Generate DNA Element

Generates random DNA sequences with given nucleotide content that can be specified manually or evaluated from the reference file.

Element type: generate-dna

Parameters

Parameter	Description	Default value	Parameter in Workflow File	Type
Length	Length of the resulted sequence or sequences.	1000 bp	**length**	*numeric*
Count	Number of sequences to generate.	1	**count**	*numeric*
Seed	Value to initialize the random generator. By default (seed = -1) the generator is initialized with the system time.	-1	**seed**	*numeric*
Content	Specifies how the nucleotide content of the sequence(s) should be generated. It can be either taken from the reference file (see the *Reference*parameter), or input manually.	manual	**content**	*string*
Algorithm	Algorithm for generating random sequence(s). Two algorithms are available: GC Content and GC Skew. If you choose GC Content, then parameters *A*,*C*, *G*, *T* are used to generate the sequence. Otherwise, the *GC Skew*par ameter is used to generate the sequence(s).	GC Content	**algorithm**	*string* Availabl e values are: • gc - co nt ent • gc - sk ew
Window size	The DNA sequence generation is divided into windows of the specified size. In each window the bases ratio, defined by other parameters, is kept.	1000	**window-size**	*numeric*
Reference	Path to the reference file (could be a sequence or an alignment).		**reference-url**	*string* Availabl e values are: • m an ual • ref er en ce
A	Adenine content.	25%	**percent-a**	*numeric*
C	Cytosine content.	25%	**percent-c**	*numeric*
G	Guanine content.	25%	**percent-g**	*numeric*
T	Thymine content.	25%	**percent-t**	*numeric*
GC Skew	GC Skew is calculated as (G - C) / (G + C), where G is the number of G's in the window, and C is the number of C's.	0.25	**gc-skew**	*numeric*

Input/Output Ports

The element has 1 *output port*:

Name in GUI: *Sequences*

Name in Workflow File: out-sequence

Slots:

Slot In GUI	Slot in Workflow File	Type
Sequence	**sequence**	*sequence*