Inhibition and dynamics of a β-lactamase

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Propositions

Stellingen behorend bij het proefschrift “Inhibition and dynamics of a β-lactamase”

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1. The Ω-loop is not the only mobile part of a β-lactamase.
2. Inhibitor binding increases millisecond dynamics in BlaC.
3. Clavulanic acid destabilises BlaC.
4. Introduction of asparagine 132 in BlaC yields two surprisingly balanced conformations.
5. Dynamics are not required for β-lactamase function.
6. Fast conformational dynamics are more conserved in proteins than slow conformational dynamics are.
7. The effect of antibiotics on society is similar to that of fossil fuels.
8. The use of antibiotics in agriculture presents not only a problem but also an opportunity for research into resistance evolution under drug pressure that should be exploited.
9. The term ‘resting state’ is an apt name for BlaC in solution.
10. The term ‘excited state’ to describe a lowly populated conformation is a misnomer, it should be called ‘exciting state’.
11. One should wonder if it is wise to purposely develop novel drug resistance.