

F. SATO LAB.

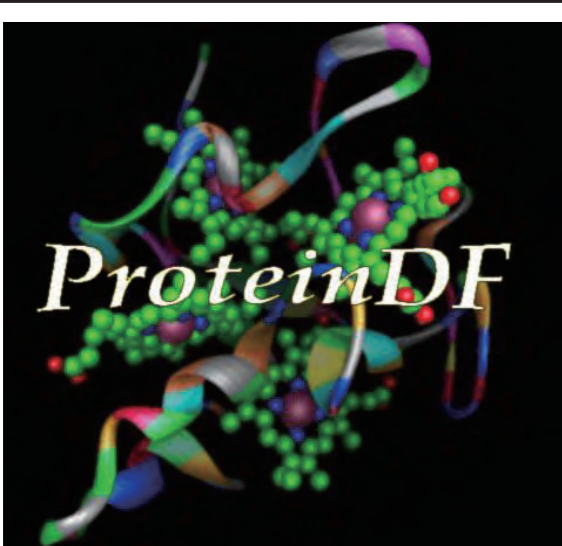
Innovative Simulation of Quantum and Proteins



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<http://www.satolab.iis.u-tokyo.ac.jp/>
<http://www.ciss.iis.u-tokyo.ac.jp/>

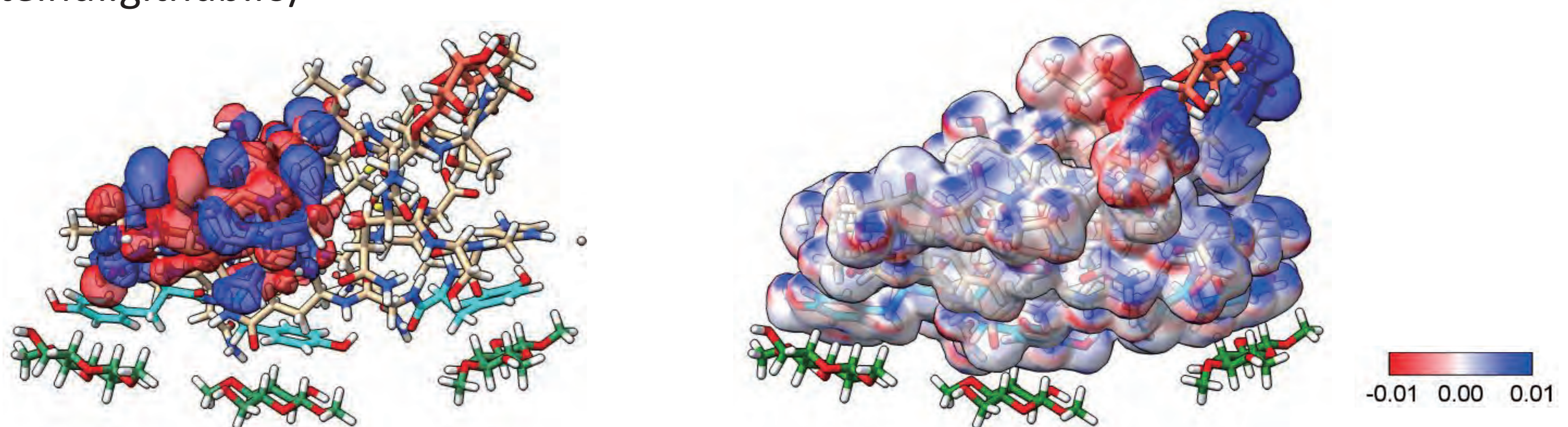


Quantum and Proteins



Development of "ProteinDF/QCLObot" software to calculate **all canonical molecular orbitals of proteins**

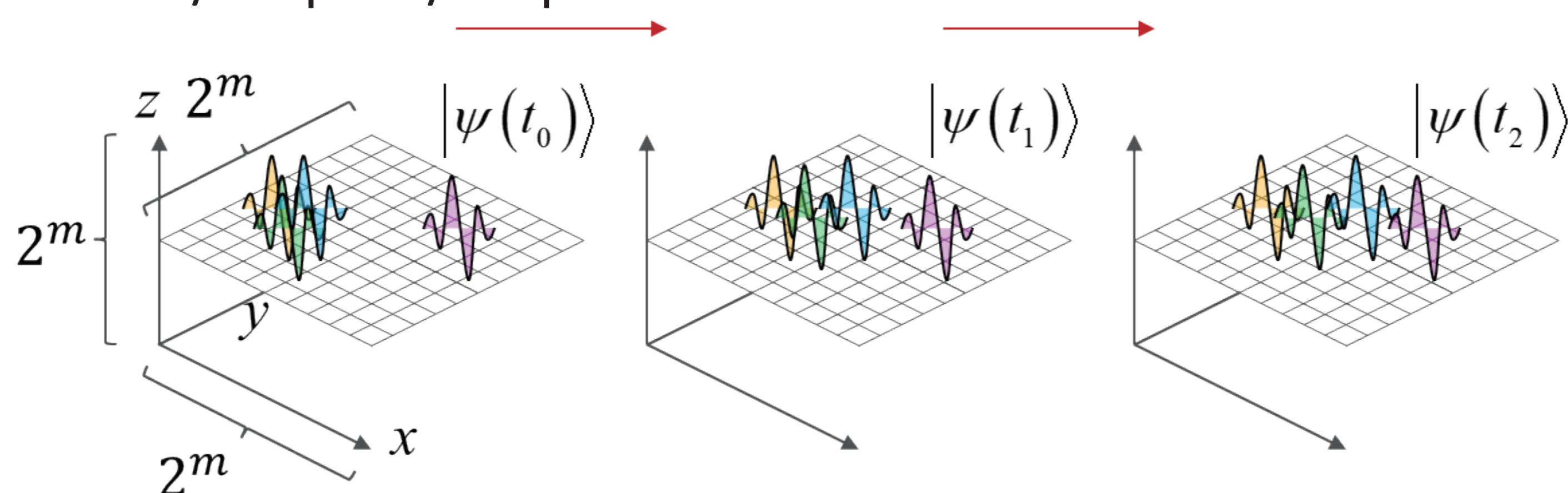
- Analysis and design of protein electronic states
- <https://proteindf.github.io/>



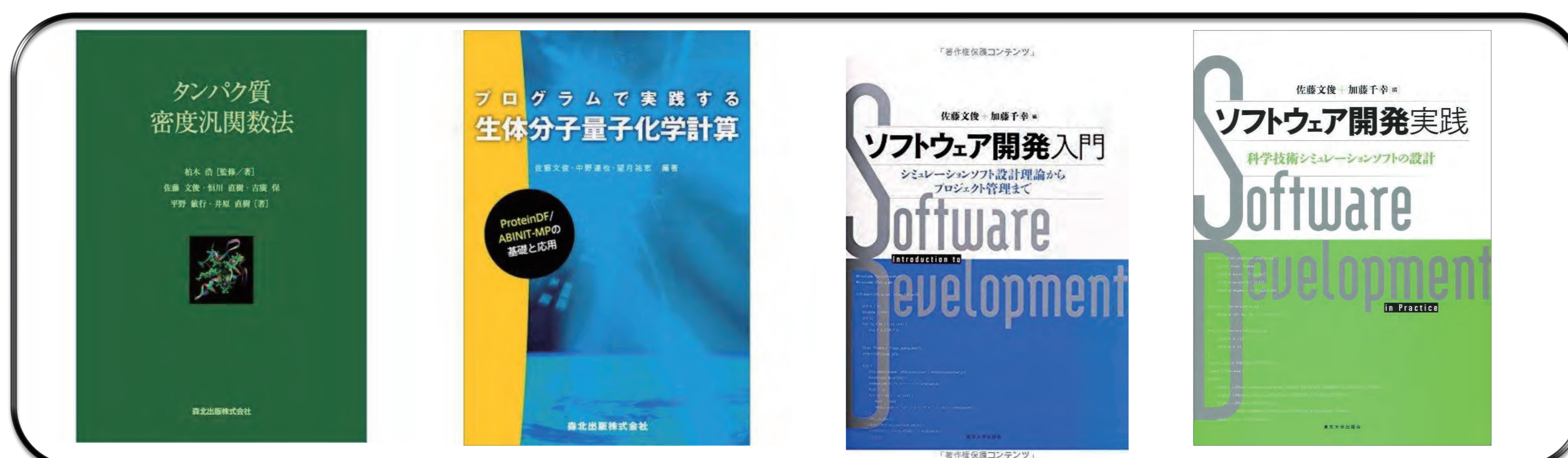
(Left) Molecular orbital of the cellulase carbohydrate-binding module (CBM) with Thr1 O-mannosylated,
(Right) Change in CBM electrostatic potential due to Thr1 O-mannosylation

Development of a chemical reaction simulator running on **quantum computers**

- First quantization method for maximizing the capabilities of quantum computers
- <https://github.com/crsq-dev/crsq-main>



Chemical Reaction Simulator: (Left) Reactants, (Center) Transition state, (Right) Products



Textbooks
(in Japanese)

