

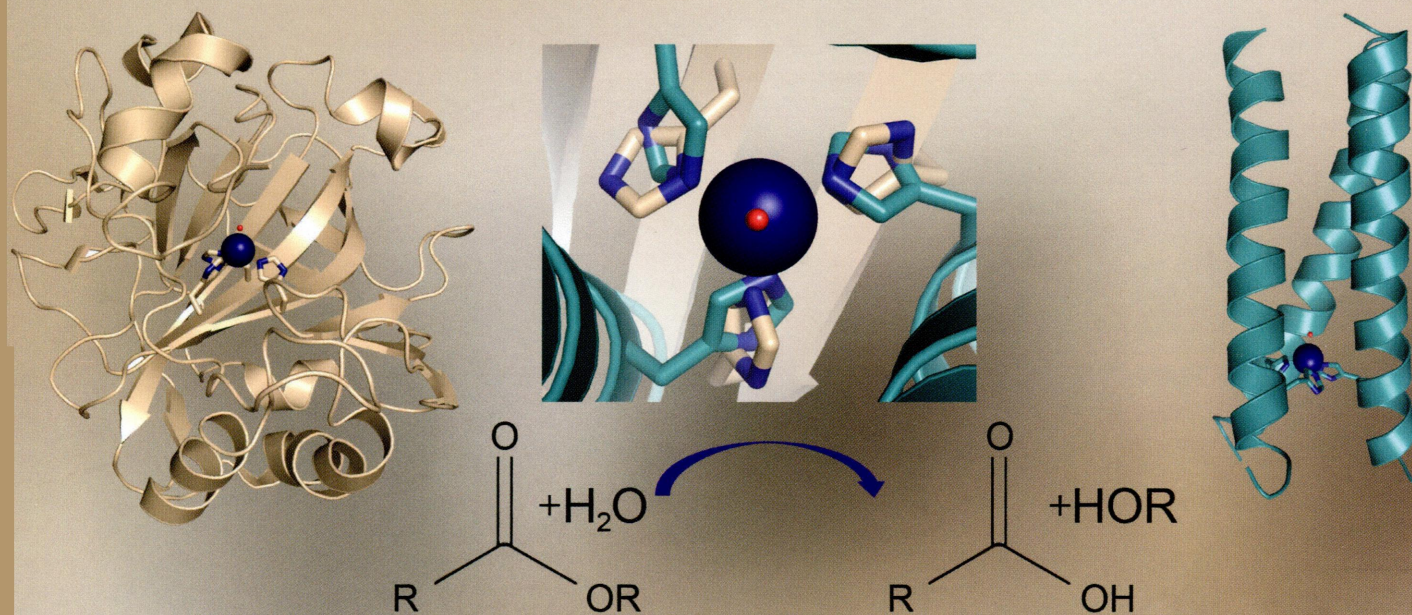
B60/bc

BIOCHEMISTRY

including biophysical chemistry & molecular biology

JUNE 10, 2014 • VOLUME 53 NUMBER 22

pubs.acs.org/biochemistry



BIOCHEMISTRY

including biophysical chemistry & molecular biology

JUNE 10, 2014

VOLUME 53 ISSUE 22

BIOCHEMISTRY 53(22) 3523–3710 (2014)

ISSN 0006-2960

Registered in the U.S. Patent and Trademark Office

© 2014 by the American Chemical Society

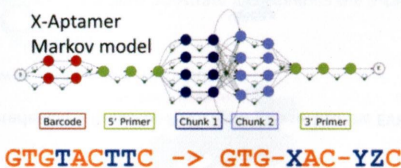
ON THE COVER: Using de novo and redesign approaches toward the preparation of structural and functional models of hydrolytic zinc metalloenzymes. [Zastrow, M. L., and Pecoraro, V. L. (2014) *Biochemistry* 53, 957–978]

Rapid Reports

3523 **S**

[dx.doi.org/10.1021/bi500443e](https://doi.org/10.1021/bi500443e)

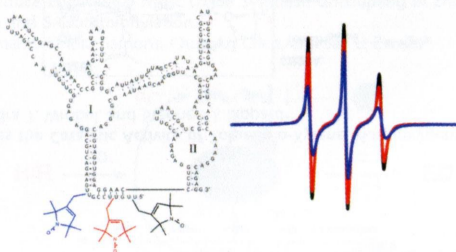
Aptaligner: Automated Software for Aligning Pseudorandom DNA X-Aptamers from Next-Generation Sequencing Data
Emily Lu, Miguel-Angel Elizondo-Riojas, Jeffrey T. Chang,* and David E. Volk*



3526 **S**

[dx.doi.org/10.1021/bi500404b](https://doi.org/10.1021/bi500404b)

Characterizing the Dynamics of the Leader–Linker Interaction in the Glycine Riboswitch with Site-Directed Spin Labeling
Jackie M. Esquiaqui, Eileen M. Sherman, Sandra A. Ionescu, Jing-Dong Ye,* and Gail E. Fanucci*

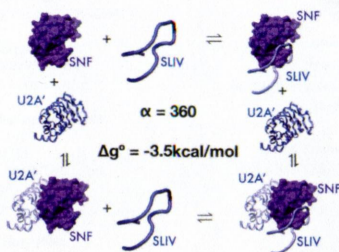


3529 **5**

dx.doi.org/10.1021/bi500192a

Linkage and Allostericity in snRNP Protein/RNA Complexes

Sandra G. Williams and Kathleen B. Hall*

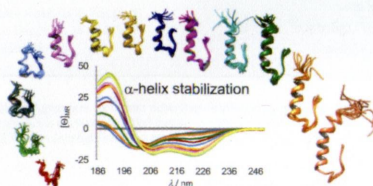


3540 **5**

dx.doi.org/10.1021/bi500033c

Rational Design of α -Helix-Stabilized Exendin-4 Analogues

Petra Rovó, Viktor Farkas, Pál Stráner, Mária Szabó, Ágnes Jermendy, Orsolya Hegyi, Gábor K. Tóth, and András Perczel*

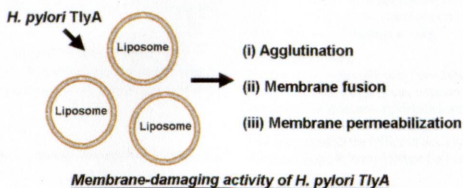


3553

dx.doi.org/10.1021/bi500152n

Helicobacter pylori TlyA Agglutinates Liposomes and Induces Fusion and Permeabilization of the Liposome Membranes

Kusum Lata and Kausik Chattopadhyay*

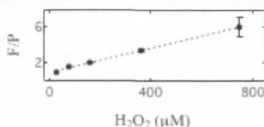


3564

dx.doi.org/10.1021/bi401078b

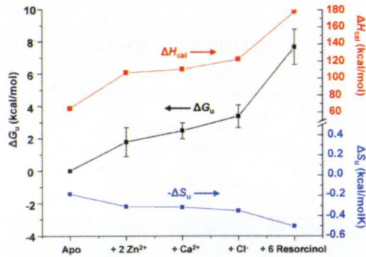
How Hydrogen Peroxide Is Metabolized by Oxidized Cytochrome c Oxidase

Daniel Jancura,* Jana Stanicova, Graham Palmer, and Marian Fabian*

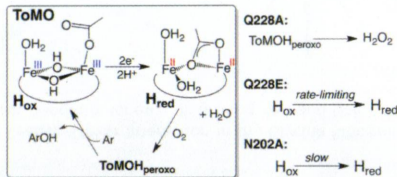


Thermodynamic Contributions to the Stability of the Insulin Hexamer

George P. Lisi, Chien Yi M. Png, and Dean E. Wilcox*

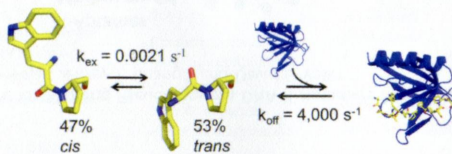
A Flexible Glutamine Regulates the Catalytic Activity of Toluene *o*-Xylene Monooxygenase

Alexandria Deliz Liang, Alexandra T. Wrobel, and Stephen J. Lippard*



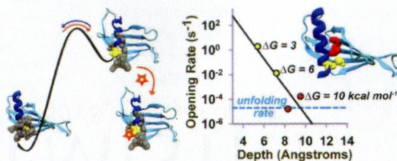
Isomerase-Catalyzed Binding of Interleukin-1 Receptor-Associated Kinase 1 to the EVH1 Domain of Vasodilator-Stimulated Phosphoprotein

Alexander I. Greenwood, Jeahoo Kwon, and Linda K. Nicholson*



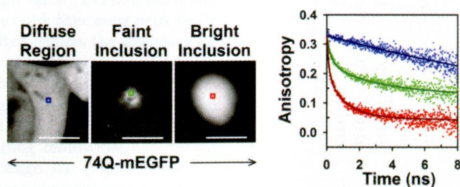
High-Energy Intermediates in Protein Unfolding Characterized by Thiol Labeling under Nativelike Conditions

Pooja Malhotra and Jayant B. Udgaonkar*

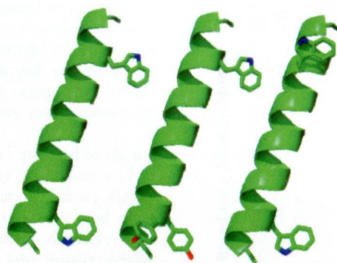


Fluorescence Anisotropy Uncovers Changes in Protein Packing with Inclusion Growth in a Cellular Model of Polyglutamine Aggregation

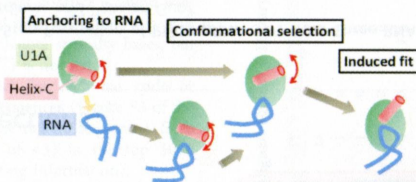
Vishal Bhardwaj, Mitradas M. Panicker, and Jayant B. Udgaonkar*

**Comparisons of Interfacial Phe, Tyr, and Trp Residues as Determinants of Orientation and Dynamics for GWALP Transmembrane Peptides**

Kelsey A. Sparks, Nicholas J. Gleason, Renetra Gist, Rebekah Langston, Denise V. Greathouse, and Roger E. Koeppe II*

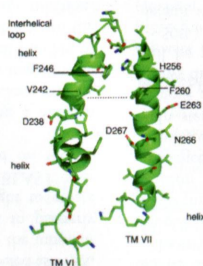
**Combined Mechanism of Conformational Selection and Induced Fit in U1A–RNA Molecular Recognition**

Ikuo Kurisaki, Masayoshi Takayanagi, and Masataka Nagaoka*



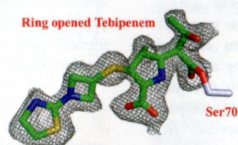
Structural and Functional Analysis of the Transmembrane Segment Pair VI and VII of the NHE1 Isoform of the Na⁺/H⁺ Exchanger

Claudia Alves, Brian L. Lee, Brian D. Sykes, and Larry Fliegel*



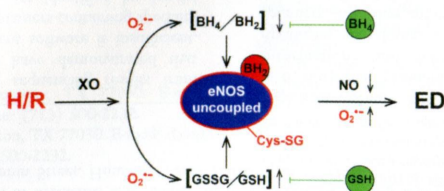
Tebipenem, a New Carbapenem Antibiotic, Is a Slow Substrate That Inhibits the β -Lactamase from *Mycobacterium tuberculosis*

Saugata Hazra, Hua Xu, and John S. Blanchard*



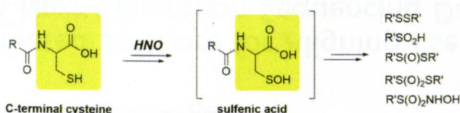
Hypoxia and Reoxygenation Induce Endothelial Nitric Oxide Synthase Uncoupling in Endothelial Cells through Tetrahydrobiopterin Depletion and S-Glutathionylation

Francesco De Pascali, Craig Hemann, Kindra Samons, Chun-An Chen, and Jay L. Zweier*



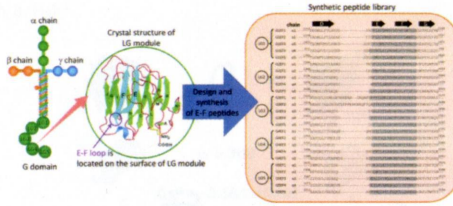
Reactivity of C-Terminal Cysteines with HNO

Gizem Keceli and John P. Toscano*



Biological Activities of the Homologous Loop Regions in the Laminin α Chain LG Modules

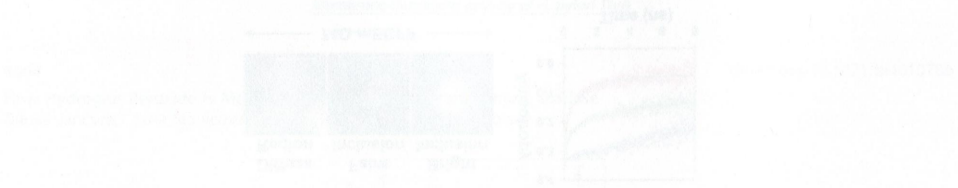
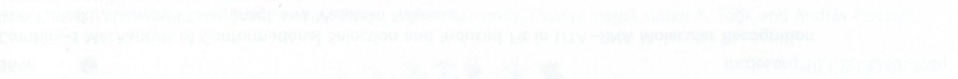
Fumihiko Katagiri, Toshihiro Hara, Yuji Yamada, Shunsuke Urushibata, Kentaro Hozumi, Yamato Kikkawa, and Motoyoshi Nomizu*



Additions and Corrections

Addition to Entropy-Driven One-Step Formation of Phi29 pRNA 3WJ from Three RNA Fragments

Daniel W. Binzel, Emil F. Khisamutdinov, and Peixuan Guo*



Supporting Information available via online article