

TopHat-Fusion

single or paired-end reads

Initial read mapping, where each end of
paired reads is mapped independently

unmapped reads, which are split into segments

Segment mapping of unmapped reads

mappings of segments from unmapped reads

Identifying candidate fusions using segment and read mappings

intermediate fusions

Constructing and indexing spliced fusion con-
tigs, and then remapping segments against them

mappings of segments against fusions

Stitching segments to produce full read alignments

mappings of reads initially unmapped (by stitching)

Selecting the best read and mate pair alignments,
and reporting fusions supported by those alignments

Read alignments

Fusions with statistics (# of reads and
mate pairs that support fusions)

Post-processing steps

Filtering fusions based on the number of
reads and mate pairs that support fusions

Sorting fusions based on scores of read distributions around them

mappings of reads