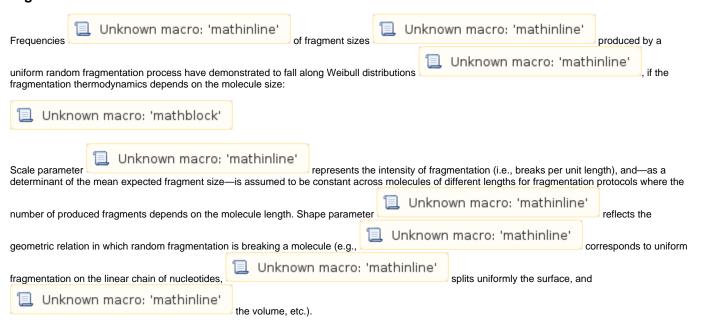
4.3.1 - RNA Hydrolysis

Parameters

Parameter Name	Variable	Default Value	Parameter Range	Description
FRAG_UR_D0	Unknown macro: 'mathinline'	1	>0	minimum length of fragme
FRAG_UR_DE LTA	Unknown macro: 'mathinline'	NaN ¹	Unknown macro: 'mathinline'	geometry of the fragments 2=surface-diameter, 3=vo explicitly specified (NaN), depends logarithmically or
FRAG_UR_ETA	Unknown macro: 'mathinline'	NaN ¹	Unknown macro: 'mathinline'	intensity of fragmentation, breaks per unit length; if n Unknown m is determined by the corre Unknown m value and an expectation fragment size, if size select

¹ NaN stands for "Not a Number" and marks the uninitialized state of a parameter

Algorithm



The Flux Simulator uses a 3-step algorithm to toke	Unknown macro: 'mathinline'				
Unknown macro: 'mathinline'	of fragments that are obtained from the molecule are determined. We found empirically that parameter				
d depends logarithmically on Unknown	macro: 'mathinline', the length of the molecule that is fragmented				
Unknown macro: 'mathinline'	. The number of fragments produced from a specific RNA molecule is determined by				
Unknown macro: 'mathinline'	, where Unknown macro: 'mathinline' is the expectancy of the most abundant				
fragment size, computed from h and the gamma-fr	Unknown macro: 'mathinline' of				
Unknown macro: 'mathinline'					
Unknown macro: 'mathblock'					
Second, Unknown macro: 'mathinline' breakpoints are sampled uniformly from the interval [0;1[, resulting in relative length fractions					
Unknown macro: 'mathinline'	fragments. Third, relative fragment sizes				
Unknown macro: 'mathinline'	are transformed from unit space to sizes Unknown macro: 'mathinline' that follow				
a Weibull distribution of shape Unknown macro: 'mathinline' by:					
Unknown macro: 'mathblock'					
Unknown macro: 'mathinline' is a constant of the transformation to ensure that the sizes of the					
Unknown macro: 'mathinline'	fragments sum up exactly to the given molecule length				
Unknown macro: 'mathinline'	. Latter transformation produces a slightly distorted Weibull distribution for the sizes				
Unknown macro: 'mathinline'	, however the deviation is sufficiently small to be neglected in our applications.				