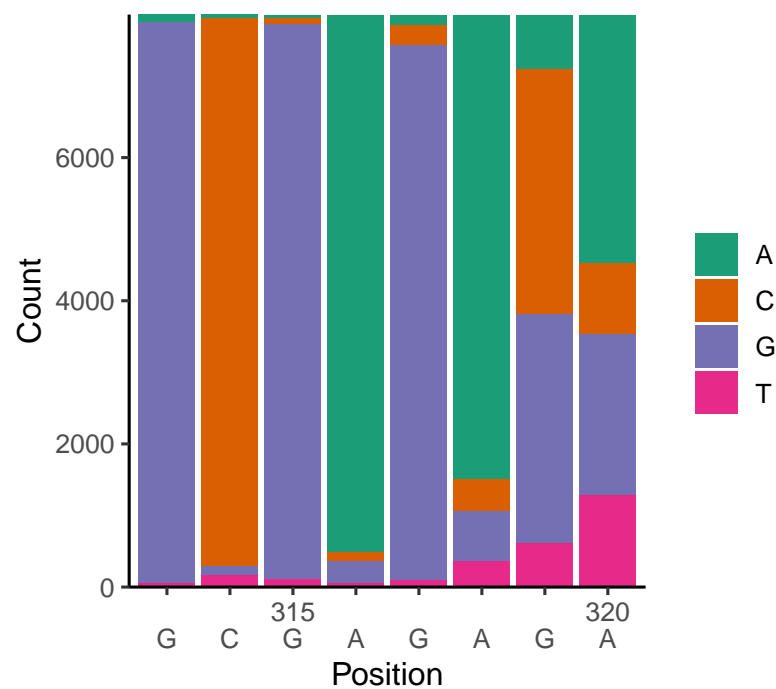
Gene IGHV4-80\*01\_G4C\_C83G\_A88T\_



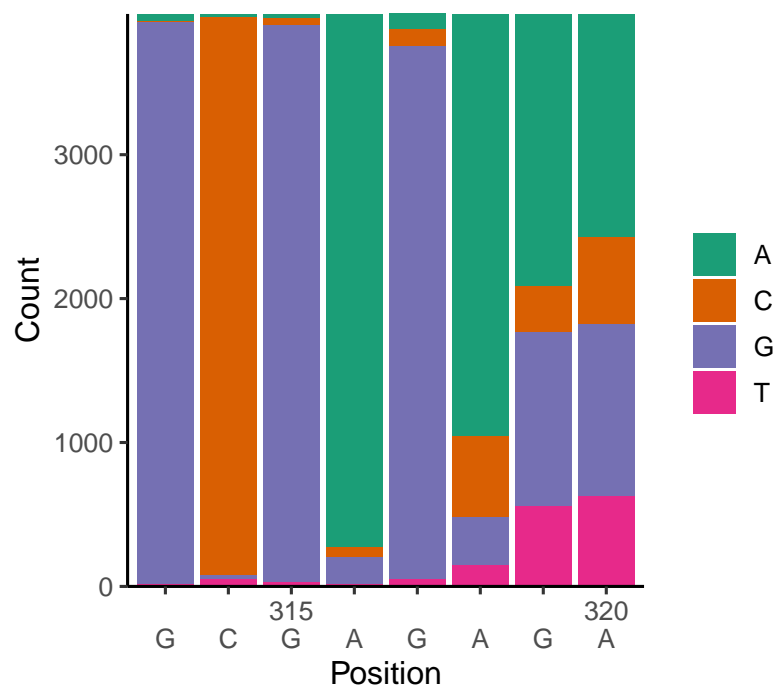
Gene IGHV3-103\*01\_G24A\_C27A\_C38



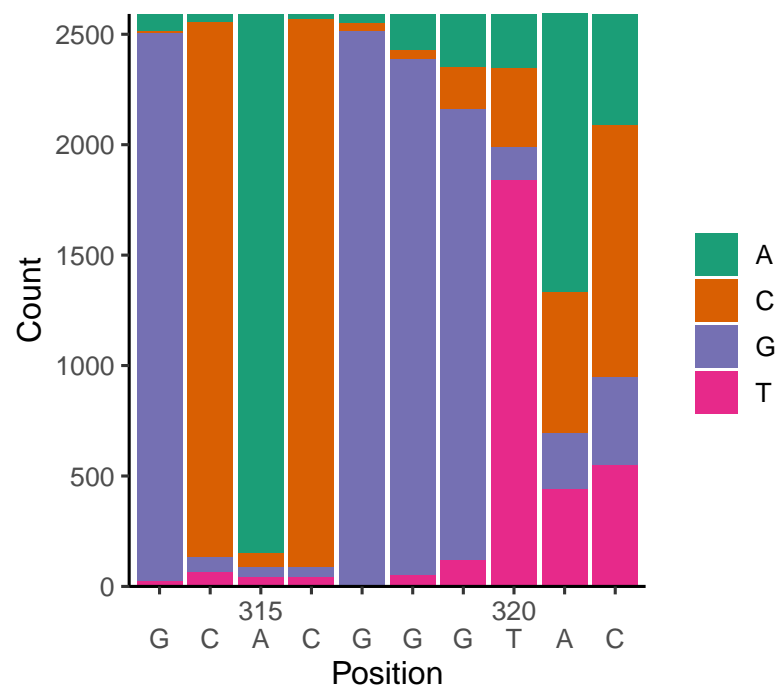
Gene IGHV4-127\*01\_G169A



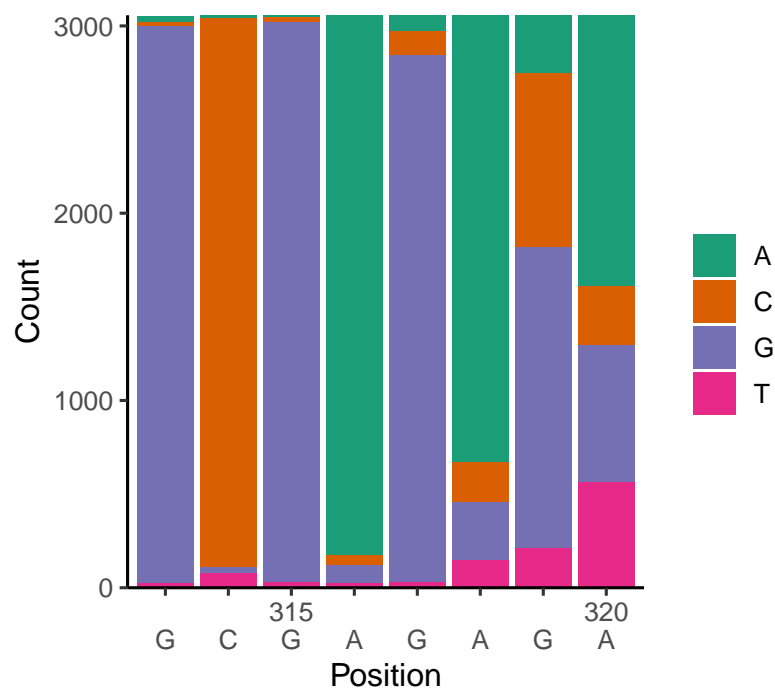
Gene IGHV4-147\*01\_G82T\_G83A\_A16:



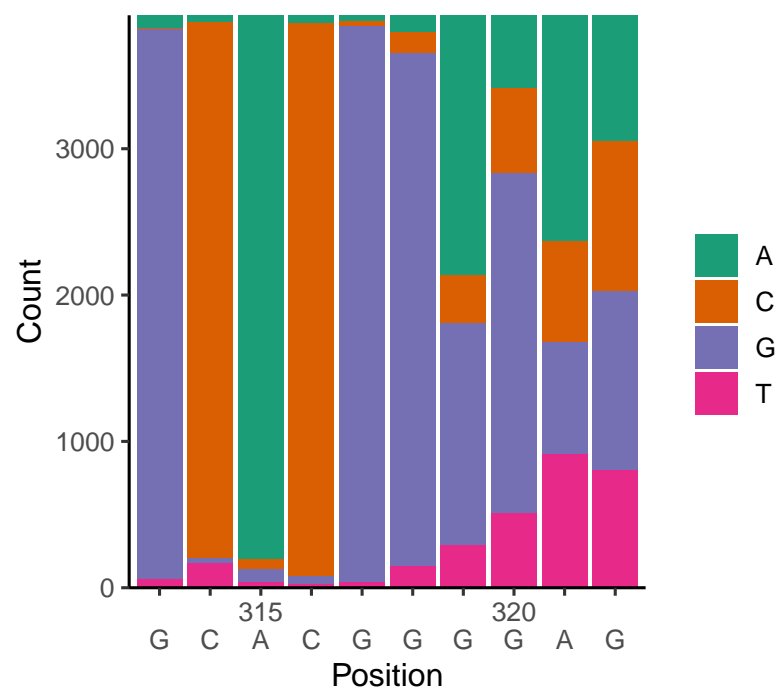
Gene IGHV2-95\*01\_A267G



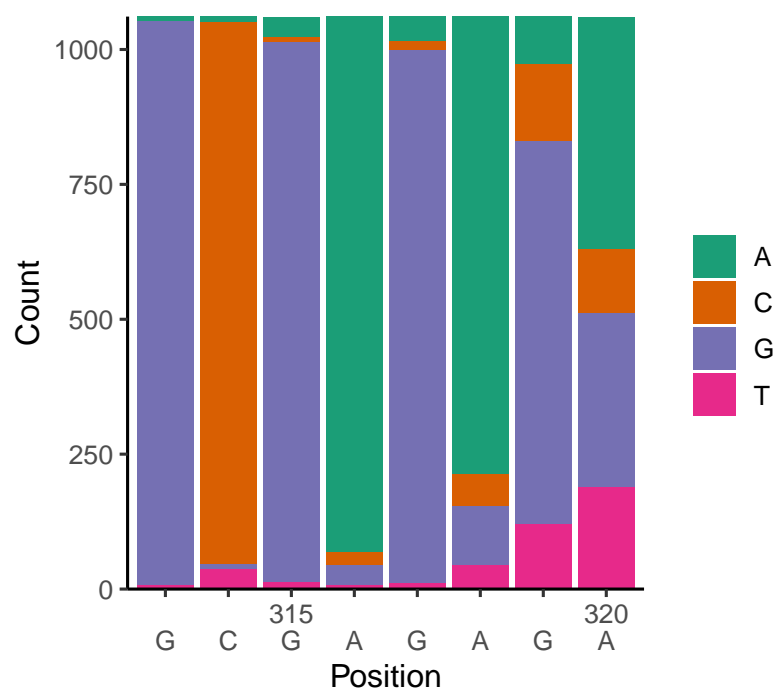
Gene IGHV4S13\*01\_C288A



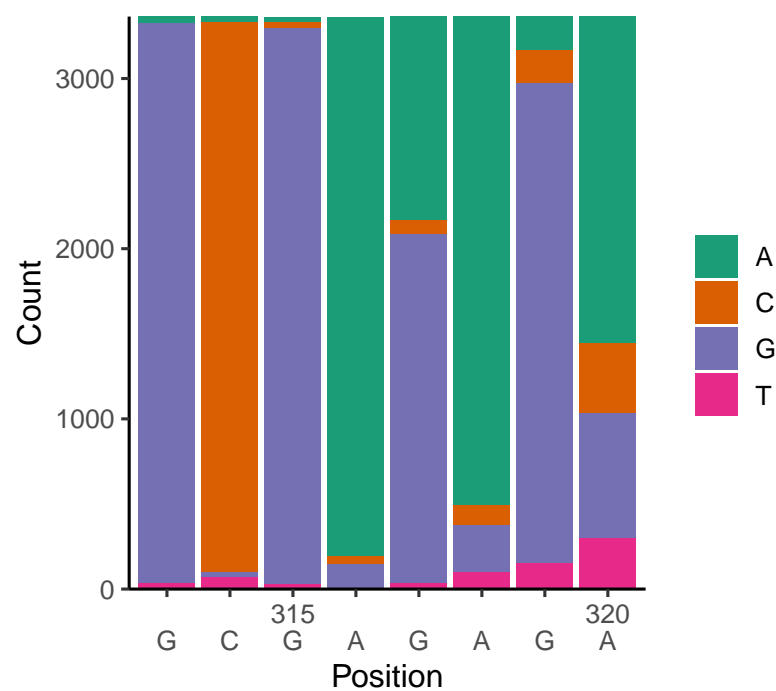
Gene IGHV2-174\*01\_G289T



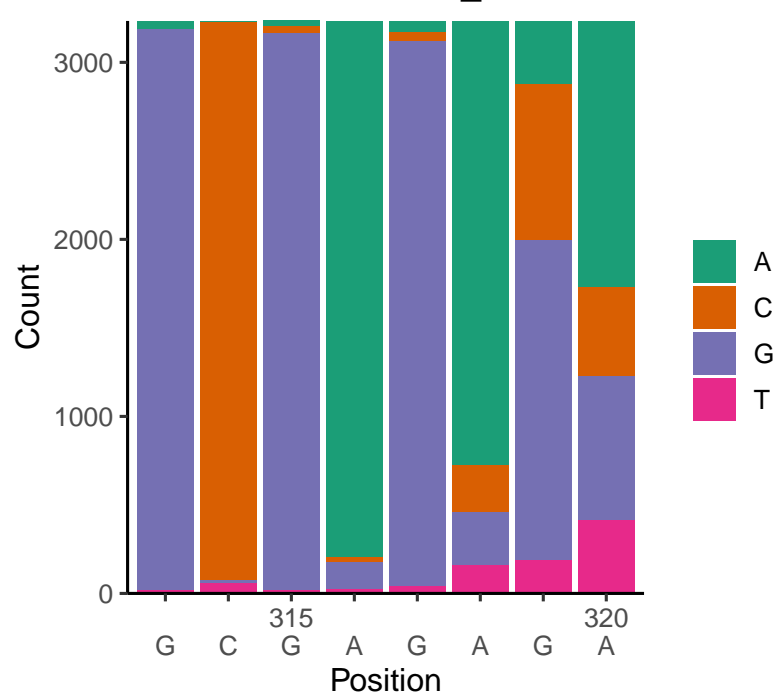
Gene IGHV4S2\*01\_G248C



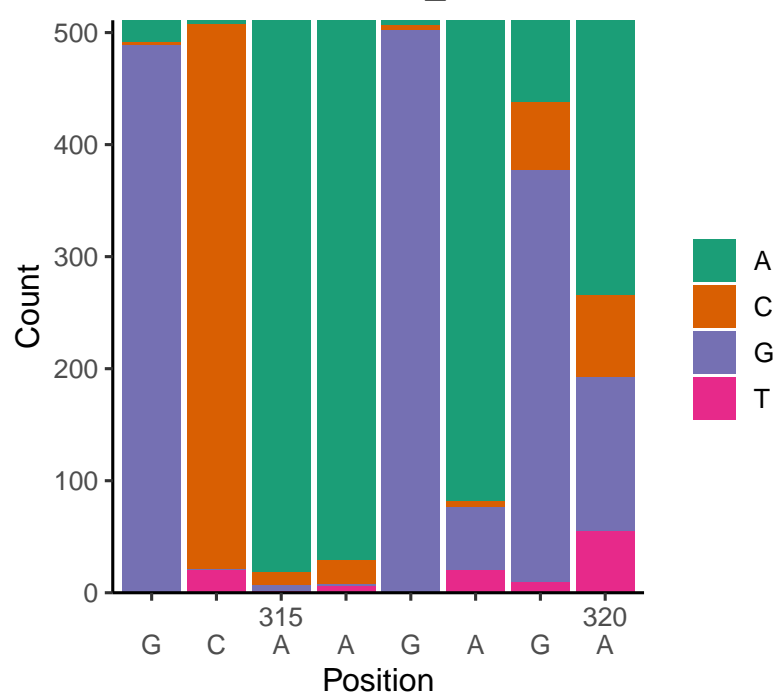
Gene IGHV3-178\*01\_C27A\_A274G\_A275G



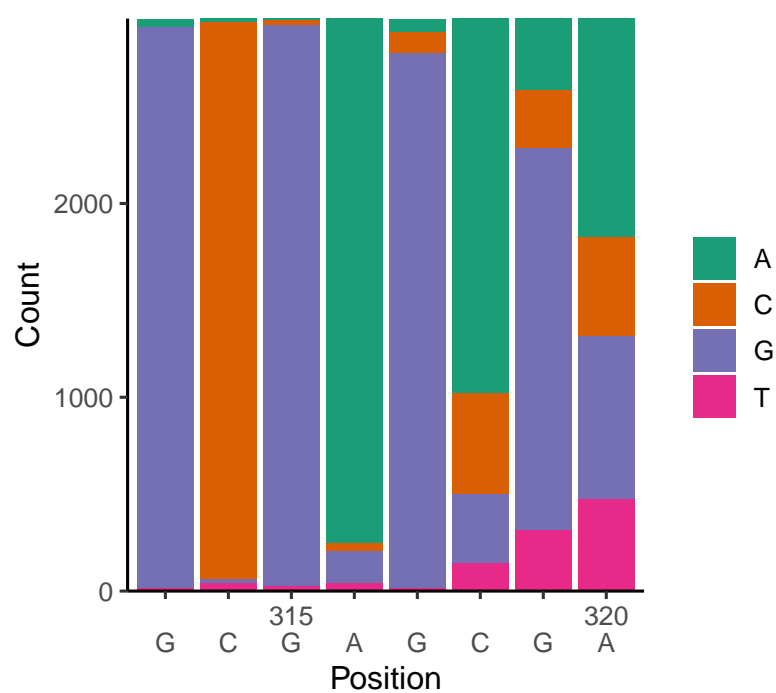
Gene IGHV4-73\*01\_G147A



Gene IGHV6-1\*01\_G280T



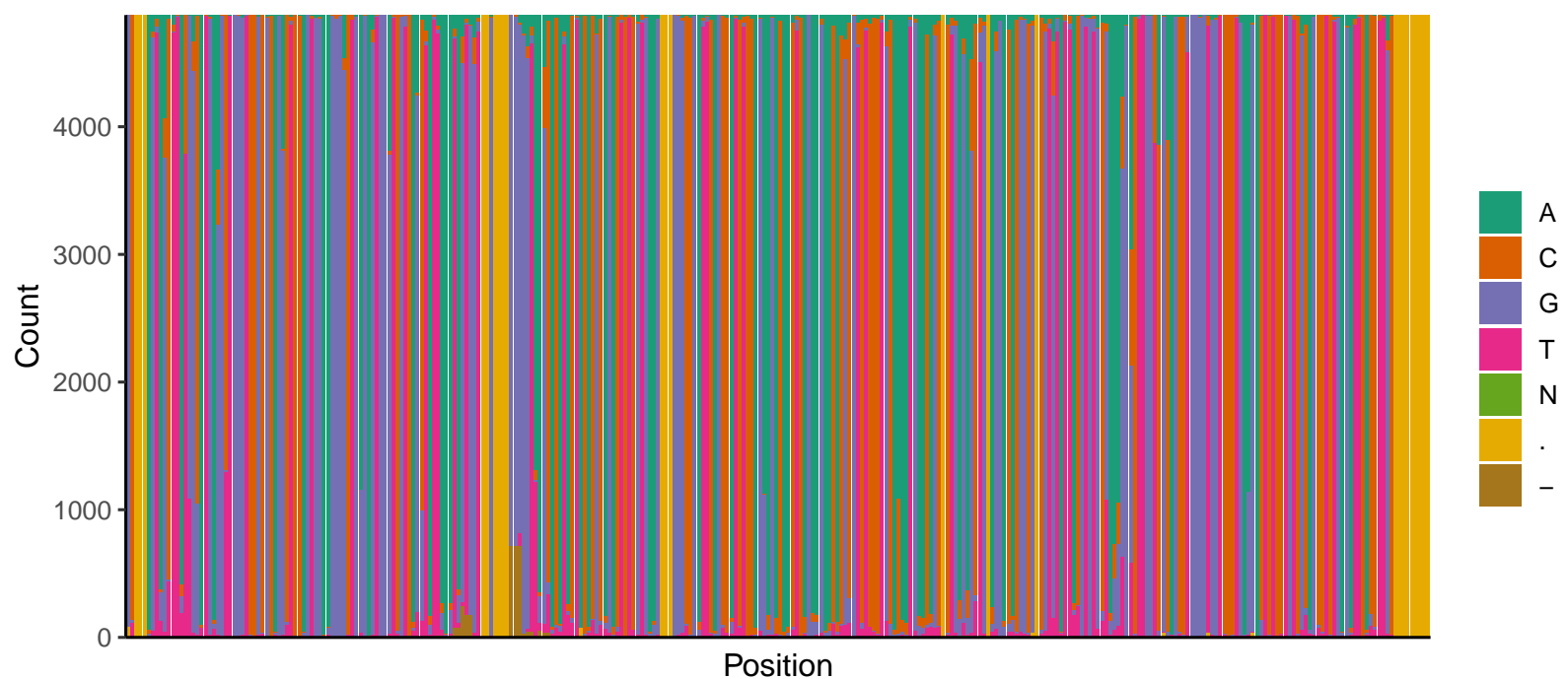
Gene IGHV4-169\*02\_T60C\_G61C



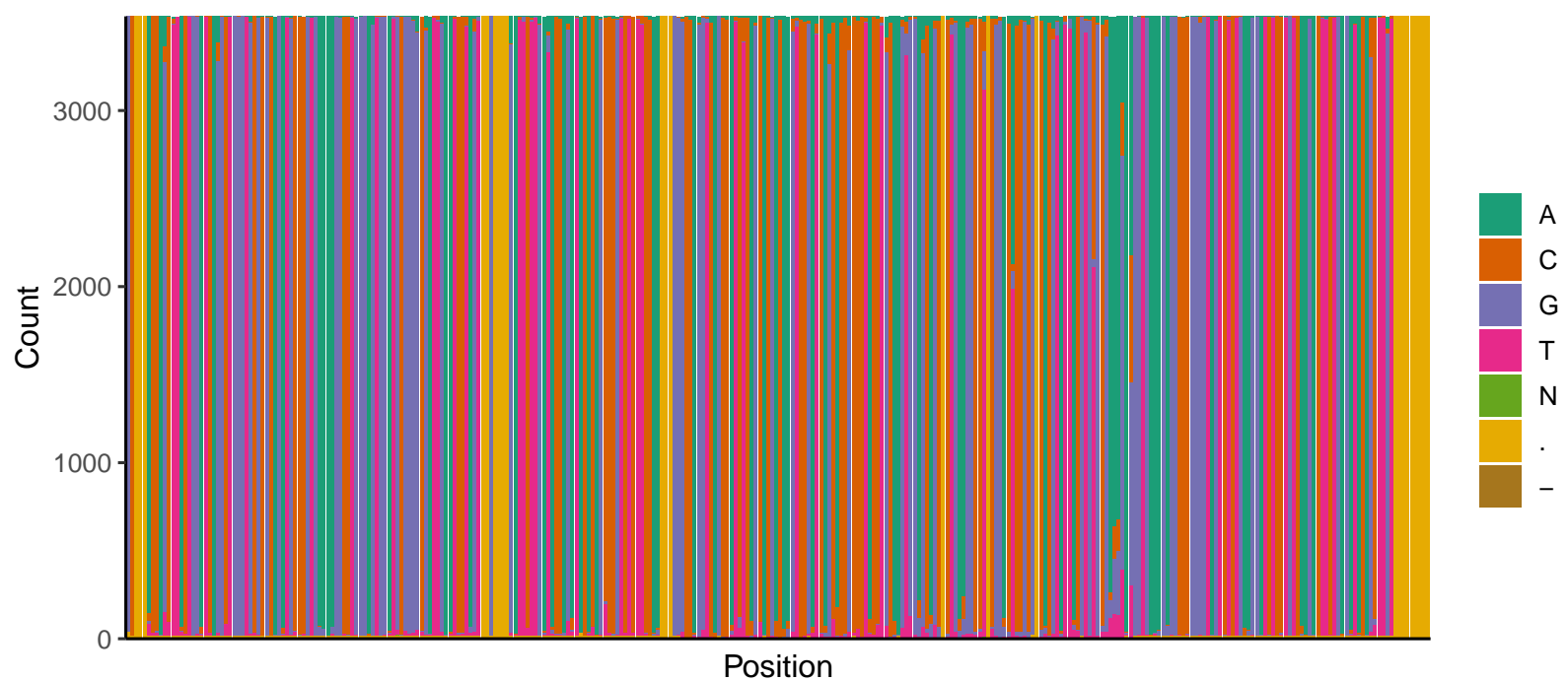
Gene IGHV3-30\*02\_C141G\_C183T



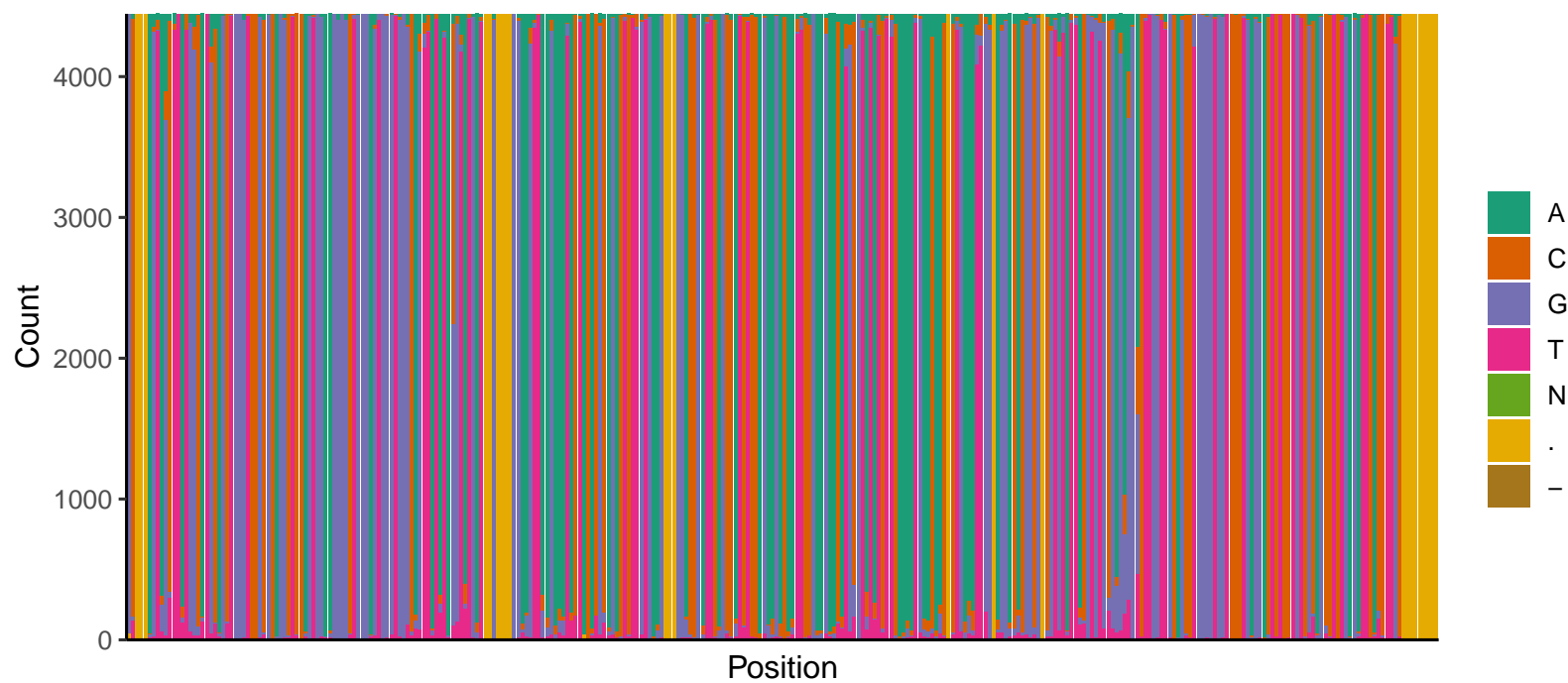
Gene IGHV3S42\*01\_T19A\_G24A\_C27A\_C38T\_A39C\_A40C\_G59A\_C111T\_T112G\_G113A



Gene IGHV5-20\*02\_A295T\_C312T



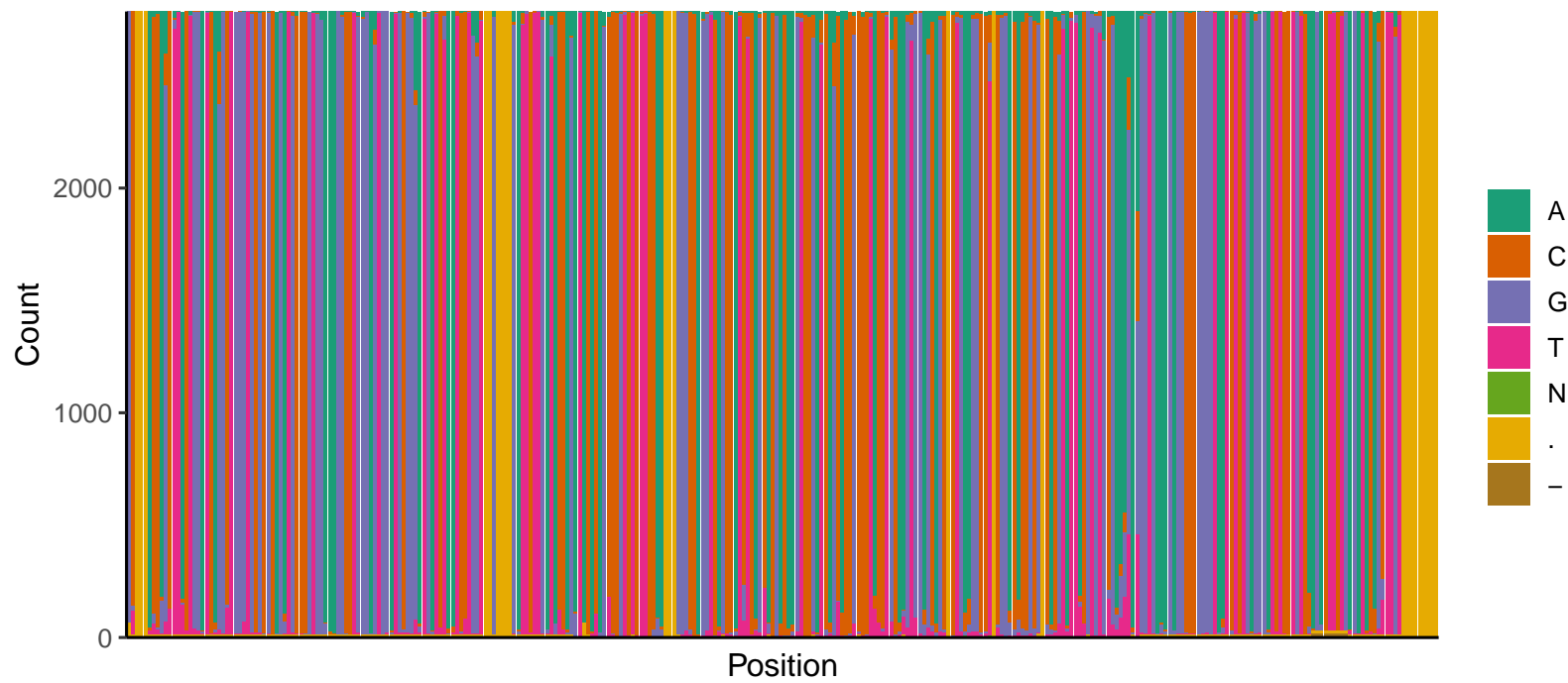
Gene IGHV3-54\*02\_G170C



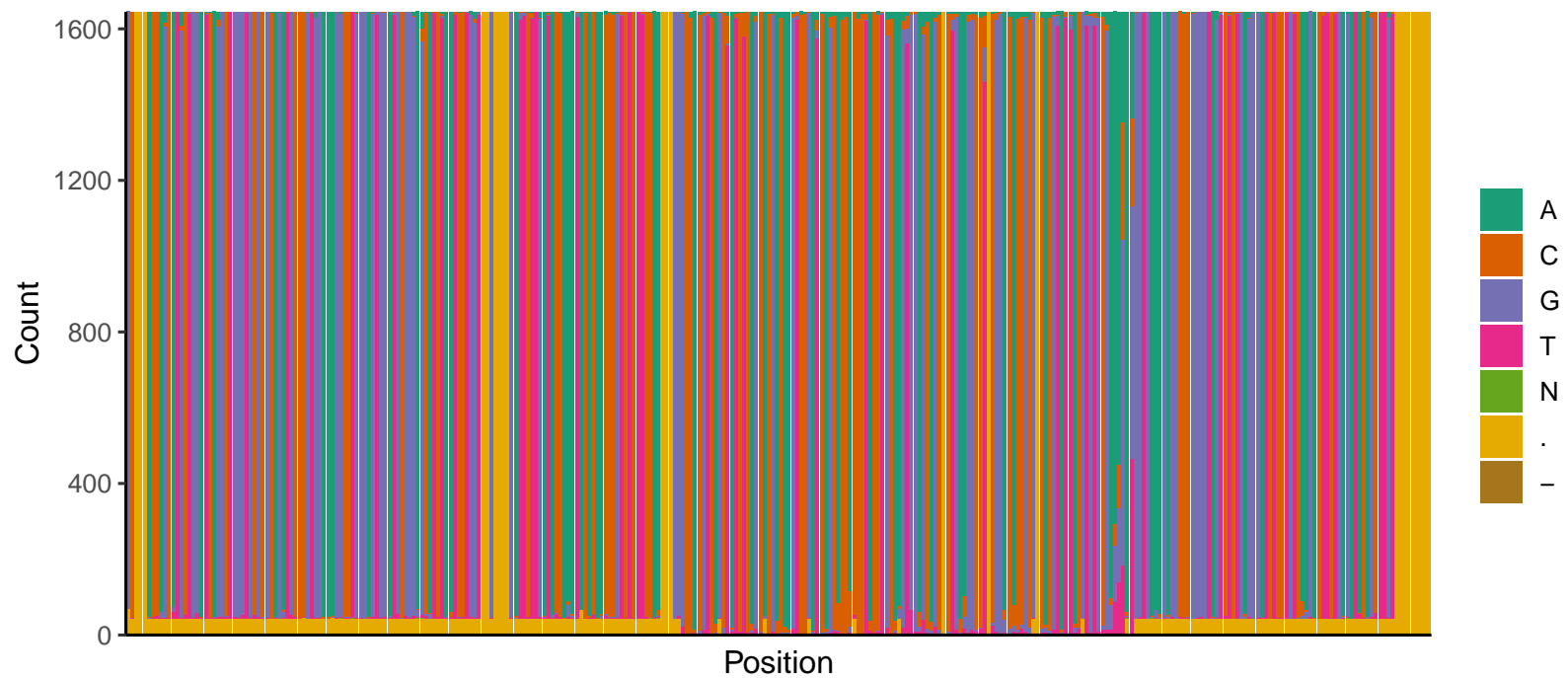
Gene IGHV4-173\*01\_C47T



Gene IGHV5-43\*01\_A109T\_G110A\_G164T\_C165G\_A203G\_C225G\_T231C\_A259G



Gene IGHV5-43\*02\_A59G



Gene IGHV3-103\*01\_G51A\_A170G



Gene IGHV3-103\*01\_G24A\_C27A\_C38T\_A39C\_A40C\_C113G\_T114C\_C118A\_A119G



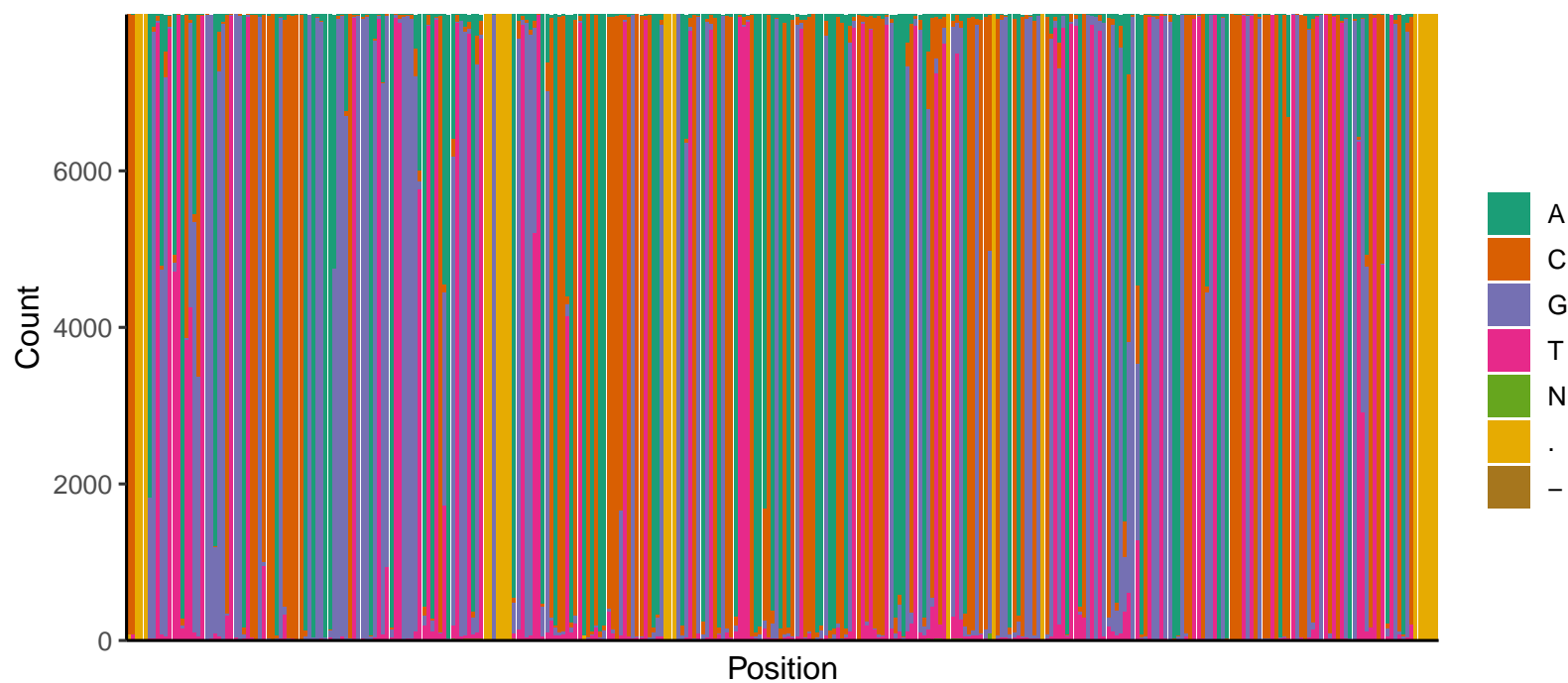
Gene IGHV4-80\*01\_C83G\_A88T\_T105C\_T189G\_T196A



Gene IGHV4-80\*01\_G4C\_C83G\_A88T\_T105C\_T189G\_T196A



Gene IGHV4-127\*01\_G169A





Gene IGHV4-147\*01\_G82T\_G83A\_A162G\_C163T\_G164A\_A196T\_G197A\_C215A\_G29



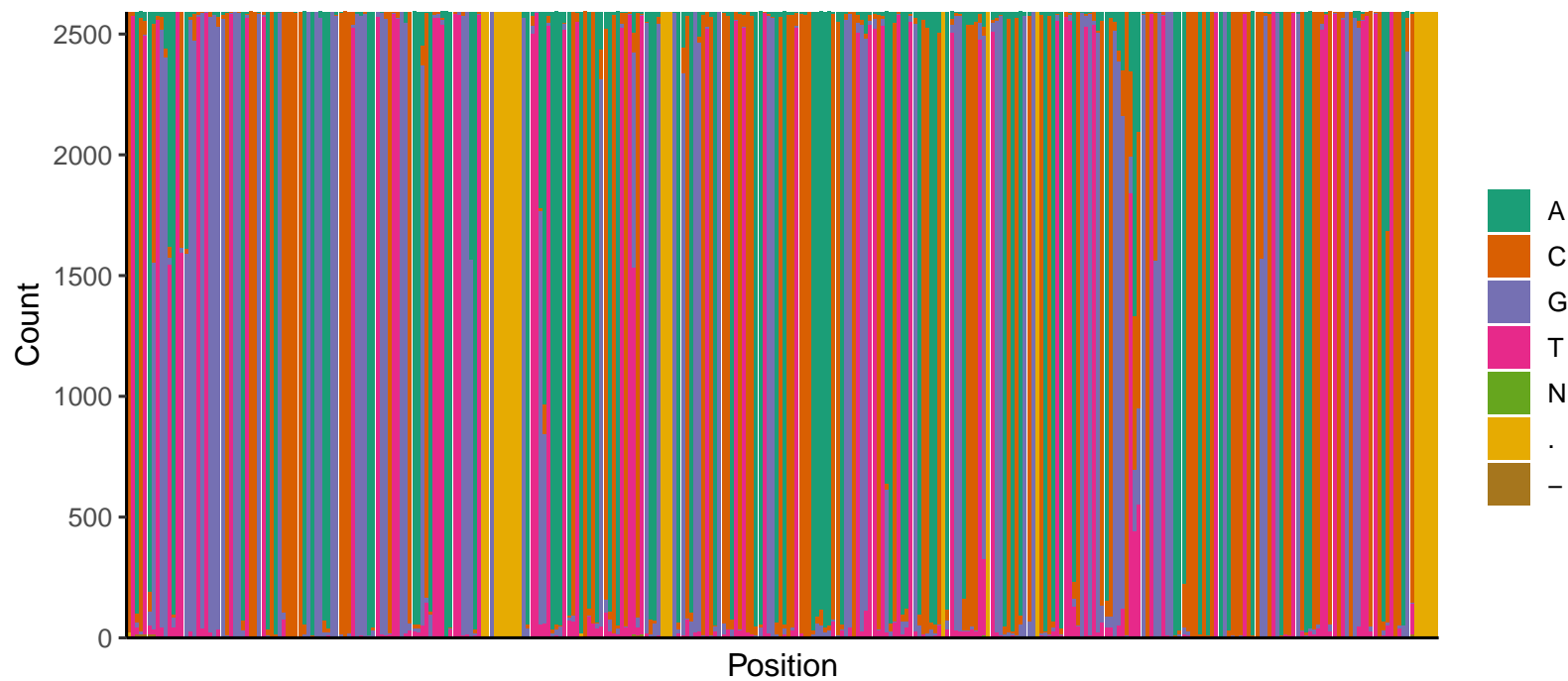
Gene IGHV4S13\*01\_C288A



Gene IGHV4S2\*01\_G248C



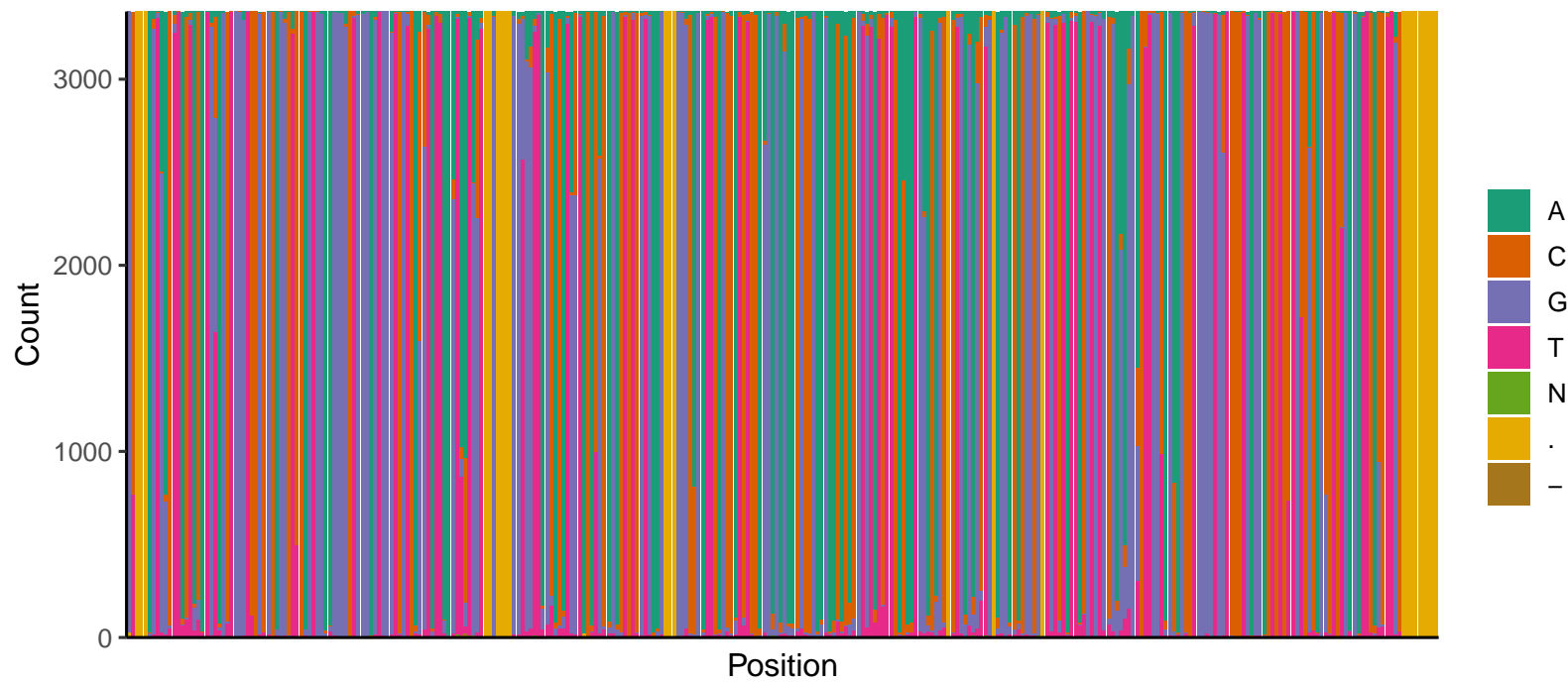
Gene IGHV2-95\*01\_A267G



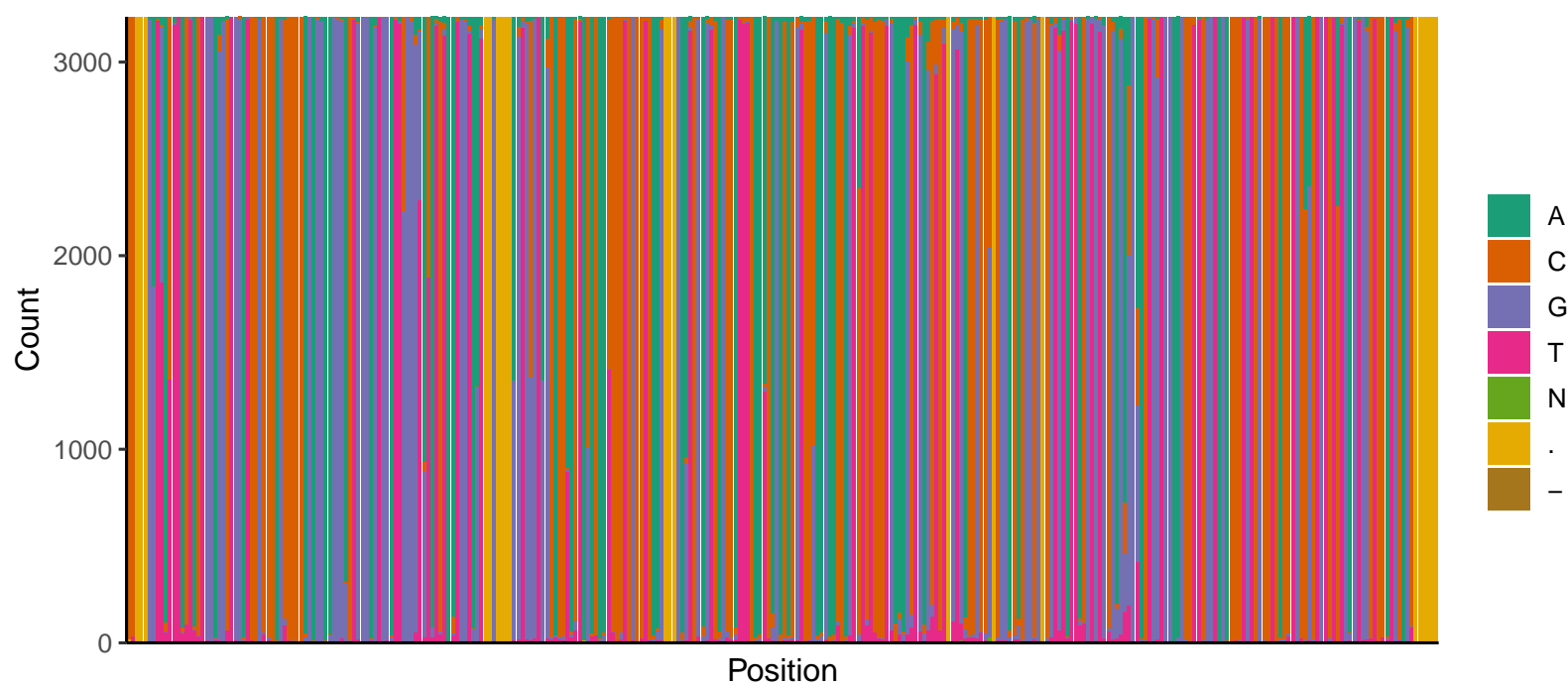
Gene IGHV2-174\*01\_G289T



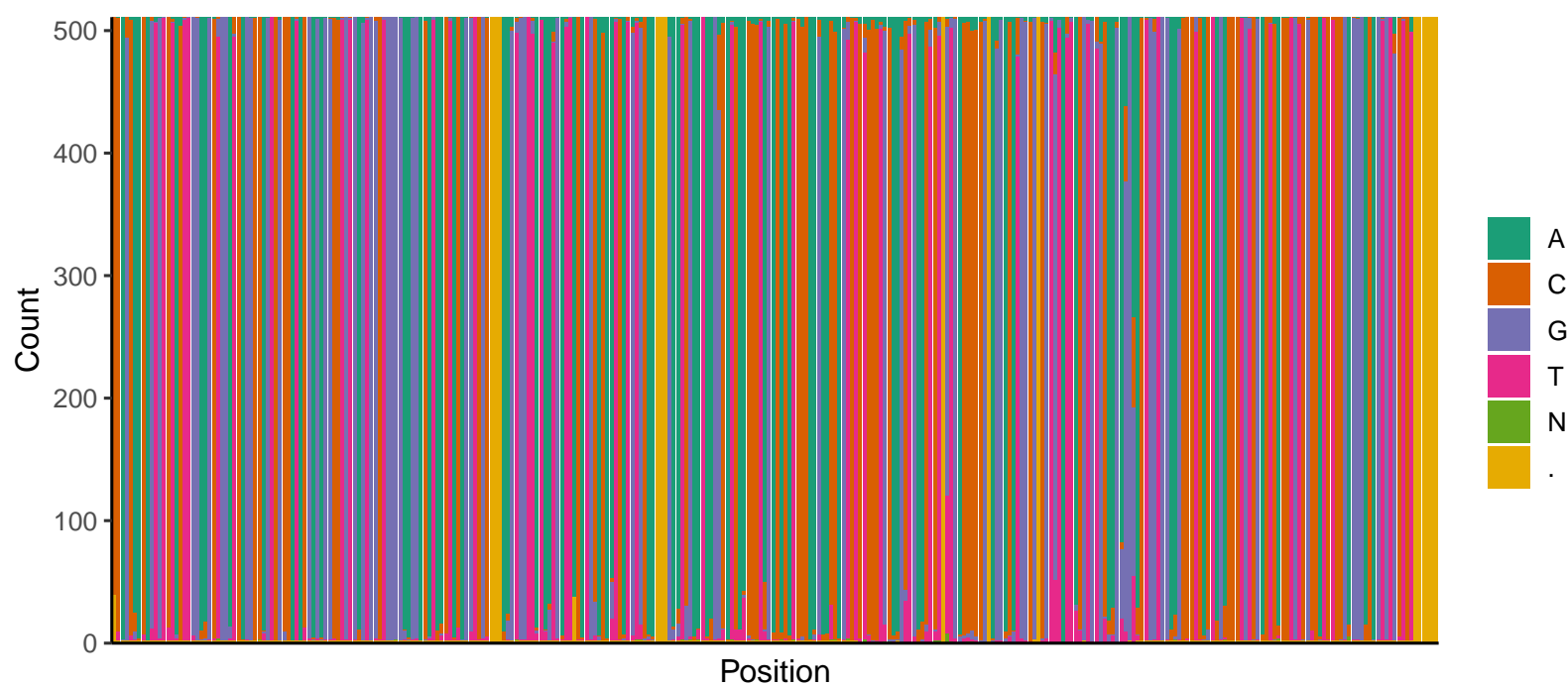
Gene IGHV3-178\*01\_C27A\_A274G\_A277G



Gene IGHV4-73\*01\_G147A



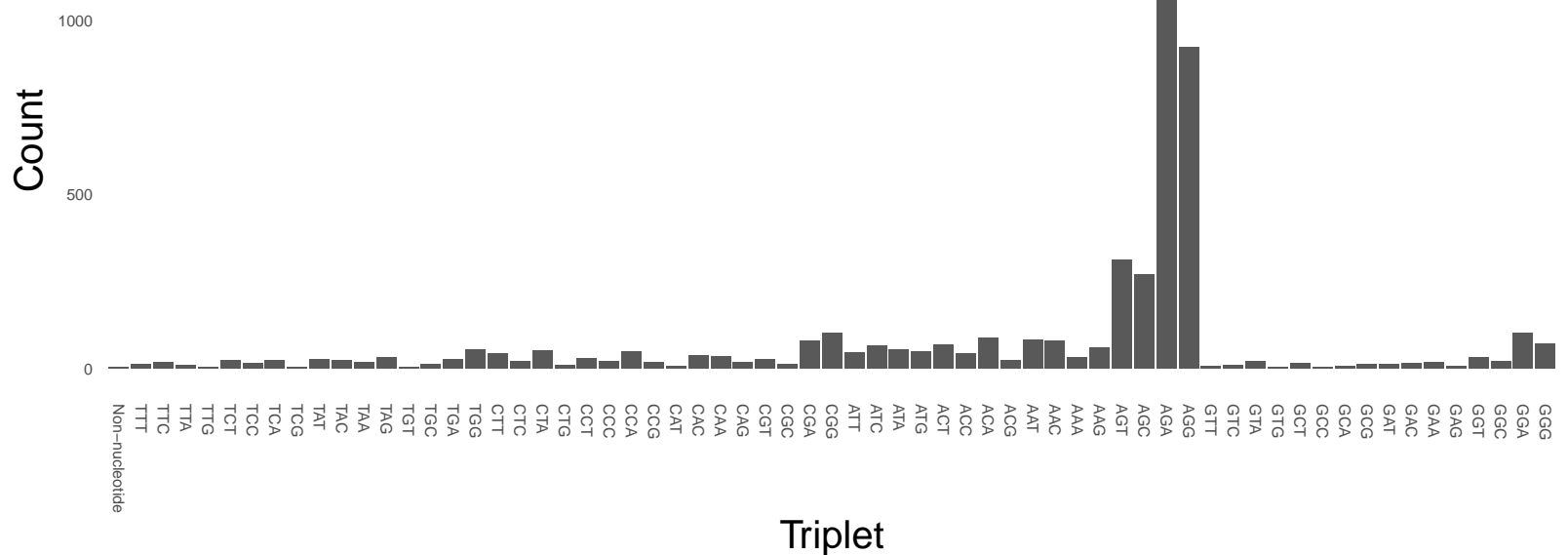
Gene IGHV6-1\*01\_G280T



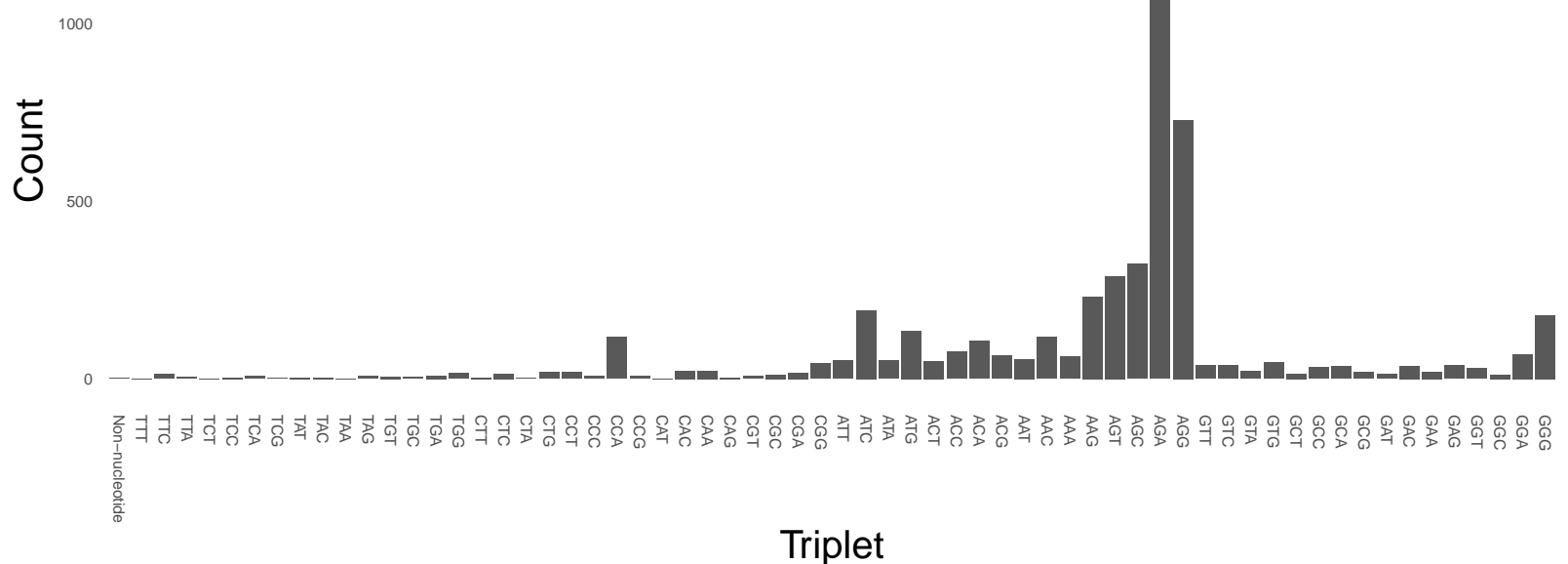
Gene IGHV4-169\*02\_T60C\_G61C



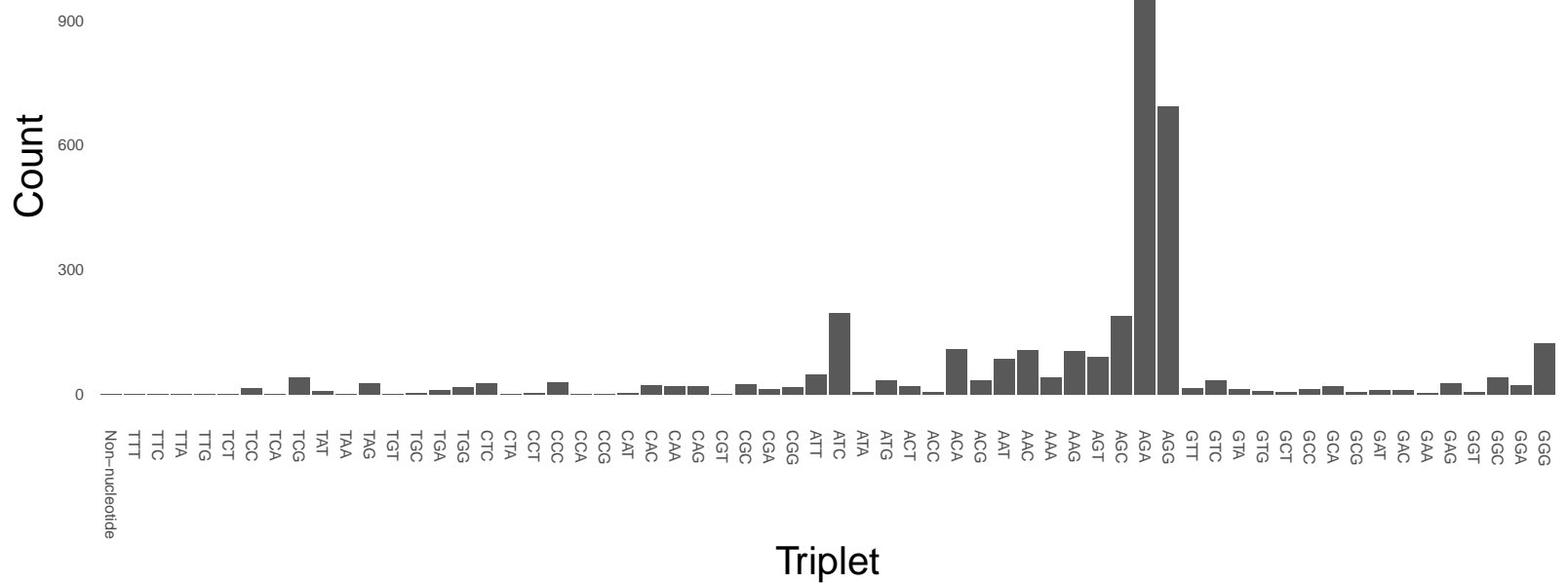
IGHV3-30\*02\_C141G\_C183T- Final 3 nucleotides as a triplet



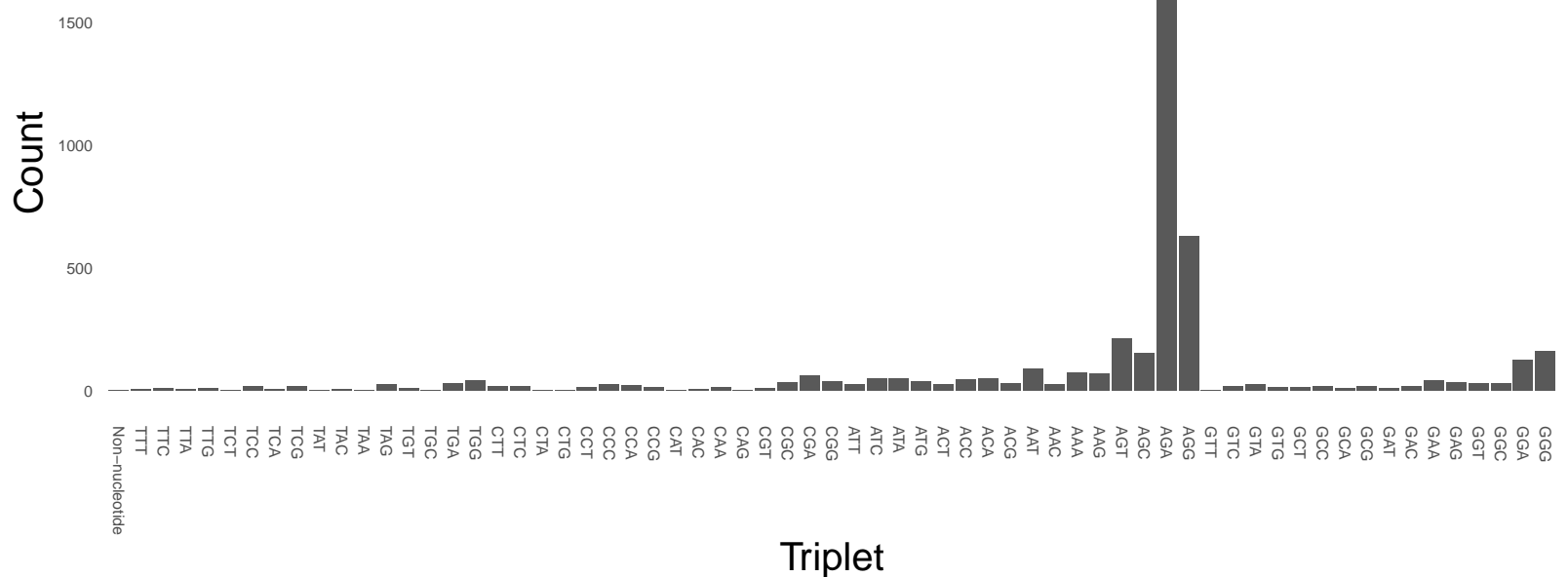
IGHV3S42\*01\_T19A\_G24A\_C27A\_C38T\_A39C\_A40C\_G59A\_C111T\_T112G\_G114C\_A119G\_T



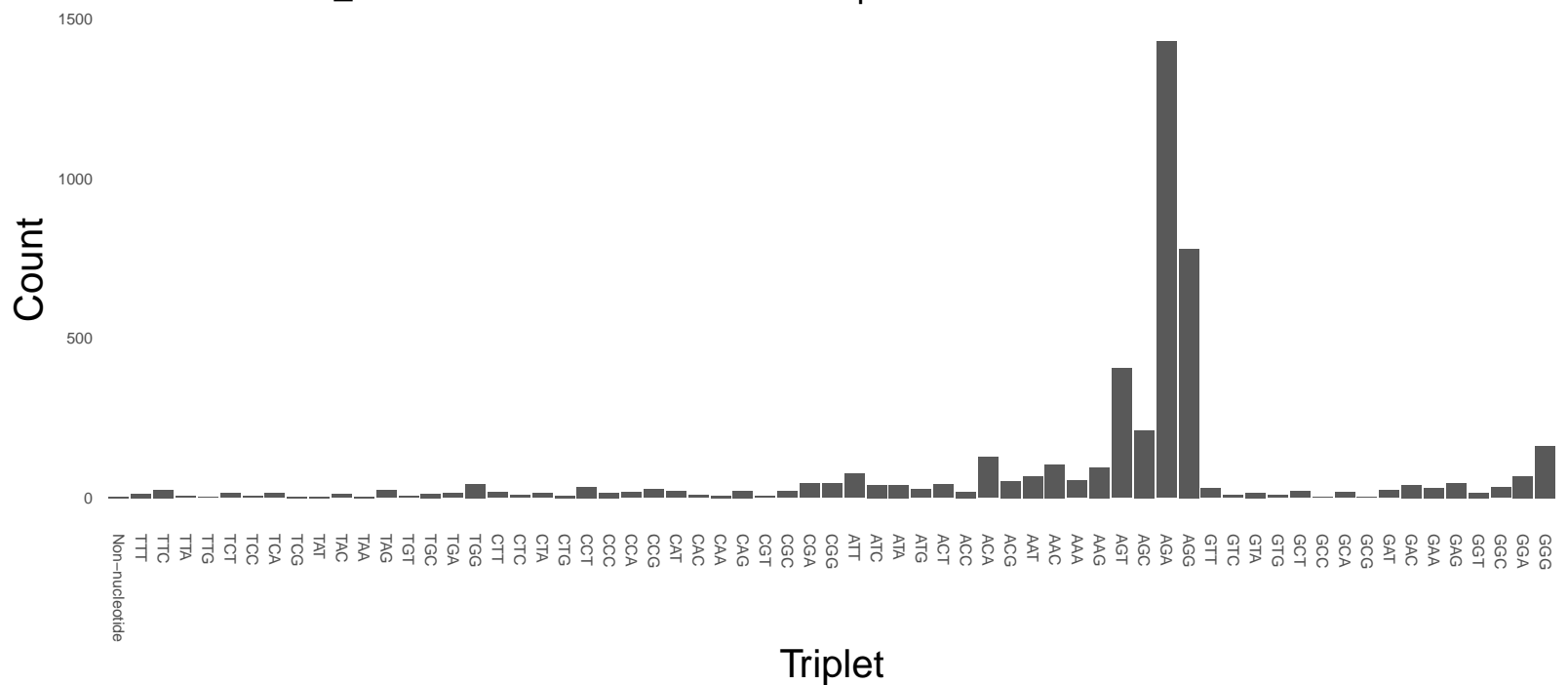
IGHV5-20\*02\_A295T\_C312T- Final 3 nucleotides as a triplet



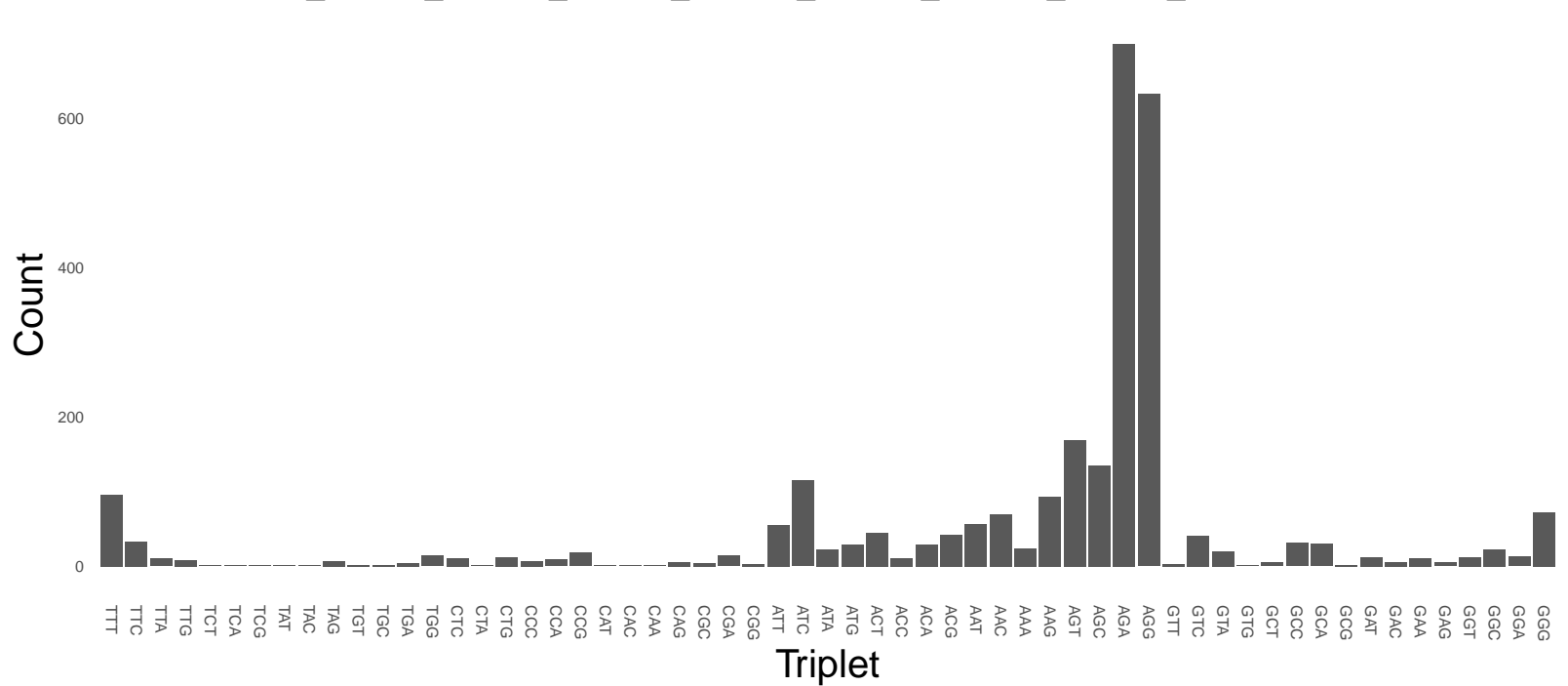
### IGHV3-54\*02\_G170C- Final 3 nucleotides as a triplet



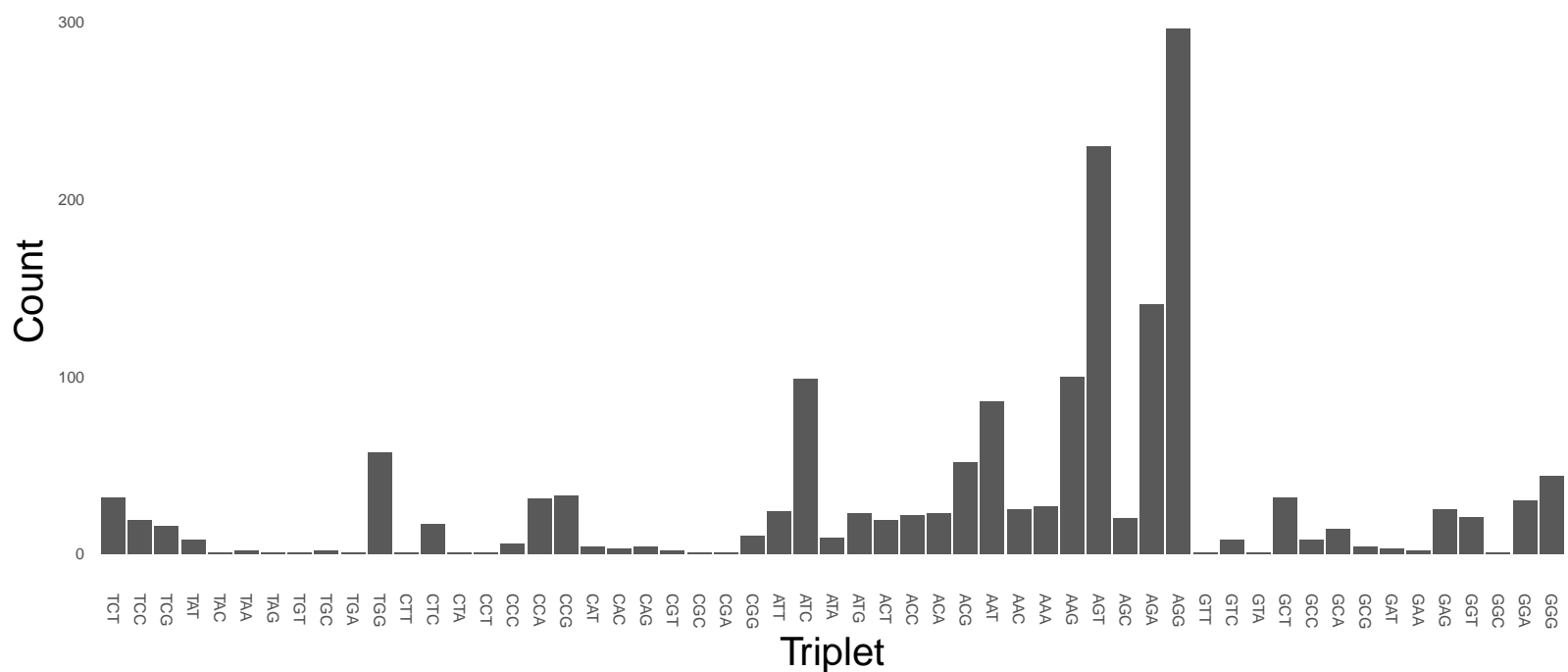
### IGHV4-173\*01\_C47T- Final 3 nucleotides as a triplet



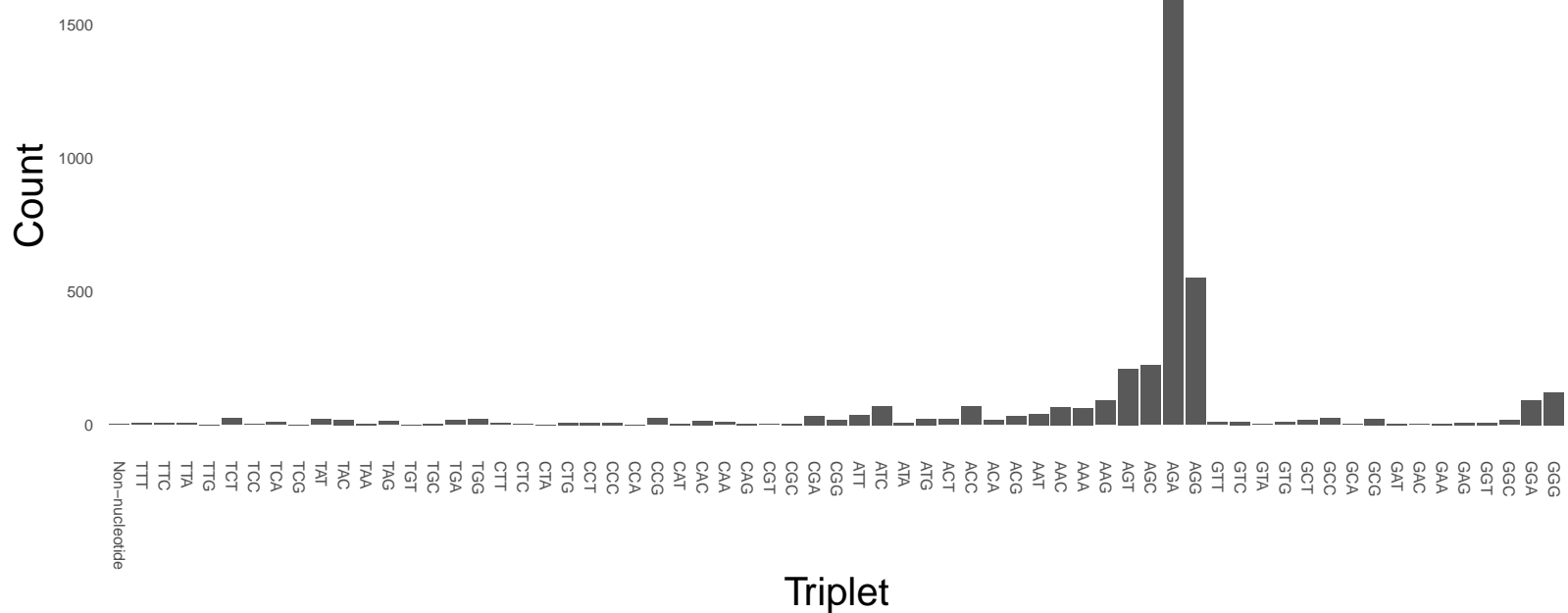
IGHV5-43\*01\_A109T\_G110A\_G164T\_C165G\_A203G\_C225G\_T231C\_A259G- Final 3 nucleotide



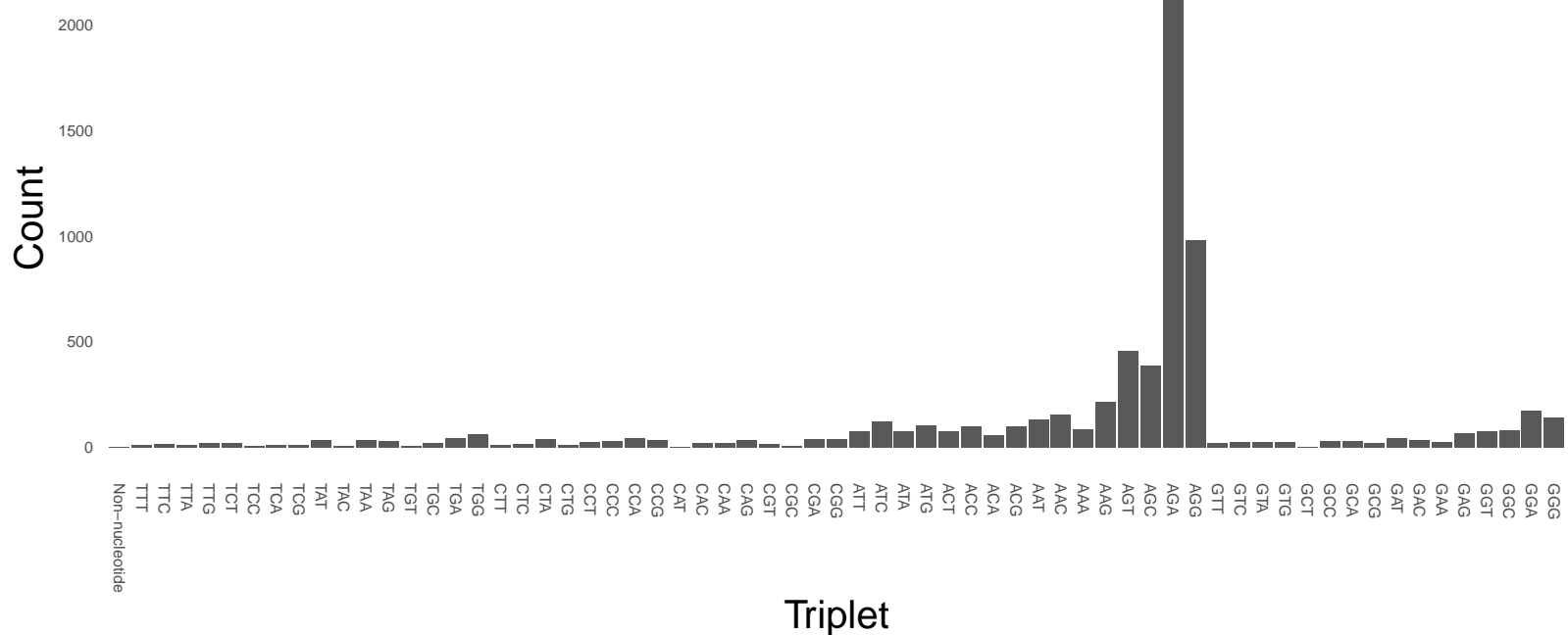
### IGHV5-43\*02\_A59G- Final 3 nucleotides as a triplet



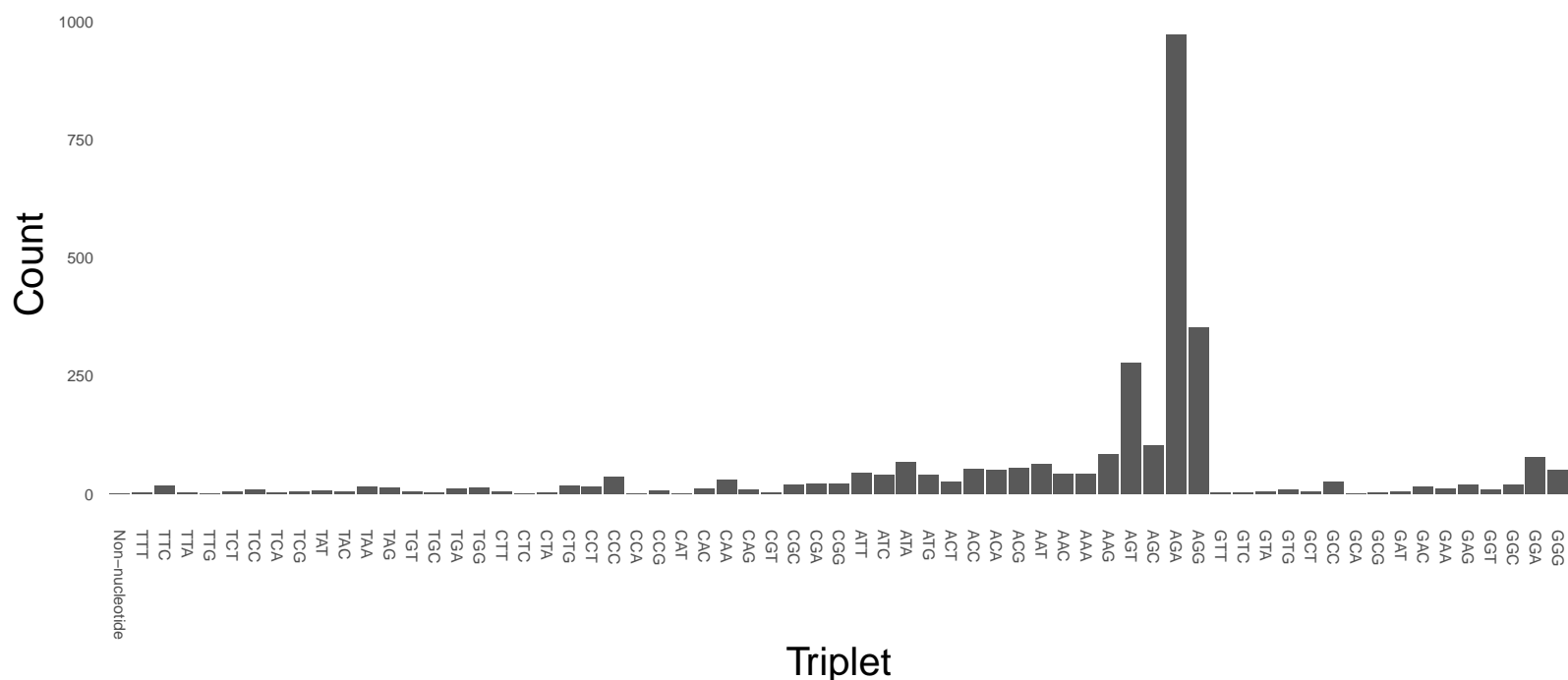
IGHV3-103\*01\_G51A\_A170G- Final 3 nucleotides as a triplet



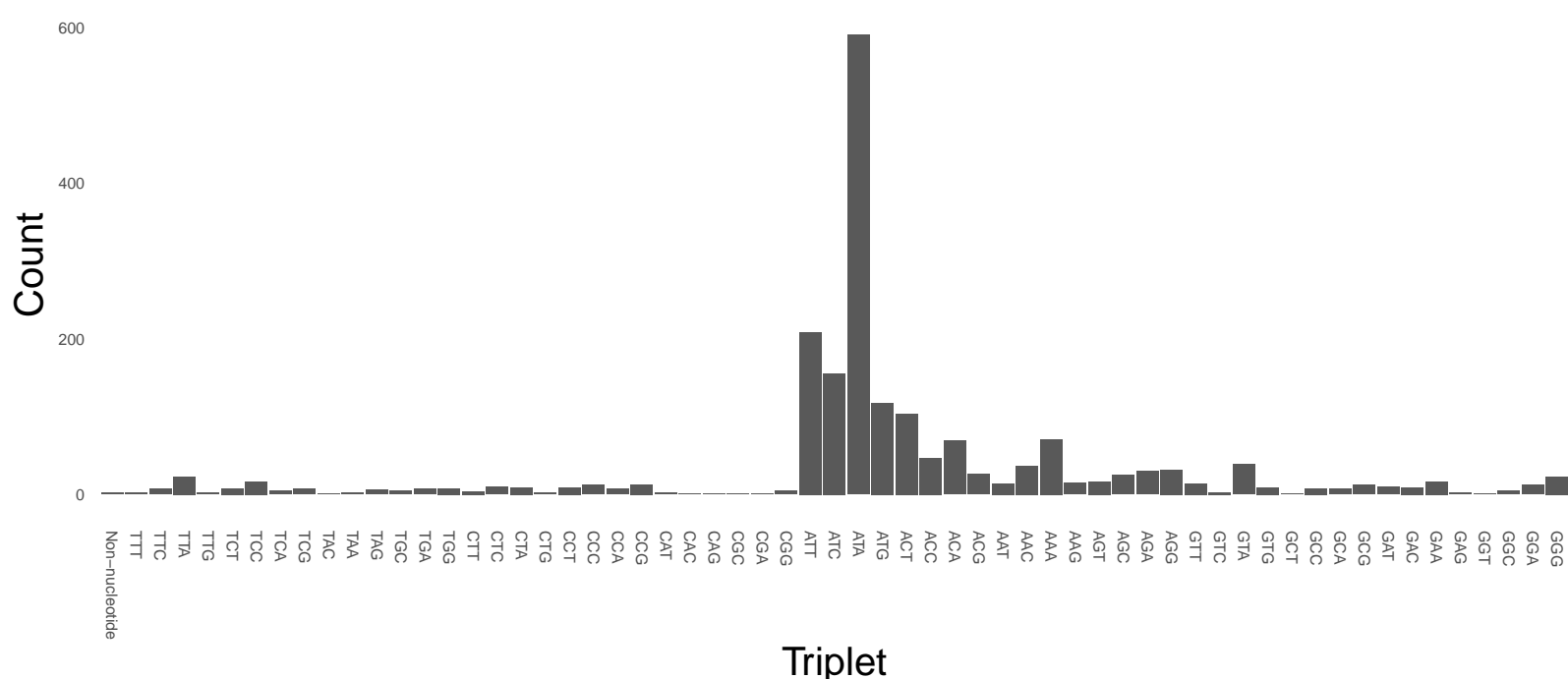
IGHV3-103\*01\_G24A\_C27A\_C38T\_A39C\_A40C\_C113G\_T114C\_C118A\_A119G\_G163T\_C164A



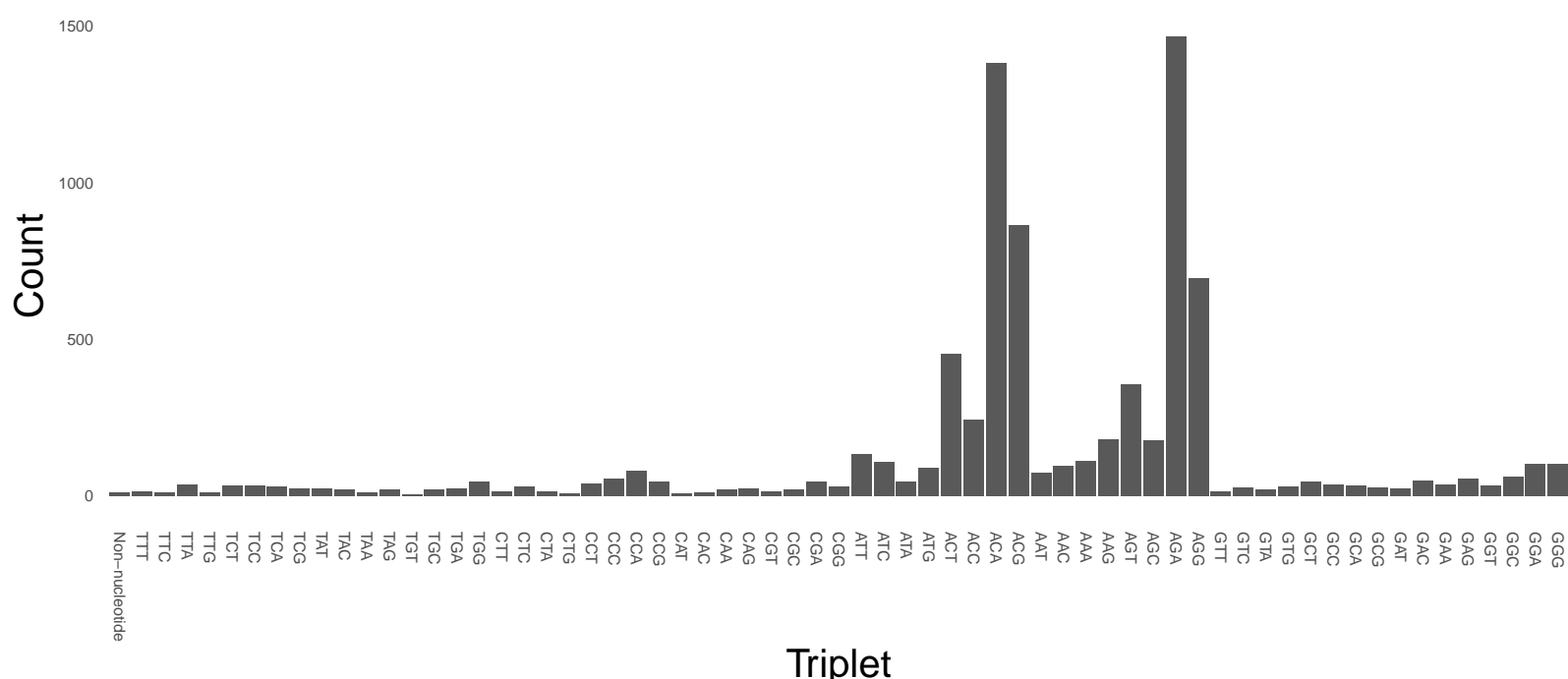
IGHV4-80\*01\_C83G\_A88T\_T105C\_T189G\_T196A- Final 3 nucleotides as a triplet



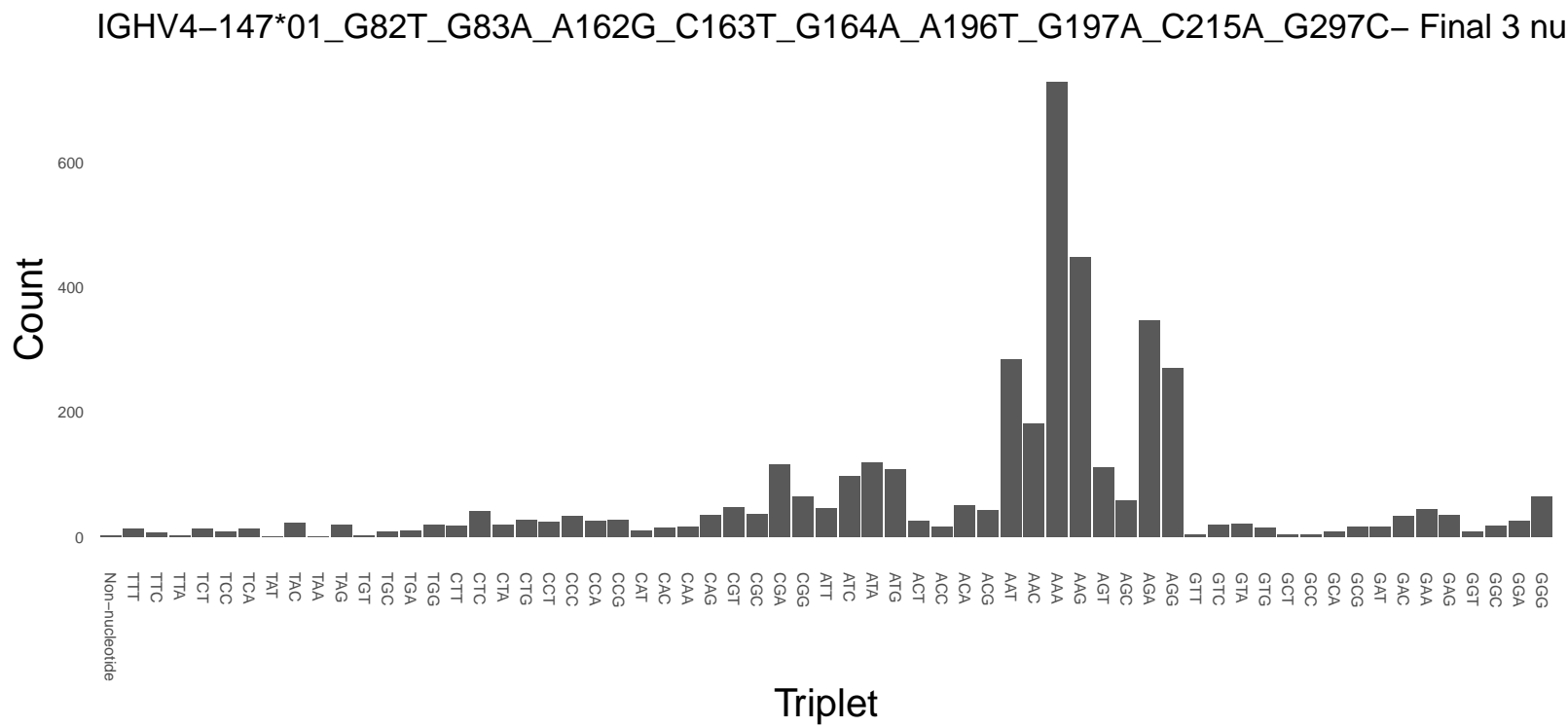
IGHV4-80\*01\_G4C\_C83G\_A88T\_T105C\_T189G\_T196A- Final 3 nucleotides as a triplet



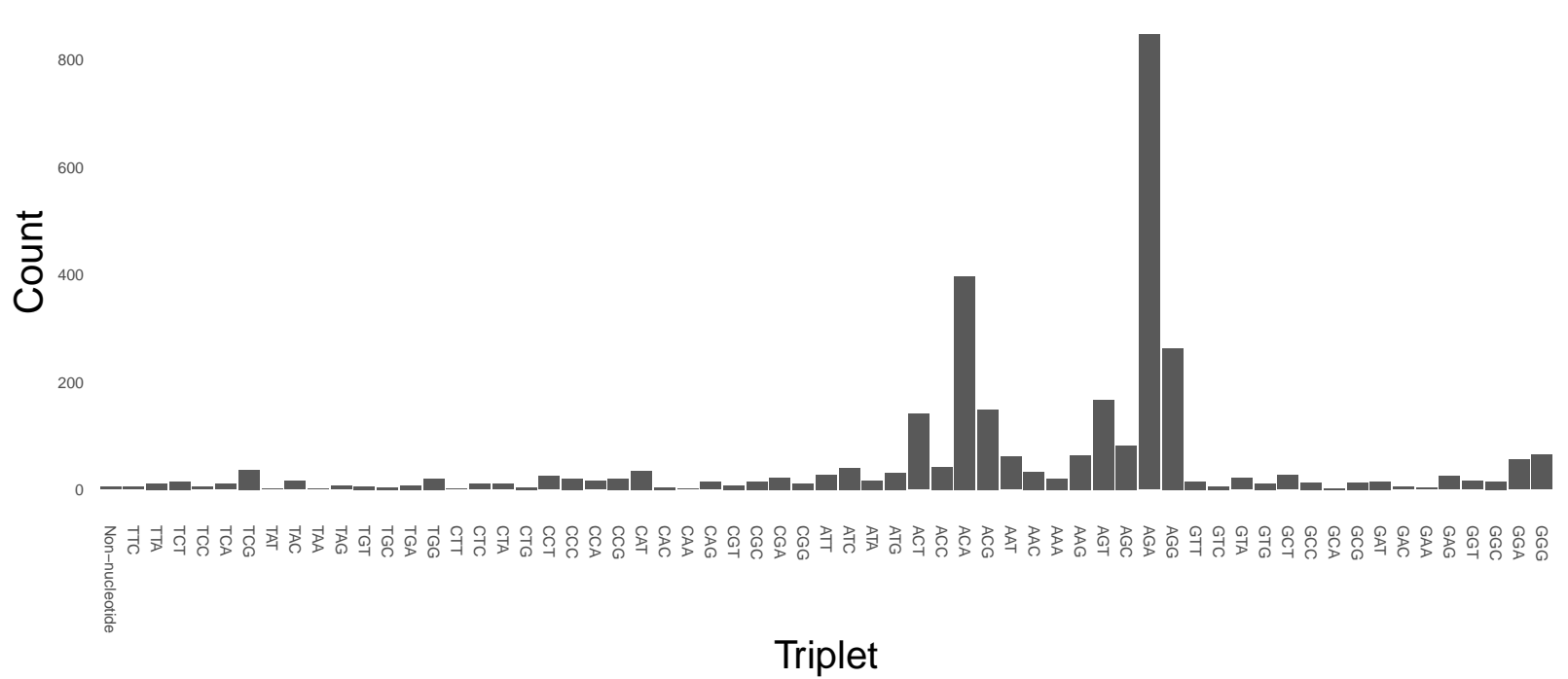
IGHV4-127\*01\_G169A- Final 3 nucleotides as a triplet



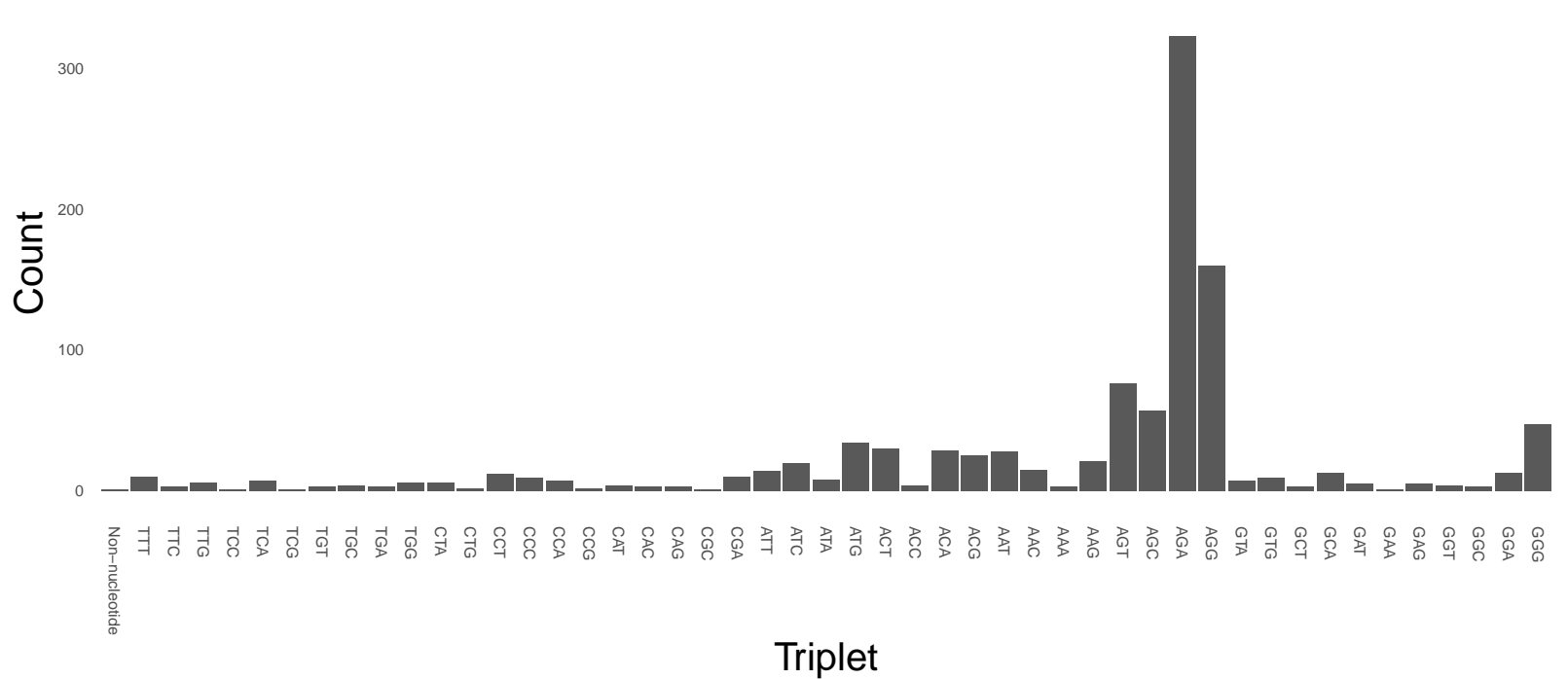
IGHV4-147\*01\_G82T\_G83A\_A162G\_C163T\_G164A\_A196T\_G197A\_C215A\_G297C- Final 3 nu



IGHV4S13\*01\_C288A- Final 3 nucleotides as a triplet

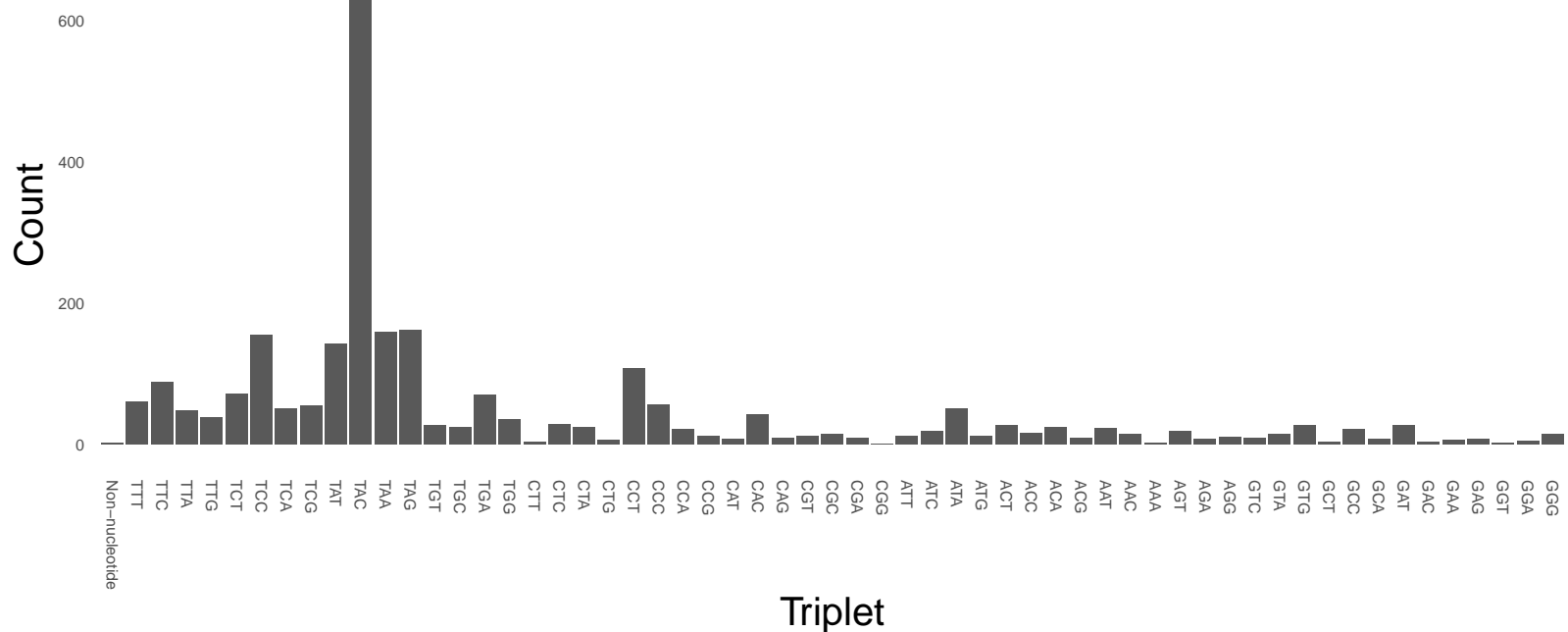


IGHV4S2\*01\_G248C- Final 3 nucleotides as a triplet

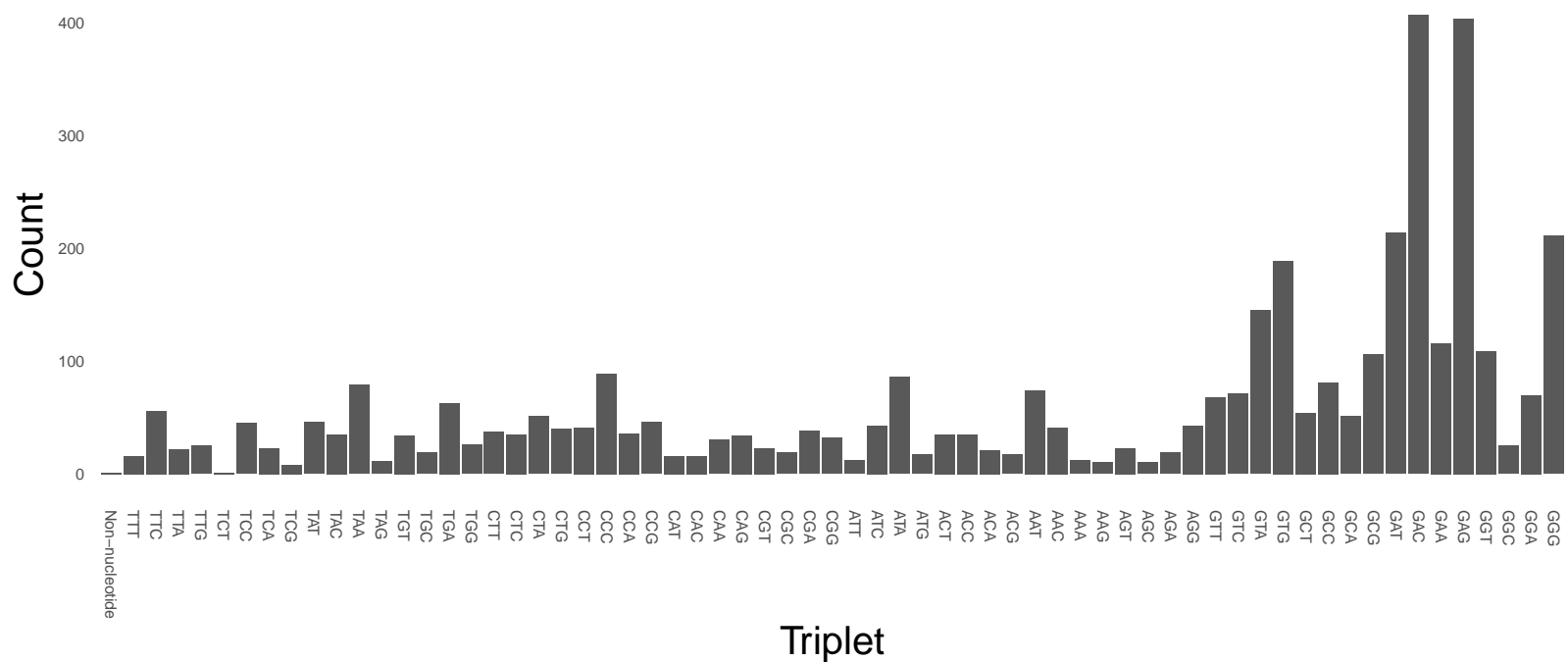




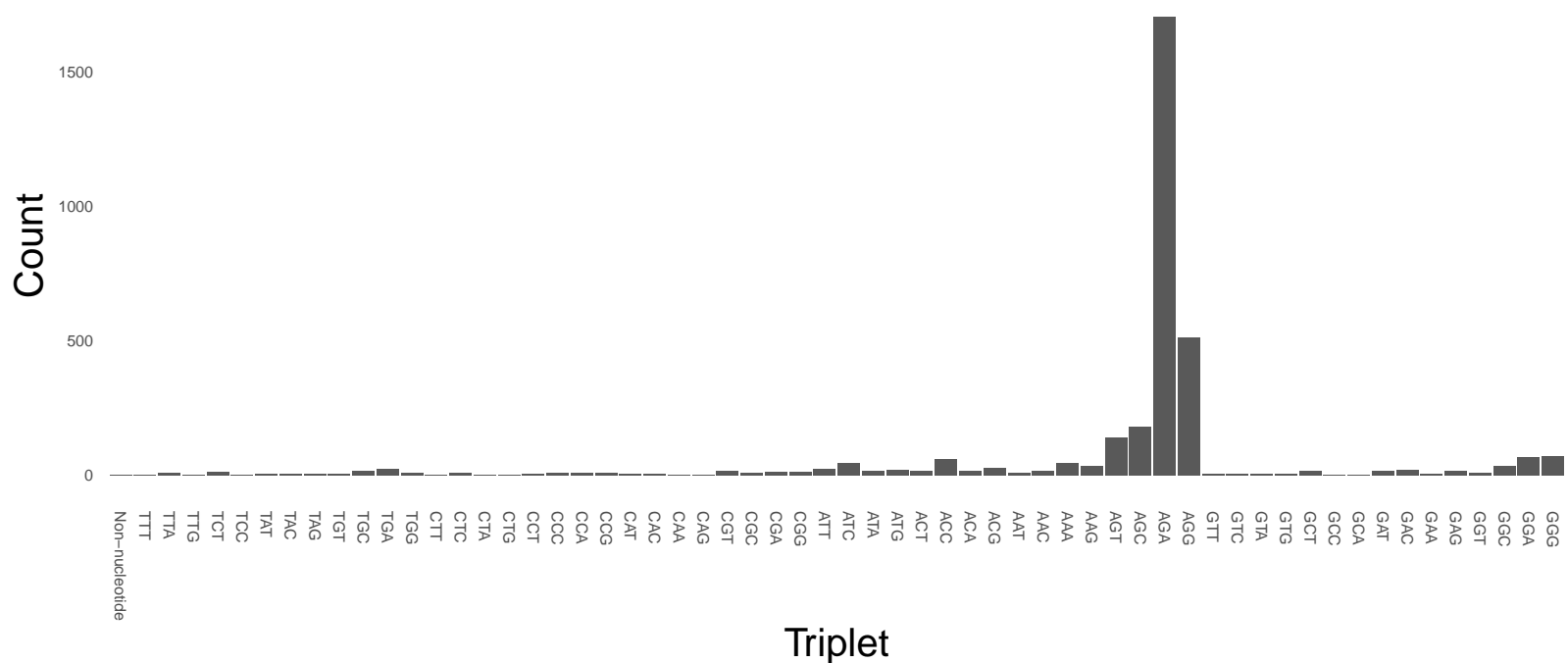
### IGHV2-95\*01\_A267G- Final 3 nucleotides as a triplet



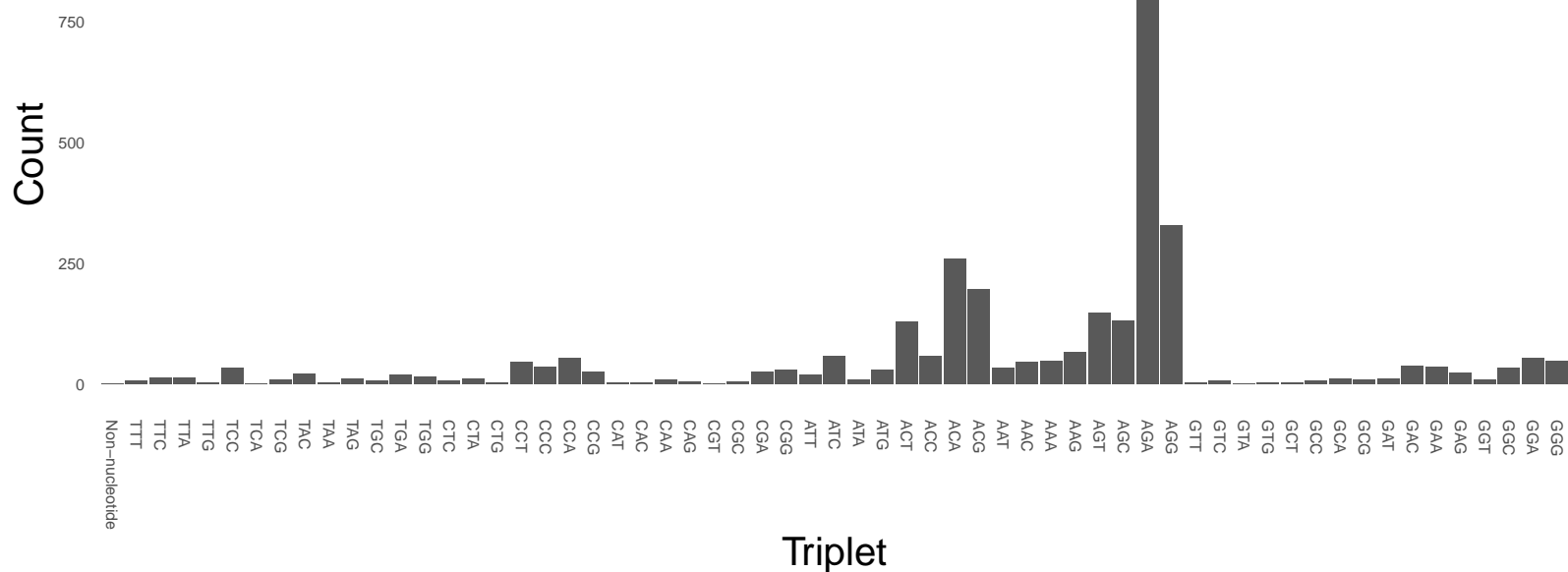
IGHV2-174\*01\_G289T- Final 3 nucleotides as a triplet



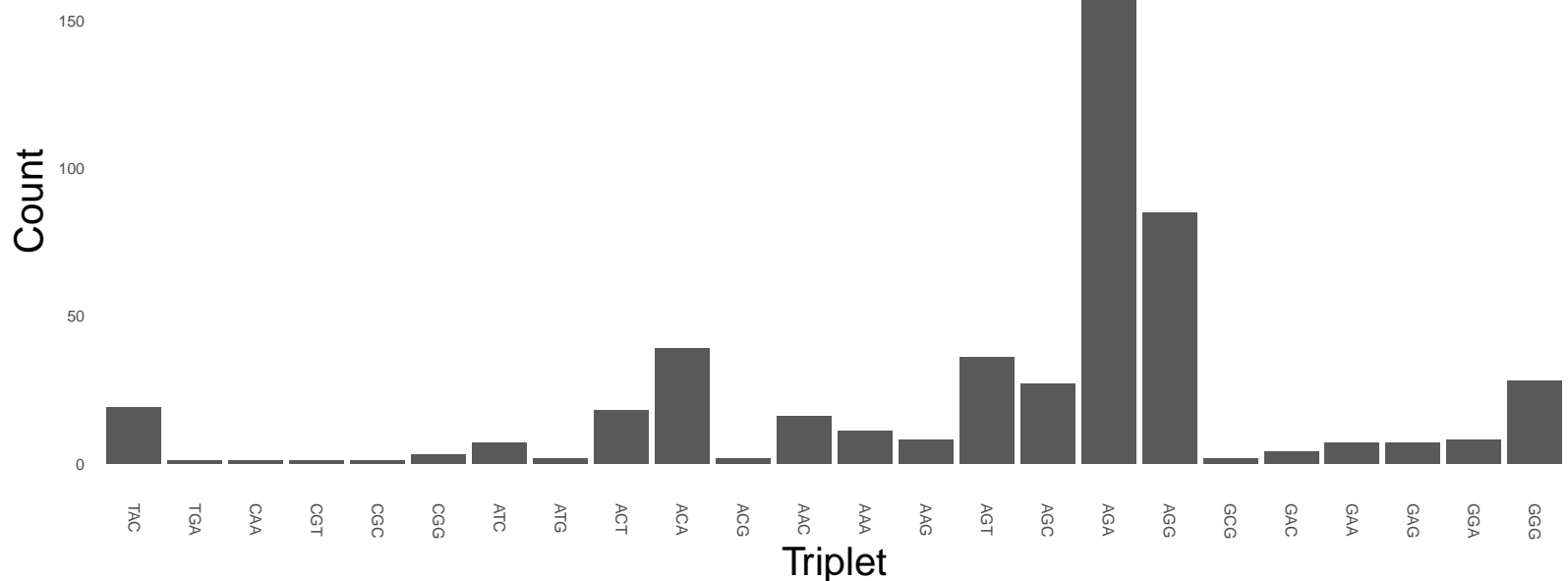
IGHV3-178\*01\_C27A\_A274G\_A277G- Final 3 nucleotides as a triplet



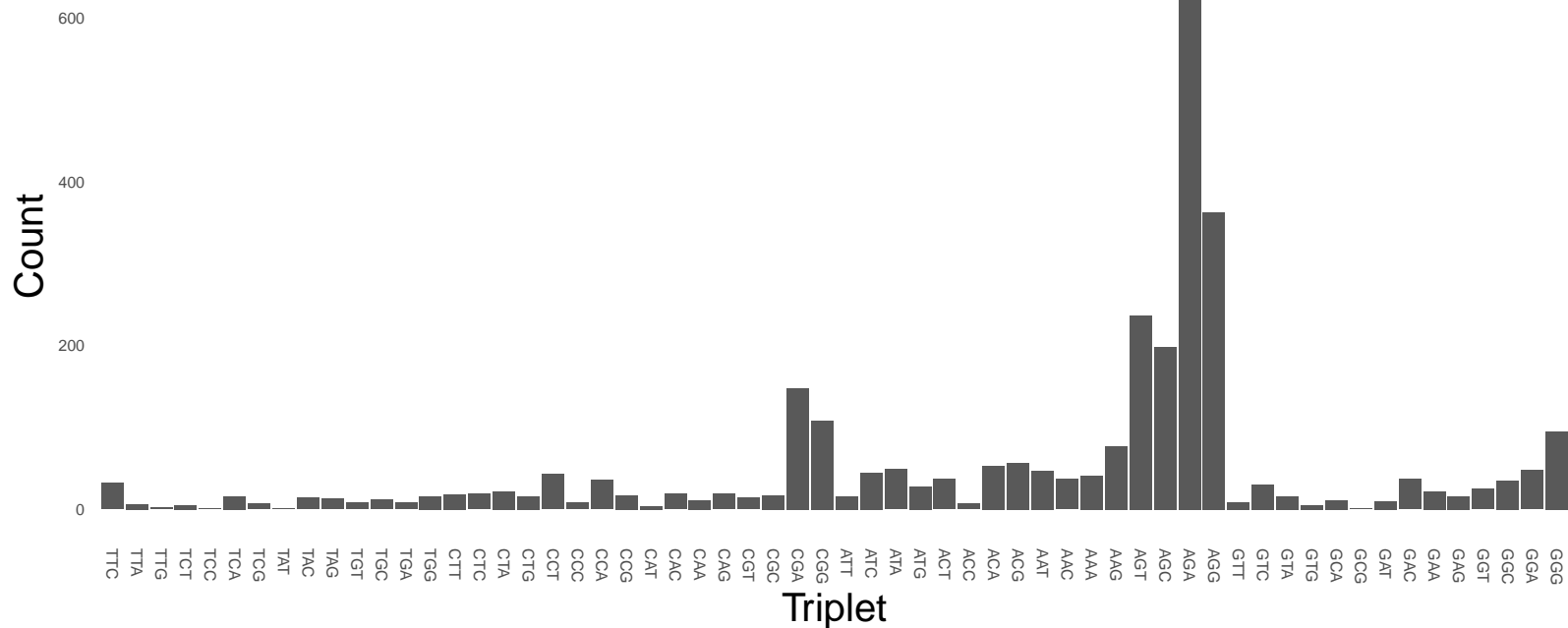
IGHV4-73\*01\_G147A- Final 3 nucleotides as a triplet



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

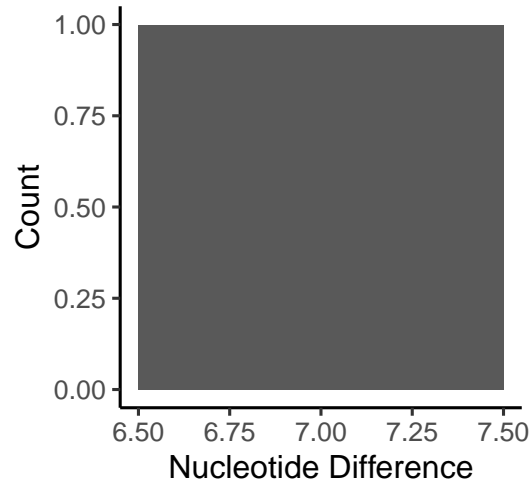


IGHV4-169\*02\_T60C\_G61C- Final 3 nucleotides as a triplet



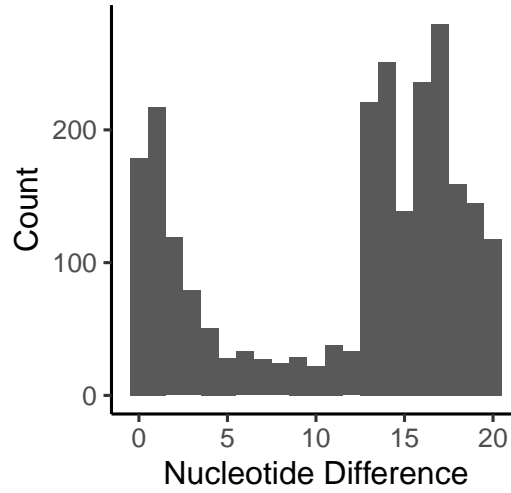
### IGHV1S2\*01

796 sequences assigned  
No exact matches.



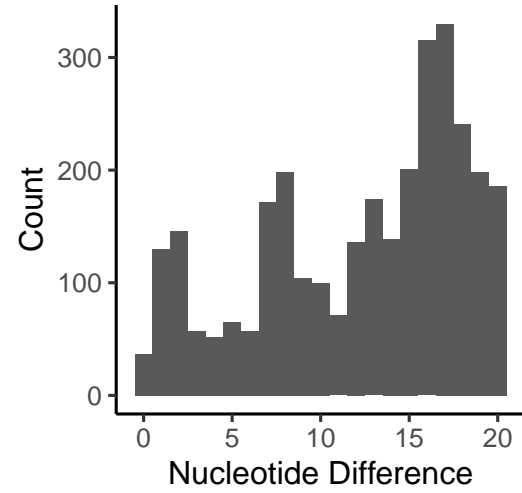
### IGHV4S13\*01\_C288A

3057 sequences assigned  
179 (5.9%) exact matches, in which:  
174 unique CDR3  
4 unique J



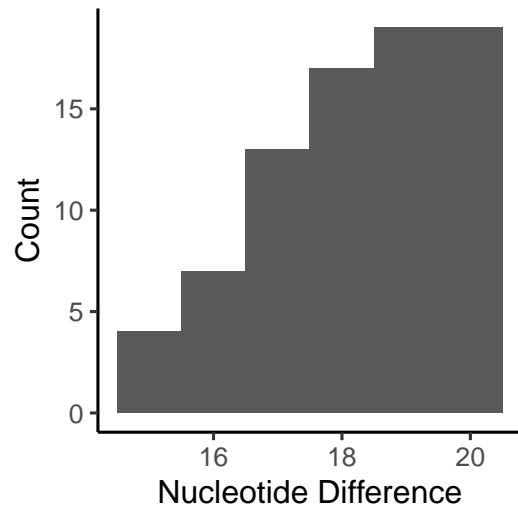
### IGHV2-174\*01\_G289T

3912 sequences assigned  
37 (0.9%) exact matches, in which:  
37 unique CDR3  
5 unique J



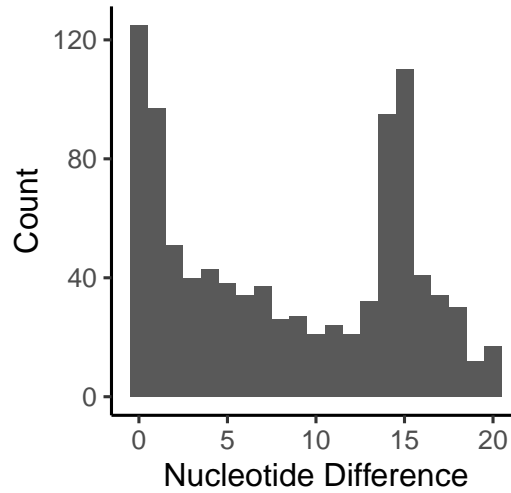
### IGHV3S3\*01

750 sequences assigned  
No exact matches.



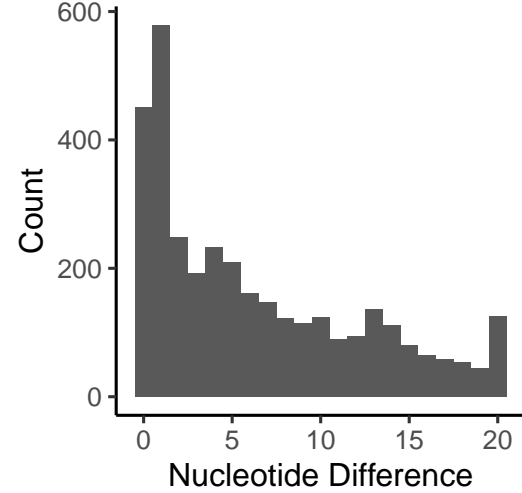
### IGHV4S2\*01\_G248C

1061 sequences assigned  
125 (11.8%) exact matches, in which:  
116 unique CDR3  
4 unique J



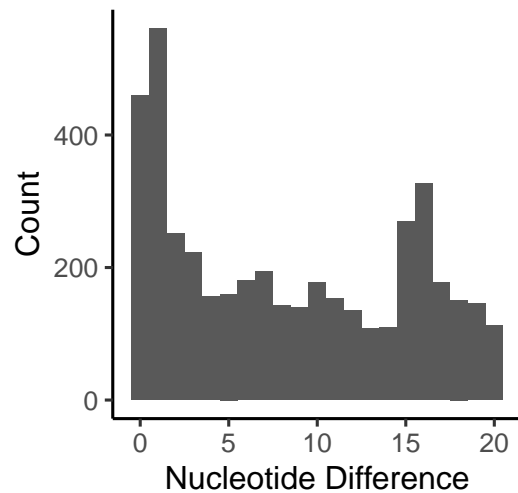
### IGHV3-30\*02\_C141G\_C

4765 sequences assigned  
451 (9.5%) exact matches, in which:  
401 unique CDR3  
5 unique J



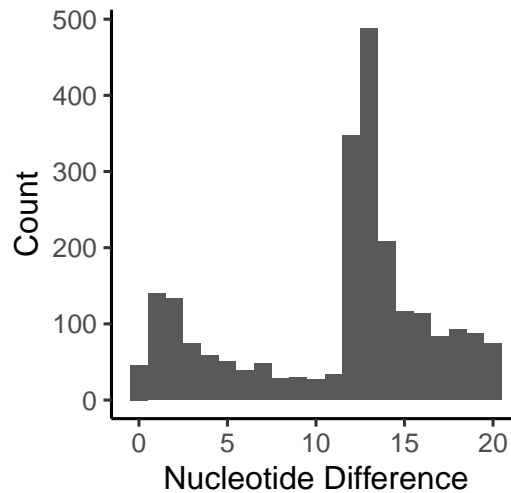
### IGHV3S42\*01\_T19A\_G24

4875 sequences assigned  
459 (9.4%) exact matches, in which:  
405 unique CDR3  
4 unique J



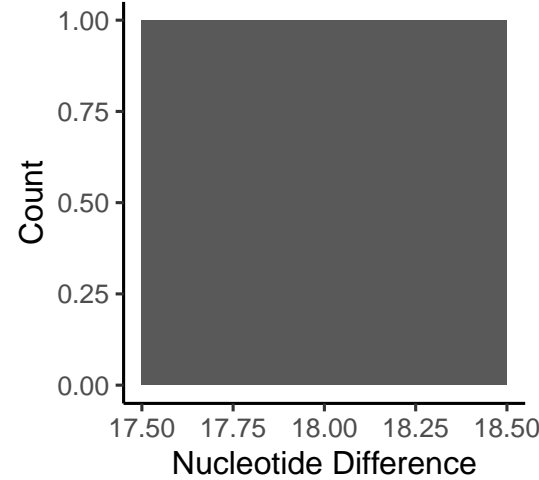
### IGHV2-95\*01\_A267G

2592 sequences assigned  
46 (1.8%) exact matches, in which:  
45 unique CDR3  
5 unique J



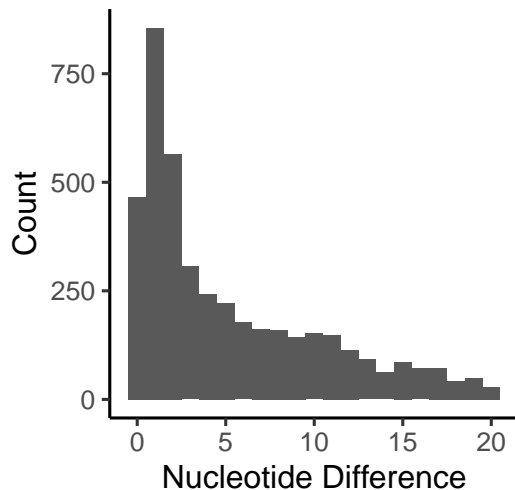
### IGHV3-34\*02

1 sequences assigned  
No exact matches.



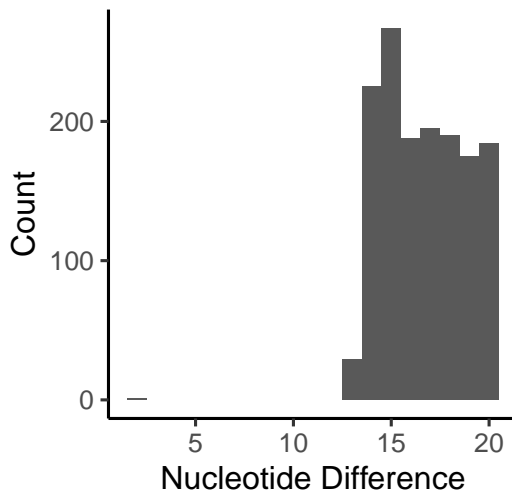
### IGHV3-54\*02\_G170C

4446 sequences assigned  
466 (10.5%) exact matches, in which:  
420 unique CDR3  
5 unique J



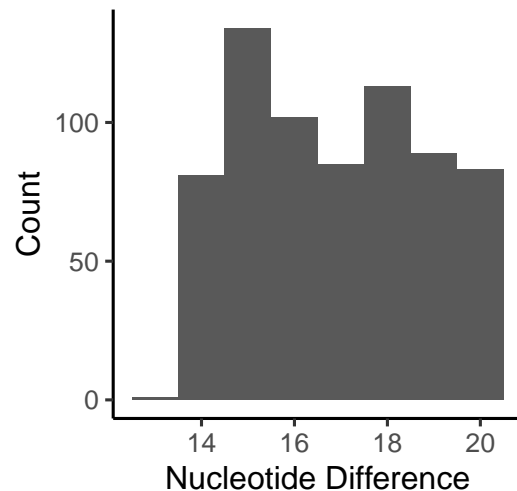
### IGHV3-108\*01

3408 sequences assigned  
No exact matches.



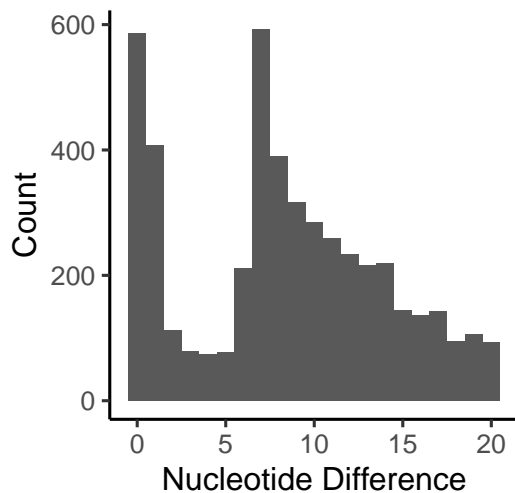
### IGHV3-137\*01

1883 sequences assigned  
No exact matches.



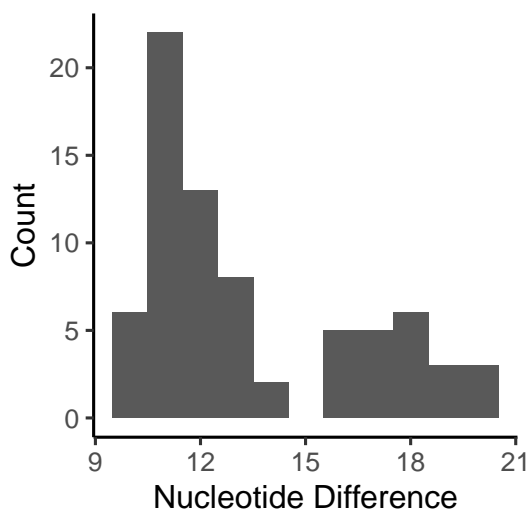
### IGHV3-103\*01\_G24A\_C2

6884 sequences assigned  
586 (8.5%) exact matches, in which:  
529 unique CDR3  
5 unique J



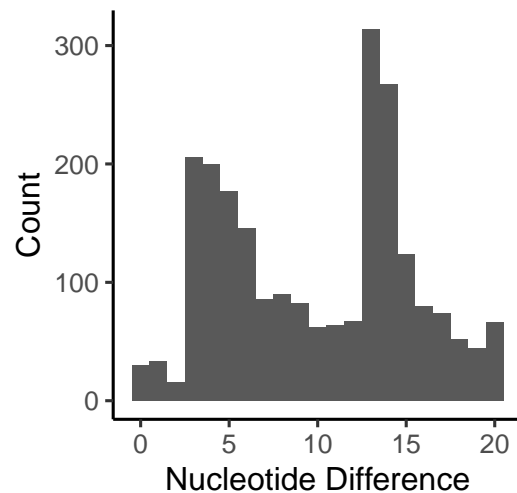
### IGHV3-117\*01

139 sequences assigned  
No exact matches.



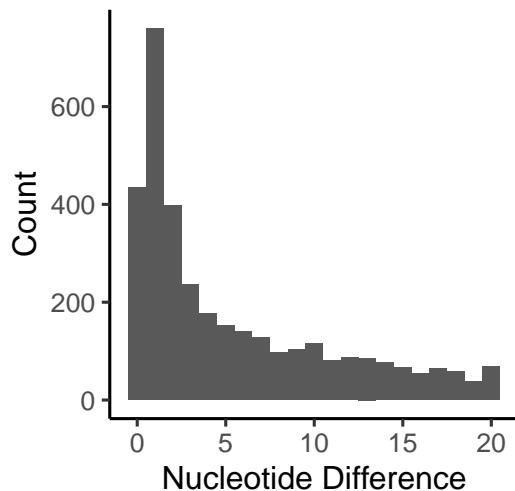
### IGHV3-178\*01\_C27A\_A2

3364 sequences assigned  
30 (0.9%) exact matches, in which:  
28 unique CDR3  
3 unique J



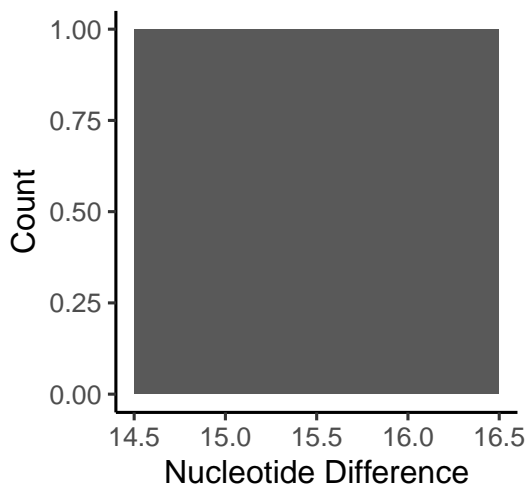
### IGHV3-103\*01\_G51A\_A1

3936 sequences assigned  
434 (11%) exact matches, in which:  
389 unique CDR3  
5 unique J



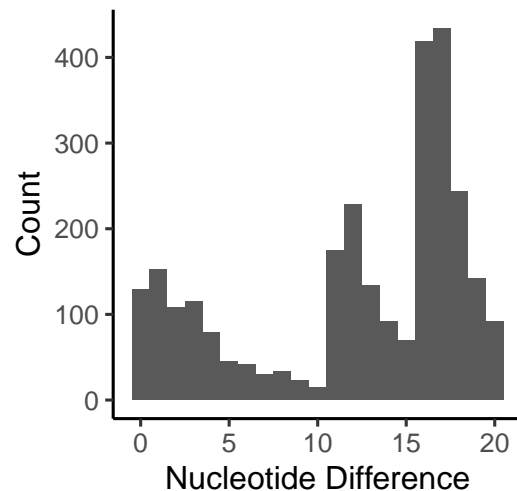
### IGHV3-124\*01

10 sequences assigned  
No exact matches.



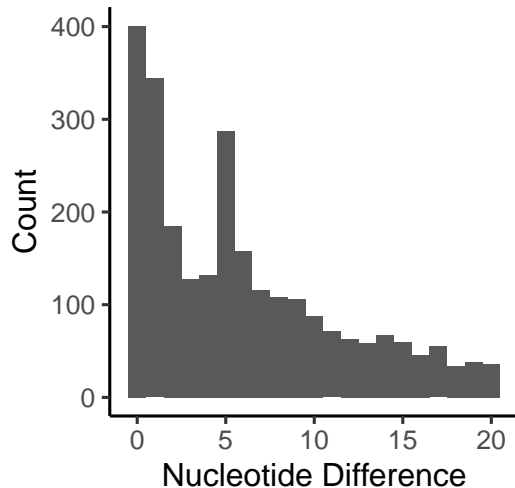
### IGHV4-73\*01\_G147A

3234 sequences assigned  
129 (4%) exact matches, in which:  
126 unique CDR3  
5 unique J



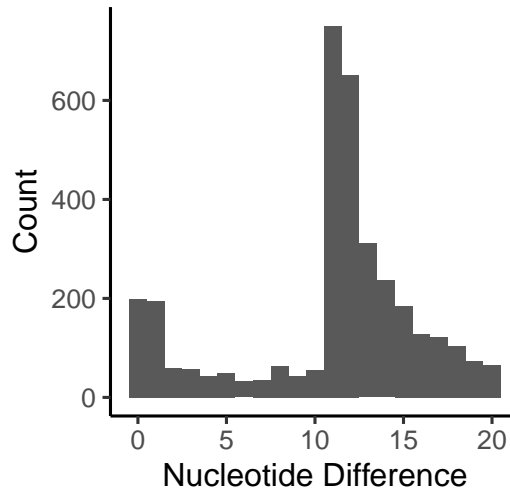
### IGHV4-80\*01\_C83G\_A88

2927 sequences assigned  
401 (13.7%) exact matches, in which:  
376 unique CDR3  
5 unique J



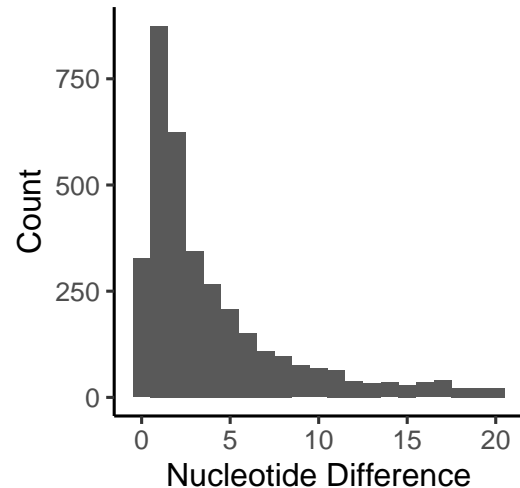
### IGHV4-147\*01\_G82T\_G83

3978 sequences assigned  
199 (5%) exact matches, in which:  
184 unique CDR3  
5 unique J



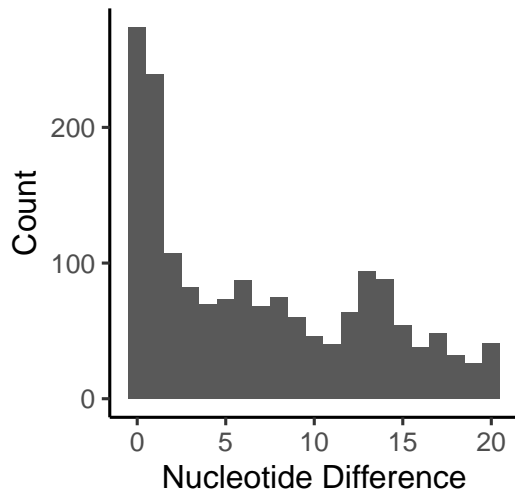
### IGHV5-20\*02\_A295T\_C30

3535 sequences assigned  
327 (9.3%) exact matches, in which:  
284 unique CDR3  
5 unique J



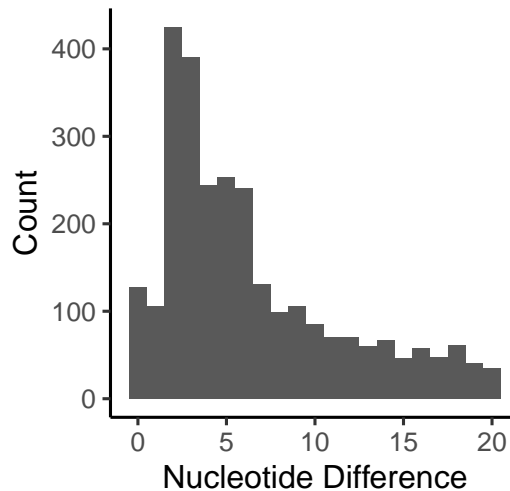
### IGHV4-80\*01\_G4C\_C83G

1912 sequences assigned  
274 (14.3%) exact matches, in which:  
260 unique CDR3  
4 unique J



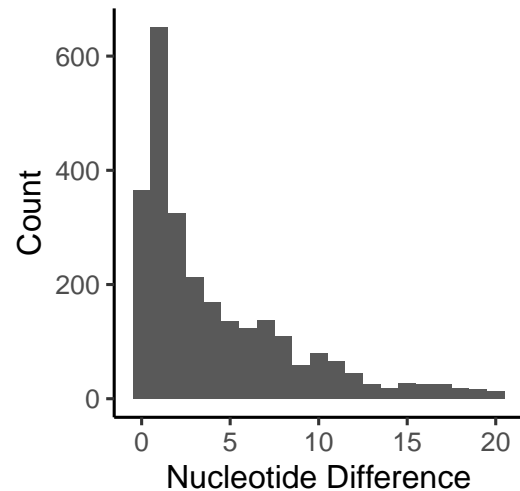
### IGHV4-169\*02\_T60C\_G61

2954 sequences assigned  
128 (4.3%) exact matches, in which:  
122 unique CDR3  
4 unique J



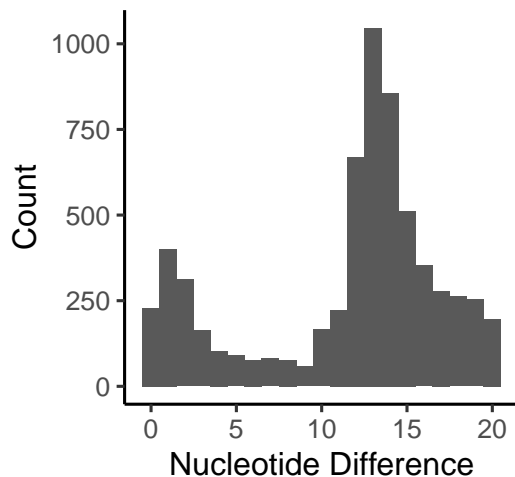
### IGHV5-43\*01\_A109T\_G11

2786 sequences assigned  
366 (13.1%) exact matches, in which:  
297 unique CDR3  
5 unique J



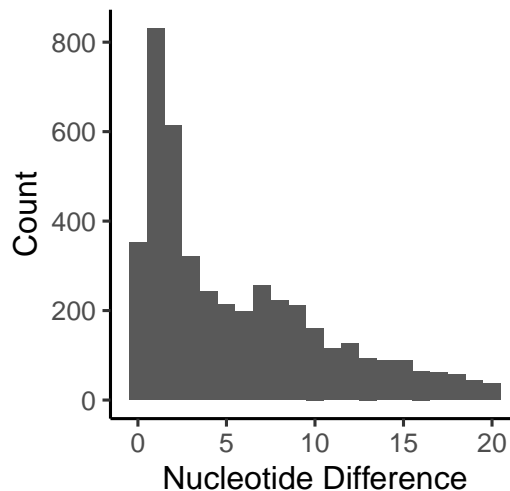
### IGHV4-127\*01\_G169A

7998 sequences assigned  
229 (2.9%) exact matches, in which:  
221 unique CDR3  
5 unique J



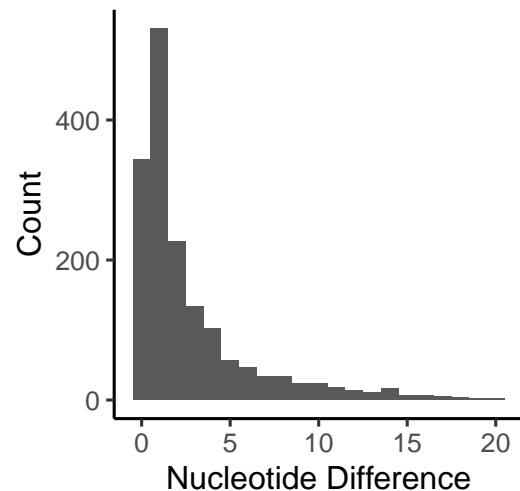
### IGHV4-173\*01\_C47T

4625 sequences assigned  
353 (7.6%) exact matches, in which:  
331 unique CDR3  
5 unique J



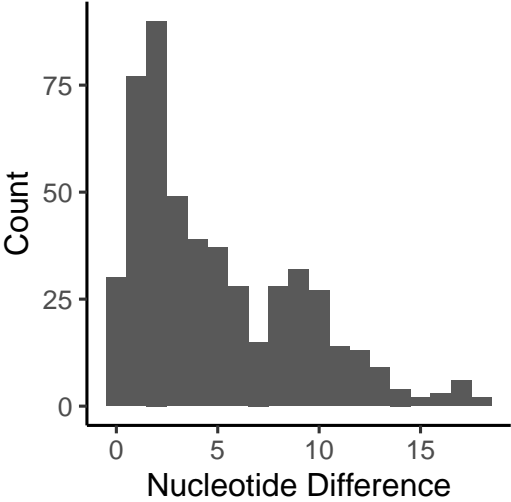
### IGHV5-43\*02\_A59G

1645 sequences assigned  
343 (20.9%) exact matches, in which:  
273 unique CDR3  
4 unique J



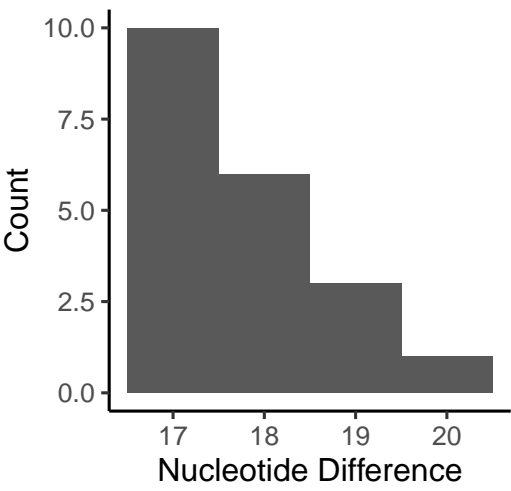
# IGHV6-1\*01\_G280T

511 sequences assigned  
30 (5.9%) exact matches, in which:  
28 unique CDR3  
3 unique J

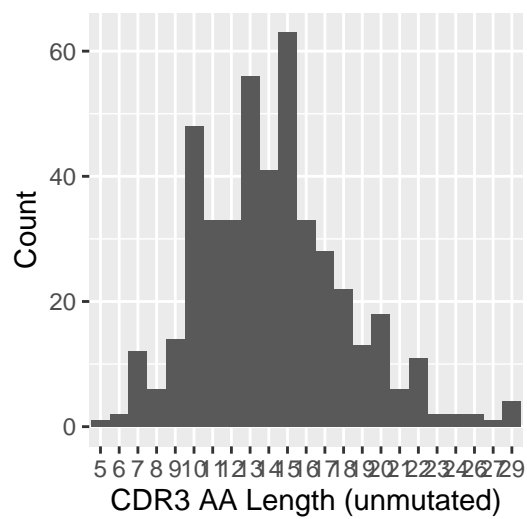


# IGHV7-94\*01

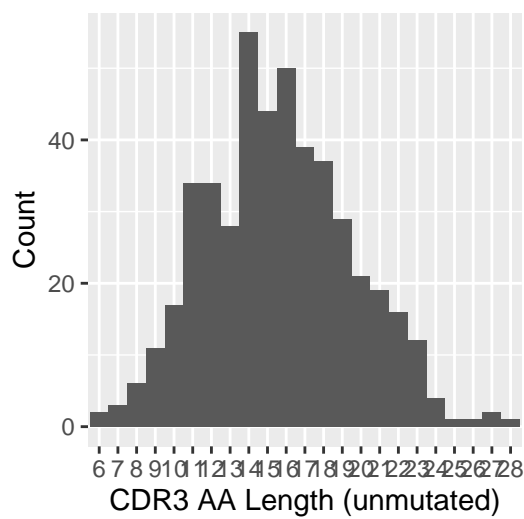
26 sequences assigned  
No exact matches.



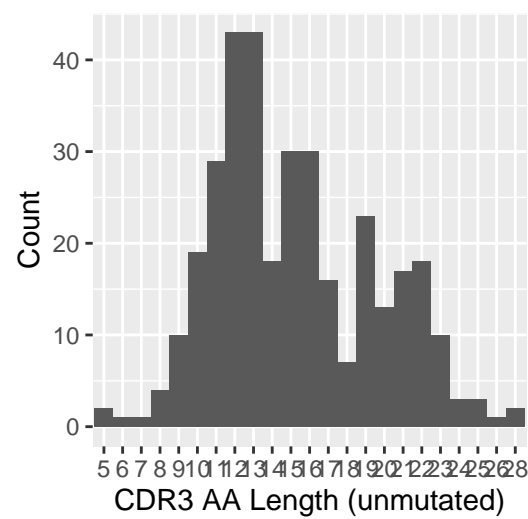
IGHV3-30\*02\_C141G\_C183



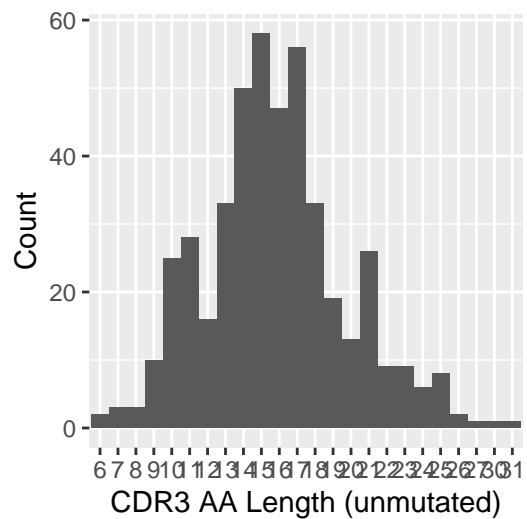
IGHV3-54\*02\_G170C



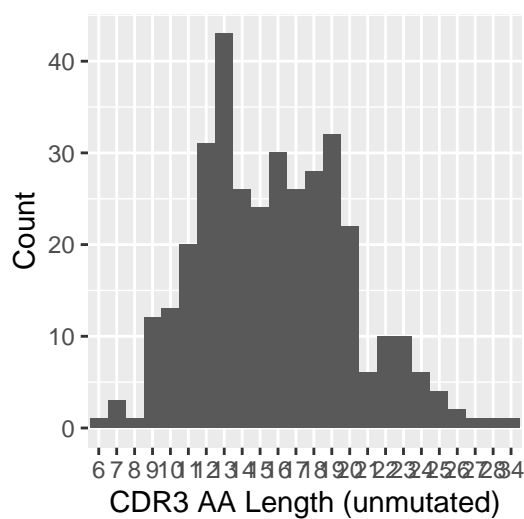
IGHV5-43\*02\_A59G



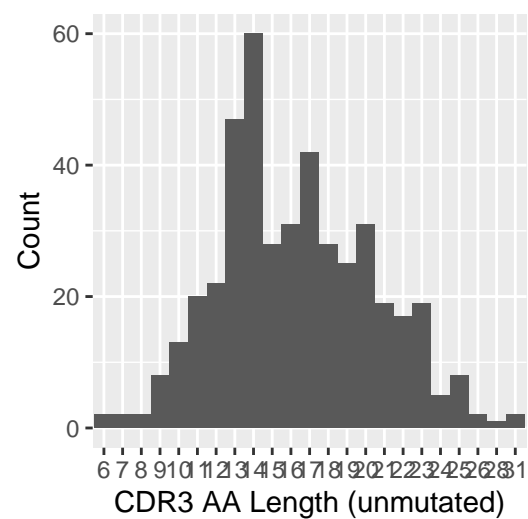
IGHV3S42\*01\_T19A\_G24A\_



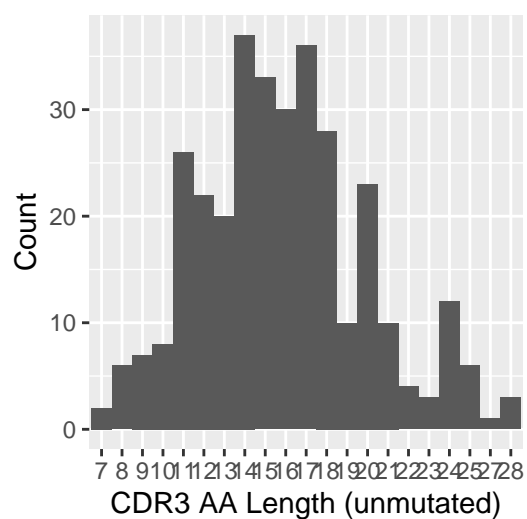
IGHV4-173\*01\_C47T



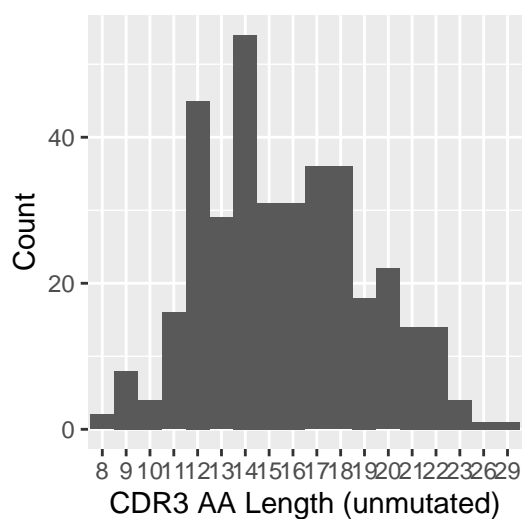
IGHV3-103\*01\_G51A\_A170



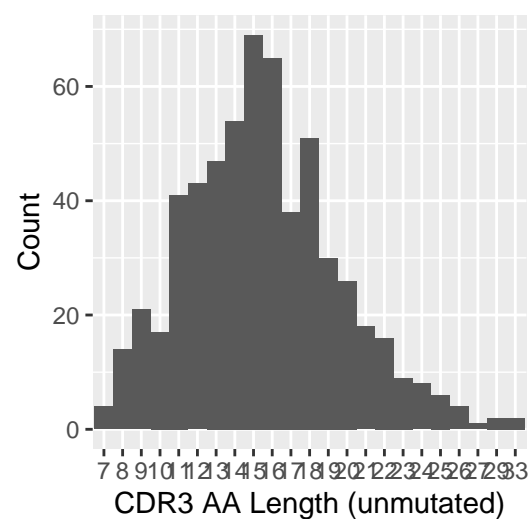
IGHV5-20\*02\_A295T\_C312

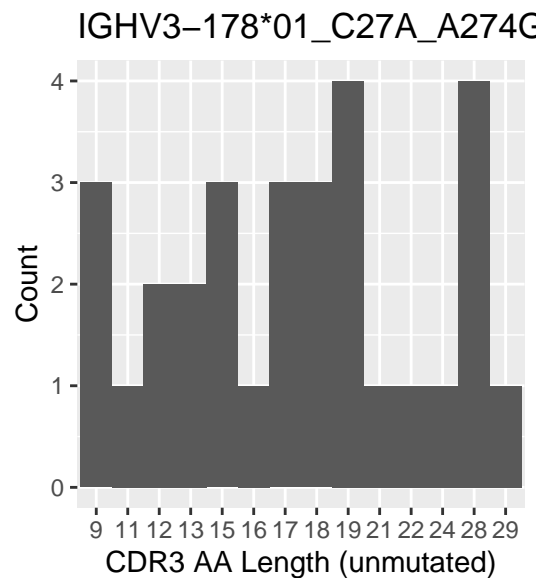
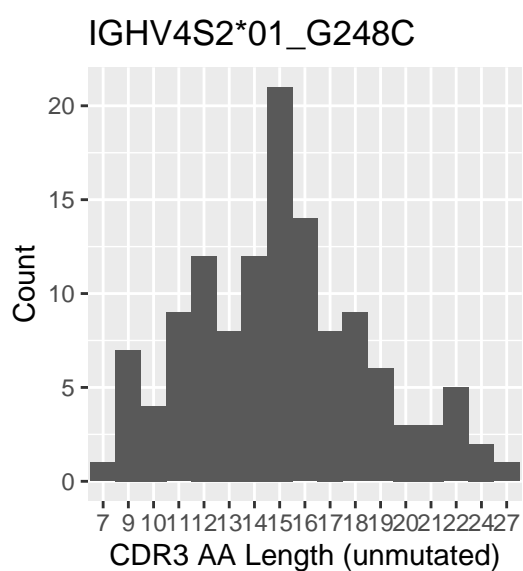
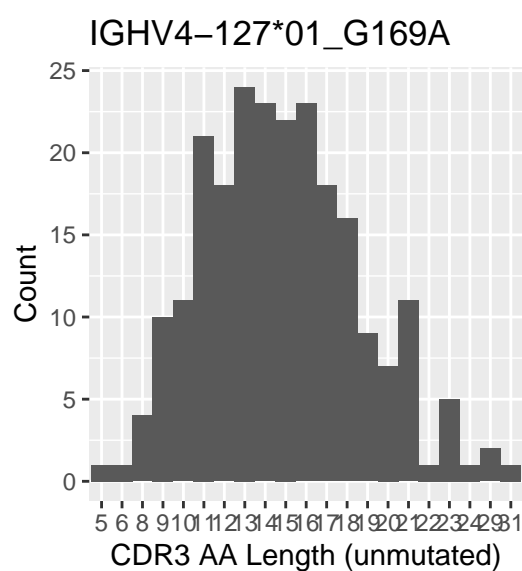
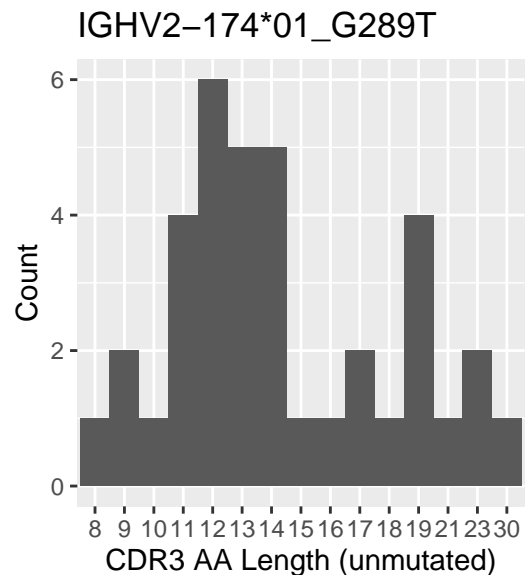
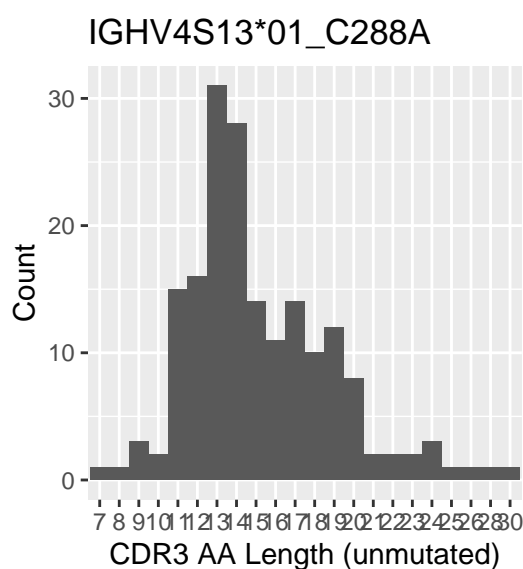
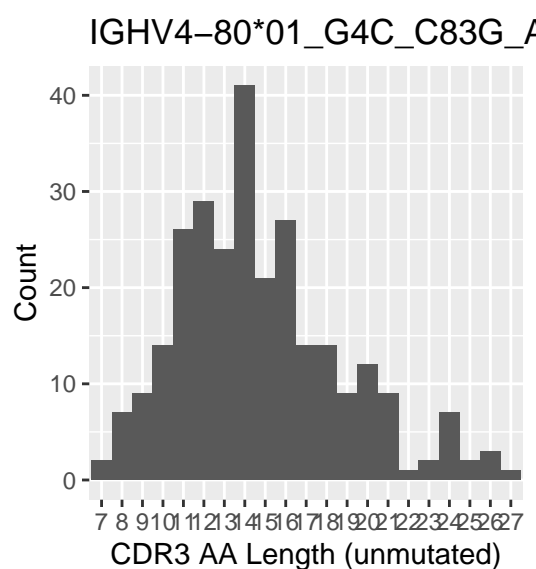
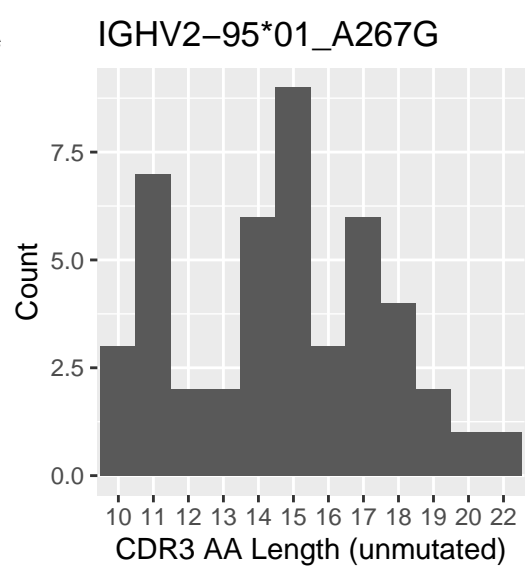
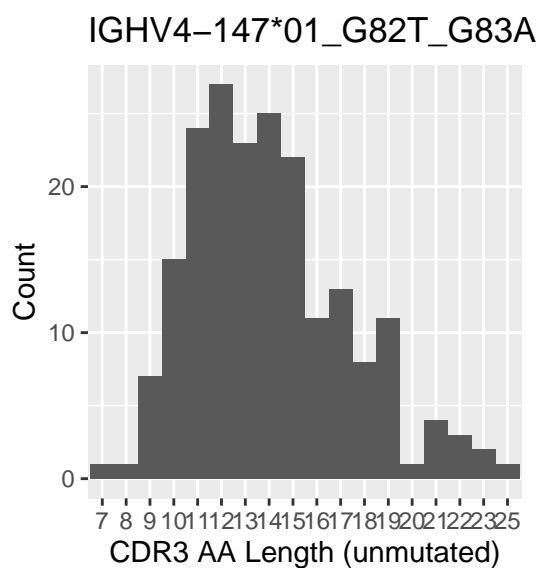
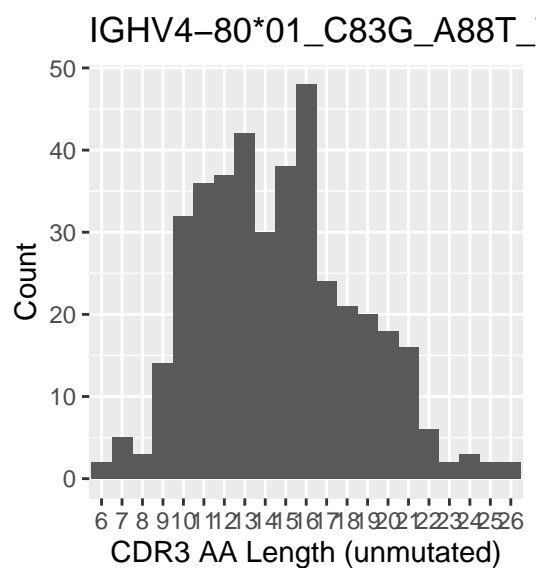


IGHV5-43\*01\_A109T\_G110/



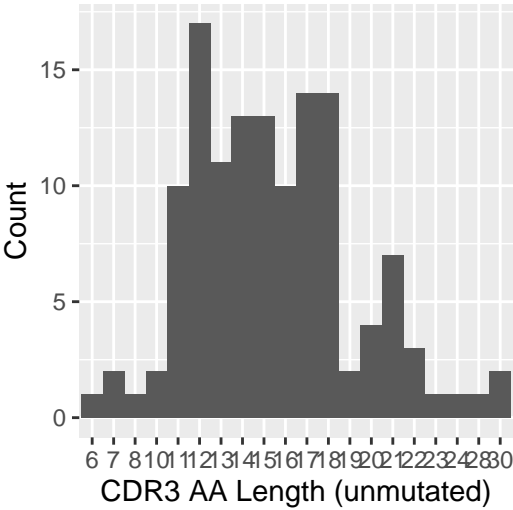
IGHV3-103\*01\_G24A\_C27A



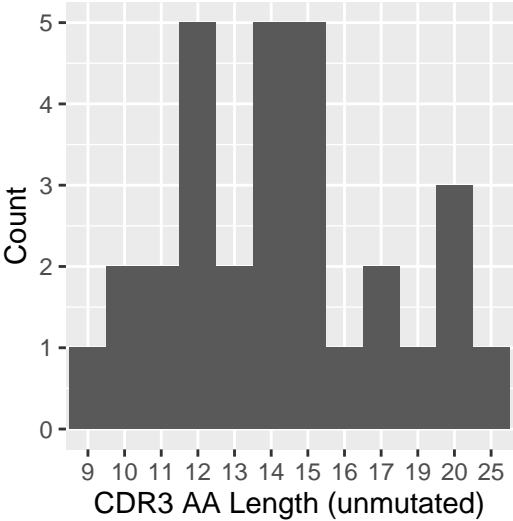




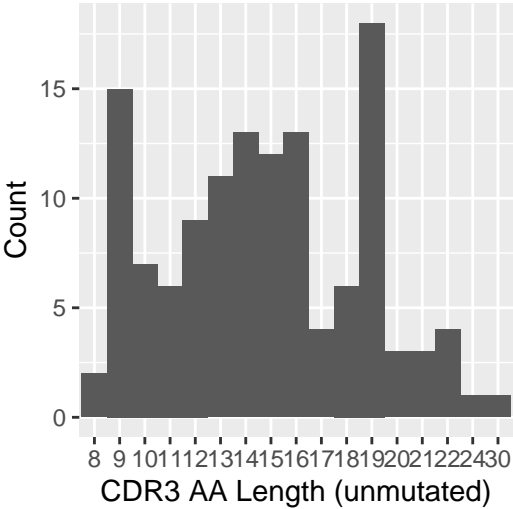
IGHV4-73\*01\_G147A

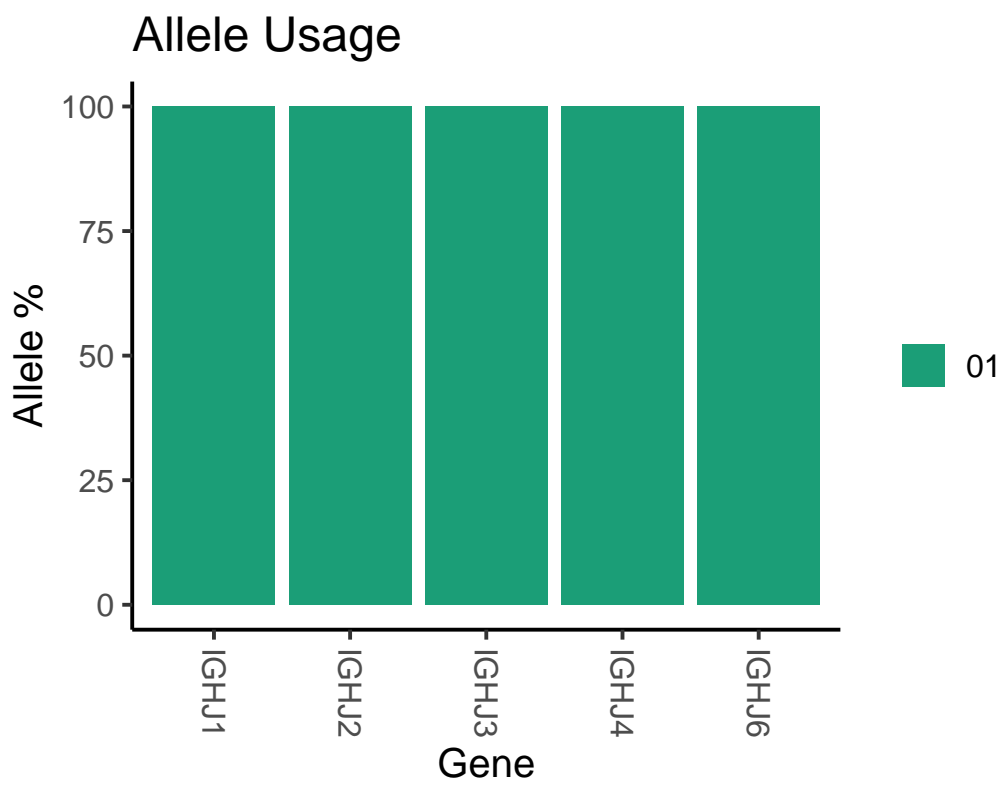


IGHV6-1\*01\_G280T



IGHV4-169\*02\_T60C\_G61C





Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.