1 SUPPLEMENTARY MATERIAL

During the feedback session with domain experts, we have presented a sandbox system (Fig. 1), which shows a continuous animation of a growing or shrinking microtubule. The system is parameterizable through a graphical interface, which exposes the intrinsic parameters of the microtubule and also partially reflects its uncertainties. This includes the following parameters:

- current time (progress of the assembly/disassembly)
- continuous transition between growing and shrinking cap
- progress of the hydrolysis
- length of the region where the hydrolysis fades out
- minimum bending of the growing cap
- maximum bending of the growing cap
- minimum length of the protofilaments in the growing cap
- maximum length of the protofilaments in the growing cap
- degree of bending of the protofilaments in the shrinking cap
- minimum length of the protofilaments in the shrinking cap
- maximum length of the protofilaments in the shrinking cap

The parameters are controlled through simple sliders and are constrained by reasonable maximal and minimal values. The setup shows the structural characteristics of the microtubules as well as their behavior in regard to dynamic instability.
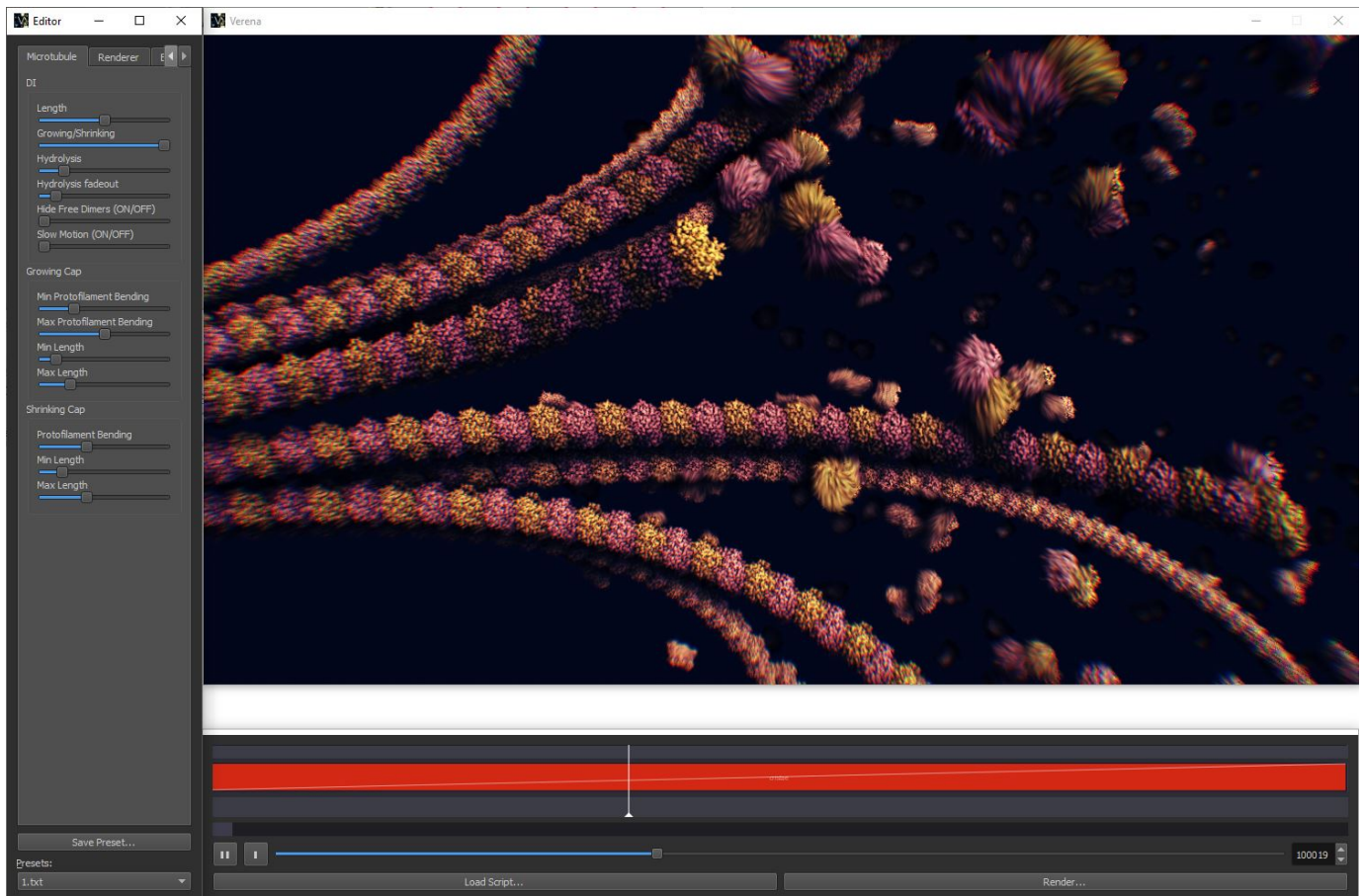

Fig. 1: The interface of the sandbox system procedurally generated microtubules.