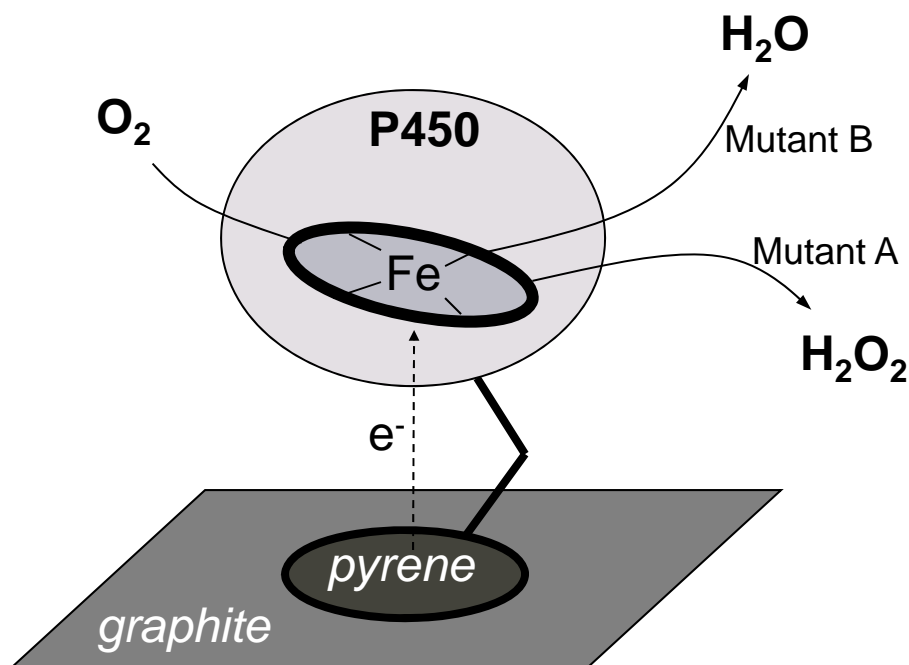


Bioelectrochemical Hydrocarbon Oxidation Using Engineered P450 Cytochromes

Andrew K. Udit, Occidental College, Chemistry, Los Angeles CA 90041

The P450 cytochromes perform challenging oxidation reactions regio- and stereospecifically under ambient conditions, activity that can be exploited for the synthesis of fuels and producing high-value compounds from chemical feedstocks.



In vitro P450 biocatalysis requires devising an efficient electron transfer system that supports native-like activity. We are exploring biocatalysis utilizing P450 BM3. Targeted mutagenesis is exploited to explore ET pathways that may better support electrode-driven substrate oxidation.