Overhang set report

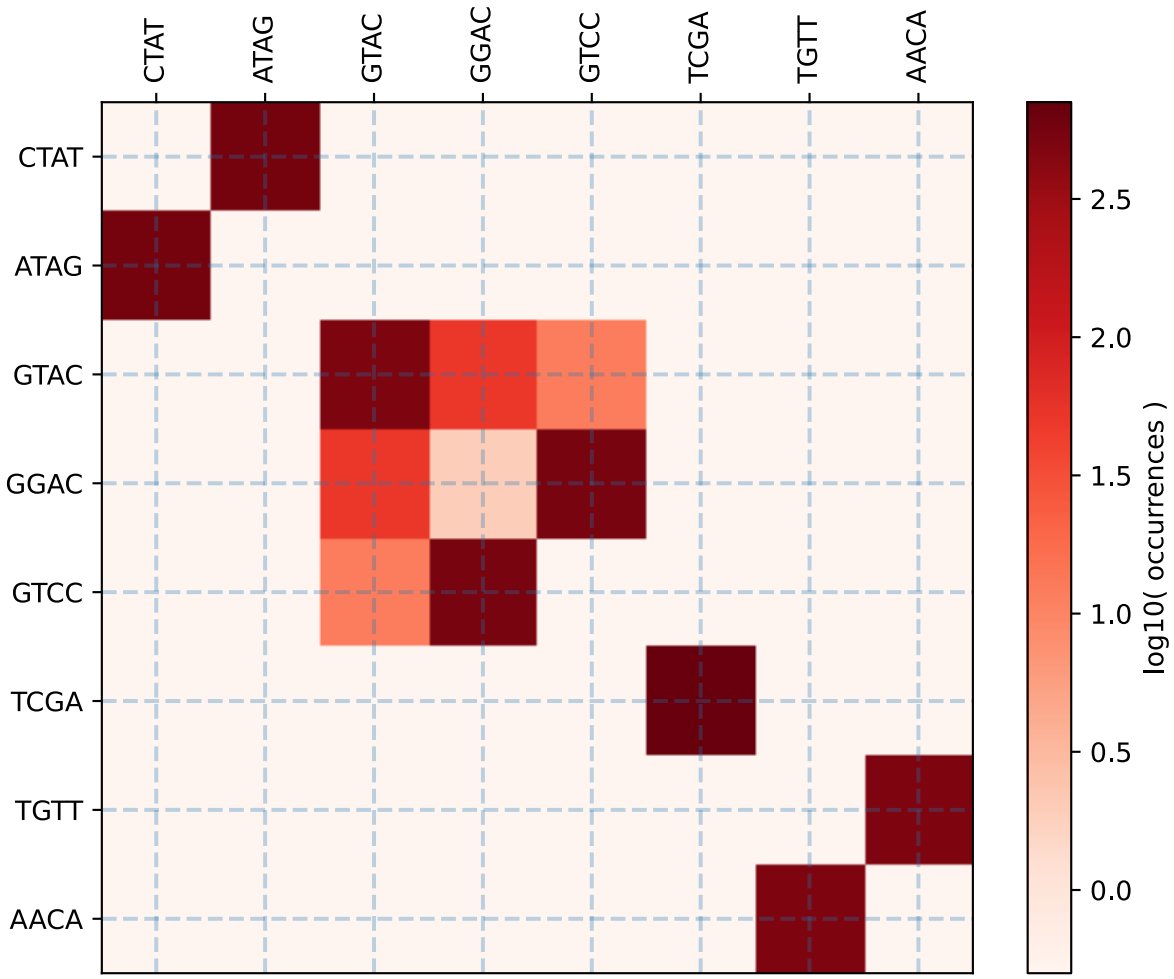
☒ EcoFlex level 2->3

There are **5** overhangs in this set. The restriction enzyme used for this set is **BsaI**.

Error! Palindromic overhang(s): GTAC; TCGA

Please see the Appendix on the last page for an explanation of details.

Tatapov annealing plot:



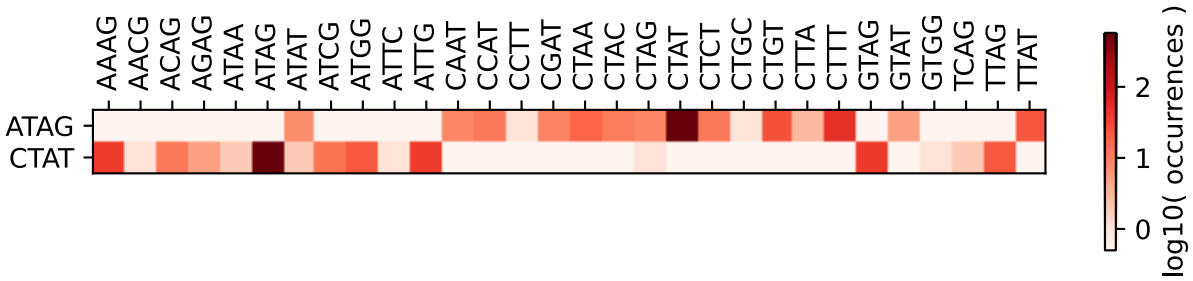
☑ ATAG CTAT

GC content: **25 %**.

Can form the following amino acids in 6 translation frames:

I[GEVDA]
[SPTG*ELKQVIRA]*
[NYDH][SR]
L[SF*LCYW]
[ISTFPGLCYVHNRDA]Y
[SPTA][IM]

Misannealing overhangs:



☒ GTAC GTAC

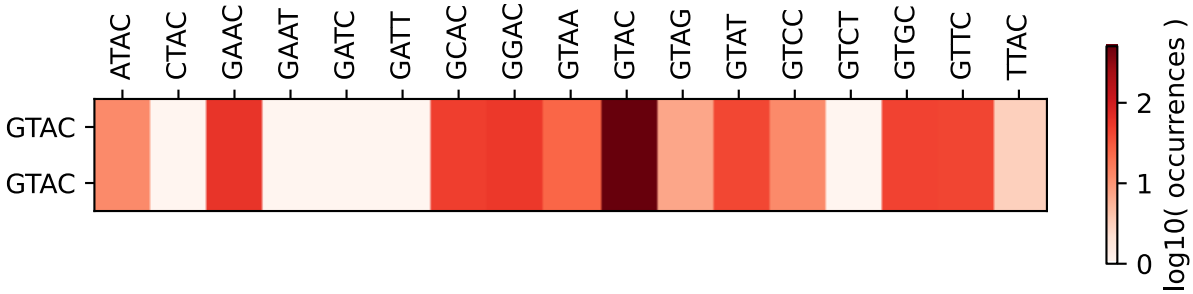
GC content: **50 %**.

The overhang is palindromic, cannot be used for DNA assembly.

Can form the following amino acids in 6 translation frames:

V[PLQHR]
[SPTGA*ELKQVMRW]Y
[SRGC][T]
V[PLQHR]
[SPTGA*ELKQVMRW]Y
[SRGC][T]

Misannealing overhangs:



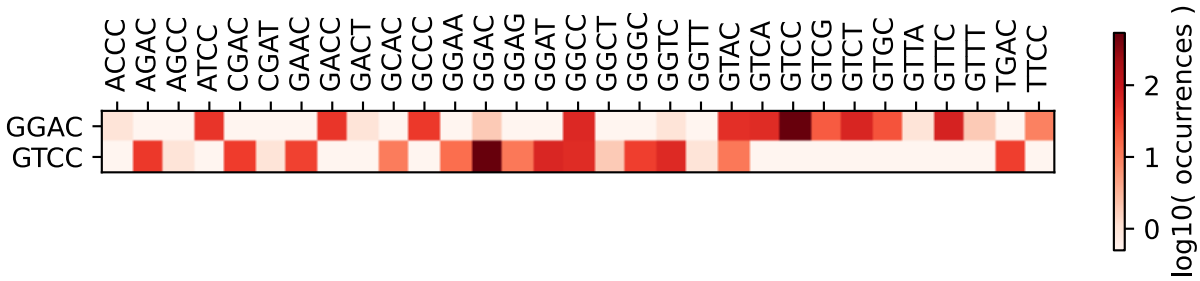
GGAC GTCC

GC content: **75 %**.

Can form the following amino acids in 6 translation frames:

G[PLQHR]
[SPTGA*ELKQVMRW]D
[RGW][T]
V[PLQHR]
[SPTGA*ELKQVMRW]S
[SRGC][P]

Misannealing overhangs:



☒ TCGA TCGA

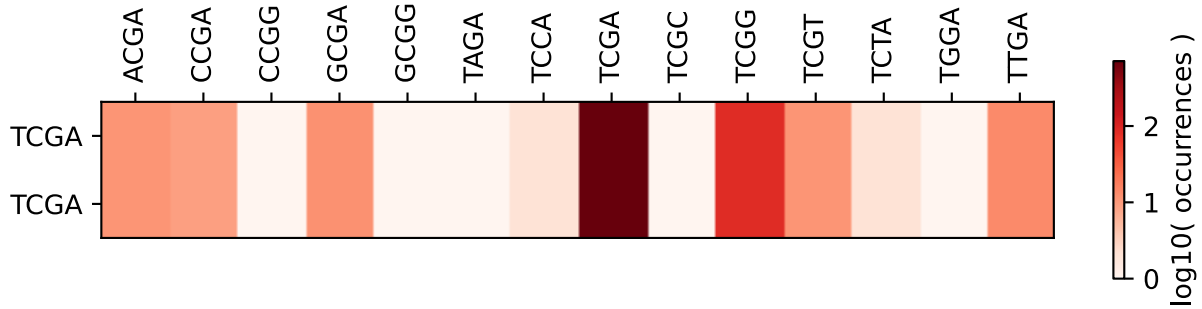
GC content: **50 %**.

The overhang is palindromic, cannot be used for DNA assembly.

Can form the following amino acids in 6 translation frames:

S[ISTKMNR]
[ISTFPGLCYVHNRDA]R
[VIFL][DE]
S[ISTKMNR]
[ISTFPGLCYVHNRDA]R
[VIFL][DE]

Misannealing overhangs:



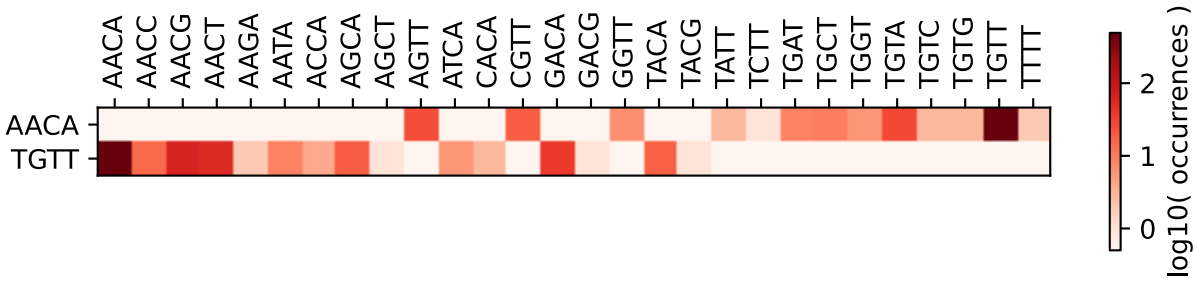
☑ AACA TGTT

GC content: **25 %**.

Can form the following amino acids in 6 translation frames:

N[ISTKMNR]
[SPTG*ELKQVIRA]T
[K*QE][QH]
C[SF*LCYW]
[ISTFPGLCYVHNRDA]V
[MVL][FL]

Misannealing overhangs:



Appendix

The report consists of 3 sections: results, overhangs, appendix.

Result page(s)

The first page describes the overhang set. The result is also summarised with a symbol:

☑ : good overhang set

⚠ : warning; there are ways to significantly improve the set

☒ : error: the set cannot be used for DNA assembly

Overhang pages

Each overhang is also analysed separately. The result is summarised with a symbol:

☑ : good overhang

☒ : unusable palindromic sequence

Overhangs are unpaired nucleotides at the end of a double-stranded linear DNA molecule. Overhangs can be on either strand; 5' or 3' overhangs. After DNA ligation with another DNA with a complementary overhang, these remain in the sequence as fusion sites ("scars").

Overhang sets

Use the GoldenHinges Python package to generate a set of mutually compatible overhangs that can be used for DNA assembly.