RE used = ecoRI

Dna sequence 1 =

```
gtggtacgggggtgatgaattctaggtcaaagtagtaattaattattagccaccgacccatagtgactaagaga
tactatagatcgcatgacgcgtacacagcccaacagaaggcaaatactcatttcggtatctcctaactgctcgt
aaggatggtcgagagggataccttcggatagaattcgctttactgacatcttatgcgaccgggcaagttgacgg
aactgacgacgttatcatacccttagactctaattacacattcttgaaccgagatgactgagtagaagggagct
gcatcacgggtgcaattttgacagcgcatacttggccgaaaaatctgttgccgaaaatctatgcggtgcgccaa
gtagagttatcccttgtcggtctcggttatgtcaggctcgtacgaccgtgatcttcagtcctacactcctcact
ccgagctggaattctcttgacgacgatcgatatcagatgaccagcgcgcccgtttggca
```
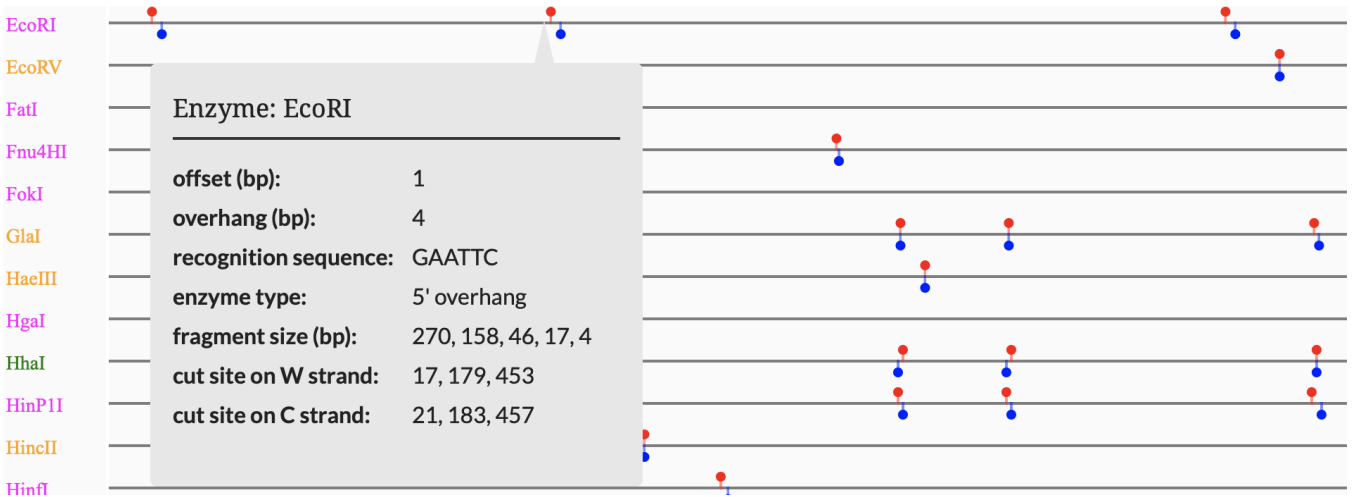
Code's results =

Cleavages =

```
gtggtacgggggtgatg|aattctaggtcaaagtagtaattaattattagccaccgacccatagtgactaagag
atactatagatcgcatgacgcgtacacagcccaacagaaggcaaatactcatttcggtatctcctaactgctcg
taaggatggtcgagagggataccttcggatag|aattcgctttactgacatcttatgcgaccgggcaagttgac
ggaactgacgacgttatcatacccttagactctaattacacattcttgaaccgagatgactgagtagaagggag
ctgcatcacgggtgcaattttgacagcgcatacttggccgaaaaatctgttgccgaaaatctatgcggtgcgcc
aagtagagttatcccttgtcggtctcggttatgtcaggctcgtacgaccgtgatcttcagtcctacactcctca
ctccgagctgg|aattctcttgacgacgatcgatatcagatgaccagcgcgcccgtttggca
```

indexs of cleavages =

```
ecoRI split at the index on W strand: 17
ecoRI split at the index on W strand: 179
ecoRI split at the index on W strand: 453
```

On using online mapper, we get the following cut sites on the W strands

Dna sequence 2

```
ttcctttgctcccagcggttccgatgccggggacaccgacatccacgtggccgacagtattactggccgcgaca
ccgagtgcgtagccagtagtctaggtggcgaattcgttcactcatgagctcaggttccgatccttagcacgcca
caaggaattcttaggctcatatcccgggtataggtcctatcaaaagccgttgactcttcaattgaagtgggttg
aacgactgggaatcatgcatgccggatcgtcttcgggctgcaagtcacagctaatccgcatatgcaaaaatga
gctttaggcctccattgcttttgtcctagtcttctcgccagcgcgatagatgtatcagcataggagacggctct
ttagcaagtggaattcctgaggcgtaacagaattcaaaacaaatacagagctgaaatgaacggtgctacaggct
gcaggaaagtcctcaattgtttagcctgaaaaaataaattctacagtctgagataaccgctgatctggaaagga
tgcgcaagtgtcattactgcttcgatgatcgggttgttcggtaaatctgaatcct
```
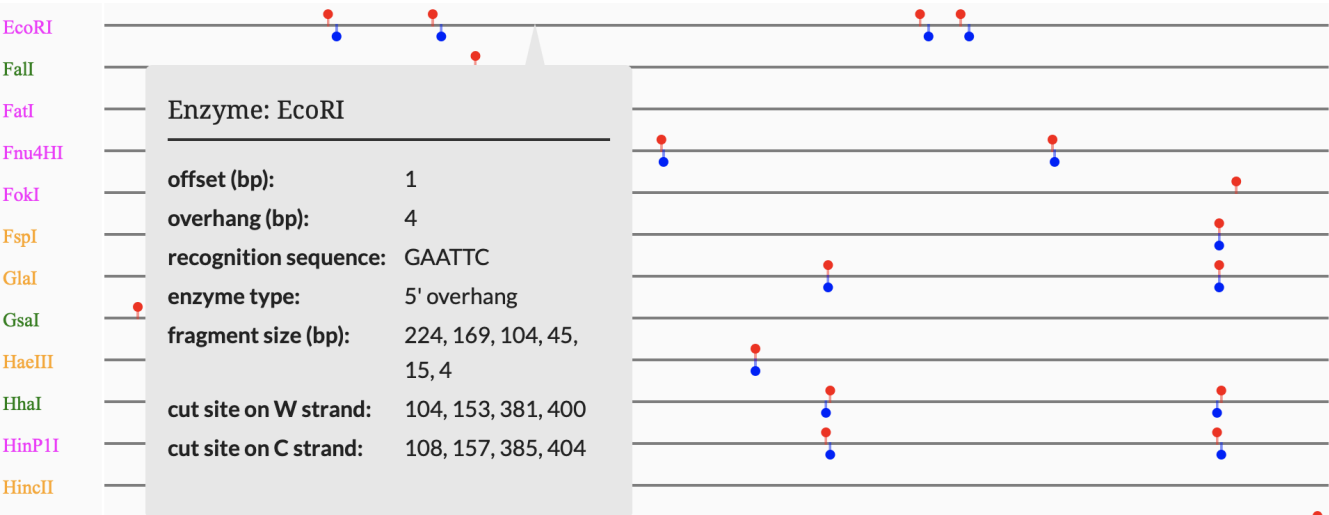
code's results =

Cleavages -

```
ttcctttgctcccagcggttccgatgccggggacaccgacatccacgtggccgacagtattactggccgcgaca
ccgagtgcgtagccagtagtctaggtggcg|aattcgttcactcatgagctcaggttccgatccttagcacgcc
acaagg|aattcttaggctcatatcccgggtataggtcctatcaaaagccgttgactcttcaattgaagtgggt
tgaacgactgggaatcatgcatgccggatcgtcttcgggctgcaagtcacagctaatccgcatatgcaaaaat
gagctttaggcctccattgcttttgtcctagtcttctcgccagcgcgatagatgtatcagcataggagacggct
ctttagcaagtgg|aattcctgaggcgtaacag|aattcaaaacaaatacagagctgaaatgaacggtgctaca
ggctgcaggaaagtcctcaattgtttagcctgaaaaaataaattctacagtctgagataaccgctgatctggaa
aggatgcgcaagtgtcattactgcttcgatgatcgggttgttcggtaaatctgaatcct
```

indexs of cleavages =

```
ecoRI split at the index on W strand: 104
ecoRI split at the index on W strand: 153
ecoRI split at the index on W strand: 381
ecoRI split at the index on W strand: 400
```

On using online mapper, we get the following cut sites on the W strands

Dna sequence 3

```
ggtccttgggaagcattaggtcccgtctttgtgtaaatctcatgcgtttggtaagtaatgggcacctcagggct
gttcgatctgccgactgtggggtcagttacgtaagccatgggtaccgagaattcggtaaggcagtgattgacag
taaactcgaggcacaaaccgtagtggcattcgacaactgcggatccgattctttttccccagccagtctgtcaga
ggttgacttccttgtttgcctgccaatcacgtgaaggaagagcgtatagctttttttgctttgtaccgctatgt
tttggtaccgtatgaagggcccttccaacagaccaagggtagagcaaatcgtcctgtgctaaacgccattgtaa
tgtttcctcgtagctggaccctttggtcgcagttacgagtactatctaaagcattactttgaactctcatcgcc
gcgtgcactgacagtccgtacgcgtccgctatgcggactttgcacctctgagtctaagccatacaaatacacat
cagcgcgcagaattctacaccatatgaattcgctgagcatctaaagctccgtttttcgcctaaccctagagaggc
acgcaggttccacatgataattgcctgcttgagaaactcgagctagcattttgacagagcatcaagcttaacga
attgat
```
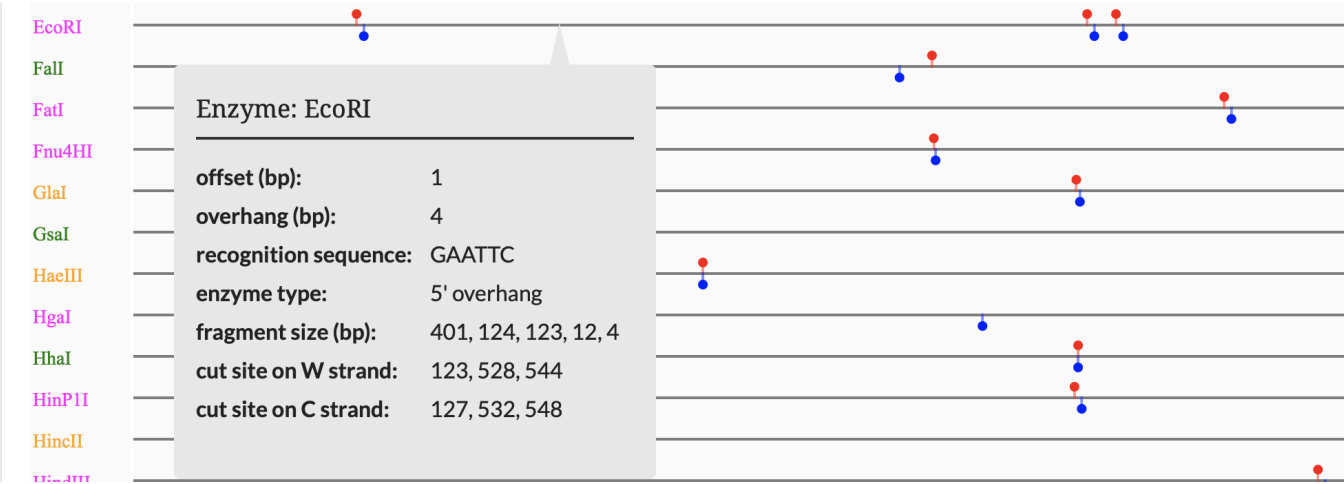
code's results =

Cleavages -

```
ggtccttgggaagcattaggtcccgtctttgtgtaaatctcatgcgtttggtaagtaatgggcacctcagggct
gttcgatctgccgactgtggggtcagttacgtaagccatgggtaccgag|aattcggtaaggcagtgattgaca
gtaaactcgaggcacaaaccgtagtggcattcgacaactgcggatccgattctttttccccagccagtctgtcag
aggttgacttccttgtttgcctgccaatcacgtgaaggaagagcgtatagctttttttgctttgtaccgctatg
tttttggtaccgtatgaagggcccttccaacagaccaagggtagagcaaatcgtcctgtgctaaacgccattgta
atgtttcctcgtagctggaccctttggtcgcagttacgagtactatctaaagcattactttgaactctcatcgc
cgcgtgcactgacagtccgtacgcgtccgctatgcggactttgcacctctgagtctaagccatacaaatacaca
tcagcgcgcag|aattctacaccatatg|aattcgctgagcatctaaagctccgtttttcgcctaaccctagaga
ggcacgcaggttccacatgataattgcctgcttgagaaactcgagctagcattttgacagagcatcaagcttaa
cgaattgat
```

indexs of cleavages =

```
ecoRI split at the index on W strand: 123
ecoRI split at the index on W strand: 528
ecoRI split at the index on W strand: 544
```

On using online mapper, we get the following cut sites on the W strands

EcoRI		
FaII		
FatI		
Fnu4HI		
GlaI		
GsaI		
HaeIII		
HgaI		
HhaI		
HinP1I		
HincII		

Enzyme: EcoRI

offset (bp):	1
overhang (bp):	4
recognition sequence:	GAATTC
enzyme type:	5' overhang
fragment size (bp):	401, 124, 123, 12, 4
cut site on W strand:	123, 528, 544
cut site on C strand:	127, 532, 548

Dna sequence 4

```
aaccccaaagtcgccagatataccgcgtatccttcccatcccctgcctatcttgacccacttgtactgacgtgc
ccaagtccatacgccagtacggaacacaaggggggcatctcaggctgcaaagcctgcaccgtgagcttcgtagct
acgttatgtctaattgaactccagctcatgacctctaacggagttcgtaggacgtggatgaggcgtgaggggcc
ctcgctggagggtttttttggggtacagccaacggcttgtgtcgtgttcgggggtacgcgaactaccctttcgt
agctactttgttctctataggtttcataagggttcctggcatcttgaatacgtgtttggagtgcctgcggtcag
gcgccgtatgatagtctctcgtactcgttctgagtcaccgctatcagtatcactcctcaataatattttacgct
ccgttaccaggcatagtccgaactagaggccgcgttaagcgggacctcctaccgcg
```

code's results =

Cleavages -

```
aaccccaaagtcgccagatataccgcgtatccttcccatcccctgcctatcttgacccacttgtactgacgtgc
ccaagtccatacgccagtacggaacacaaggggggcatctcaggctgcaaagcctgcaccgtgagcttcgtagct
acgttatgtctaattgaactccagctcatgacctctaacggagttcgtaggacgtggatgaggcgtgaggggcc
ctcgctggagggtttttttggggtacagccaacggcttgtgtcgtgttcgggggtacgcgaactaccctttcgt
agctactttgttctctataggtttcataagggttcctggcatcttgaatacgtgtttggagtgcctgcggtcag
gcgccgtatgatagtctctcgtactcgttctgagtcaccgctatcagtatcactcctcaataatattttacgct
ccgttaccaggcatagtccgaactagaggccgcgttaagcgggacctcctaccgcg
```

indexs of cleavages =

```
NONE
```

On using online mapper, we get the following cut sites on the W strands

Enzymes that do not cut:

AarI	AatII	AbsI	AccI	Acc65I	AclI	AcuI	AfeI	AflII	AgeI	AhdI	AleI	AlfI	AloI	AlwI
AlwNI	ApaLI	AscI	AseI	AsiSI	AvaI	AvrII	BaeI	BamHI	BarI	BbsI	BbvCI	BcgI	BclI	BdaI
BglI	BglII	BlpI	BmeT110I	BmrI	BmtI	Bpu10I	BpuEI	BsaI	BsaBI	BsaJI	BsaWI	BsaXI	BseYI	BsiEI
BsiHKAI	BsiWI	BsmI	BsmBI	BsmFI	DspEI	BspMI	BsrBI	BsrDI	BsrFI	BsrGI	BssHII	BssSI	BstBI	BstEII
BstKTI	BstXI	BstYI	BstZ17I	Bsu36I	BtgI	BtgZI	BtsI	ClaI	CspCI	DpnI	DraI	DraIII	DrdI	EaeI
EagI	EarI	EciI	EcoICRI	EcoNI	EcoRI	EcoRV	FalI	FseI	FspI	FspAI	GsaI	HgaI	HincII	HindIII
HpaI	HpaII	Hpy99I	Hpy166II	KpnI	MauI	MboI	MboII	MfeI	MluI	MmeI	MreI	MscI	MslI	MspA1I
NaeI	NciI	NcoI	NdeI	NgoMIV	NheI	NmeAIII	NotI	NruI	NsiI	NspI	PacI	PasI	PciI	PflMI
PfoI	PmeI	PmlI	PshAI	PsiI	PspXI	PsrI	PstI	PvuI	PvuII	RsrII	SacI	SacII	SalI	SanDI
SapI	SbfI	ScaI	SexAI	SfiI	SgrAI	SgrDI	SmaI	SmlI	SnaBI	SpeI	SphI	SrfI	StuI	StyI
SwaI	TaqI	TaqII	TfiI	TsoI	TspRI	Tth111I	XbaI	XcmI	XhoI	XmaI	XmnI	ZraI		