**pUCmu PCR simulation**

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limit: 13

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# pcr

| Component | Name | Size | Seguid |

|-------------|-----------------|--------|--------------------------------------|

| fw primer | ori\_amp\_fw | 16 | lsseguid=g2ARR62t8EM0dOandaA-VeryZSg |

| rv primer | ori-amp\_rv | 20 | lsseguid=8Mtfa19i3MbFNDpN62bjI5loJuU |

| template | ori-amp | 1536 | ldseguid=XFYraLAaryuZlN1GqraV32i4\_Uc |

| pcr product | 1536bp\_PCR\_prod | 1536 | ldseguid=XFYraLAaryuZlN1GqraV32i4\_Uc |

```

5tttccataggctccgc...gtctcatgagcggatacata3

||||||||||||||||||||

3cagagtactcgcctatgtat5

5tttccataggctccgc3

||||||||||||||||

3aaaggtatccgaggcg...cagagtactcgcctatgtat5

```

Suggested program for Taq DNA polymerase.

```

|95°C|95°C | |tmf:56.7

|\_\_\_\_|\_\_\_\_\_ 72°C|72°C|tmr:56.8

|3min|30s \ 58.2°C \_\_\_\_\_|\_\_\_\_|45s/kb

| | \\_\_\_\_\_\_/ 1:09|5min|GC 50%

| | 30s | |1536bp

```

```

>ori\_amp\_fw lsseguid=g2ARR62t8EM0dOandaA-VeryZSg (fw)

tttccataggctccgc

>ori-amp\_rv lsseguid=8Mtfa19i3MbFNDpN62bjI5loJuU (rv)

tatgtatccgctcatgagac

>ori-amp ldseguid=XFYraLAaryuZlN1GqraV32i4\_Uc (template)

tttccataggctccgcccccctgacgagcatcacaaaaatcgacgctcaagtcagaggtggcgaaacccgacaggactataaagataccaggcgtttccccctggaagctccctcgtgcgctctcctgttccgaccctgccgcttaccggatacctgtccgcctttctcccttcgggaagcgtggcgctttctcatagctcacgctgtaggtatctcagttcggtgtaggtcgttcgctccaagctgggctgtgtgcacgaaccccccgttcagcccgaccgctgcgccttatccggtaactatcgtcttgagtccaacccggtaagacacgacttatcgccactggcagcagccactggtaacaggattagcagagcgaggtatgtaggcggtgctacagagttcttgaagtggtggcctaactacggctacactagaagaacagtatttggtatctgcgctctgctgaagccagttaccttcggaaaaagagttggtagctcttgatccggcaaacaaaccaccgctggtagcggtggtttttttgtttgcaagcagcagattacgcgcagaaaaaaaggatctcaagaagatcctttgatcttttctactaccaatgcttaatcagtgaggcacctatctcagcgatctgtctatttcgttcatccatagttgcctgactccccgtcgtgtagataactacgatacgggagggcttaccatctggccccagtgctgcaatgataccgcgagacccacgctcaccggctccagatttatcagcaataaaccagccagccggaagggccgagcgcagaagtggtcctgcaactttatccgcctccatccagtctattaattgttgccgggaagctagagtaagtagttcgccagttaatagtttgcgcaacgttgttgccattgctacaggcatcgtggtgtcacgctcgtcgtttggtatggcttcattcagctccggttcccaacgatcaaggcgagttacatgatcccccatgttgtgcaaaaaagcggttagctccttcggtcctccgatcgttgtcagaagtaagttggccgcagtgttatcactcatggttatggcagcactgcataattctcctactgtcatgccatccgtaagatgcttttctgtgactggtgagtactcaaccaagtcattctgagaatagtgtatgcggcgaccgagttgctcttgcccggcgtcaatacgggataataccgcgccacatagcagaactttaaaagtgctcatcattggaaaacgttcttcggggcgaaaactctcaaggatcttaccgctgttgagatccagttcgatgtaacccactcgtgcacccaactgatcttcagcatcttttactttcaccagcgtttctgggtgagcaaaaacaggaaggcaaaatgccgcaaaaaagggaataagggcgacacggaaatgttgaatactcatactcttcctttttcaatattattgaagcatttatcagggttattgtctcatgagcggatacata

>1536bp\_PCR\_prod ldseguid=XFYraLAaryuZlN1GqraV32i4\_Uc (pcr product)

tttccataggctccgcccccctgacgagcatcacaaaaatcgacgctcaagtcagaggtggcgaaacccgacaggactataaagataccaggcgtttccccctggaagctccctcgtgcgctctcctgttccgaccctgccgcttaccggatacctgtccgcctttctcccttcgggaagcgtggcgctttctcatagctcacgctgtaggtatctcagttcggtgtaggtcgttcgctccaagctgggctgtgtgcacgaaccccccgttcagcccgaccgctgcgccttatccggtaactatcgtcttgagtccaacccggtaagacacgacttatcgccactggcagcagccactggtaacaggattagcagagcgaggtatgtaggcggtgctacagagttcttgaagtggtggcctaactacggctacactagaagaacagtatttggtatctgcgctctgctgaagccagttaccttcggaaaaagagttggtagctcttgatccggcaaacaaaccaccgctggtagcggtggtttttttgtttgcaagcagcagattacgcgcagaaaaaaaggatctcaagaagatcctttgatcttttctactaccaatgcttaatcagtgaggcacctatctcagcgatctgtctatttcgttcatccatagttgcctgactccccgtcgtgtagataactacgatacgggagggcttaccatctggccccagtgctgcaatgataccgcgagacccacgctcaccggctccagatttatcagcaataaaccagccagccggaagggccgagcgcagaagtggtcctgcaactttatccgcctccatccagtctattaattgttgccgggaagctagagtaagtagttcgccagttaatagtttgcgcaacgttgttgccattgctacaggcatcgtggtgtcacgctcgtcgtttggtatggcttcattcagctccggttcccaacgatcaaggcgagttacatgatcccccatgttgtgcaaaaaagcggttagctccttcggtcctccgatcgttgtcagaagtaagttggccgcagtgttatcactcatggttatggcagcactgcataattctcctactgtcatgccatccgtaagatgcttttctgtgactggtgagtactcaaccaagtcattctgagaatagtgtatgcggcgaccgagttgctcttgcccggcgtcaatacgggataataccgcgccacatagcagaactttaaaagtgctcatcattggaaaacgttcttcggggcgaaaactctcaaggatcttaccgctgttgagatccagttcgatgtaacccactcgtgcacccaactgatcttcagcatcttttactttcaccagcgtttctgggtgagcaaaaacaggaaggcaaaatgccgcaaaaaagggaataagggcgacacggaaatgttgaatactcatactcttcctttttcaatattattgaagcatttatcagggttattgtctcatgagcggatacata

**pYPKa PCR simulation**

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limit: 13

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# pcr

| Component | Name | Size | Seguid |

|-------------|----------------|--------|--------------------------------------|

| fw primer | prom-crpS\_fw | 27 | lsseguid=4ww4-Go-LzY0TCFwFB7rARZfsuc |

| rv primer | prom-crpS\_rv | 18 | lsseguid=no08l\_VNYzaG92CnH4sV3ScJpVY |

| template | prom-crpS | 713 | ldseguid=bgxWLvnN6a\_dch0xuaLYBf494h0 |

| pcr product | 713bp\_PCR\_prod | 713 | ldseguid=bgxWLvnN6a\_dch0xuaLYBf494h0 |

```

5ataaaaaatttatTTGCTTtcaggtac...gtttacggcactcgttaa3

||||||||||||||||||

3caaatgccgtgagcaatt5

5ataaaaaatttatttgctttcaggtac3

|||||||||||||||||||||||||||

3tattttttaaataAACGAAagtccatg...caaatgccgtgagcaatt5

```

Suggested program for Taq DNA polymerase.

```

|95°C|95°C | |tmf:55.2

|\_\_\_\_|\_\_\_\_\_ 72°C|72°C|tmr:55.2

|3min|30s \ 56.0°C \_\_\_\_\_|\_\_\_\_|45s/kb

| | \\_\_\_\_\_\_/ 0:32|5min|GC 45%

| | 30s | |713bp

```

```

>prom-crpS\_fw lsseguid=4ww4-Go-LzY0TCFwFB7rARZfsuc (fw)

ataaaaaatttatttgctttcaggtac

>prom-crpS\_rv lsseguid=no08l\_VNYzaG92CnH4sV3ScJpVY (rv)

ttaacgagtgccgtaaac

>prom-crpS ldseguid=bgxWLvnN6a\_dch0xuaLYBf494h0 (template)

ataaaaaatttatTTGCTTtcaggtacaattcttgaTATAATattatcatctagctagataataaaaatttaaggatcttatggtacttggtaaacctcaaacggatcctactctcgaatggttcttgtctcattgccacattcataagtacccatccaagagcacgcttattcaccagggtgaaaaagcggaaacgctgtactacatcgttaaaggctctgtggcagtgctgatcaaagacgaagagggtaaagaaatgatcctctcctatctgaatcagggtgattttattggcgaactgggcctgtttgaagagggccaggaacgtagcgcatgggtacgtgcgaaaaccgcctgtgaagtggctgaaatttcgtacaaaaaatttcgccaattgattcaggtaaatccggatatcctgatgcgtttgtctgcacagatggcacgtcggctgcaggtcactagtgagaaagtgggcaacctggcgttcctcgacgtcagcggccgcattgcacagactctgctgaatctggcaaaacaaccagacgctatgactcacccggacggcatgcaaatcaaaattacccgtcaggaaattggccagattgtcggctgctctagacaaaccgtgggacgaattcttaagatgctcgaggatcagaacctgatctccgcacacggtaaaaccatcgtcgtttacggcactcgttaa

>713bp\_PCR\_prod ldseguid=bgxWLvnN6a\_dch0xuaLYBf494h0 (pcr product)

ataaaaaatttatttgctttcaggtacaattcttgaTATAATattatcatctagctagataataaaaatttaaggatcttatggtacttggtaaacctcaaacggatcctactctcgaatggttcttgtctcattgccacattcataagtacccatccaagagcacgcttattcaccagggtgaaaaagcggaaacgctgtactacatcgttaaaggctctgtggcagtgctgatcaaagacgaagagggtaaagaaatgatcctctcctatctgaatcagggtgattttattggcgaactgggcctgtttgaagagggccaggaacgtagcgcatgggtacgtgcgaaaaccgcctgtgaagtggctgaaatttcgtacaaaaaatttcgccaattgattcaggtaaatccggatatcctgatgcgtttgtctgcacagatggcacgtcggctgcaggtcactagtgagaaagtgggcaacctggcgttcctcgacgtcagcggccgcattgcacagactctgctgaatctggcaaaacaaccagacgctatgactcacccggacggcatgcaaatcaaaattacccgtcaggaaattggccagattgtcggctgctctagacaaaccgtgggacgaattcttaagatgctcgaggatcagaacctgatctccgcacacggtaaaaccatcgtcgtttacggcactcgttaa

Primers with tails:

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limit: 13

---

# pcr

| Component | Name | Size | Seguid |

|-------------|----------------|--------|--------------------------------------|

| fw primer | prom-crpS\_fw | 49 | lsseguid=xgsxuepfBK7iwAOm6d5ZPSfzfao |

| rv primer | prom-crpS\_rv | 40 | lsseguid=nwgqKYABXqHrvH4mi2CyAYVtRvY |

| template | prom-crpS | 713 | ldseguid=bgxWLvnN6a\_dch0xuaLYBf494h0 |

| pcr product | 757bp\_PCR\_prod | 757 | ldseguid=VcsSio0iH\_\_oenir\_UK\_-M4rDsY |

```

5ataaaaaatttatTTGCTTtcaggtac...gtttacggcactcgttaa3

||||||||||||||||||

3caaatgccgtgagcaattAAAGGTATCCGAGGCGGGGGGA5

5TTGTCTCATGAGCGGATACATAataaaaaatttatttgctttcaggtac3

|||||||||||||||||||||||||||

3tattttttaaataAACGAAagtccatg...caaatgccgtgagcaatt5

```

Suggested program for Taq DNA polymerase.

```

|95°C|95°C | |tmf:55.2

|\_\_\_\_|\_\_\_\_\_ 72°C|72°C|tmr:55.2

|3min|30s \ 56.2°C \_\_\_\_\_|\_\_\_\_|45s/kb

| | \\_\_\_\_\_\_/ 0:34|5min|GC 46%

| | 30s | |757bp

```

```

>prom-crpS\_fw lsseguid=xgsxuepfBK7iwAOm6d5ZPSfzfao (fw)

TTGTCTCATGAGCGGATACATAataaaaaatttatttgctttcaggtac

>prom-crpS\_rv lsseguid=nwgqKYABXqHrvH4mi2CyAYVtRvY (rv)

AGGGGGGCGGAGCCTATGGAAAttaacgagtgccgtaaac

>prom-crpS ldseguid=bgxWLvnN6a\_dch0xuaLYBf494h0 (template)

ataaaaaatttatTTGCTTtcaggtacaattcttgaTATAATattatcatctagctagataataaaaatttaaggatcttatggtacttggtaaacctcaaacggatcctactctcgaatggttcttgtctcattgccacattcataagtacccatccaagagcacgcttattcaccagggtgaaaaagcggaaacgctgtactacatcgttaaaggctctgtggcagtgctgatcaaagacgaagagggtaaagaaatgatcctctcctatctgaatcagggtgattttattggcgaactgggcctgtttgaagagggccaggaacgtagcgcatgggtacgtgcgaaaaccgcctgtgaagtggctgaaatttcgtacaaaaaatttcgccaattgattcaggtaaatccggatatcctgatgcgtttgtctgcacagatggcacgtcggctgcaggtcactagtgagaaagtgggcaacctggcgttcctcgacgtcagcggccgcattgcacagactctgctgaatctggcaaaacaaccagacgctatgactcacccggacggcatgcaaatcaaaattacccgtcaggaaattggccagattgtcggctgctctagacaaaccgtgggacgaattcttaagatgctcgaggatcagaacctgatctccgcacacggtaaaaccatcgtcgtttacggcactcgttaa

>757bp\_PCR\_prod ldseguid=VcsSio0iH\_\_oenir\_UK\_-M4rDsY (pcr product)

TTGTCTCATGAGCGGATACATAataaaaaatttatttgctttcaggtacaattcttgaTATAATattatcatctagctagataataaaaatttaaggatcttatggtacttggtaaacctcaaacggatcctactctcgaatggttcttgtctcattgccacattcataagtacccatccaagagcacgcttattcaccagggtgaaaaagcggaaacgctgtactacatcgttaaaggctctgtggcagtgctgatcaaagacgaagagggtaaagaaatgatcctctcctatctgaatcagggtgattttattggcgaactgggcctgtttgaagagggccaggaacgtagcgcatgggtacgtgcgaaaaccgcctgtgaagtggctgaaatttcgtacaaaaaatttcgccaattgattcaggtaaatccggatatcctgatgcgtttgtctgcacagatggcacgtcggctgcaggtcactagtgagaaagtgggcaacctggcgttcctcgacgtcagcggccgcattgcacagactctgctgaatctggcaaaacaaccagacgctatgactcacccggacggcatgcaaatcaaaattacccgtcaggaaattggccagattgtcggctgctctagacaaaccgtgggacgaattcttaagatgctcgaggatcagaacctgatctccgcacacggtaaaaccatcgtcgtttacggcactcgttaaTTTCCATAGGCTCCGCCCCCCT

##############################

**pYPKµ assembly**

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limit: 13

topology: circular

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# Assembly

```

-|757bp\_PCR\_prod|22

| \/

| /\

| 22|1536bp\_PCR\_prod|22

| \/

| /\

| 22-

| |

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Detailed figure:

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||||||||||||||||||||||

TTGTCTCATGAGCGGATACATAataaaaaatttatttgctttcaggtacaattcttgaTATAATattatcatctagctagataataaaaatttaaggatcttatggtacttggtaaacctcaaacggatcctactctcgaatggttcttgtctcattgccacattcataagtacccatccaagagcacgcttattcaccagggtgaaaaagcggaaacgctgtactacatcgttaaaggctctgtggcagtgctgatcaaagacgaagagggtaaagaaatgatcctctcctatctgaatcagggtgattttattggcgaactgggcctgtttgaagagggccaggaacgtagcgcatgggtacgtgcgaaaaccgcctgtgaagtggctgaaatttcgtacaaaaaatttcgccaattgattcaggtaaatccggatatcctgatgcgtttgtctgcacagatggcacgtcggctgcaggtcactagtgagaaagtgggcaacctggcgttcctcgacgtcagcggccgcattgcacagactctgctgaatctggcaaaacaaccagacgctatgactcacccggacggcatgcaaatcaaaattacccgtcaggaaattggccagattgtcggctgctctagacaaaccgtgggacgaattcttaagatgctcgaggatcagaacctgatctccgcacacggtaaaaccatcgtcgtttacggcactcgttaaTTTCCATAGGCTCCGCCCCCCT

TTTCCATAGGCTCCGCCCCCCT

tttccataggctccgcccccctgacgagcatcacaaaaatcgacgctcaagtcagaggtggcgaaacccgacaggactataaagataccaggcgtttccccctggaagctccctcgtgcgctctcctgttccgaccctgccgcttaccggatacctgtccgcctttctcccttcgggaagcgtggcgctttctcatagctcacgctgtaggtatctcagttcggtgtaggtcgttcgctccaagctgggctgtgtgcacgaaccccccgttcagcccgaccgctgcgccttatccggtaactatcgtcttgagtccaacccggtaagacacgacttatcgccactggcagcagccactggtaacaggattagcagagcgaggtatgtaggcggtgctacagagttcttgaagtggtggcctaactacggctacactagaagaacagtatttggtatctgcgctctgctgaagccagttaccttcggaaaaagagttggtagctcttgatccggcaaacaaaccaccgctggtagcggtggtttttttgtttgcaagcagcagattacgcgcagaaaaaaaggatctcaagaagatcctttgatcttttctactaccaatgcttaatcagtgaggcacctatctcagcgatctgtctatttcgttcatccatagttgcctgactccccgtcgtgtagataactacgatacgggagggcttaccatctggccccagtgctgcaatgataccgcgagacccacgctcaccggctccagatttatcagcaataaaccagccagccggaagggccgagcgcagaagtggtcctgcaactttatccgcctccatccagtctattaattgttgccgggaagctagagtaagtagttcgccagttaatagtttgcgcaacgttgttgccattgctacaggcatcgtggtgtcacgctcgtcgtttggtatggcttcattcagctccggttcccaacgatcaaggcgagttacatgatcccccatgttgtgcaaaaaagcggttagctccttcggtcctccgatcgttgtcagaagtaagttggccgcagtgttatcactcatggttatggcagcactgcataattctcctactgtcatgccatccgtaagatgcttttctgtgactggtgagtactcaaccaagtcattctgagaatagtgtatgcggcgaccgagttgctcttgcccggcgtcaatacgggataataccgcgccacatagcagaactttaaaagtgctcatcattggaaaacgttcttcggggcgaaaactctcaaggatcttaccgctgttgagatccagttcgatgtaacccactcgtgcacccaactgatcttcagcatcttttactttcaccagcgtttctgggtgagcaaaaacaggaaggcaaaatgccgcaaaaaagggaataagggcgacacggaaatgttgaatactcatactcttcctttttcaatattattgaagcatttatcagggttattgtctcatgagcggatacata

TTGTCTCATGAGCGGATACATA

```

Resulting sequence:

```

>pYPKµ candidate

TTGTCTCATGAGCGGATACATAataaaaaatttatttgctttcaggtacaattcttgaTATAATattatcatctagctagataataaaaatttaaggatcttatggtacttggtaaacctcaaacggatcctactctcgaatggttcttgtctcattgccacattcataagtacccatccaagagcacgcttattcaccagggtgaaaaagcggaaacgctgtactacatcgttaaaggctctgtggcagtgctgatcaaagacgaagagggtaaagaaatgatcctctcctatctgaatcagggtgattttattggcgaactgggcctgtttgaagagggccaggaacgtagcgcatgggtacgtgcgaaaaccgcctgtgaagtggctgaaatttcgtacaaaaaatttcgccaattgattcaggtaaatccggatatcctgatgcgtttgtctgcacagatggcacgtcggctgcaggtcactagtgagaaagtgggcaacctggcgttcctcgacgtcagcggccgcattgcacagactctgctgaatctggcaaaacaaccagacgctatgactcacccggacggcatgcaaatcaaaattacccgtcaggaaattggccagattgtcggctgctctagacaaaccgtgggacgaattcttaagatgctcgaggatcagaacctgatctccgcacacggtaaaaccatcgtcgtttacggcactcgttaatttccataggctccgcccccctgacgagcatcacaaaaatcgacgctcaagtcagaggtggcgaaacccgacaggactataaagataccaggcgtttccccctggaagctccctcgtgcgctctcctgttccgaccctgccgcttaccggatacctgtccgcctttctcccttcgggaagcgtggcgctttctcatagctcacgctgtaggtatctcagttcggtgtaggtcgttcgctccaagctgggctgtgtgcacgaaccccccgttcagcccgaccgctgcgccttatccggtaactatcgtcttgagtccaacccggtaagacacgacttatcgccactggcagcagccactggtaacaggattagcagagcgaggtatgtaggcggtgctacagagttcttgaagtggtggcctaactacggctacactagaagaacagtatttggtatctgcgctctgctgaagccagttaccttcggaaaaagagttggtagctcttgatccggcaaacaaaccaccgctggtagcggtggtttttttgtttgcaagcagcagattacgcgcagaaaaaaaggatctcaagaagatcctttgatcttttctactaccaatgcttaatcagtgaggcacctatctcagcgatctgtctatttcgttcatccatagttgcctgactccccgtcgtgtagataactacgatacgggagggcttaccatctggccccagtgctgcaatgataccgcgagacccacgctcaccggctccagatttatcagcaataaaccagccagccggaagggccgagcgcagaagtggtcctgcaactttatccgcctccatccagtctattaattgttgccgggaagctagagtaagtagttcgccagttaatagtttgcgcaacgttgttgccattgctacaggcatcgtggtgtcacgctcgtcgtttggtatggcttcattcagctccggttcccaacgatcaaggcgagttacatgatcccccatgttgtgcaaaaaagcggttagctccttcggtcctccgatcgttgtcagaagtaagttggccgcagtgttatcactcatggttatggcagcactgcataattctcctactgtcatgccatccgtaagatgcttttctgtgactggtgagtactcaaccaagtcattctgagaatagtgtatgcggcgaccgagttgctcttgcccggcgtcaatacgggataataccgcgccacatagcagaactttaaaagtgctcatcattggaaaacgttcttcggggcgaaaactctcaaggatcttaccgctgttgagatccagttcgatgtaacccactcgtgcacccaactgatcttcagcatcttttactttcaccagcgtttctgggtgagcaaaaacaggaaggcaaaatgccgcaaaaaagggaataagggcgacacggaaatgttgaatactcatactcttcctttttcaatattattgaagcatttatcagggtta

```

---

limit: 13

topology: circular

---

# Assembly

```

-|757bp\_PCR\_pro\_rc|22

| \/

| /\

| 22|1536bp\_PCR\_pr\_rc|22

| \/

| /\

| 22-

| |

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```

Detailed figure:

```

||||||||||||||||||||||

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Resulting sequence:

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> name circular

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LOCUS plasmid 2249 bp DNA circular SYN 23-MAY-2025

DEFINITION .

ACCESSION .

VERSION .

KEYWORDS .

SOURCE .

ORGANISM .

.

COMMENT Annotated with pLannotate v1.2.2

FEATURES Location/Qualifiers

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2221 acgatggttt taccgtgtgc ggagatcag

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Uma imagem com texto, diagrama, captura de ecrã, Gráfico

Os conteúdos gerados por IA podem estar incorretos.

**pYPKµ**