

Coor	12345678901234 5678901234567890123456789012345
ref	AGCATGTTAGATAA**GATAGCTGTGCTAGTAGGCAGTCAGCGCCAT
+r001/1	TTAGATAAAGGATA*CTG
+r002	aaaAGATAA*GGATA
+r003	gcctaAGCTAA
+r004	ATAGCTTCAGC
-r003	ttagctTAGGC
-r001/2	CAGCGGCAT
1	

```
QHD VN:1.6 SO:coordinate
QSQ SN:ref LN:45
r001
                                                                  99 ref 7 30 8M2I4M1D3M = 37 39 TTAGATAAAGGATACTG *
r002
                                                         0 \text{ ref } 9 \text{ } 30 \text{ } 3\text{S}6\text{M}1\text{P}1\text{I}4\text{M} * 0 0 \text{ } 
                                                                                                                                                                                                                                                                                                 * 0
r003
                                                        0 ref 9 30 5S6M
                                                                                                                                                                                                                                                                                                                                                               O GCCTAAGCTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              * SA:Z:ref,29,-,6H5M,17,0;
r004
                                                                 0 ref 16 30 6M14N5M
                                                                                                                                                                                                                                                                                                 * 0
                                                                                                                                                                                                                                                                                                                                                                O ATAGCTTCAGC
r003 2064 ref 29 17 6H5M
                                                                                                                                                                                                                                                                                                                                                                  O TAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              * SA:Z:ref,9,+,5S6M,30,1;
                                                                                                                                                                                                                                                                                                  * 0
                                              147 ref 37 30 9M
                                                                                                                                                                                                                                                                                                = 7 -39 CAGCGGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              * NM:i:1
r001
```

Example alignment

```
Coor
         12345678901234 5678901234567890123456789012345
         AGCATGTTAGATAA**GATAGCTGTGCTAGTAGGCAGTCAGCGCCAT
ref
+r001/1
              TTAGATAAAGGATA*CTG
+r002
             aaaAGATAA*GGATA
+r003
           gcctaAGCTAA
                         ATAGCT....TCAGC
+r004
-r003
                                ttagctTAGGC
-r001/2
                                              CAGCGGCAT
```

```
QHD VN:1.6 SO:coordinate
@SQ SN:ref LN:45
                                    39 TTAGATAAAGGATACTG *
r001
      99 ref 7 30 8M2I4M1D3M = 37
r002
       0 ref 9 30 3S6M1P1I4M * 0
                                   O AAAAGATAAGGATA
                                    O GCCTAAGCTAA
r003
       0 ref 9 30 5S6M
                              * 0
                                                         * SA:Z:ref,29,-,6H5M,17,0;
                                    O ATAGCTTCAGC
       0 ref 16 30 6M14N5M
r004
r003 2064 ref 29 17 6H5M
                                     O TAGGC
                                                         * SA:Z:ref,9,+,5S6M,30,1;
r001 147 ref 37 30 9M
                                 7 -39 CAGCGGCAT
                                                         * NM:i:1
```

Example alignment

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Coor
         12345678901234 5678901234567890123456789012345
         AGCATGTTAGATAA**GATAGCTGTGCTAGTAGGCAGTCAGCGCCAT
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              TTAGATAAAGGATA*CTG
+r002
             aaaAGATAA*GGATA
+r003
           gcctaAGCTAA
                         ATAGCT....TCAGC
+r004
-r003
                                ttagctTAGGC
-r001/2
                                              CAGCGGCAT
```

Read name

```
QHD VN:1.6 SO:coordinate
@SO SN:ref LN:45
r001
                 30 8M2I4M1D3M = 37
                                     39 TTAGATAAAGGATACTG *
r002
        0 ref 9 30 3S6M1P1I4M * 0
                                      O AAAAGATAAGGATA
r003
        0 ref 9 30 5S6M
                                      O GCCTAAGCTAA
                                                          * SA:Z:ref,29,-,6H5M,17,0;
        0 ref 16 30 6M14N5M
                                     O ATAGCTTCAGC
r004
r003 2064 ref 29 17 6H5M
                                      O TAGGC
                                                          * SA:Z:ref,9,+,5S6M,30,1;
r001 147 ref 37 30 9M
                                  7 -39 CAGCGGCAT
                                                          * NM:i:1
```