

High-throughput Screening

- HTS of Small Molecule Libraries using SAMDI. Gurard-Levin, Scholle, Eisenberg, Mrksich. ACS Comb Science. 2011. 13(4): 347-50.
- Chemical Screening by Mass Spectrometry to Identify Inhibitors of Anthrax Lethal Factor. D.-H. Min, W.-J. Tang and M. Mrksich, Nature Biotechnology, 2004, 22, 717-720.

Histone Modifying Enzymes

- Peptide Arrays Identify Isoform-Selective Substrates for Profiling Endogenous Lysine Deacetylase Activity. Z.A. Gurard-Levin, K. Killian, J. Kim, K. Bahr, and M. Mrksich. ACS Chem. Biol. 2010. 5:9, 863-873.
- Combining Mass Spectrometry and Peptide Arrays to Profile the Specificities of the Histone Deacetylases. Z.A. Gurard-Levin, J. Kim, and M. Mrksich, ChemBioChem, 2009, 10, 2159.
- The Activity of HDAC8 Depends on Local and Distal Sequences of Its Peptide Substrates. Z.A. Gurard-Levin and M. Mrksich, Biochemistry, 2008, 47(23), 6242-6250.
- Convergent evolution of chromatin modification by structurally distinct enzymes: comparative enzymology of histone H3 Lys27 methylation by human polycomb repressive complex 2 and vSET. Swalm BM, Hallenbeck KK, Majer CR, Jin L, Scott MP, Moyer MP, Copeland RA, Wigle TJ. Biochem J., 2013, Jul 15; 453(2):241-7.
- 29. Reaction Coupling Between Wild-Type and Disease-Associated Mutant EZH2. Swalm, Knutson, Wigle, et al. ACS Chem Biol. 2014. Aug 28.

Kinases, Caspases, and more

- Rapid Evaluation and Screening of Interfacial Reactions on Self-Assembled Monolayers. J. Li, P. S. Thiara and M. Mrksich, Langmuir, 2007, 23, 11826-11835.
- Assays of Endogenous Caspase Activities: A Comparison of Mass Spectrometry and Fluorescence Formats. J. Su, T. W. Rajapaksha, M. E. Peter and M. Mrksich, Anal. Chem., 2006, 78 (14), 4945-4951.
- Combining Microfluidic Networks and Peptide Arrays for Multi-Enzyme Assays. J. Su, M.R. Bringer, R.F. Ismagilov and M. Mrksich. J. Am. Chem. Soc., 2005, 127, 7280-7281.
- A Method for Connecting Solution Phase Enzyme Activity Assays with Immobilized Format Analysis by Mass Spectrometry. D.-H. Min, W.-S. Yeo and M. Mrksich, Anal. Chem., 2004, 76(14), 3923-3929.
- Profiling Kinase Activities by Using a Peptide Chip and Mass Spectrometry. D.-H. Min, J. Su and M. Mrksich, Angew. Chem. Int. Ed., 2004, 43(44), 5973-5977.
- Peptide Chips for the Evaluation of Protein Kinase Activity. B. T. Houseman, J. H. Huh, S. J. Kron and M. Mrksich, Nature Biotech., 2002, 20, 270-274.
- A spatially propagating biochemical reaction. Liao X, Petty RT, Mrksich M. Angew Chem Int Ed Engl. 2011. Jan 17;50(3):706-8.

Cells

- Using Self-Assembled Monolayers to Model Cell Adhesion to the 9th and 10th Type III Domains of Fibronectin. J. Eisenberg, J. Piper, and M. Mrksich. Langmuir. 2009. 132:28, 9733-9737.
- An inhibitor of a cell adhesion receptor stimulates cell migration. Shabbir SH, Eisenberg JL, Mrksich M. Angew Chem Int Ed Engl. 2010. Oct 11;49(42):7706-9.

DNA

- Profiling the Selectivity of DNA Ligases in an Array Format with Mass Spectrometry. J. Kim and M. Mrksich, Nucleic Acids Research, 2010.
- Biochemical Assays of Immobilized Oligonucleotides with Mass Spectrometry. H. Tsubery and M. Mrksich, Langmuir, 2008, 24(10), 5433-5438.

Proteins

- Functional Assays of Membrane-Bound Proteins with SAMDI-TOF Mass Spectrometry. V.L. Marin, T.H. Bayburt, S.G. Silgar and M. Mrksich, *Angew. Chem. Int. Ed.*, 2007, 46(46), 8796-8798.
- Label-Free Detection of Protein-Protein Interactions on Biochips. W. S. Yeo, D. H. Min, R. W. Hsieh, G. L. Greene and M. Mrksich, *Angew. Chem. Int. Ed.*, 2005, 44(34), 5480-5483.
- Selective Immobilization of Protein to Self-Assembled Monolayers Presenting Active Site Directed Capture Ligands. C. D. Hodneland, Y.-S. Lee, D.-H. Min and M. Mrksich, *Proc. Natl. Acad. Sci. USA*, 2002, 99, 5048-5052.

Peptides and Carbohydrates

- On-Chip Synthesis and Label-Free Assays of Oligosaccharide Arrays. L. Ban and M. Mrksich, *Angew. Chem. Int. Ed.*, 2008, 47(18), 3396-3399.
- Maleimide-Functionalized Self-Assembled Monolayers for the Preparation of Peptide and Carbohydrate Biochips. B. T. Houseman, E. S. Gawalt and M. Mrksich, *Langmuir*, 2003, 19(5), 1522-1531.
- Using Mass Spectrometry to Characterize Self-Assembled Monolayers Presenting Peptides, Proteins and Carbohydrates. J. Su and M. Mrksich, *Angew. Chem. Int. Ed.*, 2002, 41, 4715-4718.
- Toward Quantitative Assays with Peptide Chips: A Surface Engineering Approach. B. T. Houseman and M. Mrksich, *Trends Biotech.*, 2002, 20 (7), 279-281.
- Carbohydrate Arrays for the Evaluation of Protein Binding and Enzyme Activity. B. T. Houseman and M. Mrksich, *Chem. Biol.*, 2002, 9, 443-454.

Antibodies

- Self-Assembled Monolayers for MALDI-TOF Mass Spectrometry for Immunoassays of Human Protein Antigens. S.M. Patrie and M. Mrksich, *Anal. Chem.*, 2007, 79(15), 5878-5887.
- Antibody Arrays Prepared by Cutinase-Mediated Immobilization on Self-Assembled Monolayers. Y. Kwon, Z. Han, E. Karatan, M. Mrksich and B.K. Kay, *Anal. Chem.*, 2004, 76(19), 5713-5720.

Reviews

- Mass Spectroscopy of Self-Assembled Monolayers: A New Tool for Molecular Surface Science. M. Mrksich, *ACS Nano*, 2008, 2(1), 7-18.
- Combining Self-Assembled Monolayers and Mass Spectrometry for Applications in Biochips. Z.A. Gurard-Levin and M. Mrksich, *Annu. Rev. Anal. Chem.*, 2008, 1, 767-800.