

## PFG-NMR for Investigation of (Confinement Effects in) COFs

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The poster shows molecular diffusion within Covalent Organic Frameworks (COFs) using Pulsed Field Gradient Nuclear Magnetic Resonance (PFG-NMR). One showed study explores how the hierarchical porosity induced by solvothermal templates enhances the diffusivity of guest molecules like acetonitrile within COFs. In another study, experimental and simulated PFG-NMR measurements reveal that increased pore size and crystallinity significantly influence diffusion rates, providing insights into optimizing COFs for applications in gas storage, separation, and catalysis. Future work aims to investigate diffusion behavior in postmodified COFs and measure CO<sub>2</sub> diffusion with a new high-pressure NMR cell.