

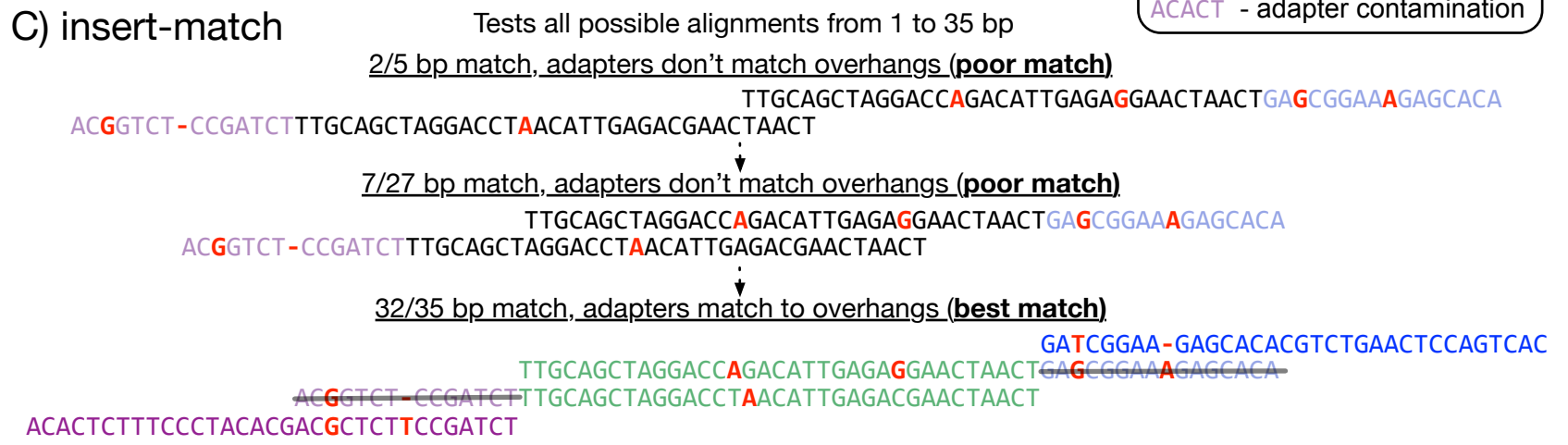
TTGCA - template sequence
 GAAGC - mismatch/error
 GA-TC - gap (indel)
 ACGCT - trimmed sequence
 read 1:
 GATCG - adapter sequence
 GATCG - adapter contamination
 read 2:
 ACACT - adapter sequence
 ACACT - adapter contamination

B) adapter-match

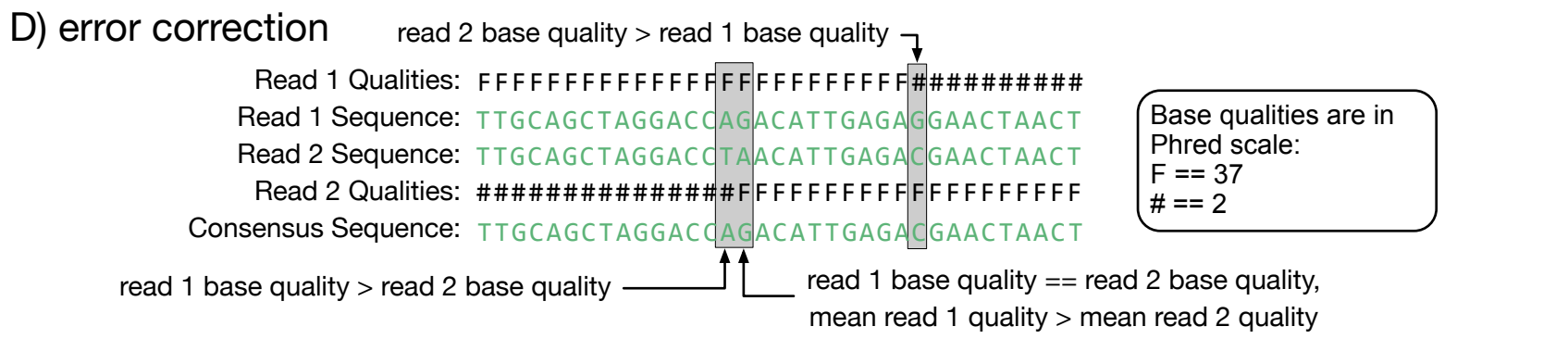
read 1 **GATCGGAA-GAGCACACGTCTGAACTCCAGTCAC**
 TTGC...AACT**GAGCGGAAAGAGCACA**

read 2 **AGATCGGAAGAGCGTCGTGTAGGGAAAGAGTGT**
 AGTT...GCAA**AGATCGG-AGACCGT**

C) insert-match



D) error correction



E) adapter-match after failed insert-match (e.g. adapter dimers)

GATCGGAAGAGCACACGTCTGAACTCCAGTCAC
~~GATCGGAAGAGCTCACGCTCTGAA**GG**CCAGTCACAAAAAACHNNNANC...~~
~~AGATCGGAAGAGCGTC-TGTAGGGATAGAGTGTAAAAAANNTC...~~ → Discard read pair
AGATCGGAAGAGCGTCGTGTAGGGAAAGAGTGT