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Author: Scanu, Sandra
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Stellingen

Behorende bij het proefschrift

Dynamics in photosynthetic transient complexes studied by paramagnetic NMR spectroscopy

1. Plastocyanin and cytochrome \( f \) from the cyanobacterium Nostoc sp. PCC 7119 form a highly dynamic complex (this thesis, Chapter II).

2. The encounter complex of plastocyanin and cytochrome \( f \) from Nostoc is stabilized by hydrophobic as well as electrostatic interactions (this thesis, Chapter III).

3. Plastocyanin approaches cytochrome \( f \) with the residues forming the hydrophobic patch and the region around R93 (this thesis, Chapter III).

4. In cyanobacterial plastocyanin-cytochrome \( f \) complexes, electrostatic interactions preorient plastocyanin with its hydrophobic patch towards cytochrome \( f \) (this thesis, Chapter III and IV).

5. The presence of MTSL in a particular region of the protein can influence the complex formation with the interaction partner and this influence must always be checked for (this thesis, Chapter III).

6. The presence of hydrophobic interactions both in the encounter and in the final complex blurs the distinction between the two energetic states (this thesis, Chapter III and IV).

7. When hydrophobic interactions occur also in the encounter complex, the size of chemical shift perturbations could be not directly related to the dynamics within a protein complex (this thesis, Chapter IV).

8. PRE measurements not only reveal the presence of intermediate states but also shed light on their structural features (Iwahara J. and Clore G.M. Nature, 2006).


10. The major limitation of the progress in science is the fear of scientists to recognize their own human and professional limitations.

11. A scientist has the privilege to investigate the dogmas of life and he/she should, therefore, endeavor to make them accessible to the entire society.

Sandra Scanu, Leiden, 10 October 2013