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Dynamics in electron transfer protein complexes

Bashir, Q.

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Stellingen

Behorende bij het proefschrift:

Dynamics in electron transfer protein complexes

1. Binding hot spots exist in transient protein complexes like in strong static complexes.
This thesis, chapter 3
2. The encounter complex can be simulated considering long range electrostatic interactions only.
This thesis, chapter 4
3. The right balance between the encounter complex and the specific complex is the consequence of biological function ensuring fast association, efficient function and high turn over.
This thesis, chapter 4
4. The population of the encounter complex can be modulated by single residue interface mutations.
This thesis, chapter 5
5. The energy landscape of a protein complex can be remodeled by judicious choice of interface mutations.
This thesis, chapter 5
6. In weak protein complexes, specificity can be modified by rational engineering of interface residues.
This thesis, chapter 6
7. Rigidity of the attached paramagnetic probe is crucial to determine the solution structure of a protein complex by docking with high precision.
This thesis, chapter 6
8. The size of binding induced NMR chemical shift perturbations is a measure of the dynamics in transient protein complexes.
This thesis, chapters 2, 3, 5 and 6
Worrall et al. *Biochemistry*, 2003, 42, 7068-7076
9. A relative rotation of as little as a few degrees or a relative translation by a few Ångstroms is sufficient to break all specific interactions between the two proteins.
Alsallaq, R.; Zhou, H.-X. *Biophys. J.* 2007, 92, 1486

10. In science the credit goes to the man who convinces the world, not to the man to whom the idea first occurs.
Sir Francis Darwin, *Eugenics Review*, April 1914
11. Every science begins as philosophy and ends as art.
Will Durant, *The Story of Philosophy*, 1926
12. The way to do research is to attack the facts at the point of greatest astonishment.
Celia Green, *The Decline and Fall of Science*, 1972
13. The two things you have to learn in Netherlands are cycling and punctuality.