

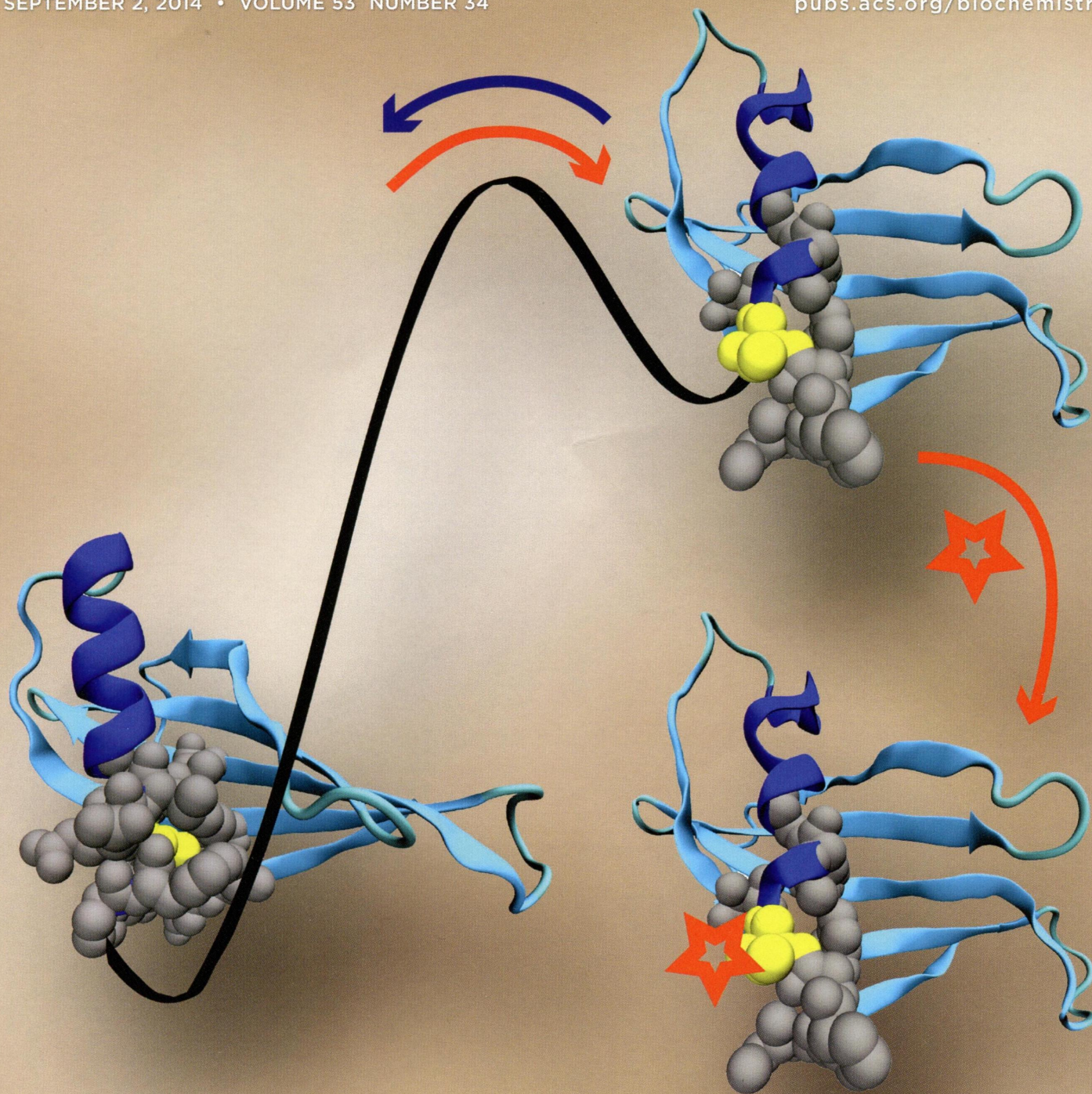
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ON THE COVER: Thiol labeling of a single cysteine residue (yellow spheres) has been used to monitor rare unfolding events in a protein under nativelike conditions. The residues (gray spheres) surrounding the buried cysteine move apart, resulting in solvent exposure and hence labeling of the side chain thiol. This deprotection of the side chain is associated with an energy barrier between the native state and a partially unfolded, labeling-competent intermediate. Such intermediates have been mapped onto the unfolding energy landscape of the protein monellin using the kinetic and thermodynamic information obtained from thiol labeling. [Malhotra, P., and Udgaonkar, J. B. (2014) *Biochemistry* 53, 3608–3620]

Rapid Reports

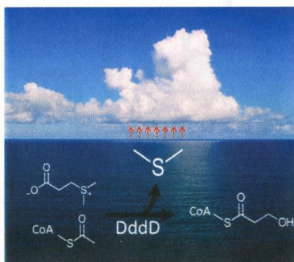
5473



[dx.doi.org/10.1021/bi500853s](https://doi.org/10.1021/bi500853s)

DddD Is a CoA-Transferase/Lyase Producing Dimethyl Sulfide in the Marine Environment

Uri Alcolombri, Paola Laurino, Pedro Lara-Astiaso, Assaf Vardi, and Dan S. Tawfik*



Articles

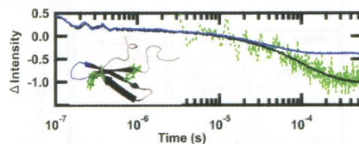
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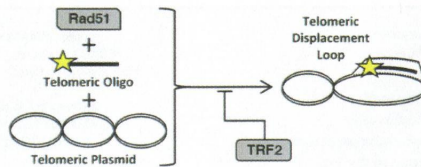
[dx.doi.org/10.1021/bi500556h](https://doi.org/10.1021/bi500556h)

WW Domain Folding Complexity Revealed by Infrared Spectroscopy

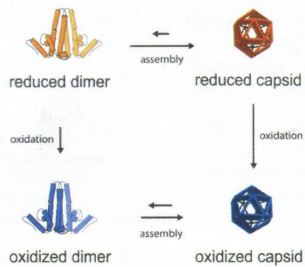
Caitlin M. Davis and R. Brian Dyer*



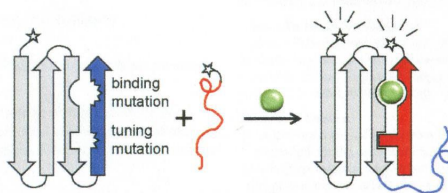
TRF1 and TRF2 Differentially Modulate Rad51-Mediated Telomeric and Nontelomeric Displacement Loop Formation *in Vitro*
 Brian D. Bower* and Jack D. Griffith



The Hepatitis B Virus Core Protein Intradimer Interface Modulates Capsid Assembly and Stability
 Lisa Selzer, Sarah P. Katen, and Adam Zlotnick*

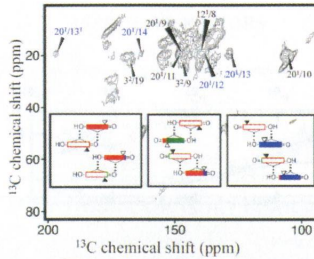


Converting a Binding Protein into a Biosensing Conformational Switch Using Protein Fragment Exchange
 Huimei Zheng, Jing Bi, Mira Krendel, and Stewart N. Loh*

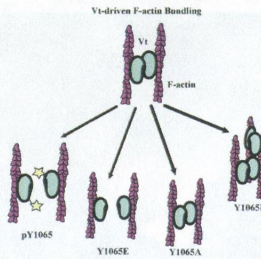


Probing the Spatial Organization of Bacteriochlorophyll *c* by Solid-State Nuclear Magnetic Resonance

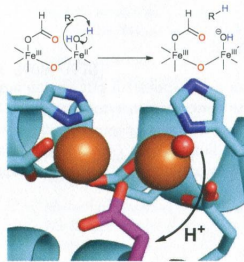
Shih-Chi Luo, Yadana Khin, Shing-Jong Huang, Yanshen Yang, Tsai-yi Hou, Yuan-Chung Cheng, Hao Ming Chen, Yi-Ying Chin, Chien-Te Chen, Hong-Ji Lin, Joseph Kuo-Hsiang Tang,* and Jerry Chun Chung Chan*

**Phosphorylation at Y1065 in Vinculin Mediates Actin Bundling, Cell Spreading, and Mechanical Responses to Force**

Caitlin E. Tolbert, Peter M. Thompson, Richard Superfine, Keith Burridge, and Sharon L. Campbell*

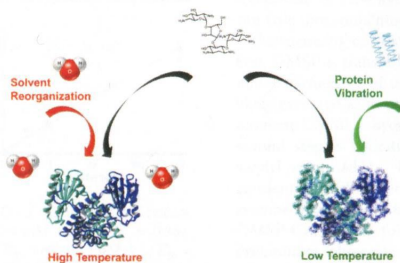
**Solvent Isotope Effects on Alkane Formation by Cyanobacterial Aldehyde Deformylating Oxygenase and Their Mechanistic Implications**

Matthew W. Waugh and E. Neil G. Marsh*



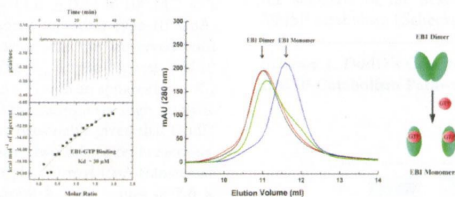
Solvent Reorganization Plays a Temperature-Dependent Role in Antibiotic Selection by a Thermostable Aminoglycoside Nucleotidyltransferase-4'

Xiaomin Jing and Engin H. Serpersu*



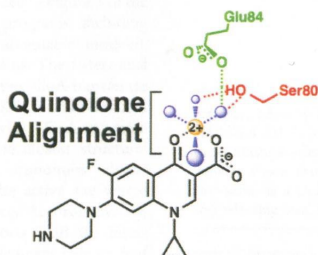
Microtubule +TIP Protein EB1 Binds to GTP and Undergoes Dissociation from Dimer to Monomer on Binding GTP

K. K. Gireesh, Jamuna S. Sreeja, Soumyananda Chakraborti, Puja Singh, Geethu Emily Thomas, Hindol Gupta, and Tapas Manna*



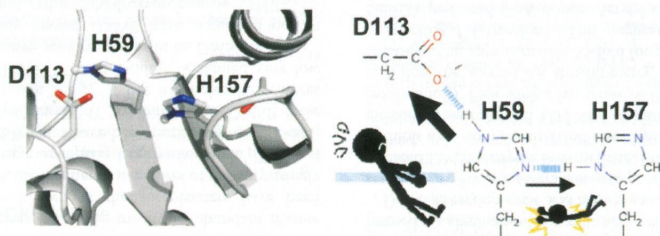
Role of the Water–Metal Ion Bridge in Mediating Interactions between Quinolones and *Escherichia coli* Topoisomerase IV

Katie J. Aldred, Erin J. Breland, Vladislava Vlčková, Marie-Paule Strub, Keir C. Neuman, Robert J. Kerns, and Neil Osheroff*



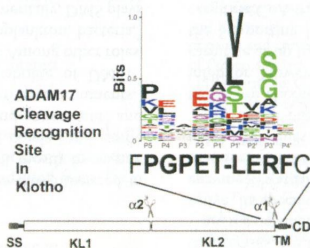
The C113D Mutation in Human Pin1 Causes Allosteric Structural Changes in the Phosphate Binding Pocket of the PP1ase Domain through the Tug of War in the Dual-Histidine Motif

Ning Xu, Naoya Tochio, Jing Wang, Yu Tamari, Jun-ichi Uewaki, Naoko Utsunomiya-Tate, Kazuhiko Igarashi, Takuma Shiraki, Naohiro Kobayashi, and Shin-ichi Tate*



Identification of Cleavage Sites Leading to the Shed Form of the Anti-Aging Protein Klotho

Ci-Di Chen, Tze Yu Tung, Jennifer Liang, Ella Zeldich, Tracey B. Tucker Zhou, Benjamin E. Turk, and Carmela R. Abraham*



Additions and Corrections

Correction to [FeFe]-Hydrogenase Maturation

Eric M. Shepard, Florence Mus, Jeremiah N. Betz, Amanda S. Byer, Benjamin R. Duffus, John W. Peters, and Joan B. Broderick*