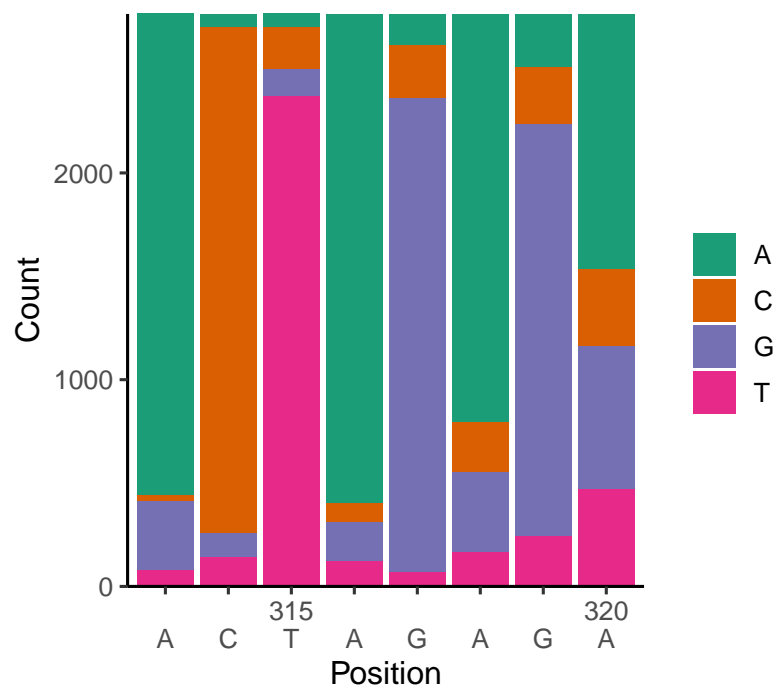
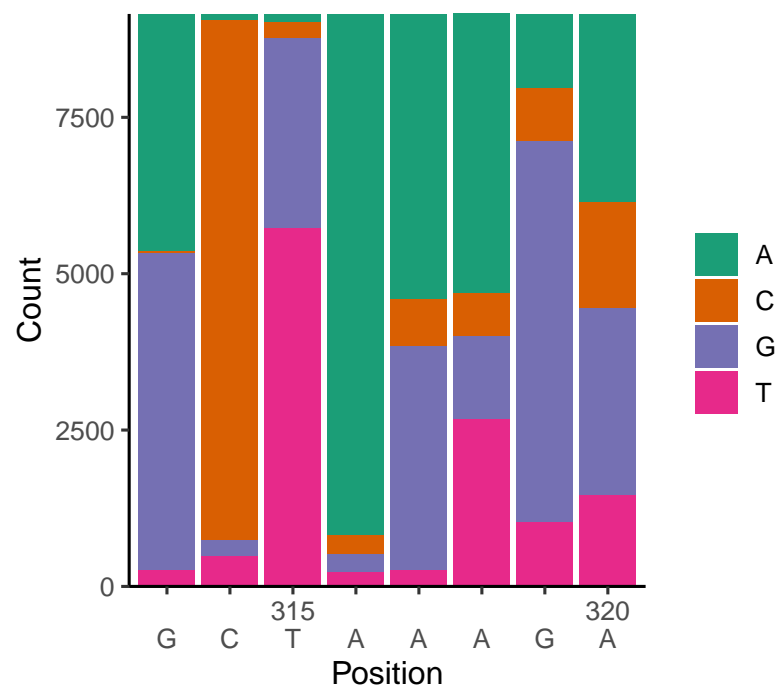


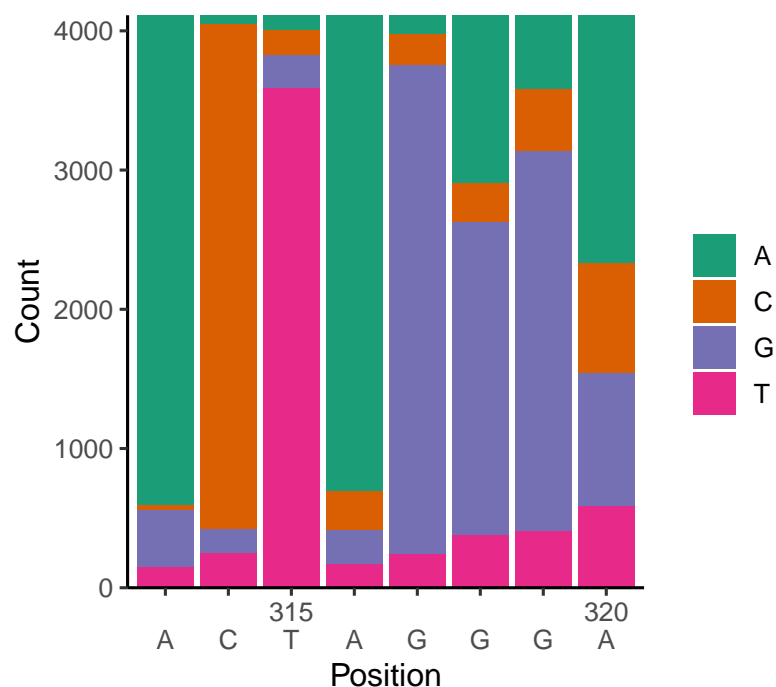
Gene IGHV3-16*01_A51T_T78C_A119C



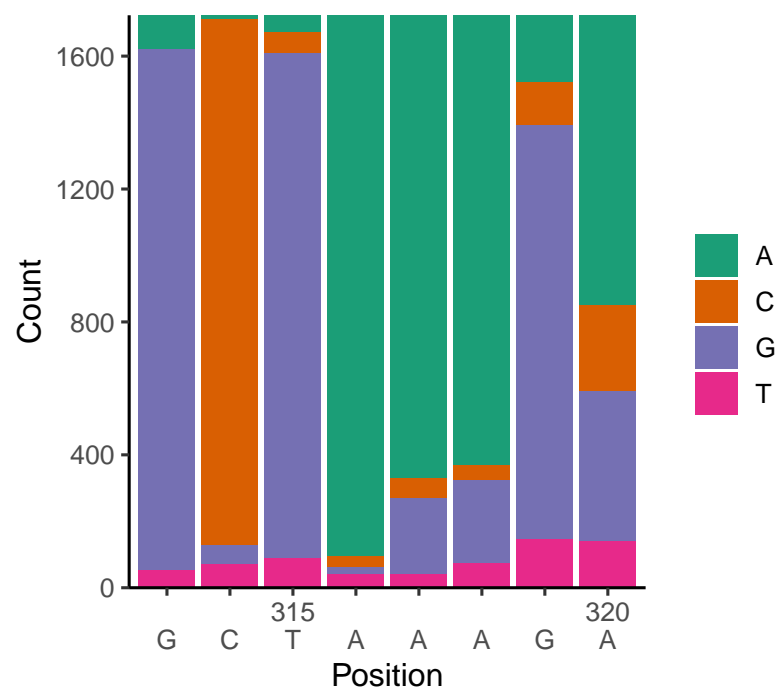
Gene IGHV3S42*01_T120C_A133G_G1



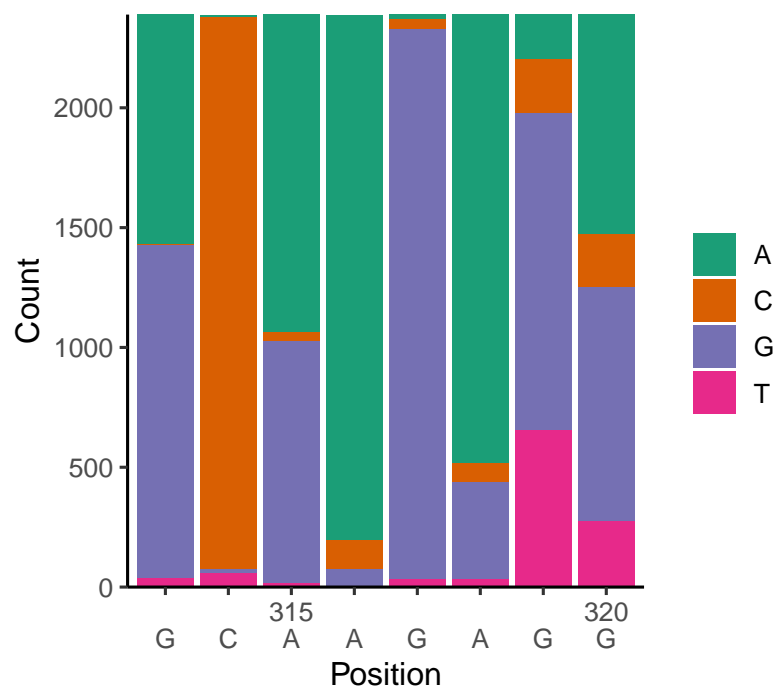
Gene IGHV3-184*01_T34C_G48C_C610



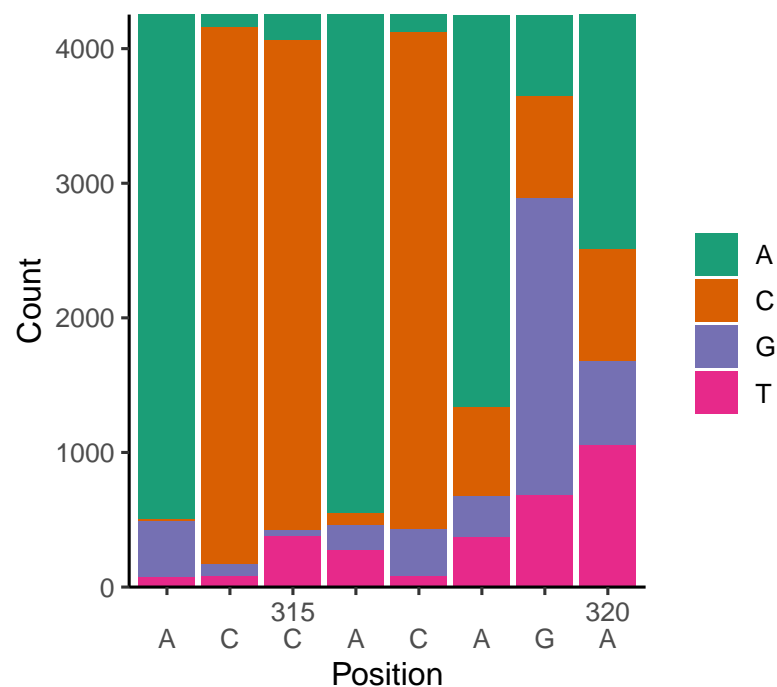
Gene IGHV3S42*01_C27A_C38T_A39G



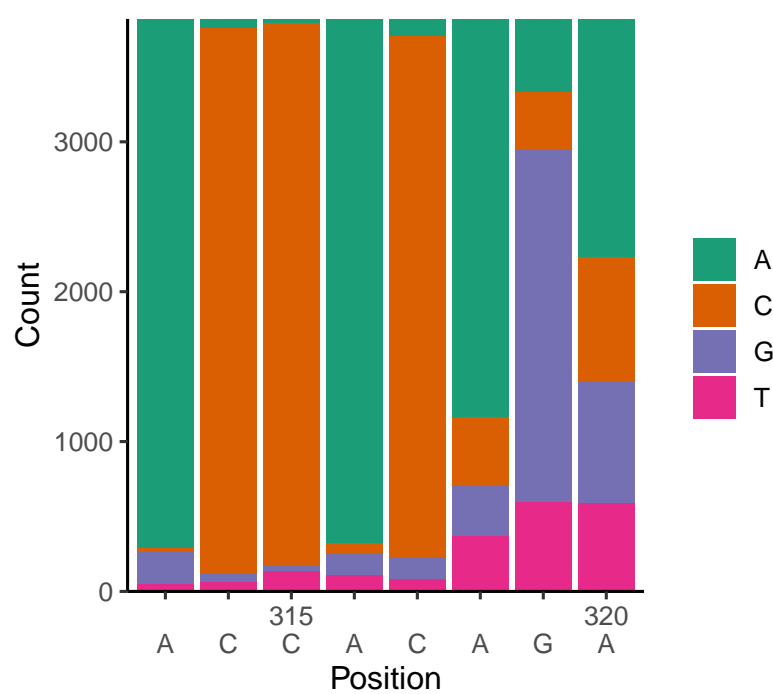
Gene IGHV1-200*01_A18G_G60A_C78



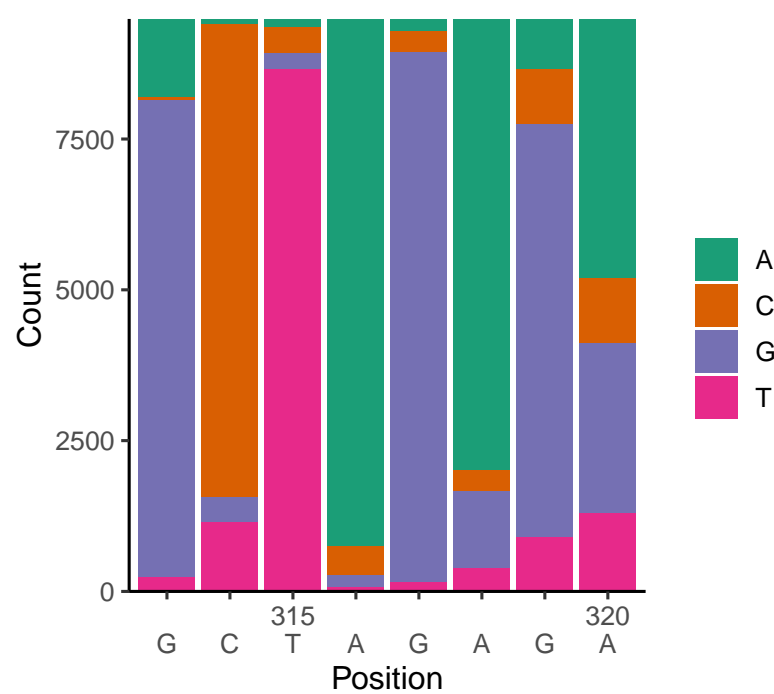
Gene IGHV3-30*01_G174C_A188G_G1



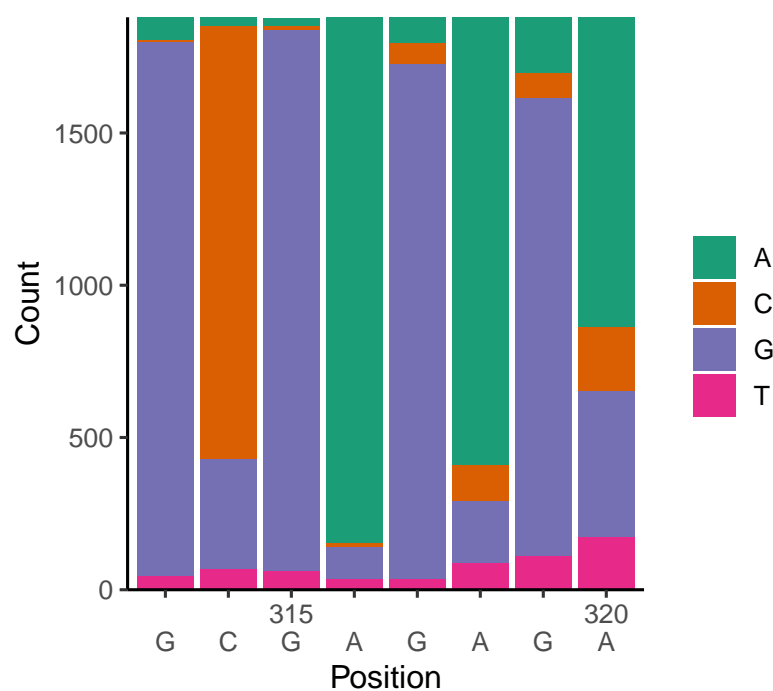
Gene IGHV3-30*02_C141G_C183T



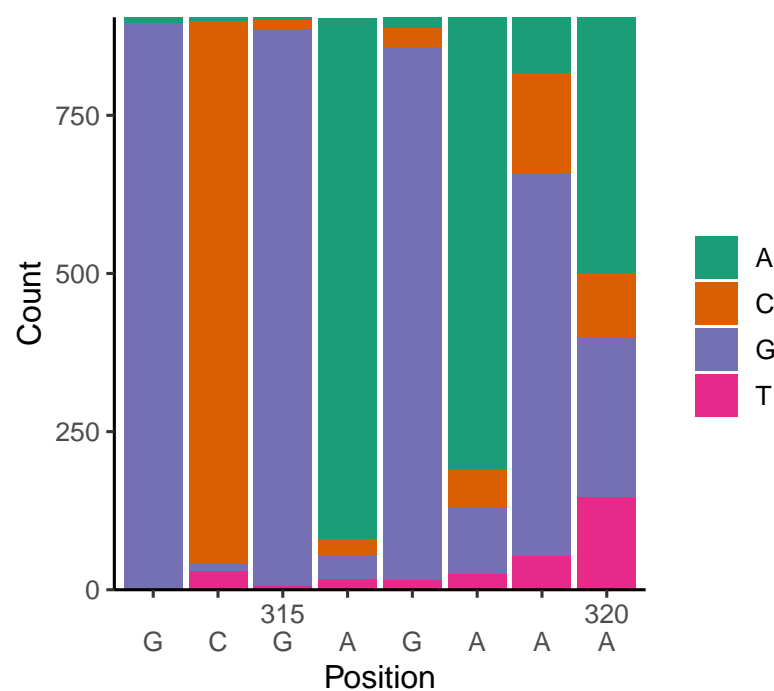
Gene IGHV3-116*02_G8A_T109C



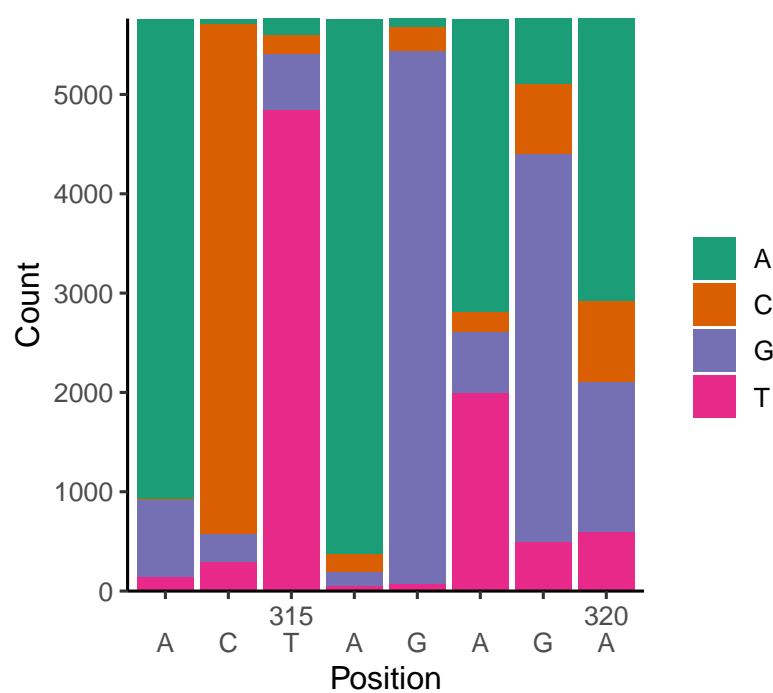
Gene IGHV3-54*02_G170C_C300T



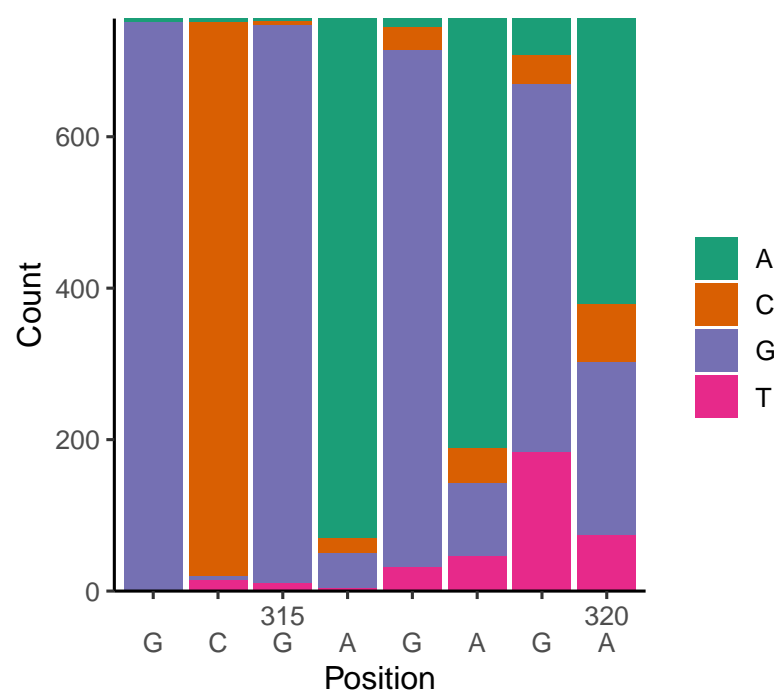
Gene IGHV4-57*02_C87T_G199T_C207



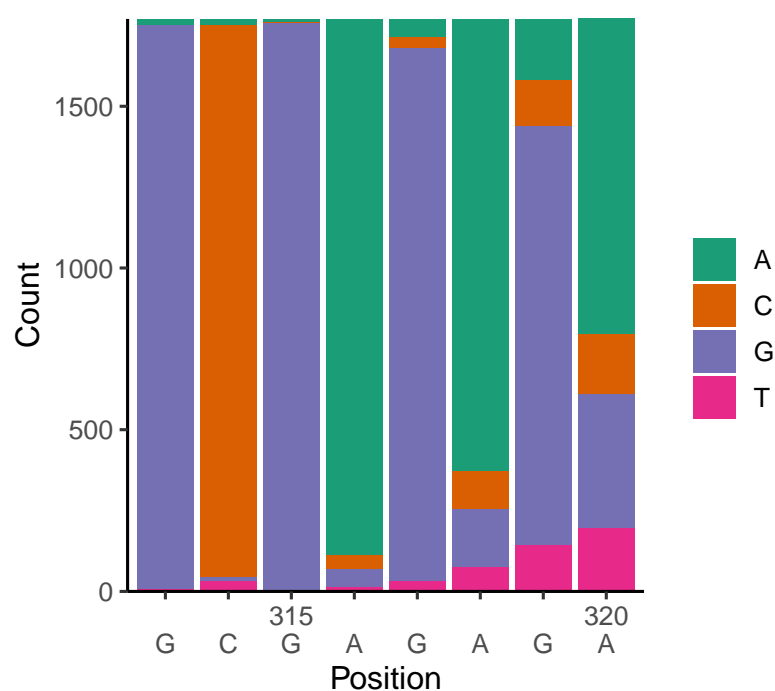
Gene IGHV3-100*02_C3G



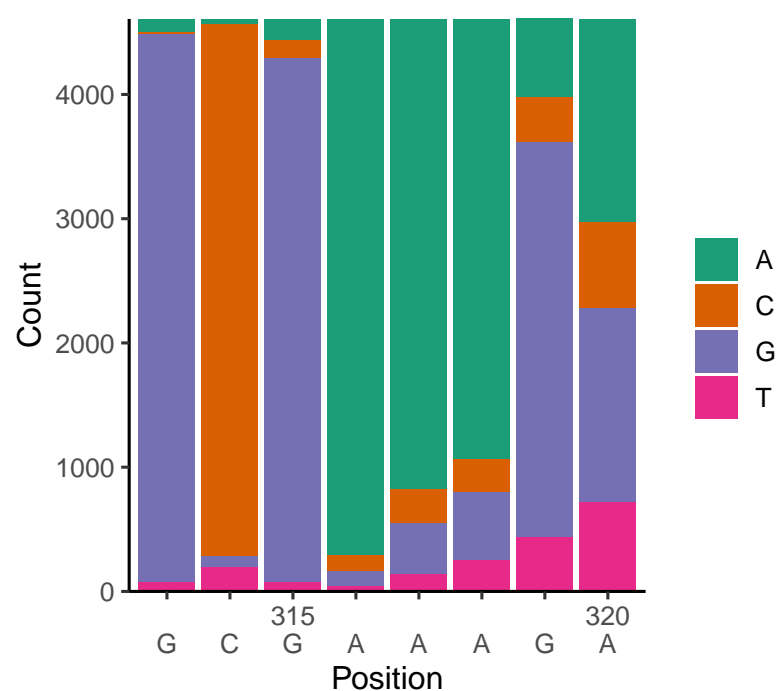
Gene IGHV4-73*01_G104A_G147A



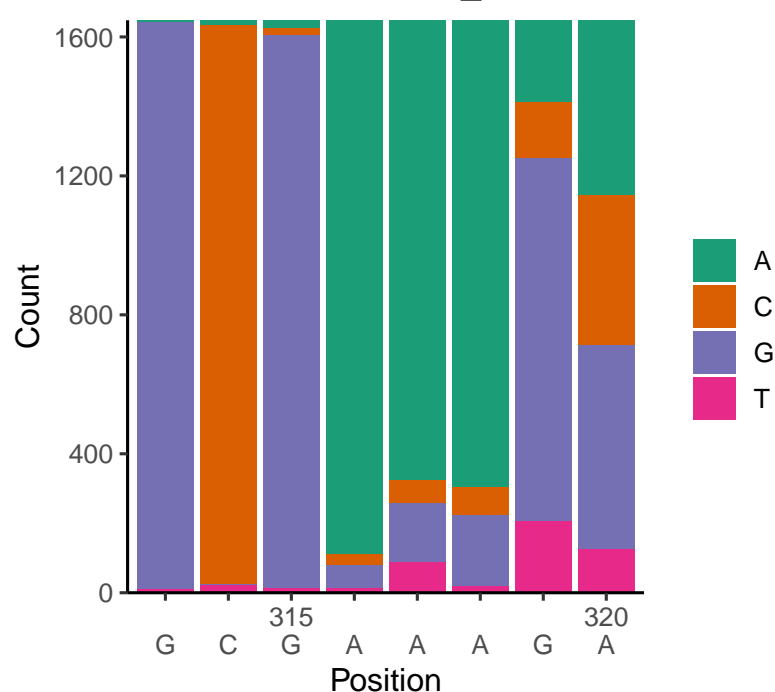
Gene IGHV4-122*02_C87T_G103A_C1:



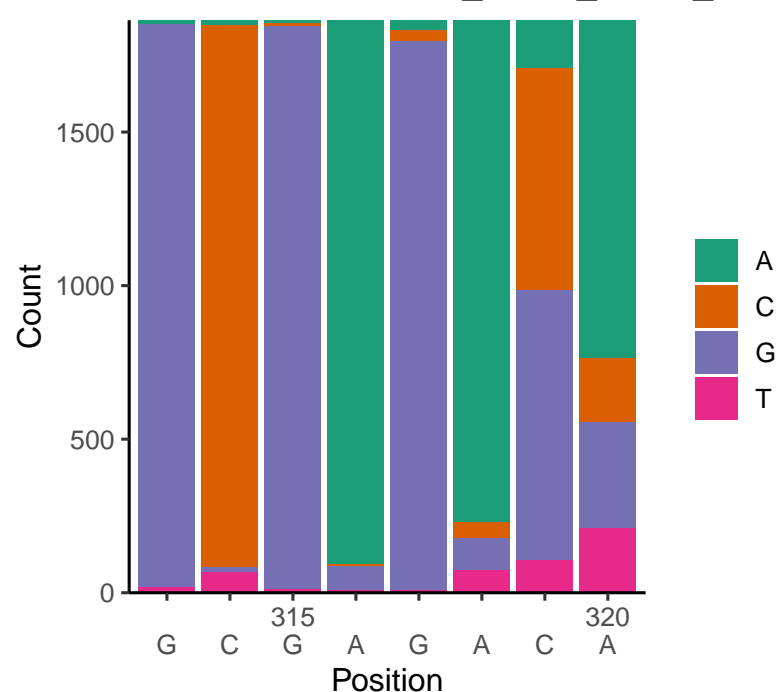
Gene IGHV3-103*01_T19A_G24A_C27A



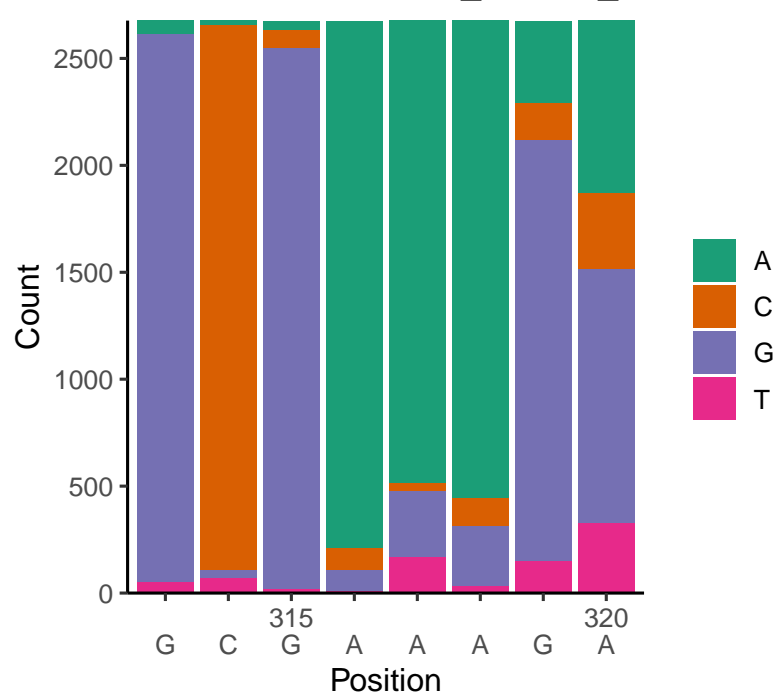
Gene IGHV5-20*01_A141G



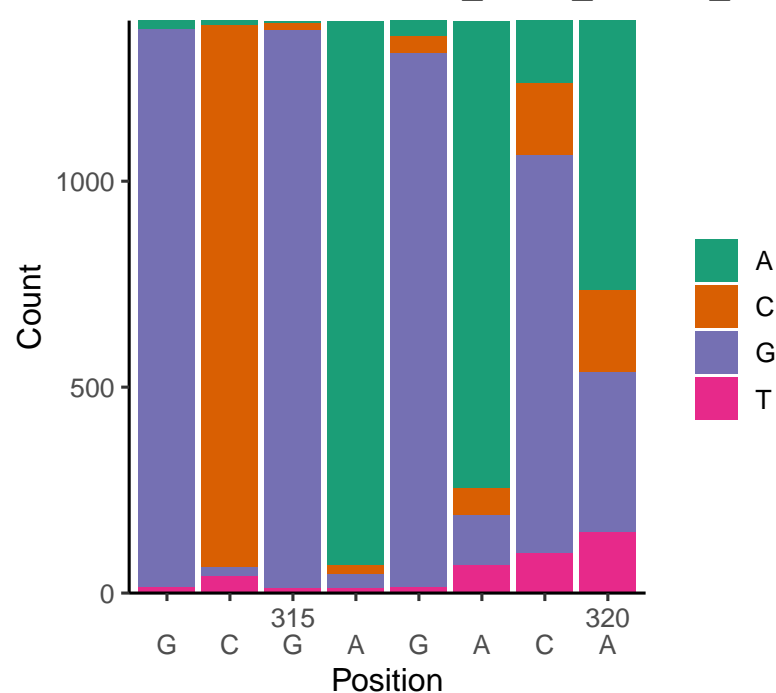
Gene IGHV4-65*02_G82T_G83A_T87C



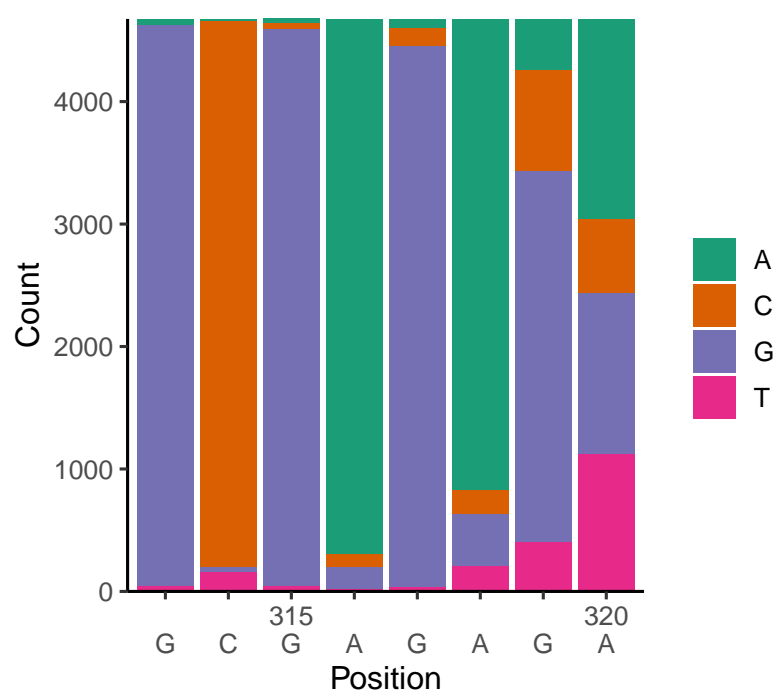
Gene IGHV5-20*02_A141G_C312T



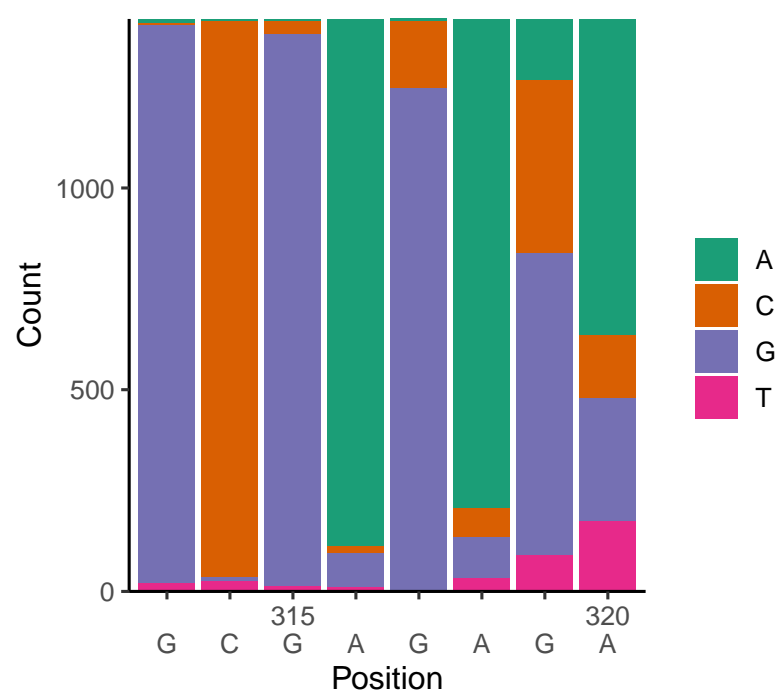
Gene IGHV4-76*01_A81T_G103A_A244



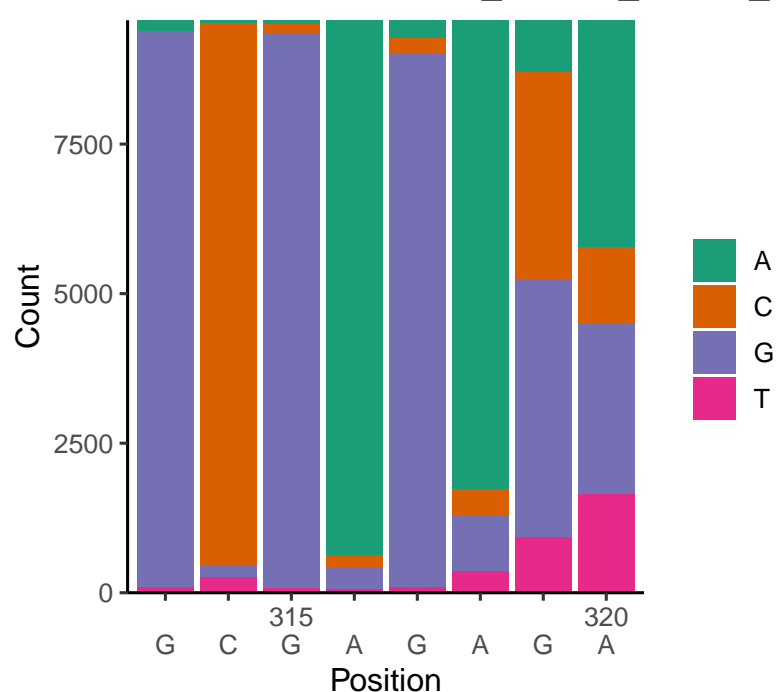
Gene IGHV4-127*01_T82G_A83G_C87



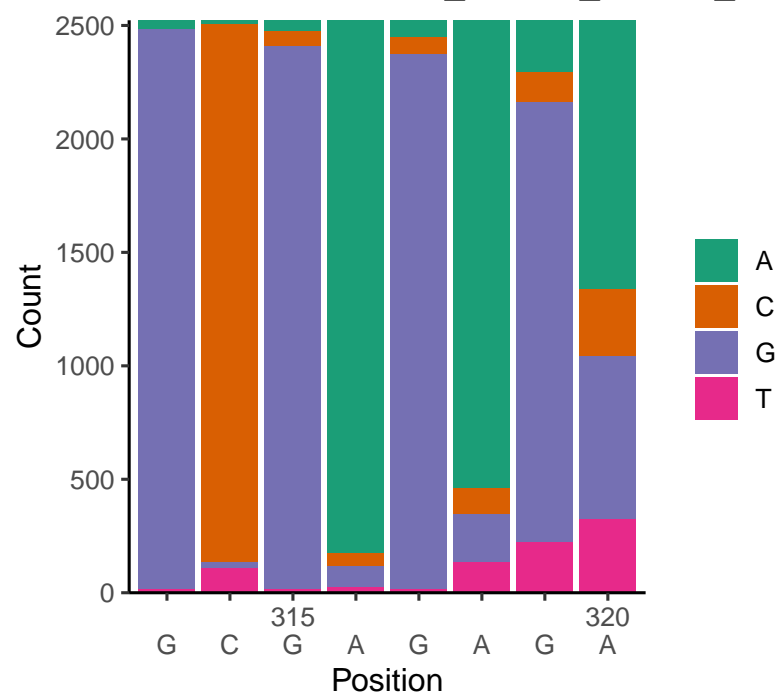
Gene IGHV4S13*01_G163A_C210T_G2



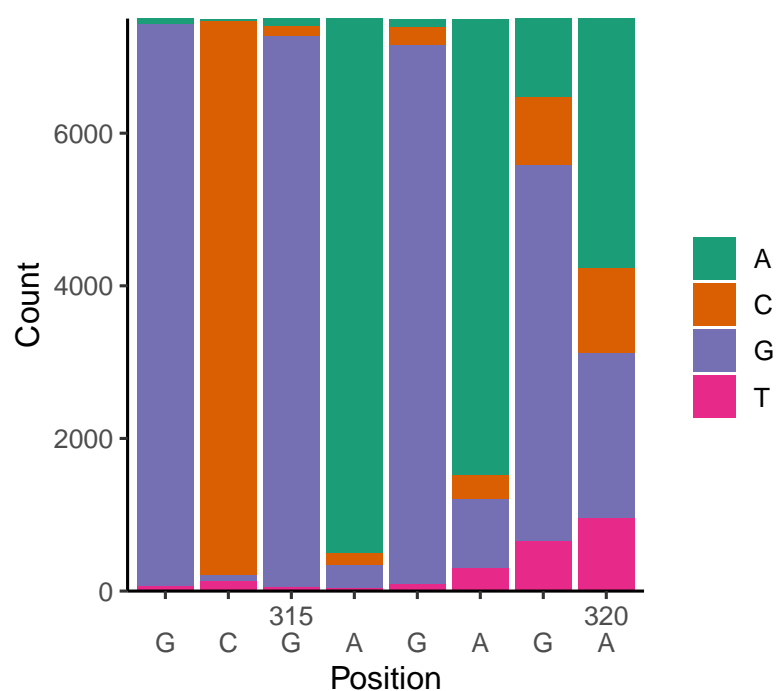
Gene IGHV4-160*01_A106G_A109T_G



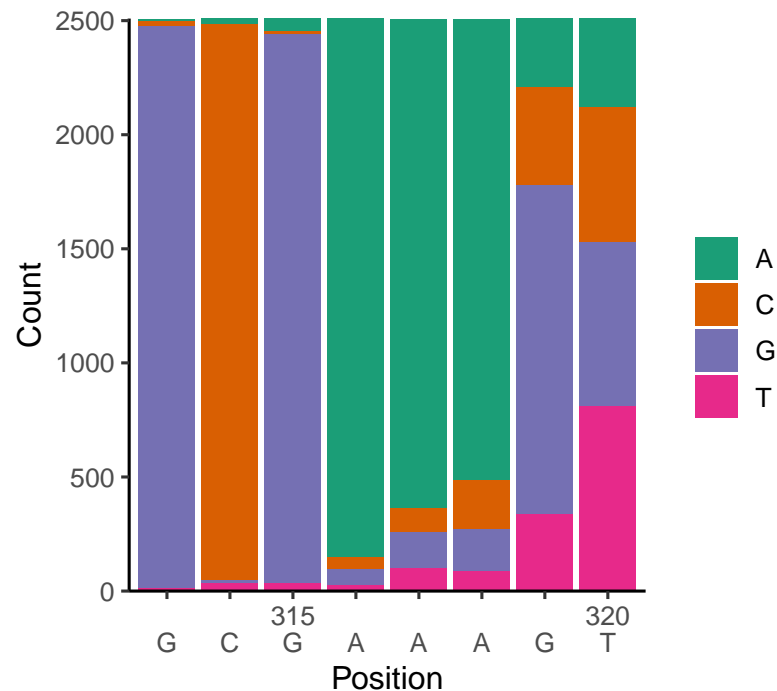
Gene IGHV4S2*01_G133T_T239G_G24



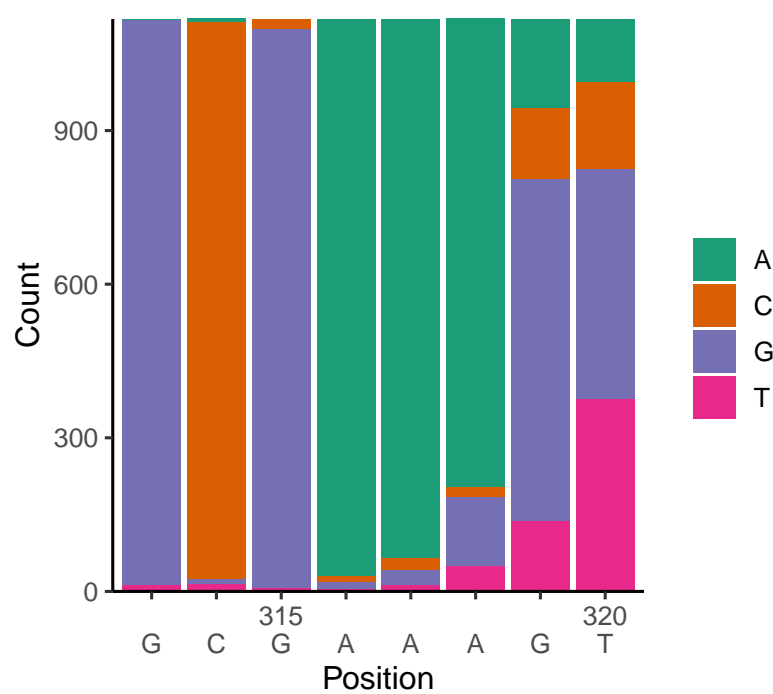
Gene IGHV4S10*01_A48G_T112C



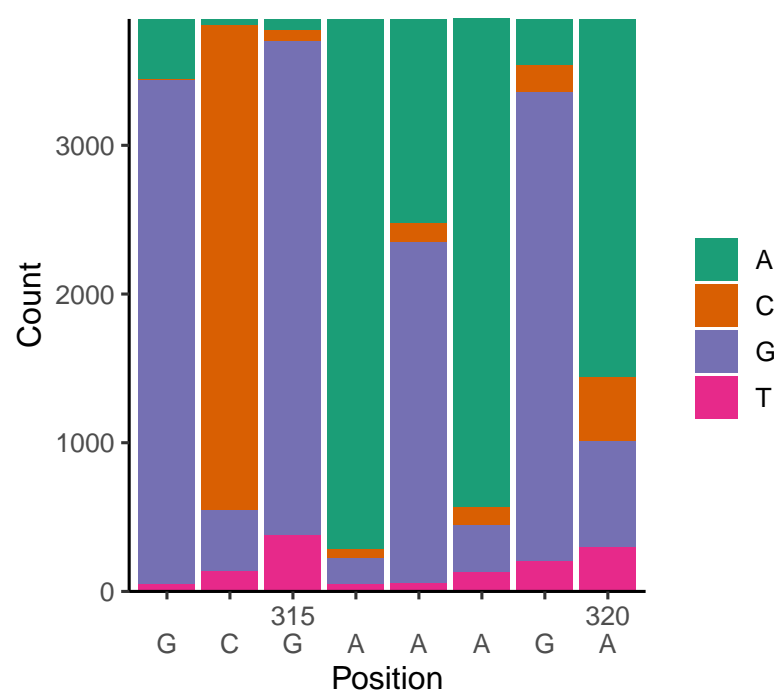
Gene IGHV5-43*01_A51G



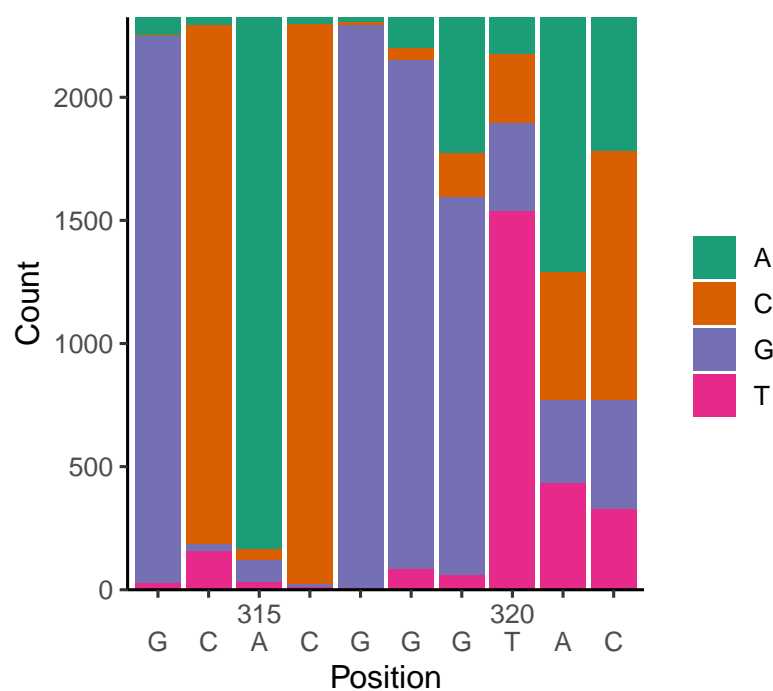
Gene IGHV5-43*01_A106G



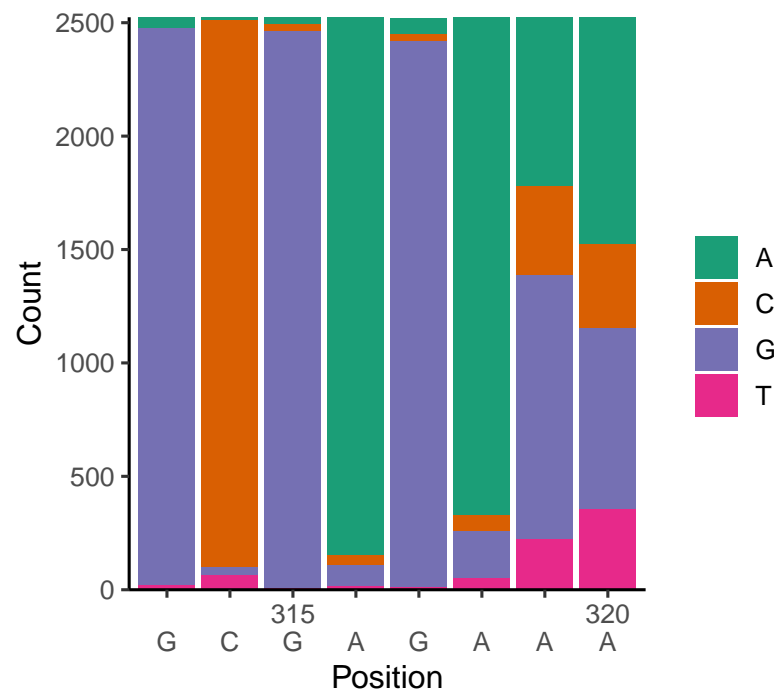
Gene IGHV3-178*02_A274G



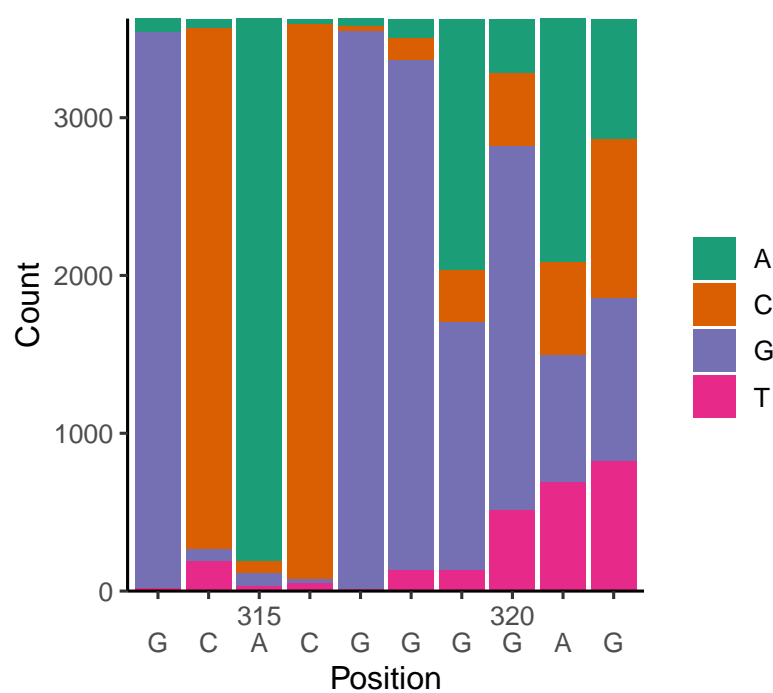
Gene IGHV2-95*01_A267G



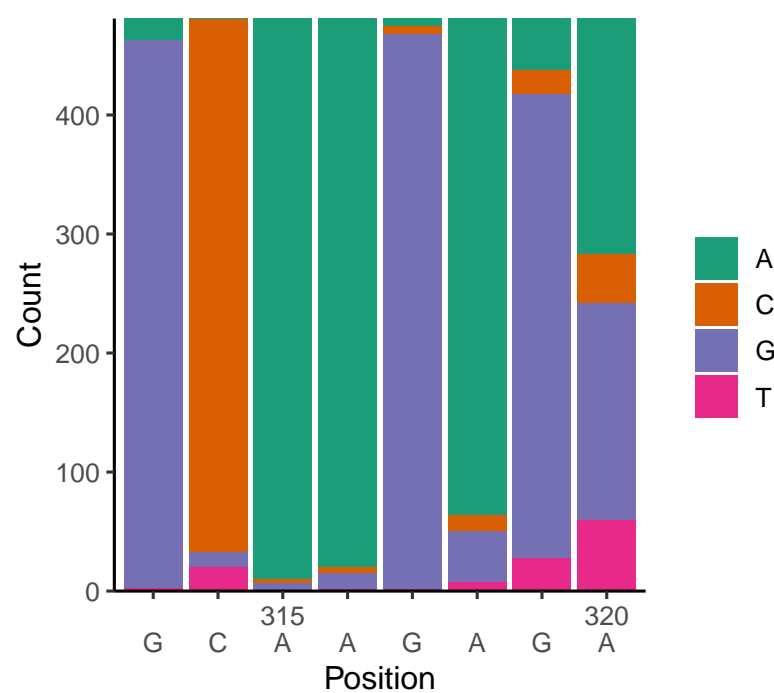
Gene IGHV4-165*02_C205T



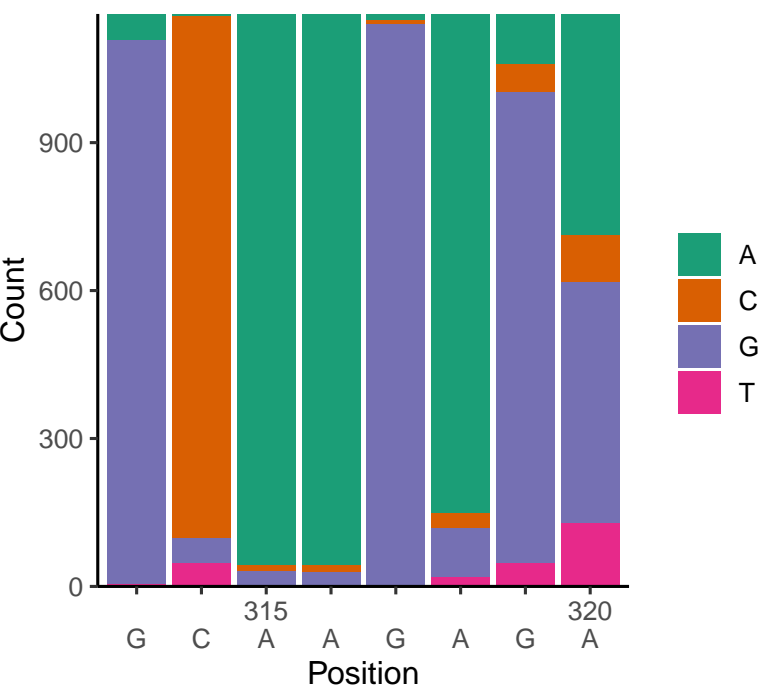
Gene IGHV2-174*01_C6G_C92G_C93T



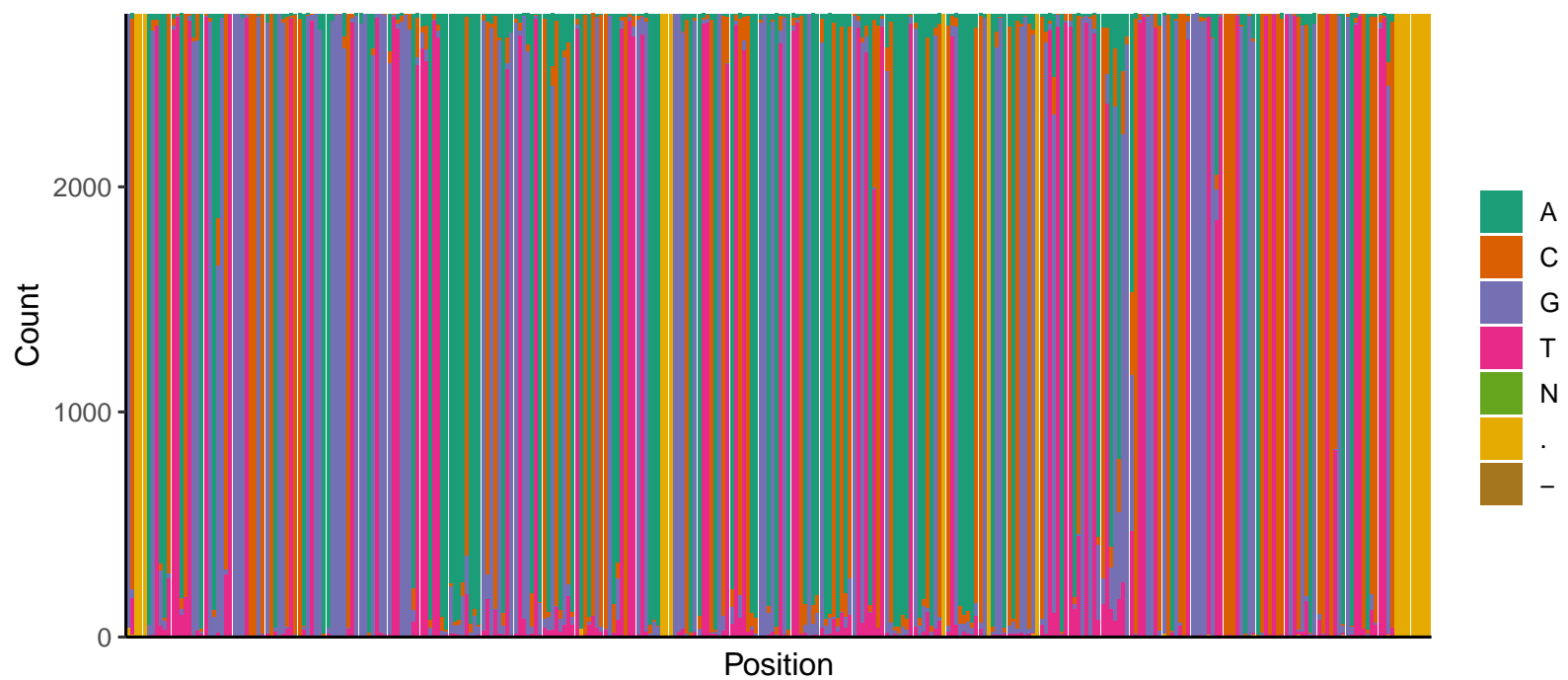
Gene IGHV6-1*01_C167T_G280T



Gene IGHV6-1*01_C167T



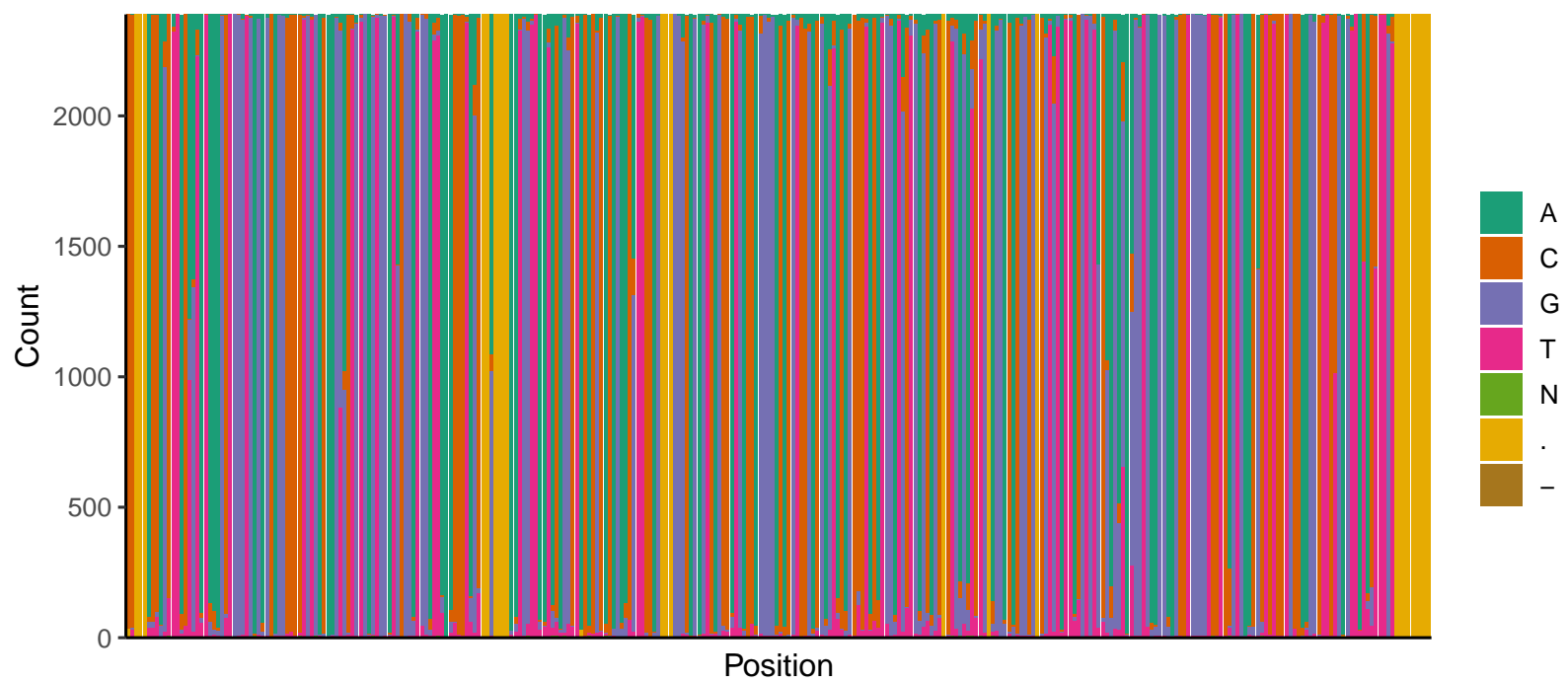
Gene IGHV3-16*01_A51T_T78C_A119G_C264T



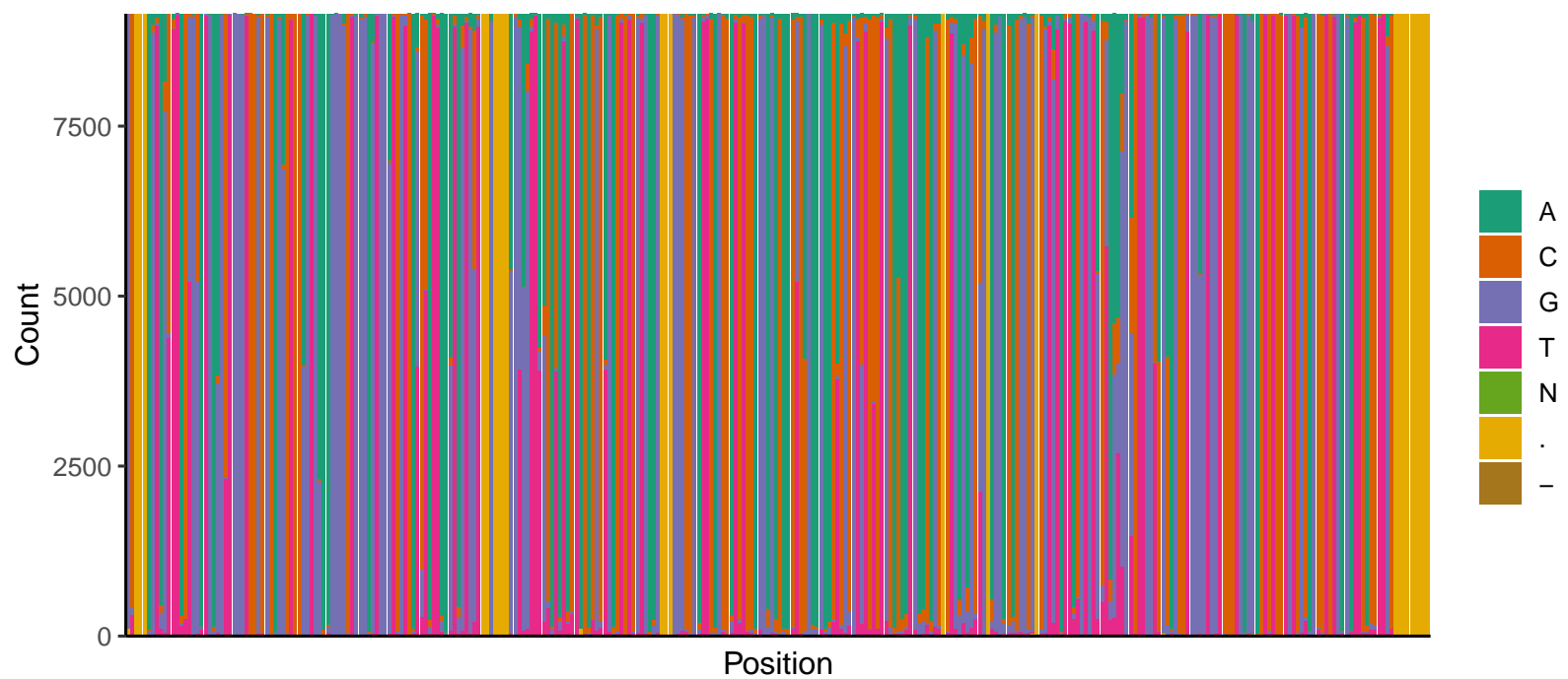
Gene IGHV3-184*01_T34C_G48C_C61G_T109C



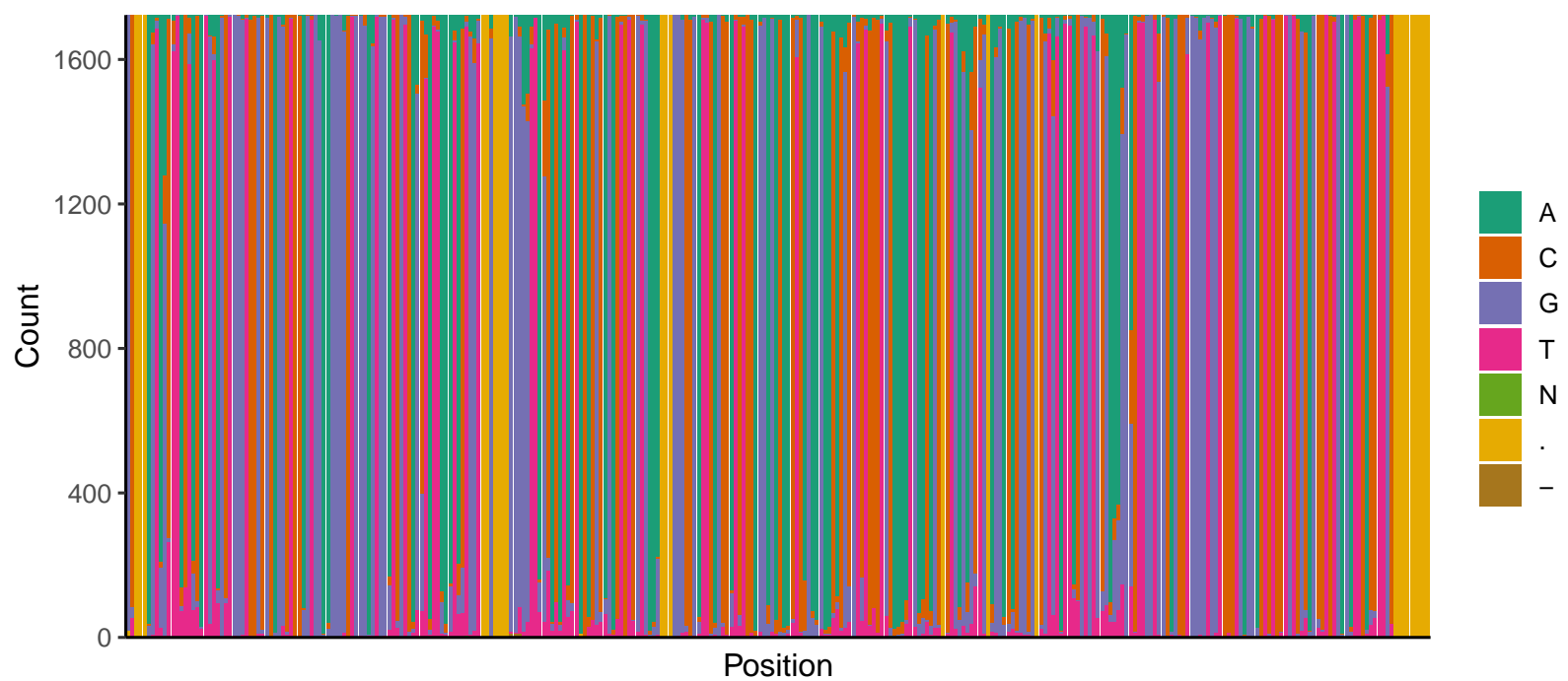
Gene IGHV1-200*01_A18G_G60A_C78T_T84C_G146T_A147G_C153G_G159A_G210A



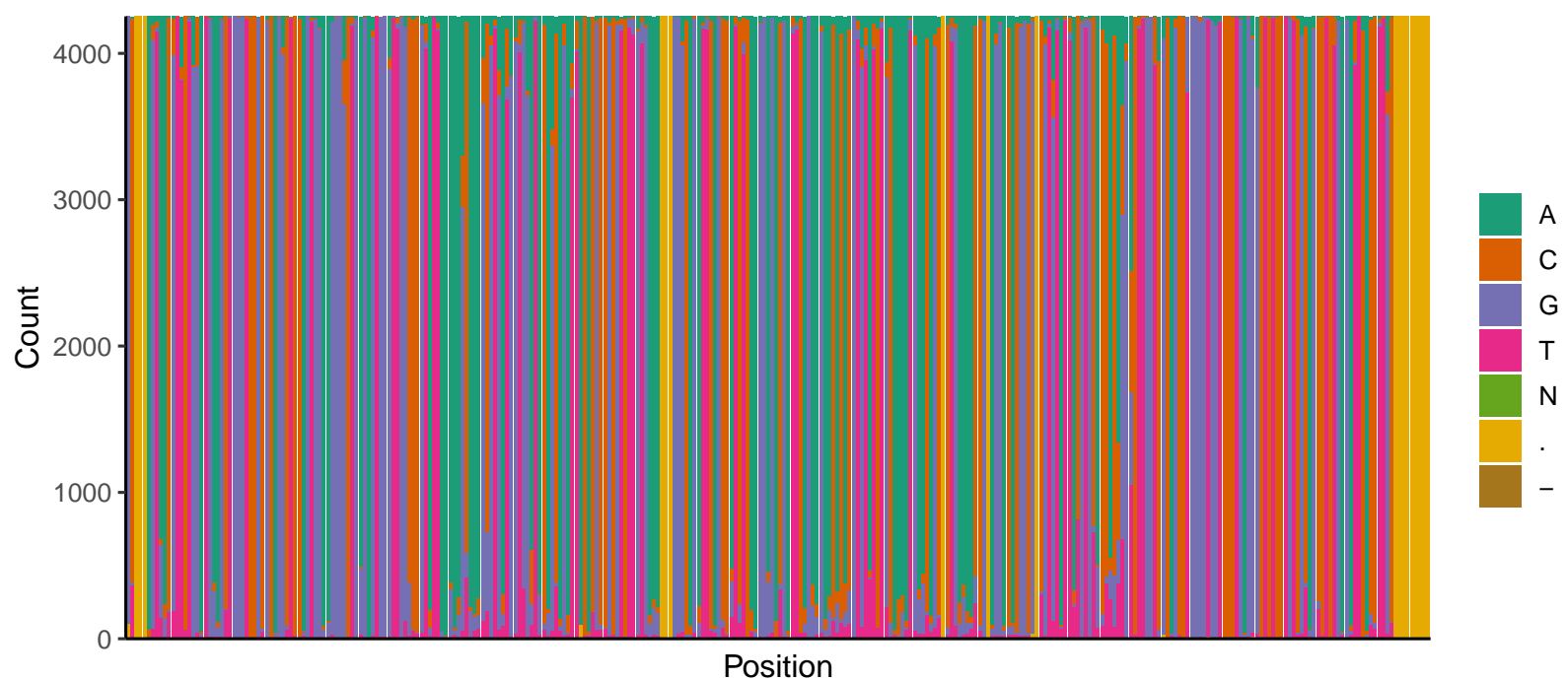
Gene IGHV3S42*01_T120C_A133G_G141A_A157G_T288G



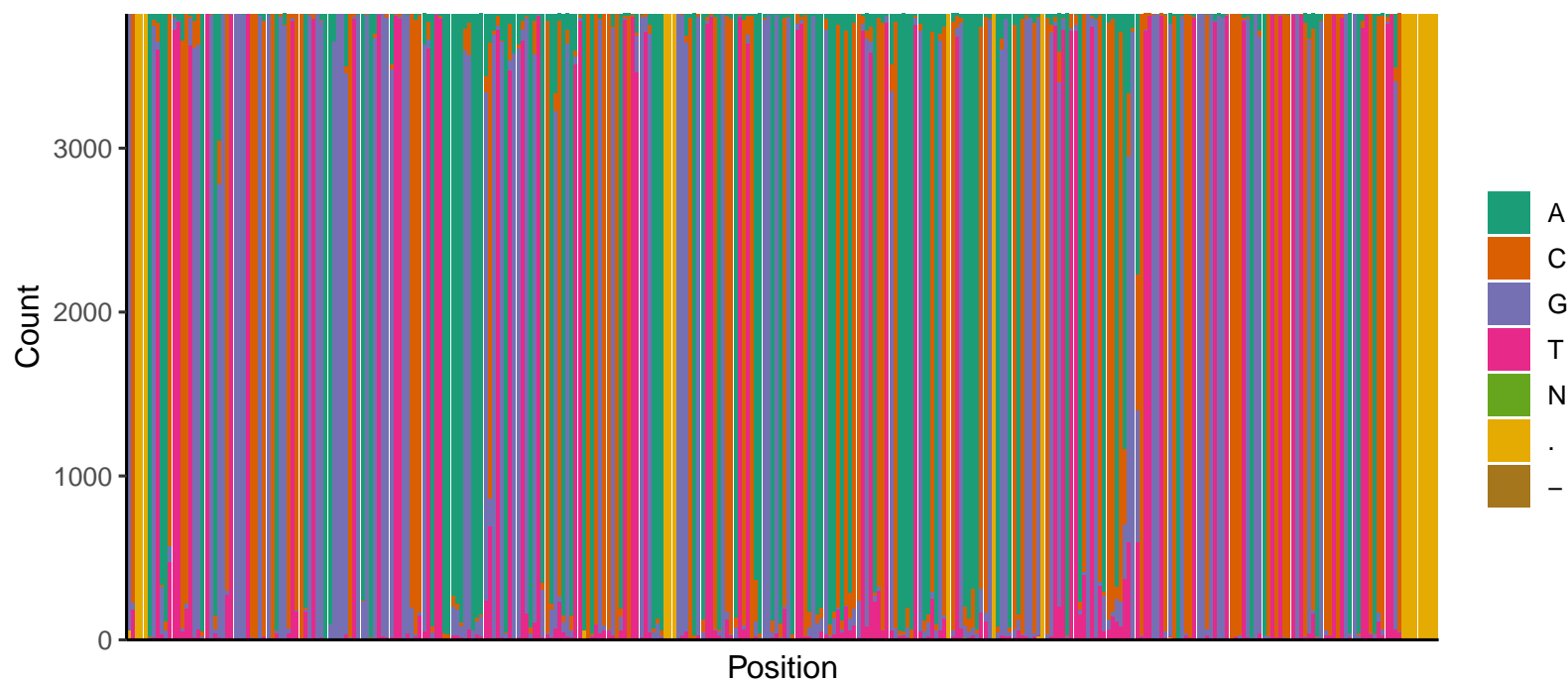
Gene IGHV3S42*01_C27A_C38T_A39G_A40C_G113A_G114C_A118T_T120C_A133G



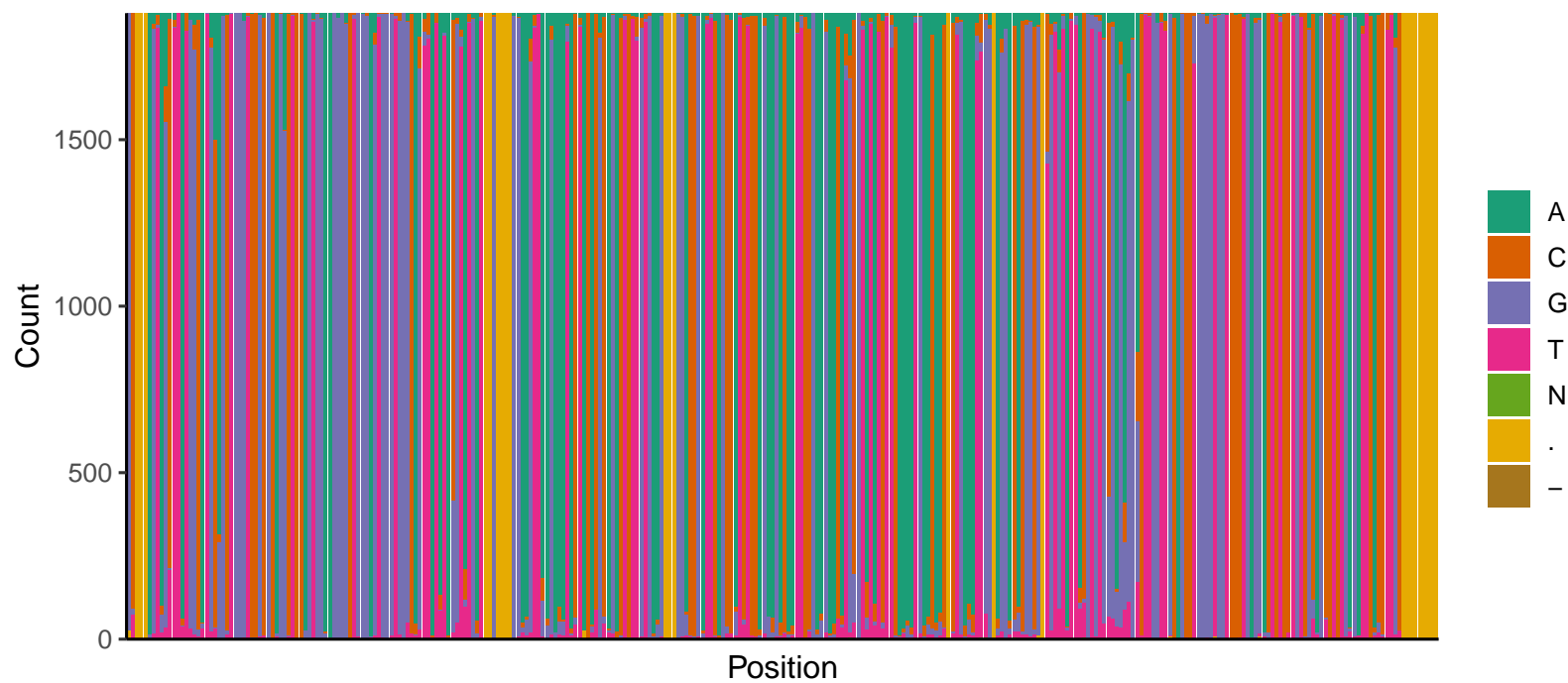
Gene IGHV3-30*01_G174C_A188G_G189A_C264T



Gene IGHV3-30*02_C141G_C183T



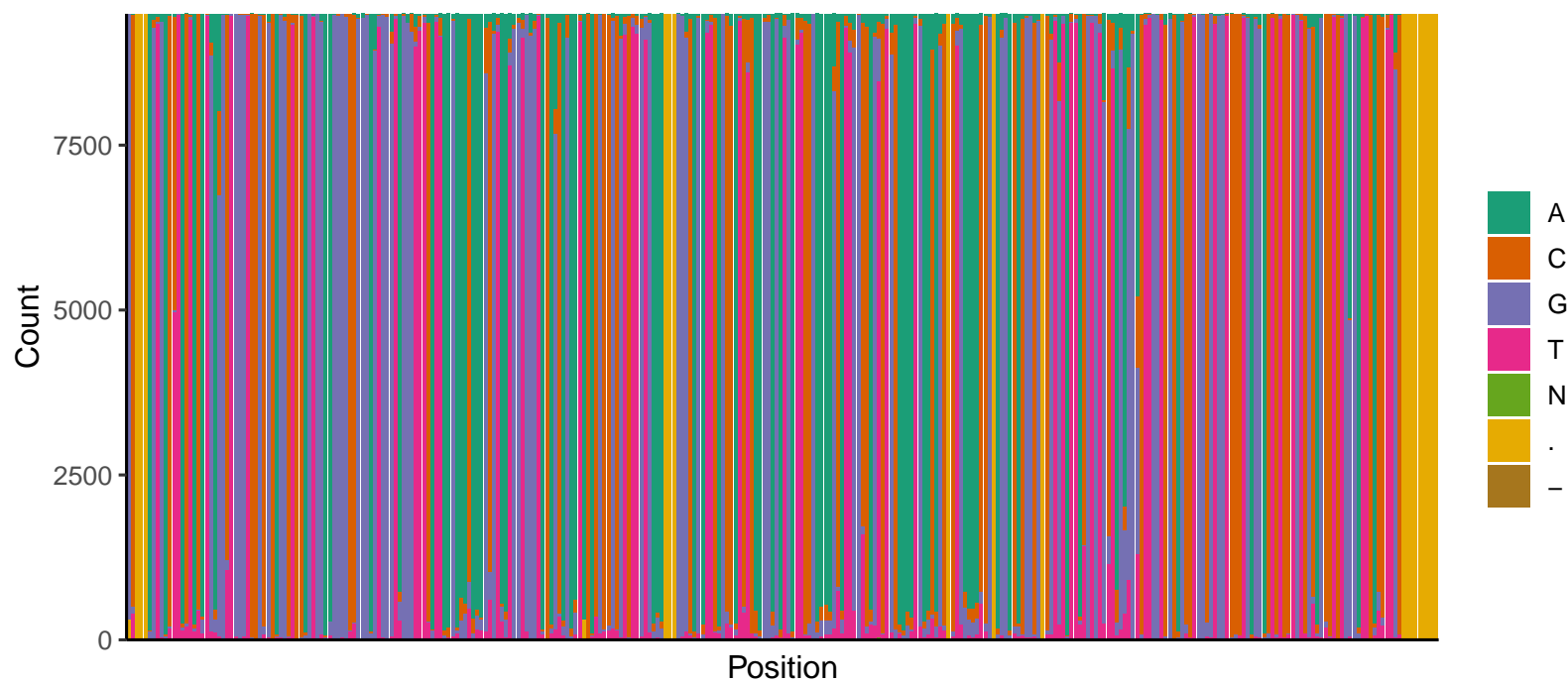
Gene IGHV3-54*02_G170C_C300T



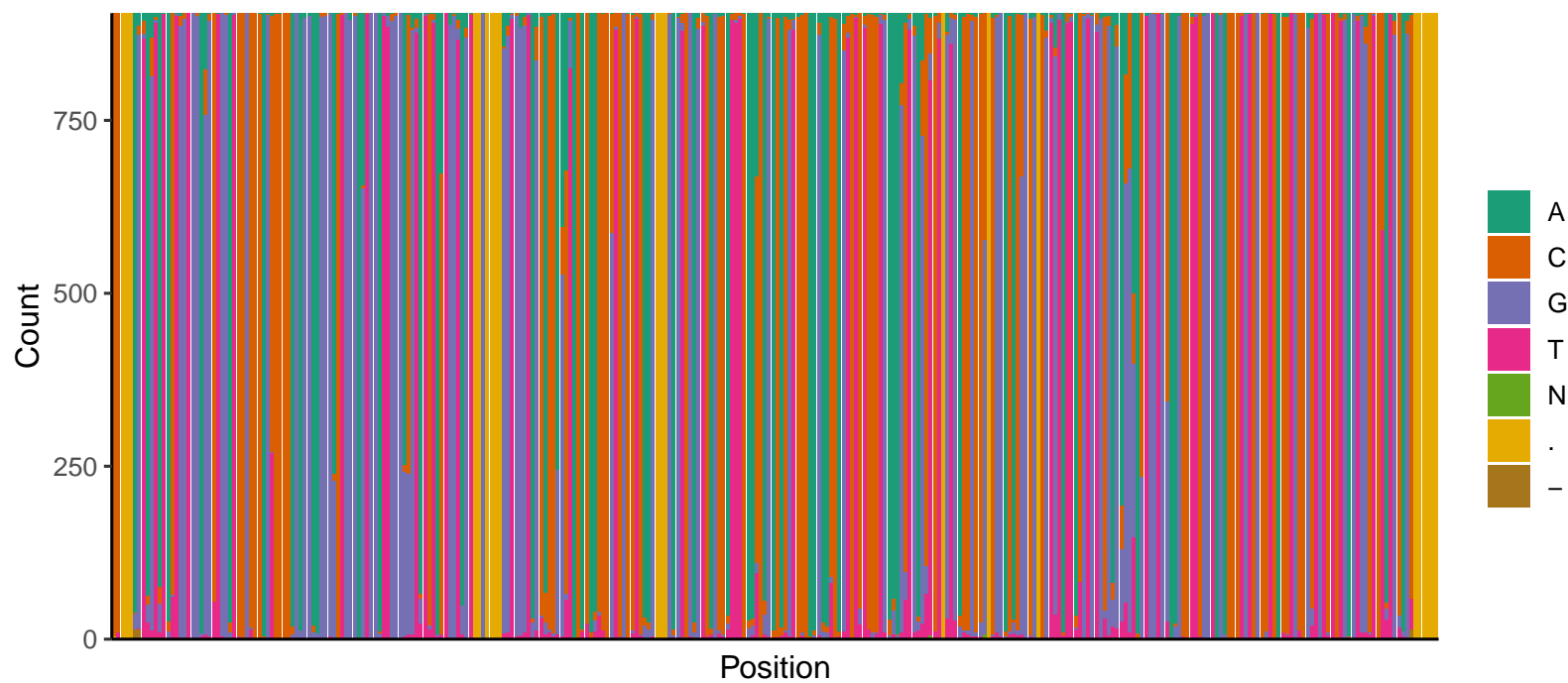
Gene IGHV3-100*02_C3G



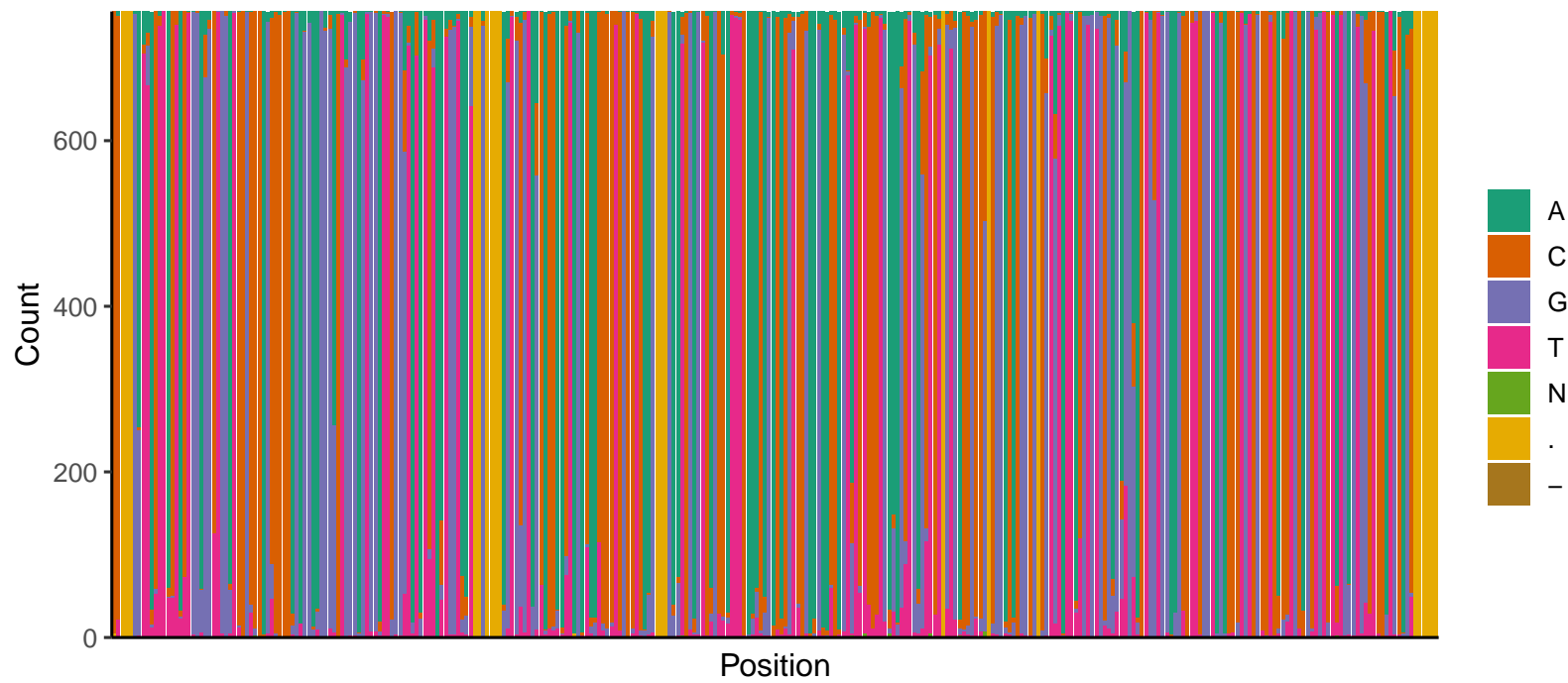
Gene IGHV3-116*02_G8A_T109C



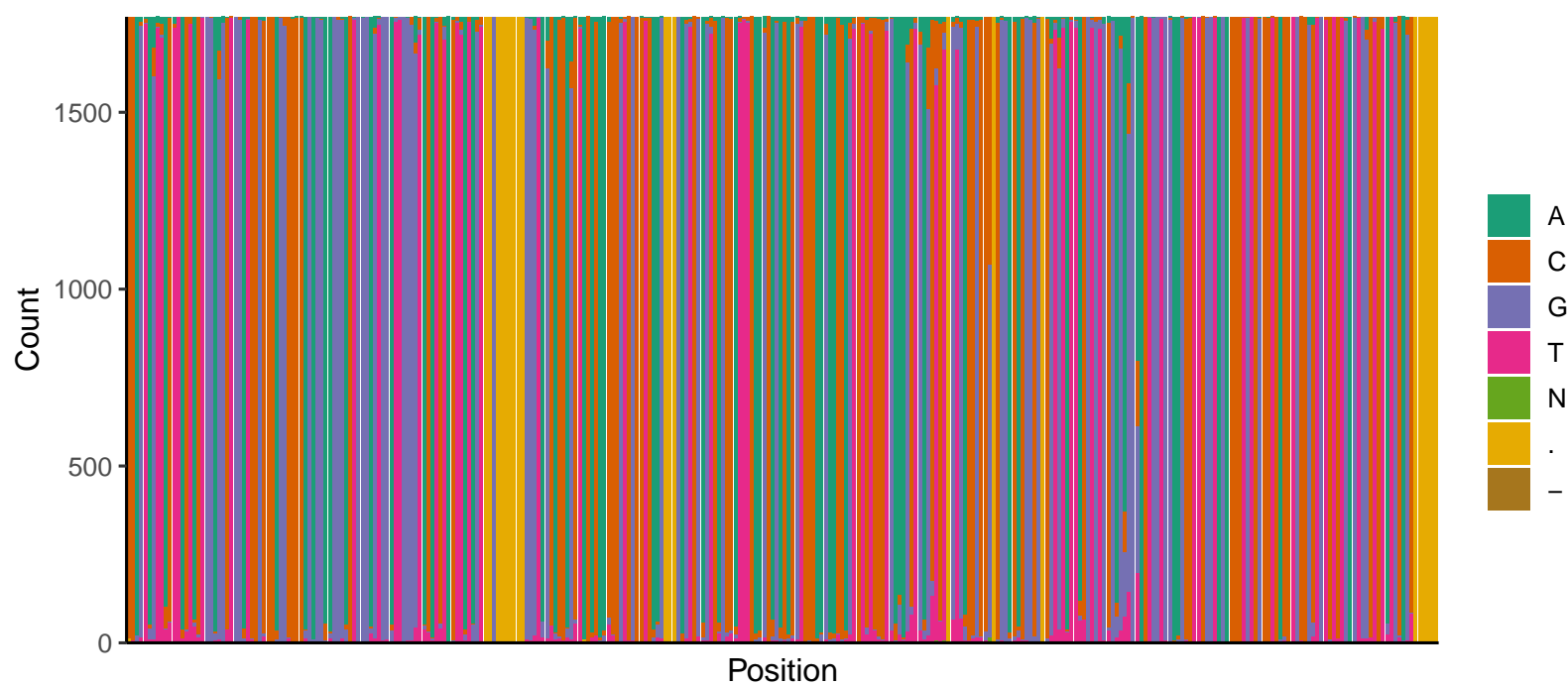
Gene IGHV4-57*02_C87T_G199T_C207G_A239C_T255C



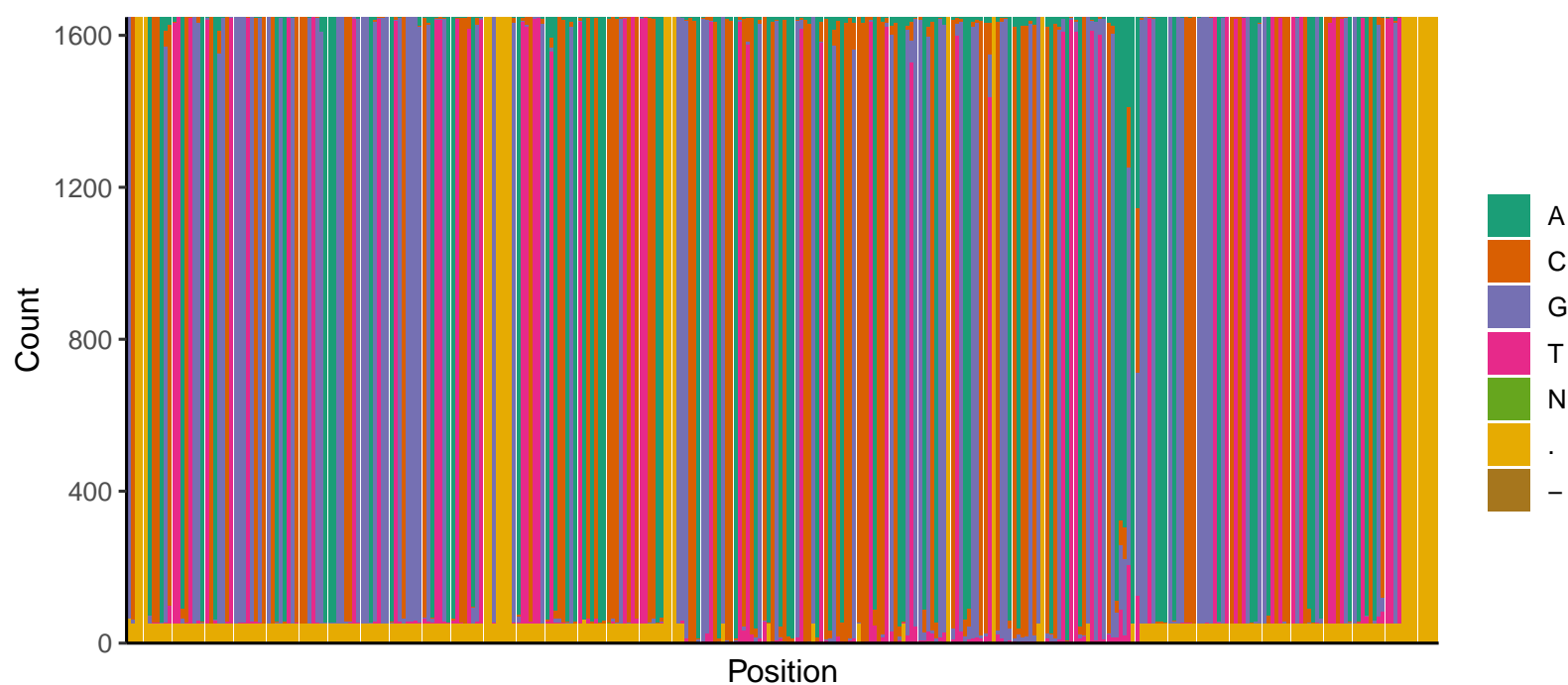
Gene IGHV4-73*01_G104A_G147A



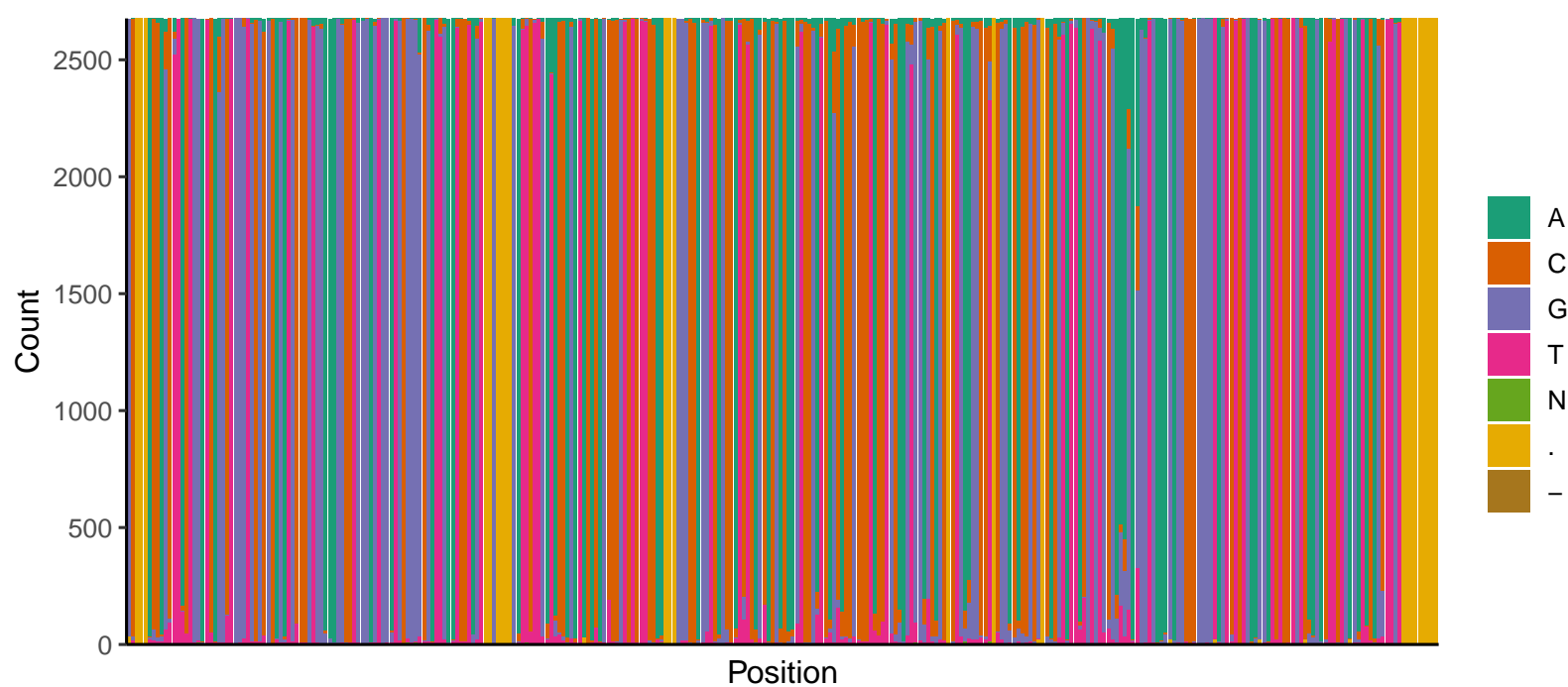
Gene IGHV4-122*02_C87T_G103A_C133G_A169T



Gene IGHV5-20*01_A141G



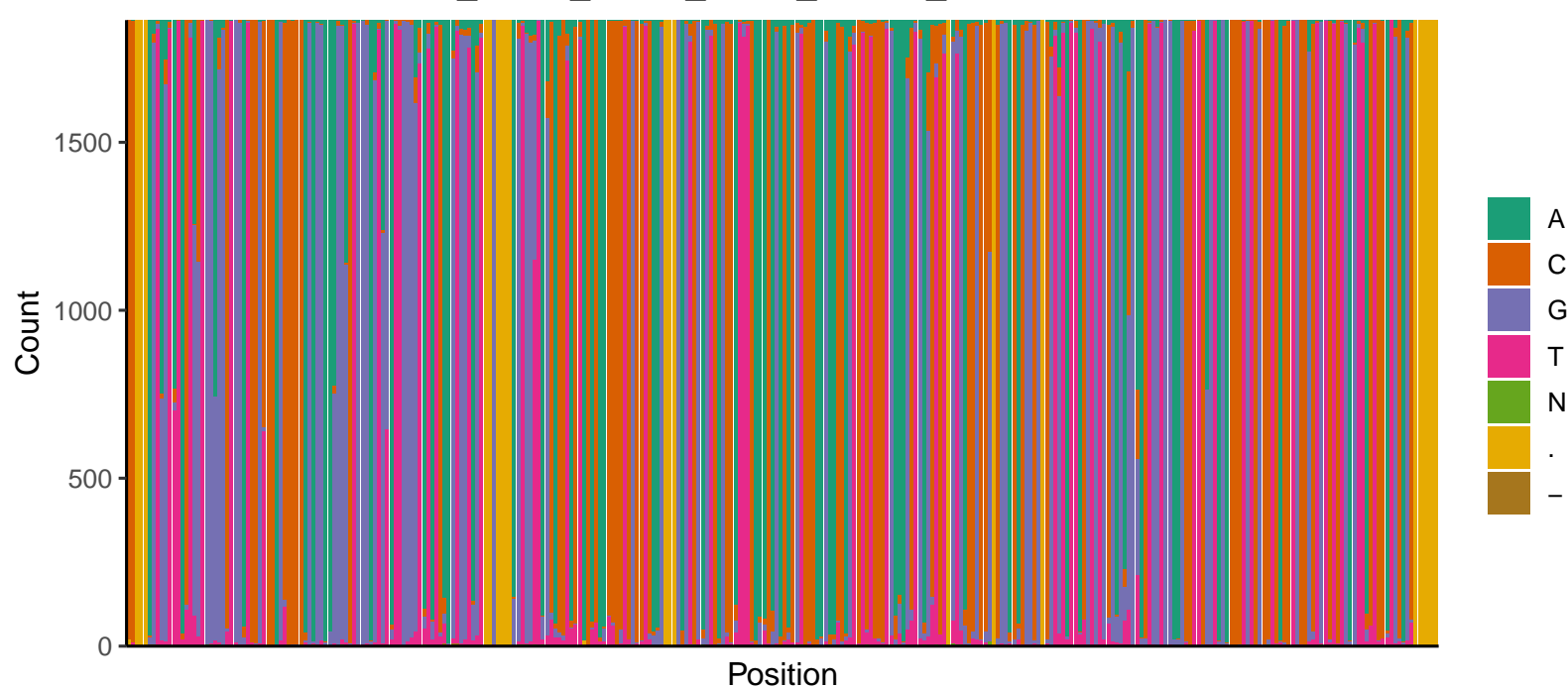
Gene IGHV5-20*02_A141G_C312T



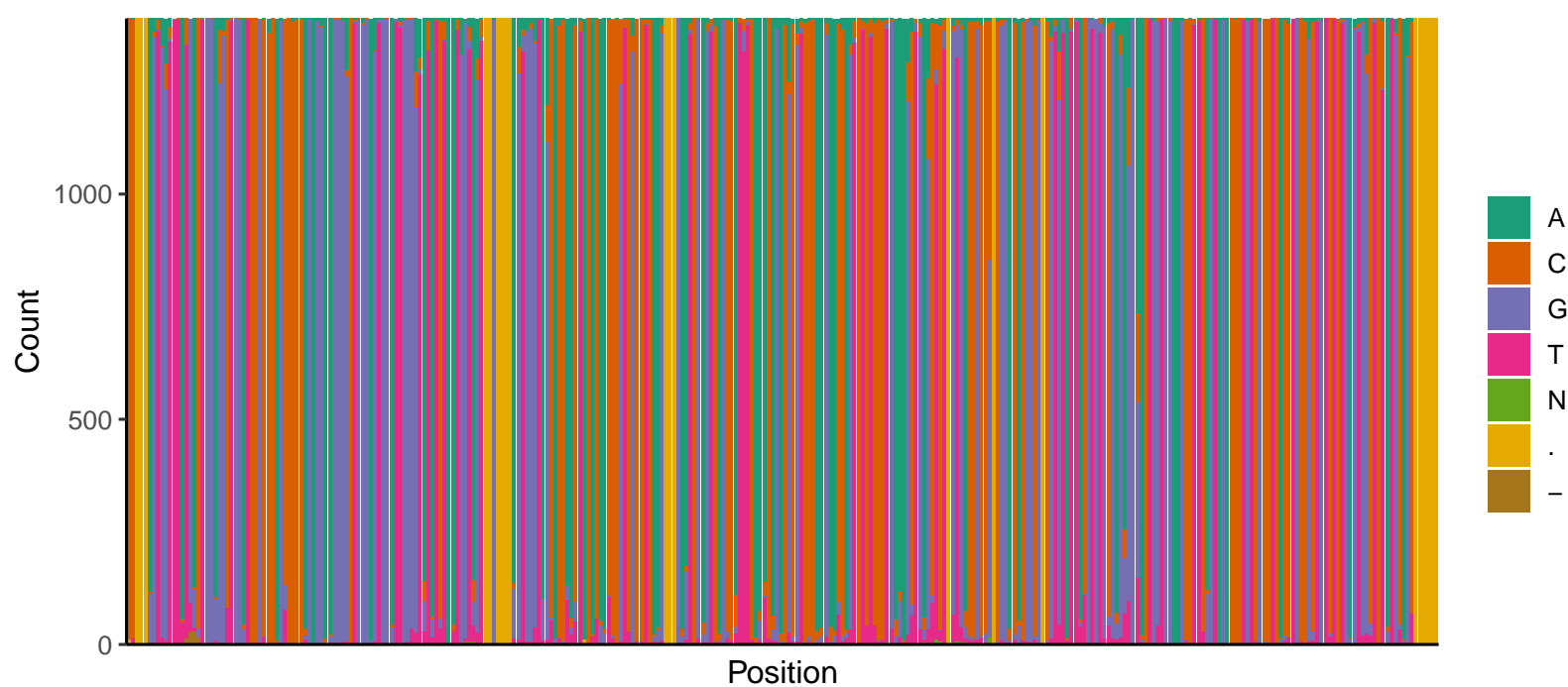
Gene IGHV3-103*01_T19A_G24A_C27A_C38T_A39C_A40C_C120G_G157A



Gene IGHV4-65*02_G82T_G83A_T87C_A163T_G169A



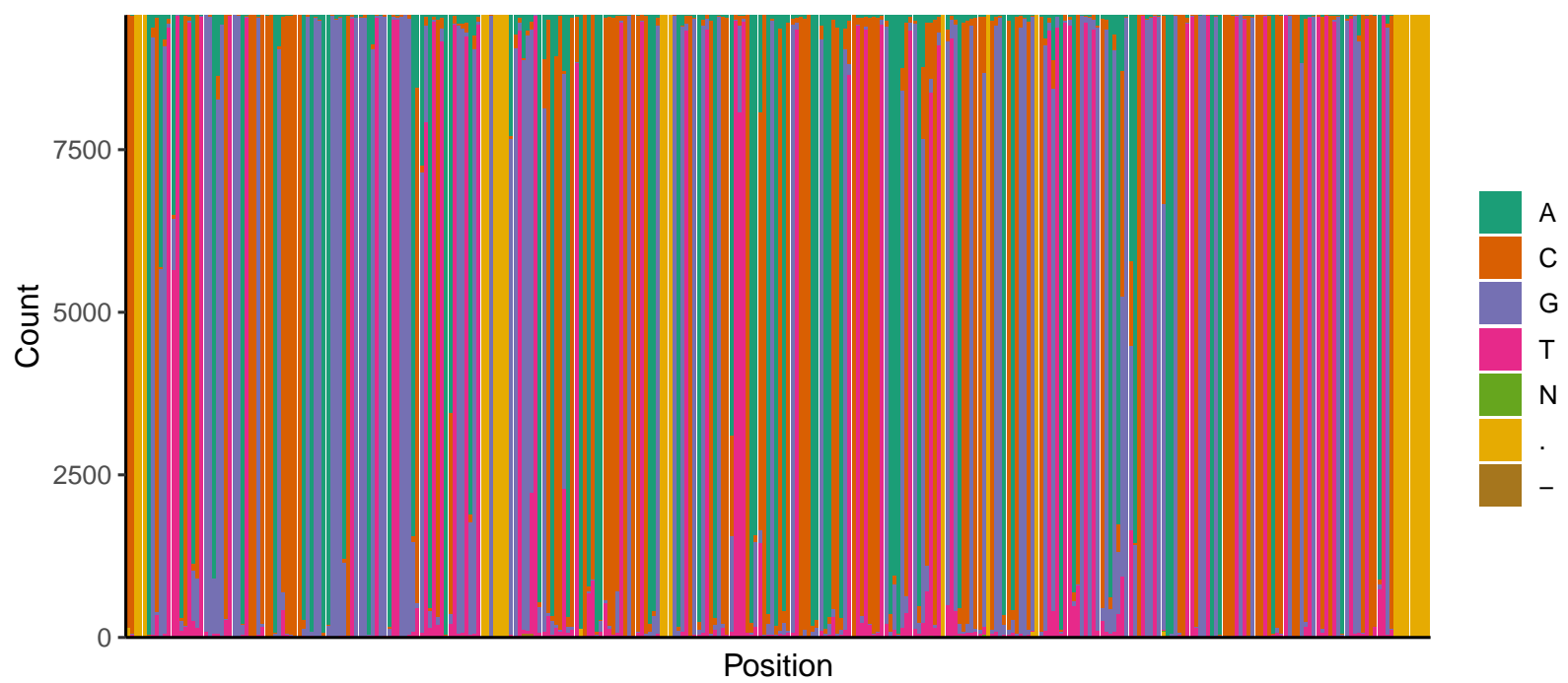
Gene IGHV4-76*01_A81T_G103A_A244G



Gene IGHV4-127*01_T82G_A83G_C87T_G113A_G147A_G169A_T189G_A196G_A239



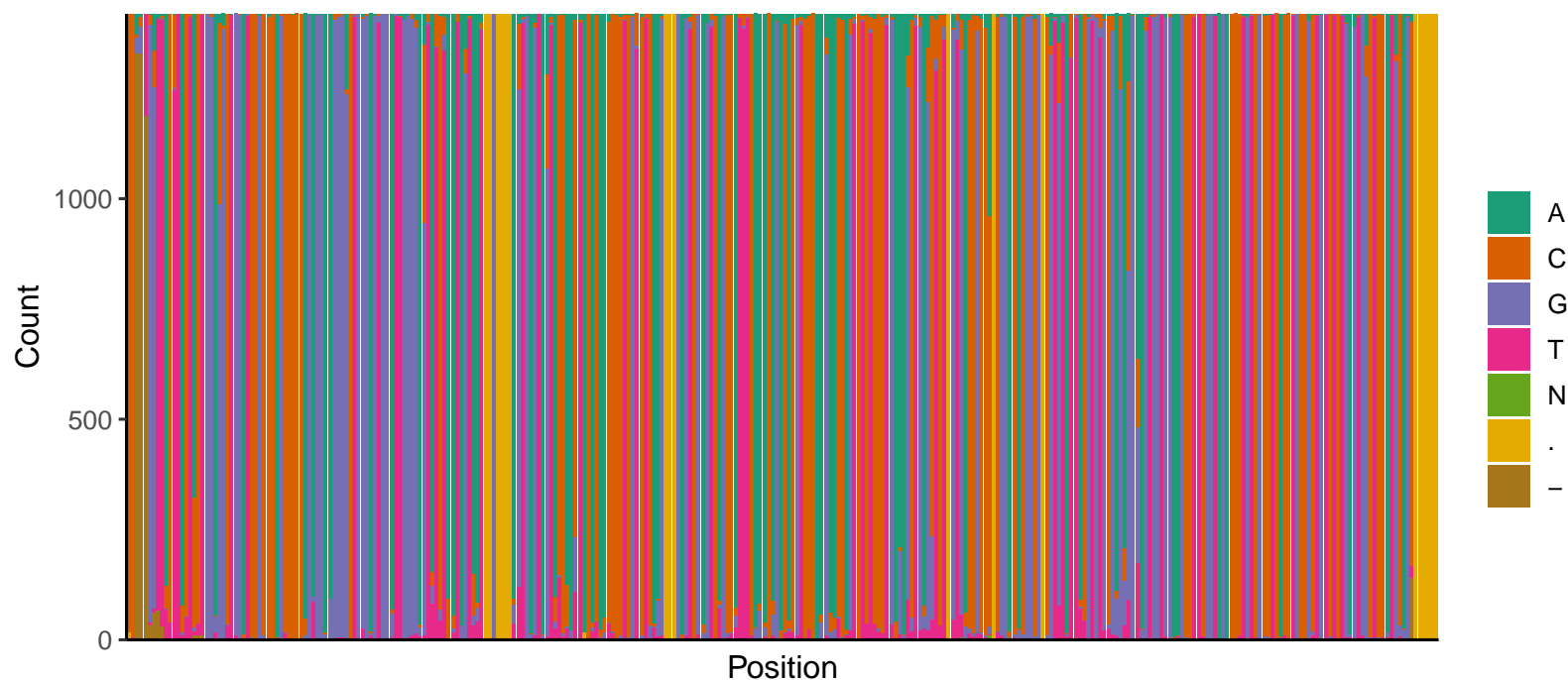
Gene IGHV4-160*01_A106G_A109T_G147A



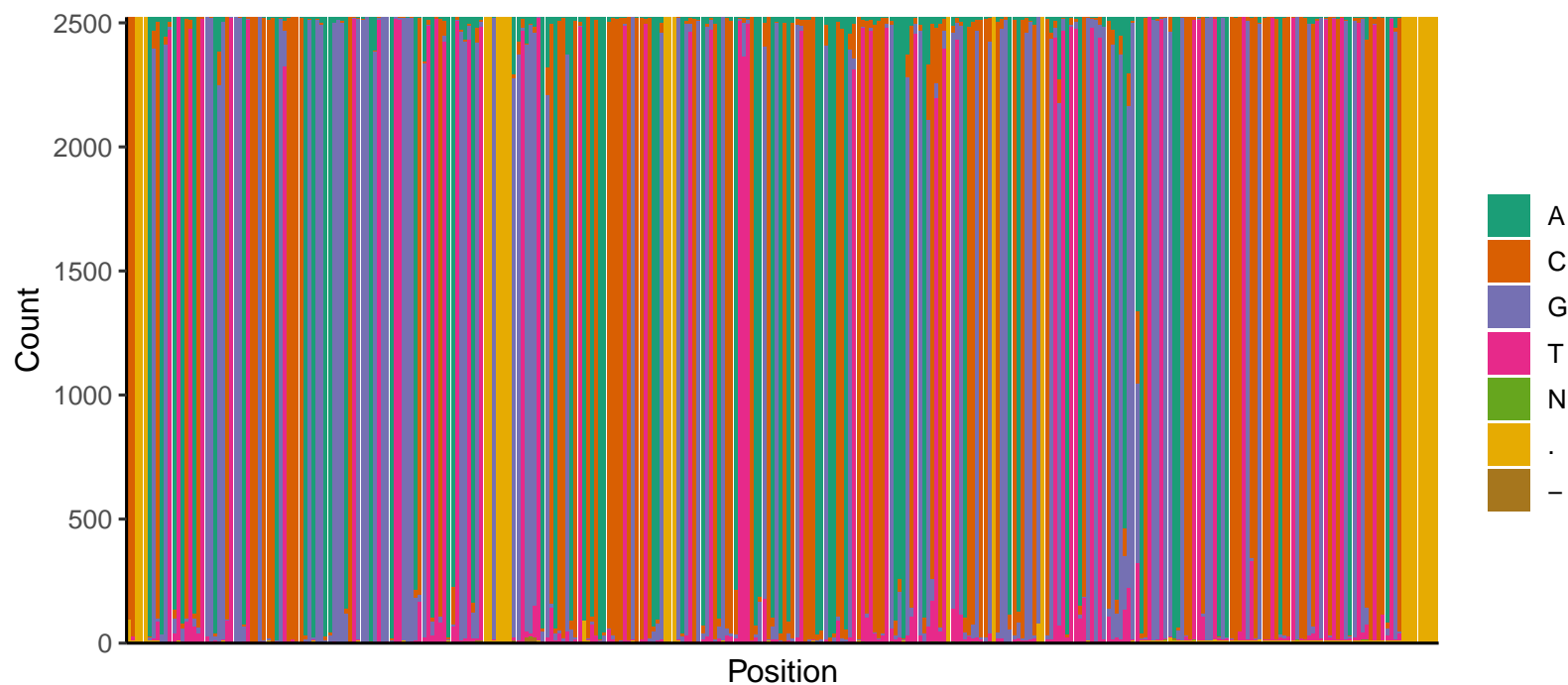
Gene IGHV4S10*01_A48G_T112C



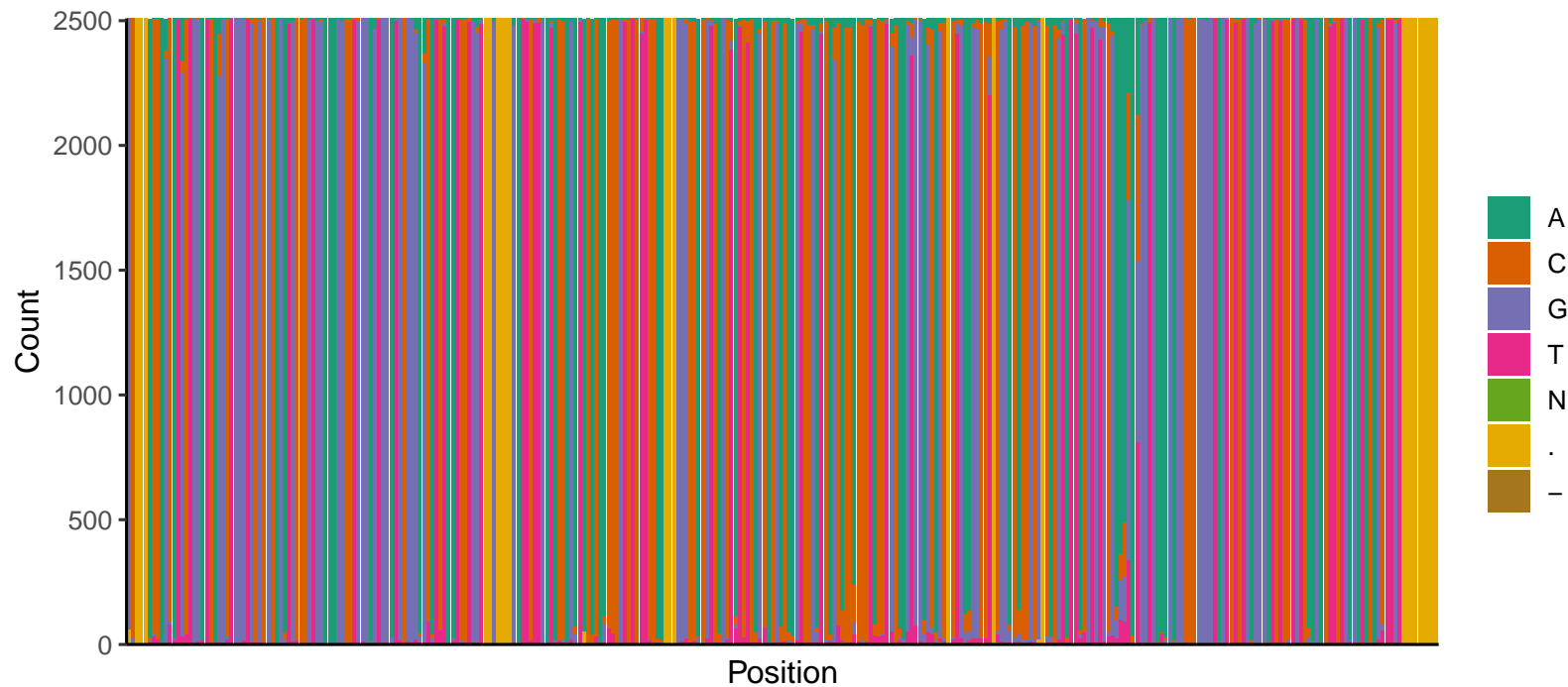
Gene IGHV4S13*01_G163A_C210T_G289A



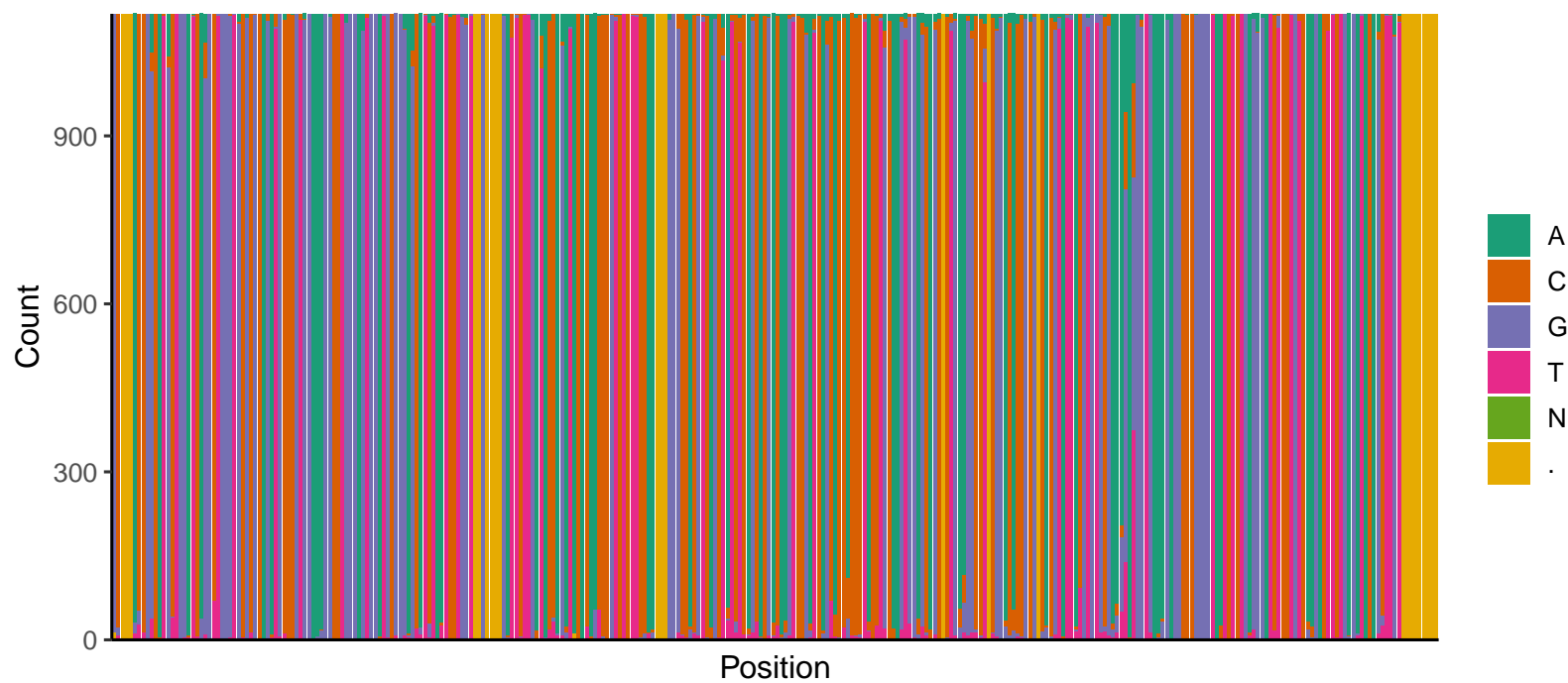
Gene IGHV4S2*01_G133T_T239G_G248C



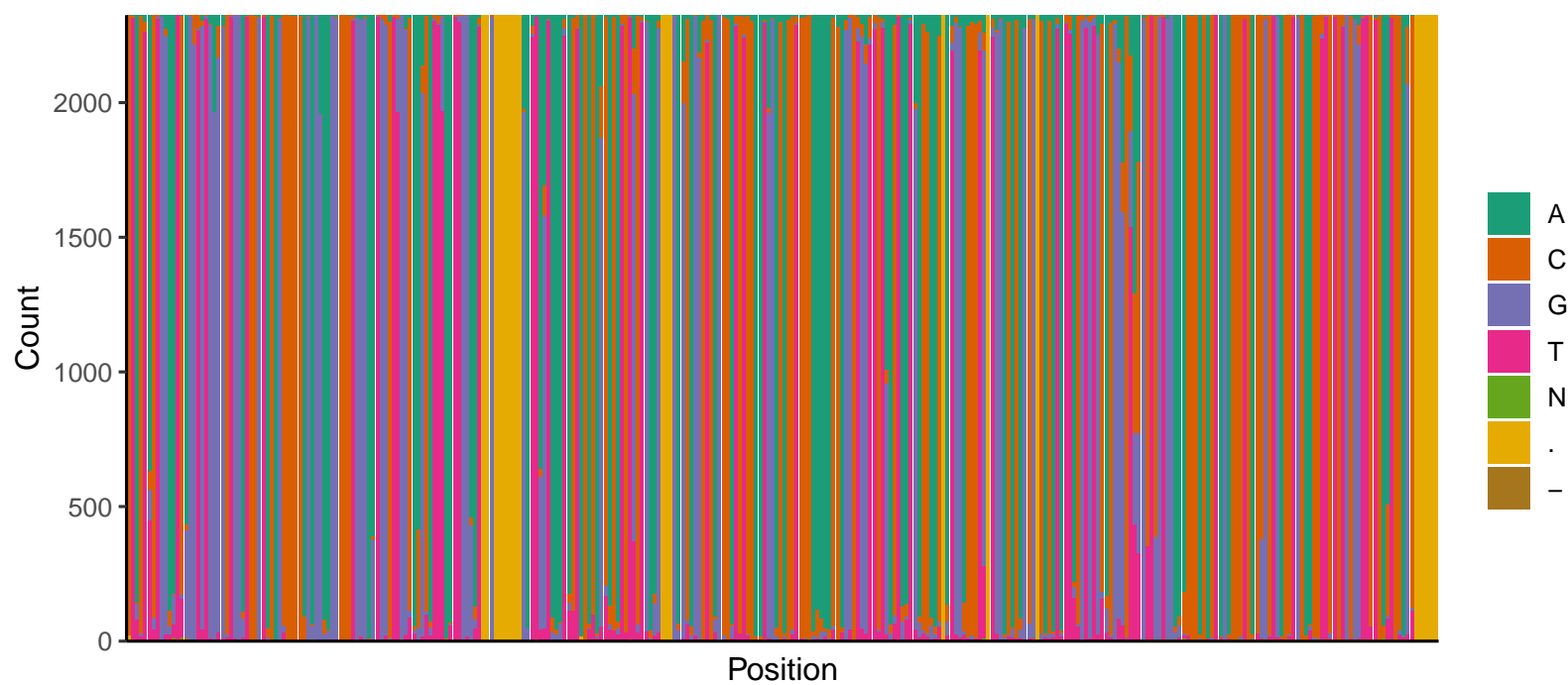
Gene IGHV5-43*01_A51G



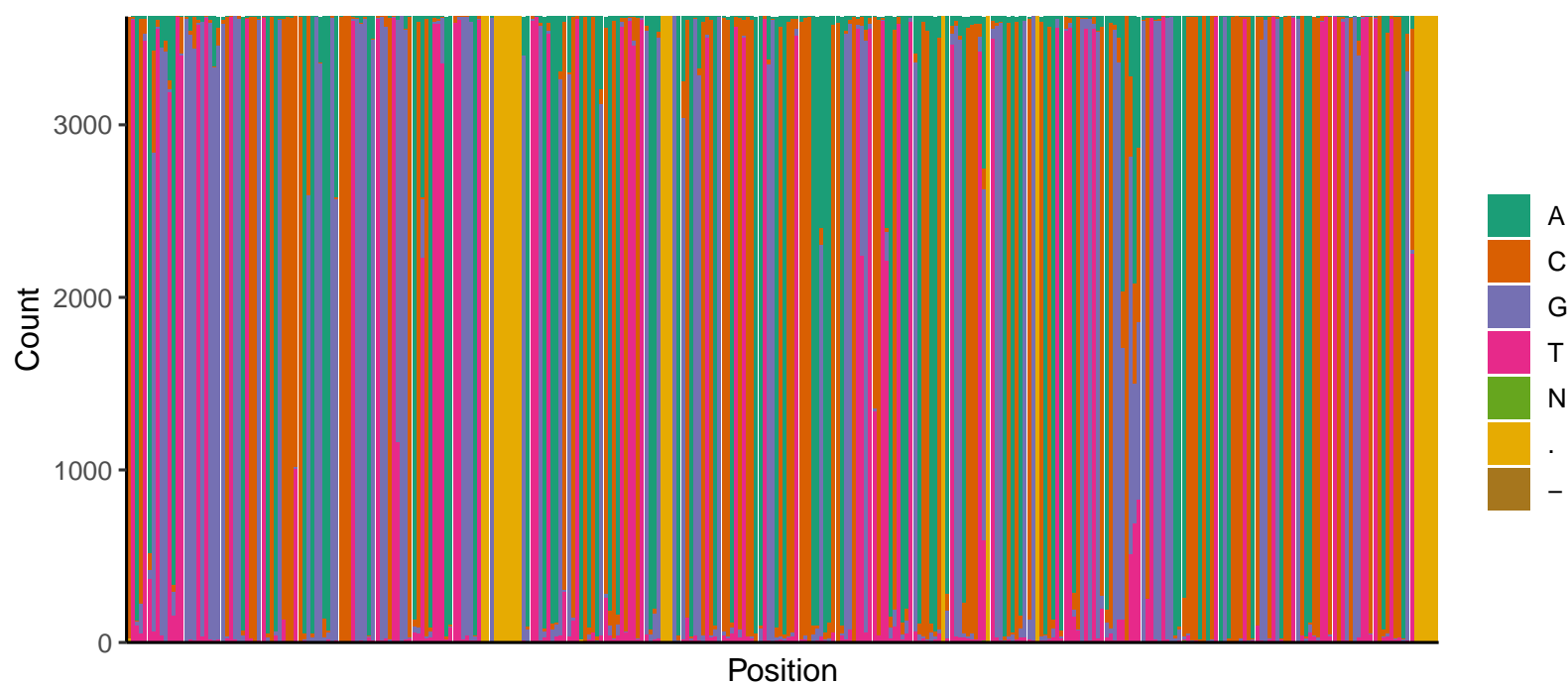
Gene IGHV5-43*01_A106G



Gene IGHV2-95*01_A267G



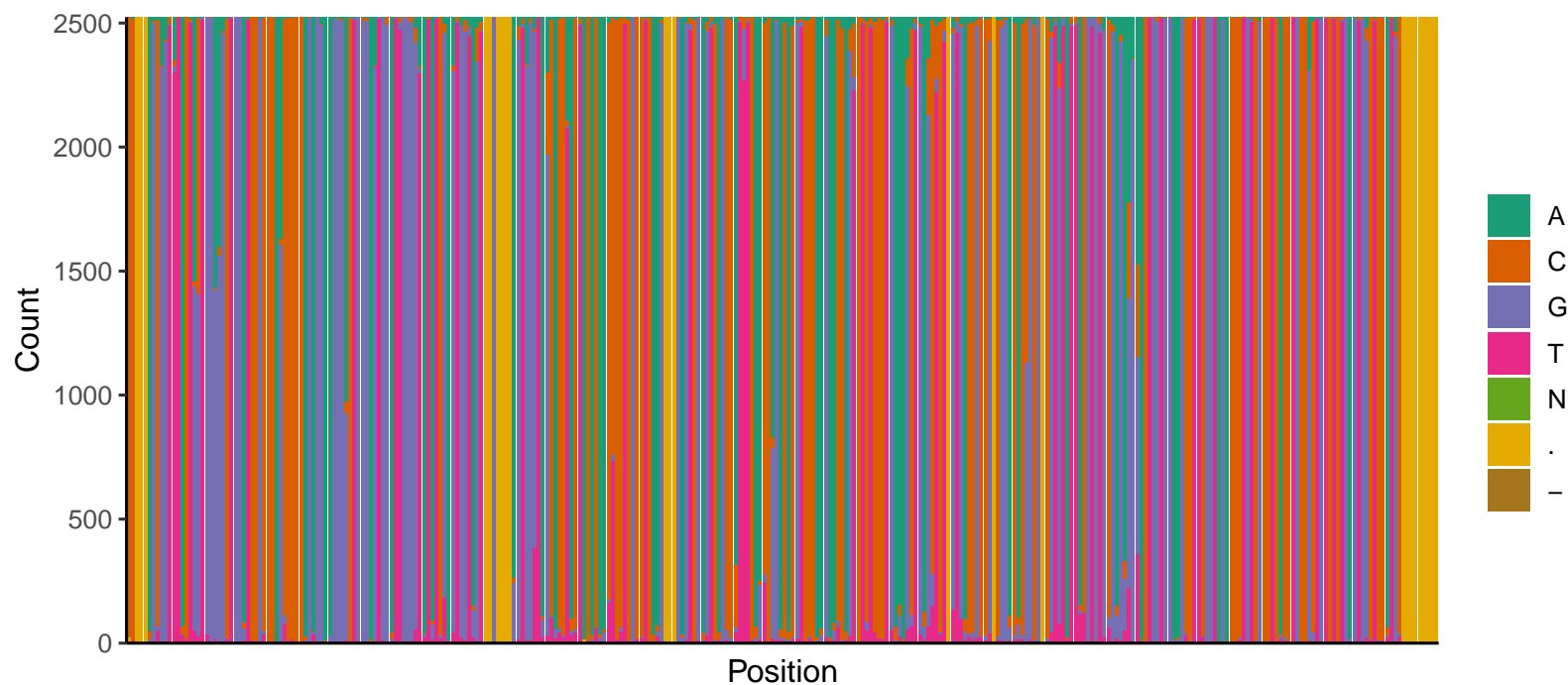
Gene IGHV2-174*01_C6G_C92G_C93T_G289T



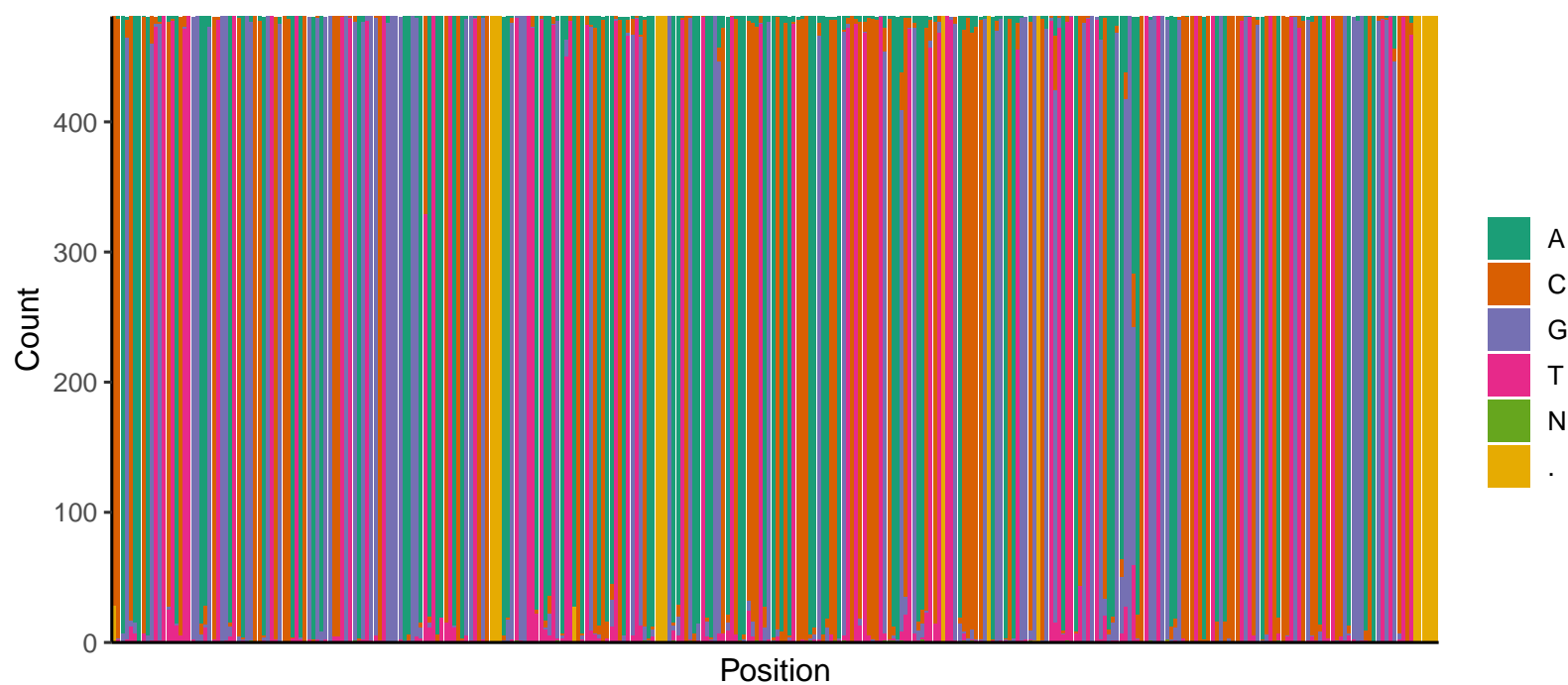
Gene IGHV3-178*02_A274G



Gene IGHV4-165*02_C205T



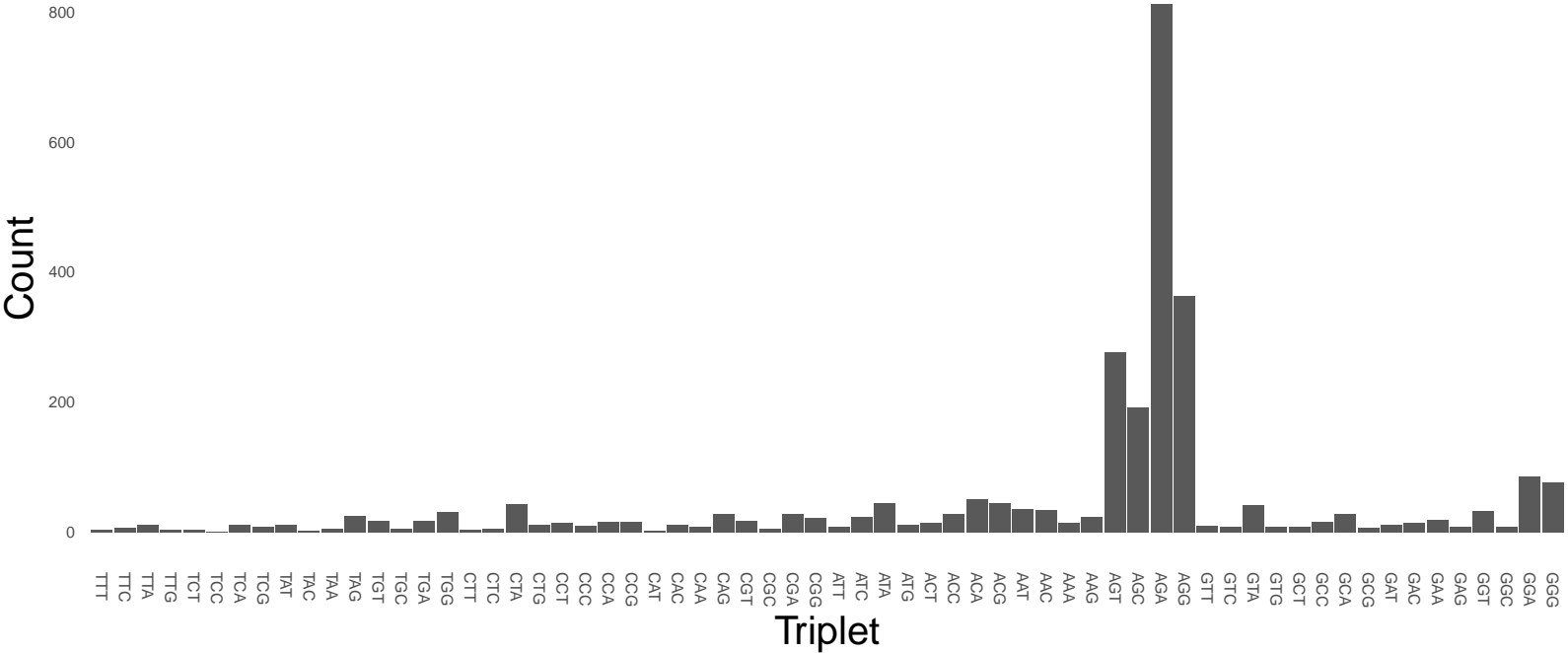
Gene IGHV6-1*01_C167T_G280T



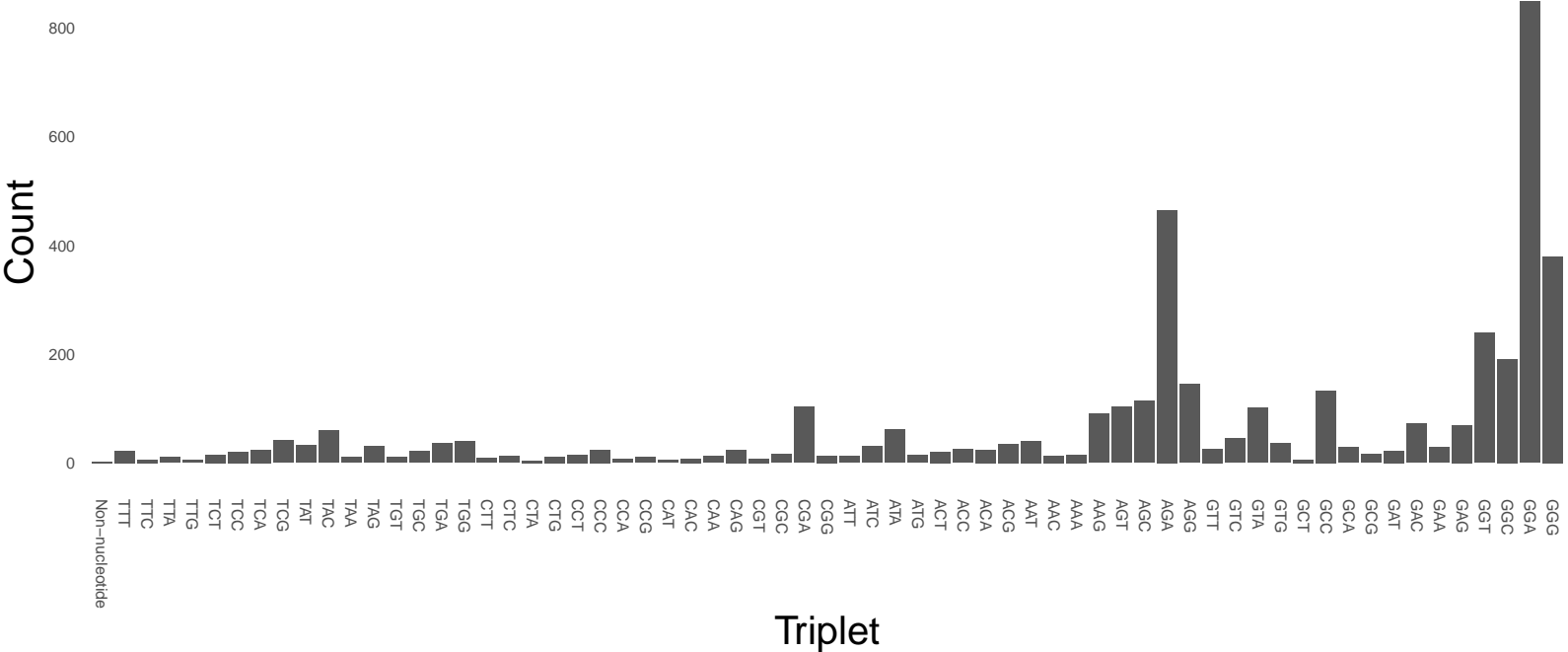
Gene IGHV6-1*01_C167T



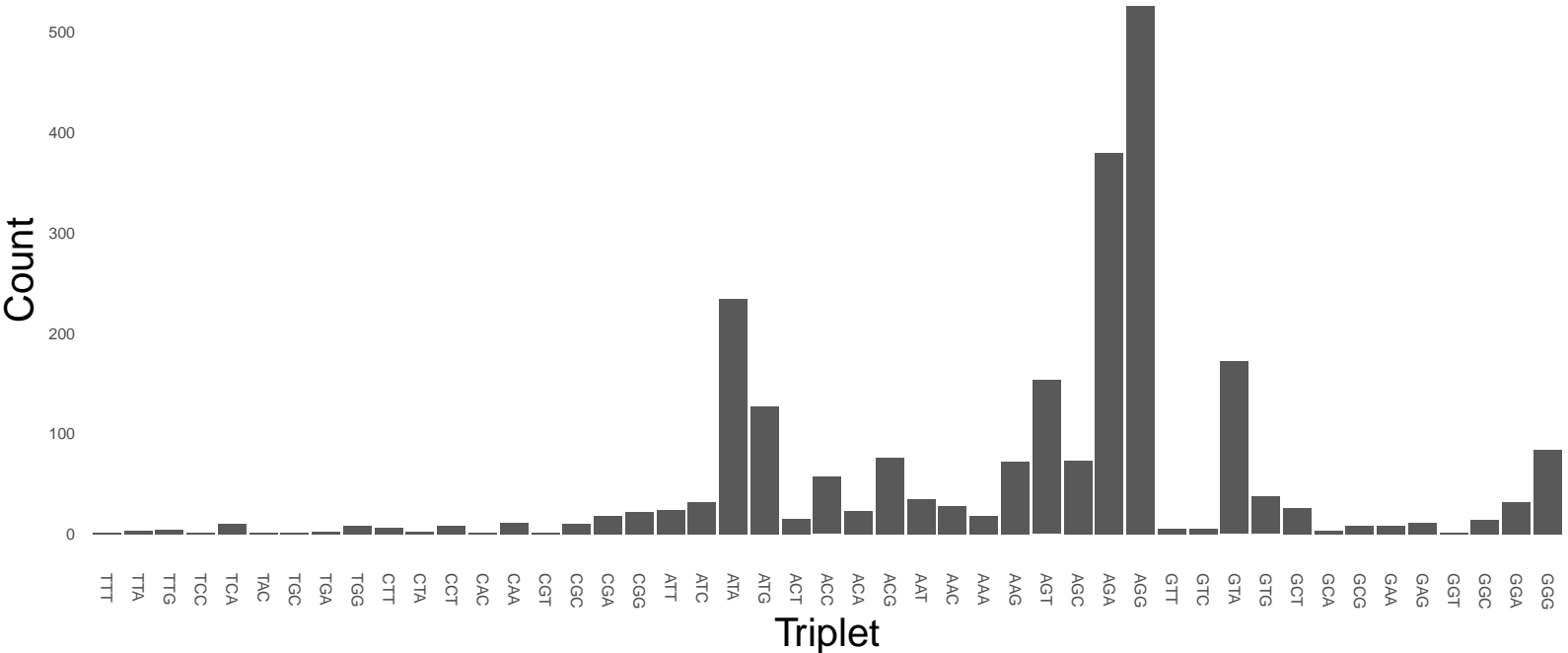
IGHV3-16*01_A51T_T78C_A119G_C264T- Final 3 nucleotides as a triplet



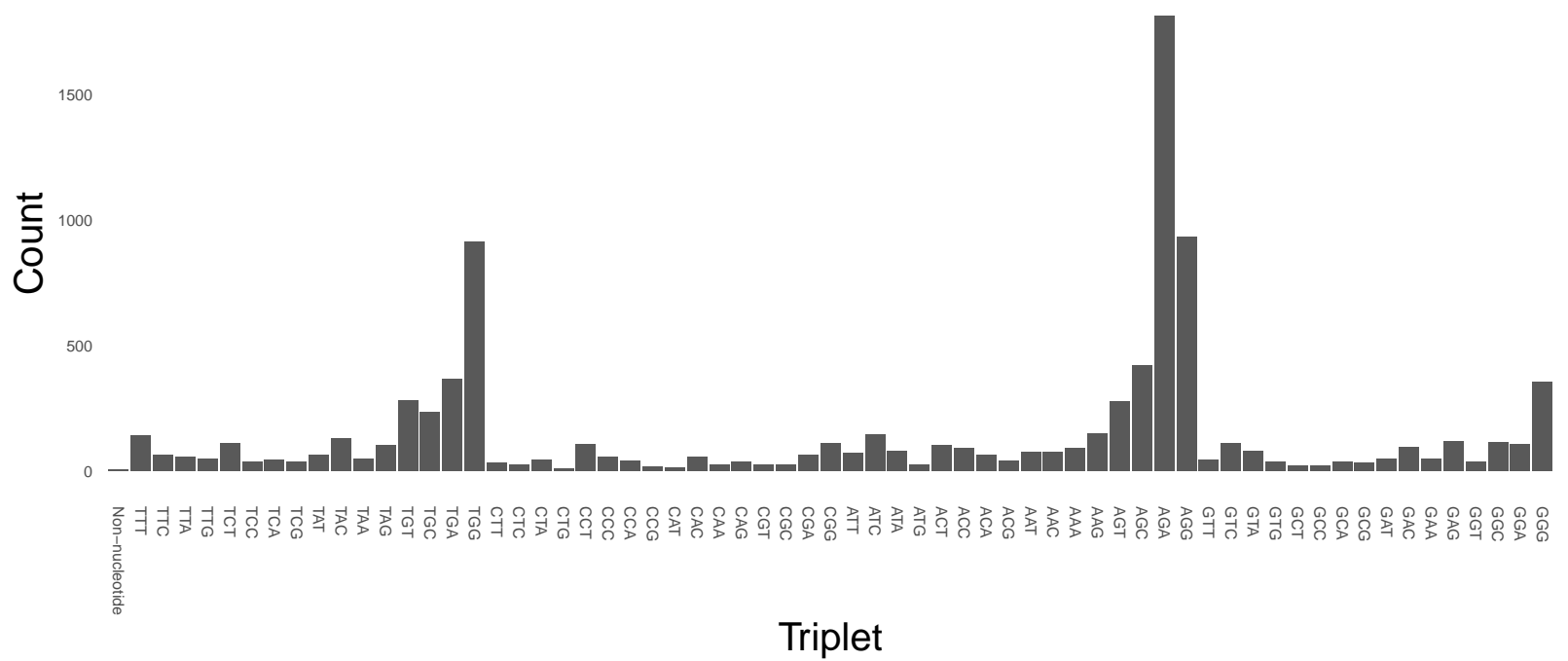
IGHV3-184*01_T34C_G48C_C61G_T109C- Final 3 nucleotides as a triplet



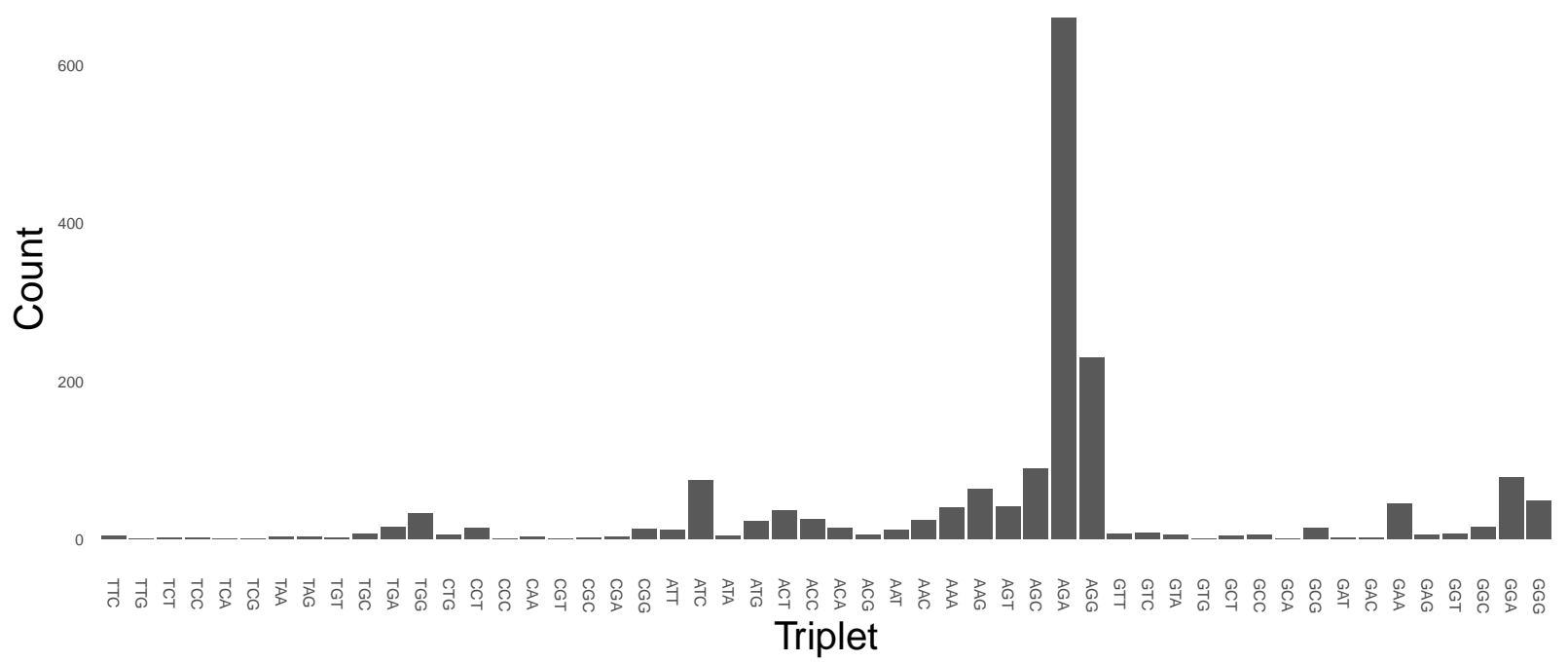
IGHV1-200*01_A18G_G60A_C78T_T84C_G146T_A147G_C153G_G159A_G210A_A275G- Final 3 nucleotides as a triplet



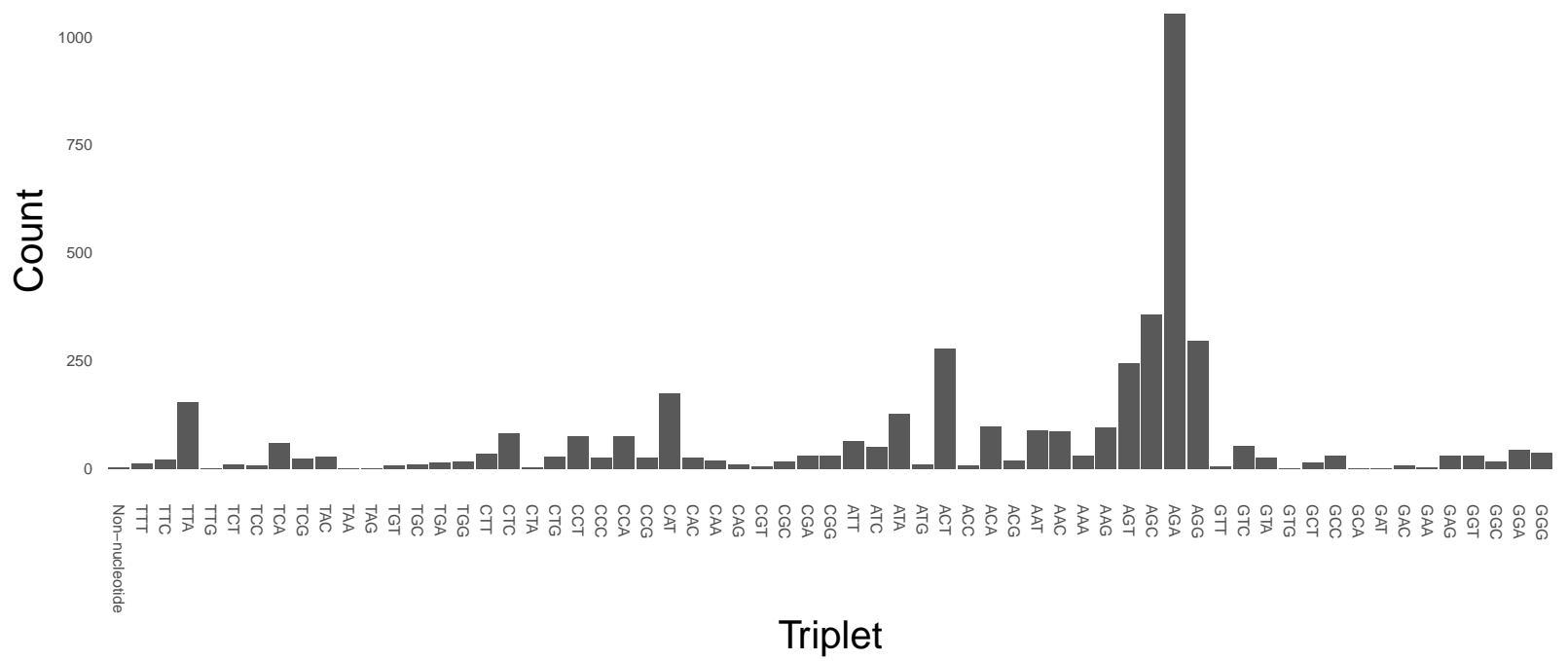
IGHV3S42*01_T120C_A133G_G141A_A157G_T288G– Final 3 nucleotides as a triplet



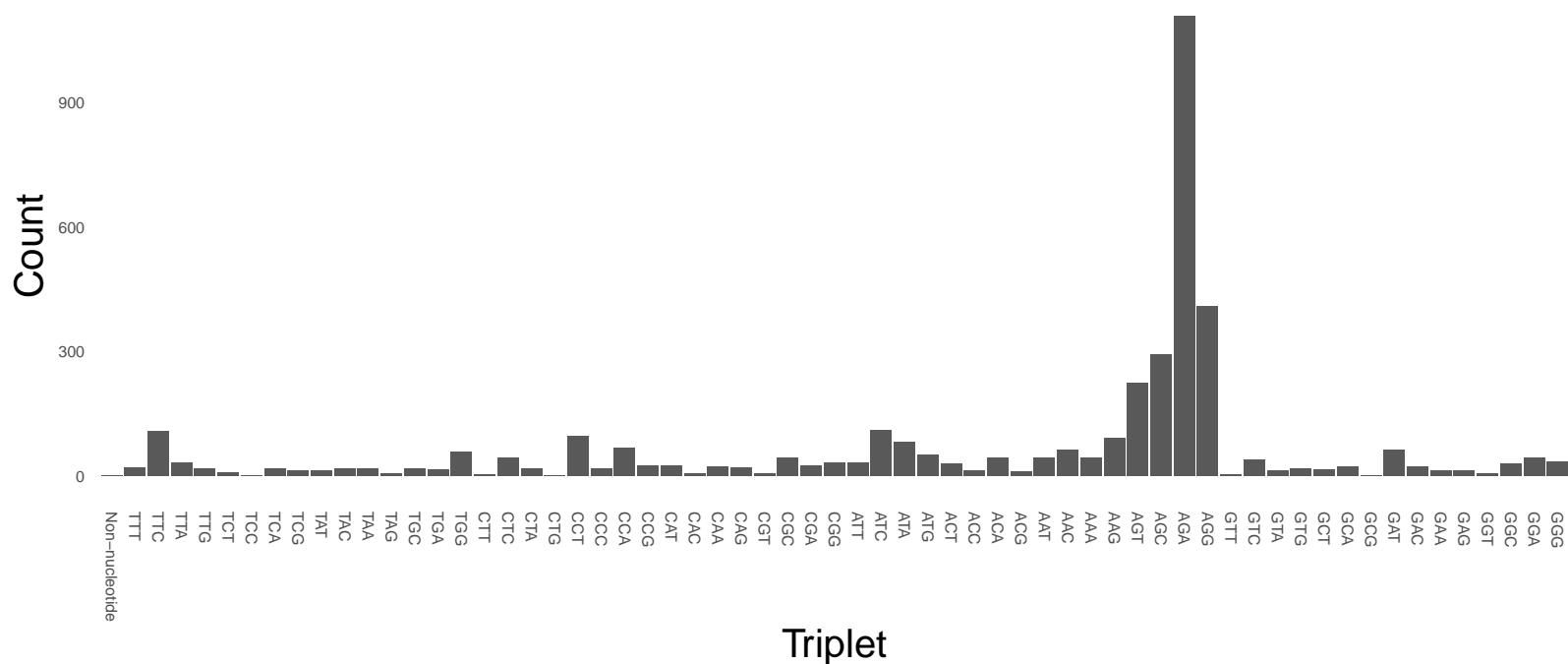
IGHV3S42*01_C27A_C38T_A39G_A40C_G113A_G114C_A118T_T120C_A133G_G173C_G216A



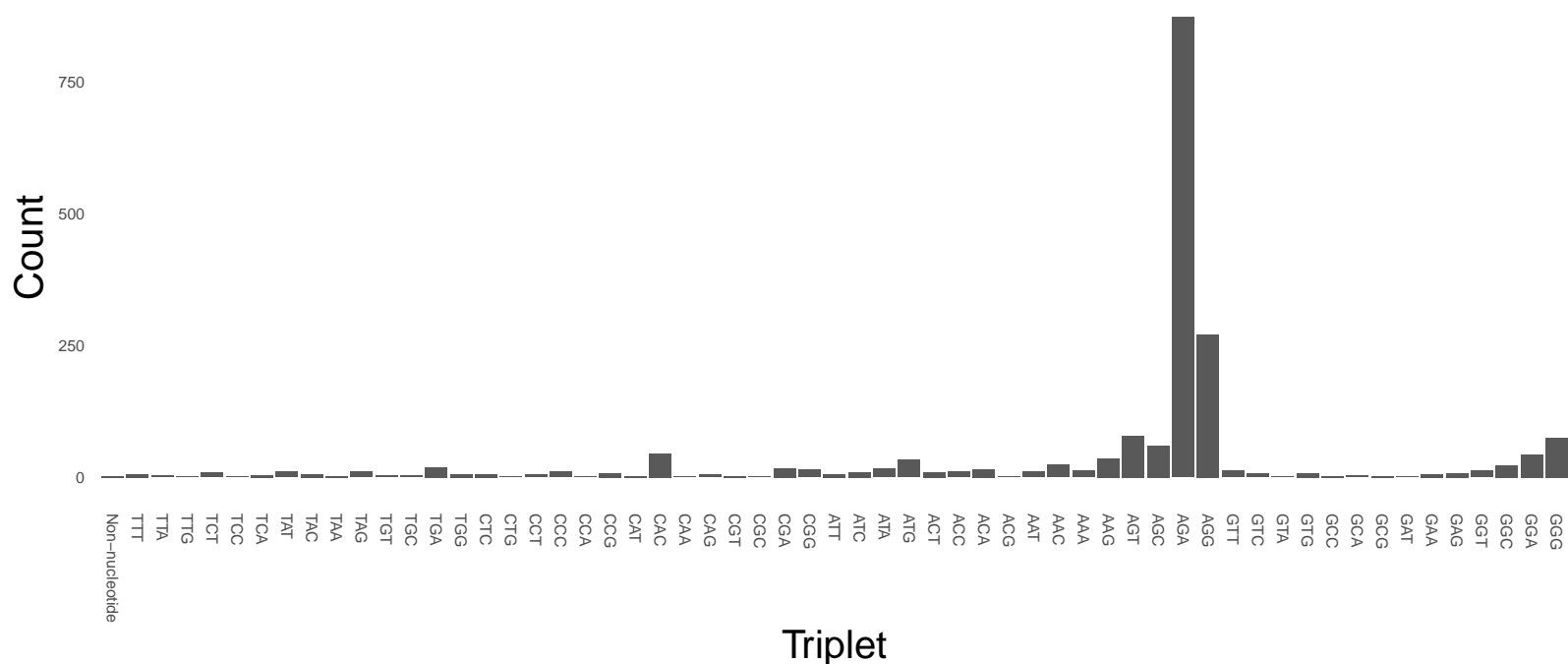
IGHV3-30*01_G174C_A188G_G189A_C264T– Final 3 nucleotides as a triplet



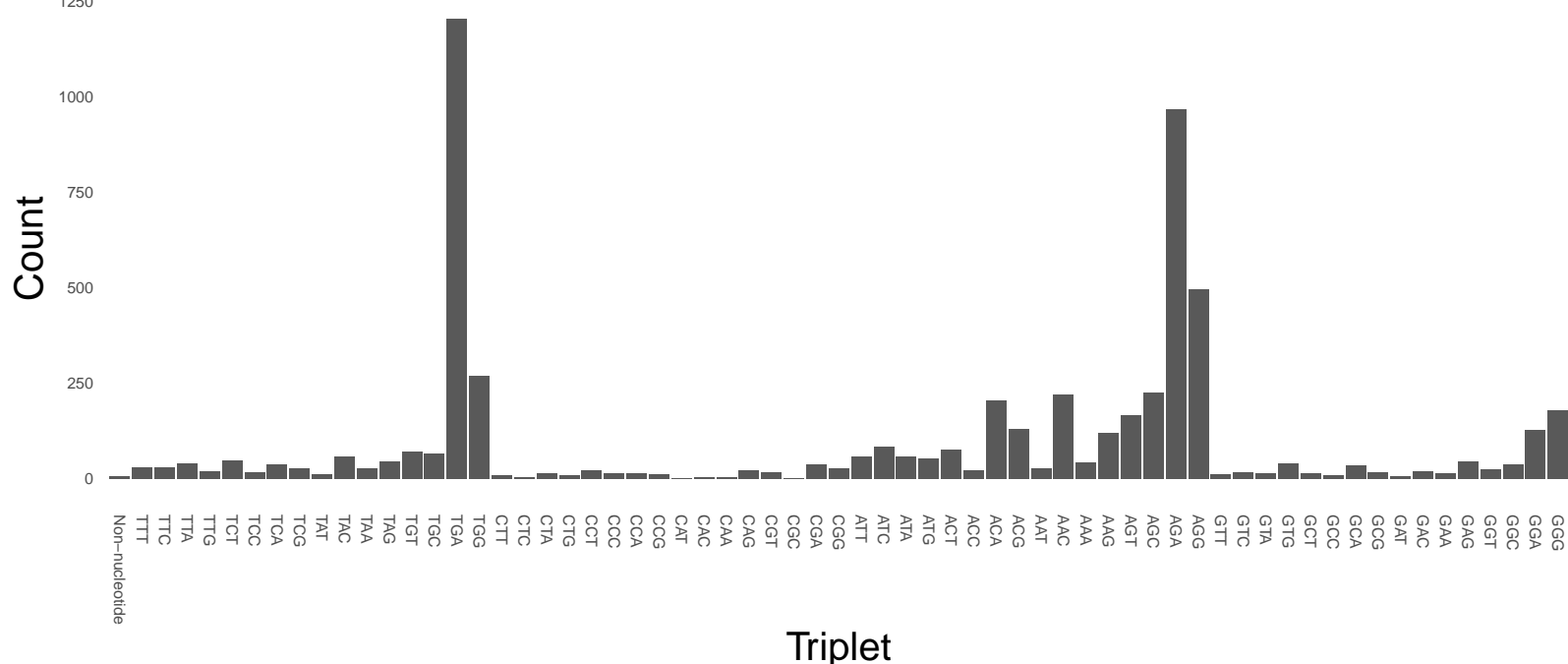
IGHV3-30*02_C141G_C183T- Final 3 nucleotides as a triplet



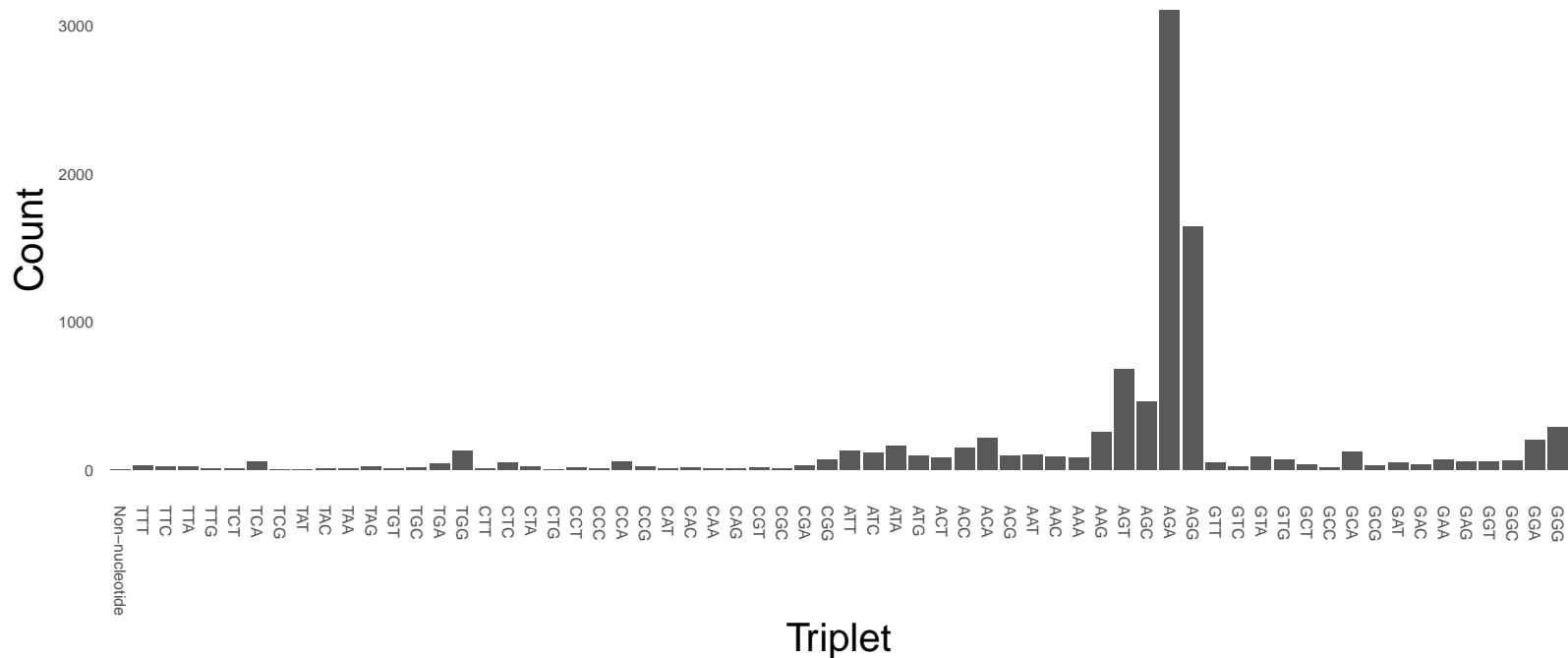
IGHV3-54*02_G170C_C300T- Final 3 nucleotides as a triplet



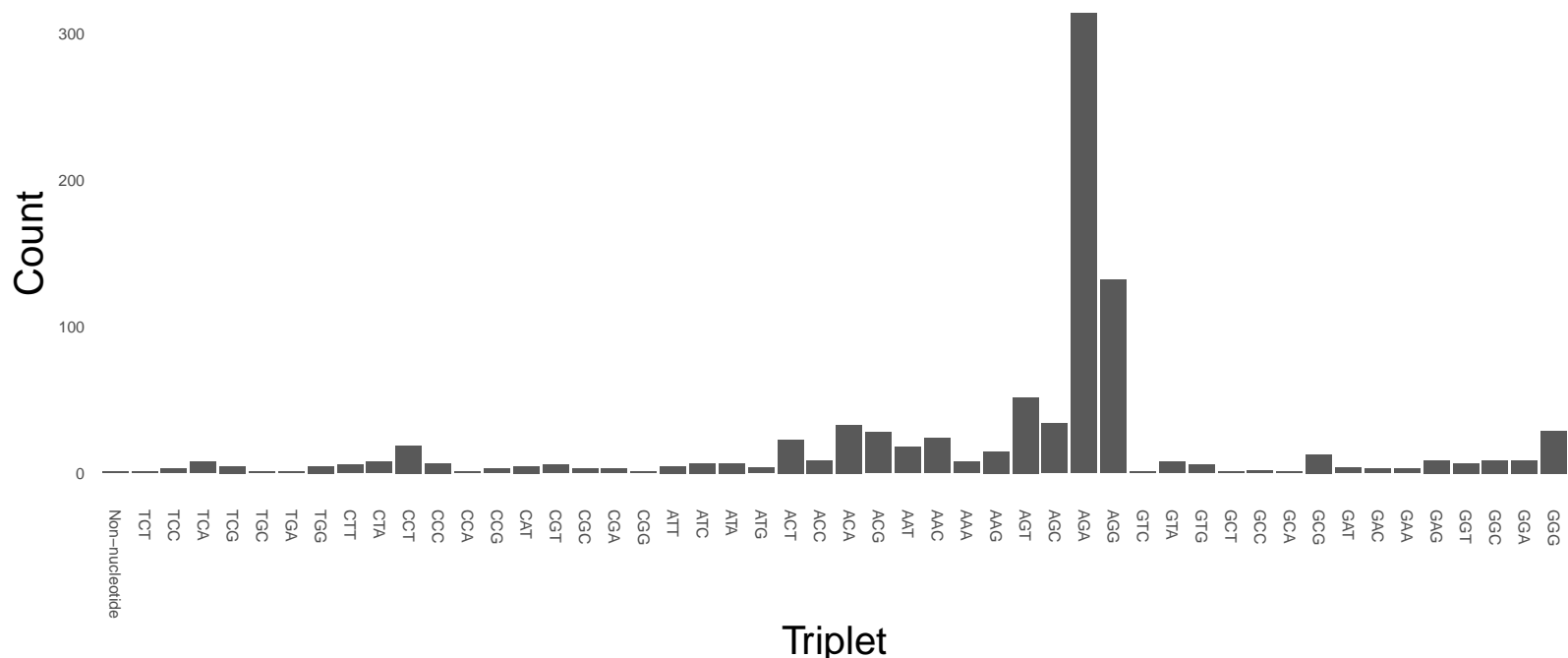
IGHV3-100*02_C3G- Final 3 nucleotides as a triplet



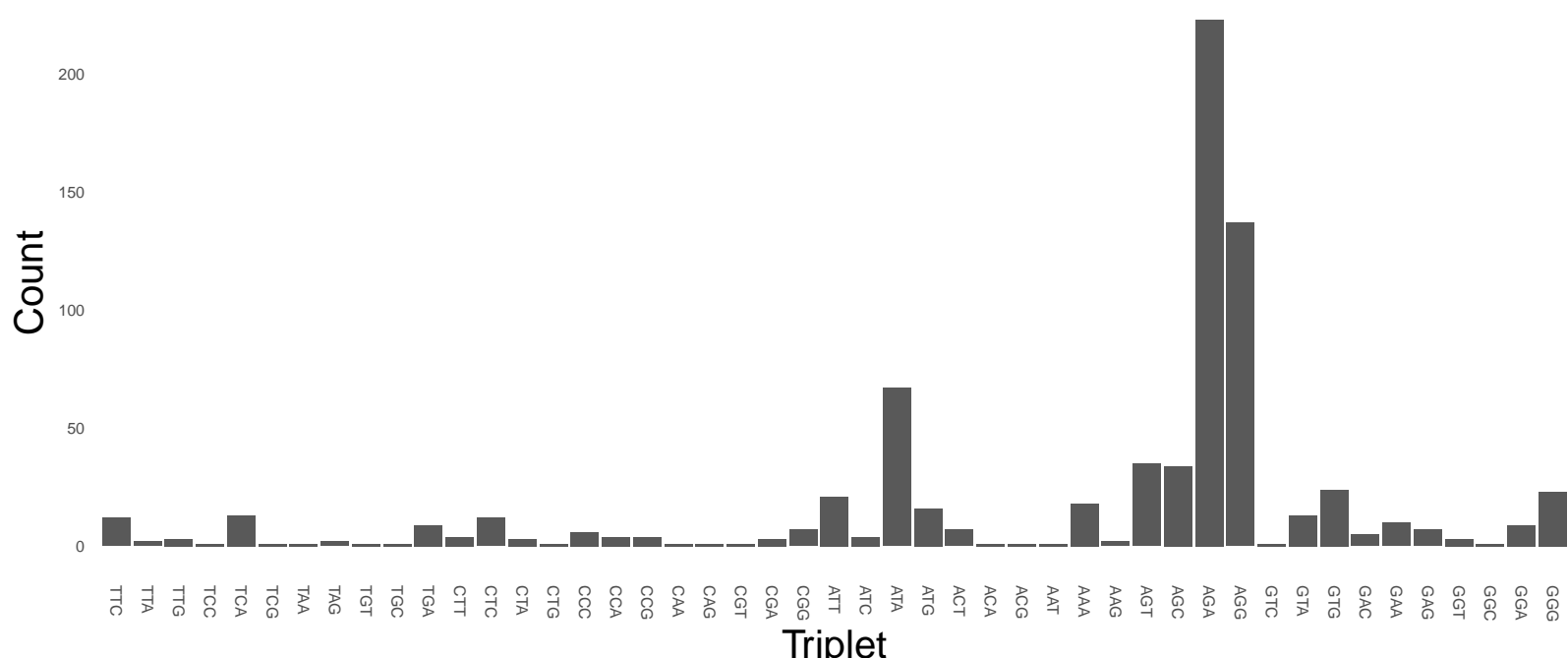
IGHV3-116*02_G8A_T109C- Final 3 nucleotides as a triplet



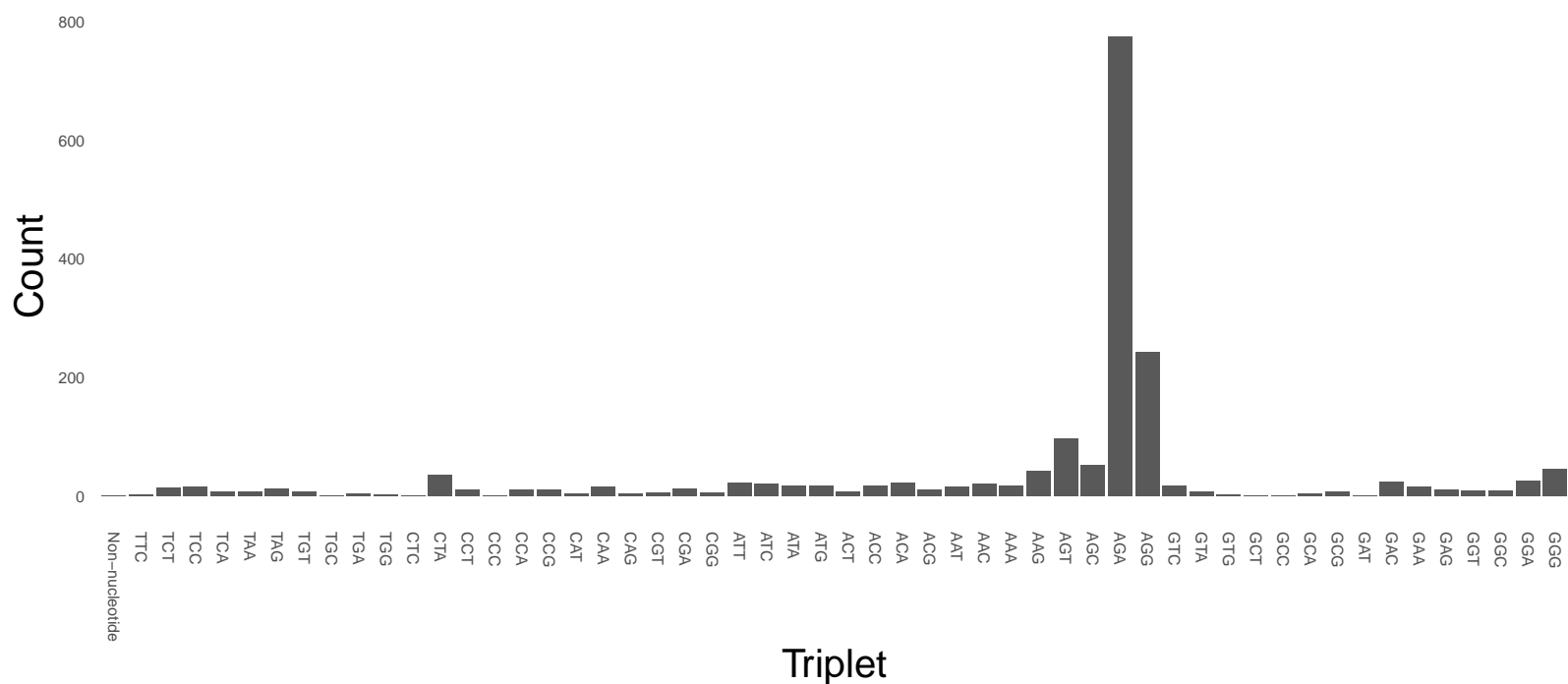
IGHV4-57*02_C87T_G199T_C207G_A239C_T255C- Final 3 nucleotides as a triplet



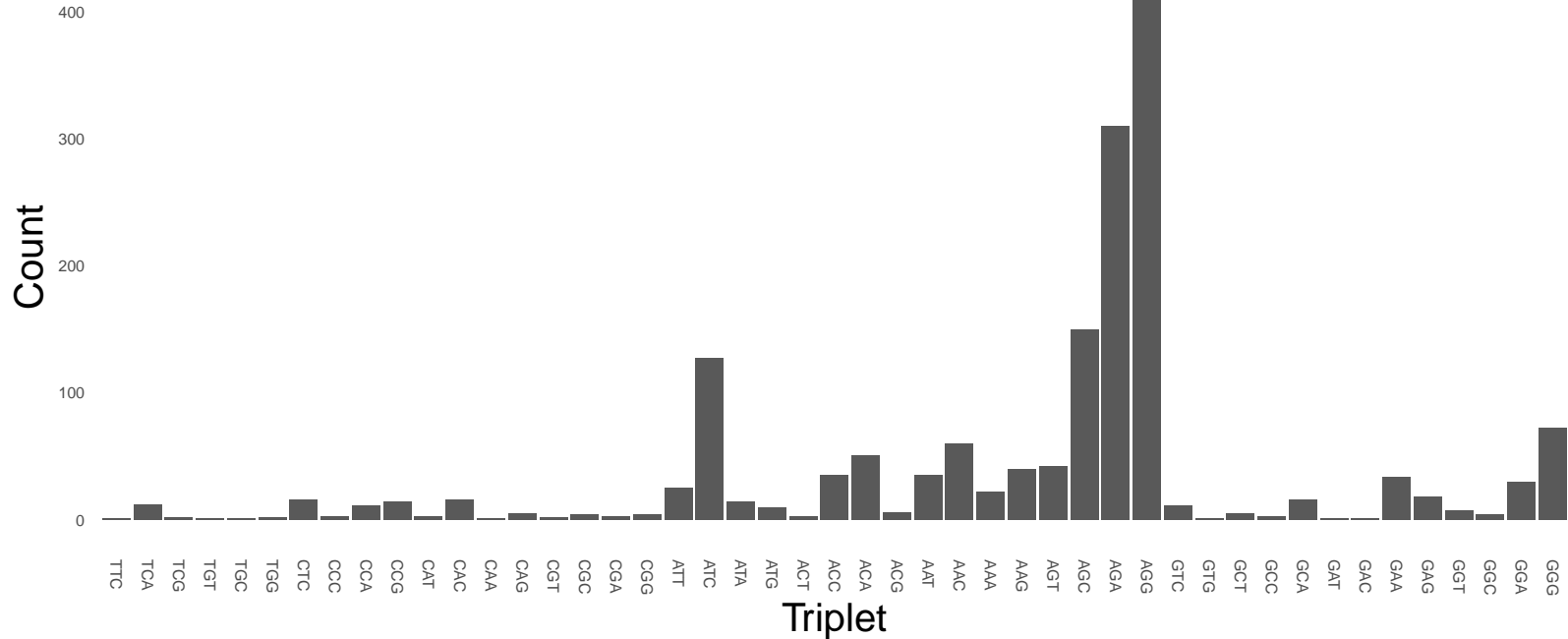
IGHV4-73*01_G104A_G147A- Final 3 nucleotides as a triplet



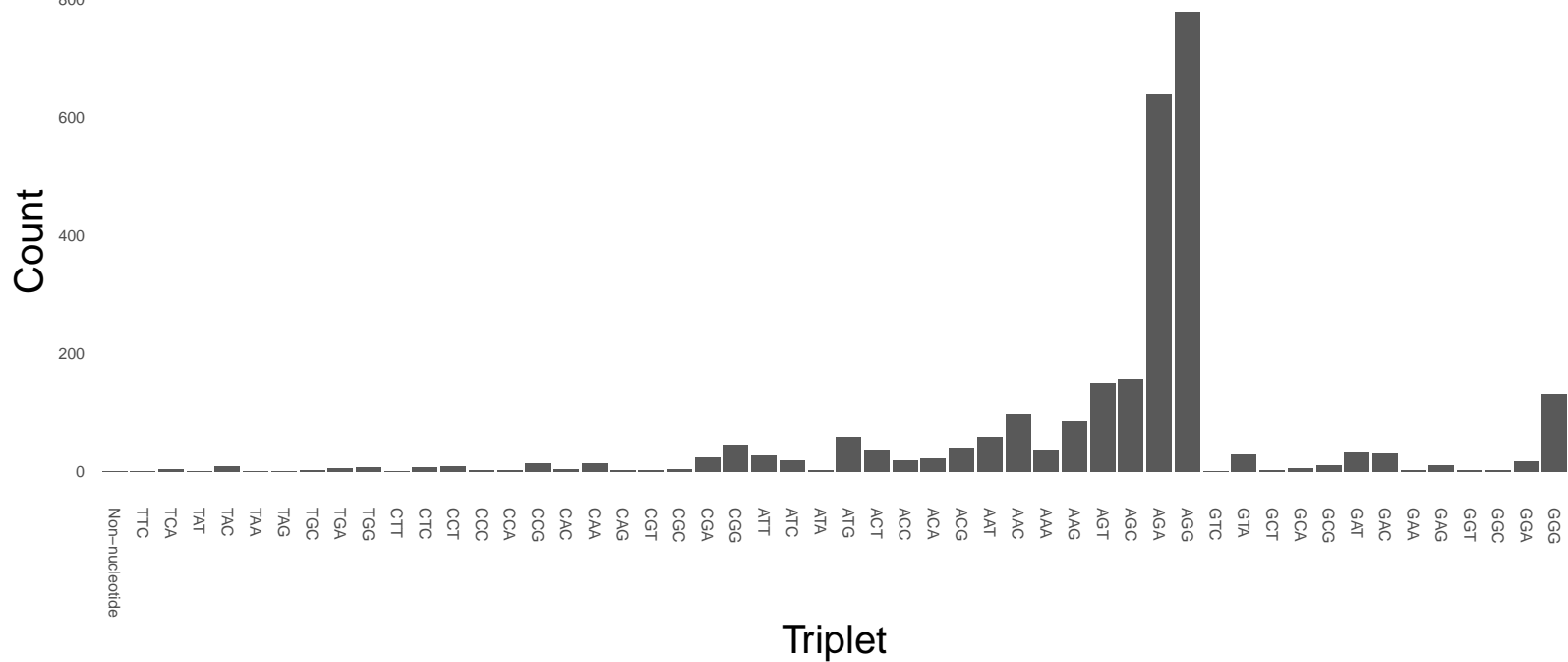
IGHV4–122*02_C87T_G103A_C133G_A169T– Final 3 nucleotides as a triplet



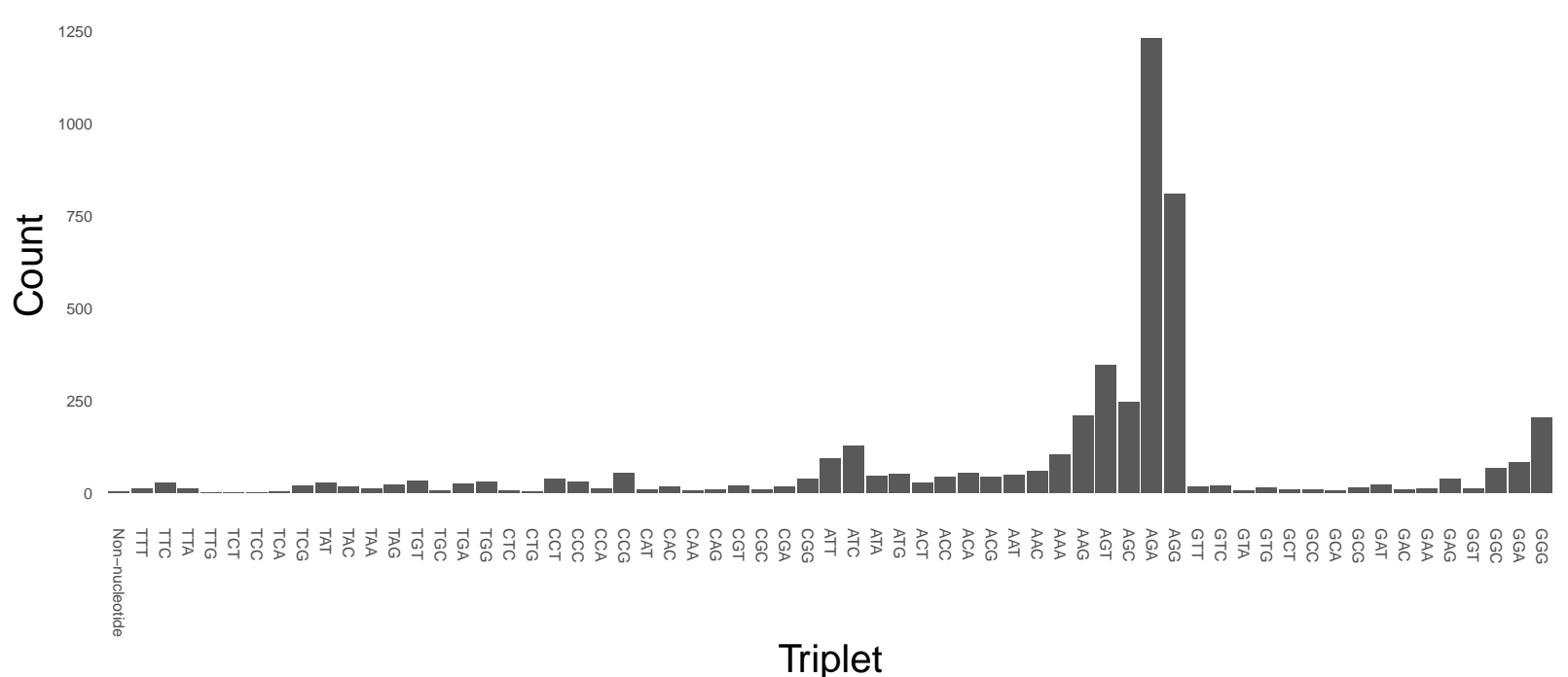
IGHV5–20*01_A141G– Final 3 nucleotides as a triplet



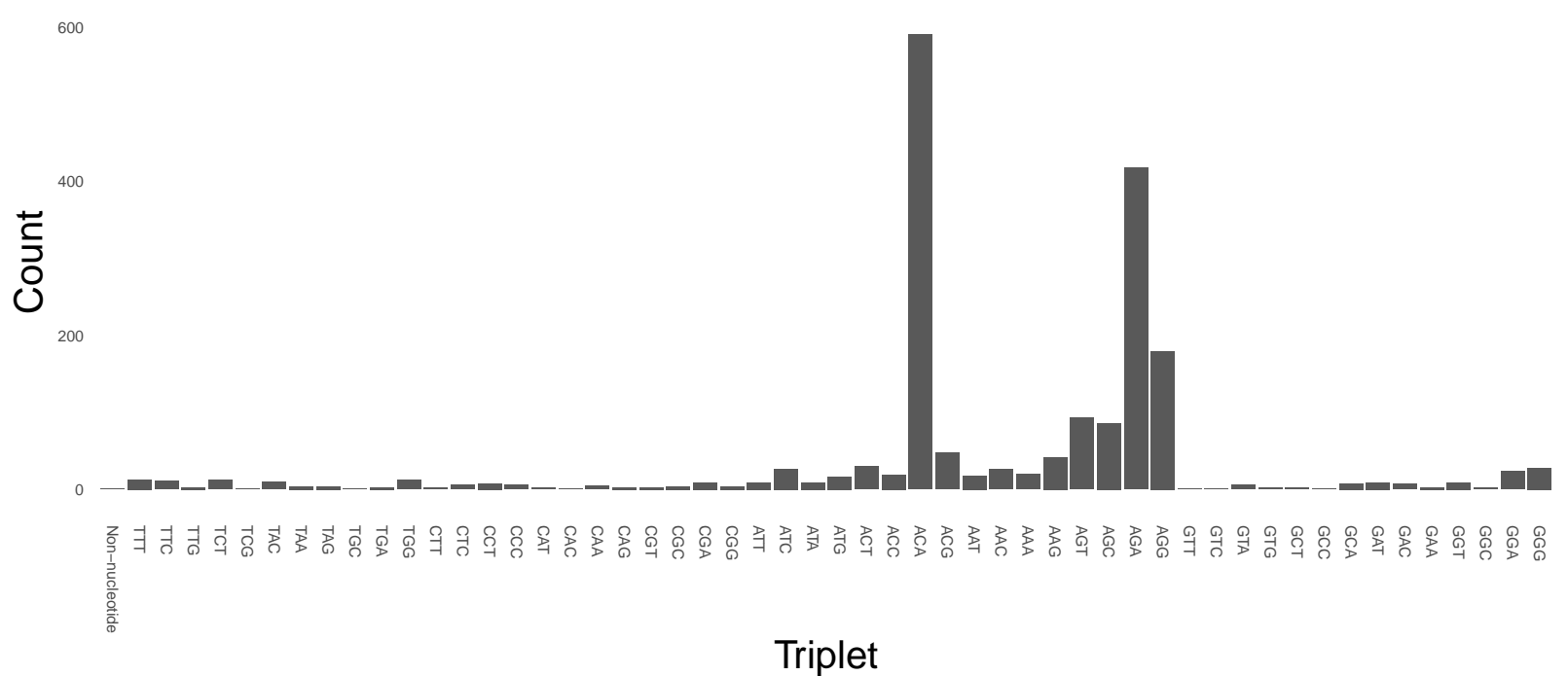
IGHV5–20*02_A141G_C312T– Final 3 nucleotides as a triplet



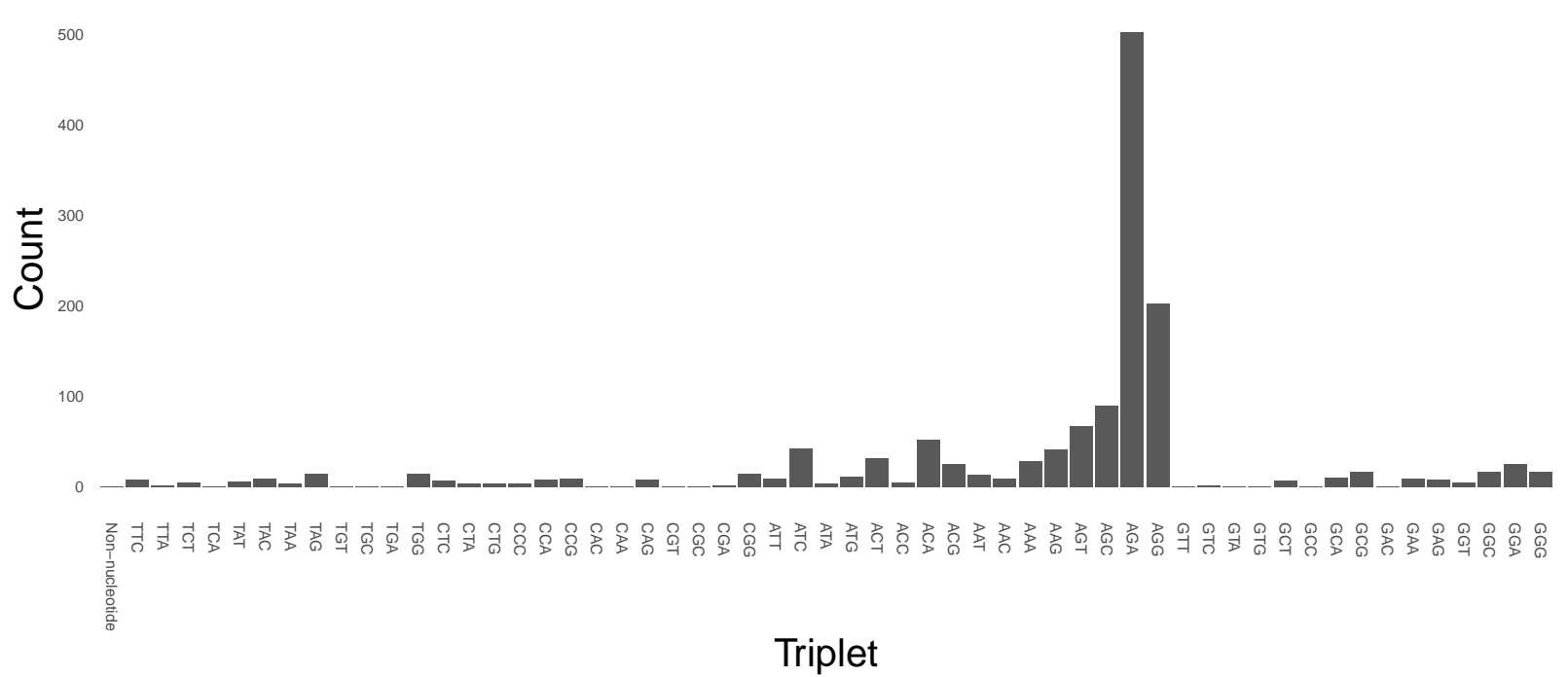
IGHV3-103*01_T19A_G24A_C27A_C38T_A39C_A40C_C120G_G157A- Final 3 nucleotides as a



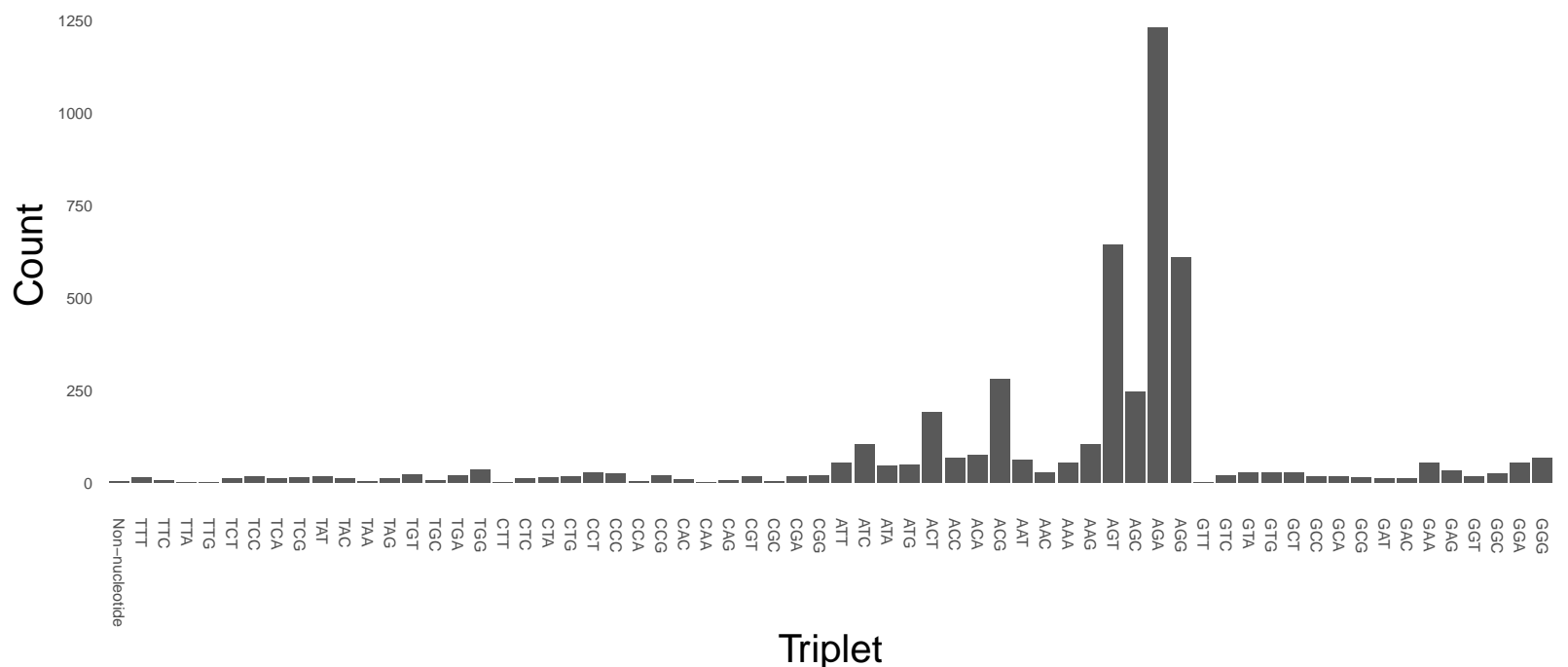
IGHV4-65*02_G82T_G83A_T87C_A163T_G169A- Final 3 nucleotides as a triplet



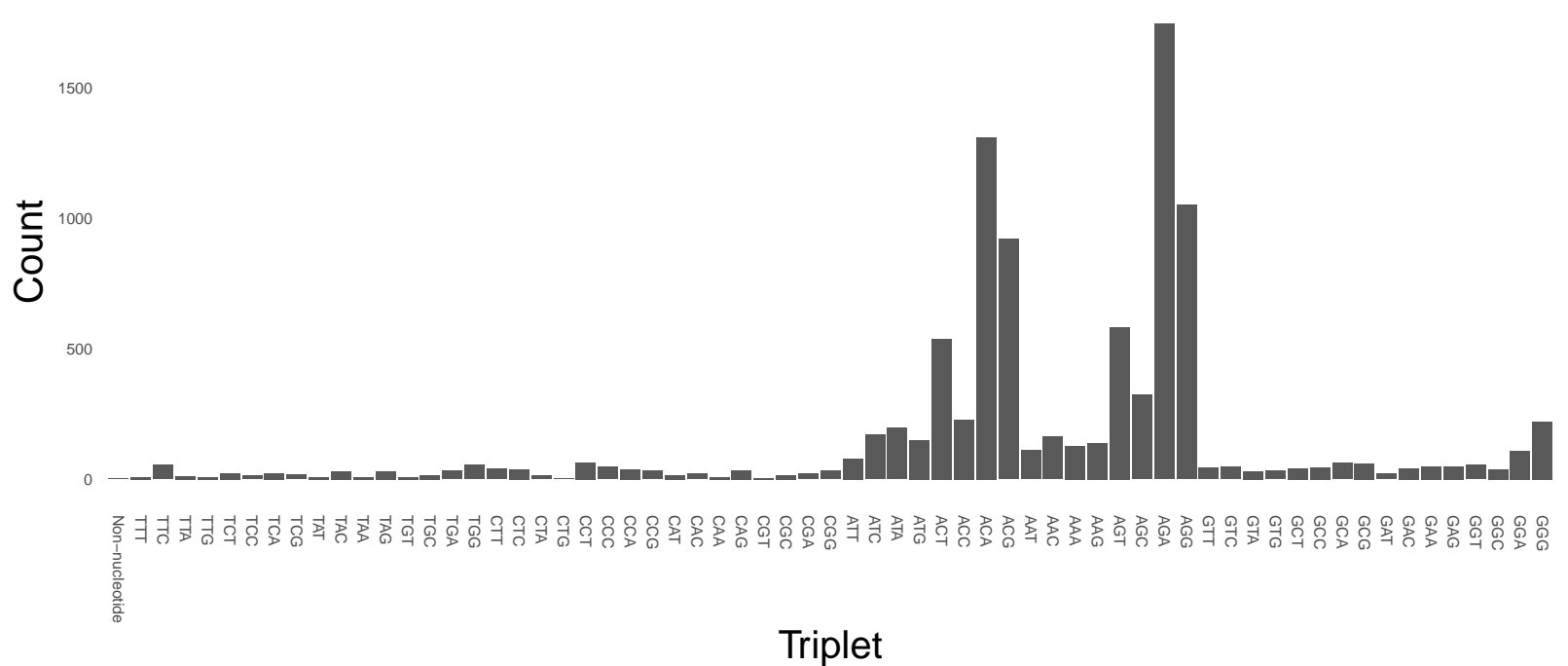
IGHV4-76*01_A81T_G103A_A244G- Final 3 nucleotides as a triplet



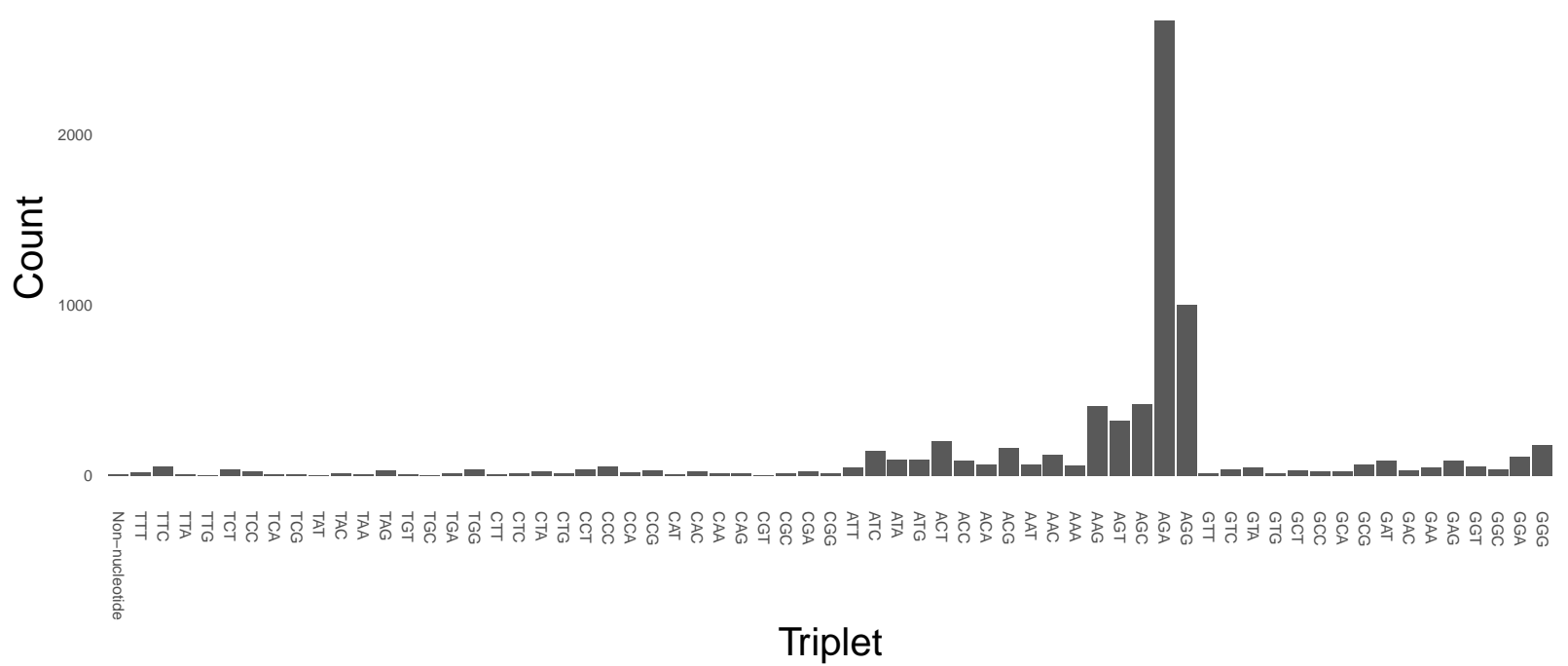
IGHV4-127*01_T82G_A83G_C87T_G113A_G147A_G169A_T189G_A196G_A239C- Final 3 nucleotides as a triplet



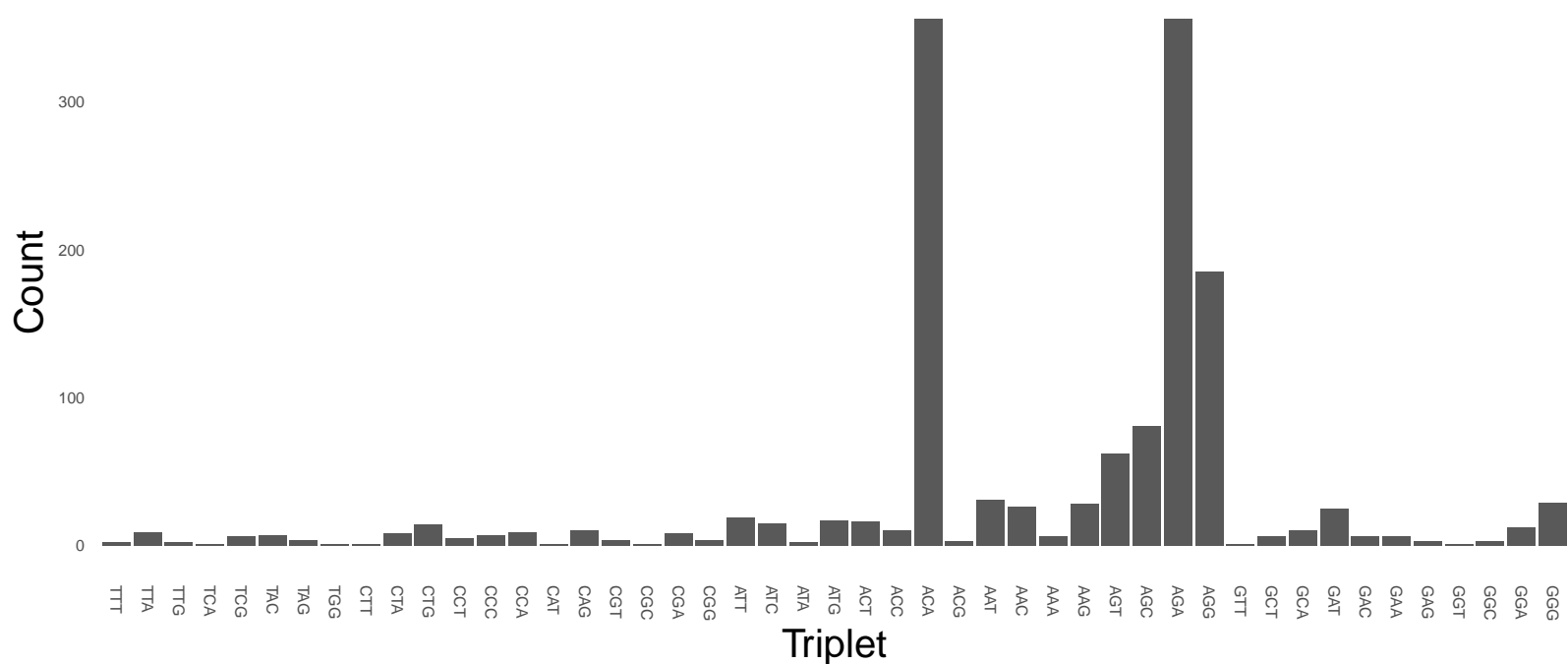
IGHV4-160*01_A106G_A109T_G147A- Final 3 nucleotides as a triplet



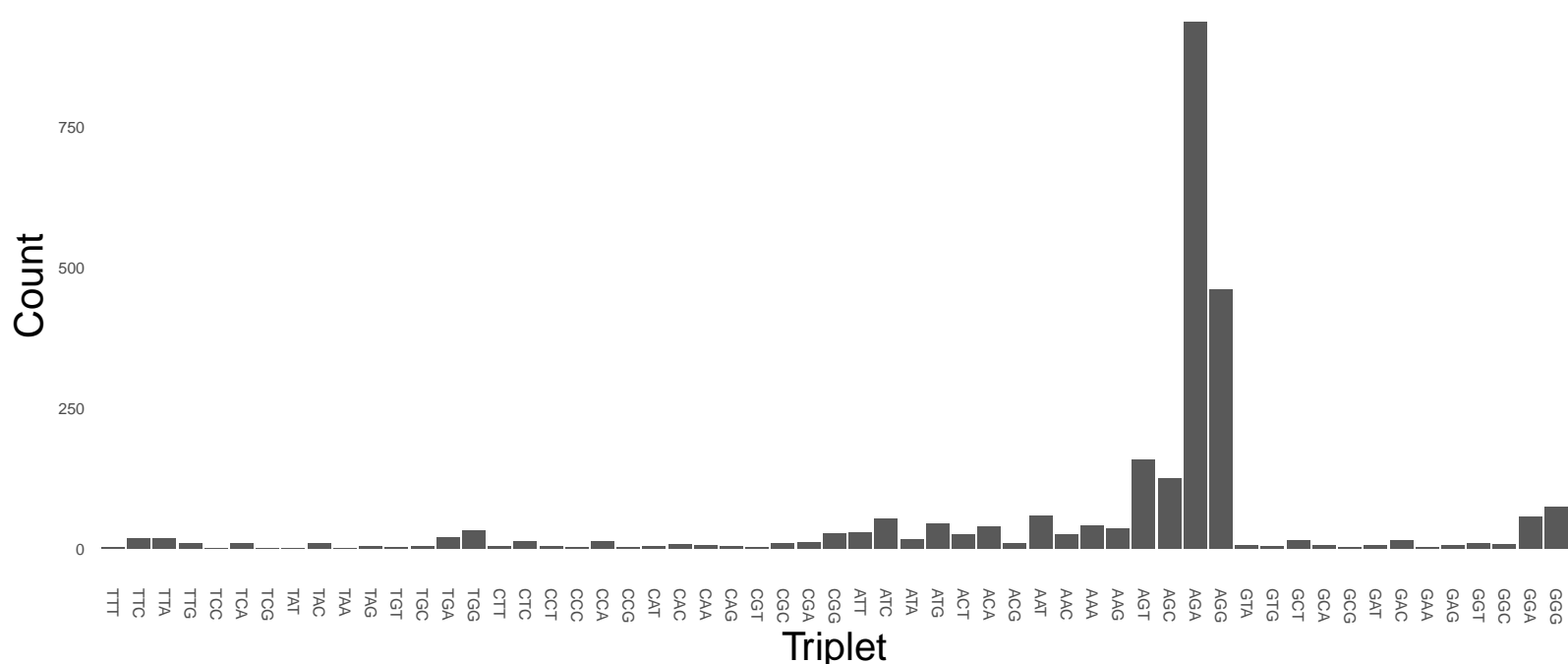
IGHV4S10*01_A48G_T112C- Final 3 nucleotides as a triplet



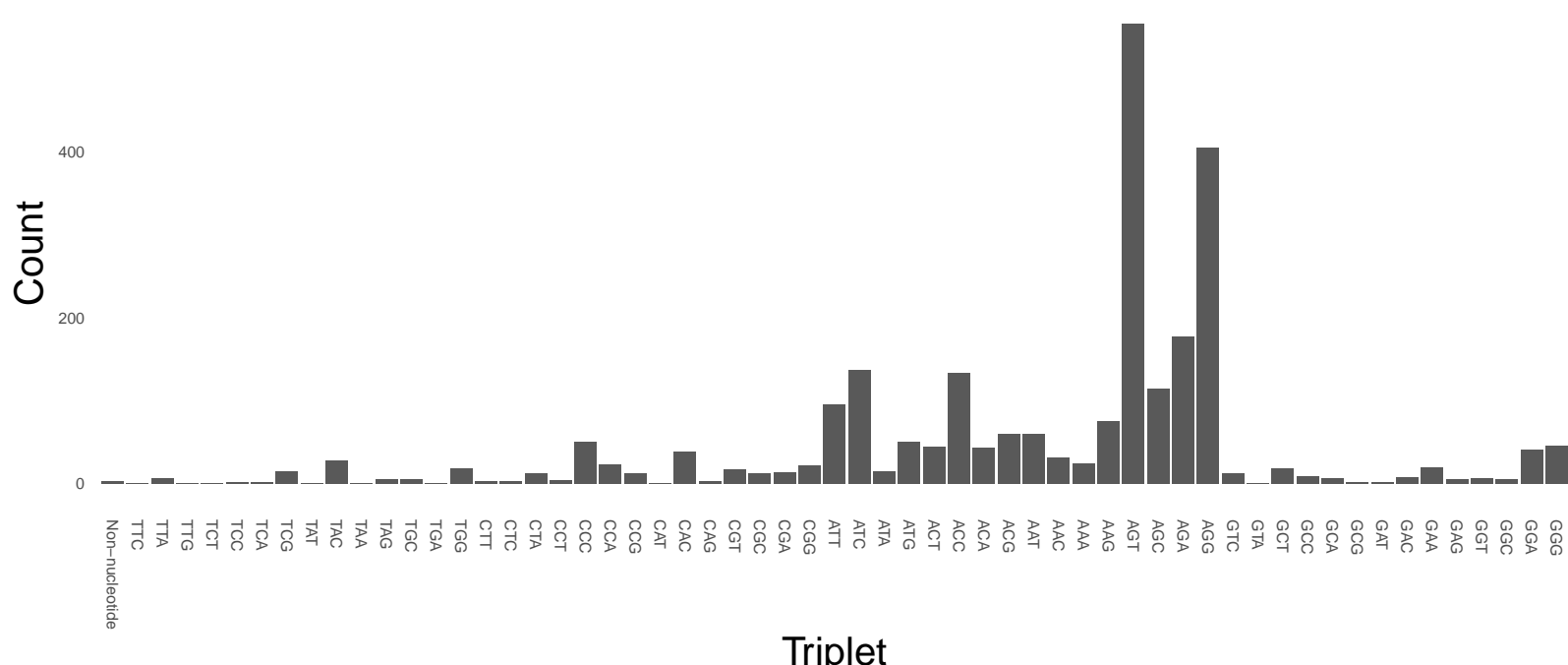
IGHV4S13*01_G163A_C210T_G289A– Final 3 nucleotides as a triplet



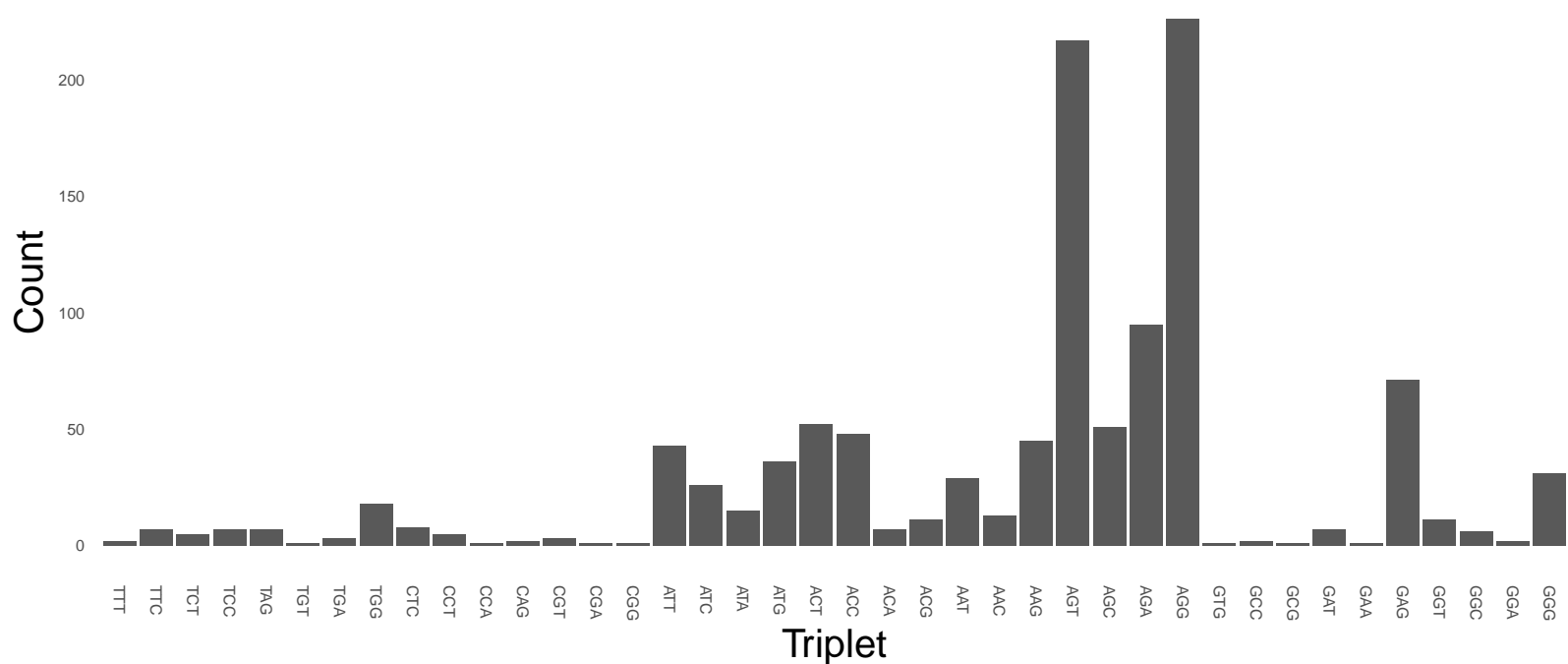
IGHV4S2*01_G133T_T239G_G248C– Final 3 nucleotides as a triplet



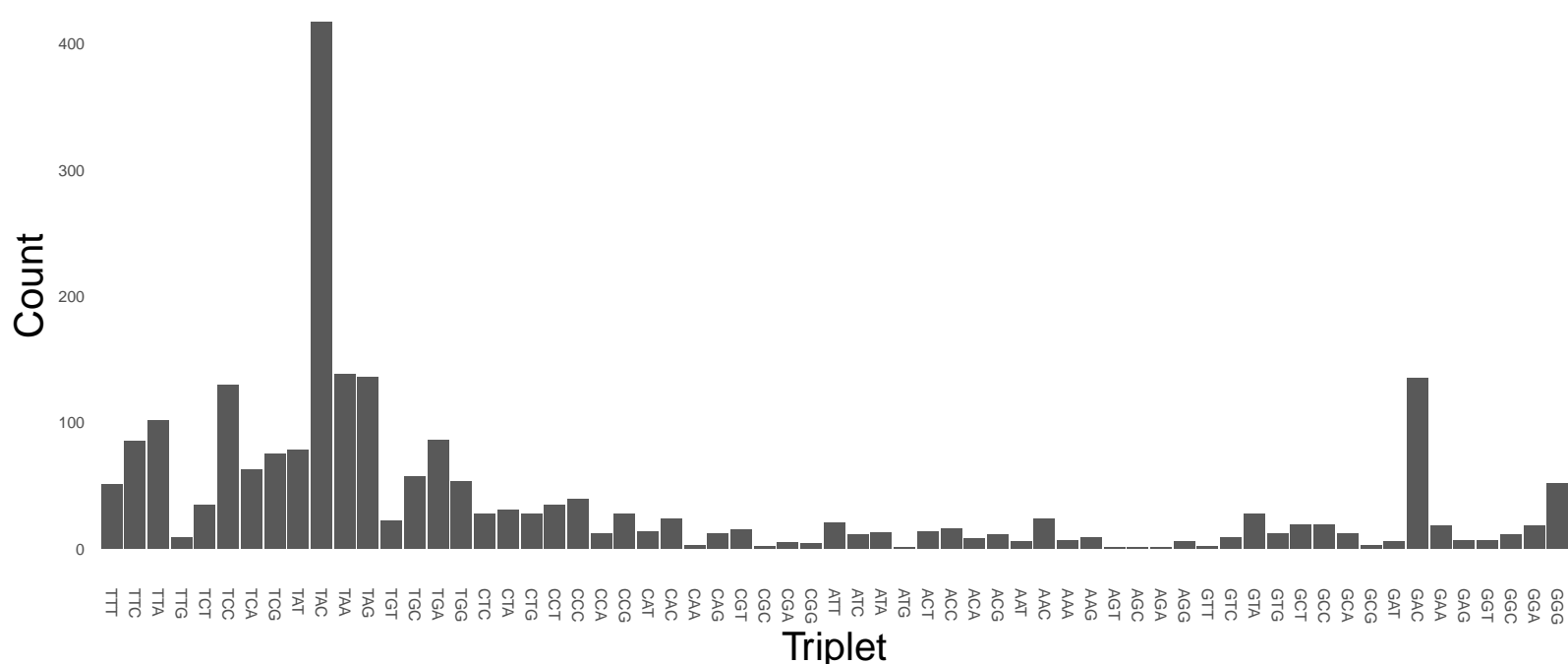
IGHV5–43*01_A51G– Final 3 nucleotides as a triplet



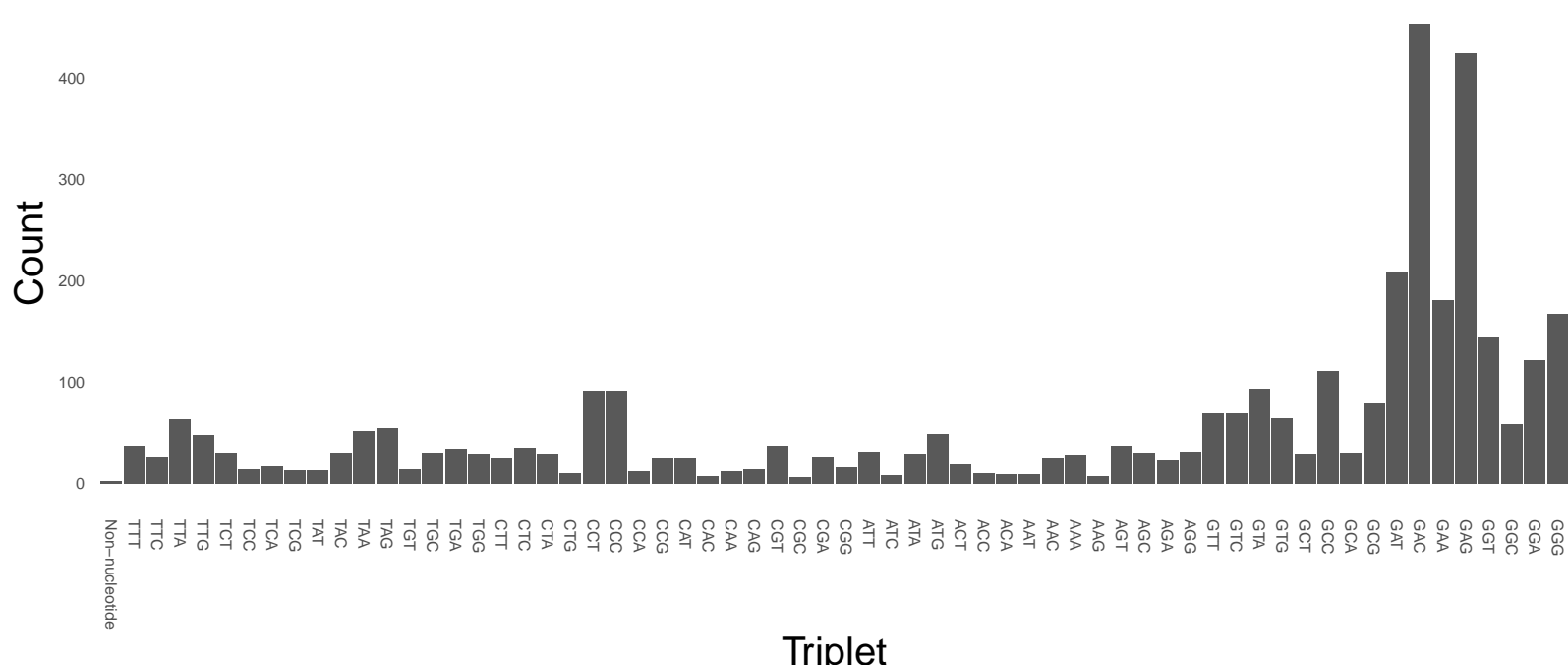
IGHV5–43*01_A106G– Final 3 nucleotides as a triplet



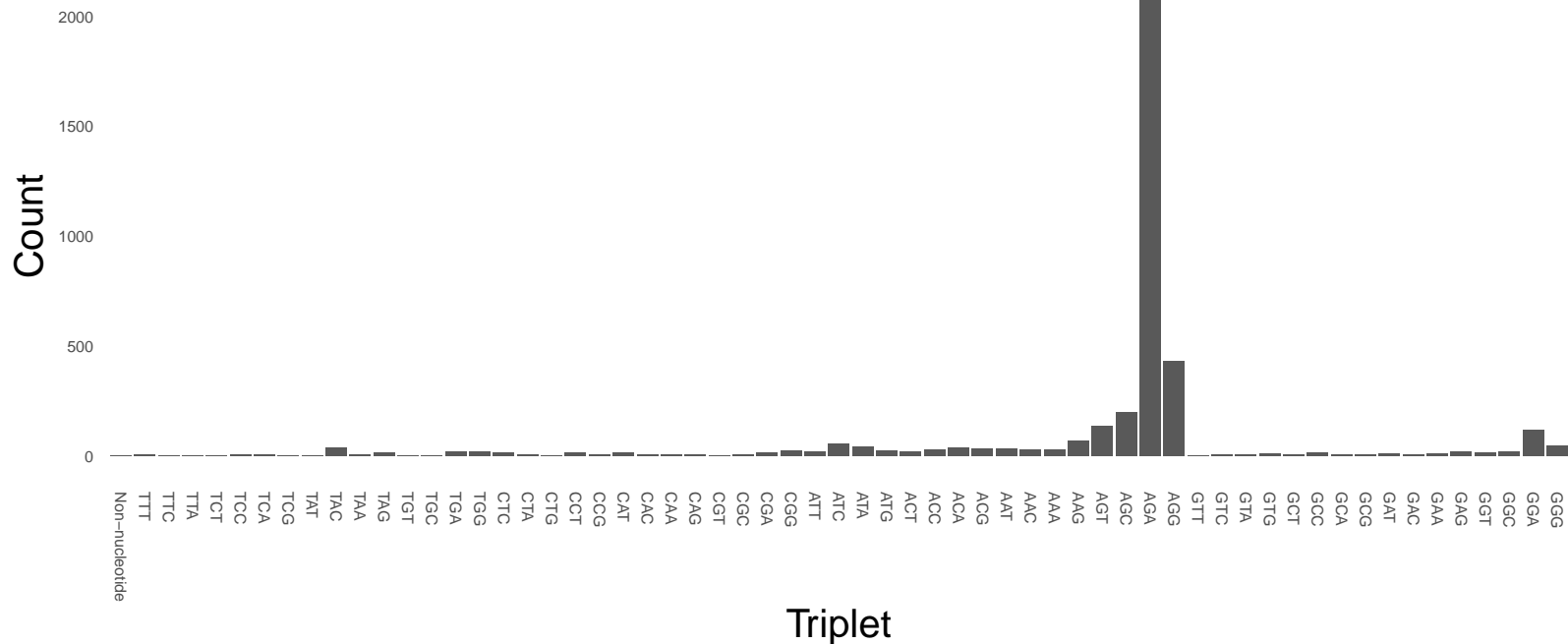
IGHV2–95*01_A267G– Final 3 nucleotides as a triplet



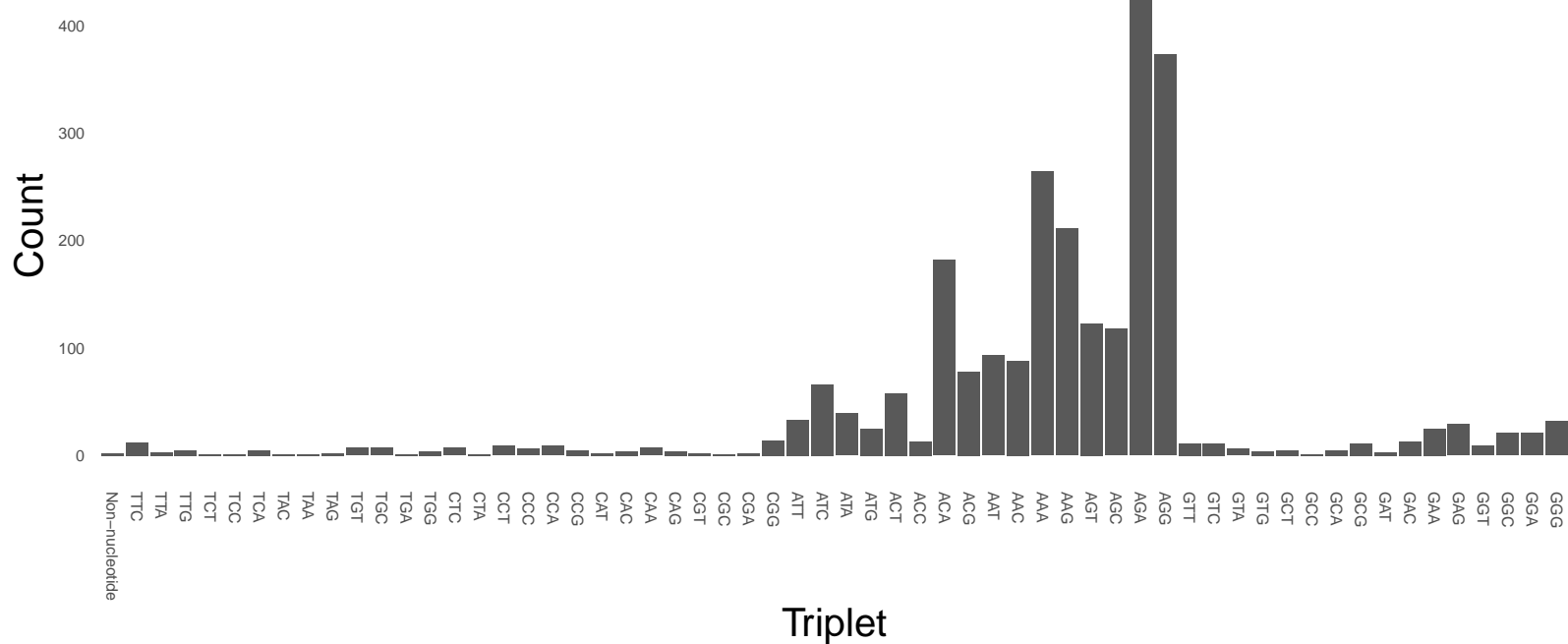
IGHV2–174*01_C6G_C92G_C93T_G289T– Final 3 nucleotides as a triplet



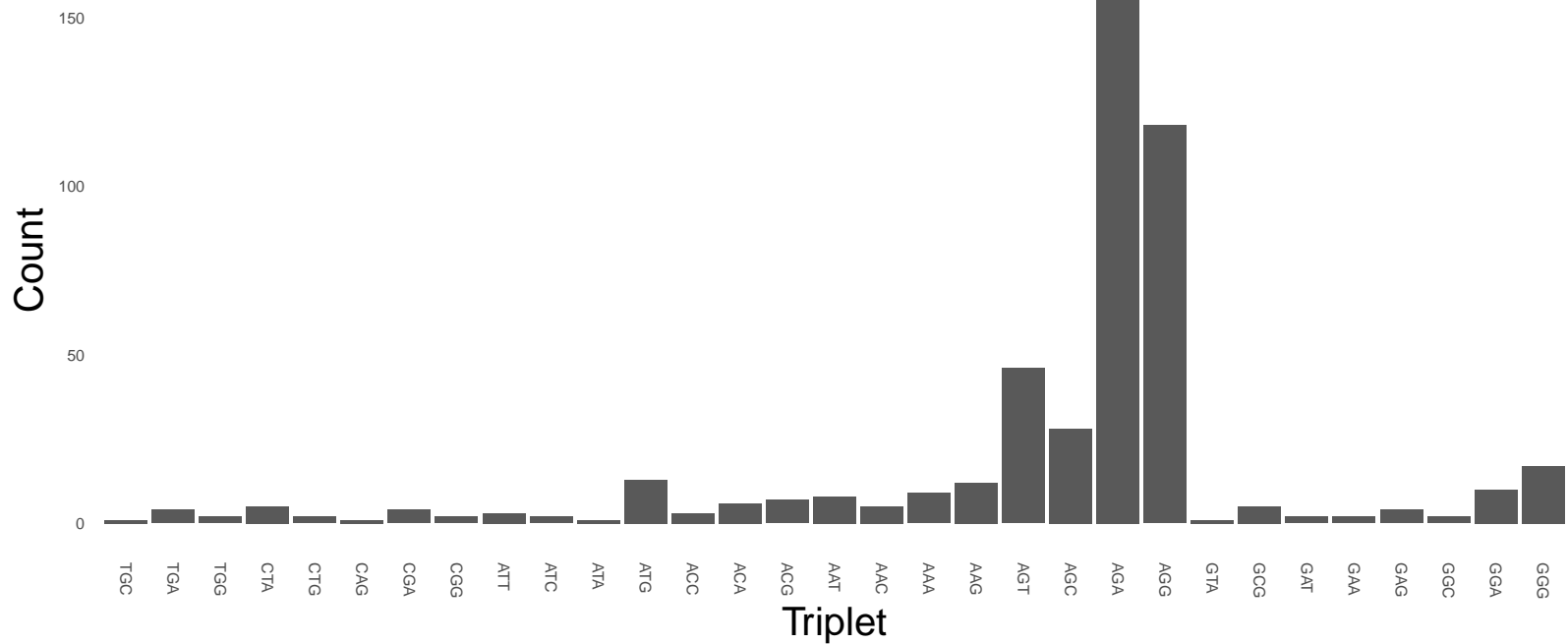
IGHV3–178*02_A274G– Final 3 nucleotides as a triplet



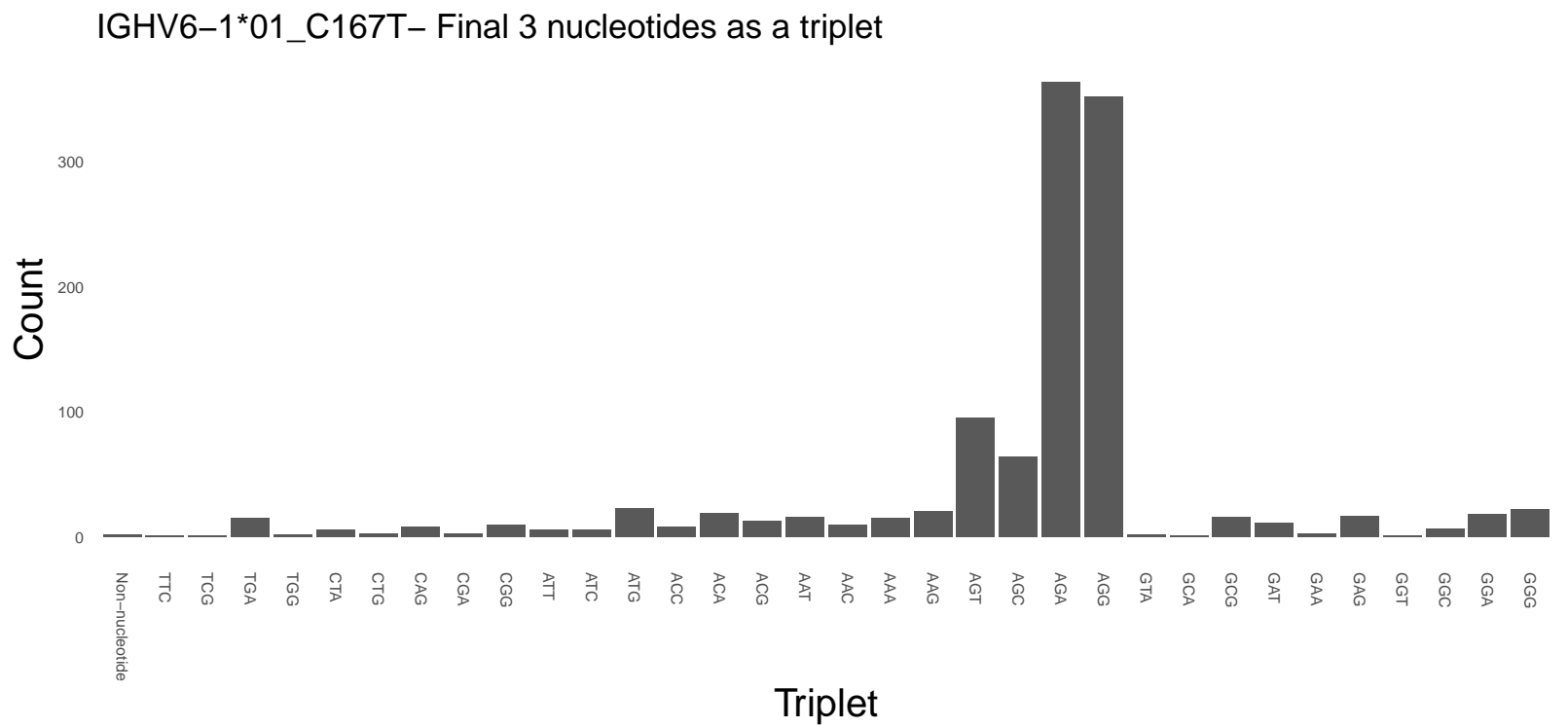
IGHV4–165*02_C205T– Final 3 nucleotides as a triplet



IGHV6–1*01_C167T_G280T– Final 3 nucleotides as a triplet

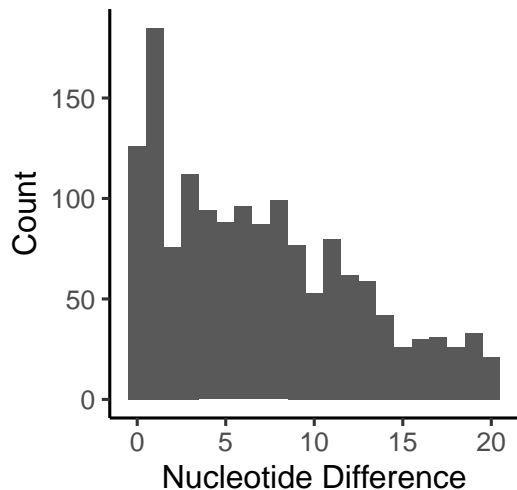


IGHV6-1*01_C167T- Final 3 nucleotides as a triplet



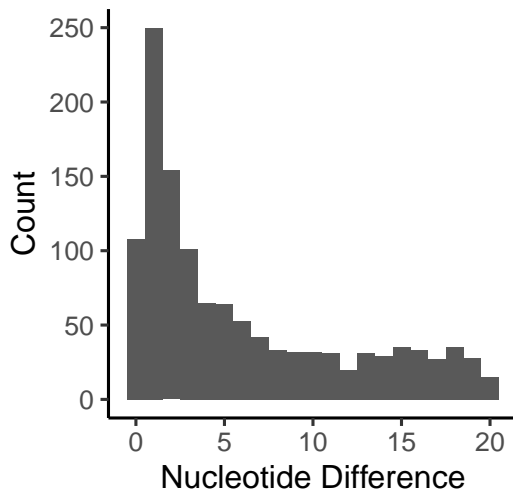
IGHV3S42*01_C27A_C3A

1723 sequences assigned
126 (7.3%) exact matches, in which:
107 unique CDR3
4 unique J



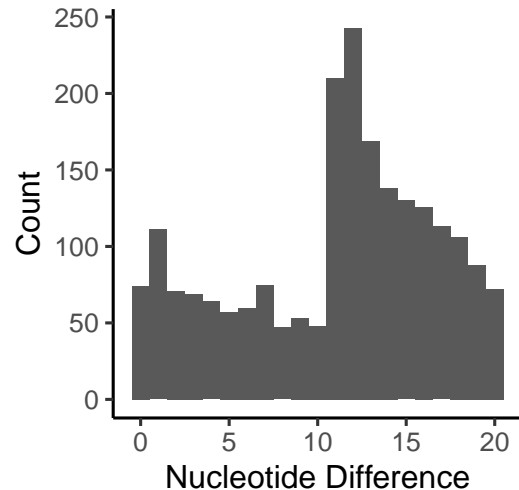
IGHV4S13*01_G163A_C3A

1419 sequences assigned
108 (7.6%) exact matches, in which:
105 unique CDR3
5 unique J



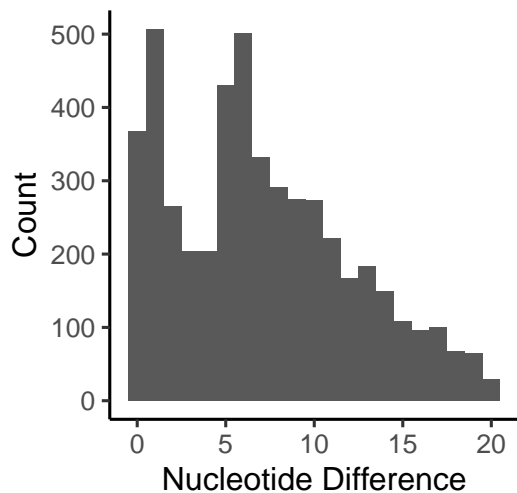
IGHV1-200*01_A18G_G1A

2389 sequences assigned
74 (3.1%) exact matches, in which:
67 unique CDR3
4 unique J



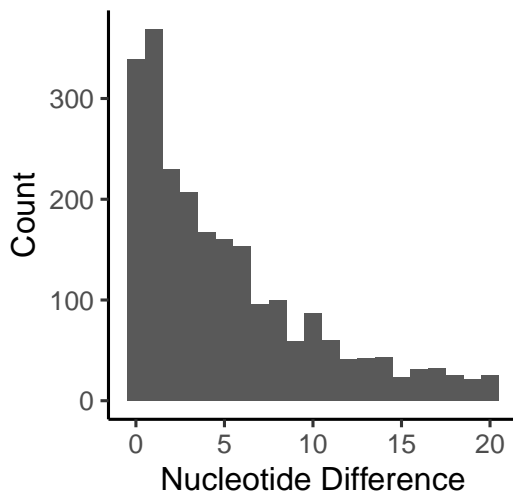
IGHV3S42*01_T120C_A1A

9153 sequences assigned
368 (4%) exact matches, in which:
331 unique CDR3
5 unique J



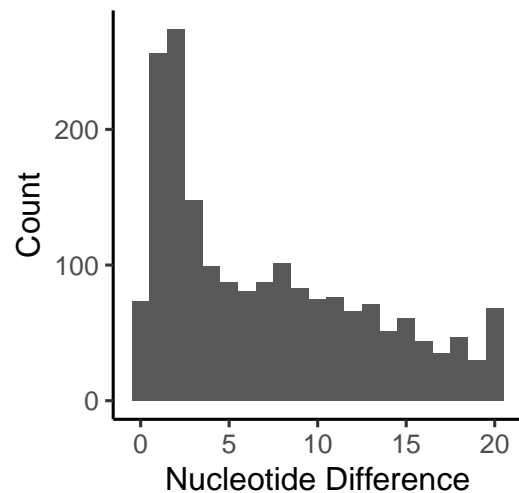
IGHV4S2*01_G133T_T2A

2523 sequences assigned
339 (13.4%) exact matches, in which:
311 unique CDR3
5 unique J



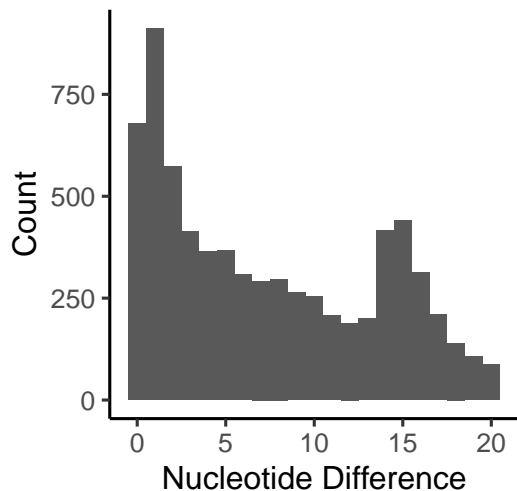
IGHV2-95*01_A267G

2325 sequences assigned
73 (3.1%) exact matches, in which:
68 unique CDR3
5 unique J



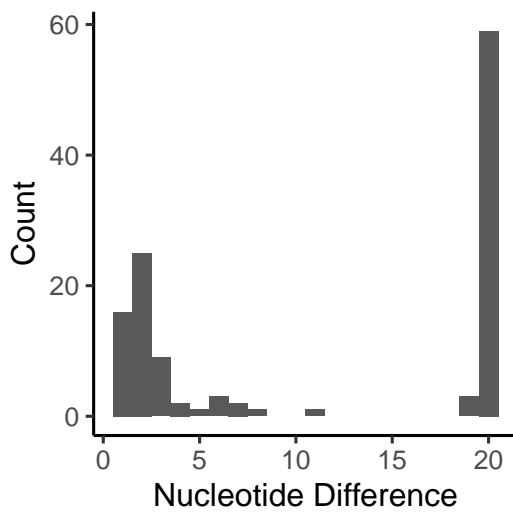
IGHV4S10*01_A48G_T1A

7502 sequences assigned
678 (9%) exact matches, in which:
646 unique CDR3
5 unique J



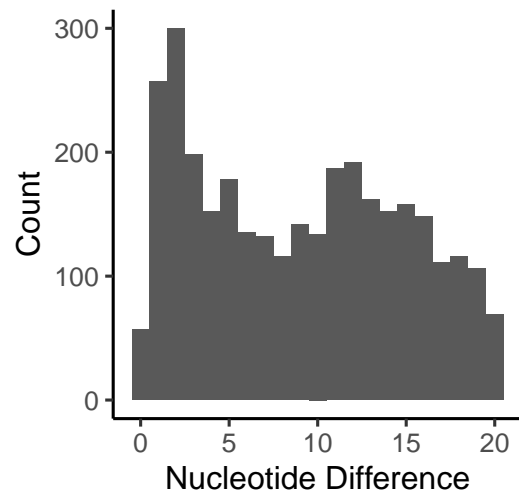
IGHV1-156D*01

473 sequences assigned
No exact matches.



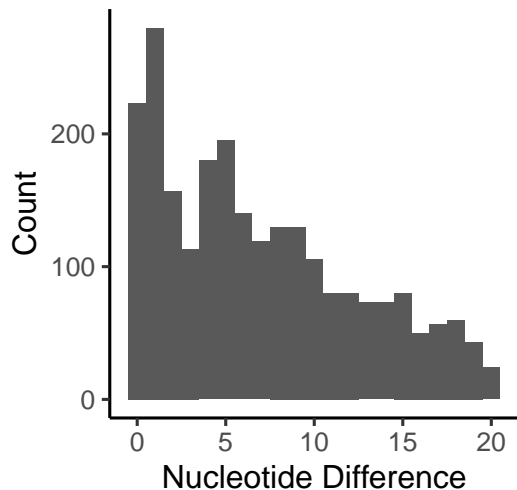
IGHV2-174*01_C6G_C9A

3628 sequences assigned
57 (1.6%) exact matches, in which:
54 unique CDR3
4 unique J



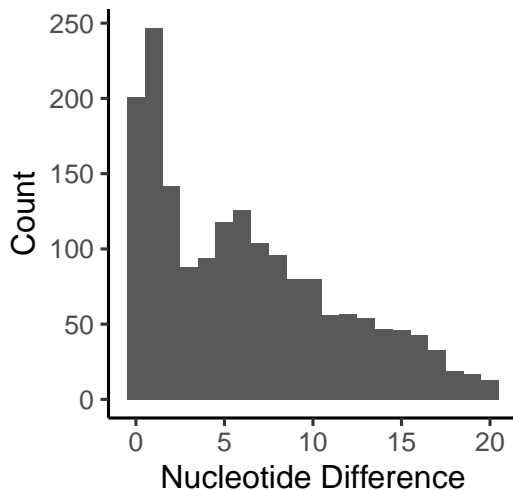
IGHV3-16*01_A51T_T78

2769 sequences assigned
223 (8.1%) exact matches, in which:
192 unique CDR3
5 unique J



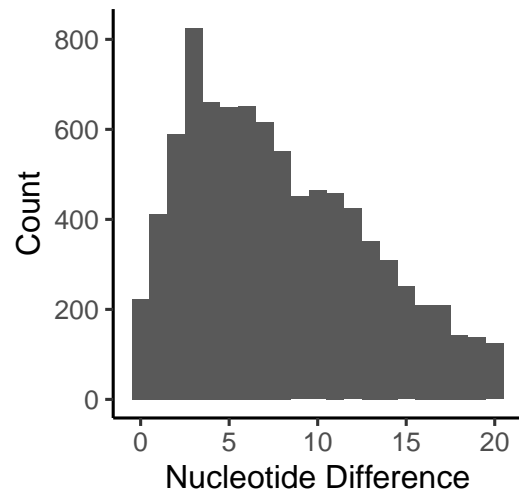
IGHV3-54*02_G170C_C:

1880 sequences assigned
201 (10.7%) exact matches, in which:
181 unique CDR3
5 unique J



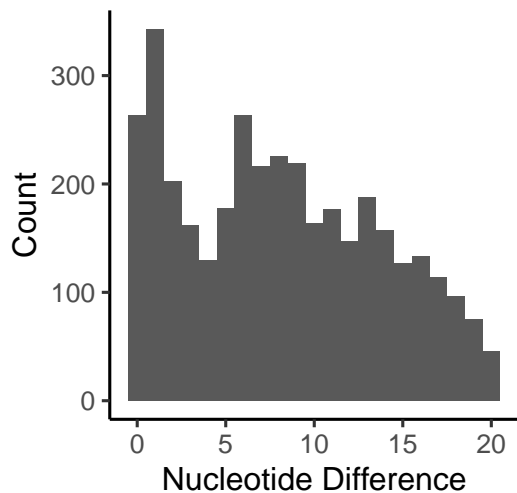
IGHV3-116*02_G8A_T10

9491 sequences assigned
224 (2.4%) exact matches, in which:
211 unique CDR3
5 unique J



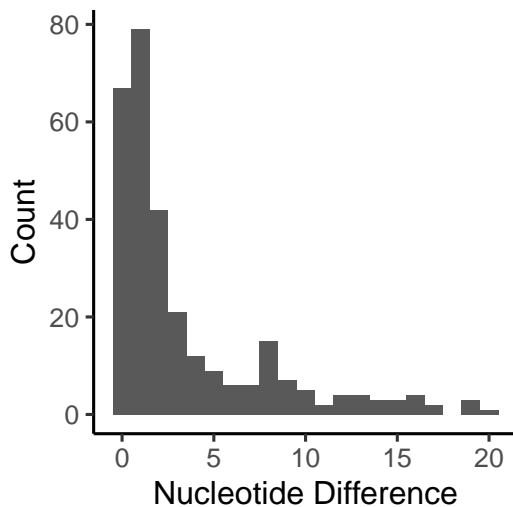
IGHV3-30*01_G174C_A'

4253 sequences assigned
263 (6.2%) exact matches, in which:
226 unique CDR3
4 unique J



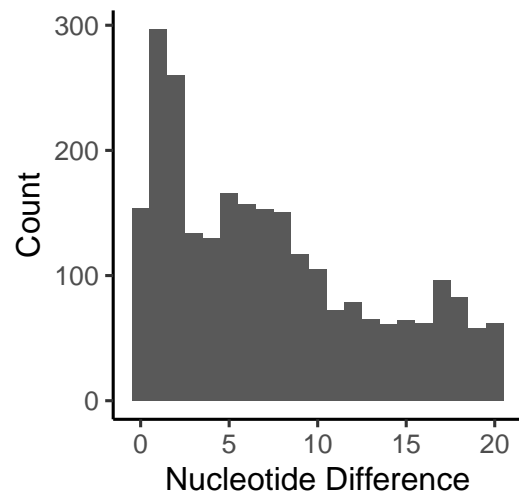
IGHV3-100*02_C3G

5764 sequences assigned
67 (1.2%) exact matches, in which:
59 unique CDR3
5 unique J



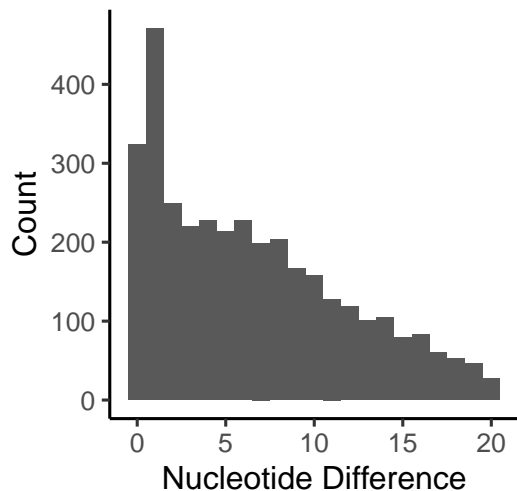
IGHV3-178*02_A274G

3850 sequences assigned
154 (4%) exact matches, in which:
138 unique CDR3
4 unique J



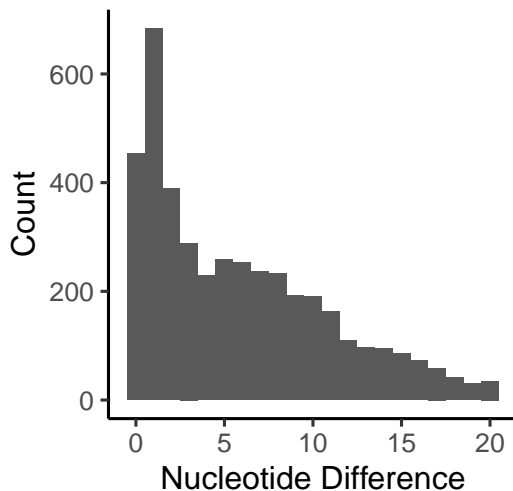
IGHV3-30*02_C141G_C'

3820 sequences assigned
324 (8.5%) exact matches, in which:
281 unique CDR3
4 unique J



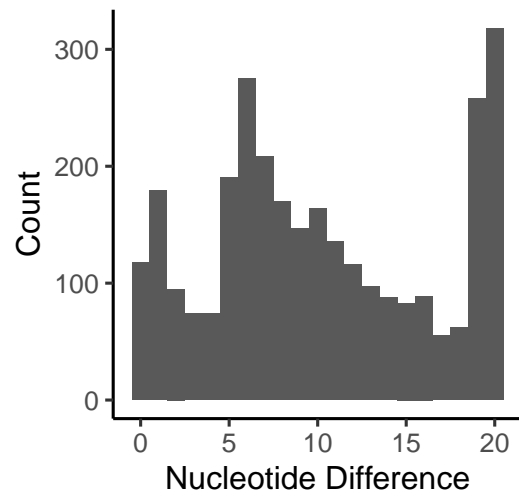
IGHV3-103*01_T19A_G2

4608 sequences assigned
454 (9.9%) exact matches, in which:
405 unique CDR3
5 unique J



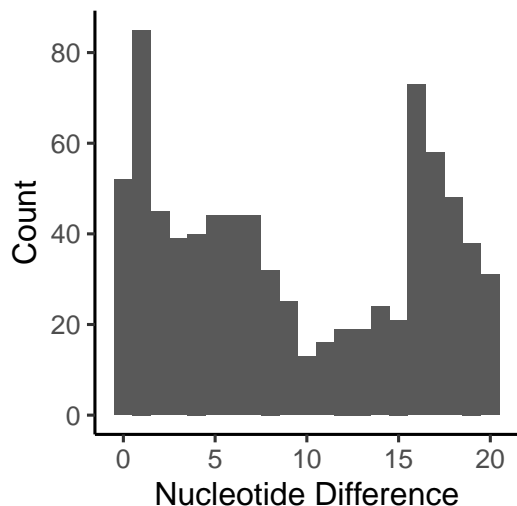
IGHV3-184*01_T34C_G4

4112 sequences assigned
118 (2.9%) exact matches, in which:
102 unique CDR3
5 unique J



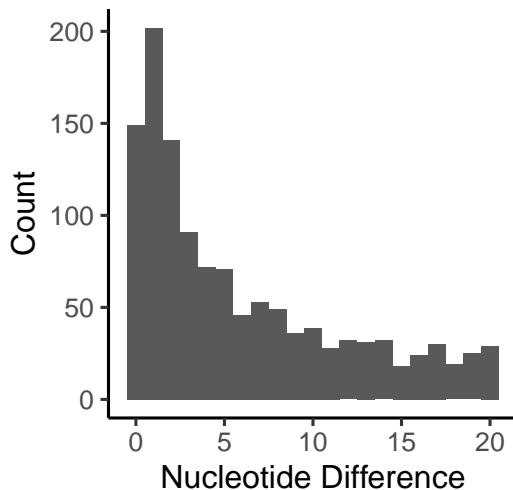
IGHV4-57*02_C87T_G19!

905 sequences assigned
52 (5.7%) exact matches, in which:
48 unique CDR3
4 unique J



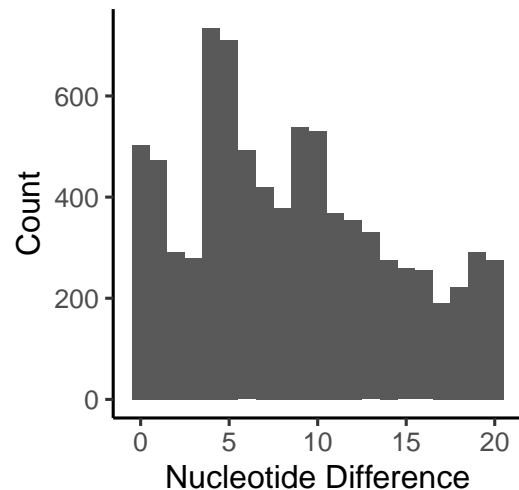
IGHV4-76*01_A81T_G10

1390 sequences assigned
149 (10.7%) exact matches, in which:
139 unique CDR3
5 unique J



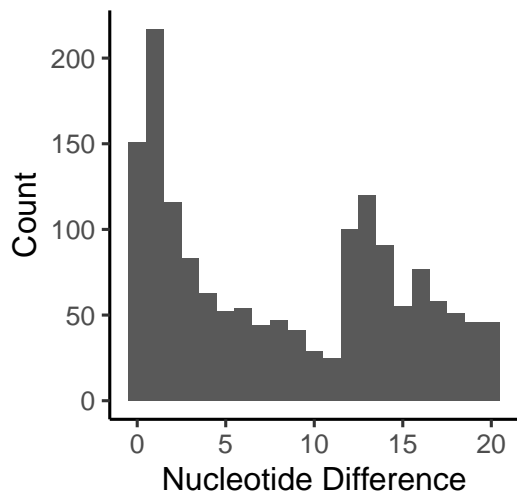
IGHV4-160*01_A106G_A

9570 sequences assigned
503 (5.3%) exact matches, in which:
465 unique CDR3
5 unique J



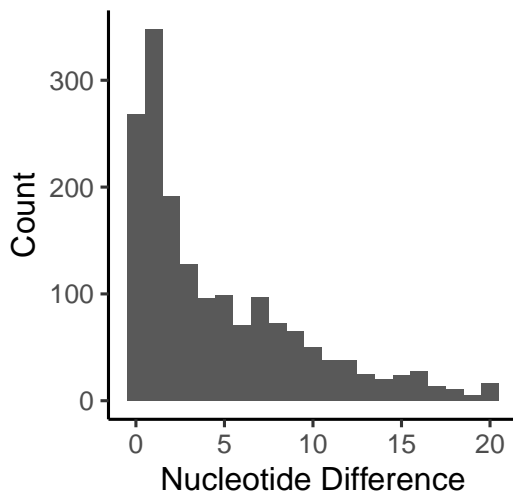
IGHV4-65*02_G82T_G83

1864 sequences assigned
151 (8.1%) exact matches, in which:
142 unique CDR3
5 unique J



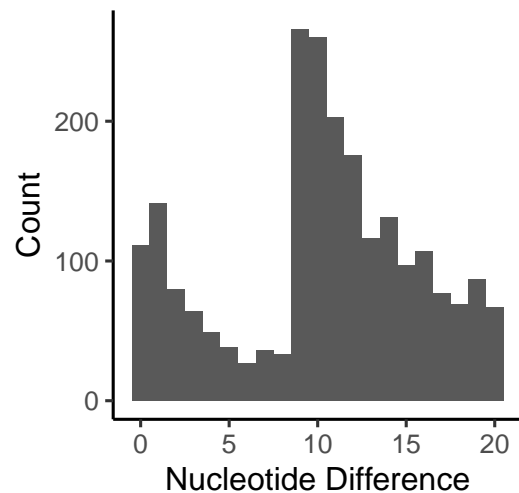
IGHV4-122*02_C87T_G10

1770 sequences assigned
268 (15.1%) exact matches, in which:
257 unique CDR3
5 unique J



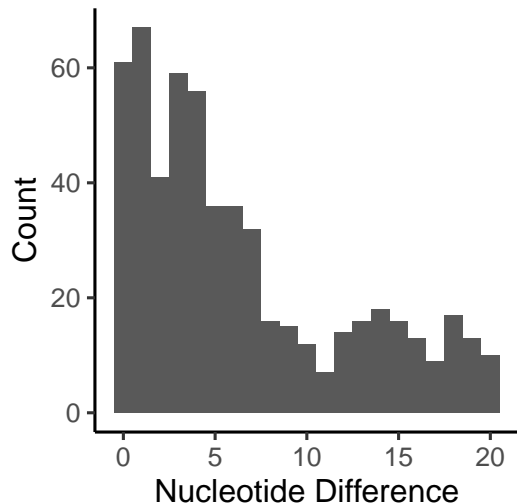
IGHV4-165*02_C205T

2524 sequences assigned
111 (4.4%) exact matches, in which:
104 unique CDR3
5 unique J



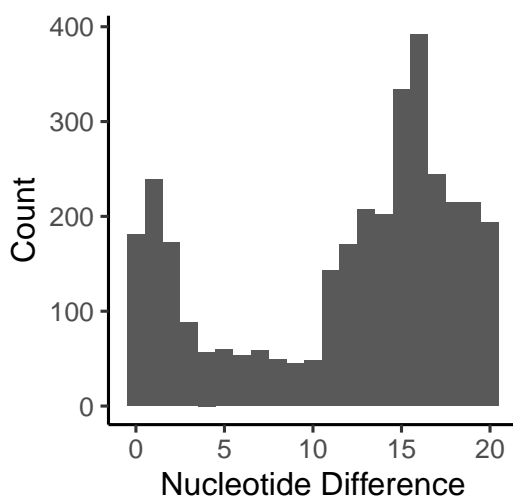
IGHV4-73*01_G104A_G1

756 sequences assigned
61 (8.1%) exact matches, in which:
56 unique CDR3
4 unique J



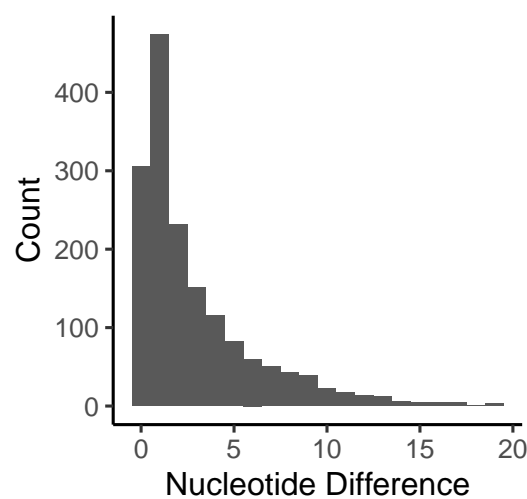
IGHV4-127*01_T82G_A8

4675 sequences assigned
181 (3.9%) exact matches, in which:
166 unique CDR3
5 unique J



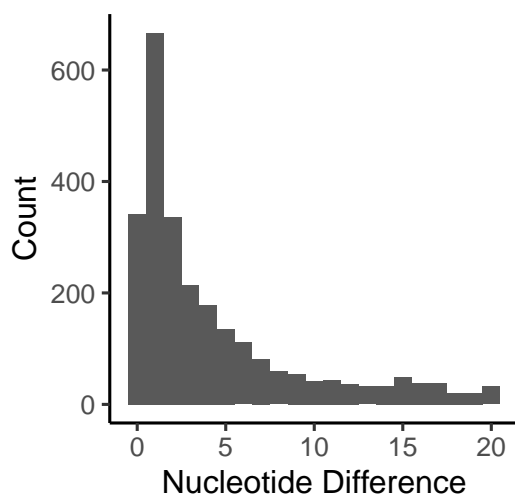
IGHV5-20*01_A141G

1648 sequences assigned
305 (18.5%) exact matches, in which:
254 unique CDR3
4 unique J



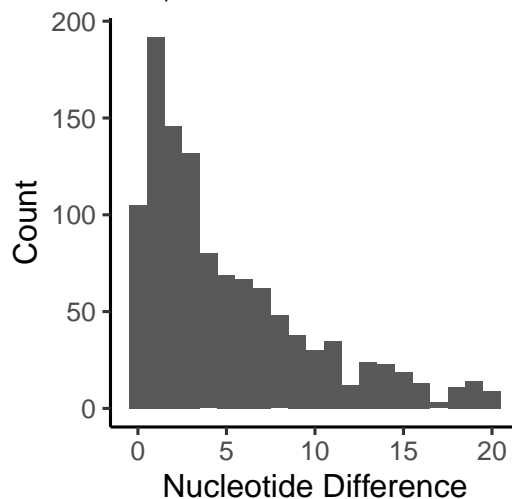
IGHV5-20*02_A141G_C:

2677 sequences assigned
342 (12.8%) exact matches, in which:
285 unique CDR3
5 unique J



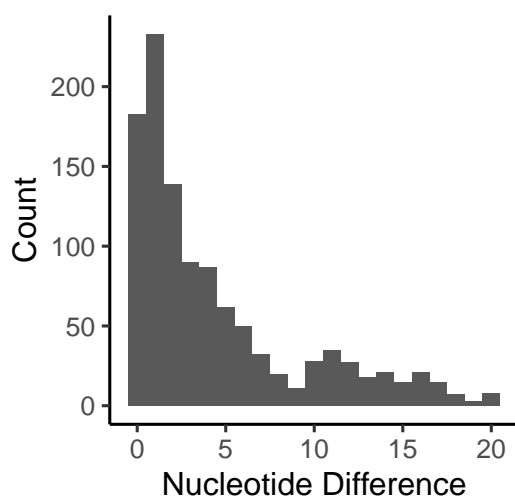
IGHV6-1*01_C167T

1161 sequences assigned
105 (9%) exact matches, in which:
90 unique CDR3
5 unique J



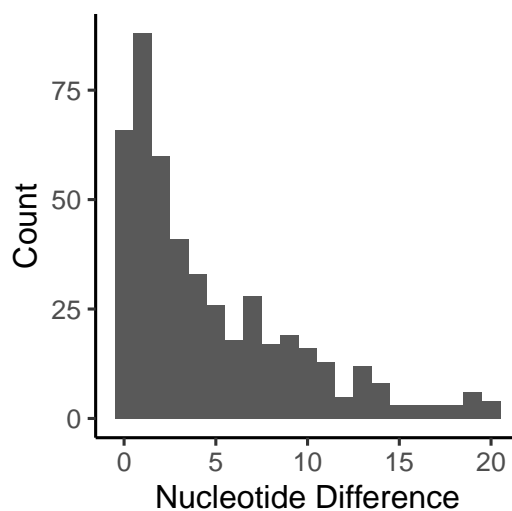
IGHV5-43*01_A106G

1118 sequences assigned
183 (16.4%) exact matches, in which:
153 unique CDR3
5 unique J



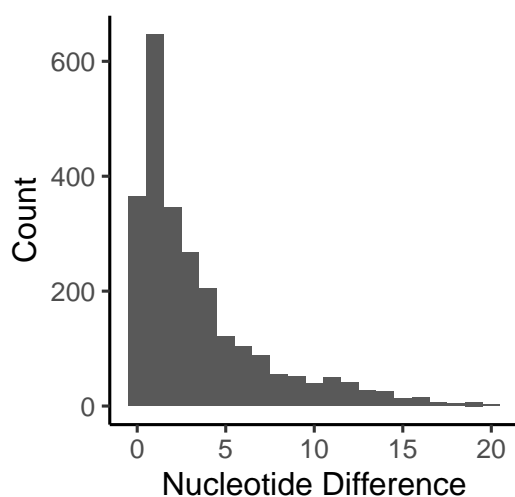
IGHV6-1*01_C167T_G280T

481 sequences assigned
66 (13.7%) exact matches, in which:
61 unique CDR3
5 unique J



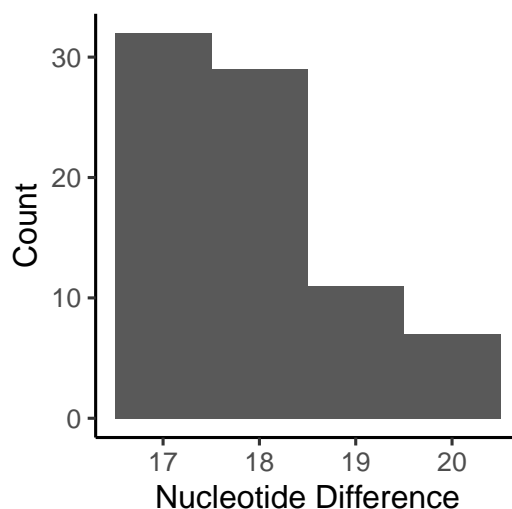
IGHV5-43*01_A51G

2509 sequences assigned
365 (14.5%) exact matches, in which:
306 unique CDR3
4 unique J

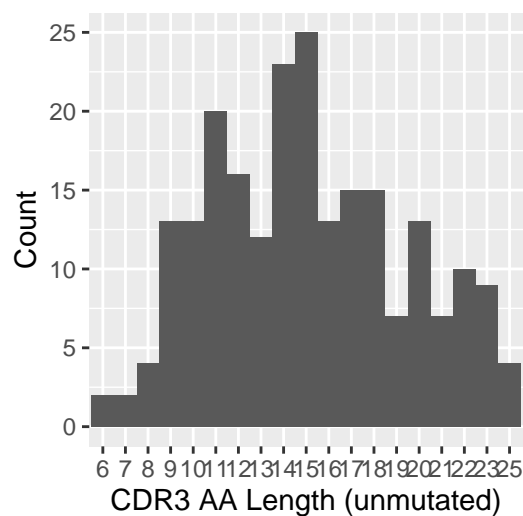


IGHV7-94*01

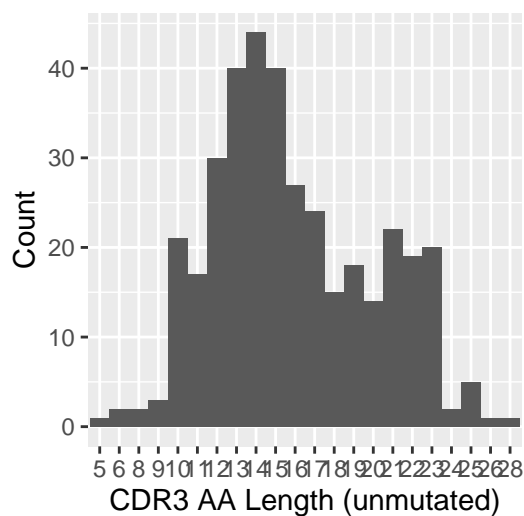
129 sequences assigned
No exact matches.



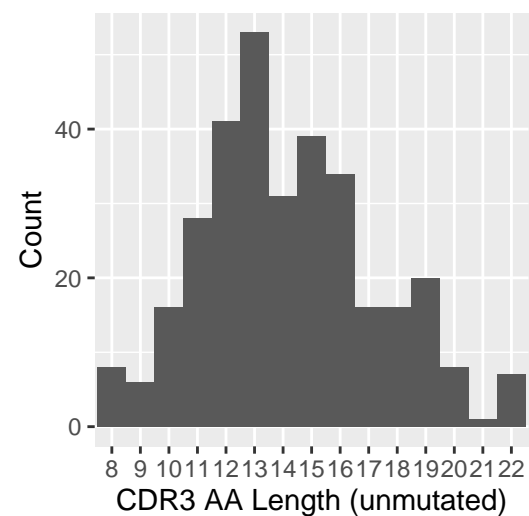
IGHV3-16*01_A51T_T78C_



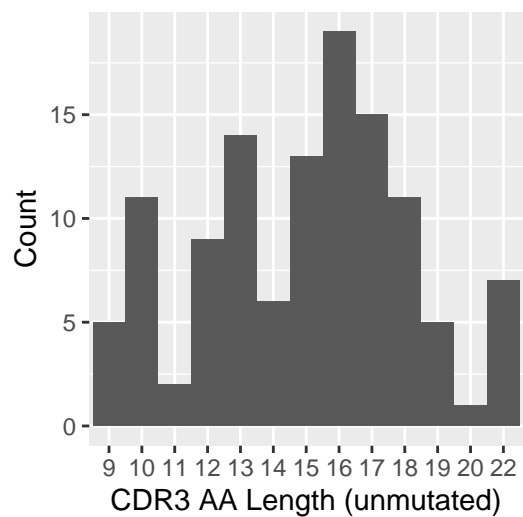
IGHV3S42*01_T120C_A133C



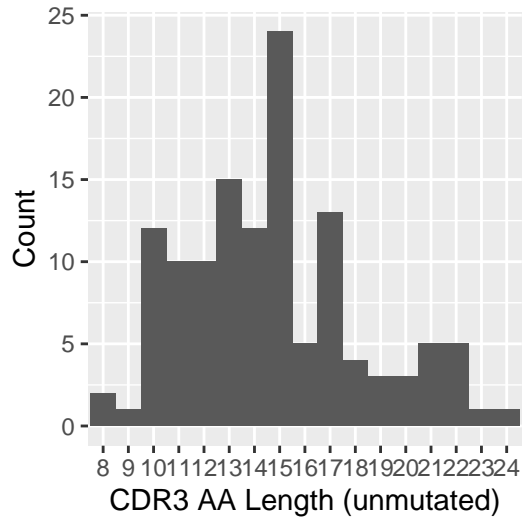
IGHV3-30*02_C141G_C183C



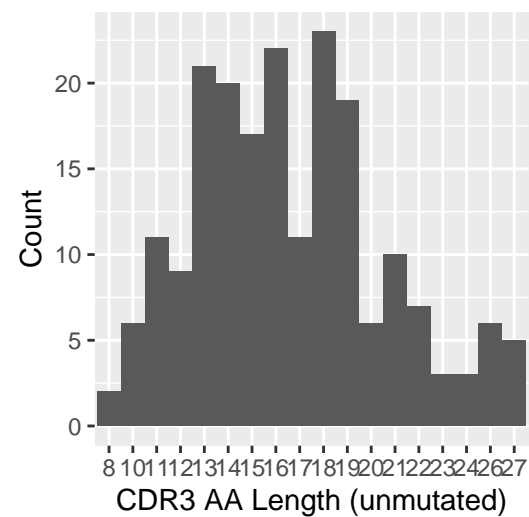
IGHV3-184*01_T34C_G48C



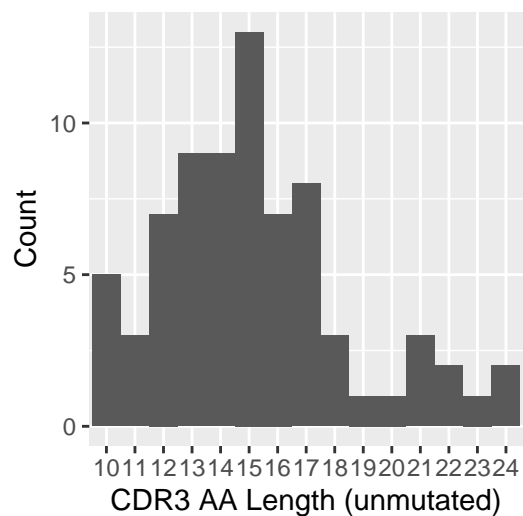
IGHV3S42*01_C27A_C38T_



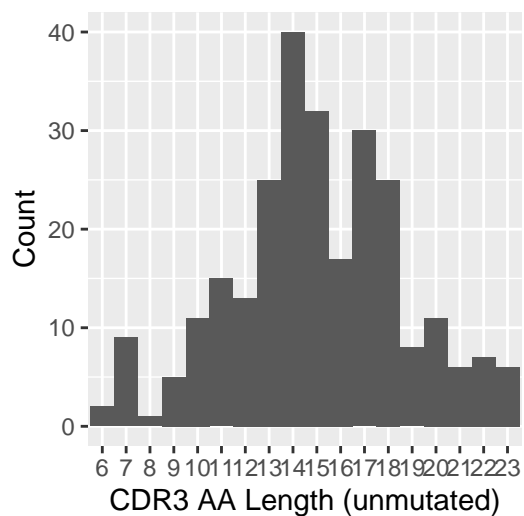
IGHV3-54*02_G170C_C300C



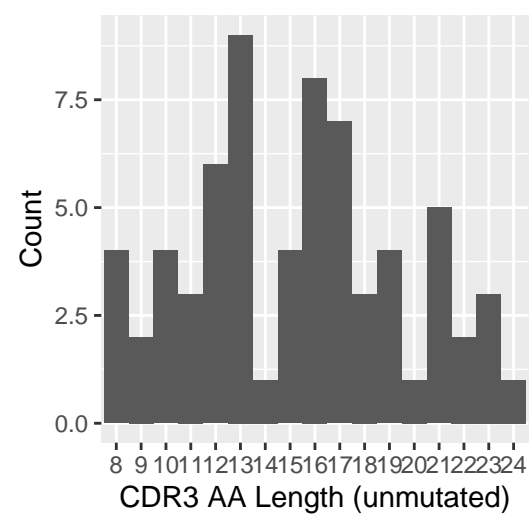
IGHV1-200*01_A18G_G60A



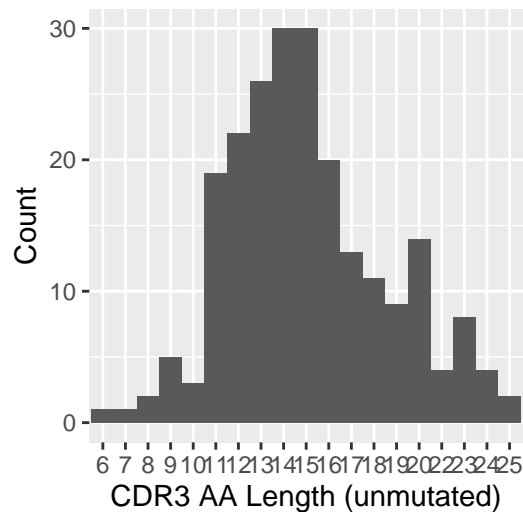
IGHV3-30*01_G174C_A188C



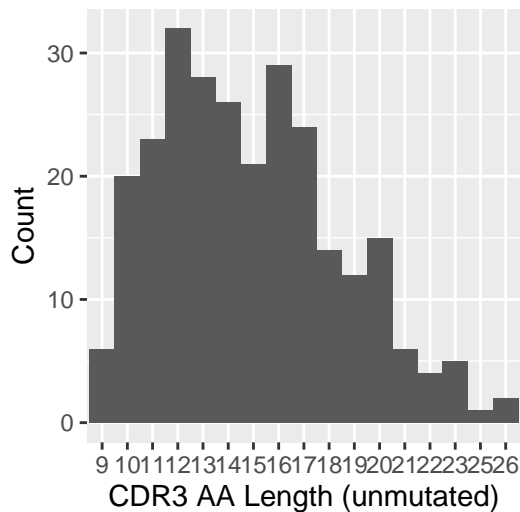
IGHV3-100*02_C3G



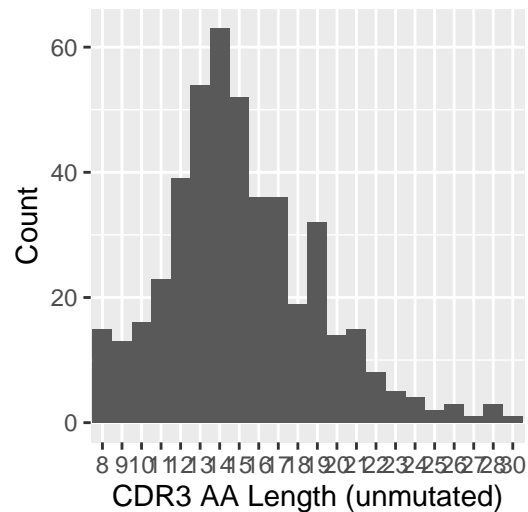
IGHV3-116*02_G8A_T109C



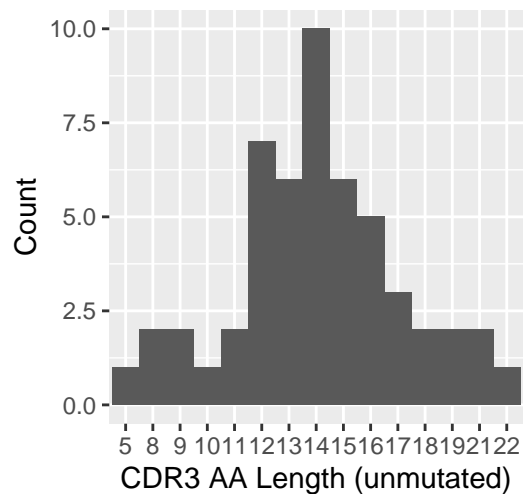
IGHV4-122*02_C87T_G103,



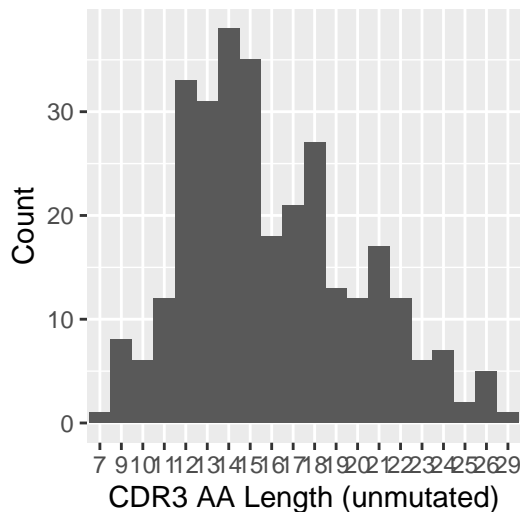
IGHV3-103*01_T19A_G24A



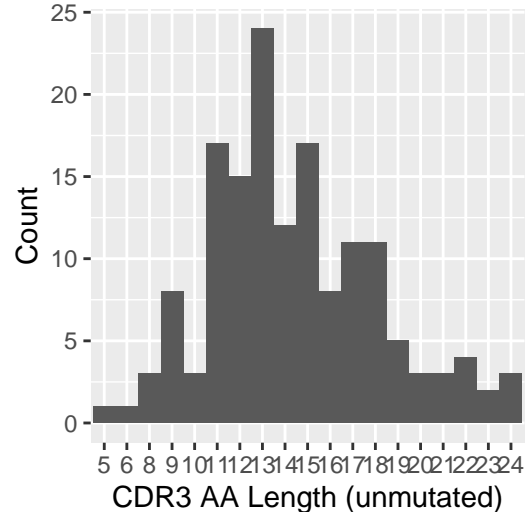
IGHV4-57*02_C87T_G199



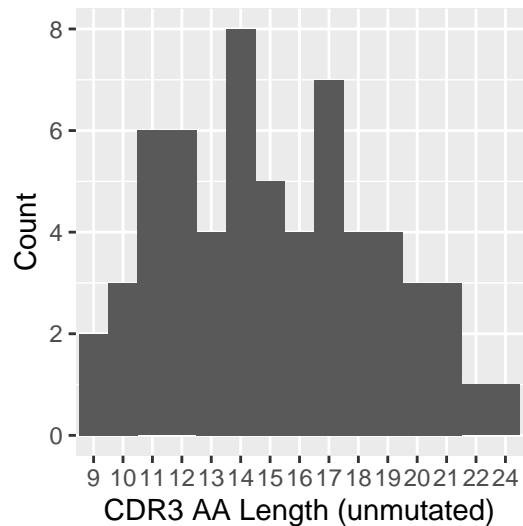
IGHV5-20*01_A141G



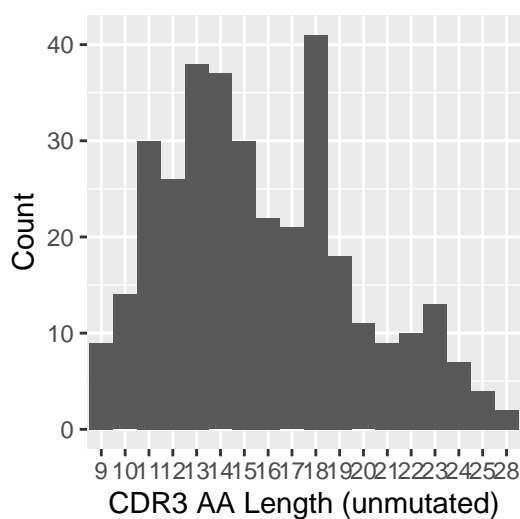
IGHV4-65*02_G82T_G83A



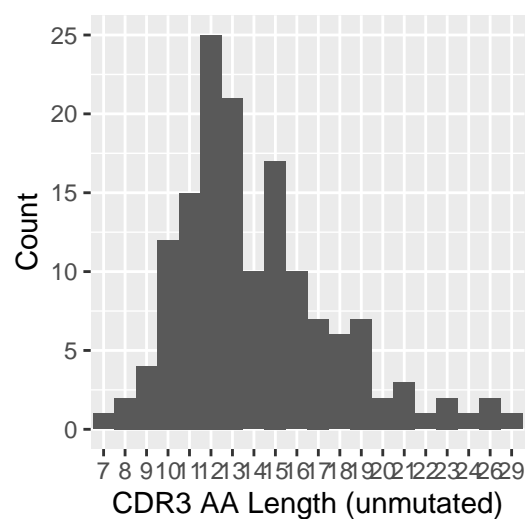
IGHV4-73*01_G104A_G147A



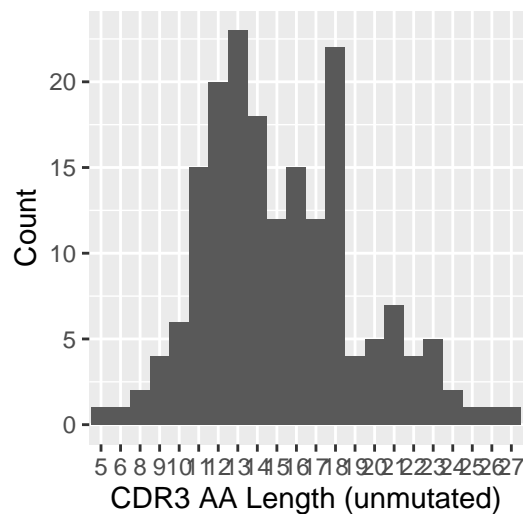
IGHV5-20*02_A141G_C312



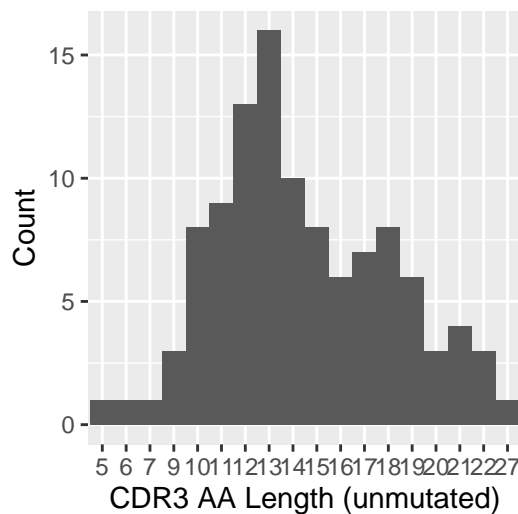
IGHV4-76*01_A81T_G103A



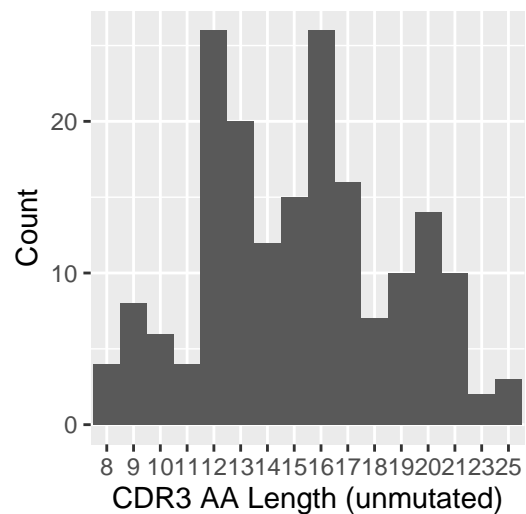
IGHV4-127*01_T82G_A83G



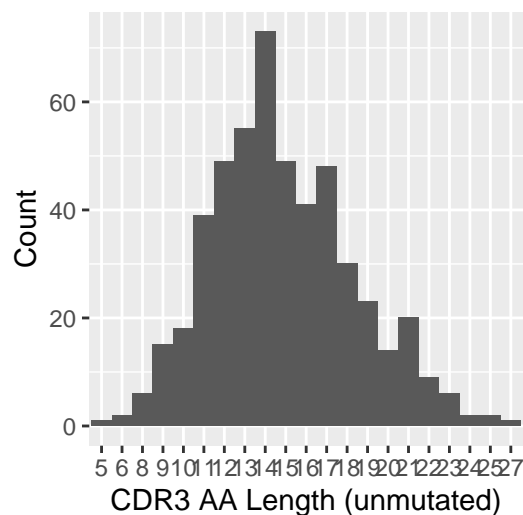
IGHV4S13*01_G163A_C210



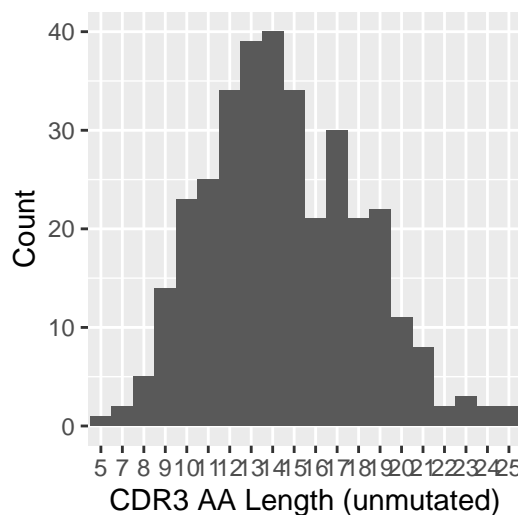
IGHV5-43*01_A106G



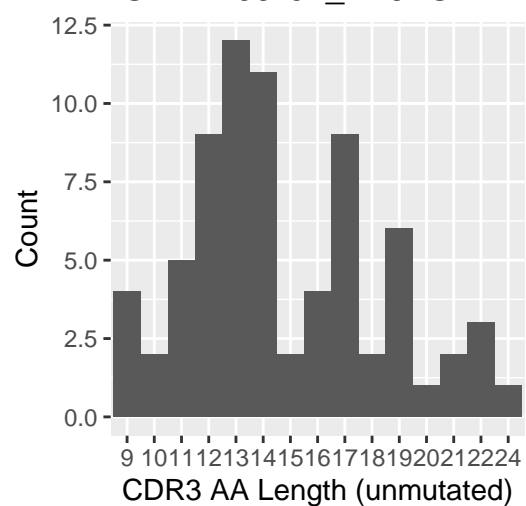
IGHV4-160*01_A106G_A106G



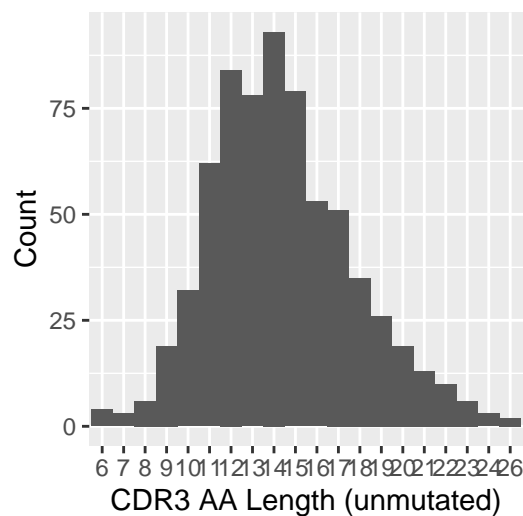
IGHV4S2*01_G133T_T239G



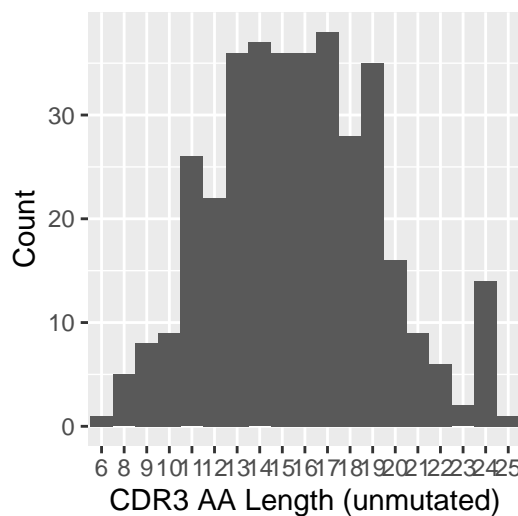
IGHV2-95*01_A267G



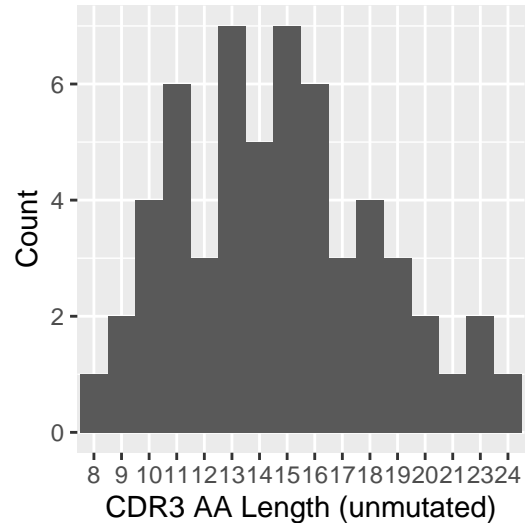
IGHV4S10*01_A48G_T112C



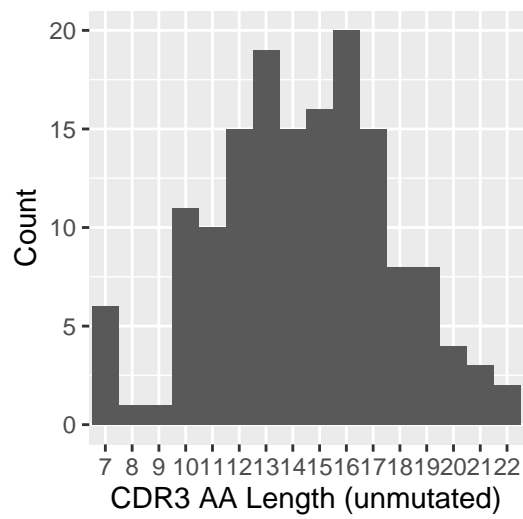
IGHV5-43*01_A51G



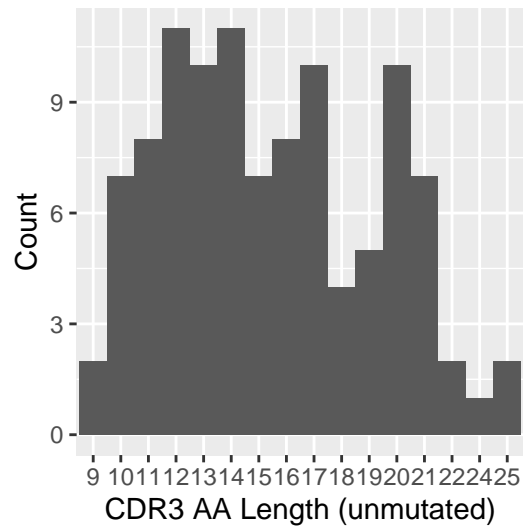
IGHV2-174*01_C6G_C92G_C



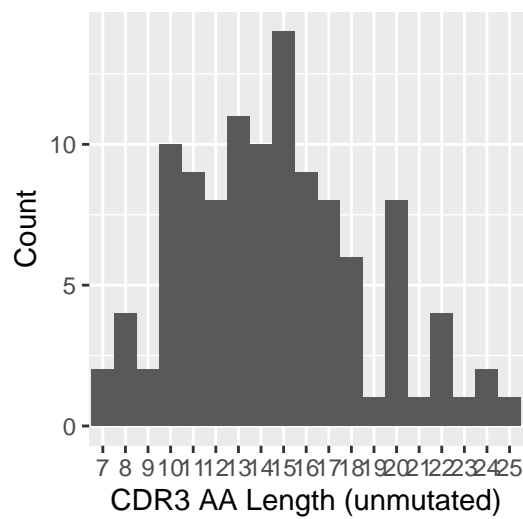
IGHV3-178*02_A274G



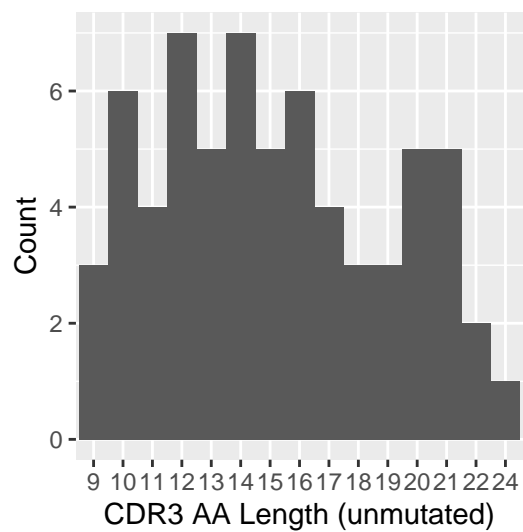
IGHV6-1*01_C167T

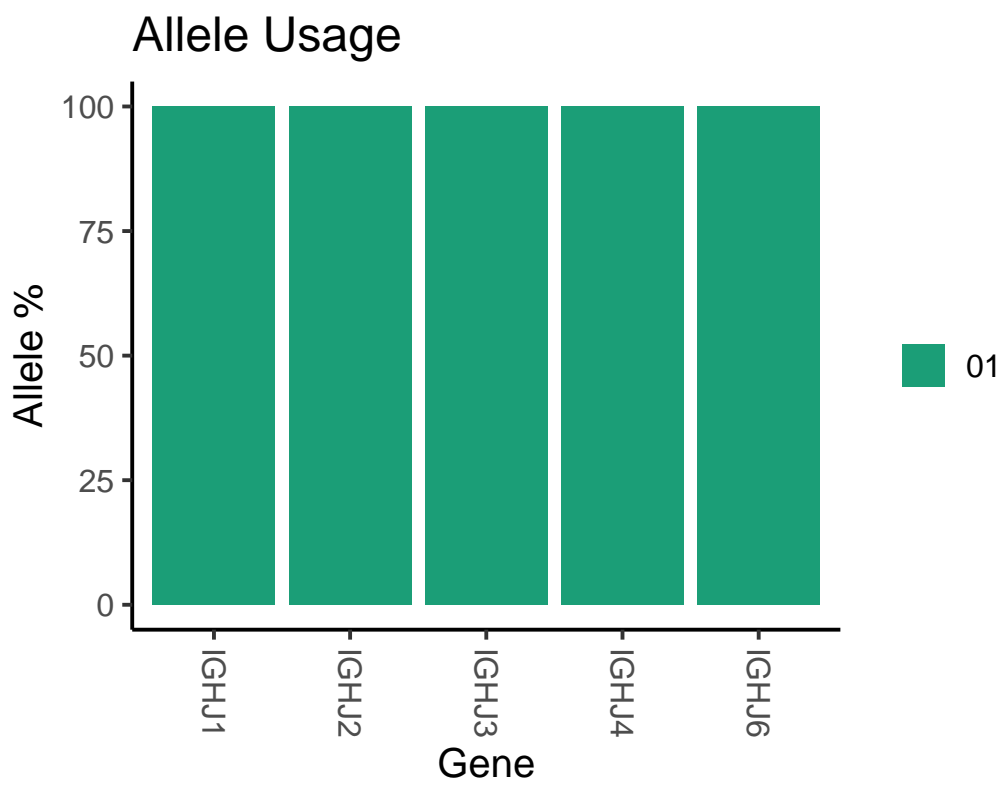


IGHV4-165*02_C205T



IGHV6-1*01_C167T_G280T





Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.