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EDUCATION

2008	Duke University	Ph.D.	Chemistry
2001	Southern Methodist University	M.S.	Chemistry
1999	Texas Christian University	B.S.	Chemistry

PROFESSIONAL POSITIONS

2008 – Present Postdoctoral Research Associate, Center for Molecular Biophysics, Biosciences Division, Oak Ridge National Laboratory.
2006 – 2007 American Journal Experts, Inc. Editing scientific journal articles.

SELECT RECENT PUBLICATIONS

Guo, H.-B., A. Johs, J.M. Parks, L. Olliff, S.M. Miller, A.O. Summers, L. Liang and J.C. Smith. 2010. Structure and conformational dynamics of the metalloregulator MerR upon binding of Hg(II). *J. Mol. Biol.* 398:555-568.

Parks, J.M., H. Hu, J. Rudolph, and W. Yang. Submitted. Mechanism of Cdc25b phosphatase with the small molecule substrate p-nitrophenyl phosphate from QM/MM-MFEP calculations. *J. Phys. Chem. B*.

Parks, J.M., H. Guo, C. Momany, L. Liang, S.M. Miller, A.O. Summers and J.C. Smith. 2009. Mechanism of Hg-C protonolysis in the organomercurial lyase MerB. *J. Amer. Chem. Soc.* 131:13278-13285.

Parks, J.M., H. Hu, A.J. Cohen, and W.T. Yang. 2008. A pseudobond parameterization for improved electrostatics in quantum mechanical/molecular mechanical simulations of enzymes. *J. Chem. Phys.* 129:154106.

Parks, J.M., R.K. Kondru, H. Hu, D.N. Beratan, and W. Yang. 2008. Hepatitis C virus NS5b polymerase: QM/MM calculations show the important roles of the internal energy in ligand binding. *J. Phys. Chem. B* 112:3168-3176.

Hu, H., Z. Lu, J.M. Parks, S.K. Burger, and W. Yang. 2008. QM/MM minimum free energy path for accurate reaction energetics in solution and enzymes: Iterative optimization on the potential of mean force surface. *J. Chem. Phys.* 128:34105.

Sohn J., J.M. Parks, G. Buhrman, P. Brown, K. Kristjansdottir, A. Safi, H. Edelsbrunner, W.T. Yang, and J. Rudolph. 2005. Experimental validation of the docking orientation of Cdc25 with its Cdk2-CycA protein substrate, *Biochemistry* 44:16563-16573.

Parks, J.M., G.P. Ford and C.J. Cramer. 2001. Quantum chemical characterization of the reactions of the phenylnitrenium ion with guanine. *J. Org. Chem.* 66:8997-9004.