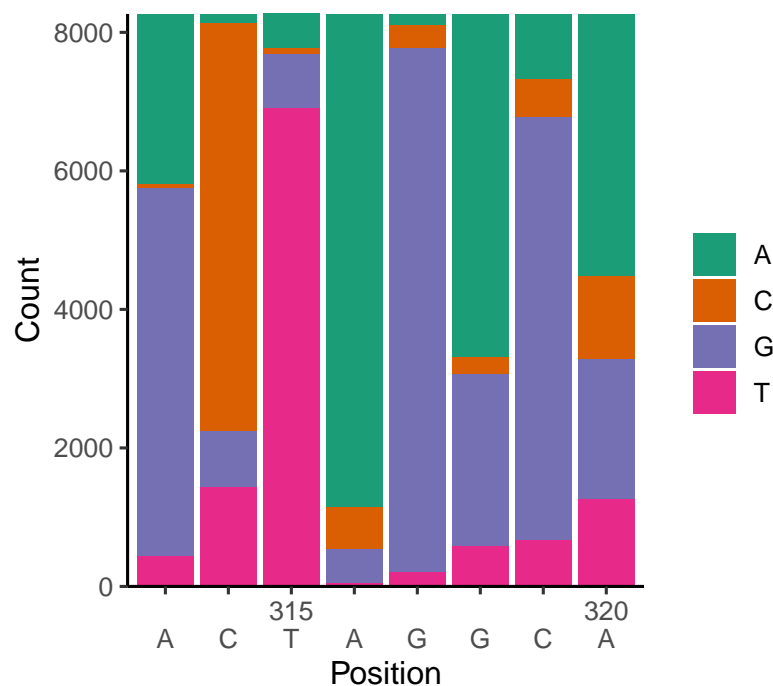
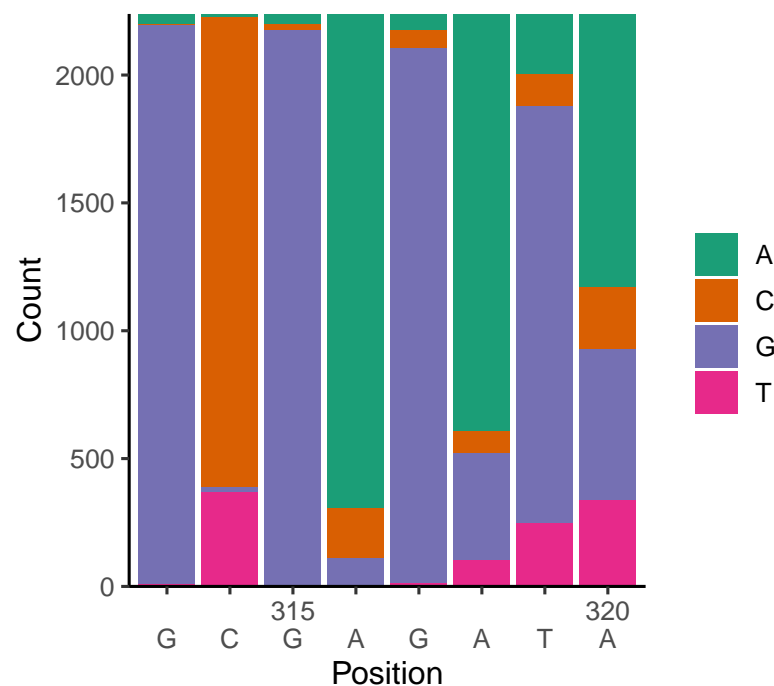


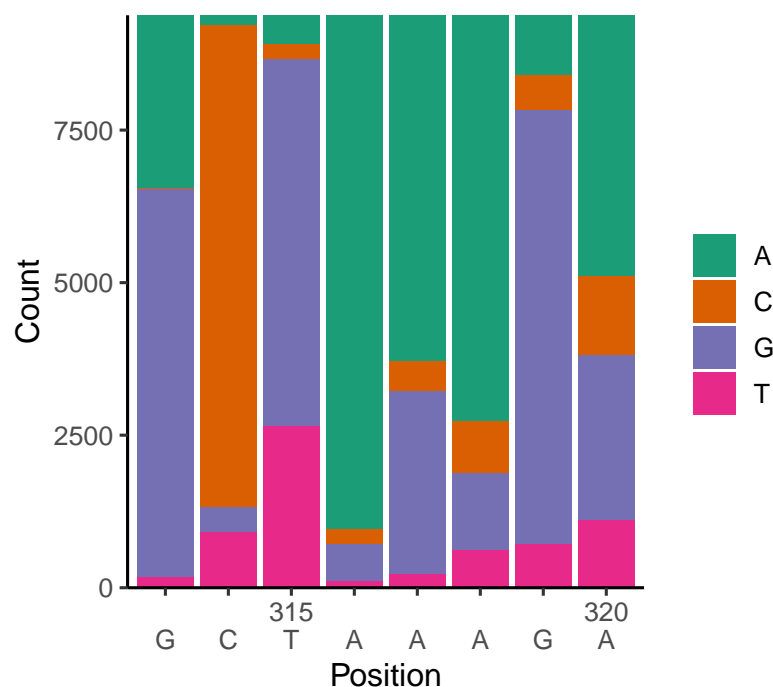
Gene IGHV3-116\*01\_G24A\_A159G\_A2:



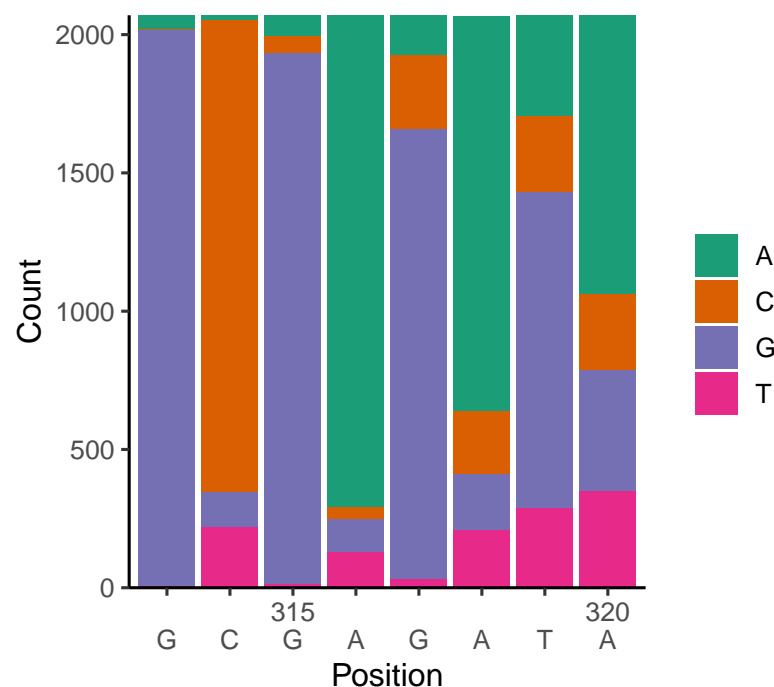
Gene IGHV4-80\*01\_G70A\_C90T\_T109A



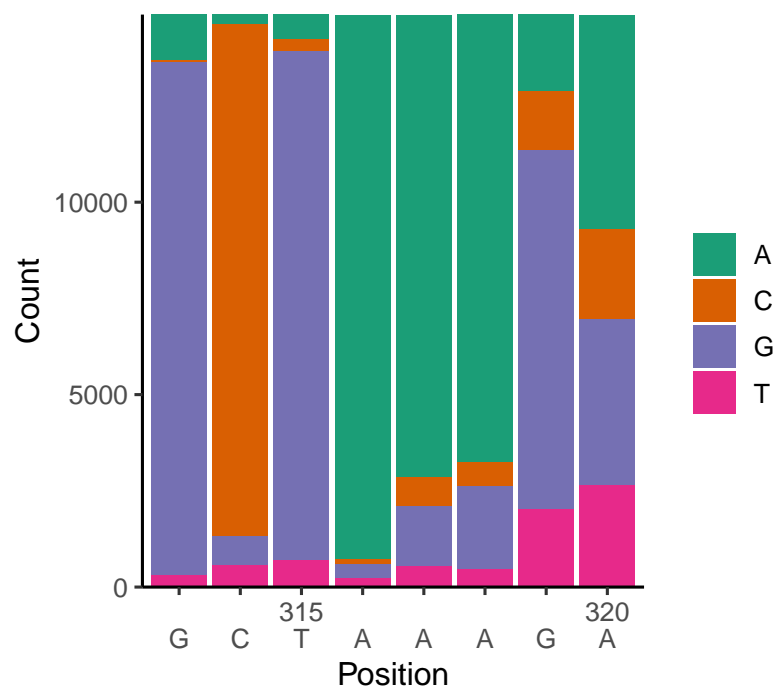
Gene IGHV3S42\*01\_T120C\_A133G\_G1:



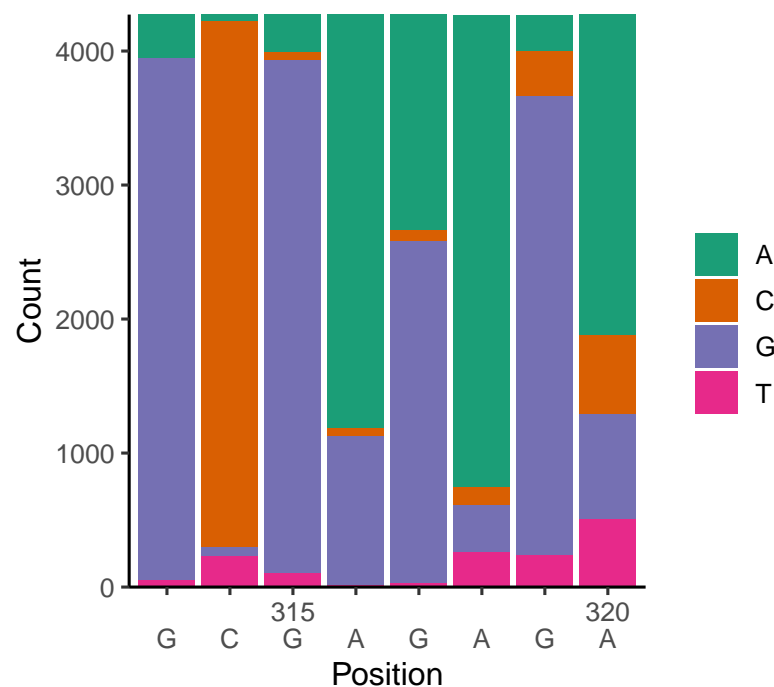
Gene IGHV4-80\*01\_G70A\_T189G\_T190A



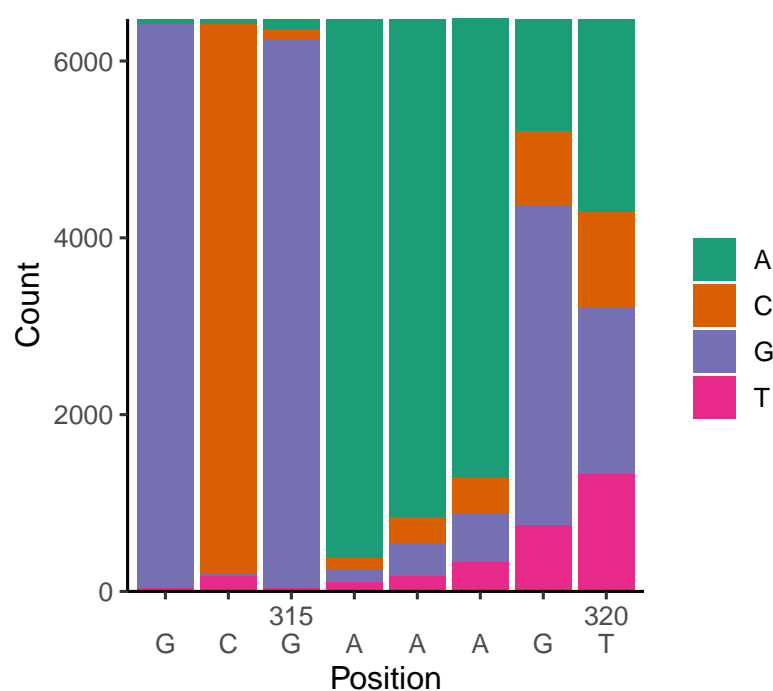
Gene IGHV3S42\*01\_T19A\_G24A\_C27A



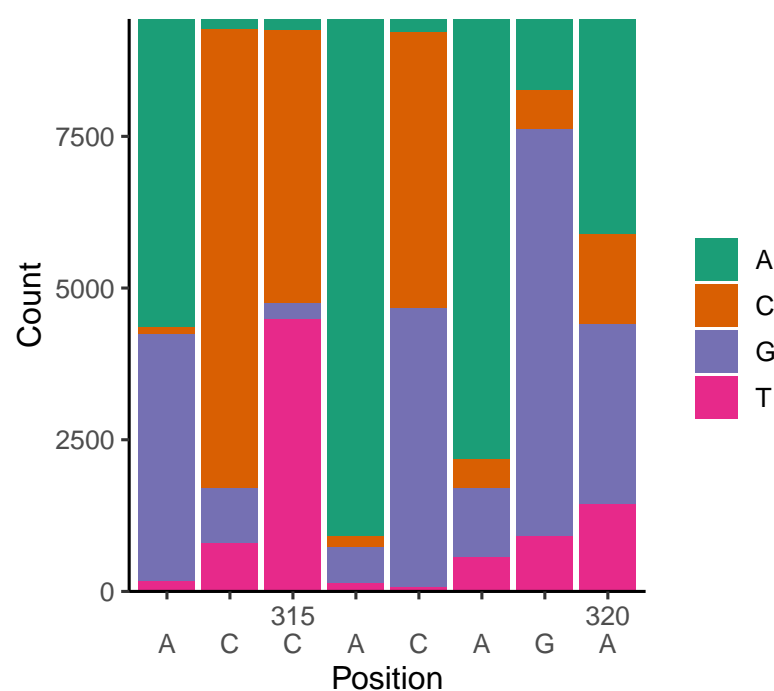
Gene IGHV3-59\*01\_C69T\_T78C\_T109C



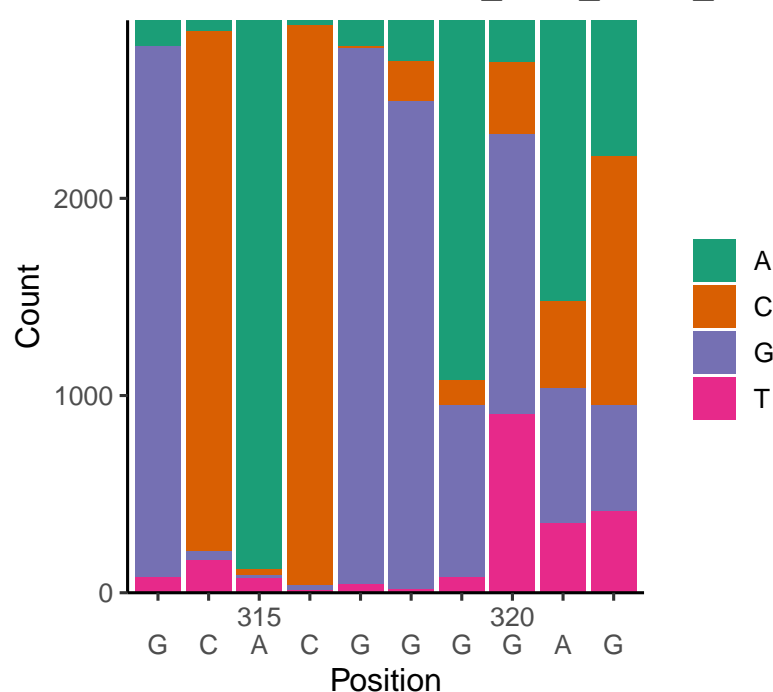
Gene IGHV5-43\*01\_A51G



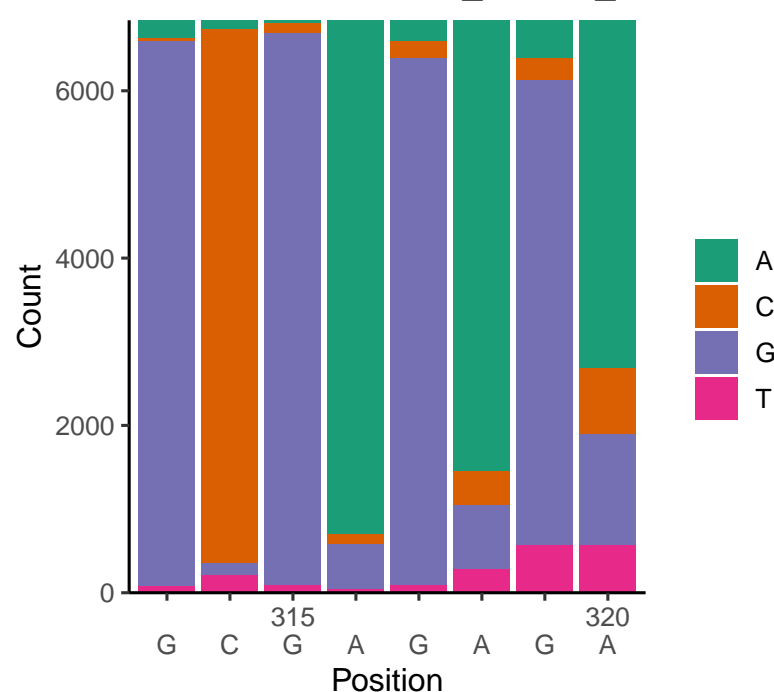
Gene IGHV3-30\*01\_G109T\_T110C\_G20



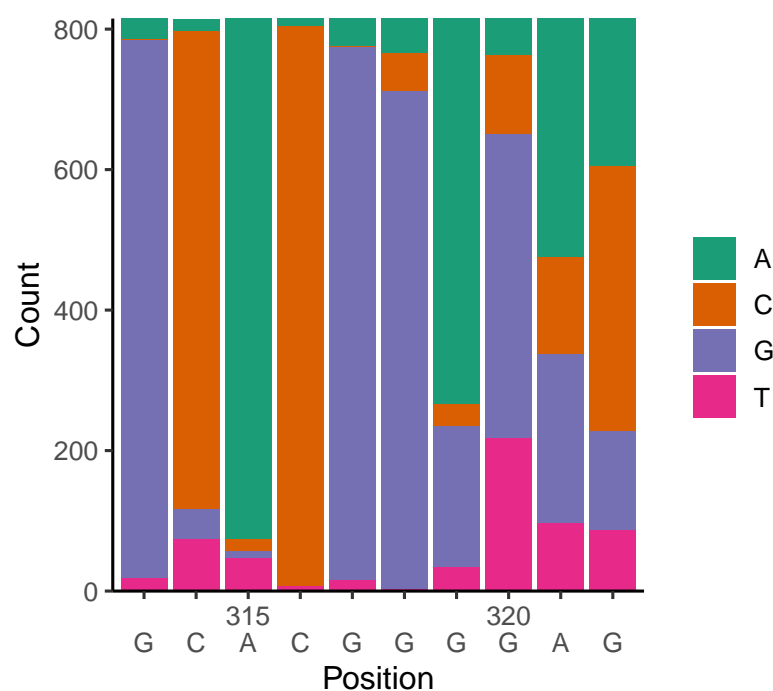
Gene IGHV2-174\*01\_C6G\_C88A\_C92G



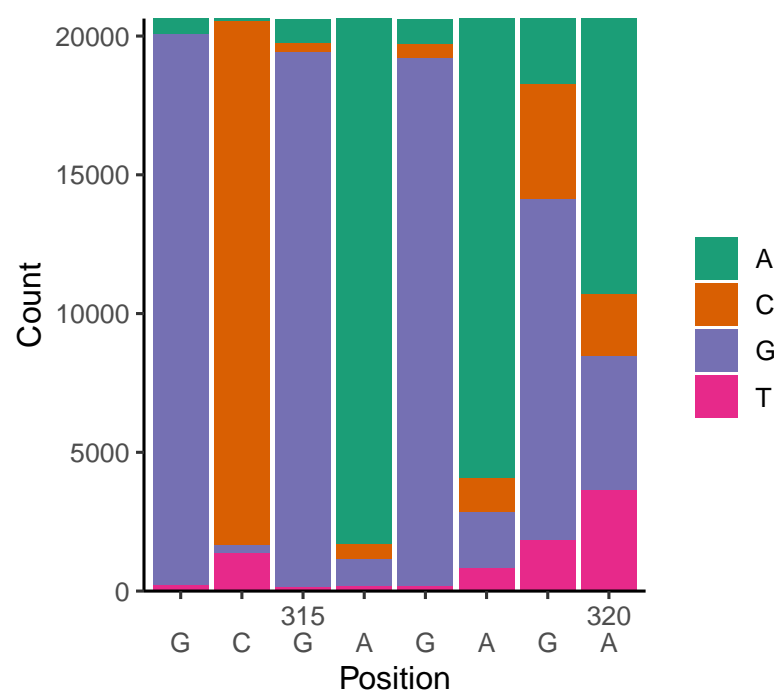
Gene IGHV3-54\*02\_T111C\_G170C



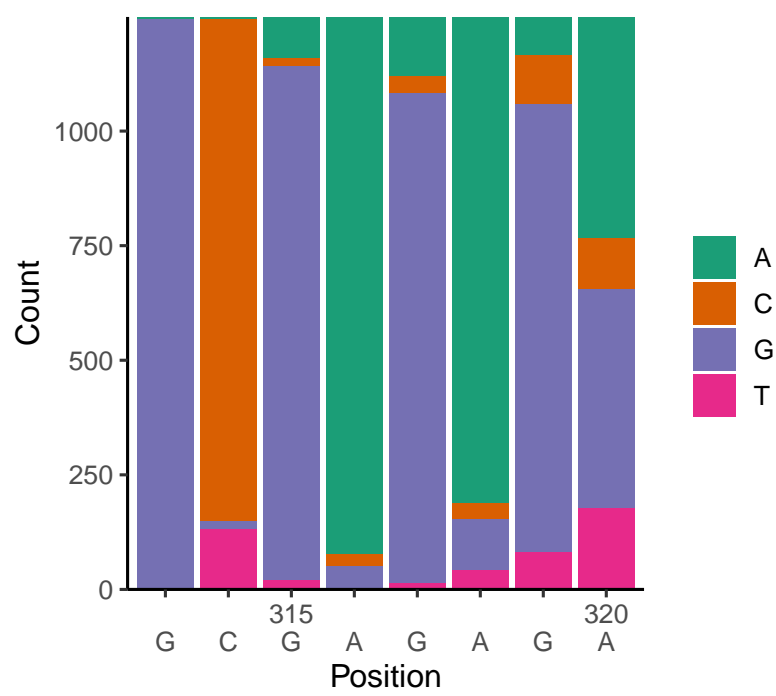
Gene IGHV2-174\*01\_C6G\_C88A\_C92G\_



Gene IGHV4-160\*01\_G147A



Gene IGHV4-173\*01\_G48A\_C105T\_A113G\_C114G\_G196A\_A197G



Gene IGHV3-116\*01\_G24A\_A159G\_A237C\_T258C\_A262T\_G263A



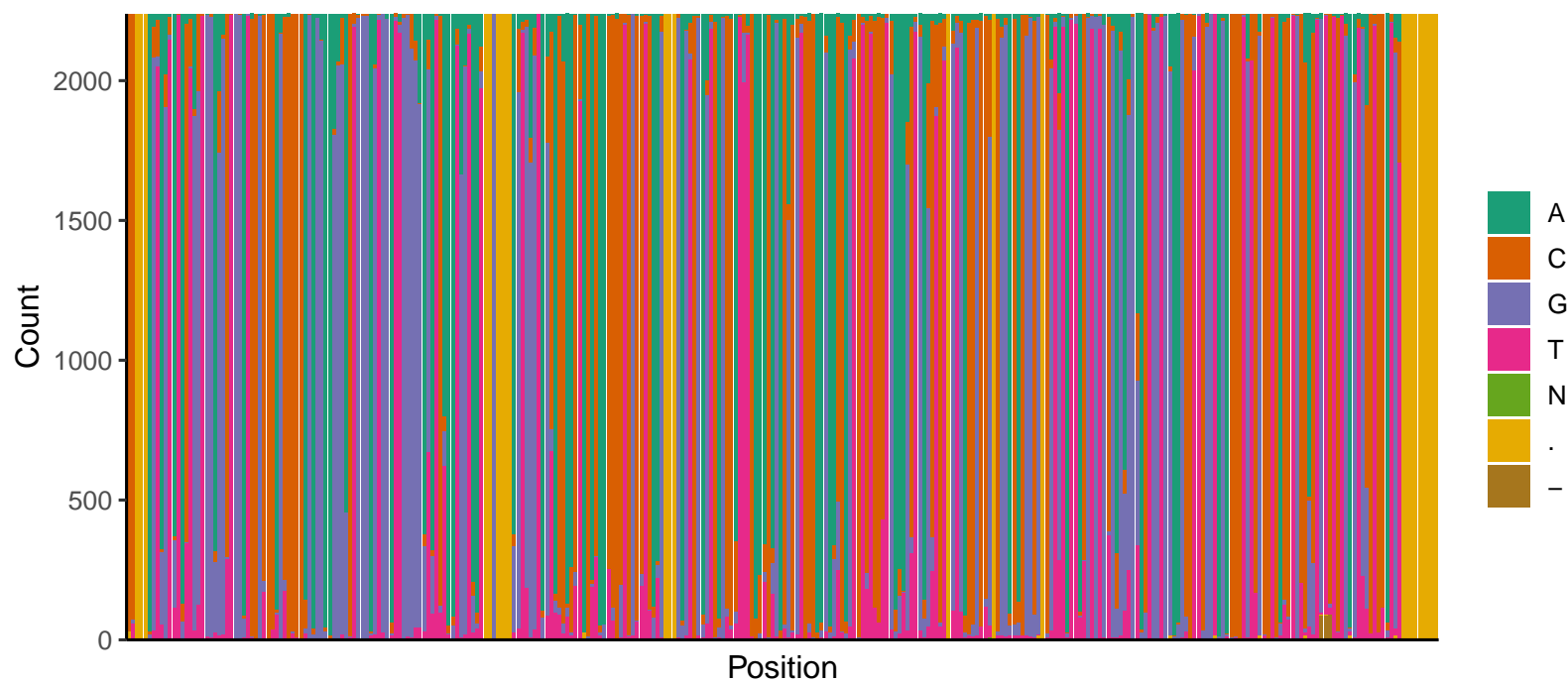
Gene IGHV3S42\*01\_T120C\_A133G\_G141A\_A157G\_G186T\_T288G



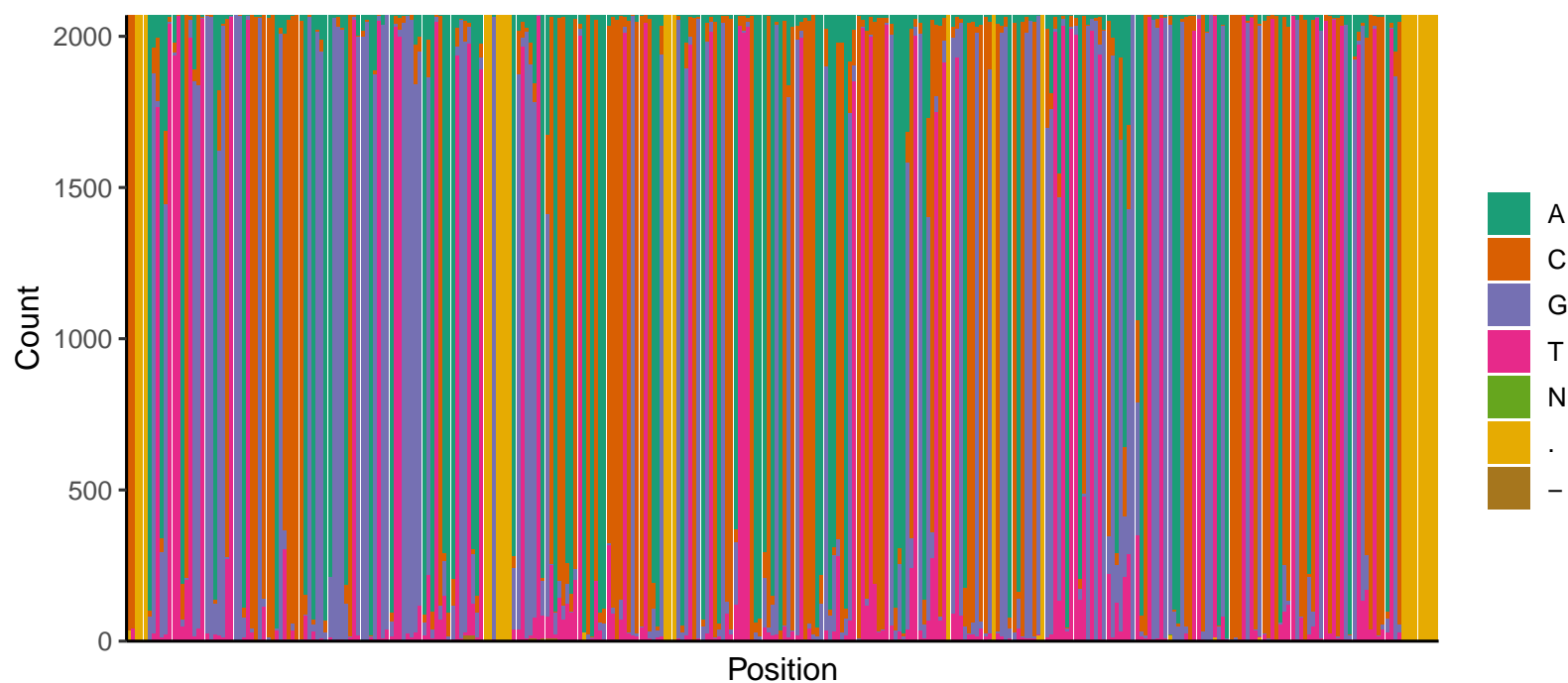
Gene IGHV3S42\*01\_T19A\_G24A\_C27A\_C38T\_A39C\_A40C\_G59A\_C111T\_T112G\_G1



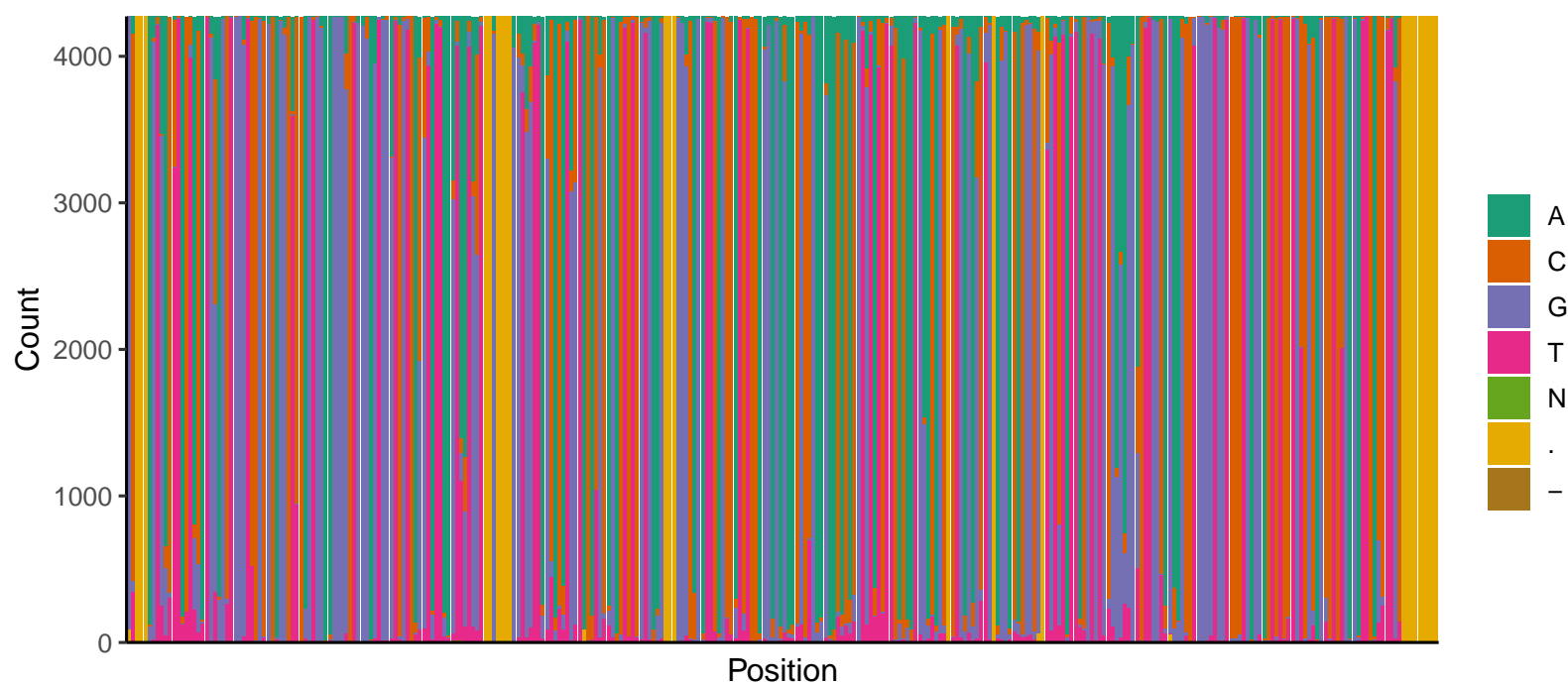
Gene IGHV4-80\*01\_G70A\_C90T\_T109A\_T189G\_T196A



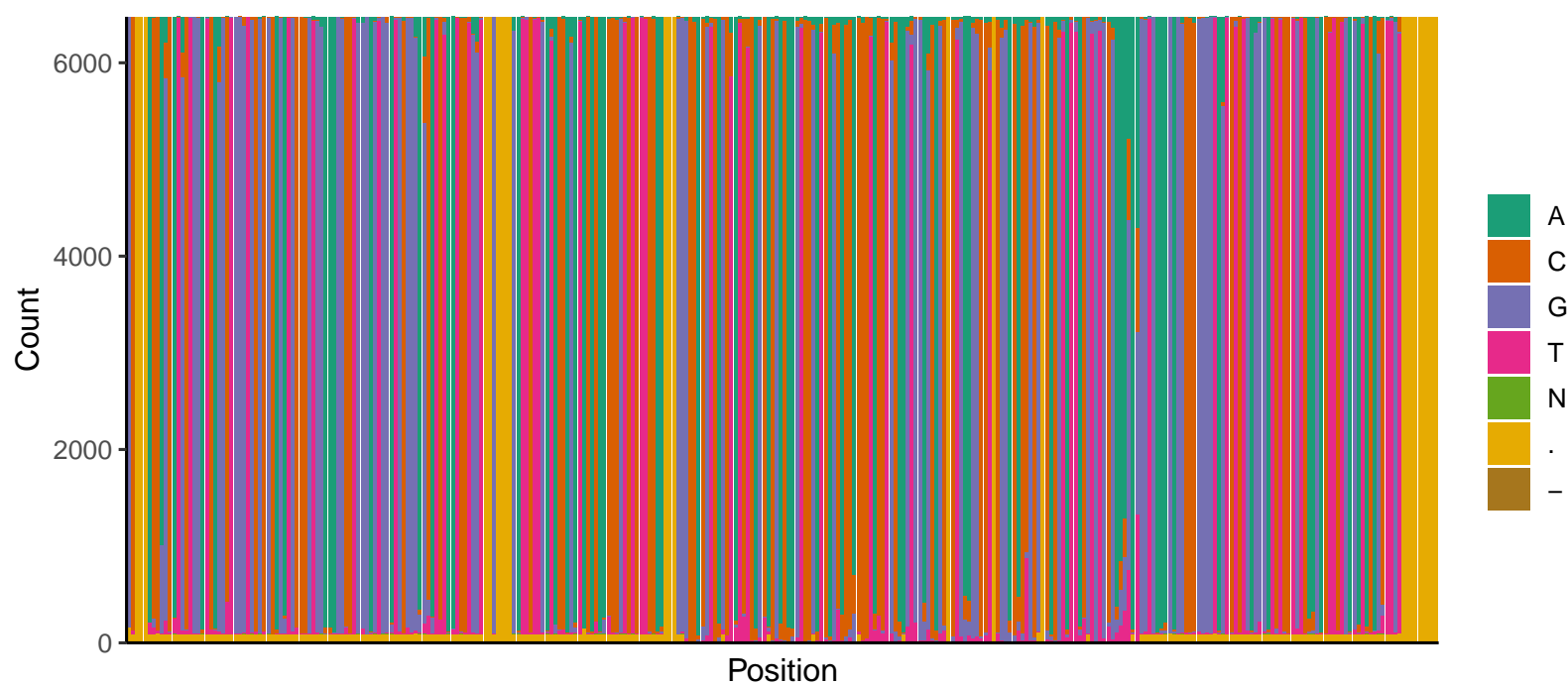
Gene IGHV4-80\*01\_G70A\_T189G\_T196A\_C300G



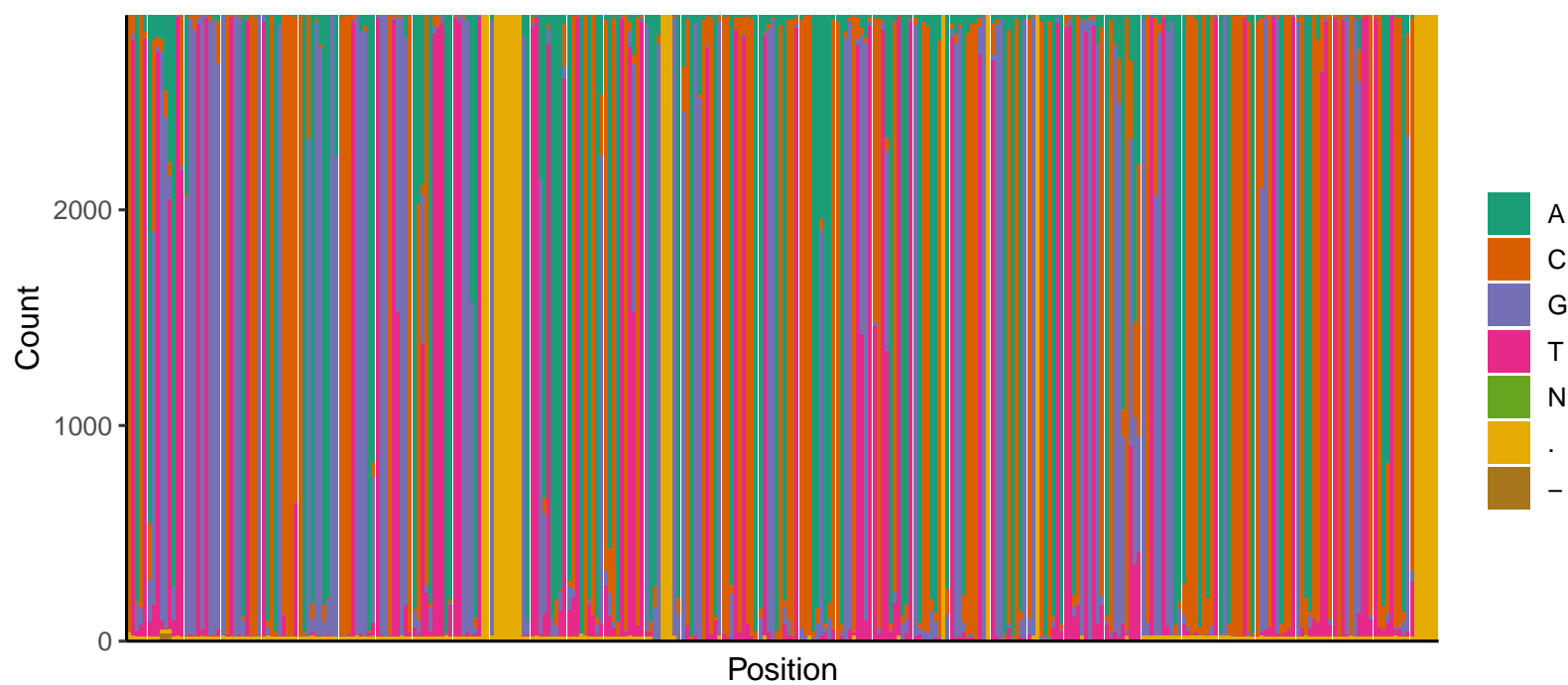
Gene IGHV3-59\*01\_C69T\_T78C\_T109C\_C163G\_A172T\_G175A\_G176C



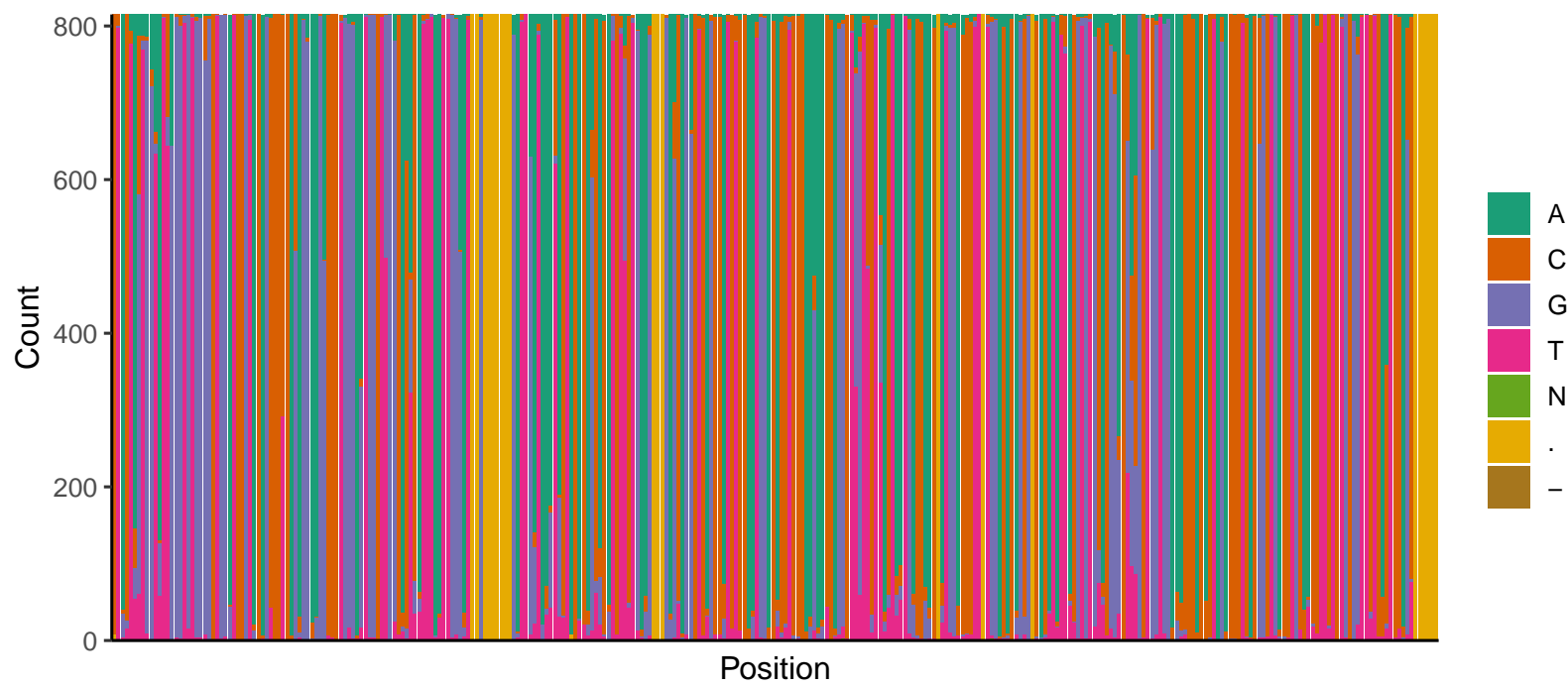
Gene IGHV5-43\*01\_A51G



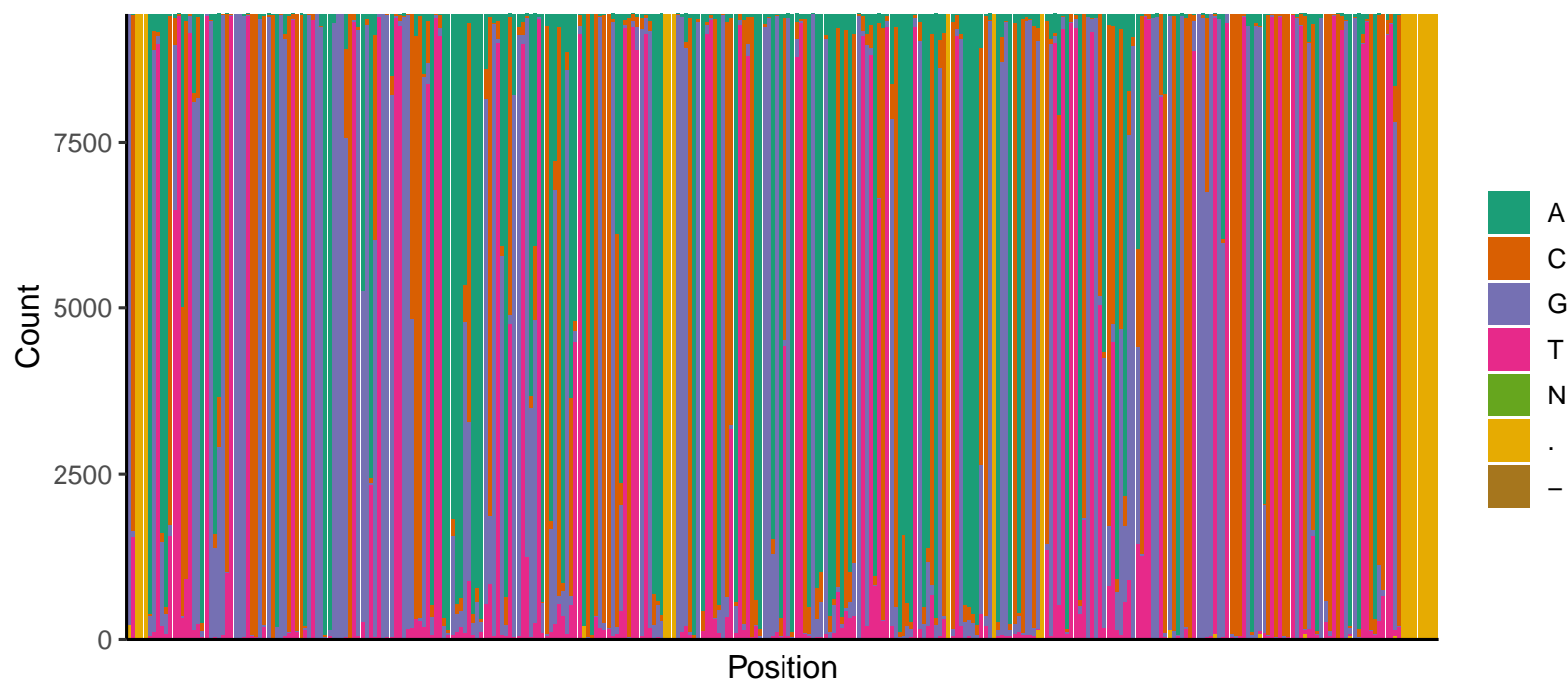
Gene IGHV2-174\*01\_C6G\_C88A\_C92G\_G153A\_G195A\_C196T\_G197A



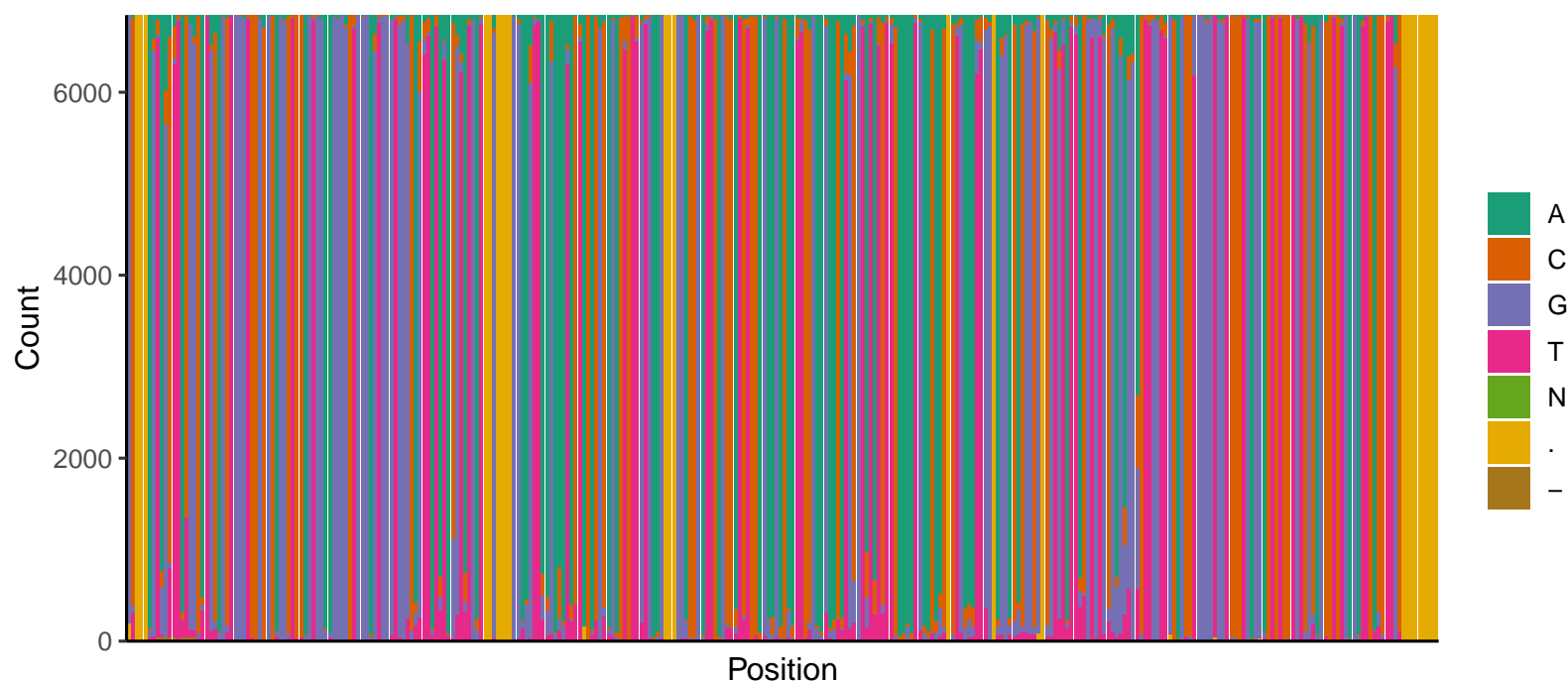
Gene IGHV2-174\*01\_C6G\_C88A\_C92G\_G153A\_G195A\_C196T\_G197A\_G289T



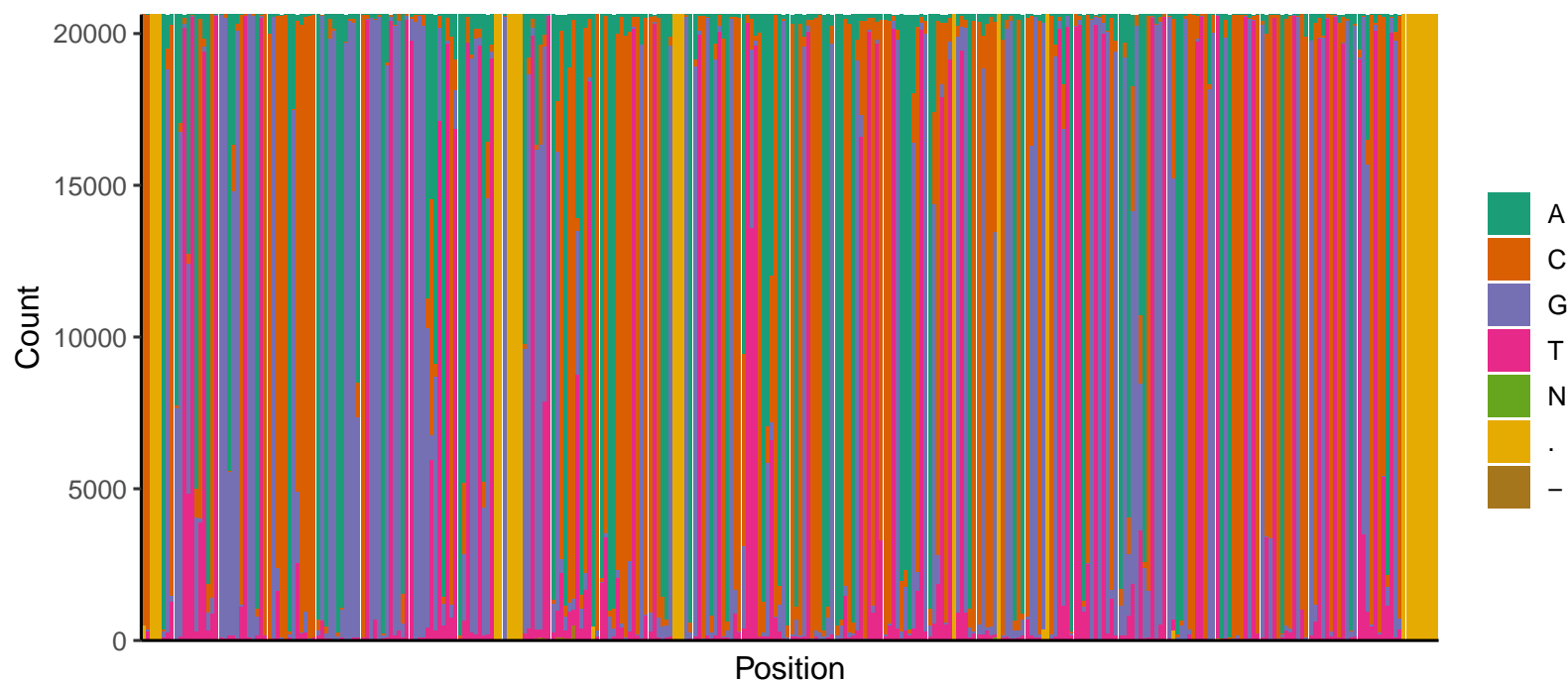
Gene IGHV3-30\*01\_G109T\_T110C\_G207A\_C264T



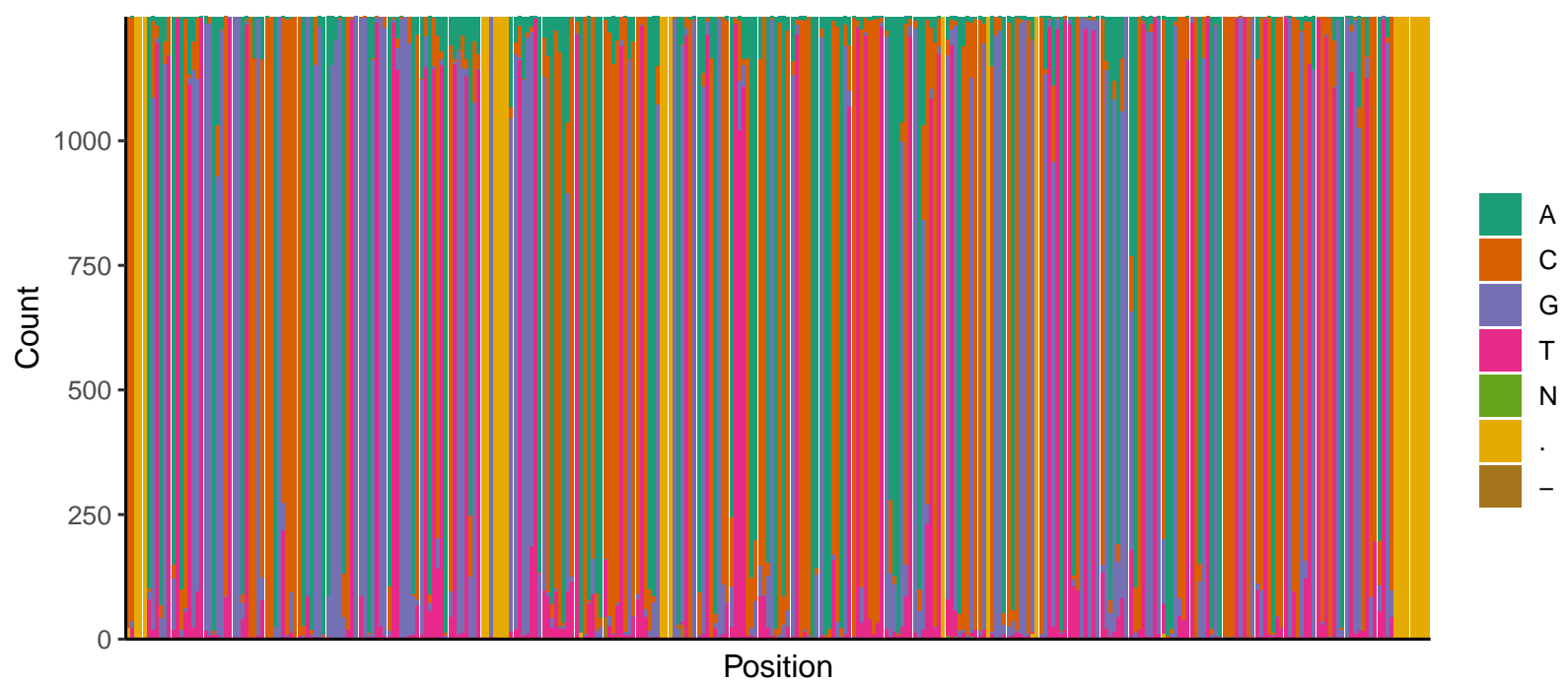
Gene IGHV3-54\*02\_T111C\_G170C



Gene IGHV4-160\*01\_G147A

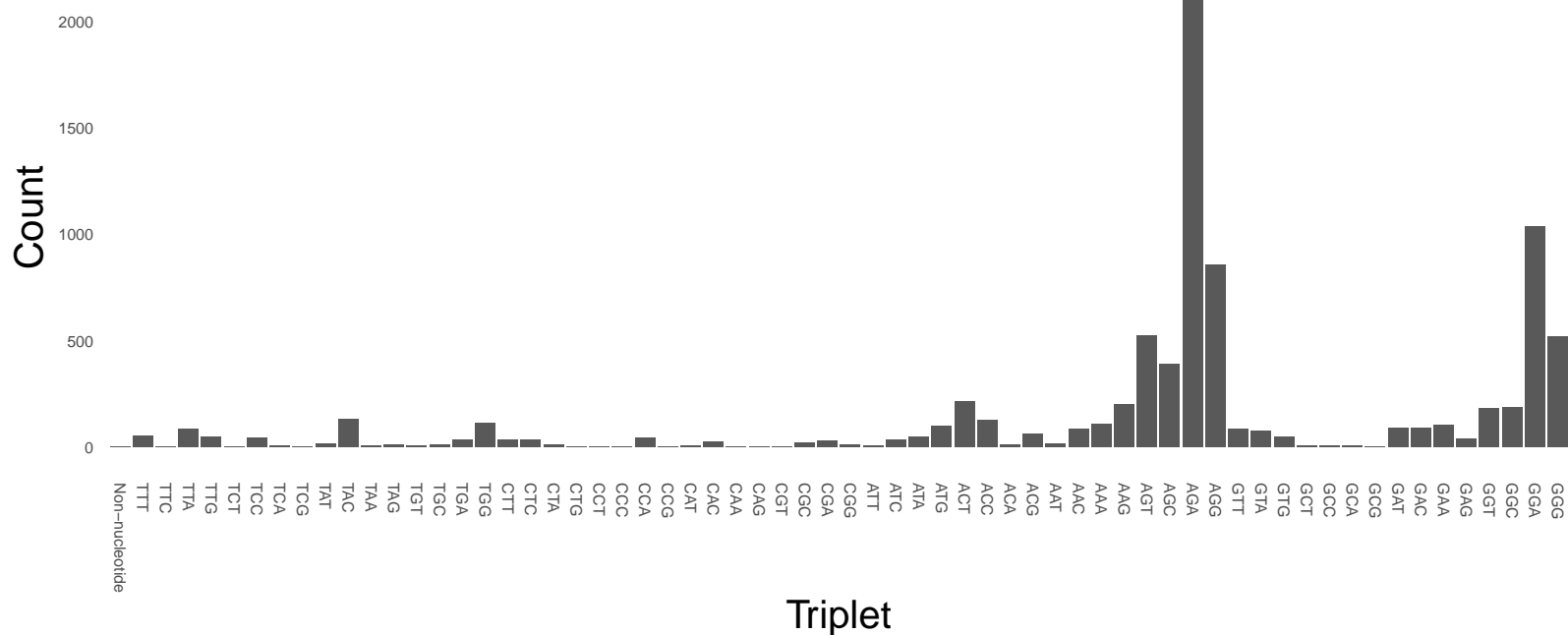


Gene IGHV4-173\*01\_G48A\_C105T\_A113G\_C114G\_G196A\_A197G

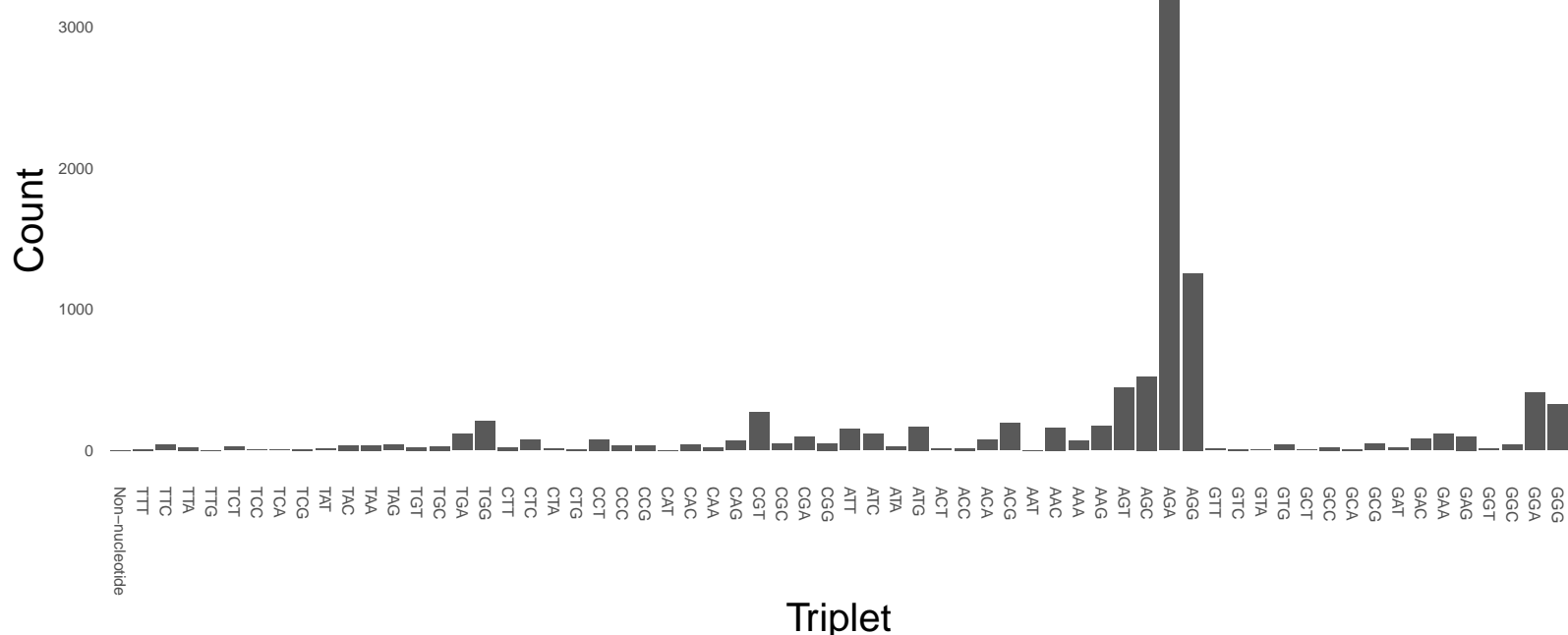




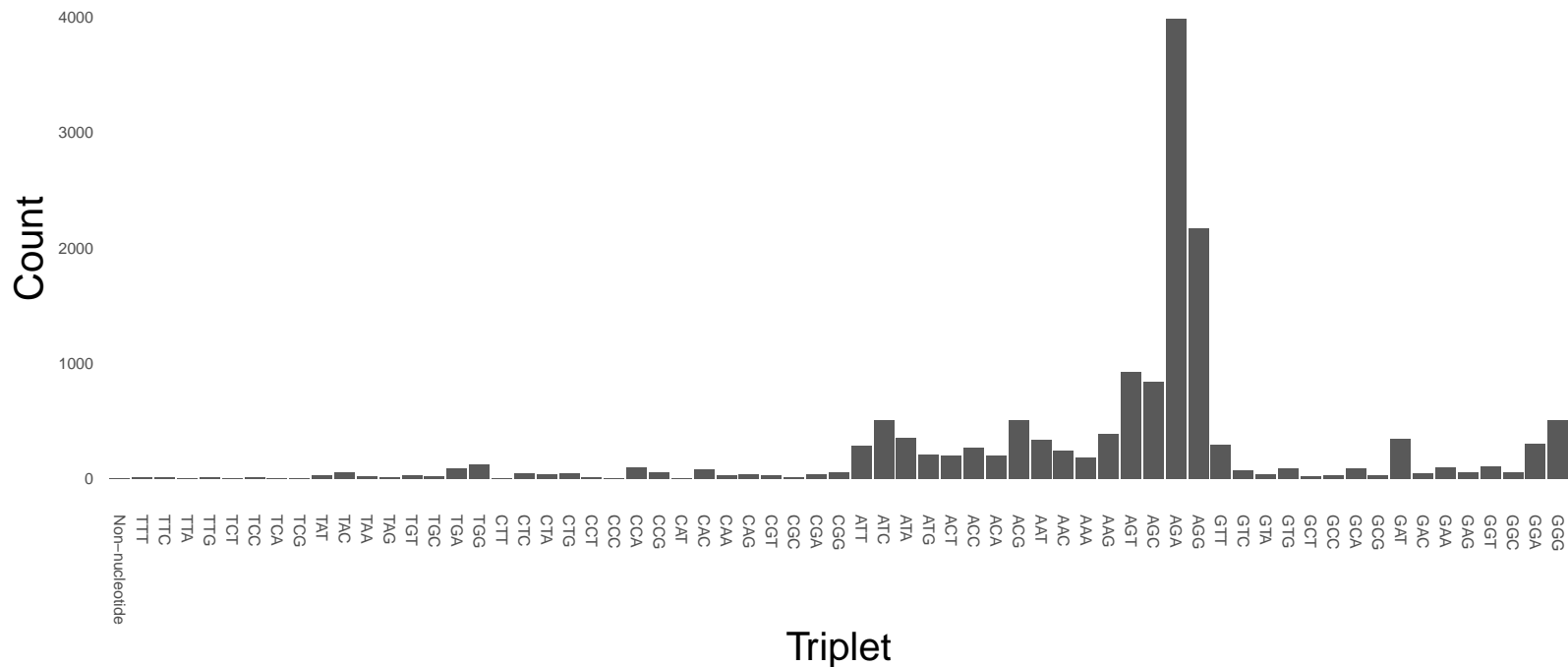
IGHV3-116\*01\_G24A\_A159G\_A237C\_T258C\_A262T\_G263A- Final 3 nucleotides as a triplet



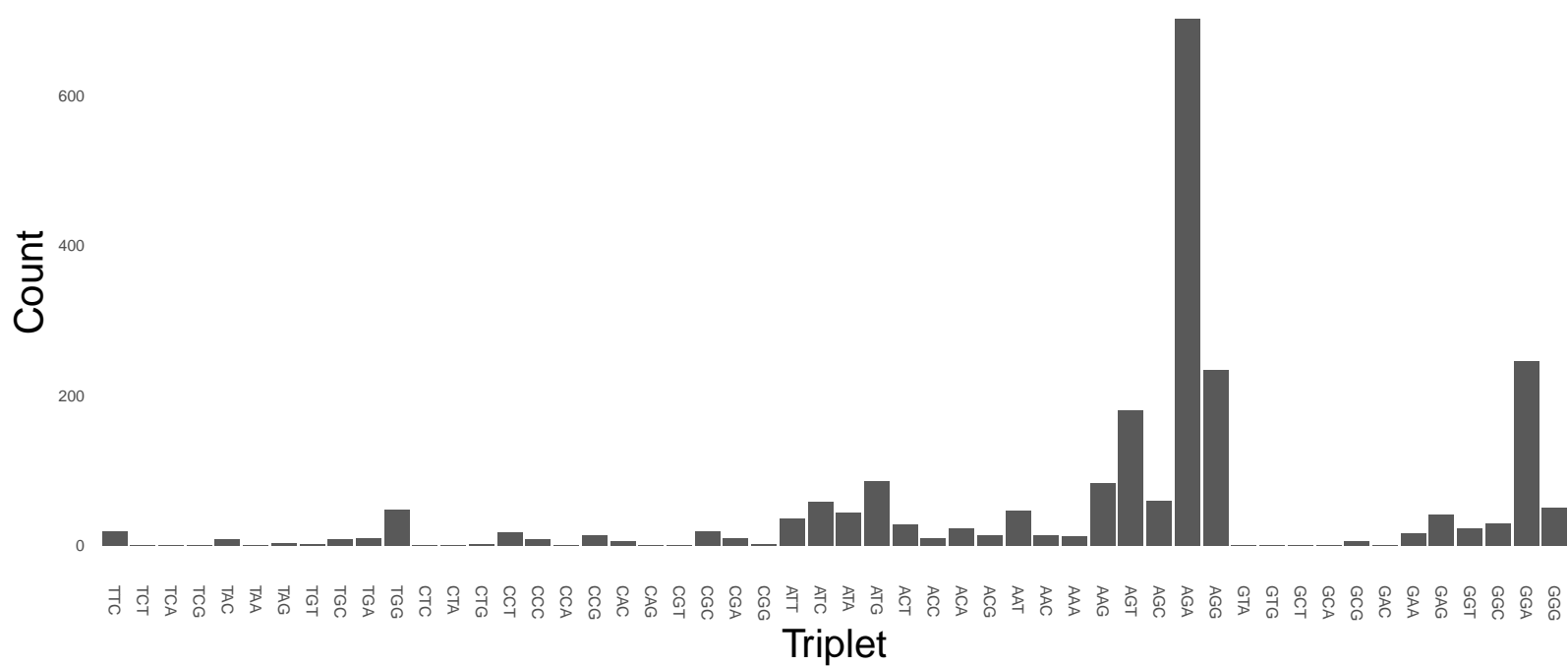
IGHV3S42\*01\_T120C\_A133G\_G141A\_A157G\_G186T\_T288G- Final 3 nucleotides as a triplet



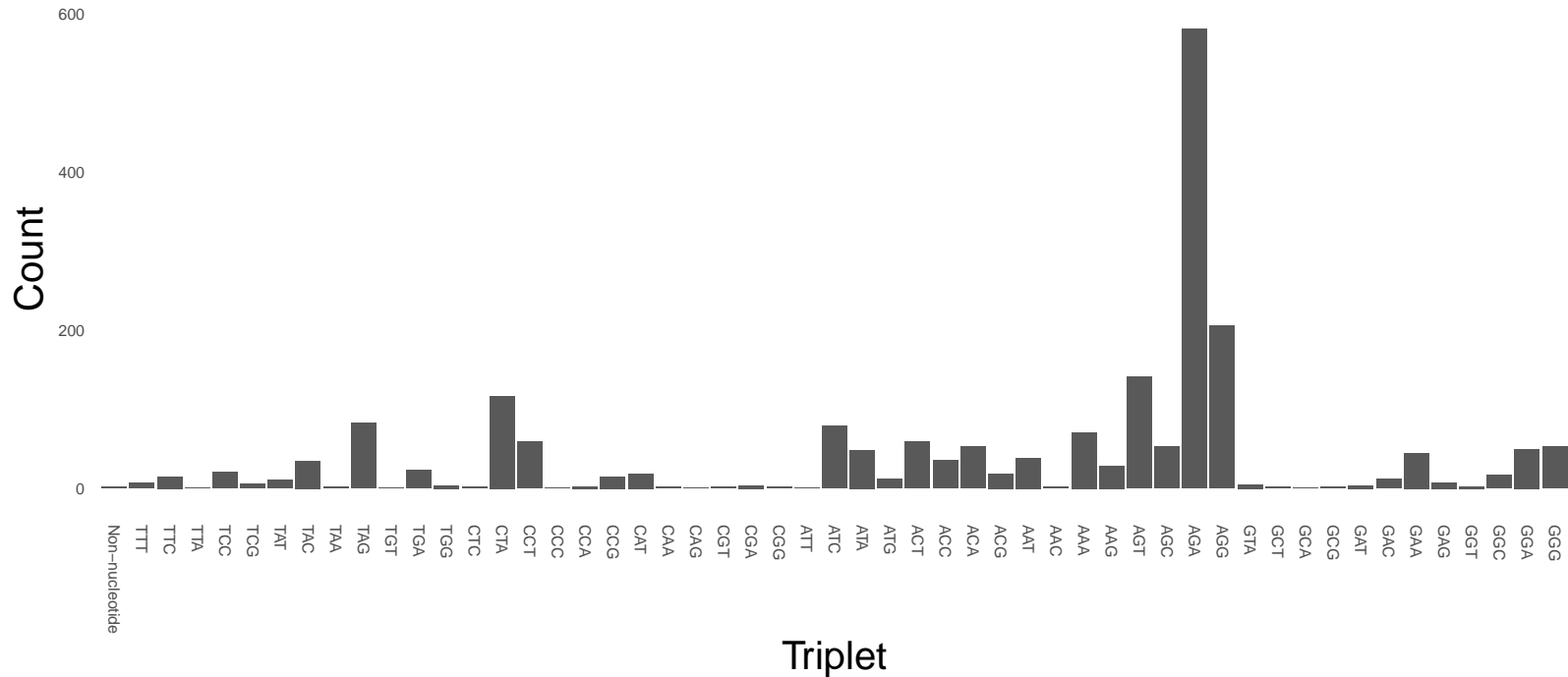
IGHV3S42\*01\_T19A\_G24A\_C27A\_C38T\_A39C\_A40C\_G59A\_C111T\_T112G\_G114C\_A119G\_T120C- Final 3 nucleotides as a triplet



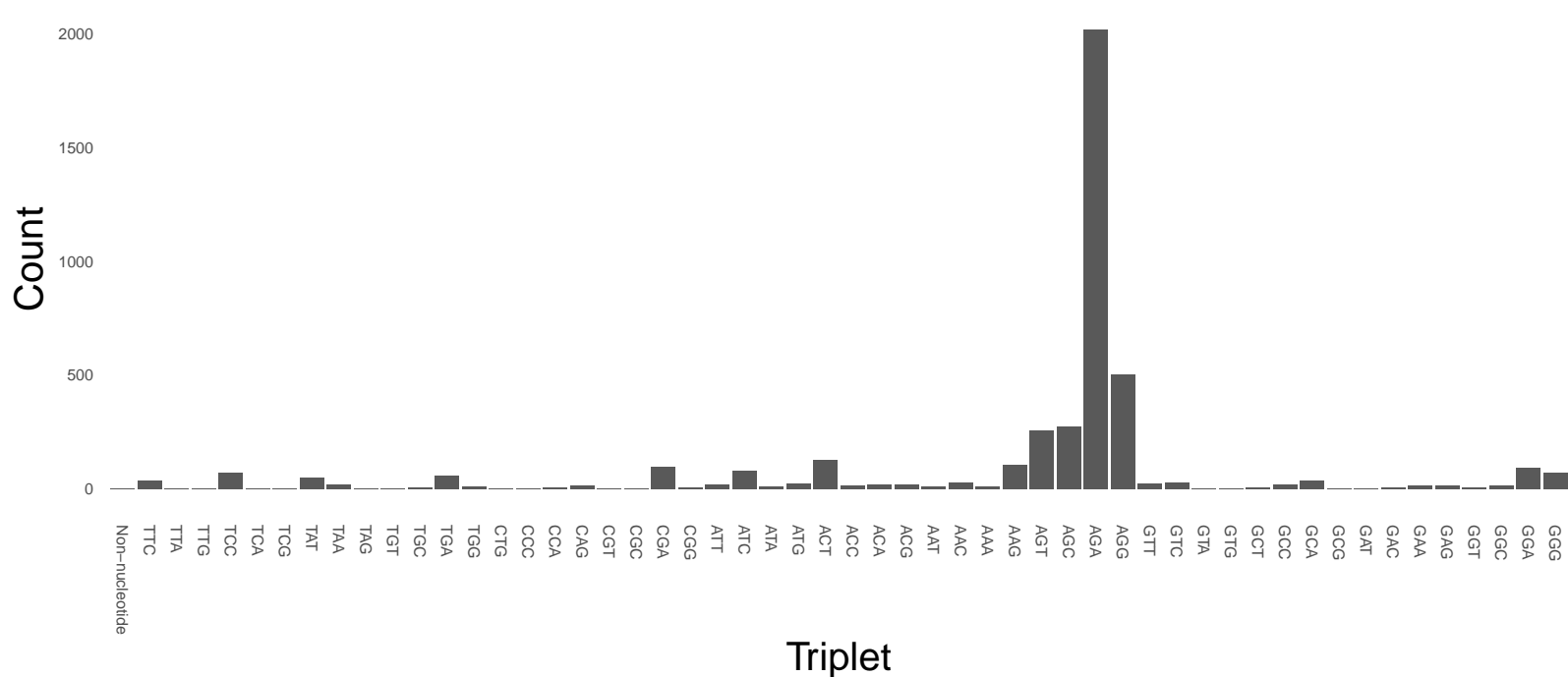
IGHV4-80\*01\_G70A\_C90T\_T109A\_T189G\_T196A- Final 3 nucleotides as a triplet



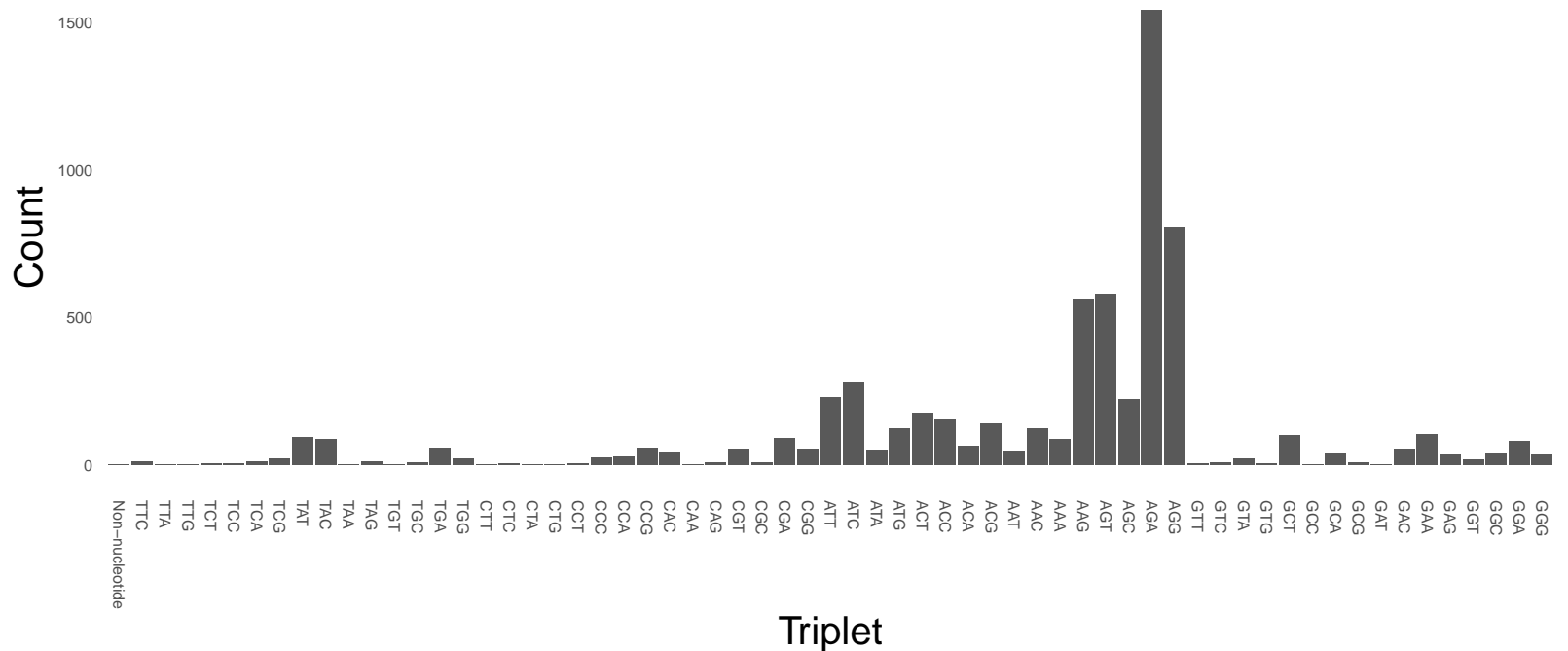
IGHV4-80\*01\_G70A\_T189G\_T196A\_C300G- Final 3 nucleotides as a triplet



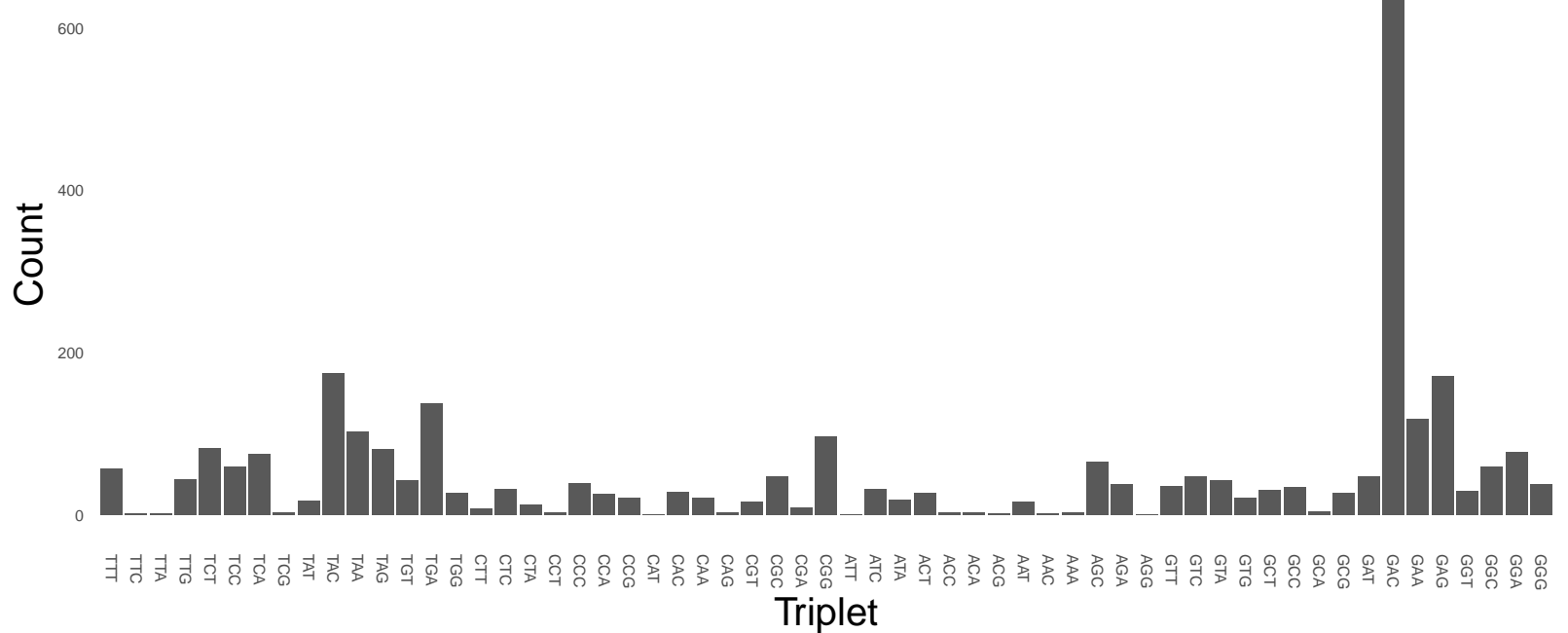
IGHV3-59\*01\_C69T\_T78C\_T109C\_C163G\_A172T\_G175A\_G176C- Final 3 nucleotides as a triplet



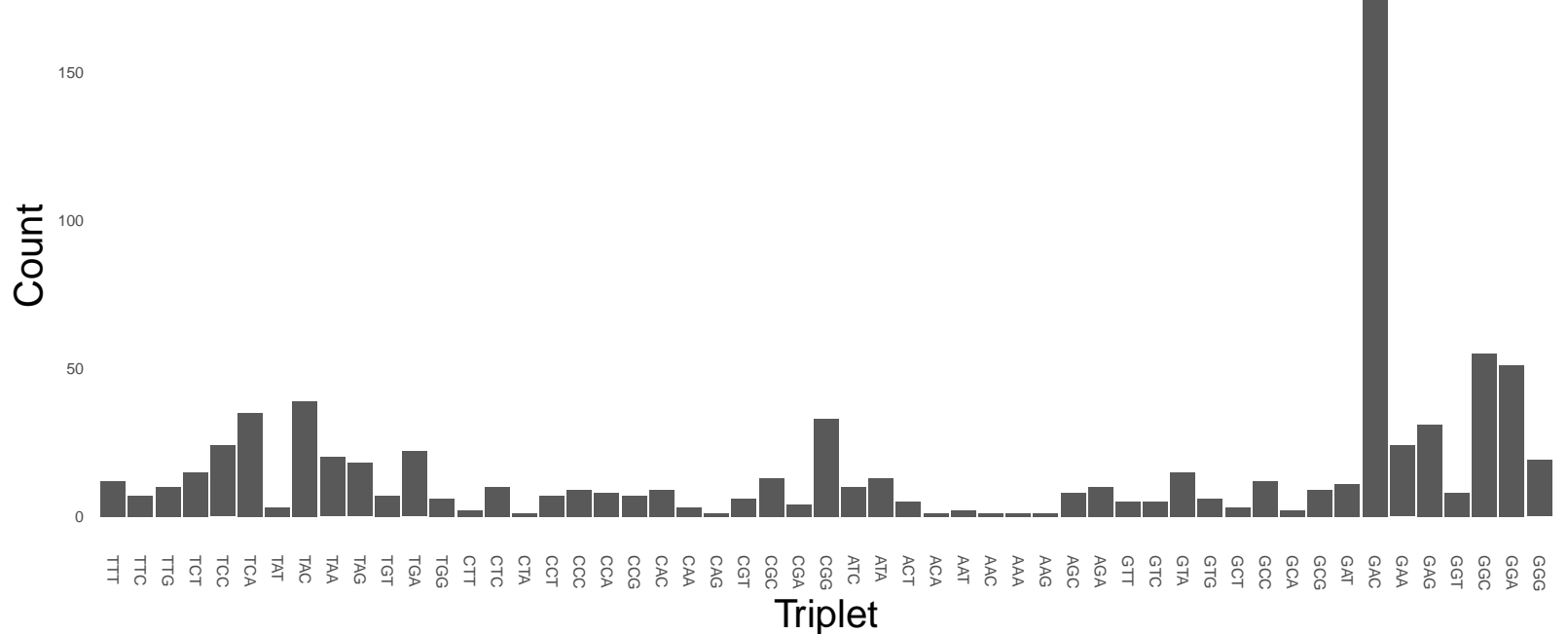
IGHV5-43\*01\_A51G- Final 3 nucleotides as a triplet



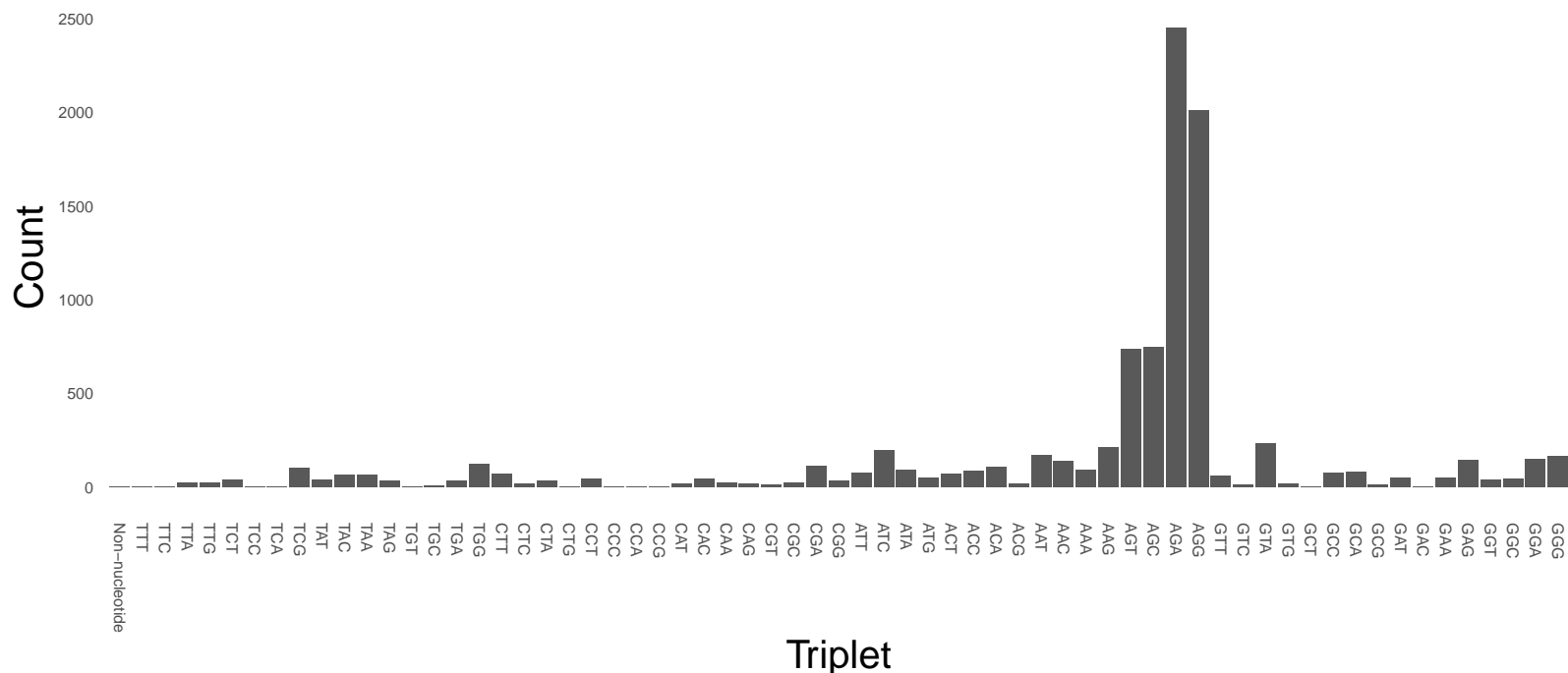
IGHV2-174\*01\_C6G\_C88A\_C92G\_G153A\_G195A\_C196T\_G197A- Final 3 nucleotides as a triplet



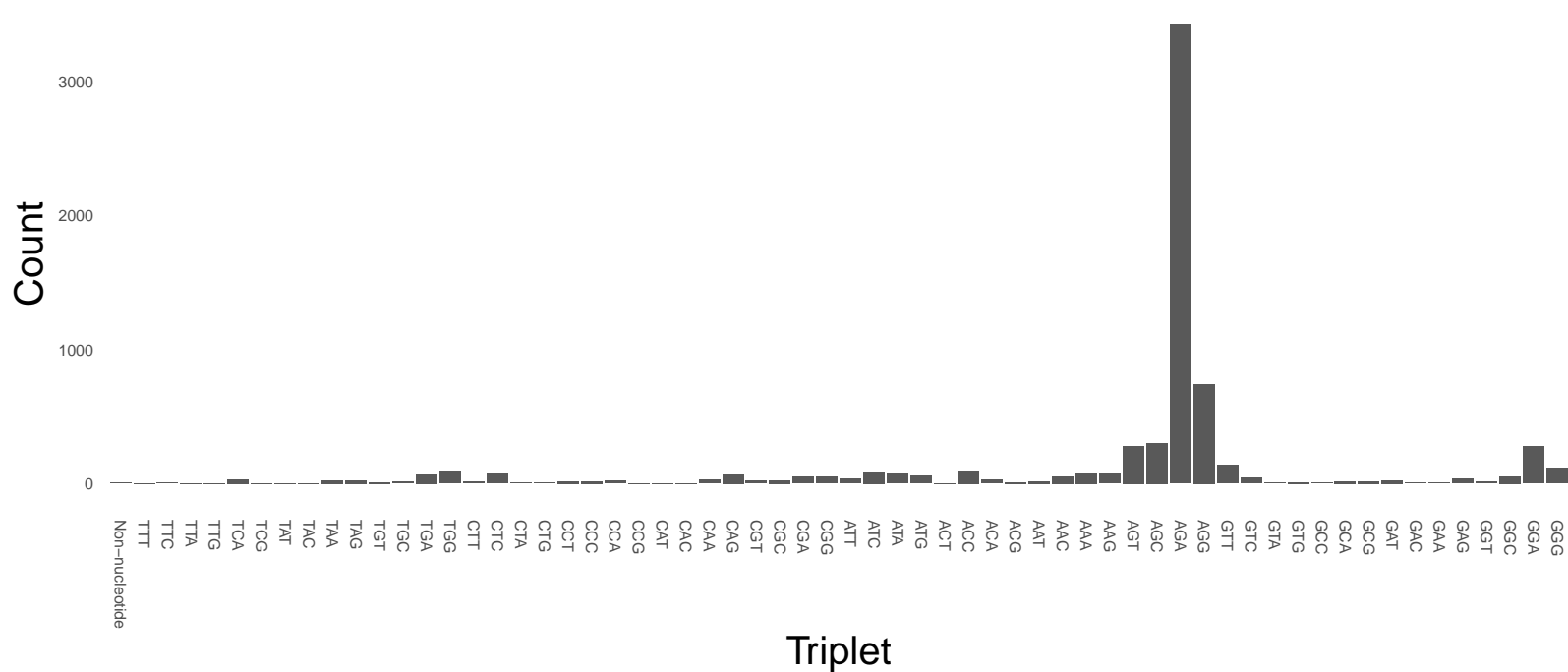
IGHV2-174\*01\_C6G\_C88A\_C92G\_G153A\_G195A\_C196T\_G197A\_G289T- Final 3 nucleotides as a triplet



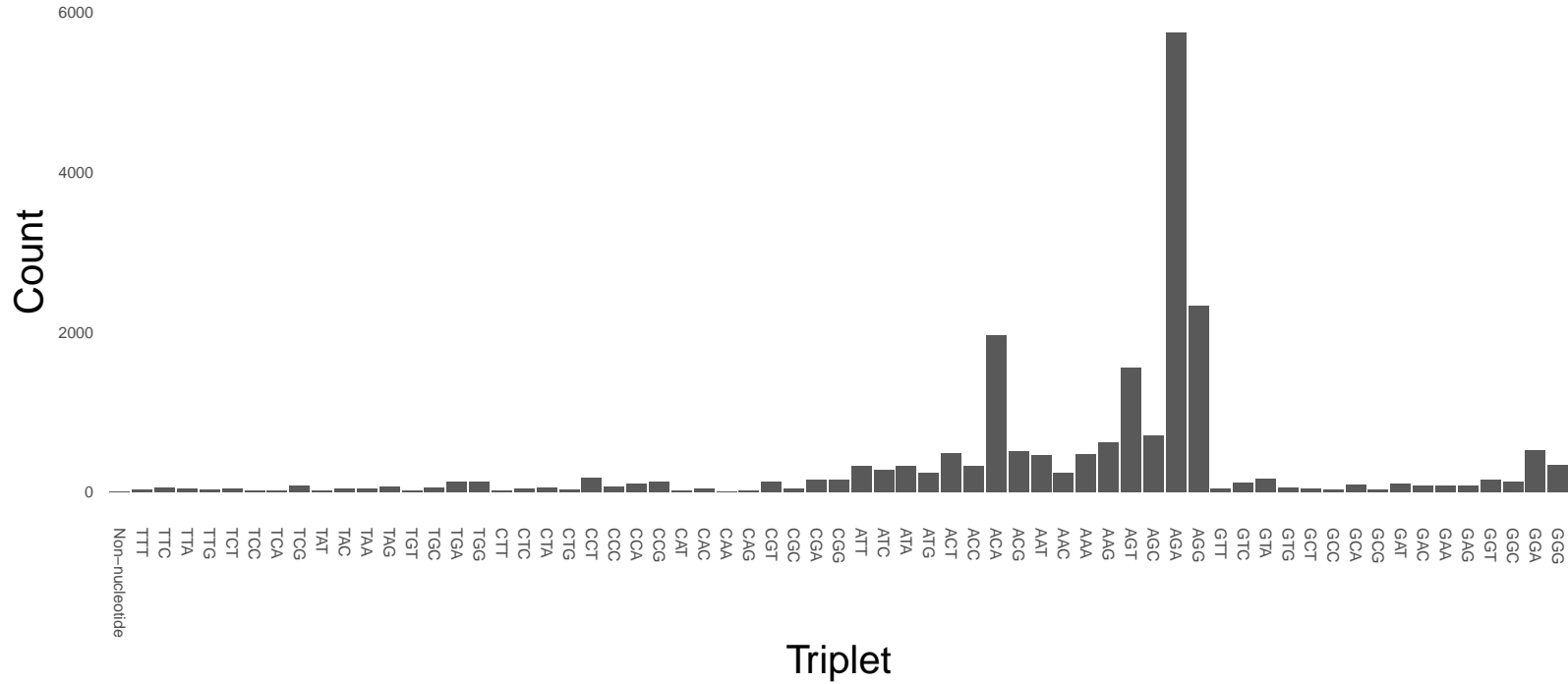
IGHV3-30\*01\_G109T\_T110C\_G207A\_C264T- Final 3 nucleotides as a triplet



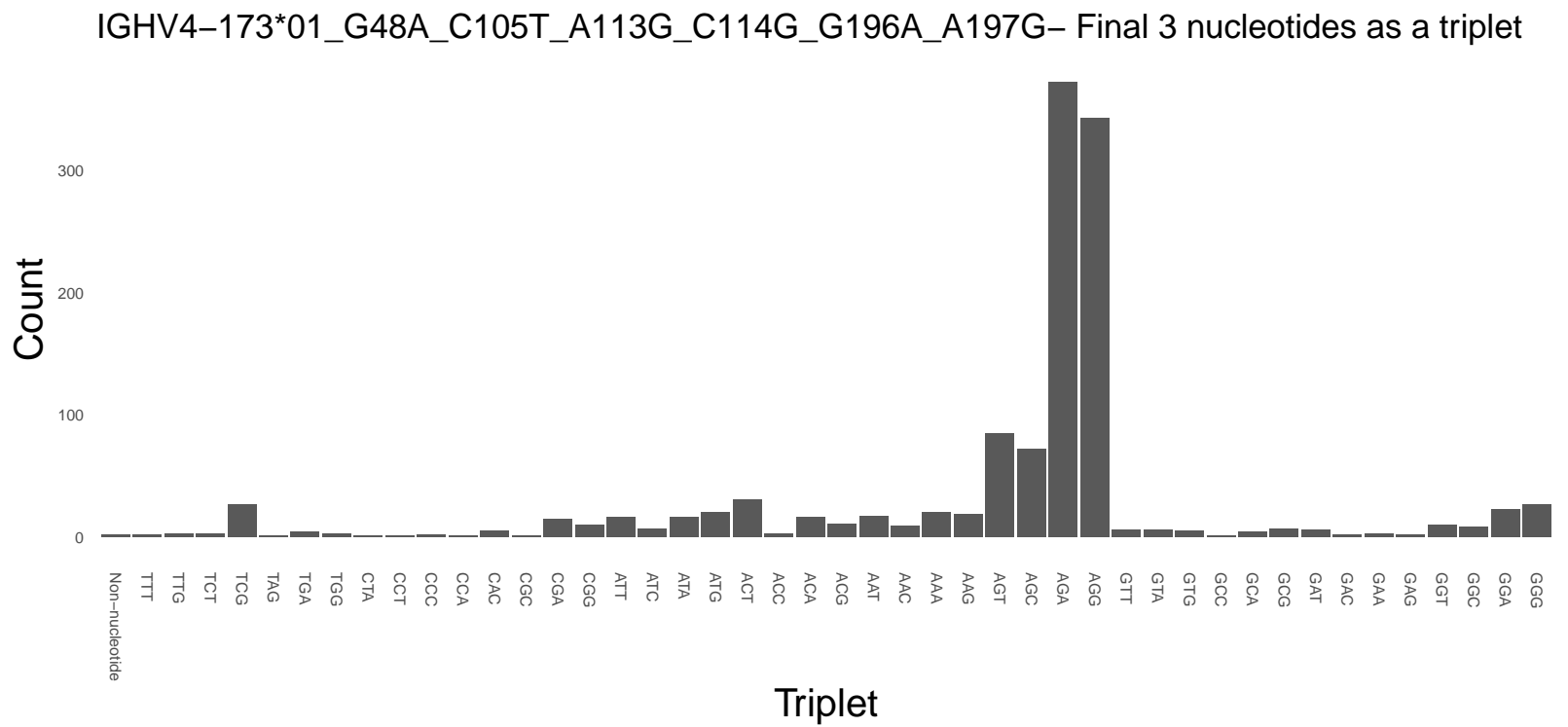
IGHV3-54\*02\_T111C\_G170C- Final 3 nucleotides as a triplet



IGHV4-160\*01\_G147A- Final 3 nucleotides as a triplet

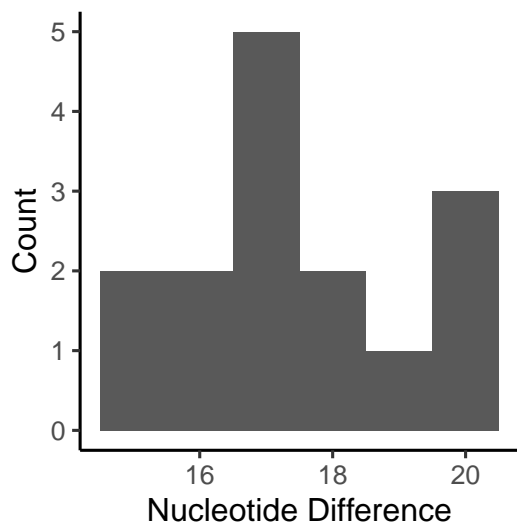


IGHV4-173\*01\_G48A\_C105T\_A113G\_C114G\_G196A\_A197G- Final 3 nucleotides as a triplet



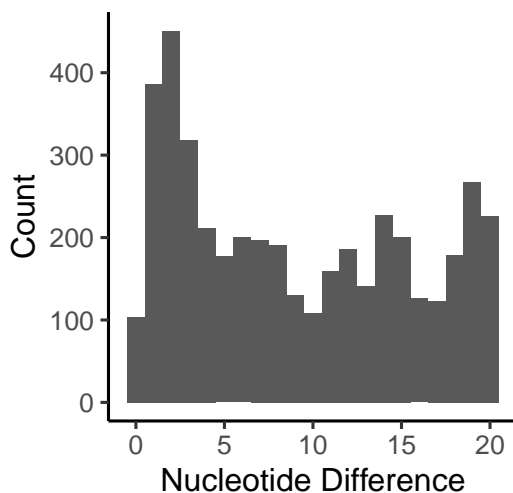
### IGHV1S2\*01

114 sequences assigned  
No exact matches.



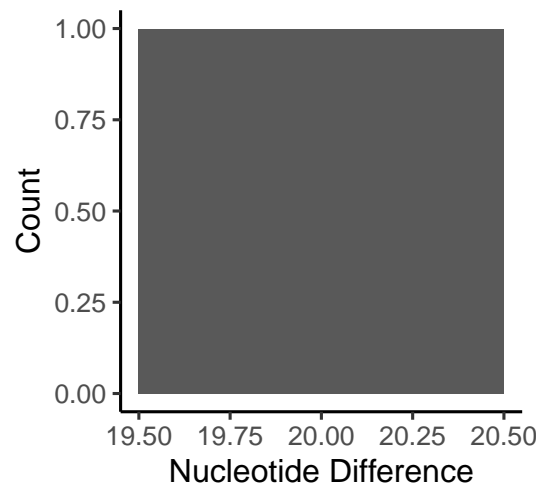
### IGHV3S42\*01\_T120C\_A1

9382 sequences assigned  
104 (1.1%) exact matches, in which:  
71 unique CDR3  
4 unique J



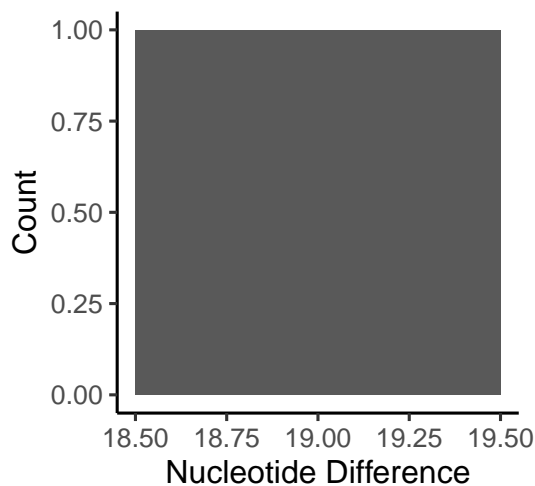
### IGHV1-156D\*01

508 sequences assigned  
No exact matches.



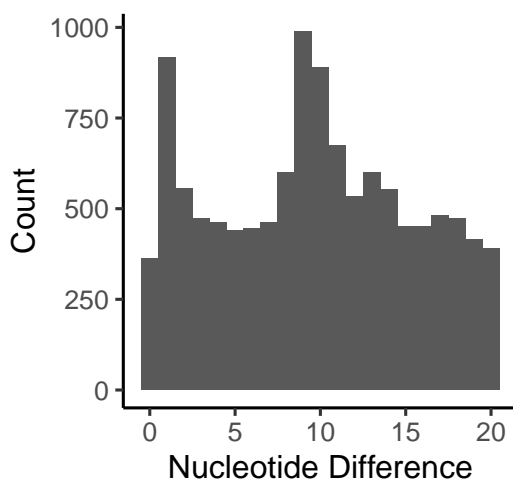
### IGHV3S3\*01

12 sequences assigned  
No exact matches.



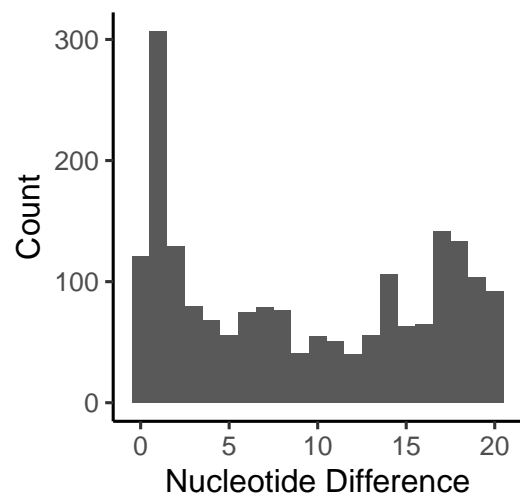
### IGHV3S42\*01\_T19A\_G2

14874 sequences assigned  
362 (2.4%) exact matches, in which:  
257 unique CDR3  
4 unique J



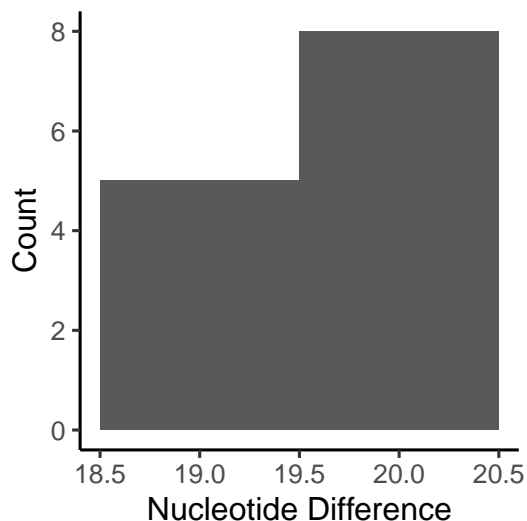
### IGHV2-174\*01\_C6G\_C8

2903 sequences assigned  
121 (4.2%) exact matches, in which:  
93 unique CDR3  
4 unique J



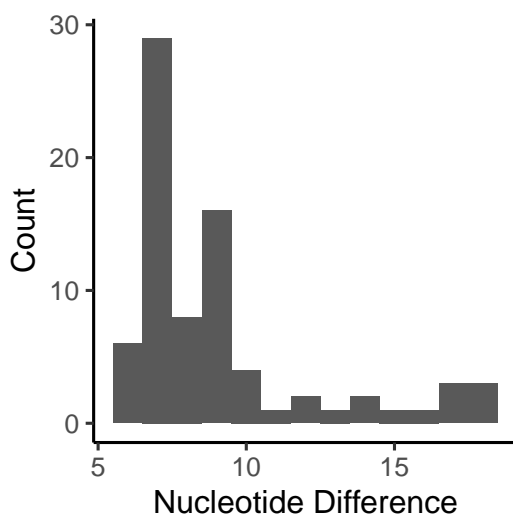
### IGHV3S41\*01

694 sequences assigned  
No exact matches.



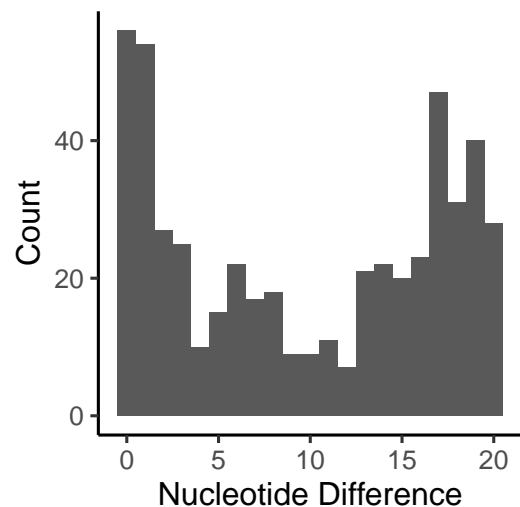
### IGHV3S43\*01

118 sequences assigned  
No exact matches.



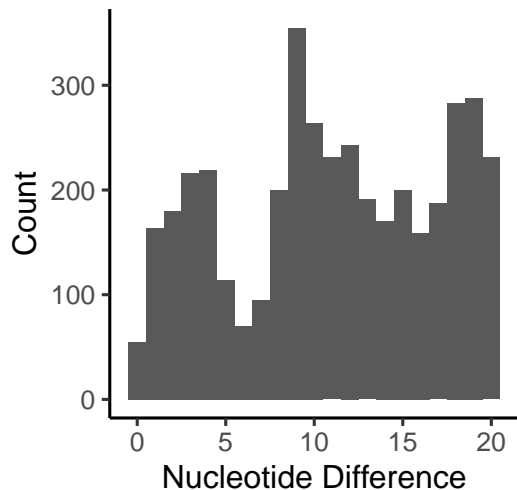
### IGHV2-174\*01\_C6G\_C88

815 sequences assigned  
56 (6.9%) exact matches, in which:  
51 unique CDR3  
4 unique J



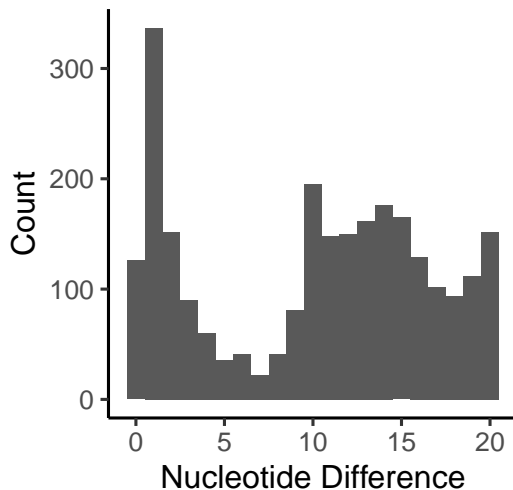
### IGHV3–30\*01\_G109T\_T1

9435 sequences assigned  
55 (0.6%) exact matches, in which:  
44 unique CDR3  
3 unique J



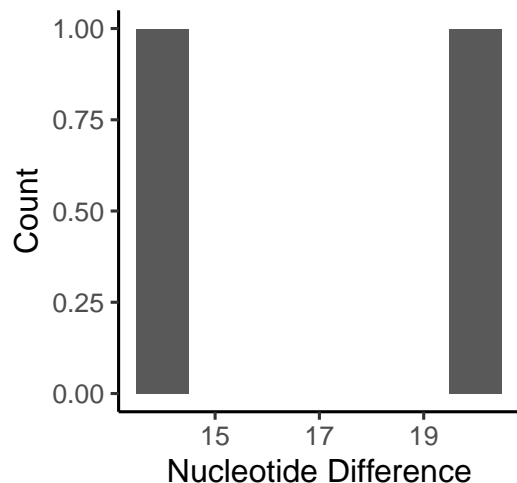
### IGHV3–59\*01\_C69T\_T78

4272 sequences assigned  
126 (2.9%) exact matches, in which:  
91 unique CDR3  
4 unique J



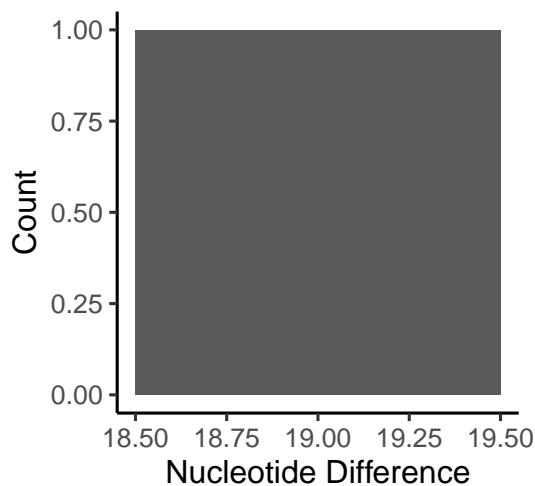
### IGHV3–117\*01

1323 sequences assigned  
No exact matches.



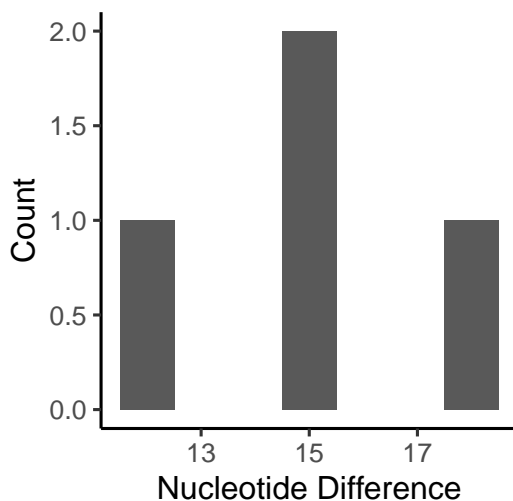
### IGHV3–34\*01

4 sequences assigned  
No exact matches.



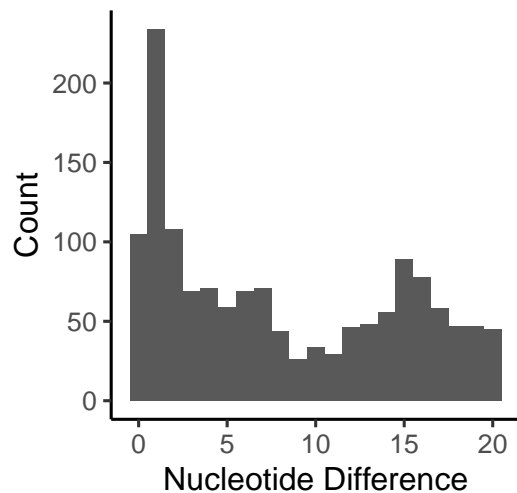
### IGHV3–108\*01

5 sequences assigned  
No exact matches.



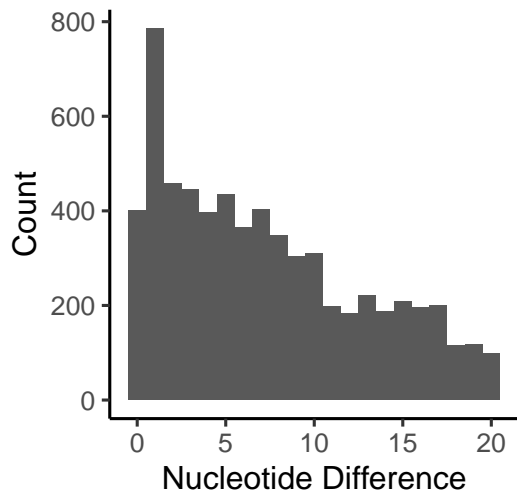
### IGHV4–80\*01\_G70A\_C90

2239 sequences assigned  
105 (4.7%) exact matches, in which:  
79 unique CDR3  
4 unique J



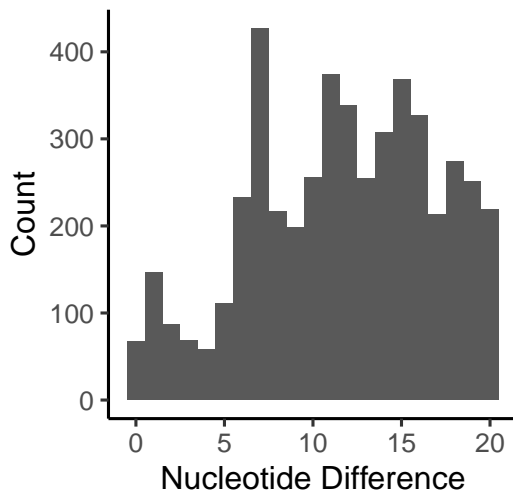
### IGHV3–54\*02\_T111C\_G1

6843 sequences assigned  
401 (5.9%) exact matches, in which:  
291 unique CDR3  
4 unique J



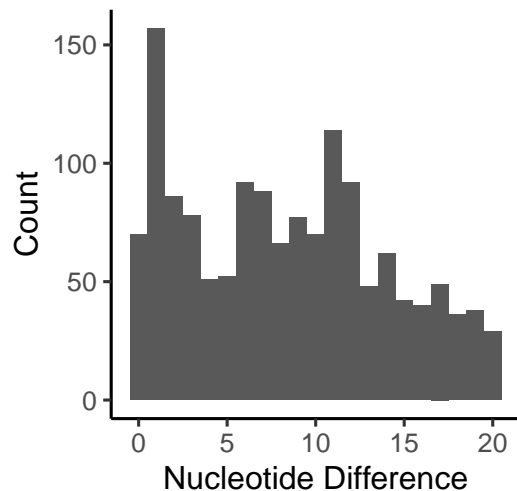
### IGHV3–116\*01\_G24A\_A1

8266 sequences assigned  
67 (0.8%) exact matches, in which:  
58 unique CDR3  
3 unique J



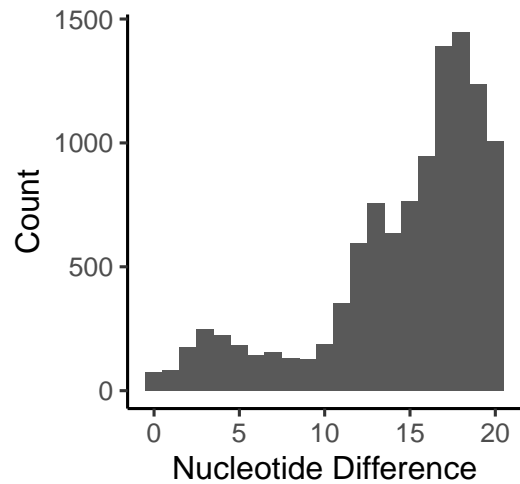
### IGHV4–80\*01\_G70A\_T18

2070 sequences assigned  
70 (3.4%) exact matches, in which:  
60 unique CDR3  
4 unique J



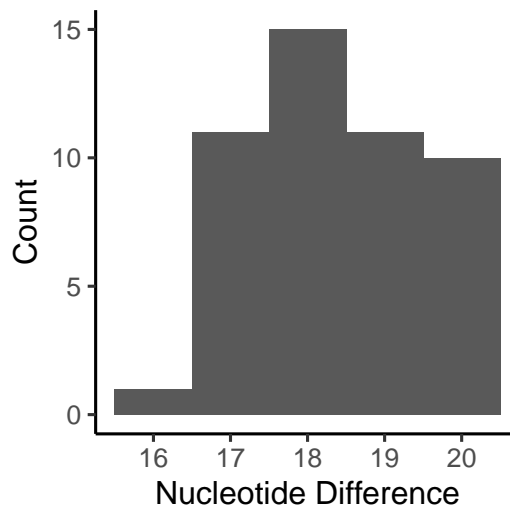
### IGHV4-160\*01\_G147A

20630 sequences assigned  
74 (0.4%) exact matches, in which:  
70 unique CDR3  
4 unique J



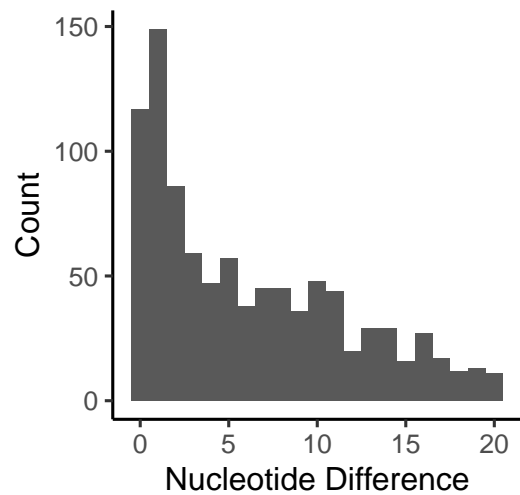
### IGHV7-94\*01

70 sequences assigned  
No exact matches.



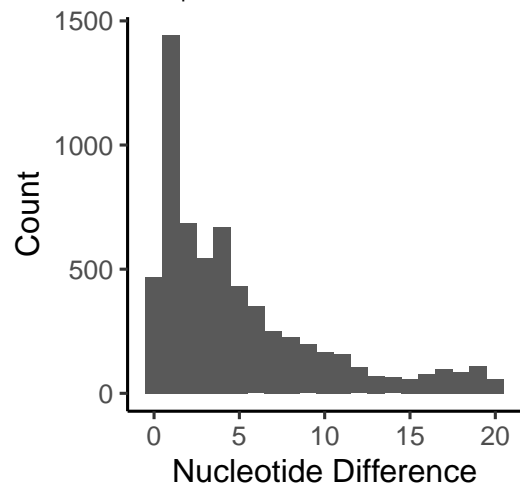
### IGHV4-173\*01\_G48A\_C105T\_A113G\_C114G\_G196A\_A197G

1249 sequences assigned  
117 (9.4%) exact matches, in which:  
106 unique CDR3  
4 unique J



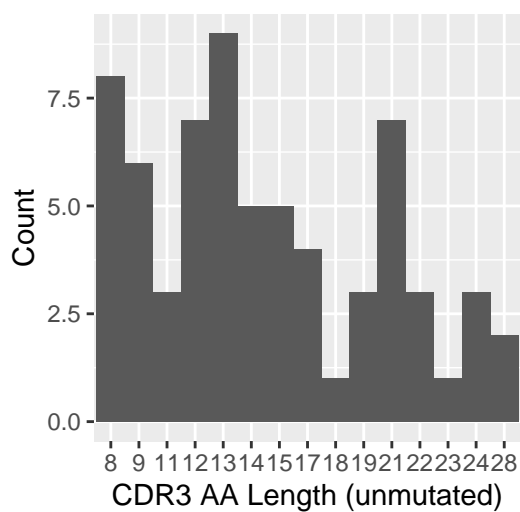
### IGHV5-43\*01\_A51G

6476 sequences assigned  
468 (7.2%) exact matches, in which:  
313 unique CDR3  
4 unique J

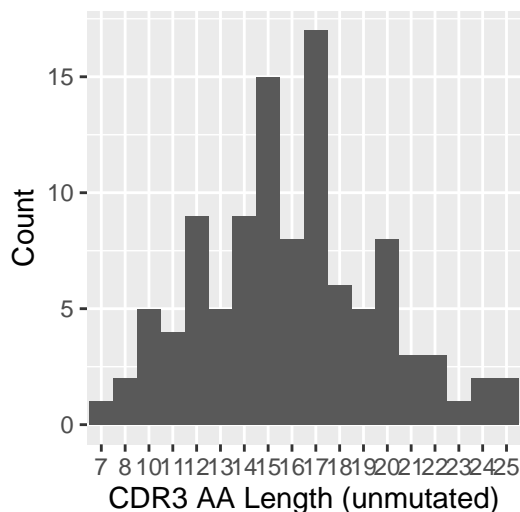




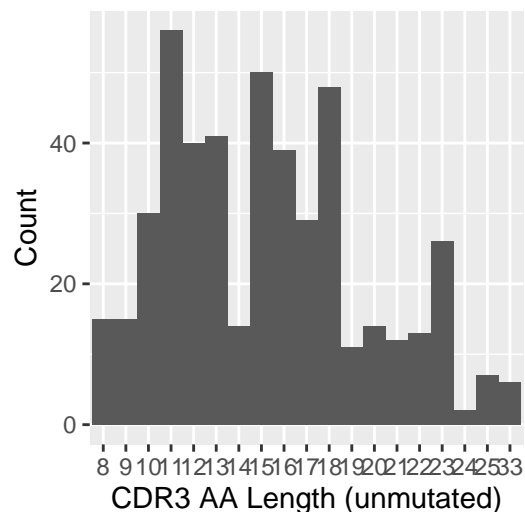
IGHV3-116\*01\_G24A\_A159



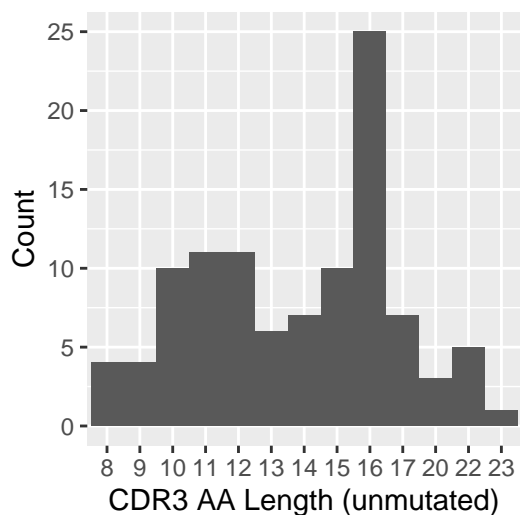
IGHV4-80\*01\_G70A\_C90T\_



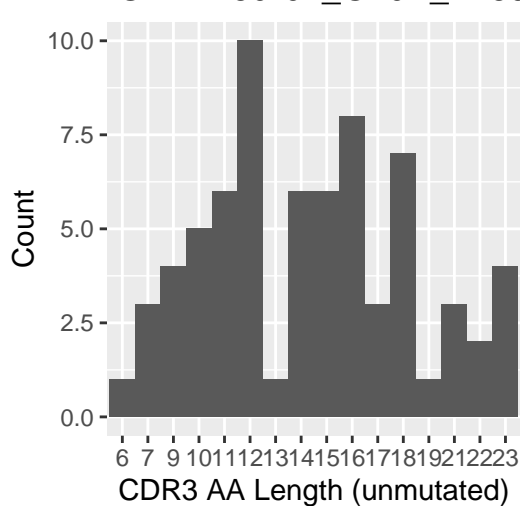
IGHV5-43\*01\_A51G



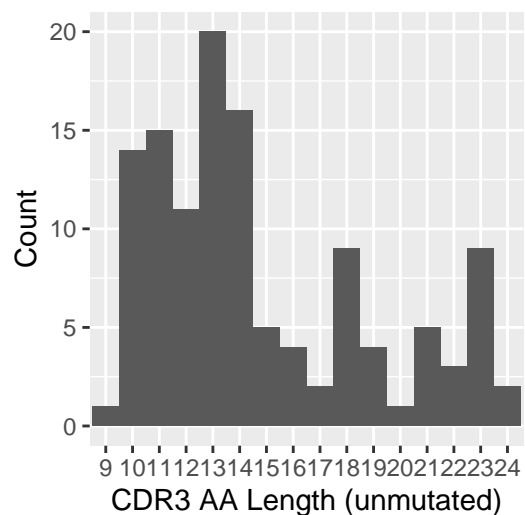
IGHV3S42\*01\_T120C\_A133C



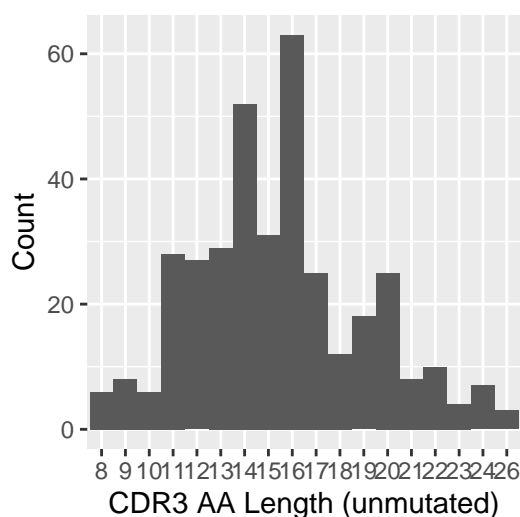
IGHV4-80\*01\_G70A\_T189C



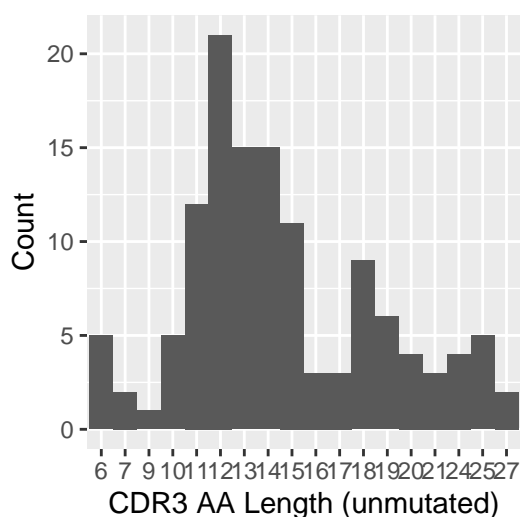
IGHV2-174\*01\_C6G\_C88A\_



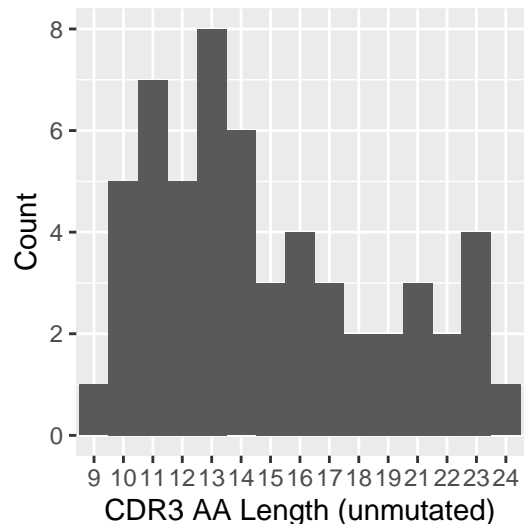
IGHV3S42\*01\_T19A\_G24A\_

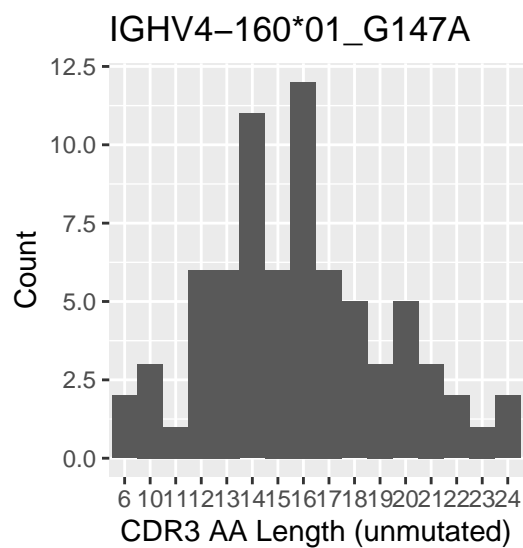
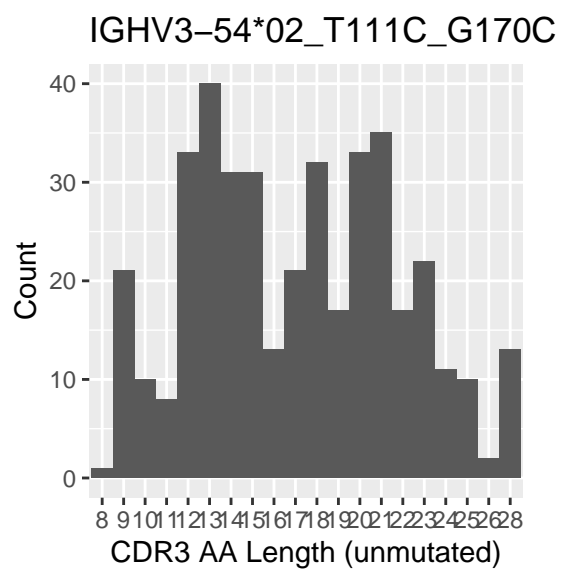
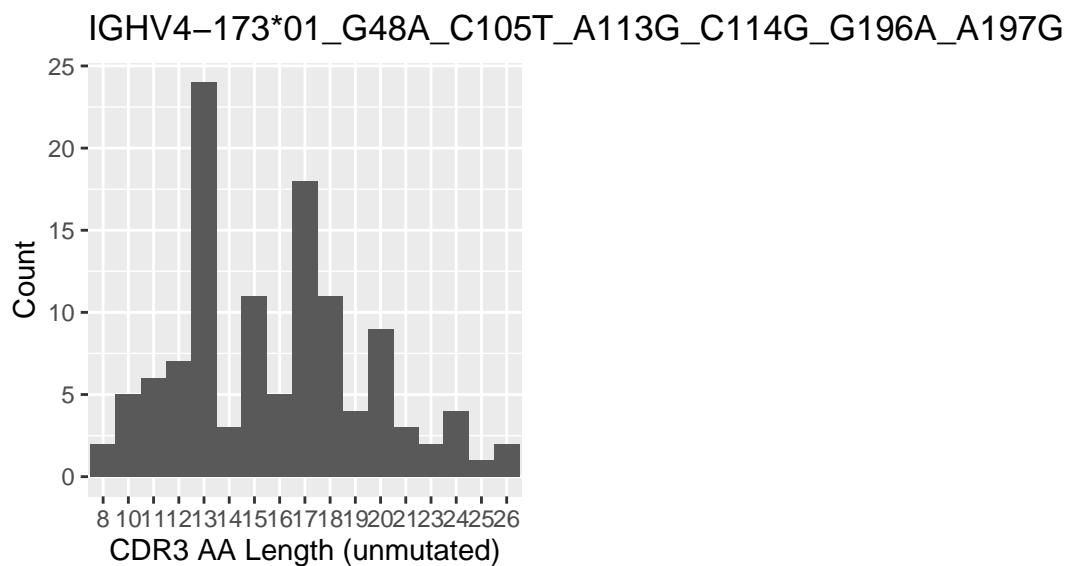
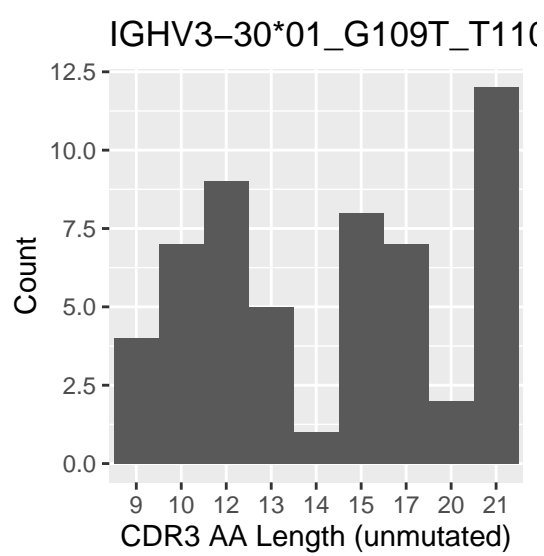


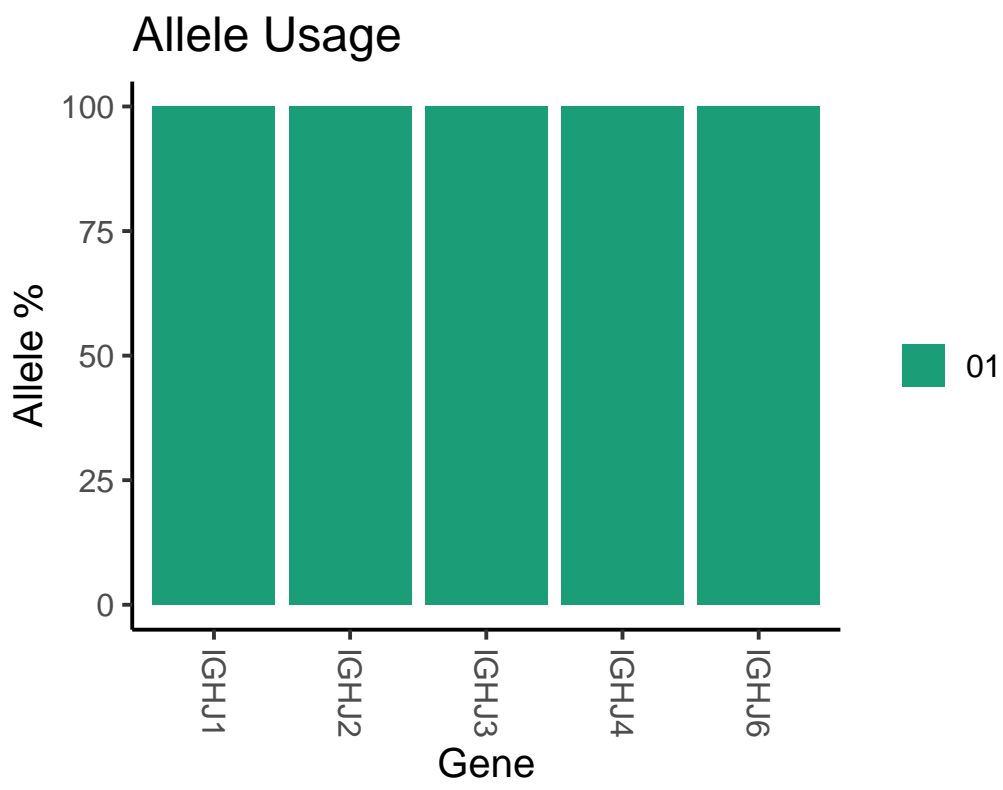
IGHV3-59\*01\_C69T\_T78C\_



IGHV2-174\*01\_C6G\_C88A\_C







Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.