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The relation between dynamics and activity of phospholipase A/acyltransferase homologs

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Citation

Chatterjee, S. D. (2022, March 2). *The relation between dynamics and activity of phospholipase A/acyltransferase homologs*. Retrieved from <https://hdl.handle.net/1887/3277998>

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Stellingen

Behorende bij het proefschrift

The relation between dynamics and activity of phospholipase A/acyltransferase homologs.

Soumya Deep Chatterjee

1. The study of protein dynamics is essential to understand the structure-function relationship of PLAATs.
This thesis, **Chapter 2**
2. Highly disordered loops influence the active sites in PLAAT3 and -4.
This thesis, **Chapter 3** & *Nat. Chem. Biol.* **2015**,11, 26–32
3. Salt-bridges determine activity in PLAATs.
This thesis, **Chapter 4**
4. Composite pulse decoupling is better than single high power ^1H decoupling in ^{15}N relaxation dispersion experiments.
This thesis, **Chapter 5**
5. NMR spectroscopy alone is never sufficient to obtain full understanding of protein dynamics.
6. MD rms fluctuations of principal components is a better way to gain dynamics insights than generic all-atom rms fluctuations.
7. Lifetime analysis provides more reliable information about the role of salt-bridges in protein structure than a crystal or solution structure does.
8. Full understanding of PLAAT function is not possible without studying the full-length proteins.
9. Thinking by analogy and by first principles complement each other in designing a hypothesis.