

Supplemental material 1. Alignments of crRNA sequences. Some reads may contain additional nucleotides (C, A) or dinucleotides (CC, CA) on their 3' ends, which are artifacts resulted from sequencing method used.

Repeat alignment

```
>2103996 TGCCAACCCGGGAGATTTCAATT-----
>2102875 GGTACGAGTTTGCAGATTTCAATT-----
>2103203 -CCCTTTTGCCGTAAATTTCAATTG-----
>2103995 -ACCCAACCCGGGAGATTTCAATTG-----
>2103798 -ACATATAGAGAATCATTTC AATTG-----
>2103994a --CCCAACCCGGGAGATTTCAATTGC-----
>2103994b --CCCAACCCGGGAGATTTCAATTGC-----
>2103601a --ATTTCTTTTATAGATTTCAATTGC-----
>2103073 --TACCGACTGAAAAATTTCAATTGC-----
>2103601b --ATTTCTTTTATAGATTTCAATTGC-----
>2103796 ---ATATAGAGAATCATTTC AATTGCA-----
>2103993c ---CCAACCCGGGAGATTTCAATTGCA-----
>2103993a ---CCAACCCGGGAGCTTTCAATTGCA-----
>2103993b ---CCAACCCGGGAGATTTCAATTGCA-----
>2103072b ---ACCGACTGAAAAATTTCAATTGCA-----
>2103072 ---ACCGACTGAAAAATTTCAATTGCA-----
>2103072a ---ACCGACTGAAAAATTTCAATTGCA-----
>2103992a ----CAACCCGGGAGATTTCAATTGCAC-----
>2103992b ----CAACCCGGGAGATTTCAATTGCAC-----
>2103599 ----TTCTTTTATAGATTTCAATTGCAC-----
>2103598 ----TCTTTTATAGATTTCAATTGCACC-----
>2103991a ----AACCCGGGAGATTTCAATTGCACC-----
>2103991b ----AACCCGGGAGATTTCAATTGCACC-----
>2103597 ----CTTTTATAGATTTCAATTGCACCA-----
>2103265 ----GTAAAAATGATTTCAATTGCACCA-----
>2103990b ----ACCCGGGAGATTTCAATTGCACCA-----
>2103990c ----ACCCGGGAGATTTCAATTGCACCA-----
>2103990a ----ACCCGGGAGATTTCAATTGCACCA-----
>2103330 ----TTCTTTCTTATTTCAATTGCACCA-----
>2103727 ----CCATCTGTATTTCAATTGCACCA-----
>2103925 ----CTCTATCATATTTCAATTGCACCA-----
>2103002 ----ACTACTTCATTTCAATTGCACCAT-----
>2103923 ----CTATCATATTTCAATTGCACCATA-----
>2103328 ----CTTTCTTATTTCAATTGCACCATA-----
>2103461 ----TTCTGTAATTTCAATTGCACCATA-----
>2103725 ----ATCTTGATTTCAATTGCACCATA-----
>2102867 ----TTTGAGATTTCAATTGCACCATA-----
>2103659 ----TGTAAATTTCAATTGCACCATAC-----
>2103527 ----GATTTAATTTCAATTGCACCATAC-----
>2103724 ----TCTTGATTTCAATTGCACCATAC-----
>2103723 ----CTTGATTTCAATTGCACCATACA-----
>2103921 ----ATCATATTTCAATTGCACCATACA-----
>2103459 ----CGTAAATTTCAATTGCACCATACA-----
>2103194a ----CGTAAATTTCAATTGCACCATACA-----
>2103194b ----CGTAAATTTCAATTGCACCATACA-----
>2104051 ----AACGGATTTCAATTGCACCATACA-----
>2103855 ----ACGCTATTTCAATTGCACCATACA-----
>2103392a ----CATTAATTTCAATTGCACCATACA-----
>2102798 ----ACCTAATTTCAATTGCACCATACA-----
>2103392b ----CATTAATTTCAATTGCACCATACA-----
>2103920 ----TCATATTTCAATTGCACCATACAG-----
>2103722a ----TTGTATTTCAATTGCACCATACAG-----
>2103722b ----TTGTATTTCAATTGCACCATACAG-----
>2102797 ----CCTAATTTCAATTGCACCATACAG-----
>2103525 ----TTTAATTTCAATTGCACCATACAG-----
>2102732 ----TATTATTTCAATTGCACCATACAG-----
>2103657 ----CTAAATTTCAATTGCACCATACAG-----
>2104050a ----ACGGATTTCAATTGCACCATACAG-----
>2104050b ----ACGGATTTCAATTGCACCATACAG-----
>2103592 ----ATAGATTTCAATTGCACCATACAG-----
>2103458 ----GTAATTTCAATTGCACCATACAG-----
>2103854 ----CGCTATTTAAATTGCACCATACAG-----
```

>2102864 -----GCAGATTTCAATTGCACCATACAG-----
>2103128 -----CGTTATTTCAATTGCACCATACAG-----
>2103919 -----CATATTTCAATTGCACCATACACC-----
>2102601 -----ATCATTTCAATTGCACCATACAGG-----
>2103787 -----ATCATTTCAATTGCACCATACAGG-----
>2103259 -----ATGATTTCAATTGCACCATACAGG-----
>2103457 -----TAAATTTCAATTGCACCATACAGG-----
>2103591a -----TAGATTTCAATTGCACCATACAGG-----
>2103591b -----TAGATTTCAATTGCACCATACAGG-----
>2102930 -----GCTATTTCAATTGCACCATACAGG-----
>2103853 -----GCTATTTCAATTGCACCATACAGG-----
>2103127 -----GTTATTTCAATTGCACCATACAGG-----
>2104049a -----CGGATTTCAATTGCACCATACAGG-----
>2104049b -----CGGATTTCAATTGCACCATACAGG-----
>2104048a -----GGATTTCAATTGCACCATACAGGA-----
>2104048b -----GGATTTCAATTGCACCATACAGGA-----
>2104048c -----GGATTTCAATTGCACCATACAGGA-----
>2104048e -----GGATTTCAATTGCACCATACAGGA-----
>2104048d -----GGATTTCAATTGCACCATACAGGC-----
>2104048f -----GGCTTTCAATTGCACCATACAGGC-----
>2104048g -----GGATTTCAATTGCACCATACAGAC-----
>2103062 -----AAATTTCAATTGCACCATACAGGC-----
>2103918b -----ATATTTCAATTGCACCATACAGGA-----
>2103983 -----AGATTTCAATTGCACCATACAGGA-----
>2102730 -----TTATTTCAATTGCACCATACAGGA-----
>2103786 -----TCATTTCAATTGCACCATACAGGA-----
>2102996 -----TCATTTCAATTGCACCATACAGGA-----
>2102600 -----TCATTTCAATTGCACCATACAGGA-----
>2103389 -----TAATTTCAATTGCACCATACAGGA-----
>2103126 -----TTATTTCAATTGCACCATACAGGA-----
>2103918c -----ATATTTCAATTGCACCATACAGGA-----
>2103456 -----AAATTTCAATTGCACCATACAGGA-----
>2103655 -----AAATTTCAATTGCACCATACAGGA-----
>2103918a -----ATATTTCAATTGCACCATACAGGA-----
>2103917 -----TATTTCAATTGCACCATACAGGAC-----
>2103125 -----TATTTCAATTGCACCATACAGGAC-----
>2103322 -----TATTTCAATTGCACCATACAGGAC-----
>2102928 -----TATTTCAATTGCACCATACAGGAC-----
>2102861 -----GATTTCAATTGCACCATACAGGAC-----
>2103257 -----GATTTCAATTGCACCATACAGGAC-----
>2103589b -----GATTTCAATTGCACCATACAGGAC-----
>2103982 -----GATTTCAATTGCACCATACAGGAC-----
>2103589a -----GATTTCAATTGCACCATACAGGAC-----
>2104047 -----GATTTCAATTGCACCATACAGGCC-----
>2103785 -----CATTTCAATTGCACCATACAGGAC-----
>2103061 -----AATTTCAATTGCACCATACAGGAC-----
>2103190 -----AATTTCAATTGCACCATACAGGAC-----
>2103654 -----AATTTCAATTGCACCATACAGGAC-----
>2103455 -----AATTTCAATTGCACCATACAGGAC-----
>2103522 -----AATTTTCAATTGCACCATACAGGAC-----
>2102664 -----TATTTCAATTGCACCATACAGGAC-----
>2103588 -----ATTTCAATTGCACCATACAGGACA-----
>2103060 -----ATTTCAATTGCACCATACAGGACA-----
>2102994 -----ATTTCAATTGCACCATACAGGACA-----
>2103124b -----ATTTCAATTGCACCATACAGGACA-----
>2102728b -----ATTTCAATTGCACCATACAGGACC-----
>2103916 -----ATTTCAATTGCACCATACAGGACC-----
>2104046 -----ATTTCAATTGCACCATACAGGACC-----
>2102532 -----ATTTCAATTGCACCATACAGGACC-----
>2103981 -----ATTTCAATTGCACCATACAGGACC-----
>2102793 -----ATTTCAATTGCACCATACAGGACC-----
>2103784 -----ATTTCAATTGCACCATACAGGACC-----
>2103454 -----ATTTCAATTGCACCATACAGGACC-----
>2103387 -----ATTTCAATTGCACCATACAGGACC-----
>2103653 -----ATTTCAATTGCACCATACAGGACC-----
>2103256 -----ATTTCAATTGCACCATACAGGACC-----
>2102927 -----ATTTCAATTGCACCATACAGGACC-----
>2103189 -----ATTTCAATTGCACCATACAGGACC-----

```

>2103521 -----ATTTCAATTGCACCATACAGGACC-----
>2102598 -----ATTTCAATTGCACCATACAGGACA-----
>2102663 -----ATTTCAATTGCACCATACAGGACA-----
>2103718 -----ATTTCAATTGCACCATACAGGACA-----
>2102728a -----ATTTCAATTGCACCATACAGGACA-----
>2103321 -----ATTTCAATTGCACCATACAGGACA-----
>2102860 -----ATTTCAATTGCACCATACAGGACA-----
>repeat -----ATTTCAATTGCACCATACAGGAATTA AAC
>2103850 -----ATTTCAATTGCACCATACAGGAAC-----
>2103124a -----ATTTCAATTGCACCATACAGGAAC-----
>2103980 -----TTTCAATTGCACCATACAGGAACA-----
>2102531 -----TTTCAATTGCACCATACAGGAACC-----

```

Spacer1 alignment

```

>spacer1 CCAATTCCTCAAAGCCGTGCTGCCCAACCCGGGAG
>2104005SP1 -----AAGCCGTGCTGCCCAACCCGGGAG

```

Spacer2 alignment

```

>2103956SP2 AAAACGTATCGGTGAGCGCGAGTC-----
>spacer2 -----GTATCGGTGAGCGGAGTCTATCTCCTCTATCAT-----
>2103947SP2 -----CGGTGAGCGCGAGTCTATCTCCT-----
>2103946SP2 -----GGTGAGCGCGAGTCTATCTCCT-----
>2103941SP2 -----GCGCGAGTCTATCTCCTCTATCA-----
>2103938SP2 -----CGAGTCTATCTCCTCTATCATAT-----
>2103936aSP2 -----AGTCTATCTCCTCTATCATATTT-----
>2103936bSP2 -----AGTCTATCTCCTCTATCATATTT-----
>2103936cSP2 -----AGTCATATCTCCTCTATCATATTT-----
>2103935aSP2 -----GTCCTATCTCCTCTATCATATTT-----
>2103935bSP2 -----GTCCTATCTCCTCTATCATATTT-----
>2103934cSP2 -----TCCTATCTCCTCTATCATATTTCA-----
>2103934aSP2 -----TCCTATCTCCTCTATCATATTTCA-----
>2103934bSP2 -----TCCTATCTCCTCTATCATATTTCA-----
>2103930aSP2 -----ATCTCCTCTATCATATTTCAATTG-----
>2103930bSP2 -----ATCTCCTCTATCATATTTCAATTG-----
>2103930cSP2 -----ATCTCCTCTATCATATTTCAATTG-----
>2103929cSP2 -----TCTCCTCTATCATATTTCAATTGC-----
>2103929bSP2 -----TCTCCTCTATCATATTTCAATTGC-----
>2103929aSP2 -----TCTCCTCTATCATATTTCAATTGC-----

```

Spacer3 alignment

```

>2103893SP3 TTAAAACGCTTTTCGAACGCTACG-----
>2103891SP3 --AAAACGCTTTTCGACCGCTACGAG-----
>2103890SP3 ---AAACGCTTTTCGAACGCTACGAGA-----
>2103887aSP3 -----CGCTTTTCGAACGCTACGAGATAG-----
>2103887bSP3 -----CGCTTTTCGAACGCTACGAGATAG-----
>2103887cSP3 -----CGATTTTCGAACGCTACGAGATAG-----
>2103886aSP3 -----GCTTTTCGAACGCTACGAGATAGA-----
>2103886bSP3 -----GCTTTTCGAACGCTACGAGATAGA-----
>spacer3 -----GCTTTTCGAACGCTACGAGATAGACCGAAATACGCT-----
>2103882SP3 -----TTCGAACGCTACGAGATAGACCGA-----
>2103877SP3 -----ACGCTACGAGATAGACCGAAATAC-----
>2103876SP3 -----CGCTACGAGATAGACCGAAATACG-----
>2103875aSP3 -----GCTACGAGATAGACCGAAATACGC-----
>2103875bSP3 -----GCTACGAGATAGACCGAAATACGC-----
>2103874SP3 -----CTACGAGATAGACCGAAATACGCT-----
>2103872SP3 -----ACGAGATAGACCGAAATACGCTAT-----
>2103871SP3 -----CGAGATAGACCGAAATACGCTATT-----
>2103868SP3 -----GATAGACCGAAATACGCTATTTCA-----
>2103867SP3 -----ATAGACCGAAATACGCTATTTCAA-----
>2103864SP3 -----GACCGAAATACGCTATTTCAATTG-----
>2103863SP3 -----ACCGAAATACGCTATTTCAATTGC-----

```

Spacer4 alignment

```

>2103827SP4      TTAAAACCTTTCAGCATTGTATTGA-----
>2103821cSP4    -----CTTTCAGCATTGTATTGAACTGAA-----
>2103821dSP4    -----CTTTCAGCATTGTATTGAACTGAA-----
>2103821bSP4    -----CTTTCAGCATTGTATTGAACTGAA-----
>2103821aSP4    -----CTTTCAGCATTGTATTGAACTGAA-----
>2103820aSP4    -----TTTCAGCATTGTATTGAACTGAAC-----
>2103820bSP4    -----TTTCAGCATTGTATTGAACTGAAC-----
>spacer4        -----TTTCAGCATTGTATTGAACTGAACATATAGAGAATC
>2103814SP4    -----CATTGTATTGAACTGAACATATAG-----
>2103808SP4    -----ATTGAACTGAACATATAGAGAATC

```

Spacer5 alignment

```

>spacer5        AAAGTTTTAAGATTAGCAAACATTTTACCATCTTGT
>2103746SP5    -----AAGATTAGCAAACATTTTACCATT-----

```

Spacer6 alignment

```

>2103689SP6    CTTTACTACATTGAAAAAATCGTC-----
>spacer6        -TTTACTACATTGAAAAAATCGTCTTCGTCTGCTAA-----
>2103678SP6    -----TGAAAAAATCGTCTTCGTCTGCTA-----
>2103673SP6    -----AAATCGTCTTCGTCTGCTAAATTT--
>2103671aSP6    -----ATCGTCTTCGTCTGCTAAATTTCA
>2103671bSP6    -----ATCGTCTTCGTCTGCTAAATTTCA

```

Spacer7 alignment

No reads detected.

Spacer8 alignment

```

>2103560SP8    ACGTATCCGCACTTCATTTGATAC-----
>2103559bSP8    -CGTATCCGCACTTCATTTGATACT-----
>2103559aSP8    -CGTATCCGCACTTCATTTGATACT-----
>spacer8        --GTATCCGCACTTCATTTGATACTGTCTGATTGATTTA--
>2103558SP8    --GTATCCGCACTTCATTTGATACTG-----
>2103557SP8    ---TATCCGCACTTCATTTGATACTGT-----
>2103556SP8    ----ATCCGCACTTCATTTGATACTGTC-----
>2103555SP8    -----TCCGCACTTCATTTGATACTGTCT-----
>2103554SP8    -----CCGCACTTCATTTGATACTGTCTG-----
>2103543SP8    -----TTGATACTGTCTGATTGATTTAAT

```

Spacer9 alignment

```

>2103493SP9    ACAAACCTGCACTATAGTATCATC-----
>2103492SP9    -CAAACCTGCACTATAGTATCATCG-----
>2103491SP9    --AAAACCTGCACTATAGTATCATCGT-----
>spacer9        --AAAACCTGCACTATAGTATCATCGTTAGATATTCGTAA-----
>2103490aSP9    ---AAACTGCACTATAGTATCATCGTT-----
>2103490bSP9    ---AAACTGCACTATAGTATCATCGTT-----
>2103487aSP9    -----CTGCACATAGTATCATCGTTAGA-----
>2103487bSP9    -----CTGCACATAGTATCATCGTTAGA-----
>2103485SP9    -----GCACATAGTATCATCGTTAGATA-----
>2103484SP9    -----CACTATAGTATCATCGTTAGATAT-----
>2103483SP9    -----ACTATAGTATCATCGTTAGATATT-----
>2103480SP9    -----ATAGTATCATCGTTAGATATTCGT-----
>2103478SP9    -----AGTATCATCGTTAGATATTCGTAA-----
>2103475SP9    -----ATCATCGTTAGATATTCGTAAATT-----
>2103473SP9    -----AATCGTTAGATATTCGTAAATTTTC-----
>2103469SP9    -----GTTAGATATTCGTAAATTTCAATT

```

Spacer10 alignment

```

>2103233SP10   TTAAAACGATTTTTCCATTAGGTA-----
>2103230SP10   ---AAACGATTTTTCCATTAGGTATCT-----
>2103736SP10   -----AACATTTTACCATCTTGTATTTCA-----
>2103227SP10   -----CGATTTTTCCATTAGGTATCTAAA-----
>2103424bSP10   -----AAGTTTACCATCATCAGTATACCA-----
>2103424aSP10   -----AAGTTTACCATCATCAGTATACCA-----
>spacer10      -----AAGTTTACCATCATCAGTATACCATTTGTGAACATTA
>2103226SP10   -----GATTTTTCCATCAGGTATCTAAAC-----
>2103423SP10   -----AGTTTACCATCATCAGTATACCAT-----

```

Spacer11 alignment

No reads detected.

Spacer12 alignment

```
>2103293SP12      ACTTAGACTGTCGGTTTCGGCATC-----
>2103291SP12      --TTAGACTGTCGGTTTCGGTATCCA-----
>spacer12         ---TTAGACTGTCGGTTTCGGCATCCATTGTAAAAATG
>2103286SP12      -----CTGTCGGTTTCGGCATCCATTGTA-----
>2103280SP12      -----GTTTCGGCATCCATTGTAAAAATG
```

Spacer13 alignment

No reads detected.

Spacer14 alignment

```
>2103162aSP14     AACATGCCCCAATTATCTTGGCGC-----
>2103162bSP14     AACATGCCCCAATTATCTTGGCGC-----
>2103161SP14      -ACATGCCCCAATTATCTTGGCGCA-----
>2103160SP14      --CATGCCCCAATTATCTTGGCGCAC-----
>2103159bSP14     ---ATGCCCCAATTATCTTGGCGCAC-----
>2103159aSP14     ---ATGCCCCAATTATCTTGGCGCAC-----
>spacer14         ---ATGCCCCAATTATCTTGGCGCACATAAAATGCGTT---
>2103158SP14     ---TGCCCCAATTATCTTGGCGCACAT-----
>2103156SP14     -----CCCCAATTATCTTGGCGCACATA-----
>2103148SP14     -----ATCTTGGCGCACATAAAATGCGTT---
>2103147SP14     -----TCTTGGCGCACATAAAATGCGTTA--
>2103146SP14     -----CTTGGCGCACATAAAATGCGTTAT-
>2103145bSP14     -----TTGGCGCACATAAAATGCGTTATT-
>2103145cSP14     -----TTGGCGCACATAAAATGCGTTATT-
>2103145aSP14     -----TTGGCGCACATAAAATGCGTTATT
```

Spacer15 alignment

```
>2103101SP15     TTAAAACGAAATAAAAAGTAGTTT-----
>2103099SP15     --AAAACGAAATAAAAAGTAGTTTTC-----
>2103096SP15     ---ACGAAATAAAAAGTAGTTTTCGCT-----
>spacer15         -----GAAATAAAAAGTAGTTTTCGCTACCGACTGAAAA-----
>2103085SP15     -----AGTAGTTTTCGCTACCGACTGAAA-----
>2103079SP15     -----TTTCGCTACCGACTGAAAAATTTTC--
>2103077SP15     -----TCGCTACCGACTGAAAAATTTCAA
```

Spacer16 alignment

```
>2103031SP16     CGAAGAAGCGTTCTCGGTAGCGAG-----
>spacer16         ---GAAGAAGCGTTCTCGGTAGCGAGCGAGAACTACTTC-----
>2103025SP16     -----AGCGTTCTCGGTAGCGAGCGAGAA-----
>2103019SP16     -----CTCGGTAGCTAGCGAGAACTACTT-----
>2103015SP16     -----GTAGCGAGCGAGAACTACTTCATT-----
>2103010SP16     -----GAGCGAGAACTACTTCATTTCAAT---
>2103007SP16     -----CGAGAACTACTTCATTTCAATTGC
```

Spacer17 alignment

```
>2102971SP17     TTAAAACGCCATTTCCCTCGTAGT-----
>2102970SP17     -TAAAACGCCATTTCCCTCGTAGTA-----
>2102967SP17     ----AACGCCATTTCCCTCGTAGTACAA-----
>2102965aSP17     -----CGCCATTTCCCTCGTAGTACTCAT-----
>2102965bSP17     -----CGCCATTTCCCTCGTAGTACTCAT-----
>spacer17         -----GCCATTTCCCTCGTAGTACTCATCGAGGGTTATAGCT
```

Spacer18 alignment

```
>2102904SP18 TTAAAACGAAGCCAAGCCTGCAGT-----
>2102901SP18 ---AAACGAAGCCAAGCCTGCAGTGGA-----
>2102900aSP18 ----AACGAAGCCAAGCCTGCAGTGGAT-----
>2102900bSP18 ----AACGAAGCCAAGCCTGCAGTGGAT-----
>2102899aSP18 ----ACGAAGCCAAGCCTGCAGTGGATA-----
>2102899bSP18 ----ACGAAGCCAAGCCTGCAGTGGATA-----
>2102898cSP18 ----CGAAGCCAAGCCTGCAGTGGATAG-----
>2102898bSP18 ----CGAAGCCAAGCCTGCAGTGGATAG-----
>2102898aSP18 ----CGAAGCCAAGCCTGCAGTGGATAG-----
>2102898dSP18 ----CGAAGCCAAGCCTGCAGTGGATAG-----
>2102898eSP18 ----CGAAGCCAAGCCTGCAGTGGATAG-----
>2102897cSP18 ----GAAGCCAAGCCTGCAGTGGAGAGG-----
>2102897aSP18 ----GAAGCCAAGCCTGCAGTGGATAGG-----
>2102897bSP18 ----GAAGCCAAGCCTGCAGTGGATAGG-----
>spacer18 -----GAAGCCAAGCCTGCAGTGGATAGGTACGAGTTTGCAG--
>2102896aSP18 ----AAGCCAAGCCTGCAGTGGATAGGT-----
>2102896bSP18 ----AAGCCAAGCCTGCAGTGGATAGGT-----
>2102890SP18 ----AGCCTGCAGTGGATAGGTACGAGT-----
>2102889SP18 ----GCCTGCAGTGGATAGGTACGAGTT-----
>2102882SP18 ----GTGGATAGGTACGAGTTTGCAGAT
```

Spacer19 alignment

```
>2102835SP19 AAAACAGTATATTACGGCGAACAC-----
>2102831SP19 ----CAGTATATTACGGCGAACACCTCT-----
>spacer19 -----AGTATATTACGGCGAACACCTCTATTTTACTAACCTA
>2102822aSP19 ----ACGGCGAACACCTCTATTTTACTA-----
>2102822bSP19 ----ACGGCGAACACCTCTATTTTACTA-----
>2102817aSP19 ----GAACACCTCTATTTTACTAACCTA-----
>2102817bSP19 ----GAACACCTCTATTTTACTAACCTA
```

Spacer20 alignment

```
>spacer20 AAAGTACATATAGGATTTTCCCAATCTGCTTTATT-----
>2102754SP20 ----ATAGGATTTTCCCAATCTGCTTTA-----
>2102743SP2 ----CCAATCTGCTTTATTATTATTTCAATT
```

Spacer21 alignment

```
>2102700SP21 ACATCAGCCTCTCCGGCGACTTCA-----
>2102699SP21 -CATCAGCCTCTCCGGCGACTTCAC-----
>spacer21 -----ATCAGCCTCTCCGGCGACTTCACGCTGTCTTTTT
>2102697SP21 ---TCAGCCTCTCCGGCGACTTCACGC-----
>2102692SP21 ----CTCTCCGGCGACTTCACGCTGTCTG-----
```

Spacer22 alignment

```
>2102633SP22 CGCCTTTATGCTCGACGACGCAGA-----
>spacer22 CGCCTTTATGCTCGACGACGCAGACGAATCGGATC
>2102628SP22 ----TTATGCTCGACGACGCAGACGACC-----
>2102627SP22 ----TATGCTCGACGACGCAGACGAATC-----
>2102623SP22 ----CTCGACGACGCAGACGAATCGGTT-
```

Spacer23 alignment

```
>spacer23 GCTTTGGCTGCGAATTCCTTACGGGCCAATCGAAG
>2102564SP23 ----TGGCTGCGAATTCCTTACGGGCC-----
```