Propositions

accompanying the dissertation

EXPLORING DISORDERED EXCITON LANDSCAPES IN CHLOROSOMES

1. Irregularities in hydrogen bonding networks ensure efficient light-harvesting of chlorosomes by broadening their absorption spectra. [Chapter 2]
2. Macroscopic helicity dictates the arrangement of chromophores which affects absorption properties, and its change may act as their adaptation mechanism to exposure to different light conditions. [Chapter 3]
3. Both proposed structures of chlorosomal aggregates matter! (J. Phys. Chem. B 2018, 122, 26, 6712-6723 and J. Phys. Chem. C 2019, 123, 26, 16462–16478) [Chapter 3]
4. Bright states collect, while dark protect! [Chapter 4]
5. Energy transfer highly depends on the context: Pathways explored in isolated molecular complexes might not be prominent within the natural photosystems.
6. More is different: Properties of large molecular systems are not simple sums of molecular attributes.
7. Despite all the hardships of living in the scarcity of light, one must imagine green bacteria happy. [Introduction of this thesis]
8. The word spectroscopy has roots in Latin (spectrum appearance or spirit) and Greek ($\sigma\kappa o\pi\acute{\iota}\varepsilon\nu$ - to see), classifying it as one of the most poetic scientific disciplines.
9. Research is never finished, only abandoned.

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