

# Hydrophobic core in $\beta$ -sandwich-like domains

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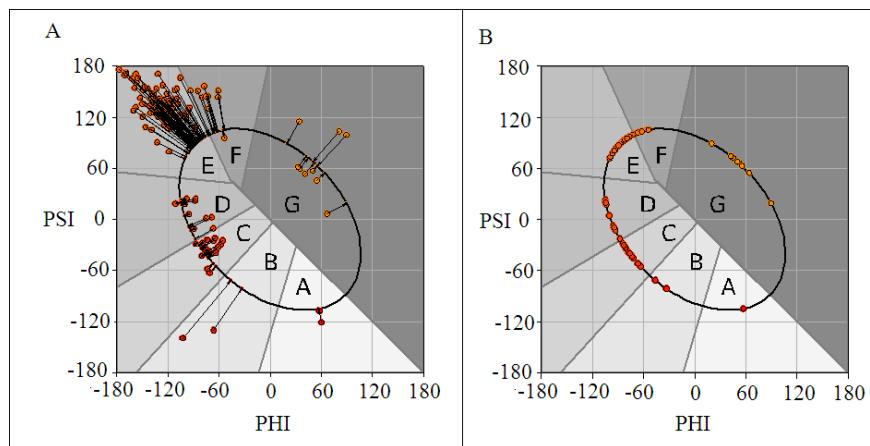
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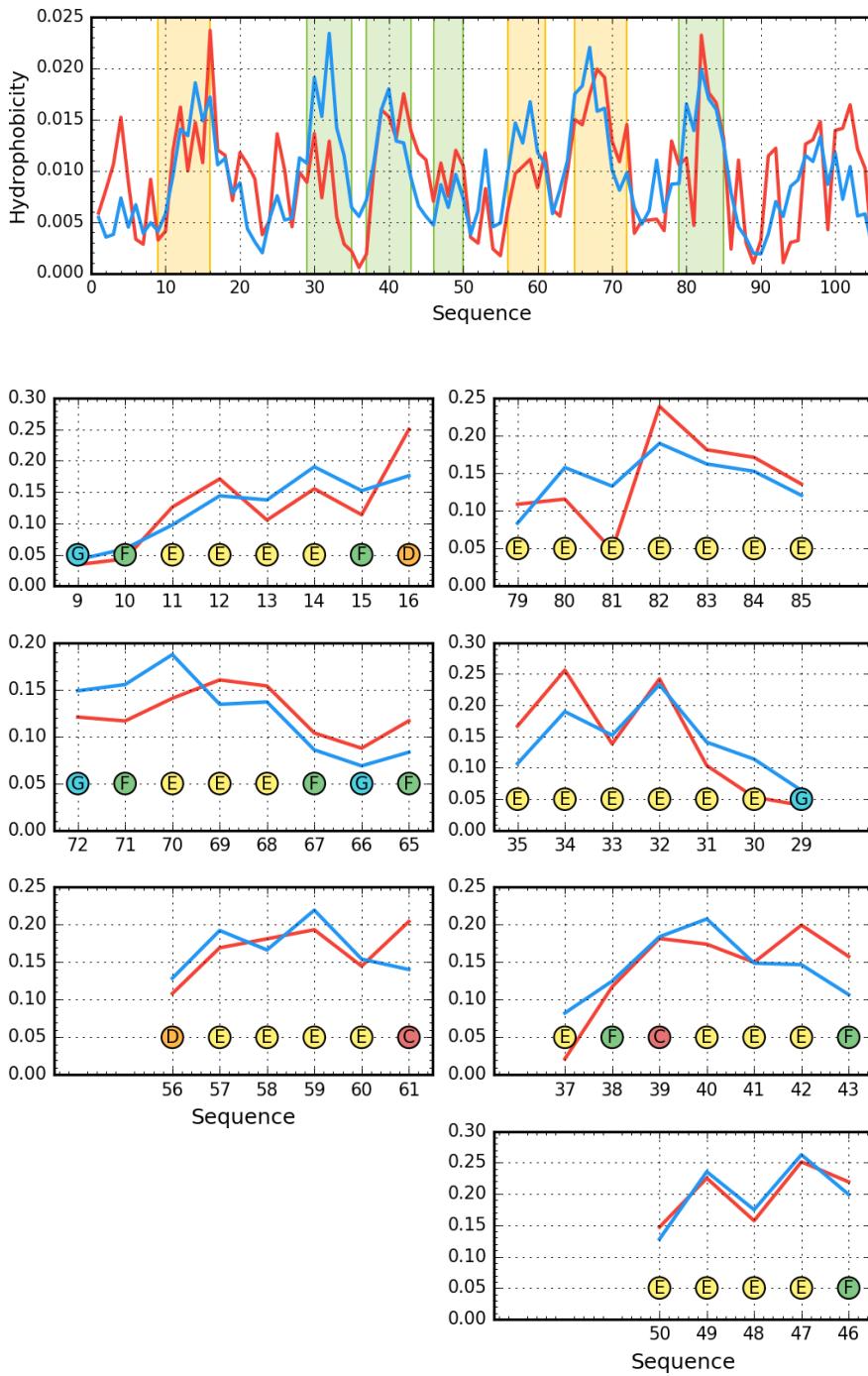
## Abstract

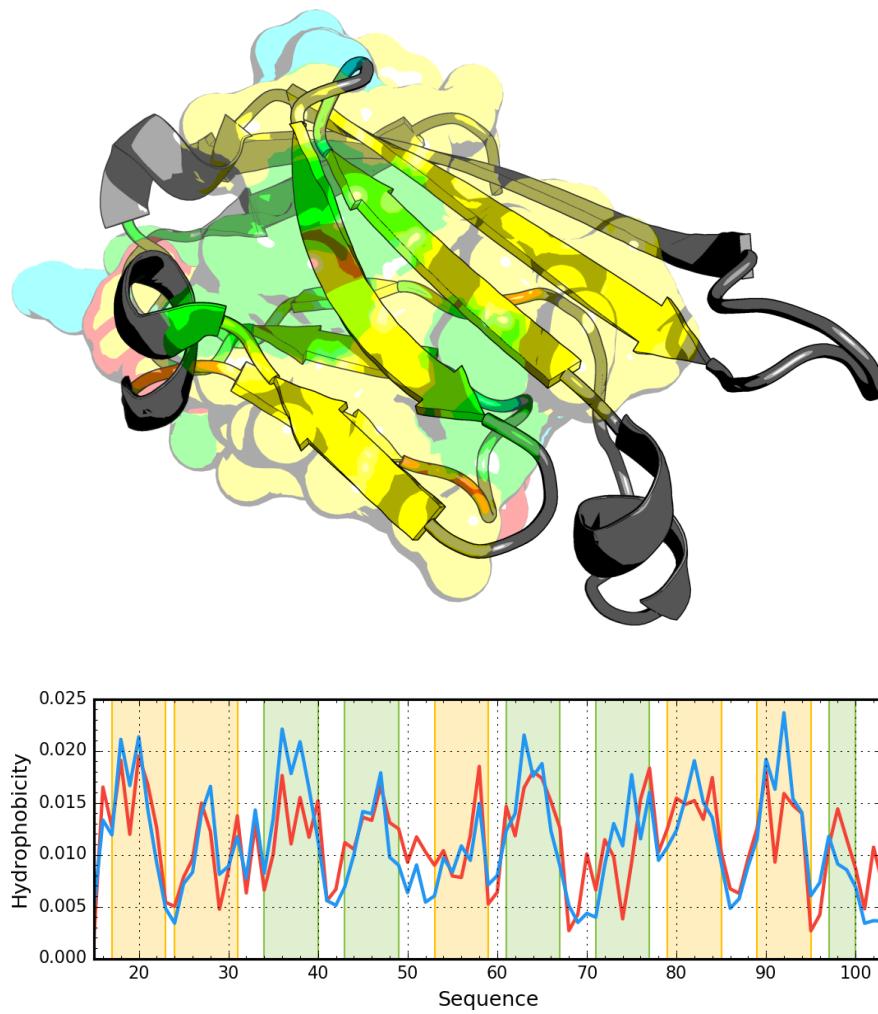
The main problem discussed in this paper concerns the importance of the presence of a hydrophobic core in  $\beta$ -sandwich supersecondary structures. The aim of this research is to propose an alternative structural classification of the relationship between sequence and spatial structure. The set of analyzed proteins contains very diverse examples (taking into consideration source organisms, chain length, domain composition, ligand and metal complexation, quaternary structure), allowing for generalization of conclusions. The biological function of the proteins in question is also fundamentally different. The only common feature of these proteins is the presence of a  $\beta$ -sandwich or  $\beta$ -sandwich-like domain. The data base is taken from alternative classification of secondary and supersecondary of sandwich-like domains. The results show that the secondary and supersecondary despite of high topological similarity represent different forms of hydrophobic core structure. In consequence the stability of sandwich-like domains is differentiated. The local stability/instability has a significant repercussion on biological activity. It is expressed by identified local discordance between idealized and observed hydrophobicity distribution. The closer is the structure of hydrophobic core to the idealized one the higher stability is assumed for the domain under consideration.

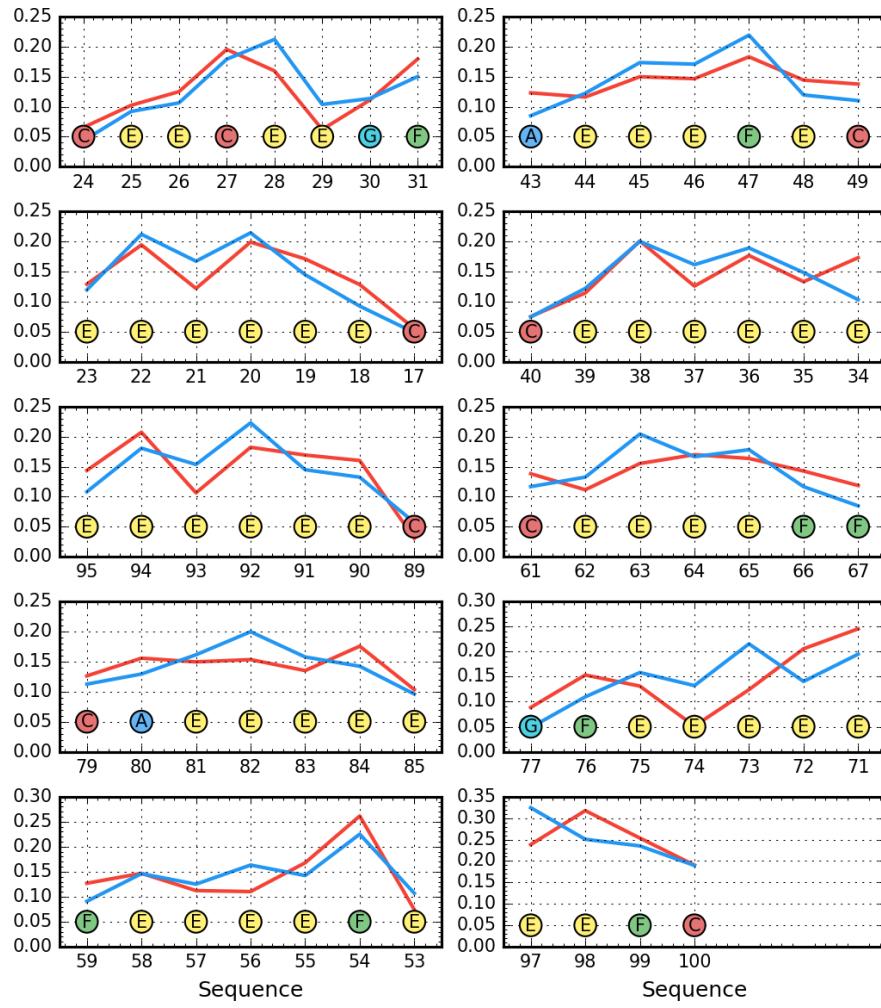
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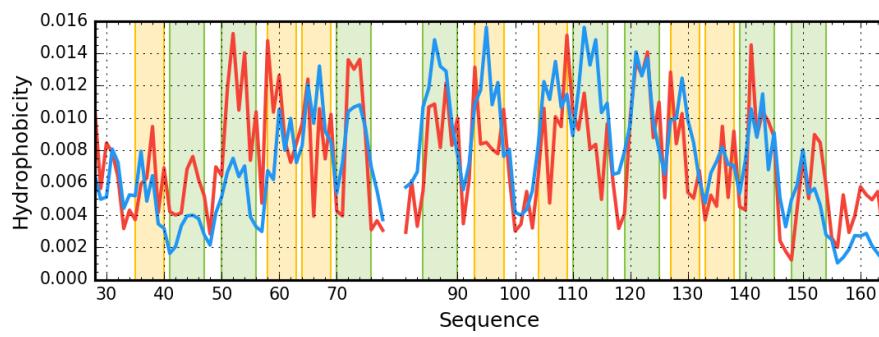
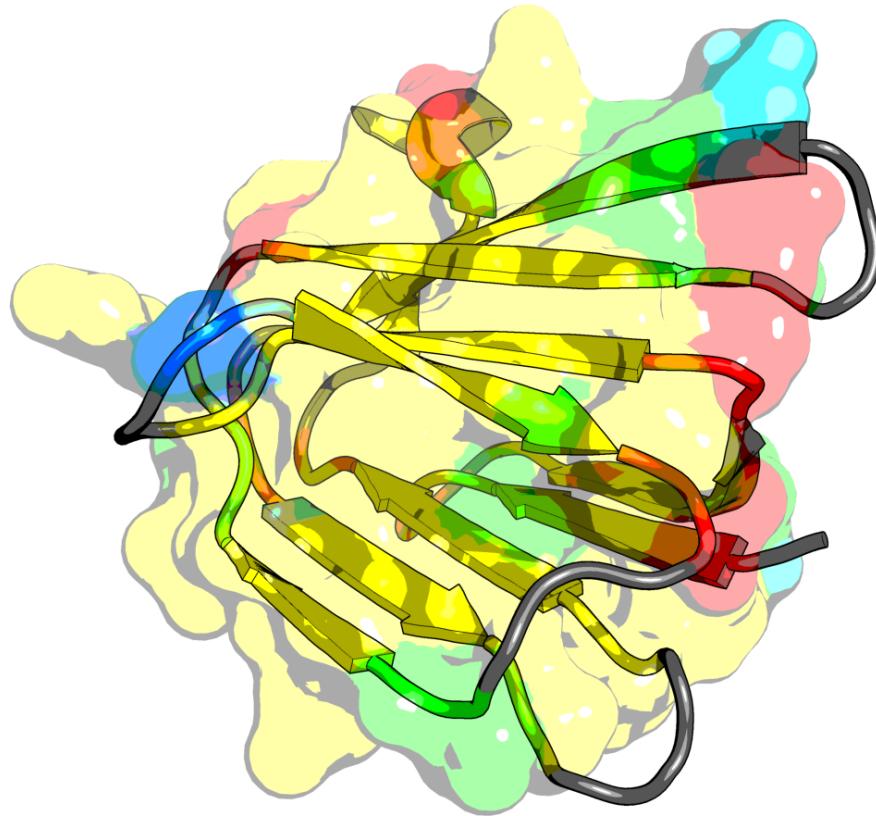
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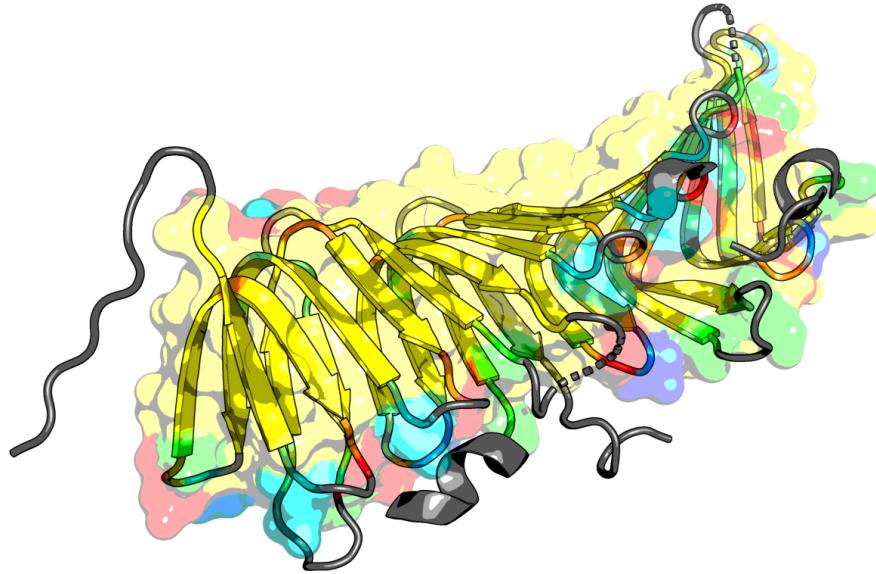
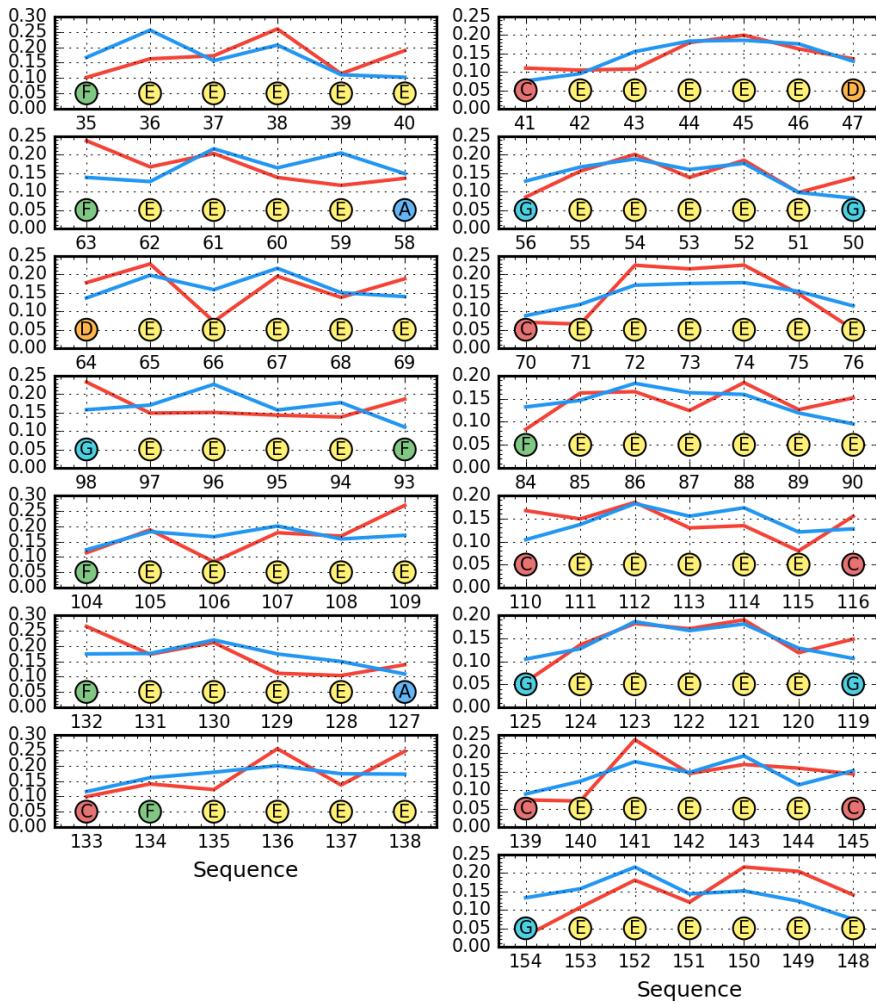


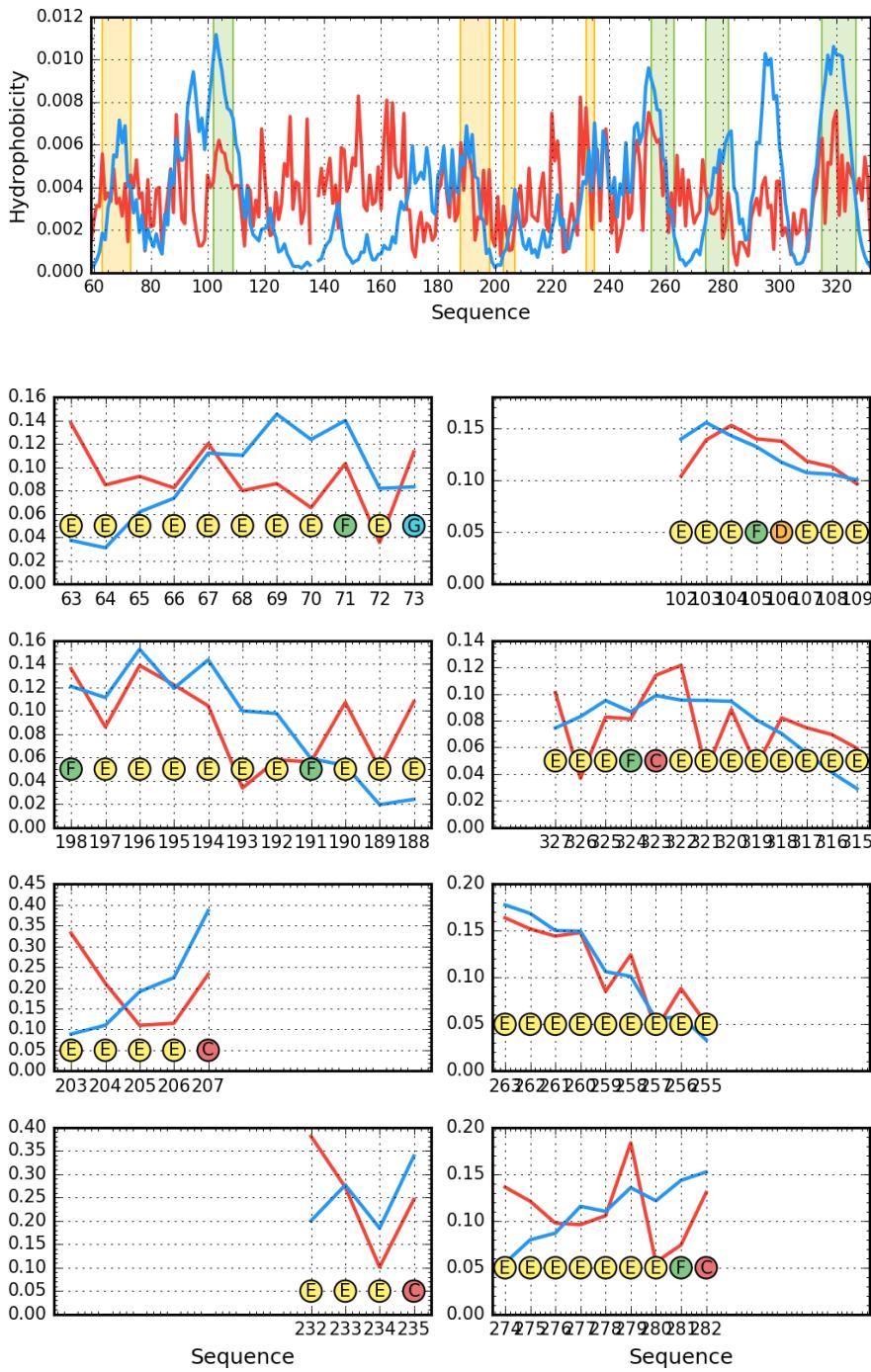


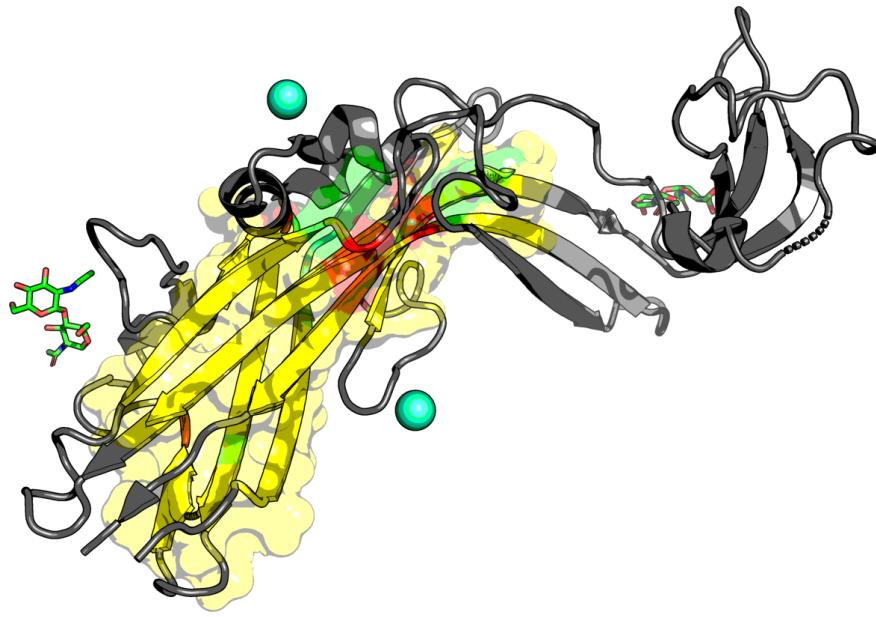












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