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A Preview to Adenita: Modeling and Visualization of DNA Nanostructures

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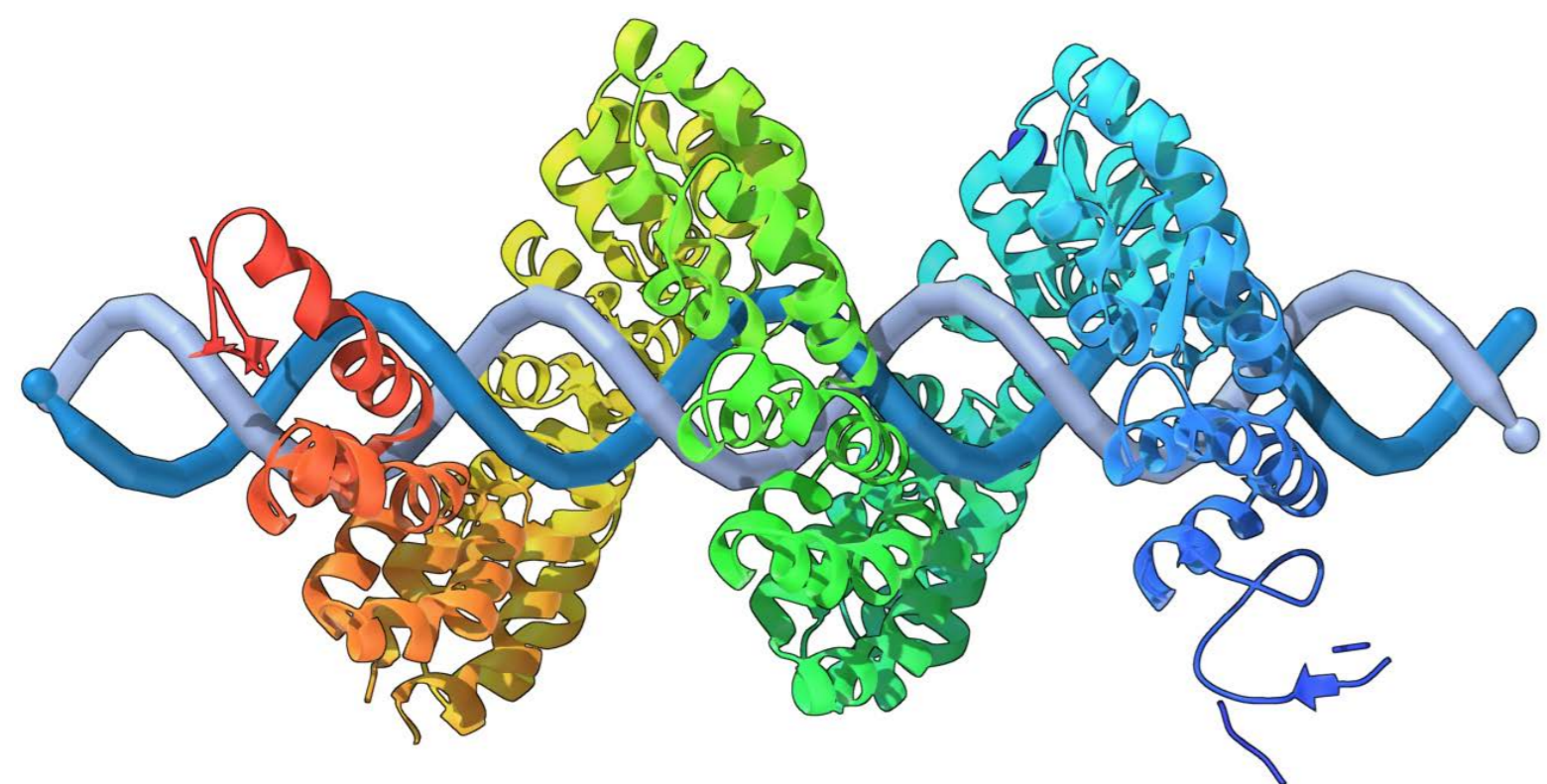
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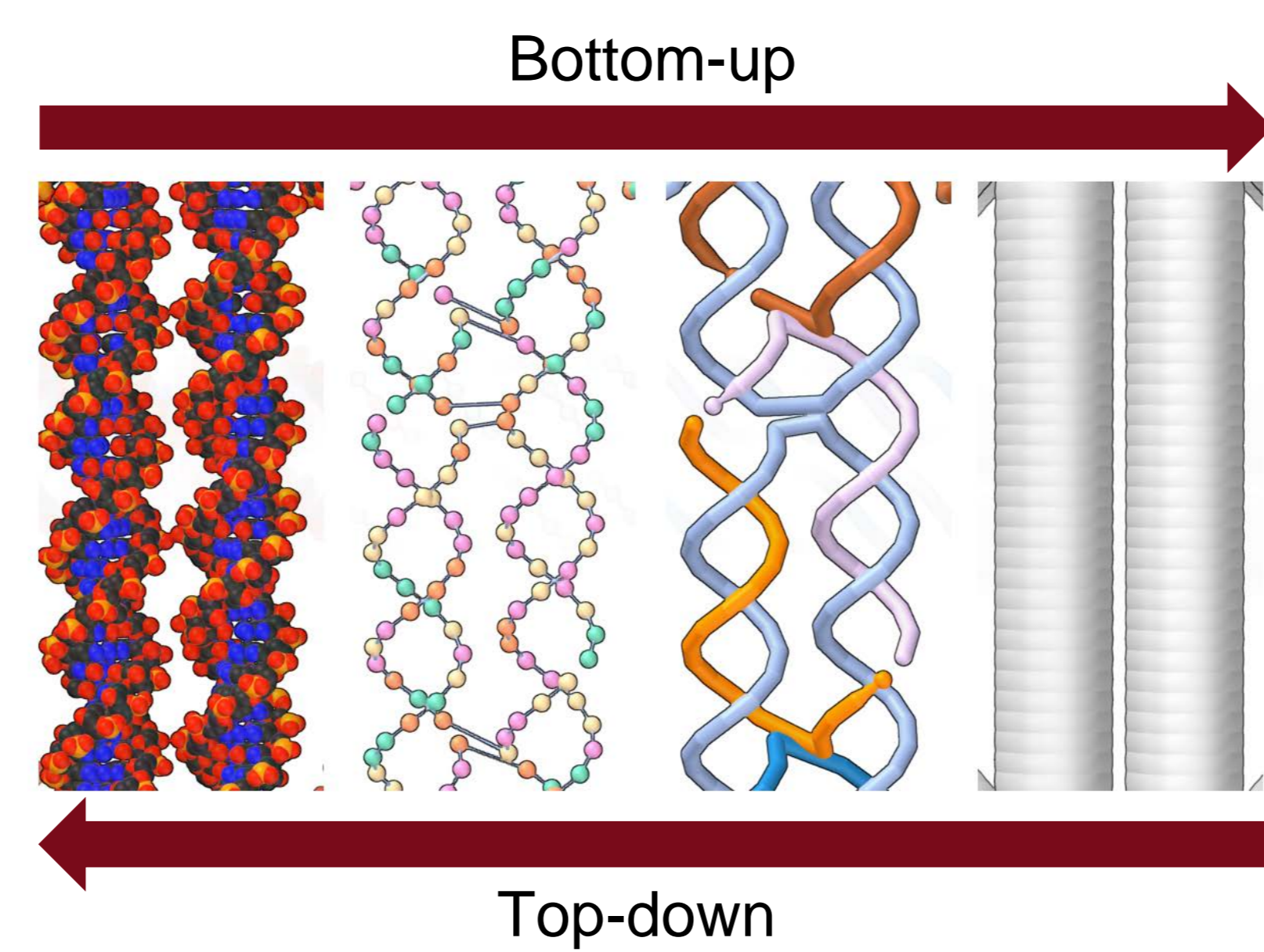
A PREVIEW TO ADENITA: MODELING AND VISUALIZATION OF DNA NANOSTRUCTURES

INTRODUCTION

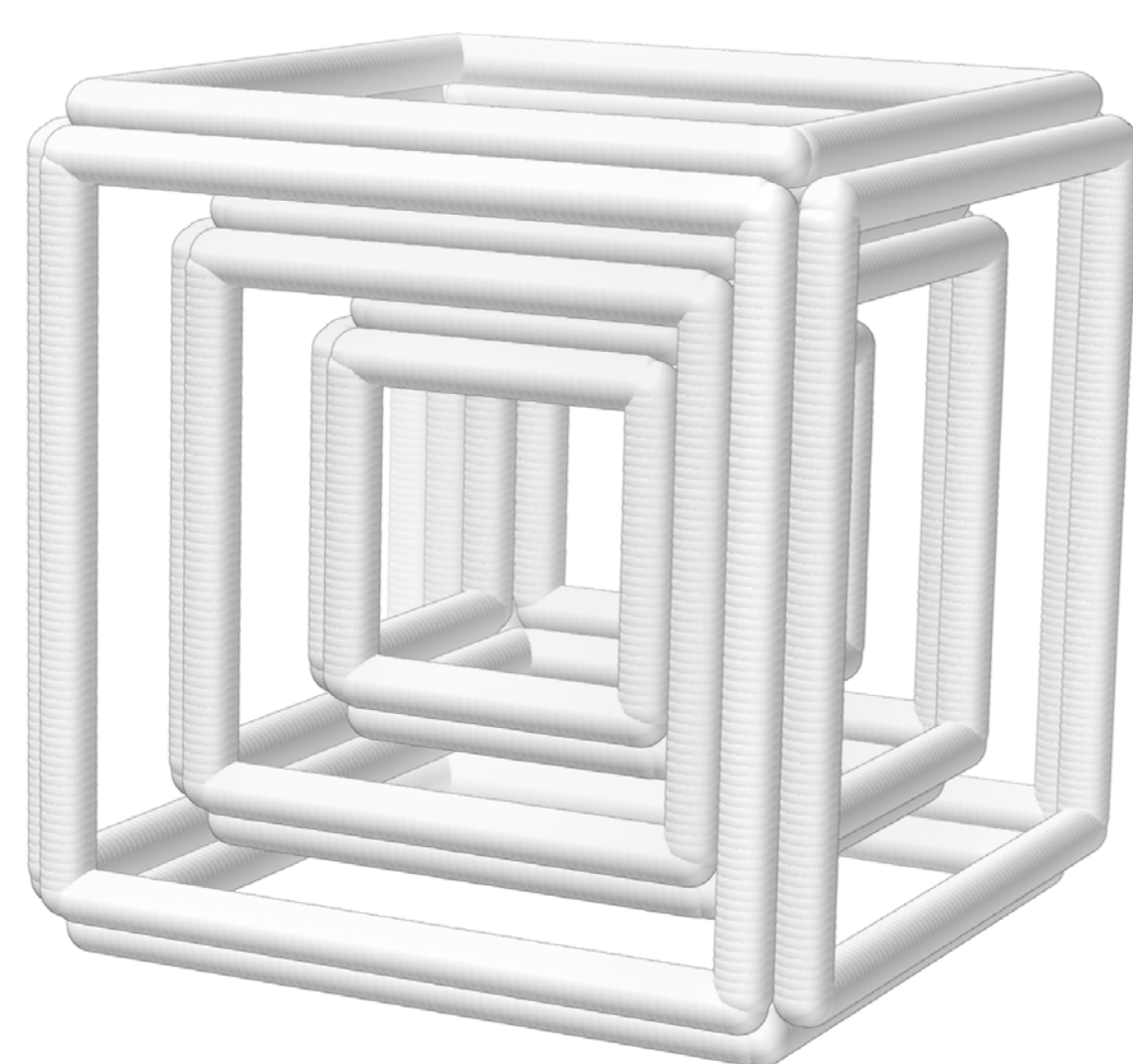
Adenita is an interactive modeling and visualization software for the design of large scale DNA nanostructures.



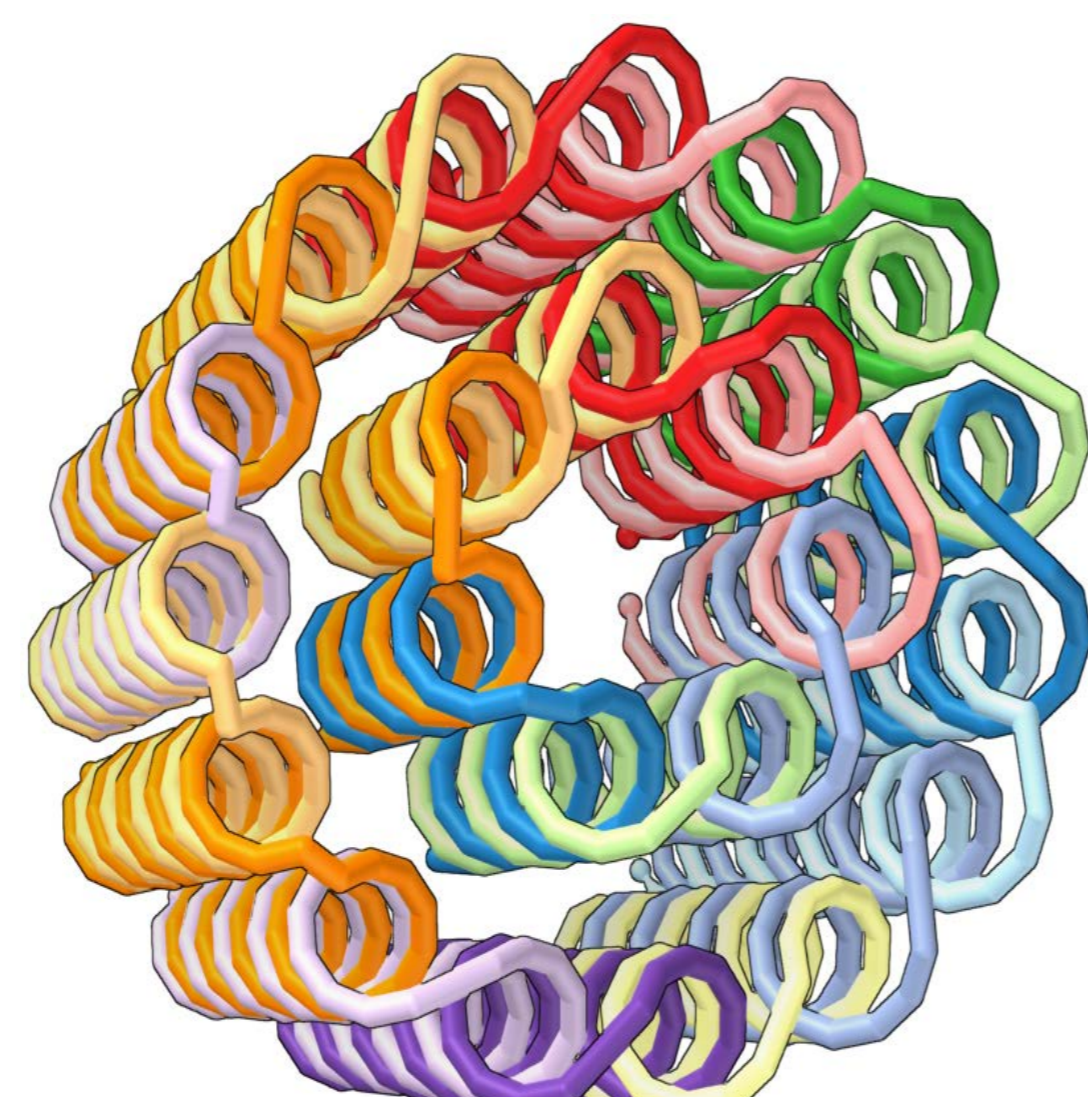
METHOD: An unified DNA Model



CREATE rapidly parametrized DNA nanostructures

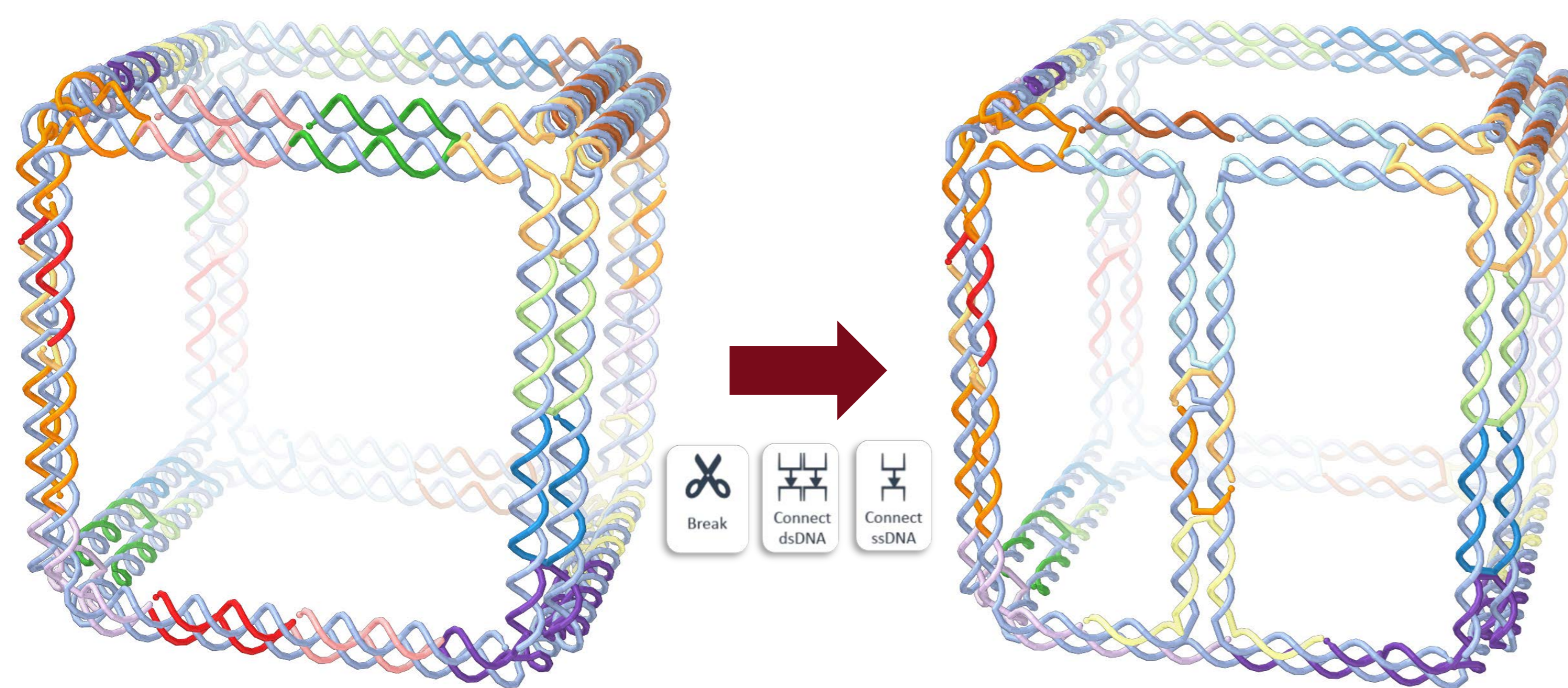
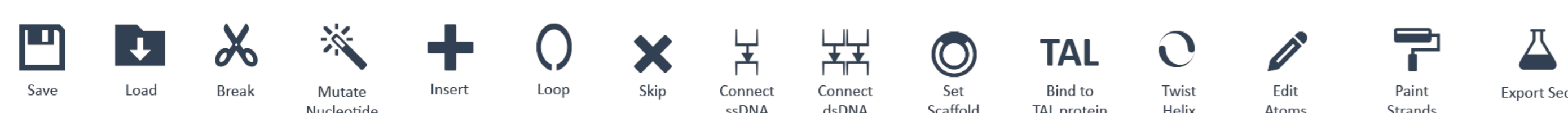


wireframes

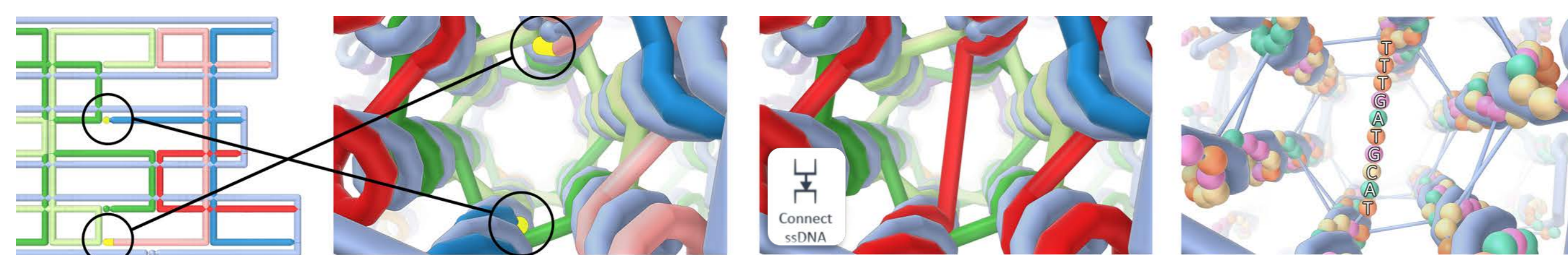


nanotubes

MODIFY existing nanostructures with a large toolkit



Overcome limitations of automatically generated DNA nanostructures



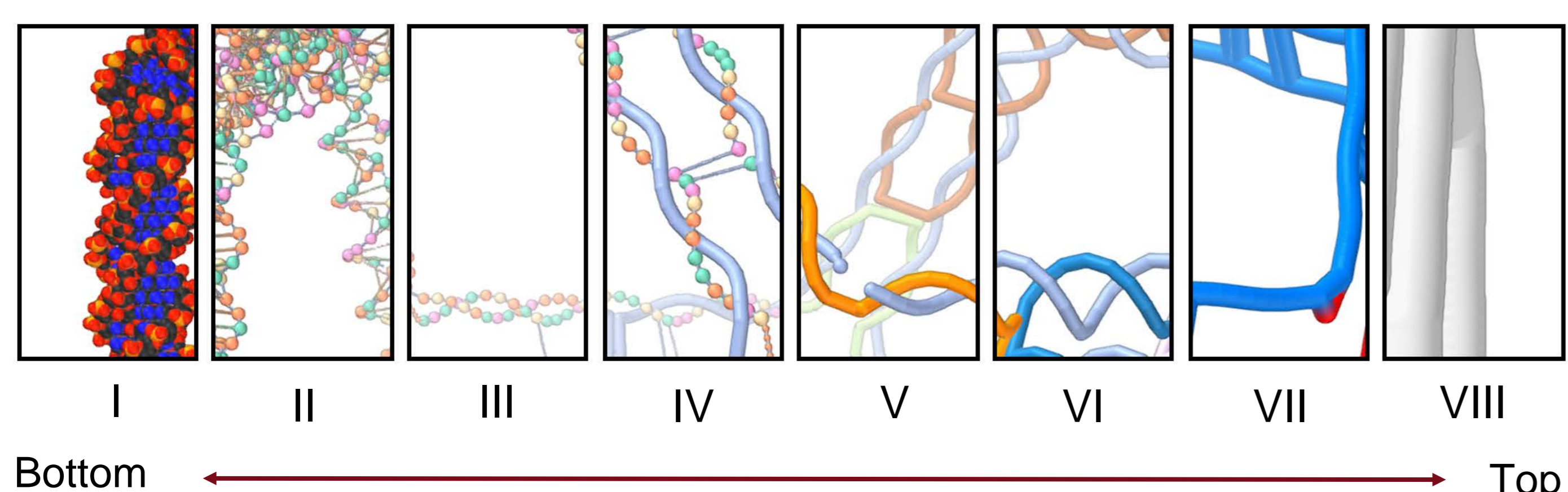
caDNA input

3D view (scale VI)

modify in 3D

3D view (scale IV)

VISUALIZE with a novel multiscale concept



Bottom

Top

CONCLUSION

- In **Adenita** we developed an innovative hierarchical model for the design of DNA nanostructures.
- Higher-order DNA frameworks can be assembled using an interactive modeling toolkit.
- Adenita provides an user interface to analyze and interact with the structural properties through a multiscale visualization.
- Combining different design methods in a modular way.
- Our software aims to design functional nanodevices.



Visit our interactive poster at <http://maraproject.eu/adenita>

References

- H. Miao et al. 2018. IEEE VIS COMPUT GR.
- H. Miao et al. 2018. Comput Graph Forum