Edinburgh Genome Foundry

Overhang set report

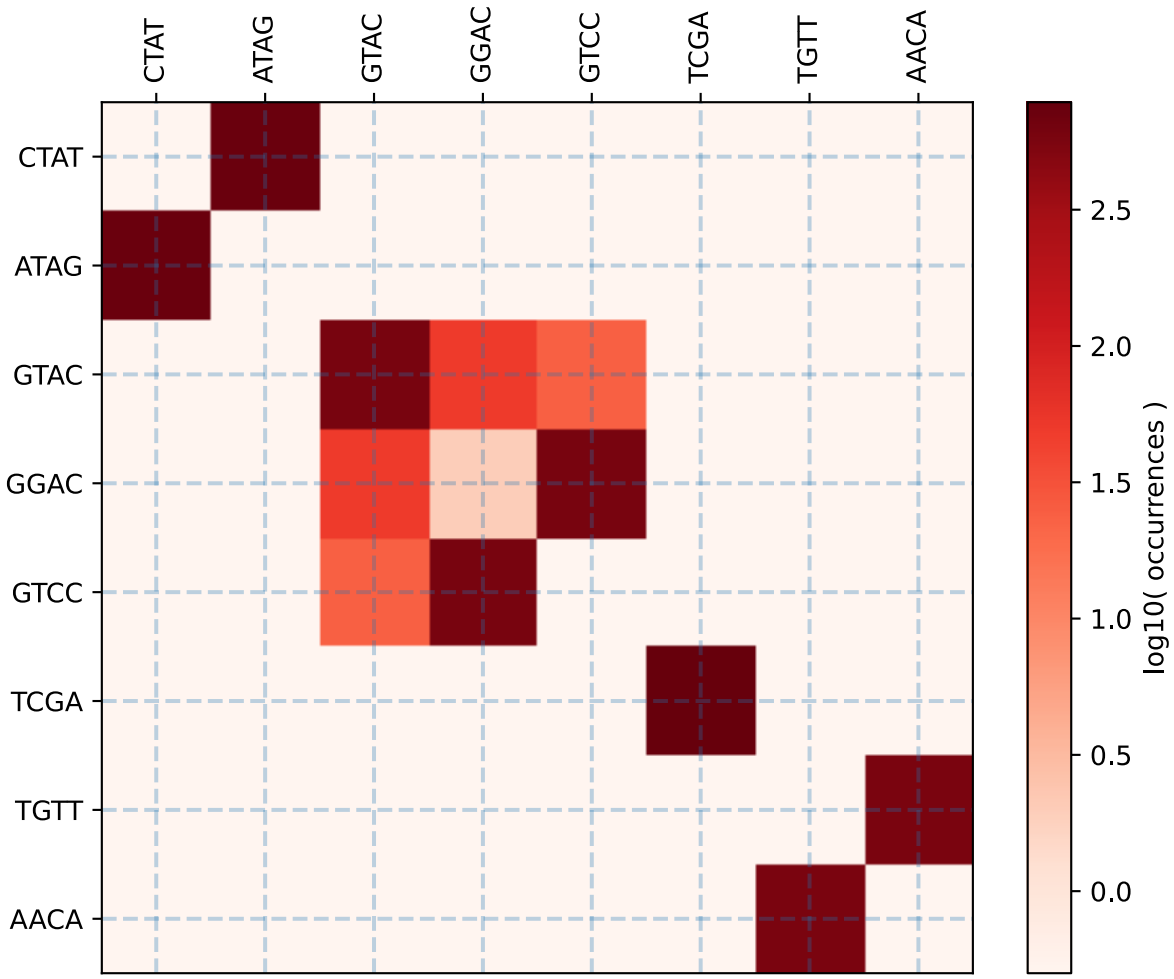
☒ EcoFlex level 2

There are **5** overhangs in this set. The restriction enzyme used for this set is **Esp3I**.

Error! Palindromic overhang(s): GTAC; TCGA

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

Tatapov annealing plot:



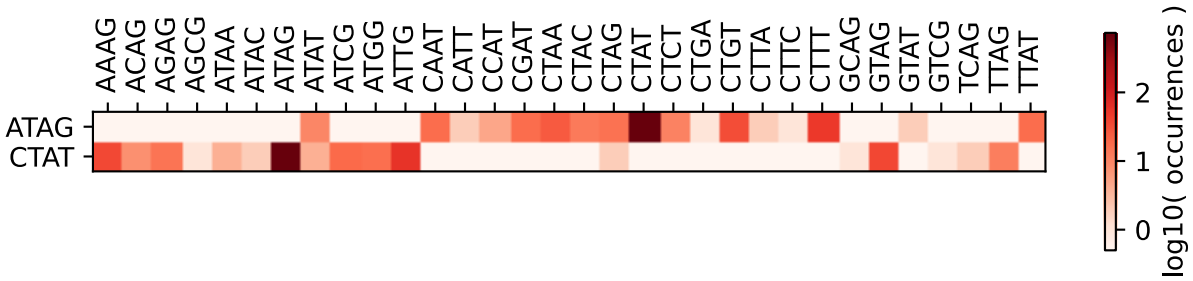
☑ ATAG CTAT

GC content: **25 %**.

Can form the following amino acids in 6 translation frames:

I[EVDGA]
[EVQLRPGT*ISAK]*
[NDYH][RS]
L[LF*SWYC]
[VNPLRDGFTISHAYC]Y
[PTAS][IM]

Misannealing overhangs:



☒ GTAC GTAC

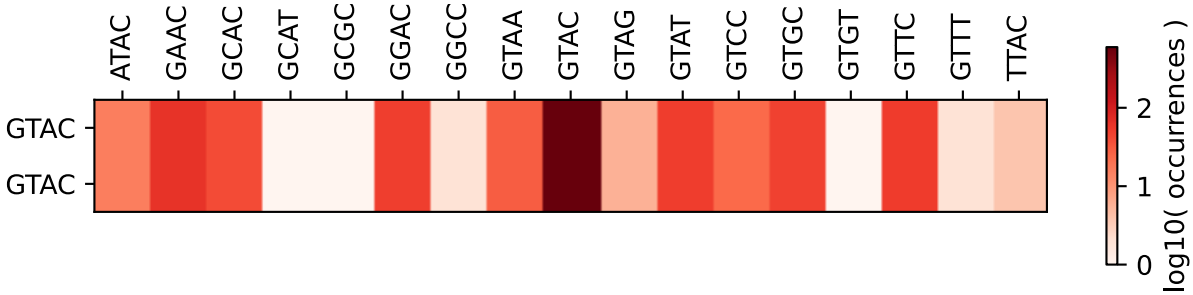
GC content: **50 %**.

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

Can form the following amino acids in 6 translation frames:

V[PQLRH]
[EVQLRPGT*MSWAK]Y
[RGSC][T]
V[PQLRH]
[EVQLRPGT*MSWAK]Y
[RGSC][T]

Misannealing overhangs:



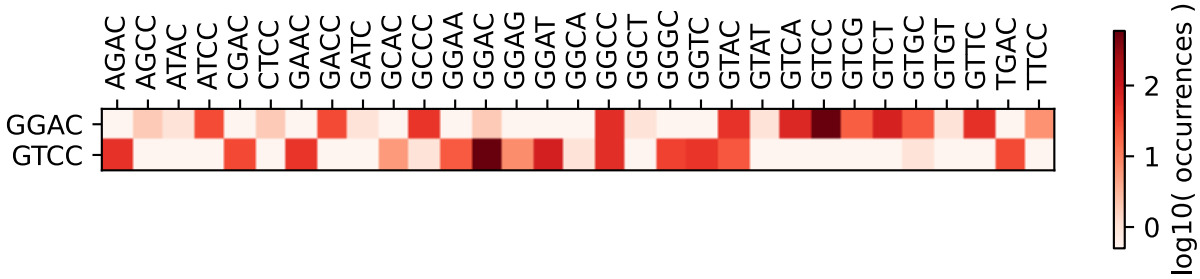
☑ GGAC GTCC

GC content: **75 %**.

Can form the following amino acids in 6 translation frames:

G[PQLRH]
[EVQLRPGT*MSWAK]D
[WRG][T]
V[PQLRH]
[EVQLRPGT*MSWAK]S
[RGSC][P]

Misannealing overhangs:



☒ TCGA TCGA

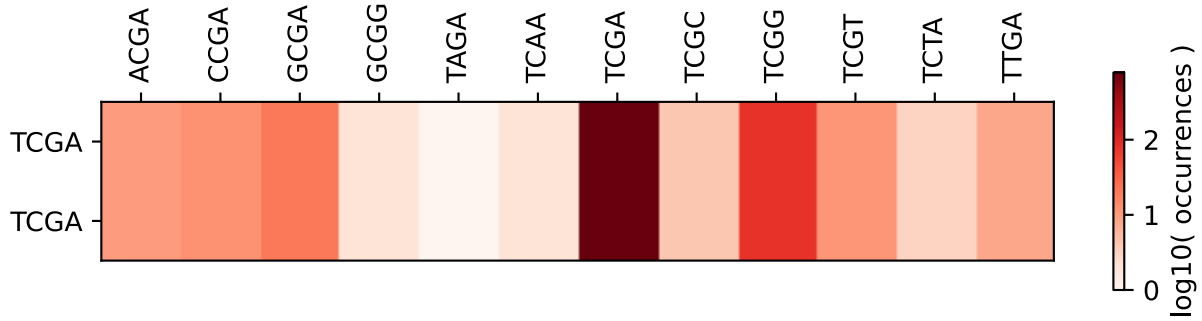
GC content: **50 %**.

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

Can form the following amino acids in 6 translation frames:

S[NRTIMSK]
[VNPLRDGFTISHAYC]R
[FLVI][DE]
S[NRTIMSK]
[VNPLRDGFTISHAYC]R
[FLVI][DE]

Misannealing overhangs:



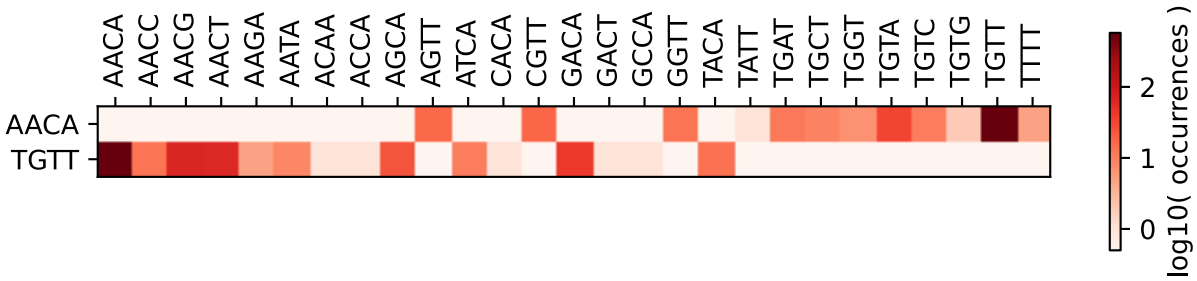
☑ AACA TGTT

GC content: **25 %**.

Can form the following amino acids in 6 translation frames:

N[NRTIMSK]
[EVQLRPGT*ISAK]T
[QKE*][QH]
C[LF*SWYC]
[VNPLRDGFTISHAYC]V
[LVM][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.