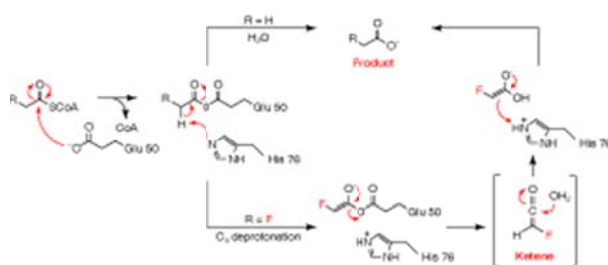
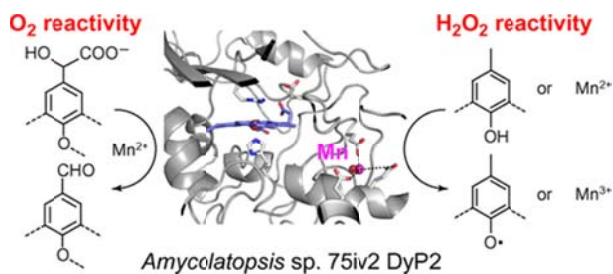


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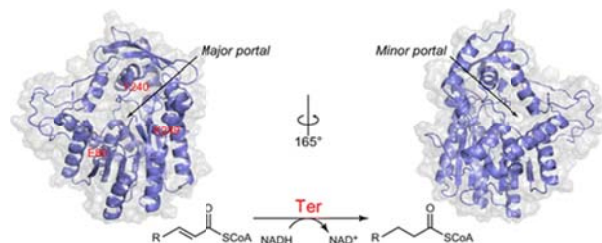
27. M.C. Walker, B.W. Thuronyi, L.K. Charkoudian, B. Lowry, C. Khosla, and M.C.Y. Chang, "Expanding the fluorine chemistry of living systems using engineered polyketide synthase pathways", *Science* **2013**, *341*, 1089-1094. [[pdf](#)][[SI](#)][[News & Analysis](#)][[C & E News](#)]
26. M. Wen, B.B. Bond-Watts, and M.C.Y. Chang, "Production of advanced biofuels in engineered *E. coli*", *Curr. Opin. Chem. Biol.* **2013**, *17*, 472-479. [[pdf](#)]
25. A.M. Weeks and M.C.Y. Chang, "Catalytic control of enzymatic fluorine specificity", *Proc. Natl. Acad. Sci. U.S.A.* **2012**, *109*, 19667-19672. [[pdf](#)][[SI](#)][[C & E News](#)]



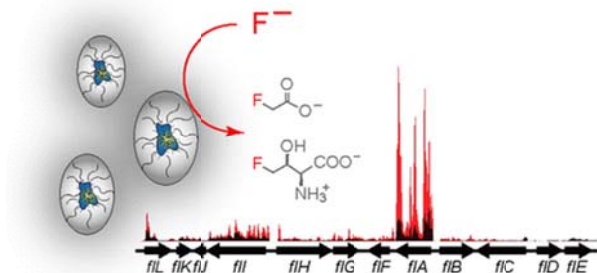
24. M.E. Brown, T. Barros, and M.C.Y. Chang, "Identification and characterization of a multi-functional dye peroxidase from a lignin-reactive bacterium", *ACS Chem. Biol.* **2012**, *7*, 2074-2081. [[pdf](#)][[SI](#)]



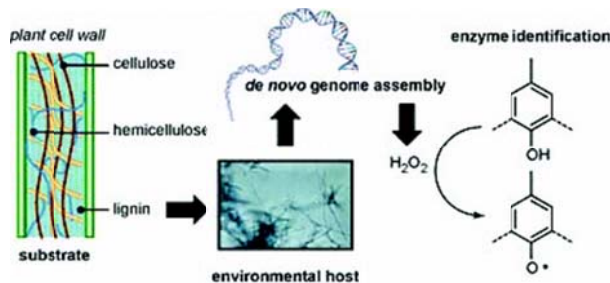
23. B.B. Bond-Watts, A.M. Weeks, and M.C.Y. Chang, "Biochemical and structural characterization of the *trans*-enoyl-CoA reductase from *Treponema denticola*", *Biochemistry* **2012**, *51*, 6827-6837. [[pdf](#)][[SI](#)]



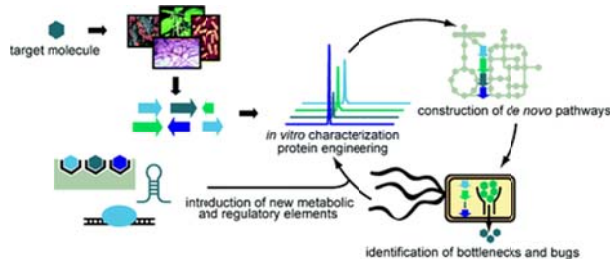
22. M.C. Walker, Miao Wen, A.M. Weeks, and M.C.Y. Chang, "Temporal and fluoride control of secondary metabolism regulates cellular organofluorine biosynthesis", *ACS Chem. Biol.* **2012**, 7, 1576-1585. [[pdf](#)][[SI](#)]



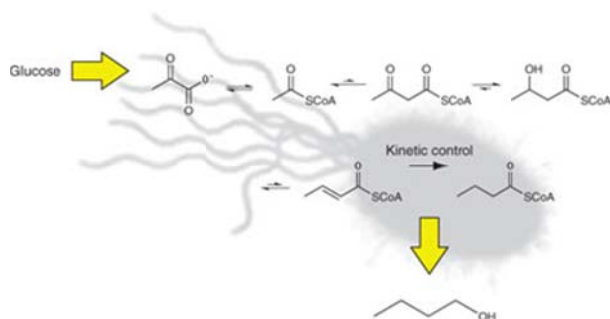
21. M.E. Brown, M.C. Walker, T.G. Nakashige, A.T. Iavarone, and M.C.Y. Chang, "Discovery and characterization of heme enzymes from unsequenced bacteria: Application to microbial lignin degradation", *J. Am. Chem. Soc.* **2011**, 133, 18006-18009. [[pdf](#)][[SI](#)][[JACS cover](#)]



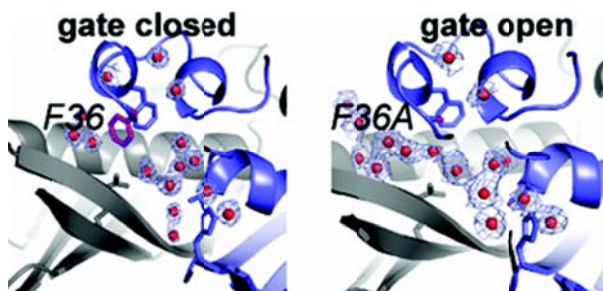
20. A.M. Weeks and M.C.Y. Chang, "Constructing *de novo* biosynthetic pathways for chemical synthesis inside living cells", *Biochemistry* **2011**, 50, 5404-5418. [[pdf](#)]



19. B.B. Bond-Watts, R.J. Bellerose, and M.C.Y. Chang, "Enzyme mechanism and a kinetic control element for designing synthetic biofuel pathways", *Nat. Chem. Biol.* **2011**, 7, 222-227. [[pdf](#)][[SI](#)][[News & Views](#)][[MSNBC News](#)][[UCB News](#)][[C & E News](#)][[German Public Radio interview](#)][[SETI Big Picture Science Podcast](#)]



18. A.M. Weeks, S.M. Coyle, M. Jinek, J.A. Doudna, and M.C.Y. Chang, "Structural and biochemical studies of a fluoroacetyl-CoA thioesterase reveal a molecular basis for fluorine selectivity", *Biochemistry* **2010**, *49*, 9269-9279. [[pdf](#)][[SI](#)]



17. M.C.Y. Chang, "Harnessing energy from plant biomass", *Curr. Opin. Chem. Biol.* **2007**, *11*, 677-684. [[pdf](#)]
16. J.A. Dietrich, Y. Yoshikuni, K.J. Fisher, F.X. Woolard, D. Ockney, D.J. McPhee, N.S. Nenninger, M.C.Y. Chang, D. Baker, and J.D. Keasling, "A novel semi-biosynthetic route for artemisinin production using engineered substrate-promiscuous P450-BM3", *ACS Chem. Biol.* **2009**, *4*, 261-267.
15. M.C.Y. Chang, R.A. Eachus, W. Trieu, D.-K. Ro, and J.D. Keasling, "Engineering *Escherichia coli* for production of functionalized terpenoids using plant P450s", *Nat. Chem. Biol.* **2007**, *3*, 274-277.
14. M.C.Y. Chang and J.D. Keasling, "Production of isoprenoid pharmaceuticals by engineered microbes", *Nat. Chem. Biol.* **2006**, *2*, 674-681.
13. J.D. Newman, J. Marshall, M.C.Y. Chang, F. Nowroozi, E.M. Paradise, D.P. Pitera, K.L. Newman, and J.D. Keasling, "High-level production of amorphadiene in a two-phase partitioning bioreactor of metabolically-engineered *Escherichia coli*", *Biotechnol. Bioeng.* **2006**, *95*, 684-691.
12. D.-K. Ro, E.M. Paradise, M. Ouellet, K.J. Fisher, K.L. Newman, J.M. Ndungu, K.A. Ho, R.A. Eachus, T. Ham, J. Kirby, M.C.Y. Chang, S.T. Withers, Y. Shiba, R. Sarpong, and J.D. Keasling, "Production of the antimalarial drug precursor artemisinic acid in engineered yeast", *Nature* **2006**, *440*, 940-943.

11. M.C.Y. Chang, C.S. Yee, D.G. Nocera, and J. Stubbe, "Site-specific replacement of a conserved tyrosine in ribonucleotide reductase with an aniline amino acid: A mechanistic probe for redox-active tyrosines", *J. Am. Chem. Soc.* **2004**, *126*, 16702-16703.
10. M.C.Y. Chang, A. Pralle, E.Y. Isacoff, and C.J. Chang, "A selective, cell-permeable optical probe for hydrogen peroxide in living cells", *J. Am. Chem. Soc.* **2004**, *126*, 15392-15393.
9. M.C.Y. Chang, C.S. Yee, J. Stubbe, and D.G. Nocera, "Turning on ribonucleotide reductase by light-initiated radical generation", *Proc. Natl. Acad. Sci. U.S.A.* **2004**, *101*, 6882-6887.
8. C.J. Chang, M.C.Y. Chang, N.H. Damrauer, and D.G. Nocera, "Proton-coupled electron transfer: A unifying mechanism for biological charge transport, amino acid radical initiation and propagation, and bond making/breaking reactions of water and oxygen", *Biochim. Biophys. Acta* **2004**, *1655*, 13-28.
7. C.S. Yee, M.S. Seyedsayamdost, M.C.Y. Chang, D.G. Nocera, and J. Stubbe, "Generation of the R2 subunit of ribonucleotide reductase by intein chemistry: Insertion of 3-nitrotyrosine at residue 356 as a probe of the radical initiation process", *Biochemistry* **2003**, *42*, 14541-14552.
6. C.S. Yee, M.C.Y. Chang, J. Ge, D.G. Nocera, and J. Stubbe, "2,3-Difluorotyrosine at position 356 of ribonucleotide reductase R2: A probe of long-range proton-coupled electron transfer", *J. Am. Chem. Soc.* **2003**, *125*, 10506-10507.
5. J. Stubbe, D.G. Nocera, C.S. Yee, and M.C.Y. Chang, "Radical initiation in the class I ribonucleotide reductase: Long range proton-coupled electron transfer?", *Chem. Rev.* **2003**, *103*, 2167-21201.
4. M.C.Y. Chang, S.E. Miller, S.D. Carpenter, J. Stubbe, and D.G. Nocera, "Nanosecond generation of tyrosyl radicals via laser initiated decaging of oxalate-modified amino acids", *J. Org. Chem.* **2002**, *67*, 6820-6822.
3. C.J. Chang, J.D.K. Brown, M.C.Y. Chang, E.A. Baker, and D.G. Nocera. "Electron Transfer in Hydrogen-Bonded Donor-Acceptor Supramolecules", In *Electron Transfer in Chemistry*, V. Balzani Ed., Wiley-VCH, Weinheim, Germany, 2001, Vol. 3.2.4., p 409-461.
2. P.A. Sobecky, T.J. Mincer, M.C. Chang, A. Toudarian, and D.R. Helinski. "Isolation of broad-host-range replicons from marine sediment bacteria", *Appl. Environ. Microbiol.* **1998**, *64*, 2822-2830.
1. P.A. Sobecky, T.J. Mincer, M.C. Chang, and D.R. Helinski. "Plasmids isolated from marine sediment microbial communities contain replication and incompatibility regions unrelated to those of known plasmid groups", *Appl. Environ. Microbiol.* **1997**, *63*, 888-895.