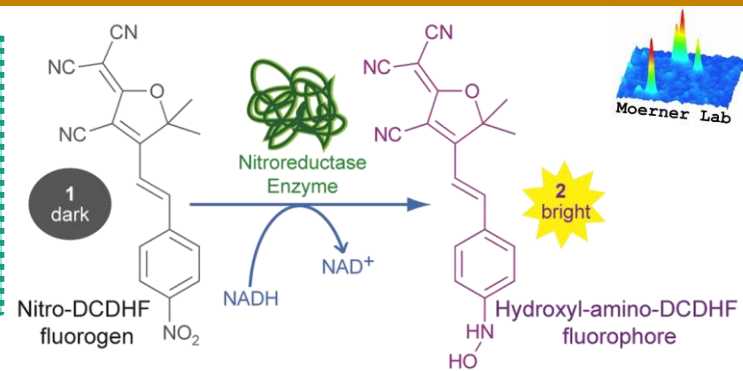


Enzymatic Activation of Nitro-Aryl Fluorogens in Live Bacteria for Enzymatic Turnover-Activated Localization Microscopy

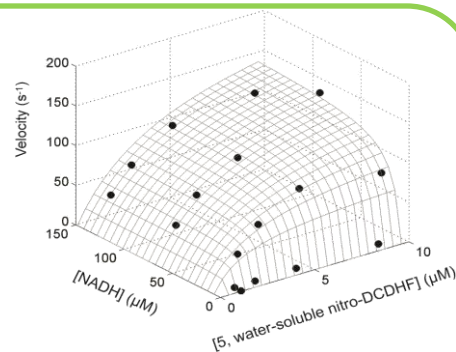
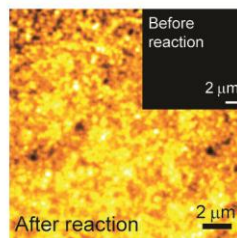
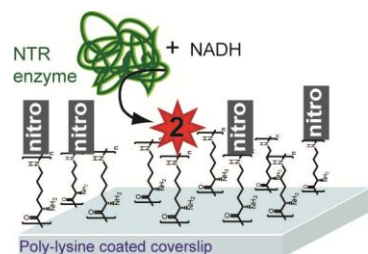
Chemical Sciences (2012) 10.1039/c2sc21074f

Marissa K. Lee, Jarrod Williams, Robert J. Twieg, Jianghong Rao, and W. E. Moerner

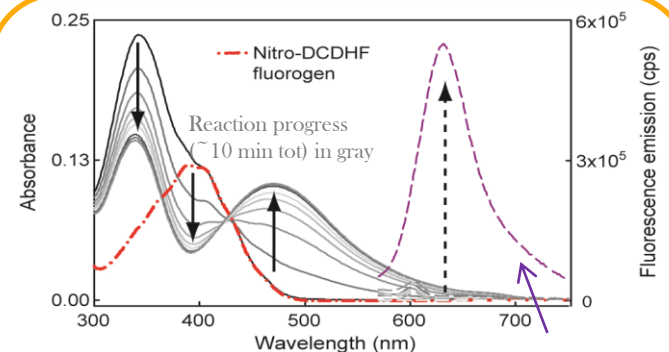
We report a nitro-aryl fluorogen capable of being enzymatically converted into a bright, stable single-molecule emitter in live cells. The local generation of emitters can report on enzyme location, enzymatic turnover localization microscopy (E-TALM), or produce mobile fluorophores in the cell interior.



Reaction on a surface

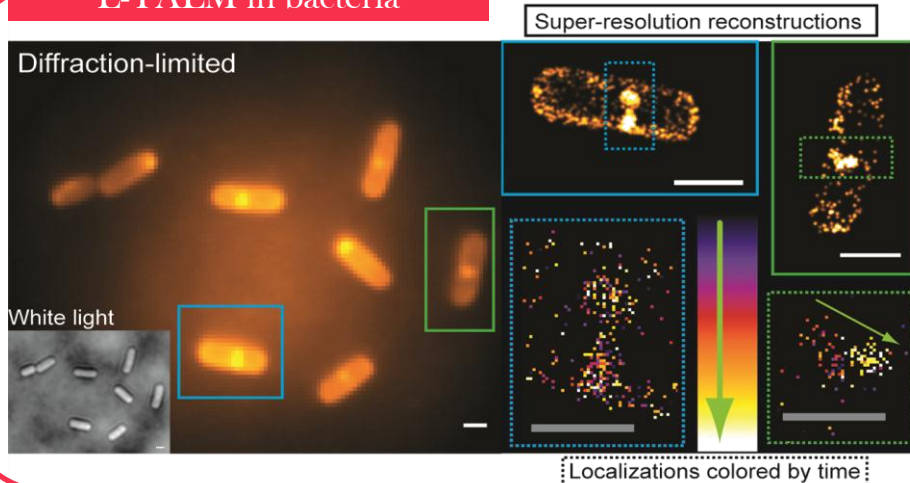


Nitroreductase reaction kinetics

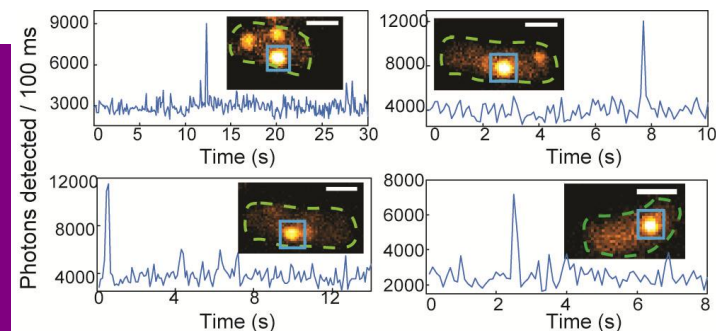


Bulk reaction

E-TALM in bacteria



Single molecules of 2 in bacteria



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