

Map Reads with Bowtie2 Element

Performs alignment of short reads with Bowtie2.

Element type: align-reads-with-bowtie2

Parameters in GUI

Parameter	Description	Default value	Parameter in Workflow File	Type
Output directory	Directory to save Bowtie2 output files.		output-dir	<i>string</i>
Reference genome	Path to an indexed reference genome.		reference	<i>string</i>
Output file name	Base name of the output file. 'out.sam' by default.	out.sam	outname	<i>string</i>
Library	Is this library mate-paired?	single-end	library	<i>string</i>
Mode	When the <code>-n</code> option is specified (which is the default), bowtie determines which alignments are valid according to the following policy, which is similar to Maq's default policy. In <code>-v</code> mode, alignments may have no more than <code>V</code> mismatches, where <code>V</code> may be a number from 0 through 3 set using the <code>-v</code> option. Quality values are ignored. The <code>-v</code> option is mutually exclusive with the <code>-n</code> option.	<code>--end-to-end</code>	mode	<i>string</i>
Number of mismatches	Sets the number of mismatches to allowed in a seed alignment. Can be set to 0 or 1. Setting this higher makes alignment slower (often much slower) but increases sensitivity.	0	mismatches_number	<i>numeric</i>
Seed length (--L)	Sets the length of the seed substrings to align. Smaller values make alignment slower but more sensitive.	20	seed_len	<i>numeric</i>
Add columns to allow gaps (--dpad)	"Pads" dynamic programming problems by the specified number of columns on either side to allow gaps.	15	dpad	<i>numeric</i>
Disallow gaps (--gbar)	Disallow gaps within a specified number of positions of the beginning or end of the read.	4	gbar	<i>numeric</i>
Seed (--seed)	Use as the seed for pseudo-random number generator.	0	seed	<i>numeric</i>
Threads	Launch specified number of parallel search threads. Threads will run on separate processors/cores and synchronize when parsing reads and outputting alignments. Searching for alignments is highly parallel, and speedup is close to linear.	1	threads	<i>numeric</i>
No unpaired alignments (--no-mixed)	If Bowtie2 cannot find a paired-end alignment for a pair, by default it will go on to look for unpaired alignments for the constituent mates. This is called "mixed mode." To disable mixed mode, set this option. Bowtie2 runs a little faster in the mixed mode, but will only consider the alignment status of pairs per se, not individual mates.	False	nomixed	<i>boolean</i>
No discordant alignments (--no-discordant)	By default, Bowtie2 looks for discordant alignments if it cannot find any concordant alignments. A discordant alignment is an alignment where both mates align uniquely, but that does not satisfy the paired-end constraints. This option disables that behavior.	False	nodiscordant	<i>boolean</i>
No forward orientation (--nofw)	If <code>--nofw</code> is specified, bowtie will not attempt to align against the forward reference strand.	False	nofw	<i>boolean</i>
No reverse-complement orientation (--norc)	If <code>--norc</code> is specified, bowtie will not attempt to align against the reverse-complement reference strand.	False	norc	<i>boolean</i>
No overlapping mates (--no-overlap)	If one mate alignment overlaps the other at all, consider that to be non-concordant. Default: mates can overlap in a concordant alignment.	False	nooverlap	<i>boolean</i>
No mates containing one another (--no-contain)	If one mate alignment contains the other, consider that to be non-concordant. Default: a mate can contain the other in a concordant alignment.	False	nocontain	<i>boolean</i>

Input/Output Ports

The element has 1 *input port*.

Name in GUI: Bowtie2 data

Name in Workflow File: in-data

Slots:

Slot In GUI	Slot in Workflow File	Type
URL of a file with mate reads	readsurl	<i>string</i>
URL of a file with reads	readspairedurl	<i>string</i>

And 1 *output port*:

Name in GUI: Bowtie2 output data

Name in Workflow File: out-data

Slots:

Slot In GUI	Slot in Workflow File	Type
Assembly URL	assembly-out	<i>string</i>