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## **Dynamics in photosynthetic transient complexes studied by paramagnetic NMR spectroscopy**

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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).
9. Hydrophobicity serves as the attractive potential contributing to the stability of the encounter conformations (Camacho C.J. et al. *Biophys. J.*, 1999; *this thesis Chapter III and IV*).
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.