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**Ab initio modeling of primary processes in
photosynthesis : protein induced activation of
bacteriochlorophylls for efficient light harvesting
and charge separation**

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Stellingen

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Ab initio modeling of primary processes in photosynthesis: Protein induced activation of bacteriochlorophylls for efficient light harvesting and charge separation

door

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26 januari 2011

1. LH2 axial histidines are preprogrammed by the protein environment to assist in the antenna function.

This thesis, Chapter 3

2. In the bacterial reaction center a water molecule breaks the symmetry of the four axial histidines.

This thesis, Chapter 4

3. The protein of the bacterial reaction center tunes the biophysical properties of the special pair via the 3¹ acetyl of P_L.

This thesis, Chapter 5

4. Contrary to the earlier suggestions, in the ground state of the special pair more electron charge density is located on P_M.

This thesis, Chapter 5

E. Daviso, et al., Proc. Natl. Acad. Sci. USA 2009, 106, 22281

5. Quantum theory modeling provides converging evidence towards proton-coupled electron transfer characteristic of the primary charge separation.

This thesis, Chapter 6

6. Theoretical modeling can bridge the gap between observation and understanding.

This thesis

7. A good lecture is when students learn something. A great one is when the lecturer does it as well.
8. Theoreticians and experimentalists are like day and night.
9. Sometimes society puts more trust in fortune tellers than in scientists.
10. Nowadays we seem to forget the benefits of Ford's reduced workweek.