

DESIGN AND SYNTHESIS OF COORDINATION POLYMERS

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The design of coordination networks is based on geometrical-topological rules for assembling building blocks into periodic structures and entangled motifs. The most powerful tool for finding such correlations is the ToposPro software (<https://topospro.com/>) in combination with topological databases (<https://topocryst.com/>).^{1,2} The revealed rules constitute the knowledge base for predicting the structure and properties of new microporous frameworks. Recently they were used for the synthesis of microporous zirconium-organic frameworks in application to the energy-efficient separation of C₆H₁₄ hydrocarbons.³

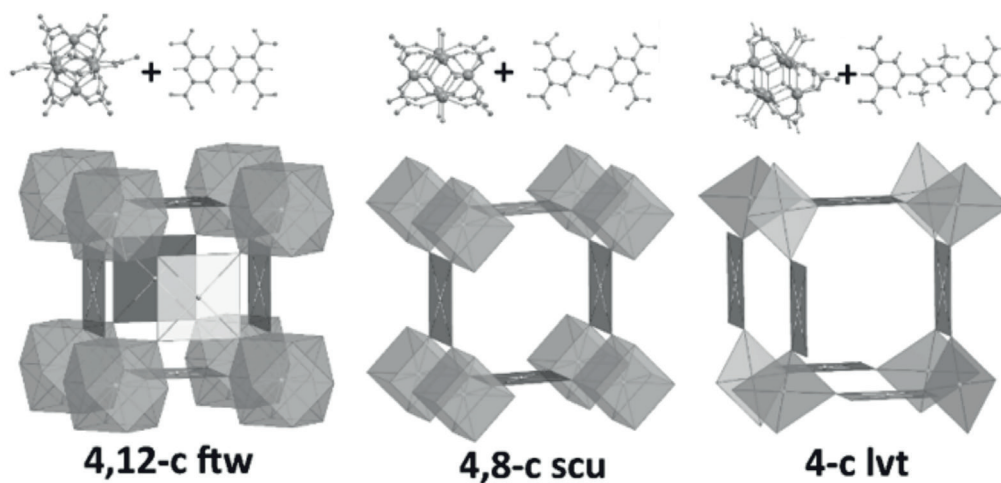


Figure 1. Building blocks and underlying nets for zirconium-organic frameworks.

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