First 10 reads from the fastq file (read 1 and read 2)

```
==> 1_HM3K5DMXX_CTCGTACG_AATCCGTT_L001_R1_001.fastq.gz <==
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10050:1047 1:N:0:CTCGTACGAATCCGTT
AGCATACCCTGGAGTGAGGTCGATGAGAGCTCAGGAGATGTTGACTCAGG
+
FFFFFFFFFFFFFFFFFFFFFFFFF,,,,,::FFF,F:,,,,F,,FF,,
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10086:1266 1:N:0:CTCGTACGAATCCGTT
TCGGAACCATCGATCAAGCTATCAACAAAAACCCATAACAAACTAATAAC
+
FFFFFFFFFFFFFFFFFFF:FFFFFFF::,FFF,,,F:,F,:,FFFF,F:
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10113:24831 1:N:0:CTCGTACGAATCCGTT
AAAGCGTTGCGCGTAGGAACATACATGAAAGCCGATAGGGAACGGAATAG
+
FFFFFFFFFFFFFFFFFFFFFF::FF::F,F,,::,,,F,,,:,F,,,,,
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10140:26443 1:N:0:CTCGTACGAATCCGTT
TCATGAGGTCGGGAAACAGAGACGTGTCCGGCAAAACTACAAAAACCAAA
+
FFFFFFFFFFFFFFFFFFFFFFFF:F:,F,,,,FF,,,F,FFF,F:,:,F
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10158:20369 1:N:0:CTCGTACGAATCCGTT
GTTCCCTGTGAGTCCGAGATCGCAATATGGAGGAGGGGCTGTGGTCTGGT
+
FFFFFFFFFFFFFFFFFFFFFFFFFFF,::F,F:,,:,FFF:,:,FF,F,,
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10167:24236 1:N:0:CTCGTACGAATCCGTT
GGTGTCGCAGGTCATCTGGTGCCTATCATAATTCTCCTATGGCCTCGTAG
+
FFFFFFFFFFFFFFFFFFFFFFF:,F,,,,,F,,,,,,:,,:,,,,,F,F
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10221:25676 1:N:0:CTCGTACGAATCCGTT
CATCGGGGGAGTGATATCCGATGGAATGGGGTAAATCGCGAAGCTAAGGA
+
FFFFFFFFFFFFFFFFFFFFFFFFF:F,,,,,,:,,,,,,F,,:,,,FF
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10312:12085 1:N:0:CTCGTACGAATCCGTT
CCCTACGACAACACAGAAGGCTGCGTATAAAAATAAACAAAACCAATAAA
+
FFFFFFFFFFFFFFFFFFFFFFFFF:,,,F,F,F::,,,:F,,F,F,:F
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10312:9267 1:N:0:CTCGTACGAATCCGTT
ATTAAGCCAAAAGCTAGCGAGGATAGAGGTCCTAAGCGCTCACGTCGGCA
+
FFFFFFFFFFFFFFFFFFFFFFF:,F::,,F,:F:F,FF,F,,,,,,F:
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10321:29857 1:N:0:CTCGTACGAATCCGTT
CCCTGCGTTCTGTGCGACATCTAAGTATCACGAAAAAAACCACCAAACCA
+
FFFFFFFFFFFFFFFFFFFFFFFFF:,F,,,,FF,,,::F:,,,::,:F
==========
```

FIG. 1

```
==> 1_HM3K5DMXX_CTCGTACG_AATCCGTT_L001_R1_001.fastq.gz <==
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10050:1047 2:N:0:CTCGTACGAATCCGTT
TCATCGACCTCACTCCAGGGTATGCTGACCTCACTCGCGACAAAAGAAAA
+
FFFFFFFFFFFFFFFFFFFFFFFFF,,,F,,,,,,,:,F:F,,,,,F,,
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10086:1266 2:N:0:CTCGTACGAATCCGTT
GTTGATAGCTTGATCGATGGTTCCGAACAAAAAAAAAAAAACTAAAAATA
+
F:FFFFFFFF:,FF:::FFFFF:F:FF,FF:,FFFFF,FF,F,F,FF,,,
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10113:24831 2:N:0:CTCGTACGAATCCGTT
ATGTATGTTCCTACGCGCAACGCTTTGAGGGGTGGTGCGGATTGGAAGTA
+
FF::FFFFFFFFFFFFFFFFFFFFF,,F,FF,,F,FF,F:,,FF:,,F,
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10140:26443 2:N:0:CTCGTACGAATCCGTT
CACGTCTCTGTTTCCCGACCTCATGACAACCCAAGAAACAAAAAAAAACA
+
FFFFFFFFFFFFFFFFFFFFFFFFF,F,,,,F,,,,:,,,F,F,,,,,F
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10158:20369 2:N:0:CTCGTACGAATCCGTT
ATTGCGATCTCGGACTCACAGGGAACGGGCGCGGTGGCGGGGGCGGGGGC
+
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFF,,F,,F,F,,F,,,,:F,:
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10167:24236 2:N:0:CTCGTACGAATCCGTT
ATAGGCACCAGATGACCTGCGACACCAATCAACGTAAAAAAACCAACCTAG
+
FFFFFFFFFFFFFFFFFFFFFFFFF,,,::,F,,,,,,,,:,,,,:,F:
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10221:25676 2:N:0:CTCGTACGAATCCGTT
TTCCATCGGATATCACTCCCCCGATGGTCTGTCACAGGAGTAAGGCATGC
+
FFFFFFFFFFFFFFFFFFFFFFFFF,,,,,,F,,,,,,,F,:,,,,,:,
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10312:12085 2:N:0:CTCGTACGAATCCGTT
ACGCAGCCTTCTGTGTTGTCGTAGGGGGGCGTAAGCGGCTCTTGCCAATA
+
FFFFFFFFFFFFFFFFFFFFFFFFF,:,,,,,F,F,,,,,:::,,,F,
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10312:9267 2:N:0:CTCGTACGAATCCGTT
CTATCCTCGCTAGCTTTTGGCTTAATAAAAAAAAACAAACAAAAAAAAAA
+
FFFFFFFFFFFFFFFFFFFFFFFFF:FFFFF:F,FFF,F:::,F:::
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10321:29857 2:N:0:CTCGTACGAATCCGTT
ACTTAGATGTCGCACAGAACGCAGGGGGGCTCGGGAGCCATAGGTCGTCC
+
FFFFFFFFFFFFFFFFFFFFFFFFF,,,:,F,,F,:,,,,:,,,,,,F,
```

FIG. 1 (Cont.)

Trimmed Read 1

```
==> 1_HM3K5DMXX_CTCGTACG_AATCCGTT.fastq1.trimmed <==
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10050:1047 1:N:0:CTCGTACGAATCCGTT
AGCATACCCTGGAGTGAGGTCGATGAG
+
FFFFFFFFFFFFFFFFFFFFFFFFF,
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10086:1266 1:N:0:CTCGTACGAATCCGTT
TCGGAACCATCGATCAAGCTATCAACA
+
FFFFFFFFFFFFFFFFFF:FFFFFFF
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10113:24831 1:N:0:CTCGTACGAATCCGTT
AAAGCGTTGCGCGTAGGAACATACATG
+
FFFFFFFFFFFFFFFFFFFFF::FF:
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10140:26443 1:N:0:CTCGTACGAATCCGTT
TCATGAGGTCGGGAAACAGAGACGTGT
+
FFFFFFFFFFFFFFFFFFFFFFF:F:
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10158:20369 1:N:0:CTCGTACGAATCCGTT
GTTCCCTGTGAGTCCGAGATCGCAATA
+
FFFFFFFFFFFFFFFFFFFFFFFFF,
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10167:24236 1:N:0:CTCGTACGAATCCGTT
GGTGTCGCAGGTCATCTGGTGCCTATC
+
FFFFFFFFFFFFFFFFFFFFFFF:,F,
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10221:25676 1:N:0:CTCGTACGAATCCGTT
CATCGGGGGAGTGATATCCGATGGAAT
+
FFFFFFFFFFFFFFFFFFFFFFFFF:
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10312:12085 1:N:0:CTCGTACGAATCCGTT
CCCTACGACAACACAGAAGGCTGCGTA
+
FFFFFFFFFFFFFFFFFFFFFFFFF:
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10312:9267 1:N:0:CTCGTACGAATCCGTT
ATTAAGCCAAAAGCTAGCGAGGATAG
+
FFFFFFFFFFFFFFFFFFFFFFF:,F
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10321:29857 1:N:0:CTCGTACGAATCCGTT
CCCTGCGTTCTGTGCGACATCTAAGTA
+
FFFFFFFFFFFFFFFFFFFFFFFFF:
==========
```

FIG. 2A

Trimmed Read 2

```
==> 1_HM3K5DMXX_CTCGTACG_AATCCGTT.fastq2.trimmed <==
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10050:1047 2:N:0:CTCGTACGAATCCGTT
TCATCGACCTCACTCCAGGGTATGCT
+
FFFFFFFFFFFFFFFFFFFFFFFFF
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10086:1266 2:N:0:CTCGTACGAATCCGTT
GTTGATAGCTTGATCGATGGTTCCGAA
+
F:FFFFFFFF:,FF:::FFFFF:F:FF
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10113:24831 2:N:0:CTCGTACGAATCCGTT
ATGTATGTTCCTACGCGCAACGCTTTG
+
FF::FFFFFFFFFFFFFFFFFFFF,
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10140:26443 2:N:0:CTCGTACGAATCCGTT
CACGTCTCTGTTTCCCGACCTCATGAC
+
FFFFFFFFFFFFFFFFFFFFFFFFF,
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10158:20369 2:N:0:CTCGTACGAATCCGTT
ATTGCGATCTCGGACTCACAGGGAACG
+
FFFFFFFFFFFFFFFFFFFFFFFFFFF
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10167:24236 2:N:0:CTCGTACGAATCCGTT
ATAGGCACCAGATGACCTGCGACACCA
+
FFFFFFFFFFFFFFFFFFFFFFFFF,
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10221:25676 2:N:0:CTCGTACGAATCCGTT
TTCCATCGGATATCACTCCCCCGATG
+
FFFFFFFFFFFFFFFFFFFFFFFFF
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10312:12085 2:N:0:CTCGTACGAATCCGTT
ACGCAGCCTTCTGTGTTGTCGTAGGGG
+
FFFFFFFFFFFFFFFFFFFFFFFFF
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10312:9267 2:N:0:CTCGTACGAATCCGTT
CTATCCTCGCTAGCTTTTGGCTTAATA
+
FFFFFFFFFFFFFFFFFFFFFFFFFF
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10321:29857 2:N:0:CTCGTACGAATCCGTT
ACTTAGATGTCGCACAGAACGCAGGGG
+
FFFFFFFFFFFFFFFFFFFFFFFFF,
==========
```

FIG. 2B

Stitched

```
==> 1_HM3K5DMXX_CTCGTACG_AATCCGTT.fastq.stitched <==
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10050:1047 1:N:0:CTCGTACGAATCCGTT
AGCATACCCTGGAGTGAGGTCGATGA
+
FFFFFFFFFFFFFFFFFFFFFFFFF
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10086:1266 1:N:0:CTCGTACGAATCCGTT
TCGGAACCATCGATCAAGCTATCAAC
+
FFFFFFFFFFFFFFFFFFFFFFFFF
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10113:24831 1:N:0:CTCGTACGAATCCGTT
AAAGCGTTGCGCGTAGGAACATACAT
+
FFFFFFFFFFFFFFFFFFFFFF::FF
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10140:26443 1:N:0:CTCGTACGAATCCGTT
TCATGAGGTCGGGAAACAGAGACGTG
+
FFFFFFFFFFFFFFFFFFFFFFFFF
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10158:20369 1:N:0:CTCGTACGAATCCGTT
GTTCCCTGTGAGTCCGAGATCGCAAT
+
FFFFFFFFFFFFFFFFFFFFFFFFF
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10167:24236 1:N:0:CTCGTACGAATCCGTT
GGTGTCGCAGGTCATCTGGTGCCTAT
+
FFFFFFFFFFFFFFFFFFFFFFFFF
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10221:25676 1:N:0:CTCGTACGAATCCGTT
CATCGGGGGAGTGATATCCGATGGAA
+
FFFFFFFFFFFFFFFFFFFFFFFFF
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10312:12085 1:N:0:CTCGTACGAATCCGTT
CCCTACGACAACACAGAAGGCTGCGT
+
FFFFFFFFFFFFFFFFFFFFFFFFF
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10312:9267 1:N:0:CTCGTACGAATCCGTT
ATTAAGCCAAAAGCTAGCGAGGATAG
+
FFFFFFFFFFFFFFFFFFFFFFFFF
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10321:29857 1:N:0:CTCGTACGAATCCGTT
CCCTGCGTTCTGTGCGACATCTAAGT
+
FFFFFFFFFFFFFFFFFFFFFFFFF
==========
```

FIG. 3

```
==> 1_HM3K5DMXX_CTCGTACG_AATCCGTT.matched <==
read    target  umi     hd      barcode
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10050:1047  1:N:0:CTCGTACGAATCCGTT  RNA26582
AGCATACCCTGGAG  0       TGAGGTCGATGA
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10113:24831  1:N:0:CTCGTACGAATCCGTT  RNA23577
AAAGCGTTGCGCGT  0       AGGAACATACAT
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10140:26443  1:N:0:CTCGTACGAATCCGTT  RNA33721
TCATGAGGTCGGGA  0       AACAGAGACGTG
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10158:20369  1:N:0:CTCGTACGAATCCGTT  RNA34087
GTTCCCTGTGAGTC  0       CGAGATCGCAAT
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10221:25676  1:N:0:CTCGTACGAATCCGTT  RNA33669
CATCGGGGGAGTGA  0       TATCCGATGGAA
@A00764:HM3K5DMXX200208:HM3K5DMXX:1:1101:10312:12085  1:N:0:CTCGTACGAATCCGTT  RNA34456
CCCTACGACAACAC  0       AGAAGGCTGCGT
```

FIG. 4

FIG. 5