



Universiteit
Leiden
The Netherlands

Spin-torch experiment on reaction centers of *Rhodobacter sphaeroides*

Sai Sankar Gupta, K.B.

Citation

Sai Sankar Gupta, K. B. (2011, December 22). *Spin-torch experiment on reaction centers of Rhodobacter sphaeroides*. Retrieved from <https://hdl.handle.net/1887/18271>

Version: Corrected Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/18271>

Note: To cite this publication please use the final published version (if applicable).

Propositions

belonging to the thesis
“Spin-torch experiments on reaction centers of *Rhodobacter sphaeroides*”

1. The $P_L^{\delta-}P_M^{\epsilon-}$ charge transfer character and dynamic asymmetry breaking of the electronic structure can trigger asymmetric electron transfer following excitation.
(This thesis, Chapter 2 and 3)
2. In contrast with current scientific practice, 2D photo-CIDNP DARR experiments can give more than chemical shift information.
(This thesis, Chapter 3)
3. Low-frequency collective modes of the Special Pair (P) tend to localize towards the P_M bacteriochlorophyll which is close to the accessory bacteriochlorophyll of the active branch via HisM202 and a water molecule.
(This thesis, Chapter 3)
4. The bacteriopheophytin *a* of the active branch is not tuned in a special manner by its protein environment.
(This thesis, Chapter 4)
5. Spin-torch experiments can give insight into the local mobility of the Special Pair and can also reveal tuning properties of the protein pocket.
(This thesis, Chapters 2 and 5)
6. If the length of the heel bone would play a role, children would win marathons.
(Raichlen, D. A. (2011) *Nature, Highlights*, 470, 439-439)
7. Breathing is the common denominator amongst the saints, sportsmen and proteins.
8. Cancellation of different types of contracts should be digitally recognized.
9. The materialistic concept is simply spiritual concept with money added.
10. It is the effort that gives a person their unique identity.

Karthick Babu Sai Sankar Gupta