

### **Description of Additional Supplementary Files**

File Name: Supplementary Movie 1

Description: A realization of the “Replicase R2” metabolism in a flow at high Damkoehler number ( $Da=1,000$ ).

File Name: Supplementary Movie 2

Description: A realization of the “Replicase R2” metabolism in a flow at low Damkoehler number ( $Da=0.001$ ).

File Name: Supplementary Movie 3

Description: A realization of the “Replicase R2” metabolism in a flow at  $Da=1$ .