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Enzymatic degradation of hydrocarbons using laccase

n a 2024 article published in Chemosphere, researchers investigate how laccase enzymes enhance the cleanup of oil-contaminated soils. The group identified and engineered new laccases from bacteria found in polluted soil, then tested their effectiveness in breaking down petroleum hydrocarbons.

The NanoPhotometer® was used to quantitate gDNA extracted from enriched aerobic hydrocarbon-degrading microorganisms. They found that one enzyme significantly improved degradation, reducing total hydrocarbons by about 83%, outperforming natural microbial degradation alone. Overall, the study demonstrates that laccase-based enzymatic treatment can accelerate bioremediation processes and help contaminated sites reach cleanup targets faster, highlighting its potential as a tool for environmental remediation.

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