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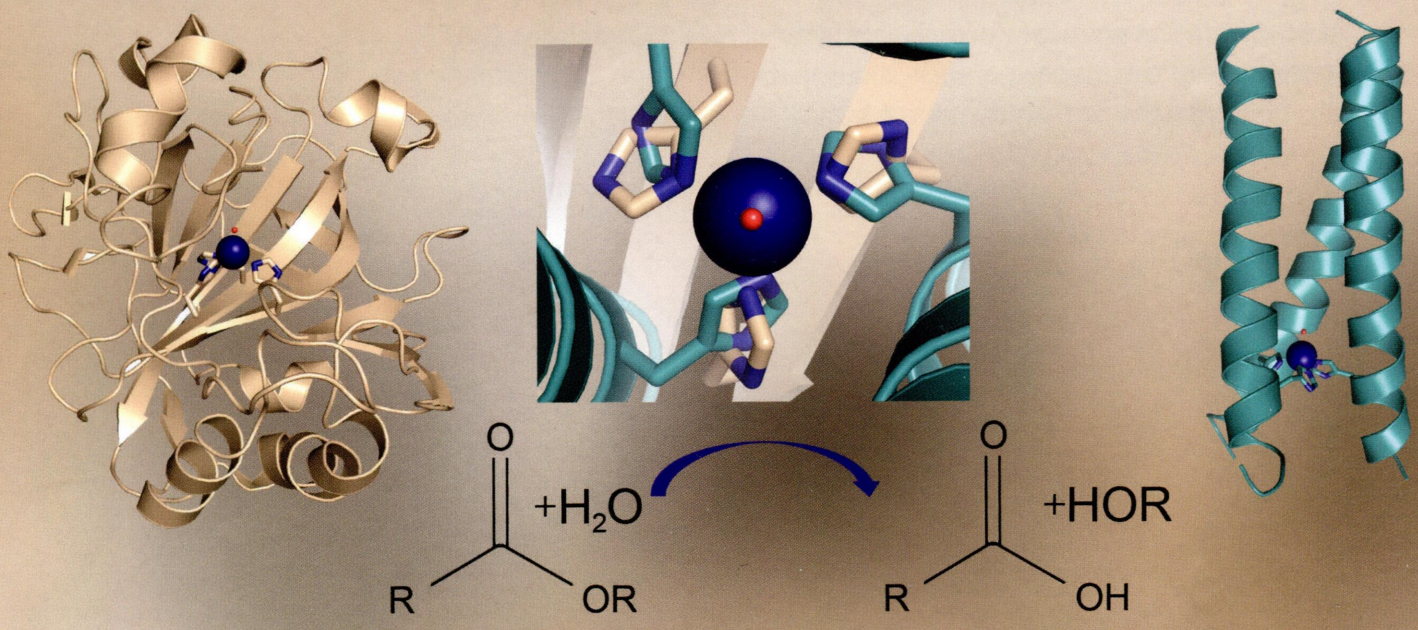

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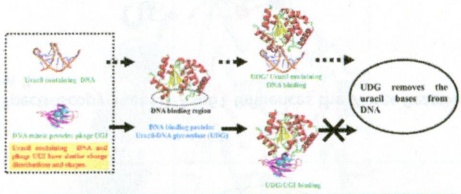
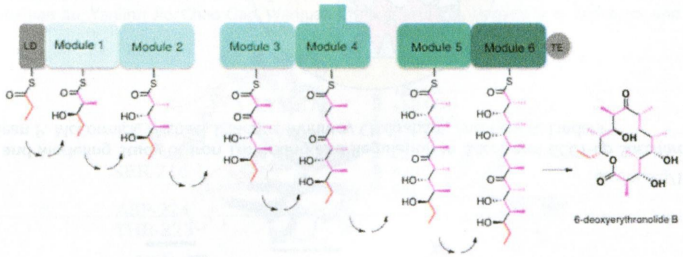
ON THE COVER: Using de novo and redesign approaches toward the preparation of structural and functional models of hydrolytic zinc metalloenzymes. [Zastrow, M. L., and Pecoraro, V. L. (2014) *Biochemistry* 53, 957−978]

Current Topics



An example of how the phage UGI DNA mimic protein can act as a competitive inhibitor for UDG

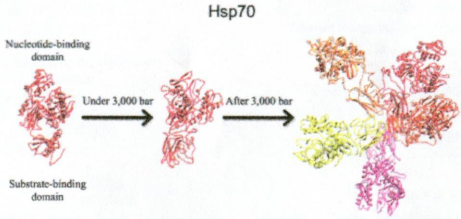


Articles

2884 dx.doi.org/10.1021/bi500004q

Conformational Changes in Human Hsp70 Induced by High Hydrostatic Pressure Produce Oligomers with ATPase Activity but without Chaperone Activity

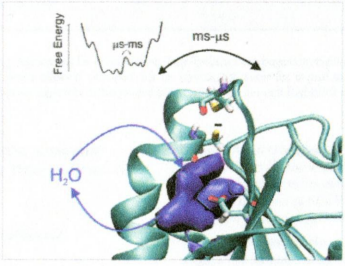
Thaís L. S. Araujo, Julio Cesar Borges, Carlos H. Ramos, José Roberto Meyer-Fernandes, Reinaldo S. Oliveira Júnior, Pedro G. Pascutti, Debora Foguel,* and Fernando L. Palhano*



2890 S dx.doi.org/10.1021/bi401542v

Hydration and Conformational Equilibrium in Yeast Thioredoxin 1: Implication for H^+ Exchange

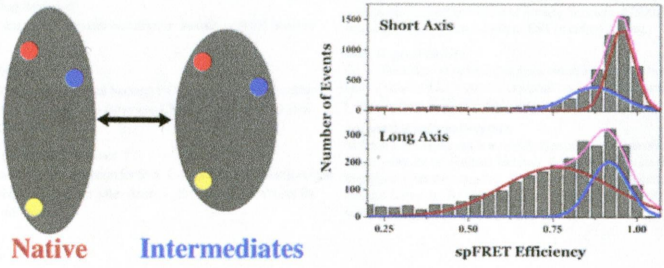
Carolina Cruzeiro-Silva, Francisco Gomes-Neto, Luciana E. S. F. Machado, Catarina A. Miyamoto, Anderson S. Pinheiro, Natalia Correa-Pereira, Mariana T. Q. de Magalhães, Ana Paula Valente, and Fabio C. L. Almeida*



2903 S dx.doi.org/10.1021/bi401622n

Collapse of a Long Axis: Single-Molecule Förster Resonance Energy Transfer and Serpin Equilibrium Unfolding

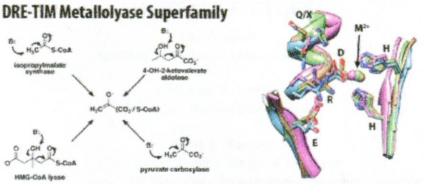
Lu Liu, Michael Werner, and Anne Gershenson*



2915 dx.doi.org/10.1021/bi500246z

Mechanistic and Bioinformatic Investigation of a Conserved Active Site Helix in α-Isopropylmalate Synthase from *Mycobacterium tuberculosis*, a Member of the DRE-TIM Metallolyase Superfamily

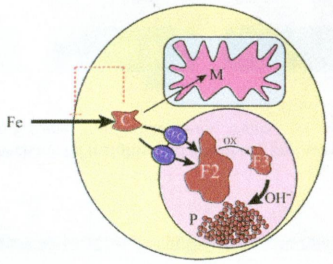
Ashley K. Casey, Michael A. Hicks, Jordyn L. Johnson, Patricia C. Babbitt, and Patrick A. Frantom*



2926 dx.doi.org/10.1021/bi500002n

Mössbauer, EPR, and Modeling Study of Iron Trafficking and Regulation in Δ*ccc1* and *CCC1-up Saccharomyces cerevisiae*

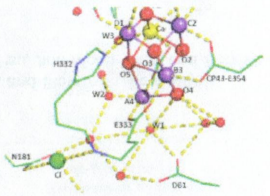
Allison Cockrell, Sean P. McCormick, Michael J. Moore, Mrinmoy Chakrabarti, and Paul A. Lindahl*



2941 dx.doi.org/10.1021/bi500309f

Evidence from FTIR Difference Spectroscopy That D1-Asp61 Influences the Water Reactions of the Oxygen-Evolving Mn_4CaO_5 Cluster of Photosystem II

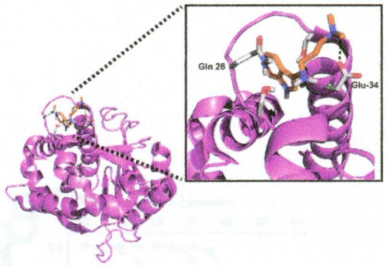
Richard J. Debus*



2956 S dx.doi.org/10.1021/bi500175p

Noncompetitive Inhibition of Indolethylamine-*N*-methyltransferase by *N,N*-Dimethyltryptamine and *N,N*-Dimethylaminopropyltryptamine

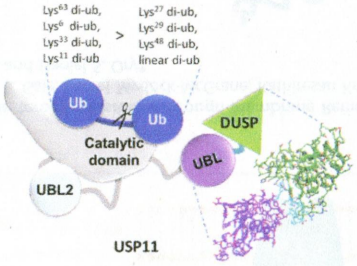
Uyen B. Chu, Sevahn K. Vorperian, Kenneth Satyshur, Kelsey Eickstaedt, Nicholas V. Cozzi, Timur Mavlyutov, Abdol R. Hajipour,* and Arnold E. Ruoho*



2966 S dx.doi.org/10.1021/bi500116x

Structure and Catalytic Regulatory Function of Ubiquitin Specific Protease 11 N-Terminal and Ubiquitin-like Domains

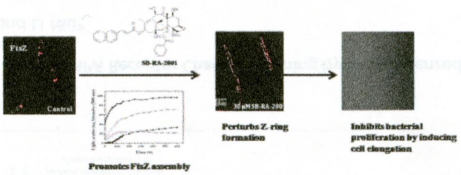
Stephen Harper, Hayley E. Gratton, Irina Cornaciu, Monika Oberer, David J. Scott, Jonas Emsley, and Ingrid Dreveny*



2979 S dx.doi.org/10.1021/bi401356y

SB-RA-2001 Inhibits Bacterial Proliferation by Targeting FtsZ Assembly

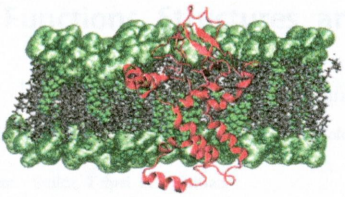
Dipty Singh, Anusri Bhattacharya, Ankit Rai, Hemendra Pal Singh Dhaked, Divya Awasthi, Iwao Ojima, and Dulal Panda*



2993 Ⓢ dx.doi.org/10.1021/bi401575g

The Sigma Enigma: *In Vitro/in Silico* Site-Directed Mutagenesis Studies Unveil σ_1 Receptor Ligand Binding

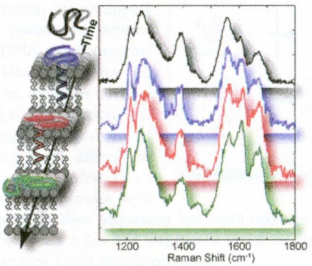
S. Brune, D. Schepmann, K.-H. Klempnauer, D. Marson, V. Dal Col, E. Laurini, M. Fermeglia, B. Wünsch,* and S. Pricl*



3004 dx.doi.org/10.1021/bi4016296

Role of Bilayer Characteristics on the Structural Fate of Aβ(1−40) and Aβ(25−40)

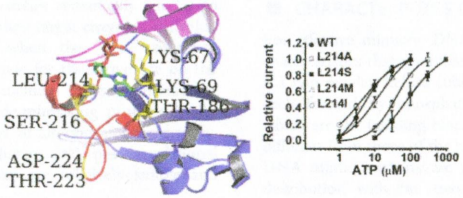
Jian Xiong, Carol A. Roach, Olayinka O. Oshokoya, Robert P. Schroell, Rauta A. Yakubu, Michael K. Eagleburger, Jason W. Cooley, and Renee D. JiJi*



3012 Ⓢ dx.doi.org/10.1021/bi401711n

Involvement of Ectodomain Leu 214 in ATP Binding and Channel Desensitization of the P2X4 Receptor

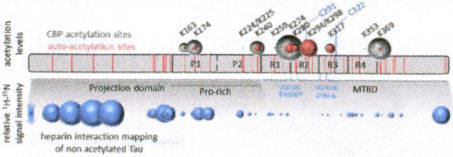
Longmei Zhang, Huijuan Xu, Yanling Jie, Chao Gao, Wanjuan Chen, Shikui Yin, Damien S. K. Samways, and Zhiyuan Li*



3020 dx.doi.org/10.1021/bi500006v

Nuclear Magnetic Resonance Analysis of the Acetylation Pattern of the Neuronal Tau Protein

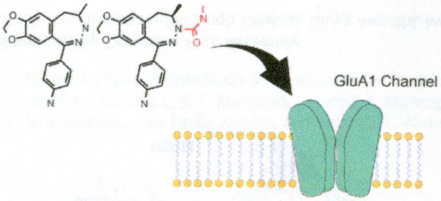
Amina Kamah, Isabelle Huvent, François-Xavier Cantrelle, Haoling Qi, Guy Lippens, Isabelle Landrieu, and Caroline Smet-Nocca*



3033 dx.doi.org/10.1021/bi5002079

Mechanism of Inhibition of the GluA1 AMPA Receptor Channel Opening by the 2,3-Benzodiazepine Compound GYKI 52466 and a *N*-Methyl-Carbamoyl Derivative

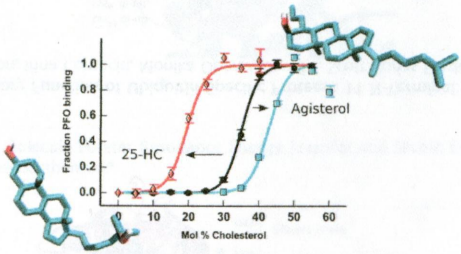
Andrew Wu, Congzhou Wang, and Li Niu*



3042 dx.doi.org/10.1021/bi5000096

Side-Chain Oxysterols Modulate Cholesterol Accessibility through Membrane Remodeling

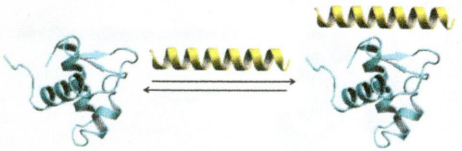
Agata A. Bielska, Brett N. Olsen, Sarah E. Gale, Laurel Mydock-McGrane, Kathiresan Krishnan, Nathan A. Baker, Paul H. Schlesinger, Douglas F. Covey, and Daniel S. Ory*



3052 Ⓢ dx.doi.org/10.1021/bi500252w

Structural Analysis of Replication Protein A Recruitment of the DNA Damage Response Protein SMARCAL1

Michael D. Feldkamp, Aaron C. Mason, Brandt F. Eichman, and Walter J. Chazin*



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