DNA β-VAE results

β=1

Histogram of probabilities + DCA set probabilities (B=1)

Histogram of probabilities + VER set probabilities (B=1)

Histogram of probabilities - B=1

Histogram of probabilities - B=1

β=5

Histogram of probabilities + DCA set probabilities (B=5)

Histogram of probabilities + VER set probabilities (B=5)

Histogram of probabilities - B=5

Histogram of probabilities - B=5

β=10

Histogram of probabilities + DCA set probabilities (B=10)

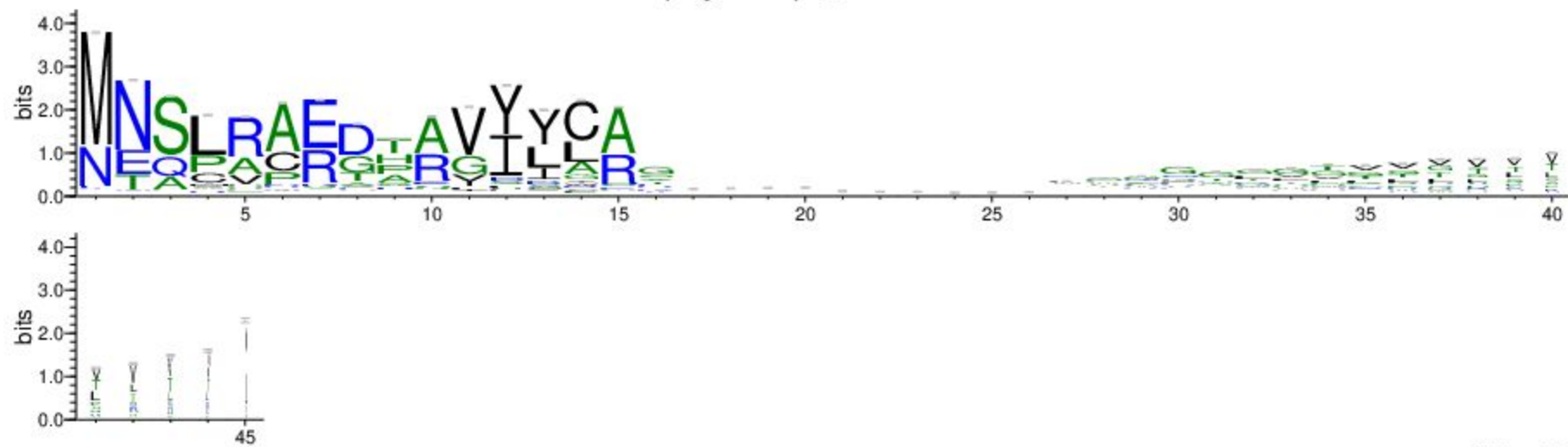Histogram of probabilities + VER set probabilities (B=10)

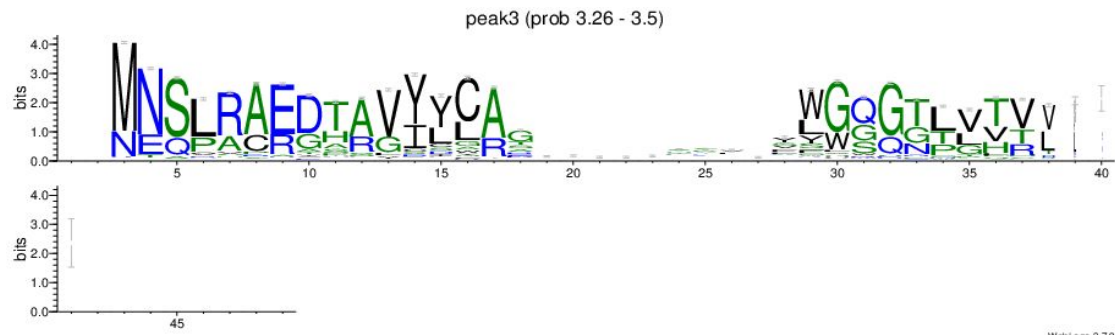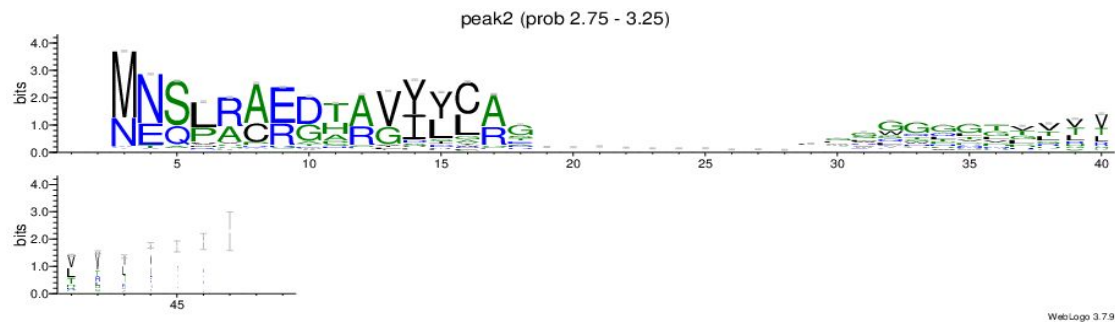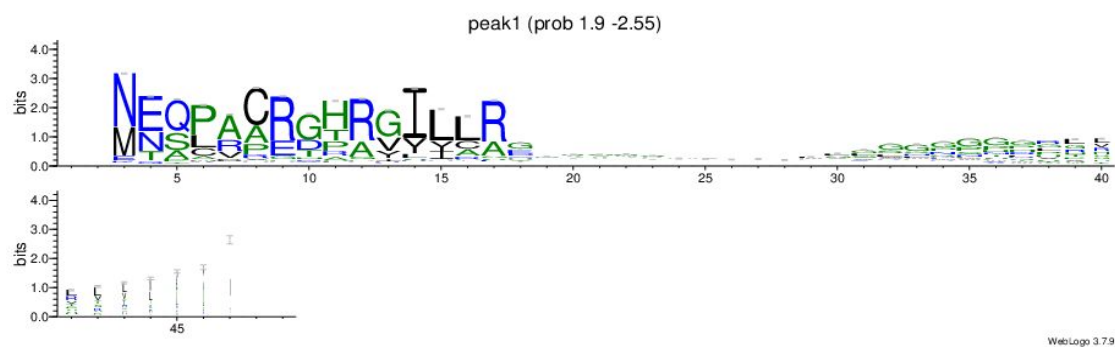Histogram of probabilities - B=10
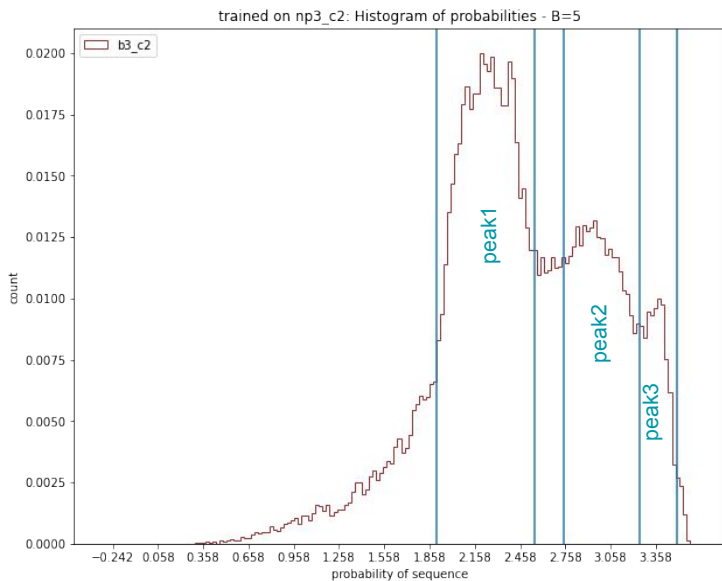
Histogram of probabilities - B=10
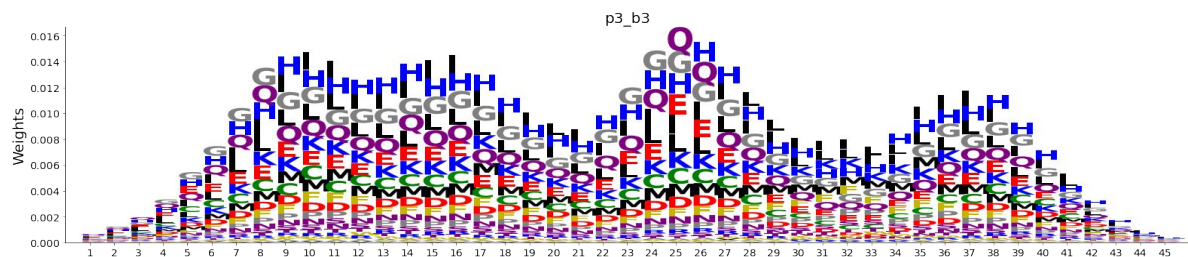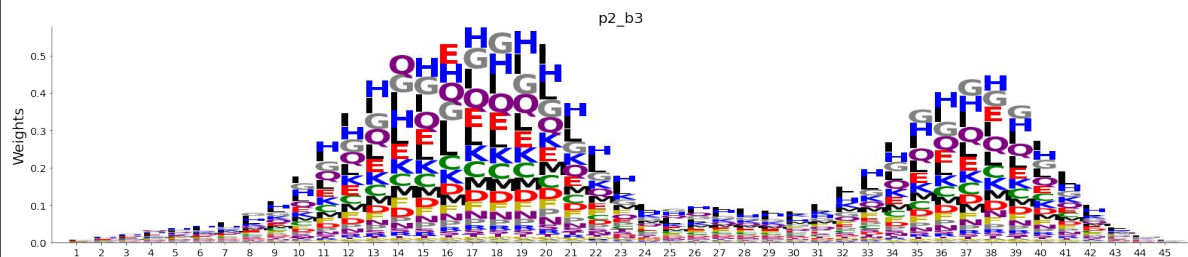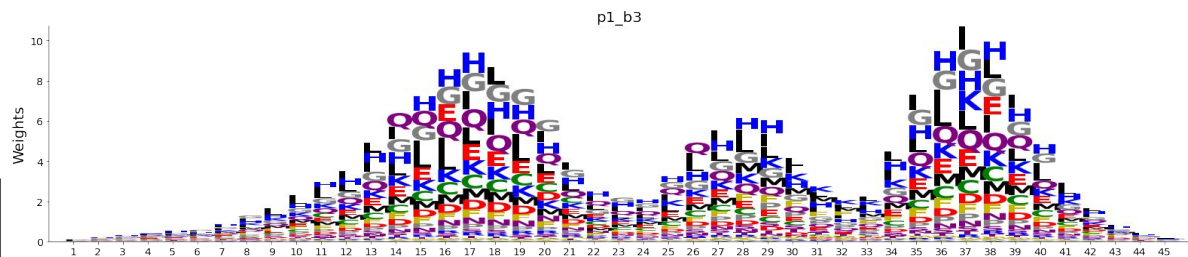
Peptides β-VAE results

c2

trained on np3_c2: Histogram of probabilities - B=5
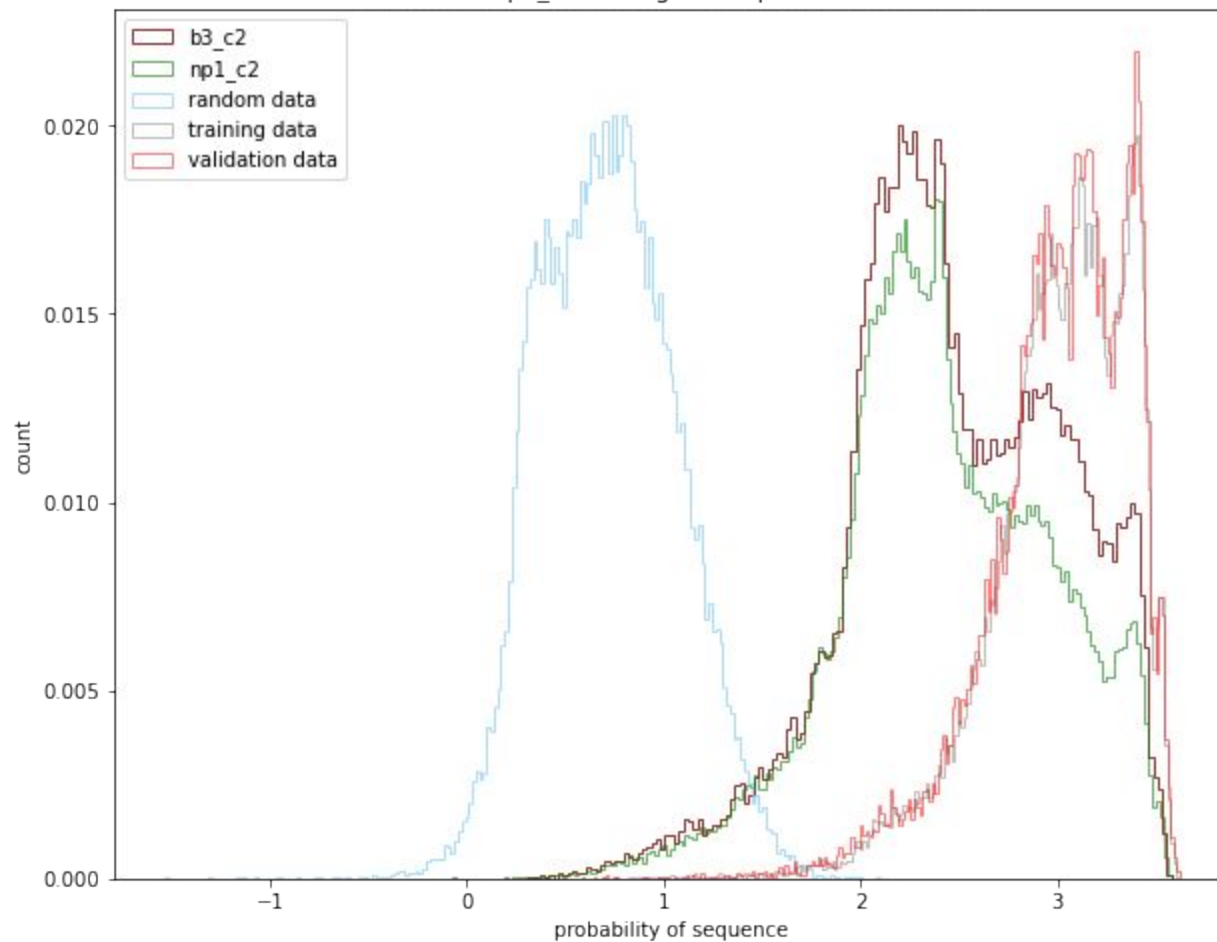
Seq logo for np3_c2 dataset

WebLogo 3.7.9

b3_c2

trained on np3_c2: Histogram of probabilities - B=5

peak1

peak2

peak3

peak1 (prob 1.9 -2.55)

peak2 (prob 2.75 - 3.25)

peak3 (prob 3.26 - 3.5)
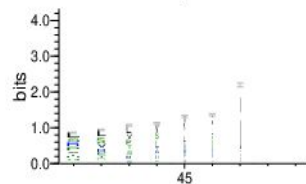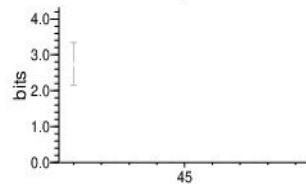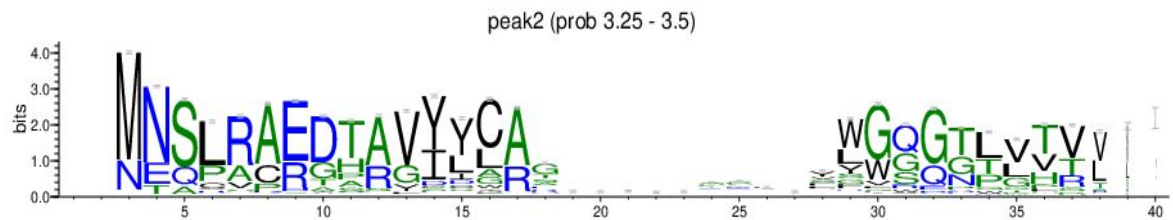
b3_c2: SALIENCY

np1_c2

np1_c2: SALIENCY

np3_c2 - training data

trained on np3_c2: Histogram of probabilities - B=5

peak1 (prob 2.7 -3.05)
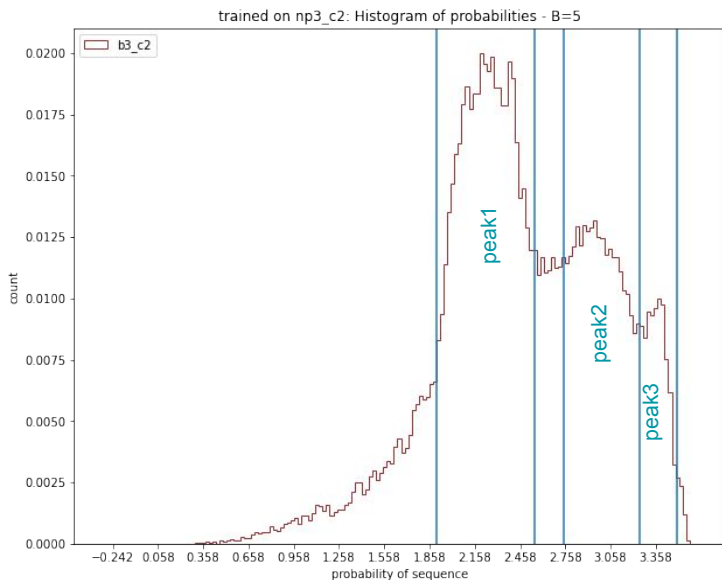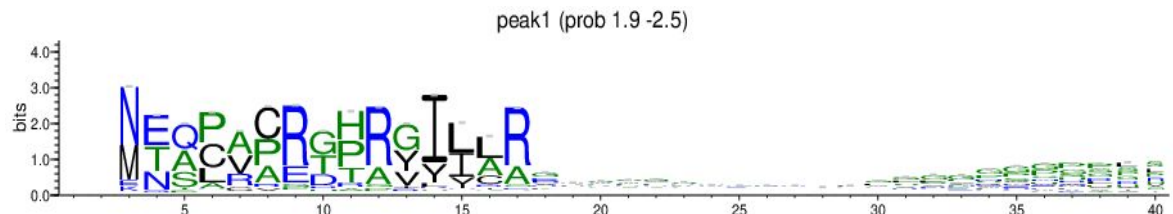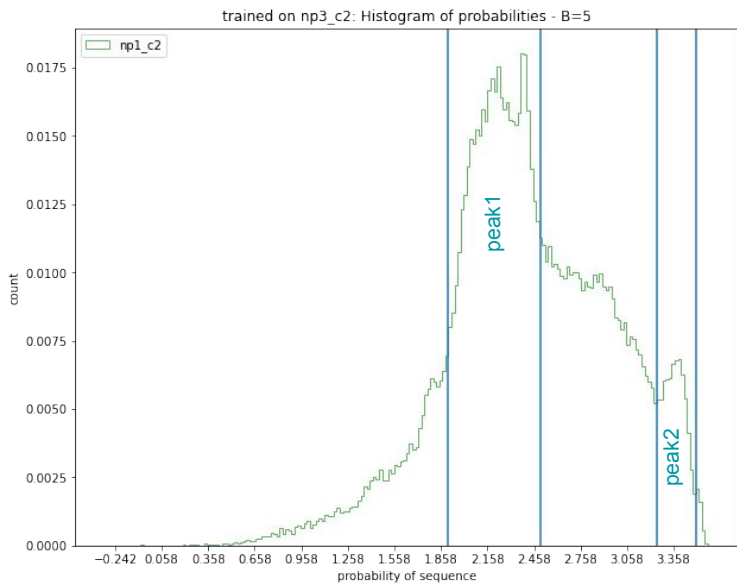
peak2 (prob 3.06 - 3.25)

peak3 (prob 3.26 - 3.55)
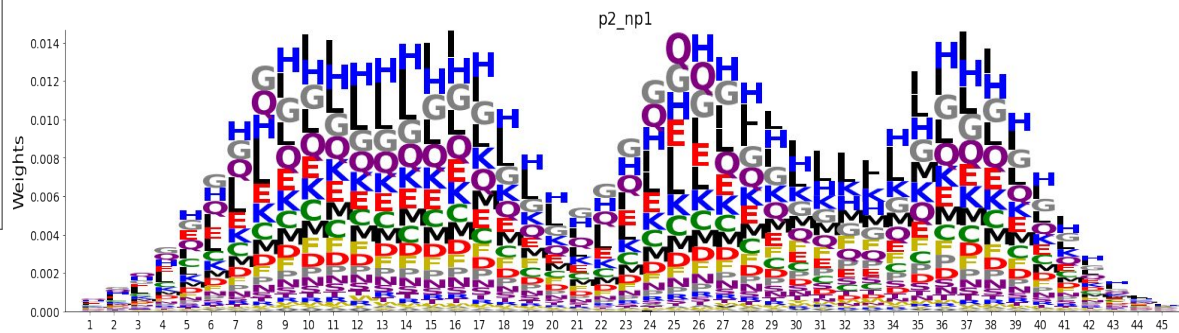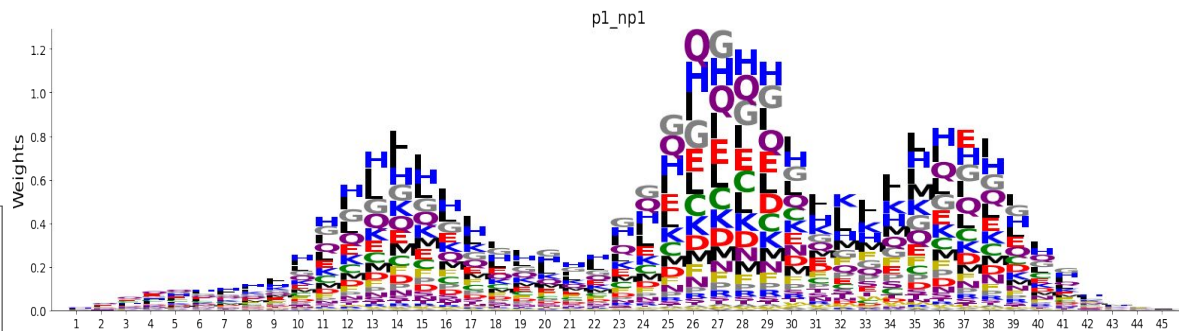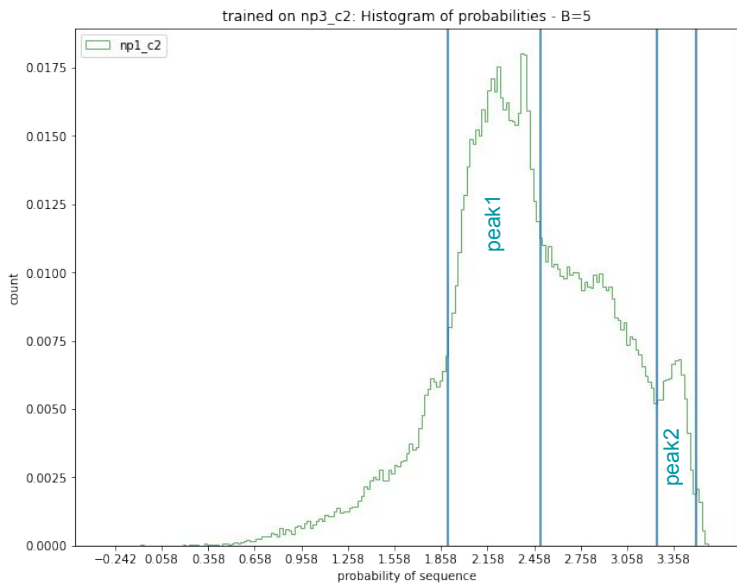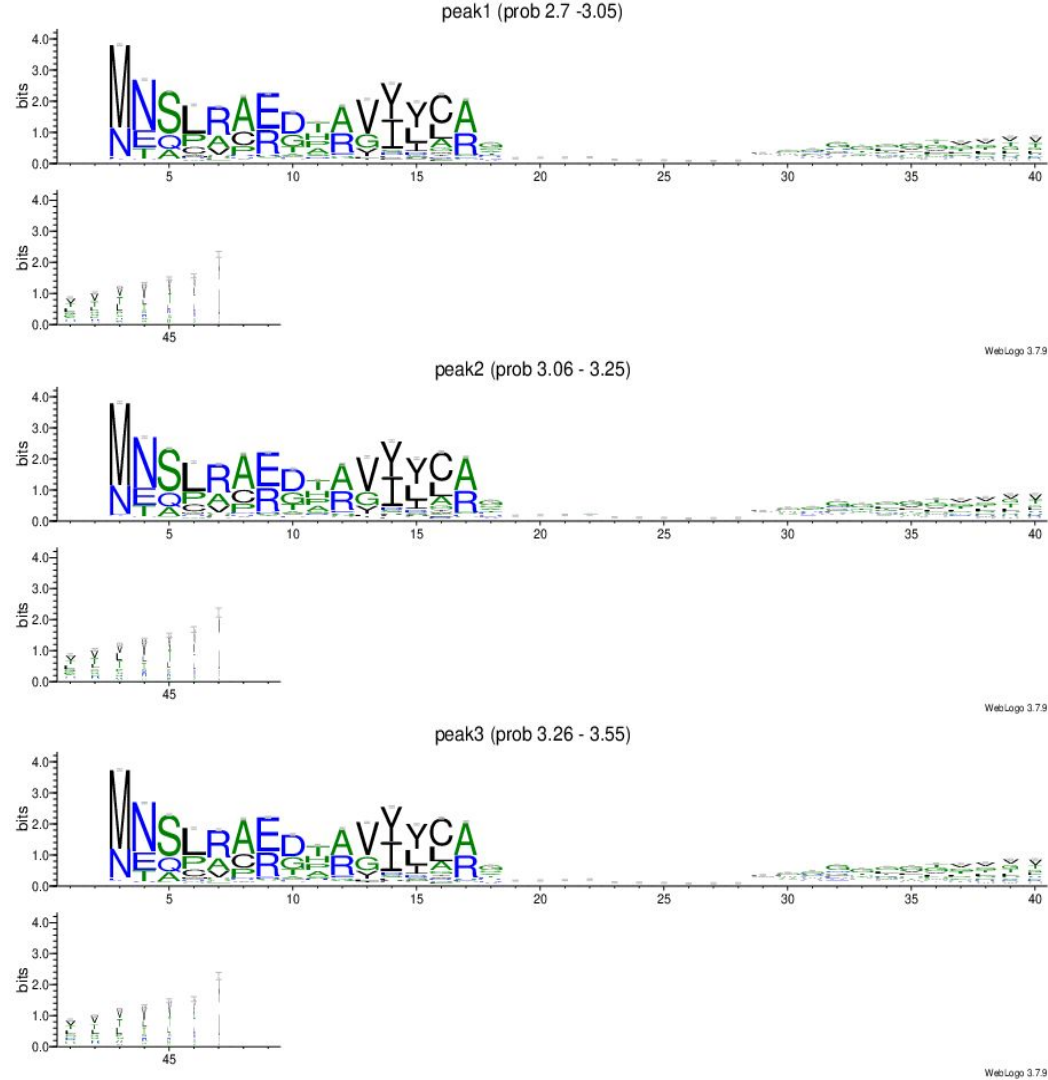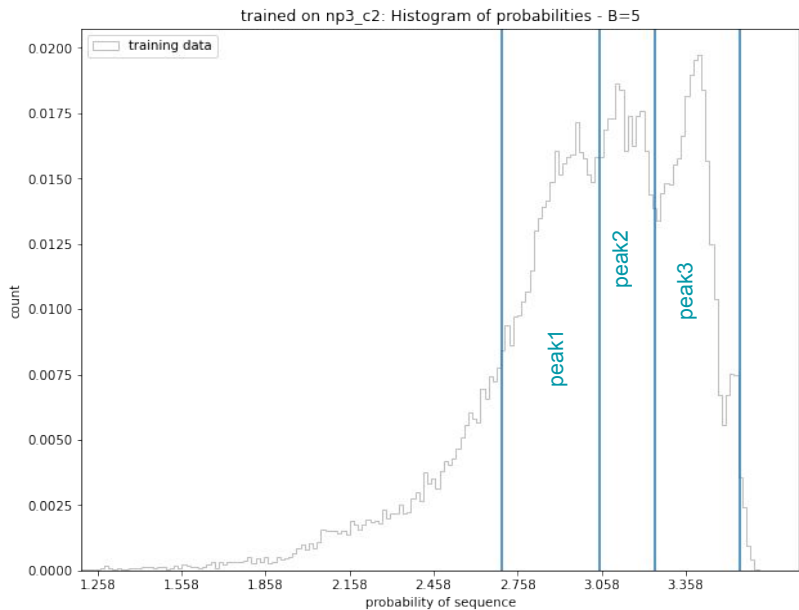
np3_c2 - validation data
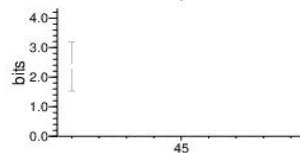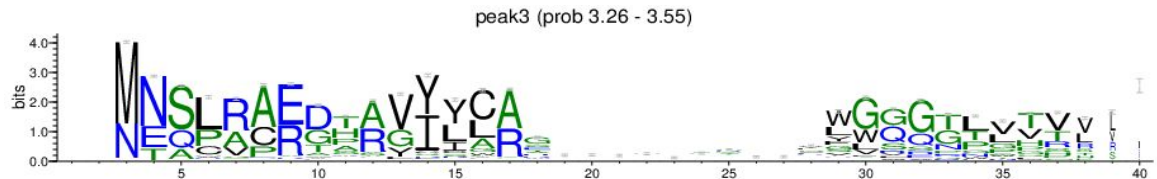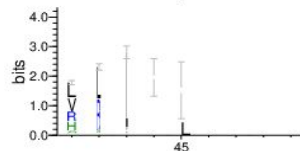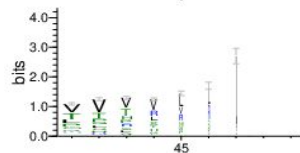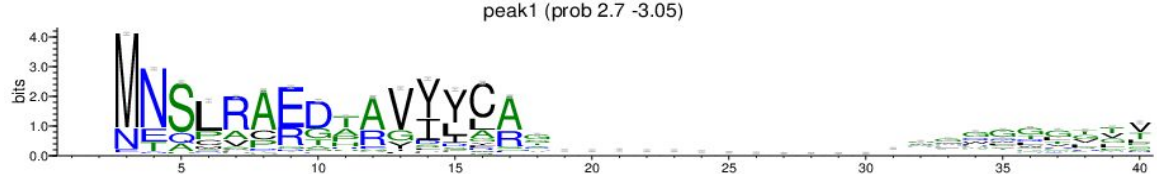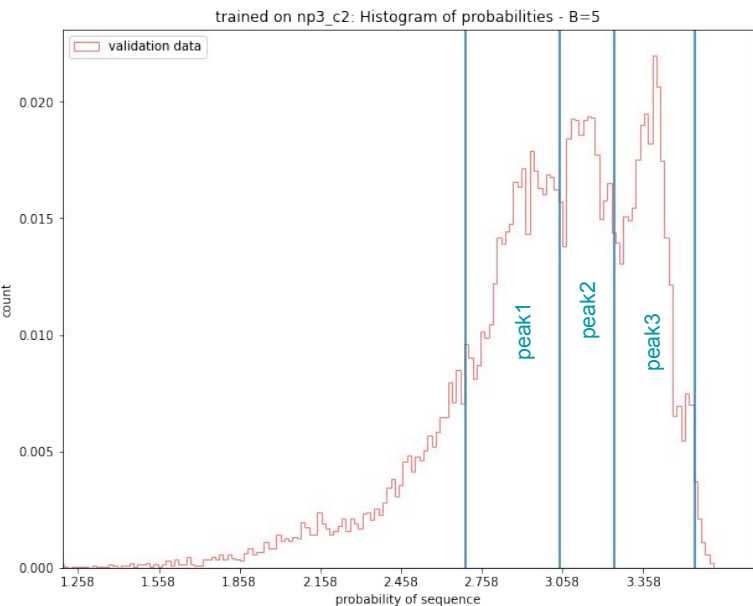
Peptides β-VAE results

c1

trained on np3_c1: Histogram of probabilities - B=5

Seq logo for np3_c1 dataset
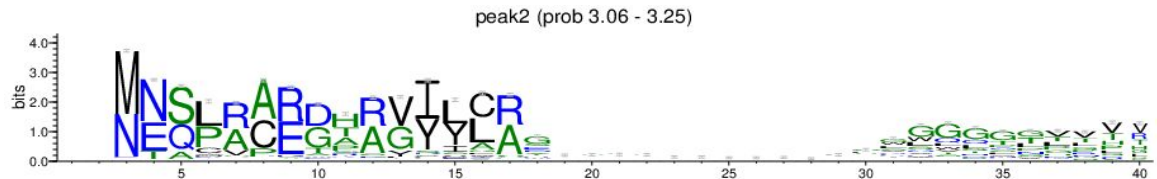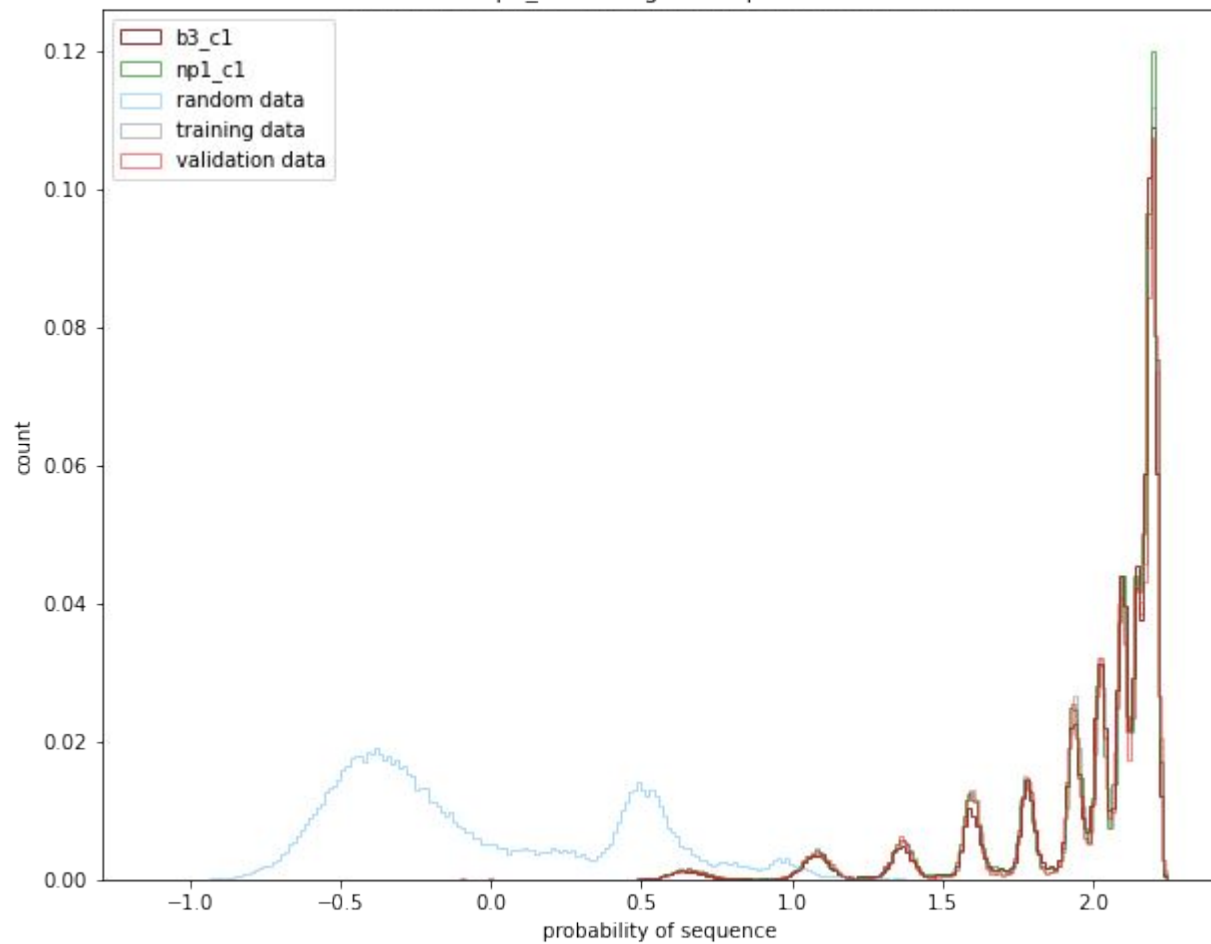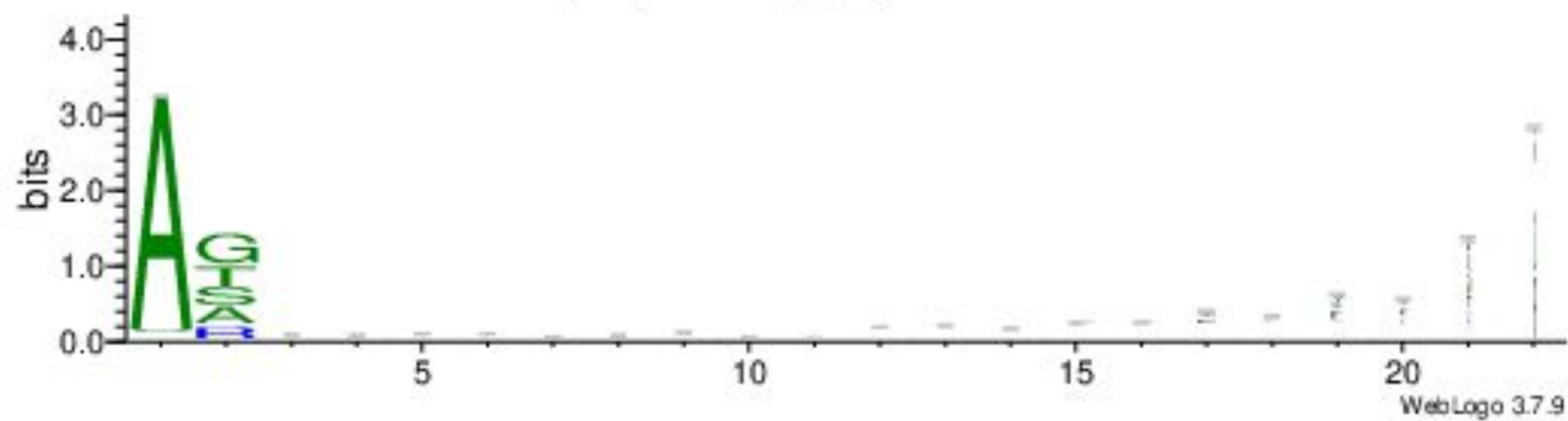
b3_c1

trained on np3_c1: Histogram of probabilities - B=5

peak1 (prob 1.73 - 1.84)

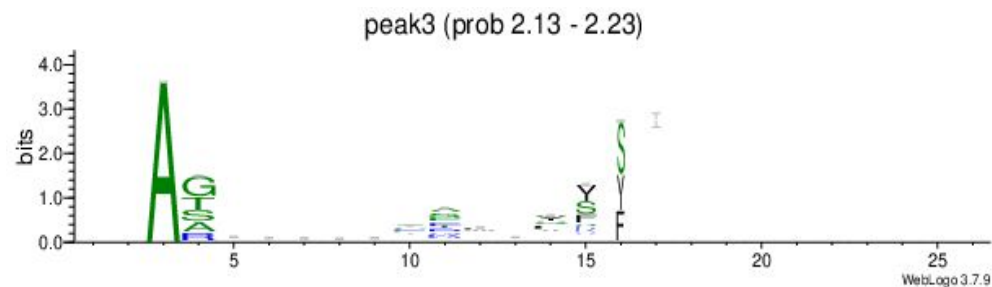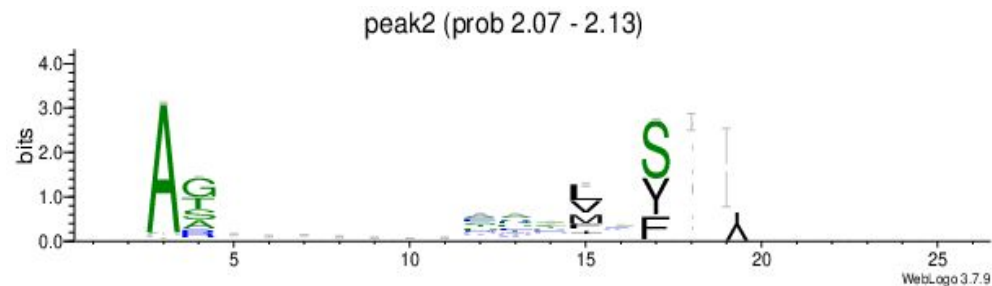peak2 (prob 2.07 - 2.13)

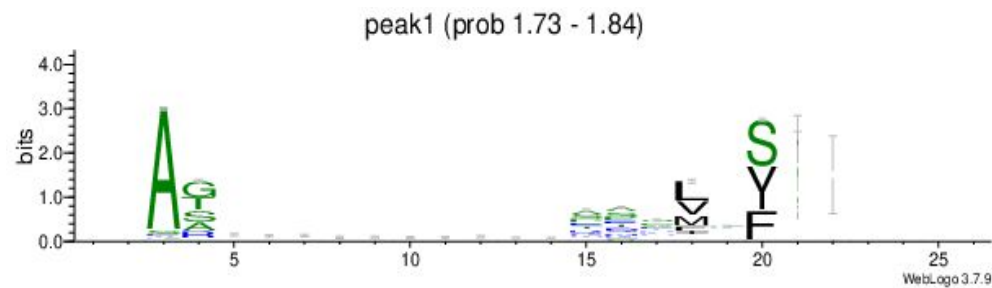peak3 (prob 2.13 - 2.23)
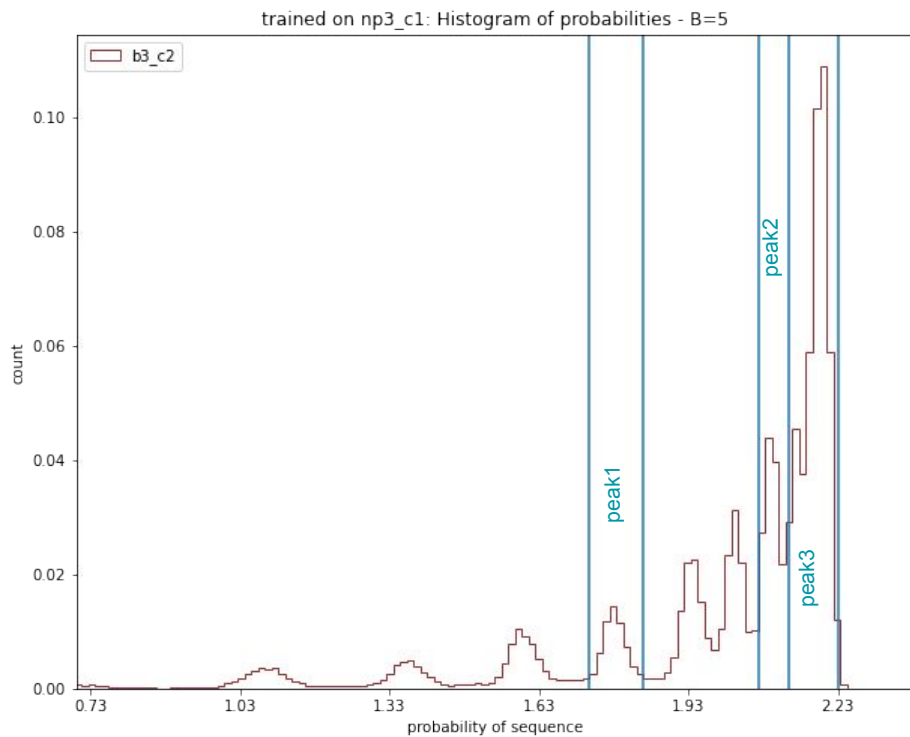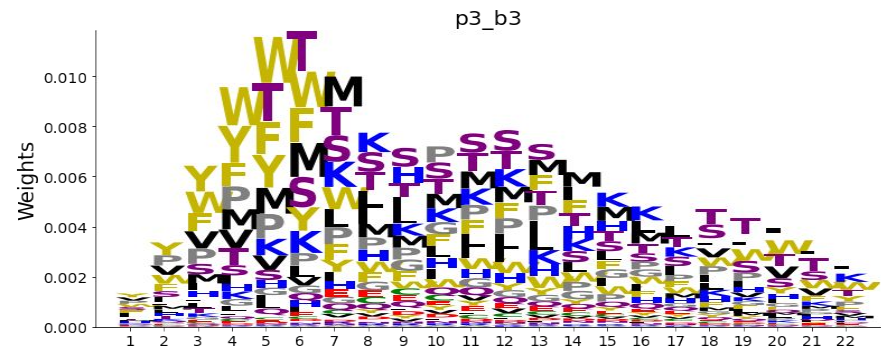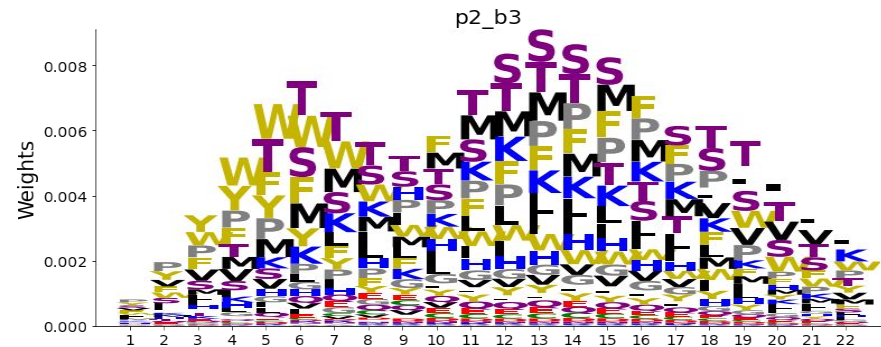
b3_c1: SALIENCY
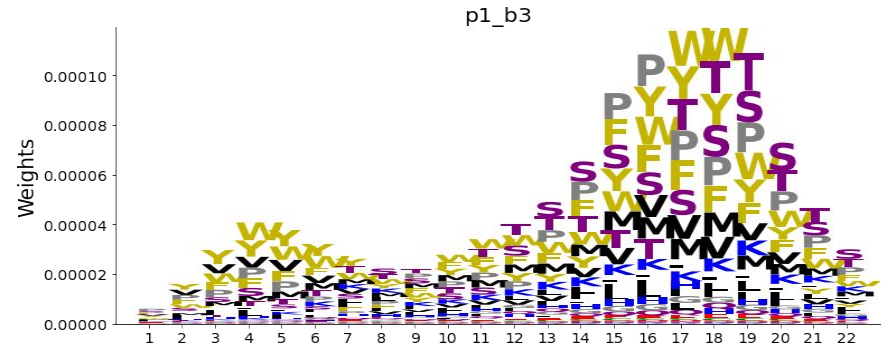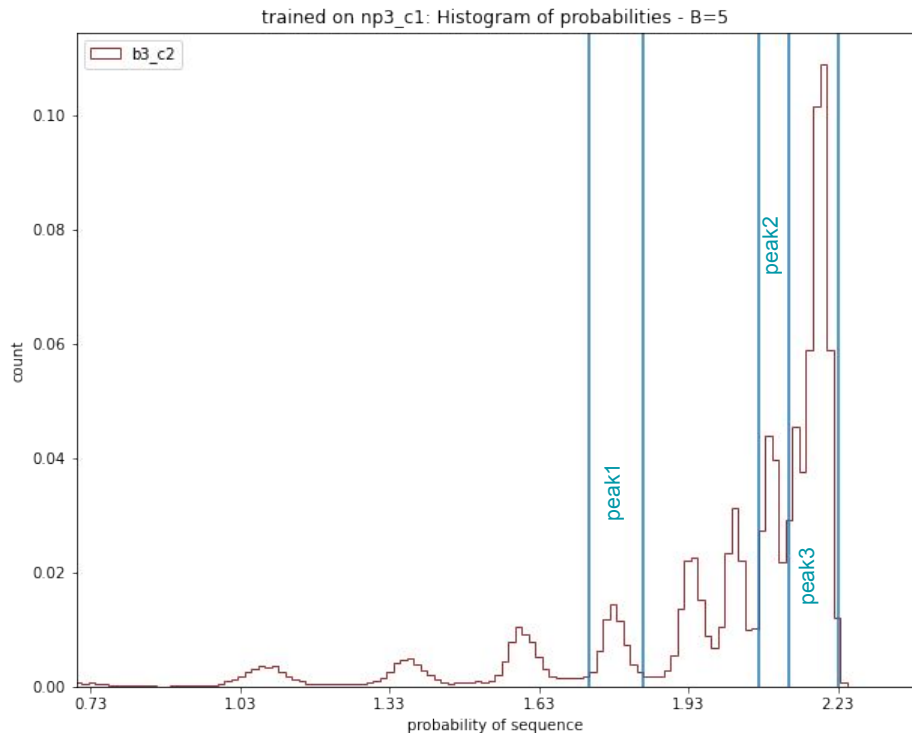
np1_c1

trained on np3_c1: Histogram of probabilities - B=5
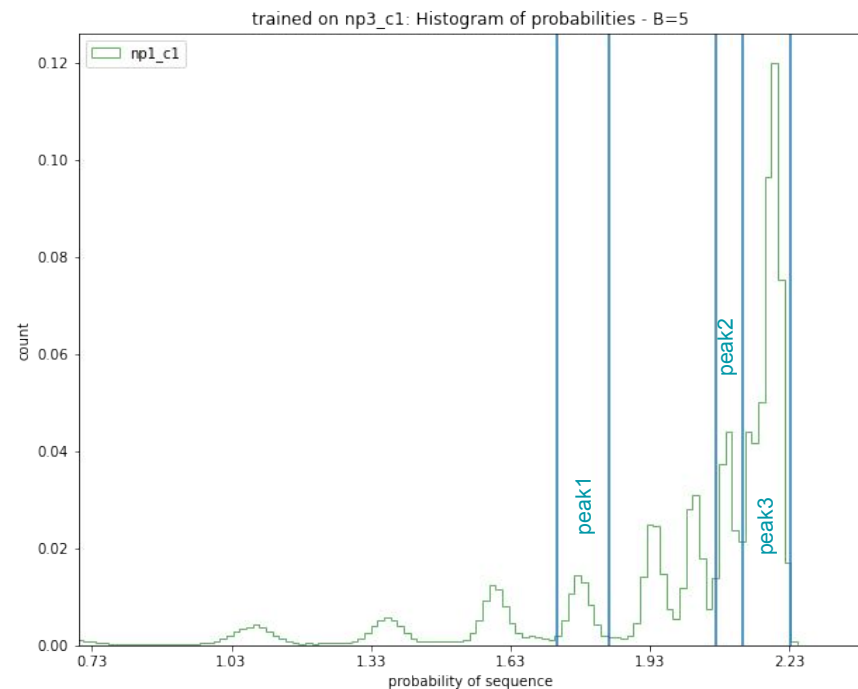
peak1 (prob 1.73 - 1.84)
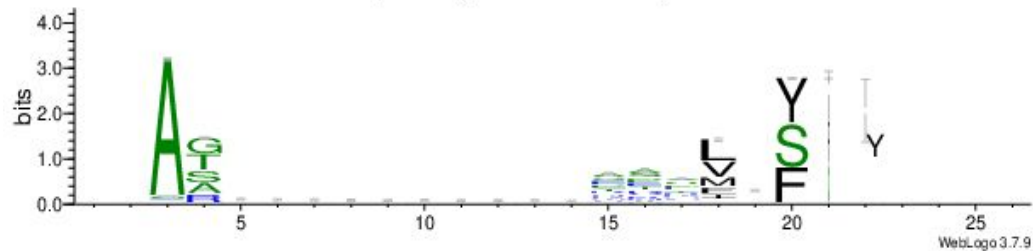
peak2 (prob 2.07 - 2.13)

peak3 (prob 2.13 - 2.23)
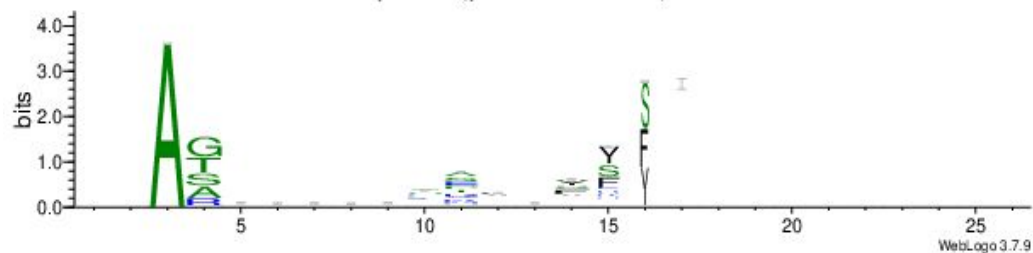
np1_c1: SALIENCY

Covid aptamers β-VAE results

Seq logo for r12 covid aptamers

Seq logo for r10 covid aptamers

Seq logo for r8 covid aptamers

trained on covid aptamers 12: Histogram of probabilities - B=5
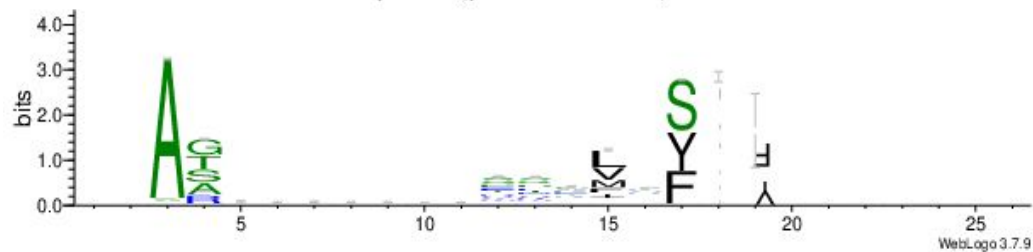+vertical results of testing sequences
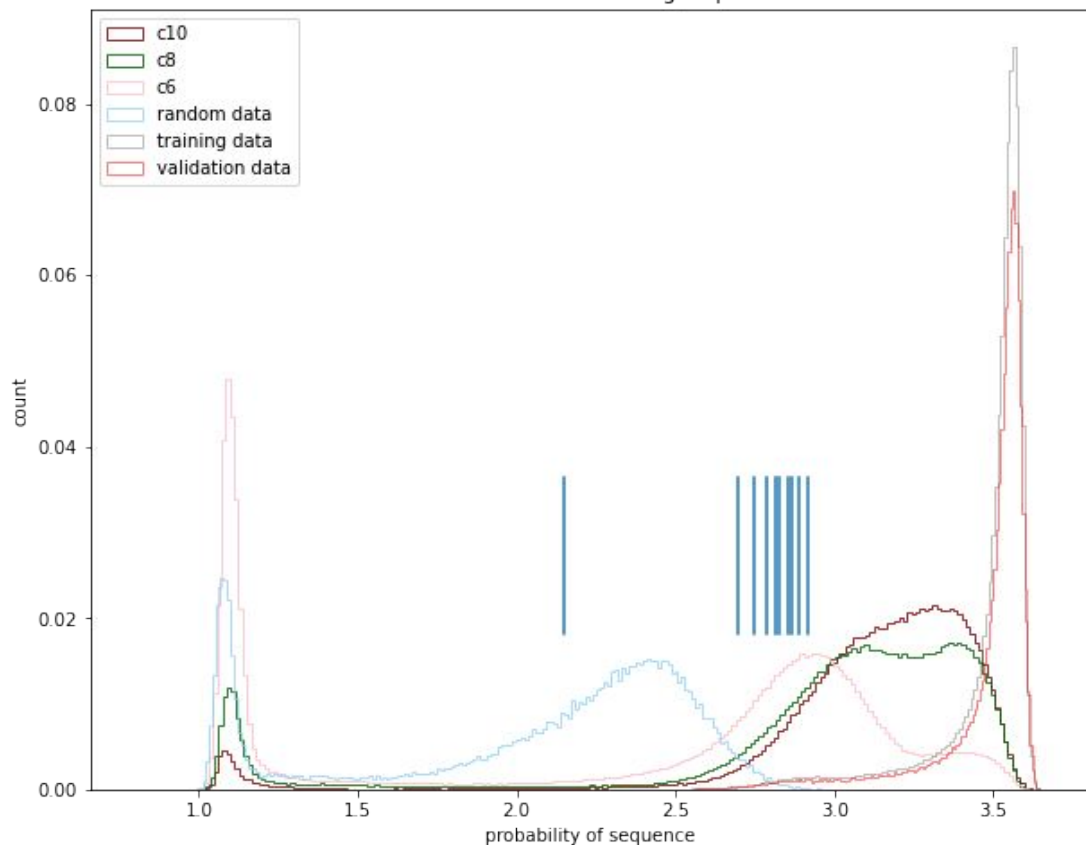
vertical sequences + their probabilities:

```
>"SP5"
TCAACCATGGTAGGTATTGCTTGGTAGGGATAGTGGGCTT … 2.147
>"SP6"
CAACCCATGGTAGGTATTGCTTGGTAGGGATAGTGGGCTT … 2.856
>"SP7"
CAAAGGAGGGTAGGTAGTGCTTGGTAGGGAAACTCCGCCG … 2.699
>"SP6C"
CAACCCATGGTAGGTATTGCTTGGTAGCGATAGTGGGCTT … 2.747
>"SP634"
AAACCCATGGTAGGTATTGCTTGGTAGGGATAGTGGGAAA … 2.784
>"SP634G"
AAACCCATGGTAGGTATTGGTTGGTAGGGATAGTGGGAAA … 2.816
>"SP634C"
AAACCCATGGTAGGTATTGCTTGGTAGCGATAGTGGGAAA … 2.914
>"SP634A"
AAACCCATGGTAGGTATTGCATGGTAGGGATAGTGGGAAA … 2.827
>"SP630"
AAAAACATGGTAGGTATTGCATGGTAGGGATAGTGAAAAA … 2.867
>"SP619"
AAAAAAAAAAAAAAATATTGCATGGTAGGGATAGAAAAAAA … 2.886
```
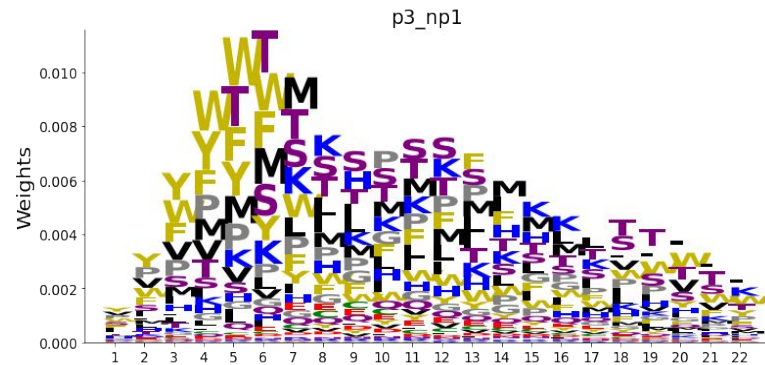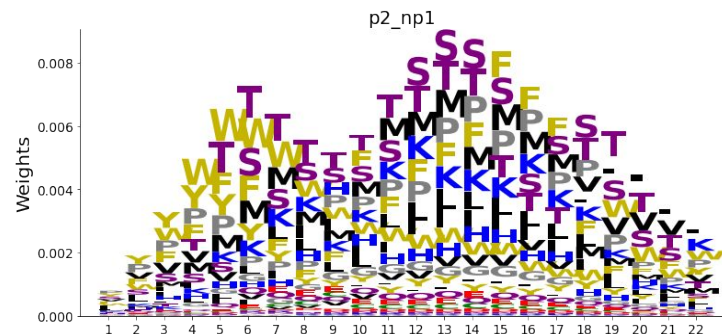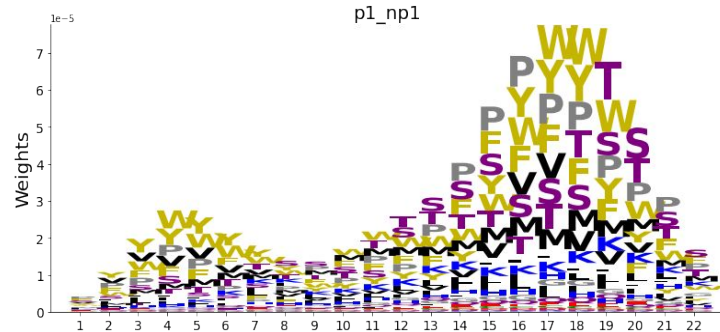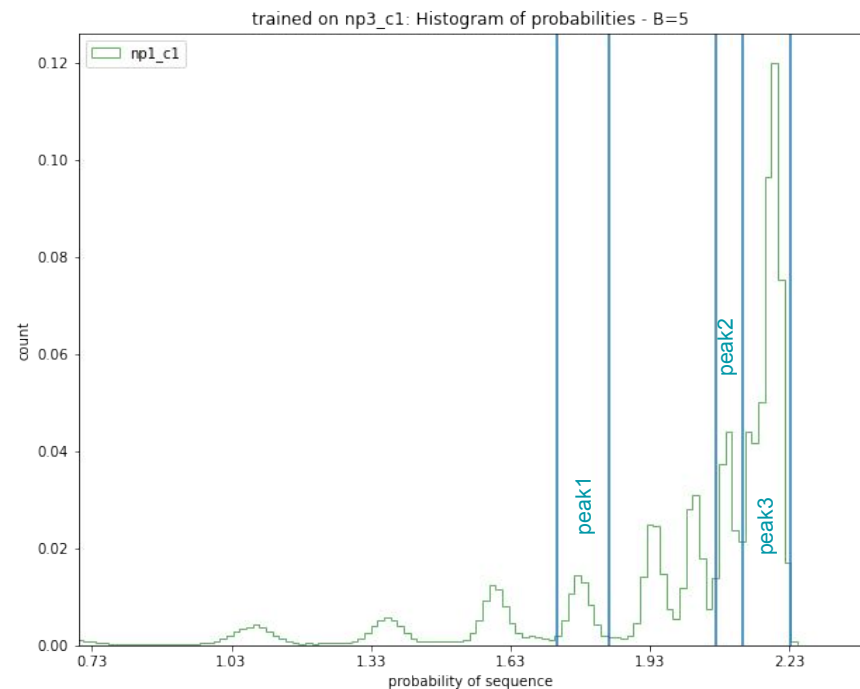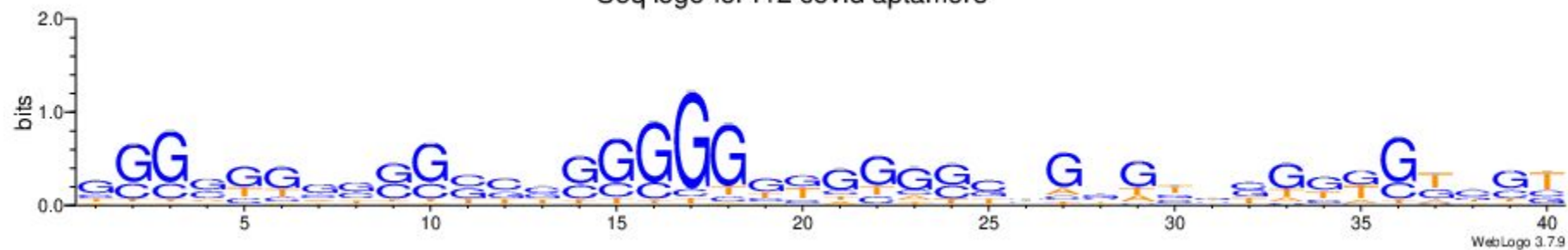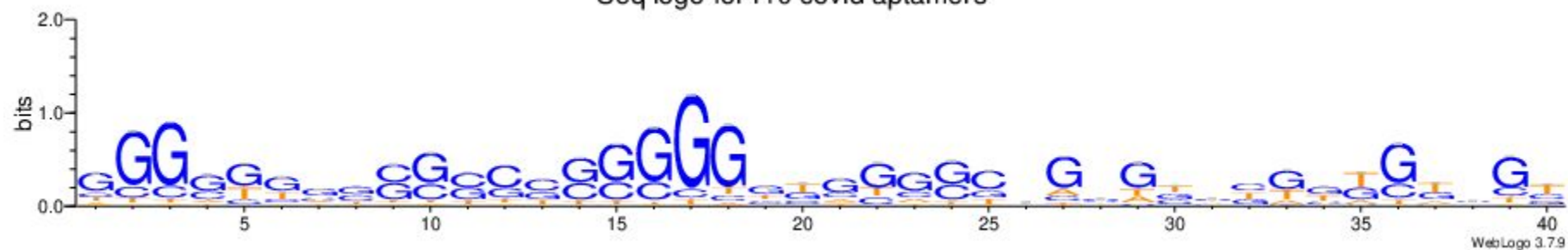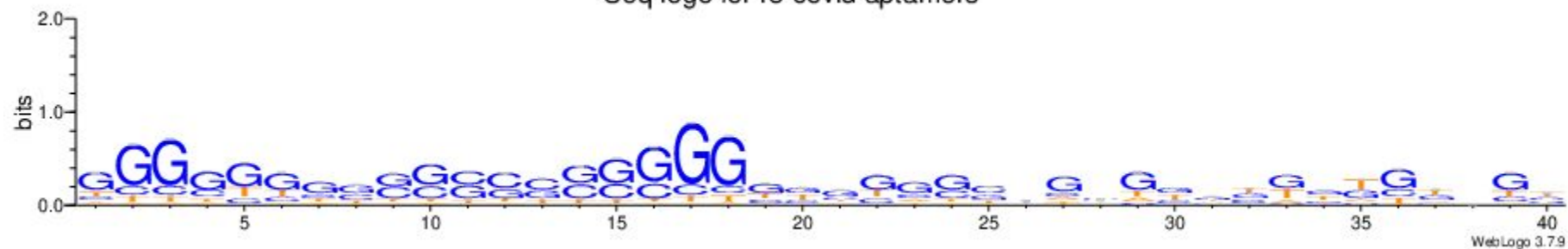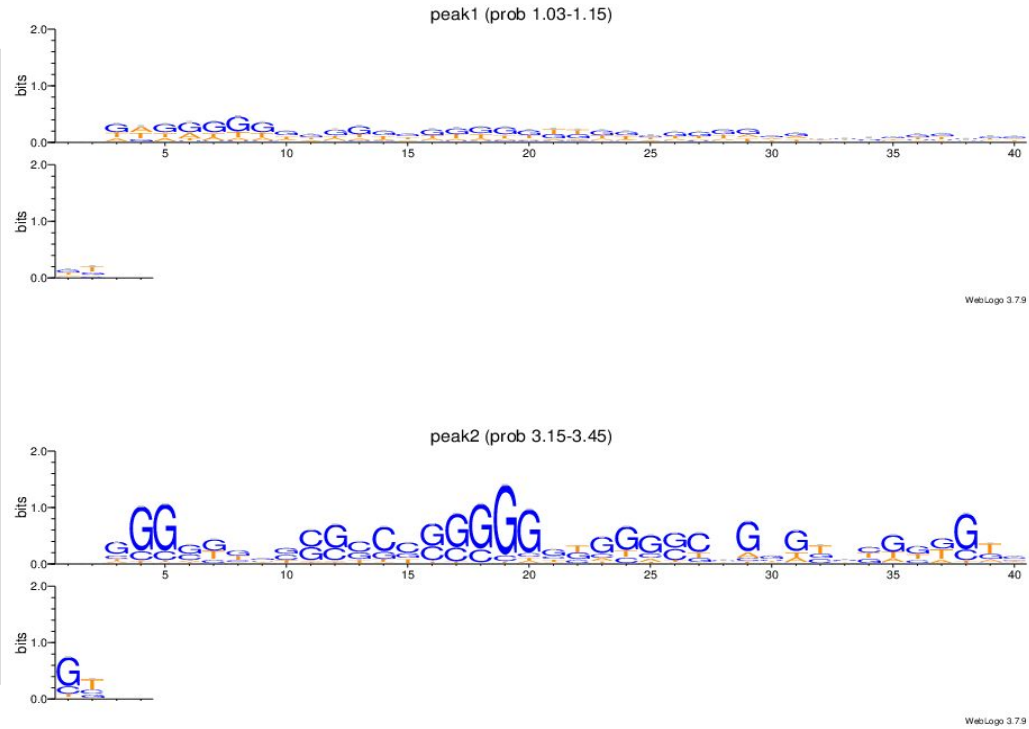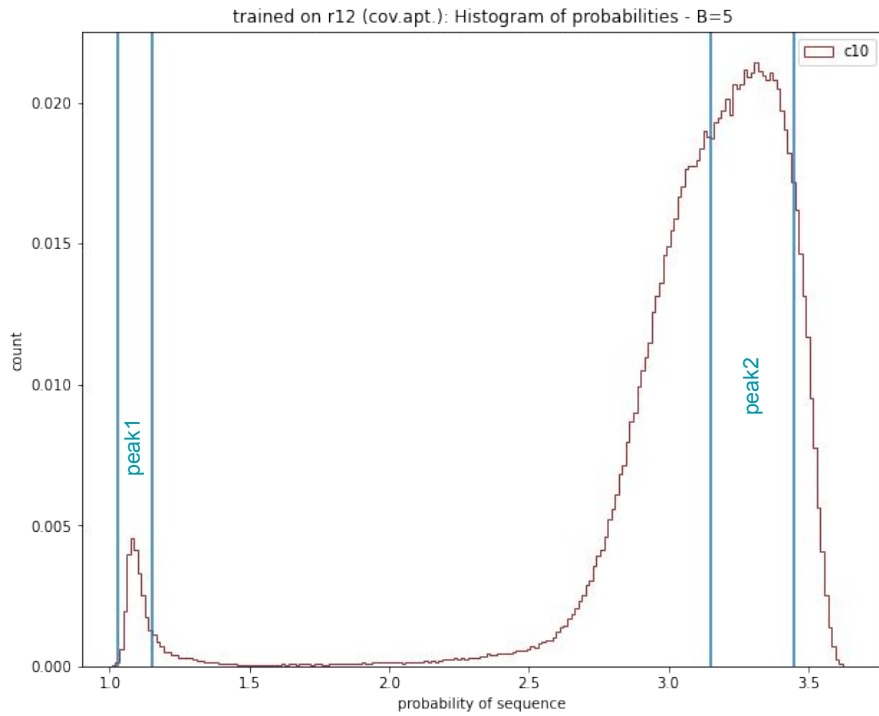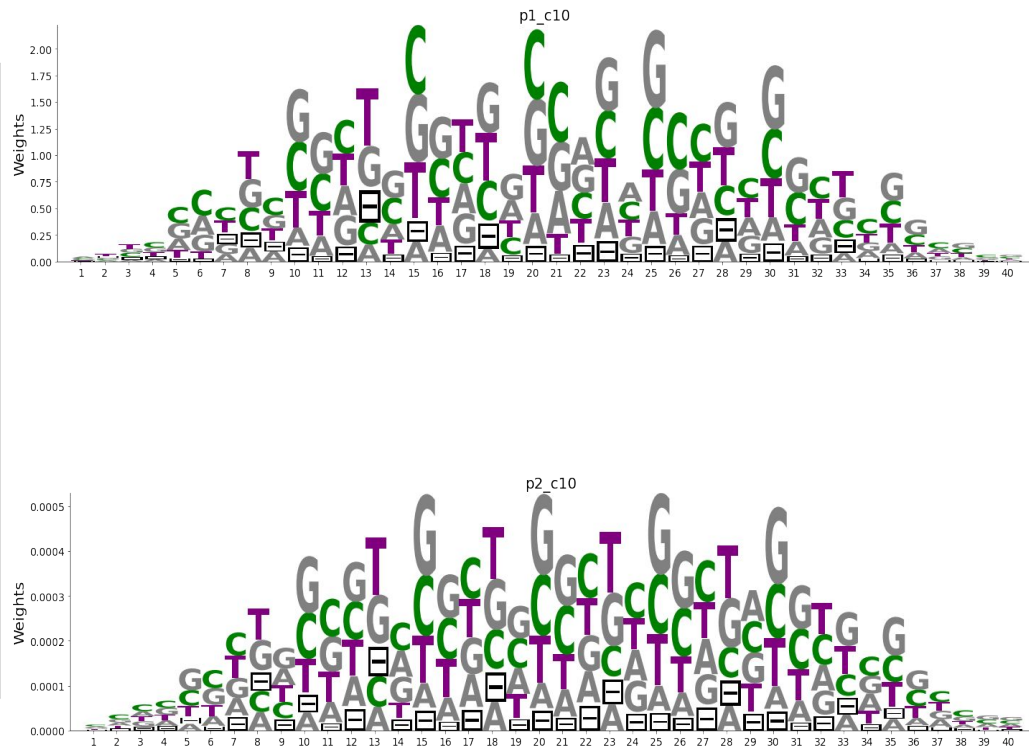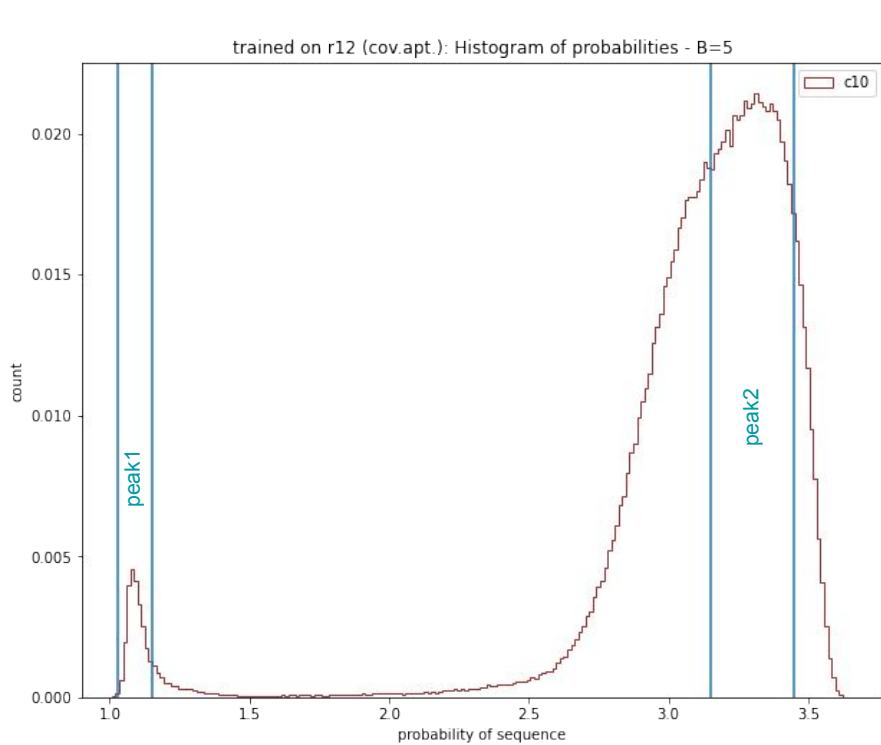
r10 of covid aptamers

r10 of covid aptamers: SALIENCY

trained on covid aptamers 10: Histogram of probabilities - B=5