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## Structuring Pore Space in Covalent Organic Frameworks by Cooperative Assembly of Amphiphilic Linkers

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We explore how amphiphilic linkers in Covalent Organic Frameworks (COFs) self-organize to create unique pore environments with varying polarities. By leveraging weak chemical interactions, these materials assemble spontaneously, offering new ways to control their structure and properties. Beyond simply tuning hydrophobic and hydrophilic traits, we aim to design COFs with functional groups that enable diverse molecular interactions. With their high surface area and adaptable pores, COFs hold great potential for applications in gas storage, catalysis, and sensing. Using advanced NMR techniques, we will uncover how these materials form and function at the molecular level.