

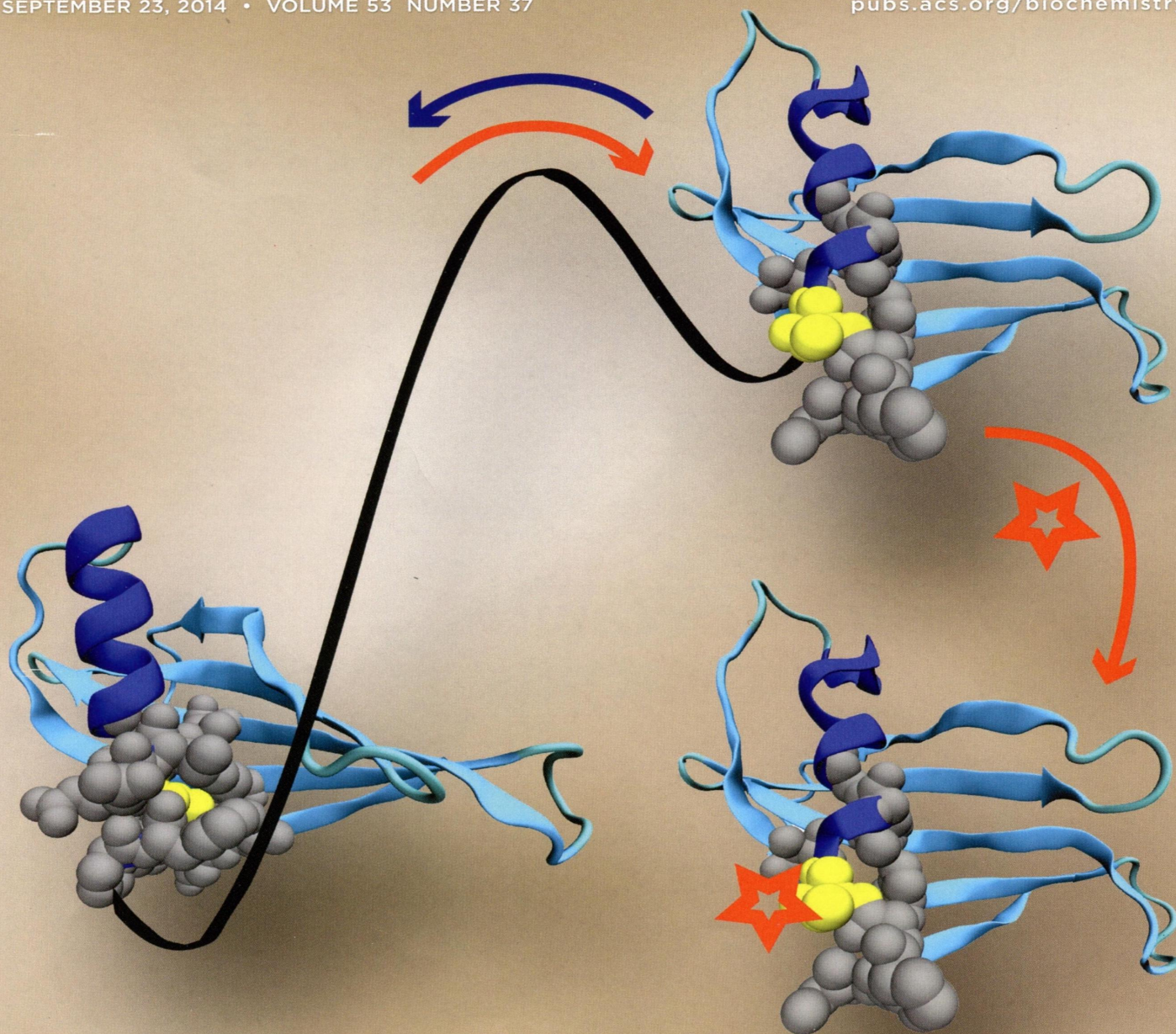
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ON THE COVER: Thiol labeling of a single cysteine residue (yellow spheres) has been used to monitor rare unfolding events in a protein under nativelike conditions. The residues (gray spheres) surrounding the buried cysteine move apart, resulting in 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]

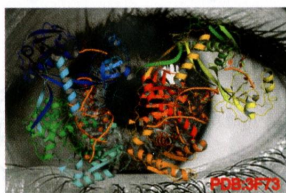
Rapid Reports

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
[dx.doi.org/10.1021/bi500966b](https://doi.org/10.1021/bi500966b)

Argonaute High-Throughput Sequencing of RNAs Isolated by Cross-Linking Immunoprecipitation Reveals a Snapshot of miRNA Gene Regulation in the Mammalian Retina

Thomas R. Sundermeier, Hui Jin, Matthew L. Kleinjan, Debarshi Mustafi, Donny D. Licatalosi, and Krzysztof Palczewski*



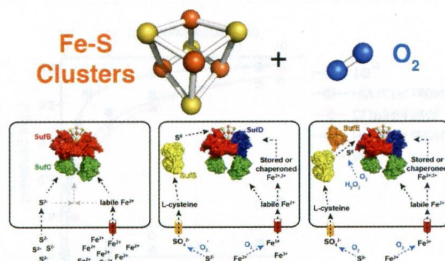
Current Topics

5834 

[dx.doi.org/10.1021/bi500488r](https://doi.org/10.1021/bi500488r)

Interplay between Oxygen and Fe–S Cluster Biogenesis: Insights from the Suf Pathway

Eric S. Boyd, Khaleh M. Thomas, Yuyuan Dai, Jeff M. Boyd,* and F. Wayne Outten*



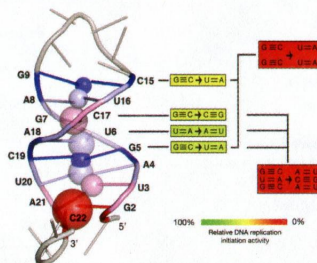
5848



dx.doi.org/10.1021/bi500470b

Nucleotide Contributions to the Structural Integrity and DNA Replication Initiation Activity of Noncoding Y RNA

Iren Wang, Madzia P. Kowalski, Alexander R. Langley, Raphaël Rodriguez, Shankar Balasubramanian, Shang-Te Danny Hsu,* and Torsten Krude*



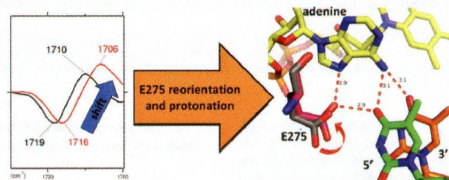
5864



dx.doi.org/10.1021/bi500638b

Flavin Adenine Dinucleotide Chromophore Charge Controls the Conformation of Cyclobutane Pyrimidine Dimer Photolyase α -Helices

I M. Mahapatra Wijaya, Tatsuya Iwata, Junpei Yamamoto, Kenichi Hitomi, Shigenori Iwai, Elizabeth D. Getzoff, John T. M. Kennis, Tilo Mathes, and Hideki Kandori*



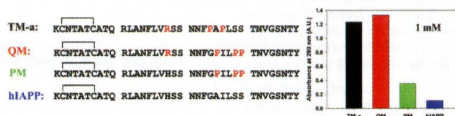
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dx.doi.org/10.1021/bi500592p

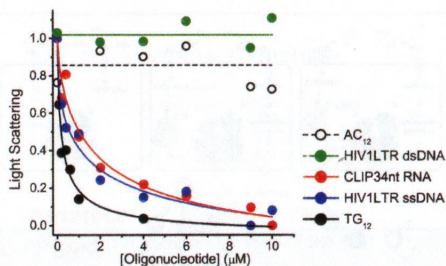
Rationally Designed, Nontoxic, Nonamyloidogenic Analogues of Human Islet Amyloid Polypeptide with Improved Solubility

Hui Wang, Andisheh Abedini, Bela Ruzsicska, and Daniel P. Raleigh*



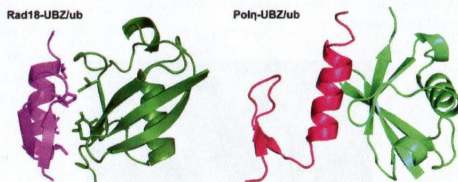
Binding of TDP-43 to the 3'UTR of Its Cognate mRNA Enhances Its Solubility

Yulong Sun, Pharhad E. Arslan, Amy Won, Christopher M. Yip, and Avi Chakrabarty*



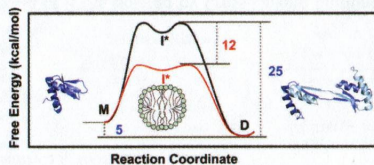
NMR Structure of the Human Rad18 Zinc Finger in Complex with Ubiquitin Defines a Class of UBZ Domains in Proteins Linked to the DNA Damage Response

Alessandro A. Rizzo, Paige E. Salerno, Irina Bezsonova, and Dmitry M. Korzhnev*



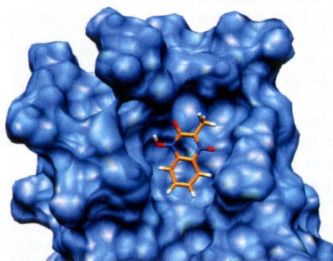
Micelle-Catalyzed Domain Swapping in the GlpG Rhomboid Protease Cytoplasmic Domain

Houman Ghasriani, Jason K. C. Kwok, Allison R. Sherratt, Alexander C. Y. Foo, Tabussom Qureshi, and Natalie K. Goto*



Small Molecule Inhibition of the Na⁺/H⁺ Exchange Regulatory Factor 1 and Parathyroid Hormone 1 Receptor Interaction

Jeremy M. Fitzpatrick, Maria Pellegrini, Patrick R. Cushing, and Dale F. Mierke*

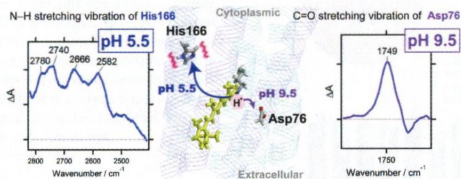


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dx.doi.org/10.1021/bi500831n

His166 Is the Schiff Base Proton Acceptor in Attractant Phototaxis Receptor Sensory Rhodopsin I

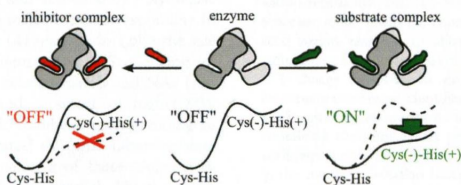
Jun Sasaki, Hazuki Takahashi, Yuji Furutani, Oleg A. Sineshchekov, John L. Spudich, and Hideki Kandori*

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dx.doi.org/10.1021/bi400604t

Evidence for Substrate Binding-Induced Zwitterion Formation in the Catalytic Cys-His Dyad of the SARS-CoV Main Protease

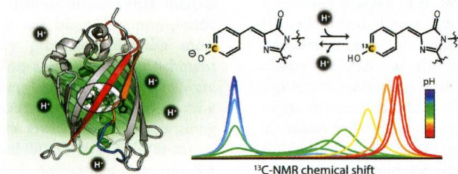
Alexander Paasche, Andreas Zipper, Simon Schäfer, John Ziebuhr, Tanja Schirmeister, and Bernd Engels*

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dx.doi.org/10.1021/bi500147n

Ground-State Proton Transfer Kinetics in Green Fluorescent Protein

Luke M. Oltrogge, Quan Wang, and Steven G. Boxer*



Nucleotide Excision Repair of Chemically Stabilized Analogues of DNA Interstrand Cross-Links Produced from Oxidized Abasic Sites

Souradyuti Ghosh and Marc M. Greenberg*



A Highly Responsive and Selective Fluorescent Probe for Imaging Physiological Hydrogen Sulfide

Zhi-jie Chen and Hui-wang Ai*

