

Metal-Organic Framework Membranes for Molecular Gas Separations

This unique compendium describes research progress on metal-organic framework (MOF) membranes for different relevant industrial gas separations. Specifically, the book focuses mainly on gas separations which are important in flue gas treatment, natural gas purification, hydrogen purification, and nuclear reprocessing. The advantages of using MOFs in mixed matrix membranes are discussed. Some of the pressing challenges in the field, and strategies to potentially overcome them are also distinctly outlined.

This volume is a useful reference materials for professionals, academics, researchers and postgraduate students in chemical engineering and materials engineering.

About the Authors

Moises A Carreon earned his BS in Chemical Engineering and MS in Materials Science at UMSNH, Mexico. In 2003, he obtained his PhD degree in Chemical & Materials Engineering at the University of Cincinnati. He was postdoctoral fellow at the University of Toronto, and research associate at the University of Colorado. He was Assistant and Associate Professor in the Chemical Engineering Department at the University of Louisville. Currently, he is Professor in the Chemical & Biological Engineering Department at the Colorado School of Mines. His research focuses on porous materials, gas separations, catalysis, gas storage, and aims at tackling societal relevant energy and environmental issues.

Surendar R Venna earned his BS and MS in Chemical Engineering from Osmania University, India. He completed his PhD degree in Chemical Engineering at the University of Louisville in 2010. He worked as a postdoctoral fellow at Georgia Tech. Later, he worked as a Research Scientist at the National Energy Technology Laboratory, where he developed several promising materials for carbon capture applications especially metal-organic framework-based membranes. Currently, he is working as a Research Scientist at Dow Chemicals, focusing on materials development for petrochemical separations. Over the years, he has gained an in-depth knowledge of polymeric, zeolite and metal-organic framework membranes for gas separations.

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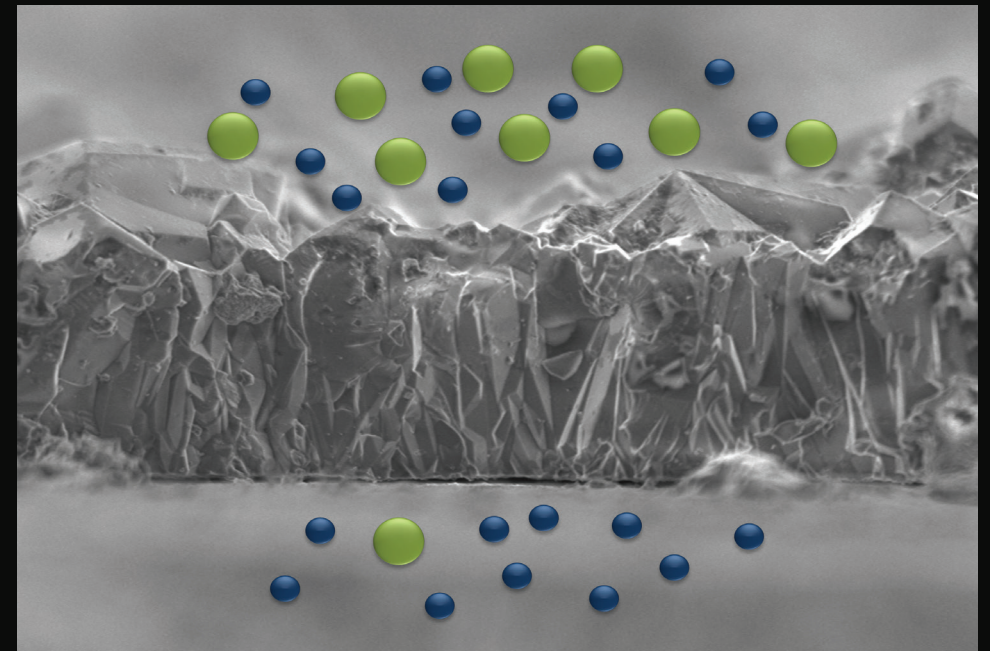
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