**Standard Component Document**

***Basic Component description***

A brief that describes the component and how it is used in microfluidics. Can be a couple sentences.

***Component Specs***

***List Input and Output nodes***

Chart, diagram, box and whisker chart

Description automatically generated

Figure 1: Example mixer diagram

mixer\_example({P} [type] fluid input 1, (P) [type] fluid input 2, (V) [type] chemical 1 input, (V) [type] chemical 2 input, {P} [type] fluid output, {V} [type] Chemical 1 output, {V} [type] Chemical 2 output)

This section will describe the individual connecting nodes of the component. The descriptions show be brief and should not contain any equations but describe the how the “signal” is changed from input to output. As well as any other information about the interaction of the nodes. We will need to describe whither the nodes are physical channels or are virtual nodes that contain information on the fluid, such as viscosity, chemical concentrations. This will need to additionally contain what type of information will be carried by the node (It would be bad to connect a node that contains chemical concentration to a fluid flow node). This will be paired with a diagram like above to visualize how the nodes are connected.

***Microfluidic Operations***

Mixing, transport

***Component Verilog-AMS signature***

Port1 port2 module\_name (L=1.0 | length, W=1.0 | width, h=1.0 | height)

This section will describe the what geometric parameters exist for the component, the naming of ports should match the image for input and output nodes. Also list the preset values in the module, these should match the identifiers that are used in the module.

***Virtuoso Description***

**OpenSCAD Description**

Information such as API and other important information that is useful for the user or an engineer trying to implement the module. An image and other information useful for routing should go here as well.

***Manufacturing Description***

This section will contain information of the process that is need to create the component. This will include information on the exposure profile, and how this changes throughout the part, and special post processing steps that need to be done.

***Component model***

This will be the complete mathematical description of the geometric parameters with the flow properties, and any derivations needed.

***References***