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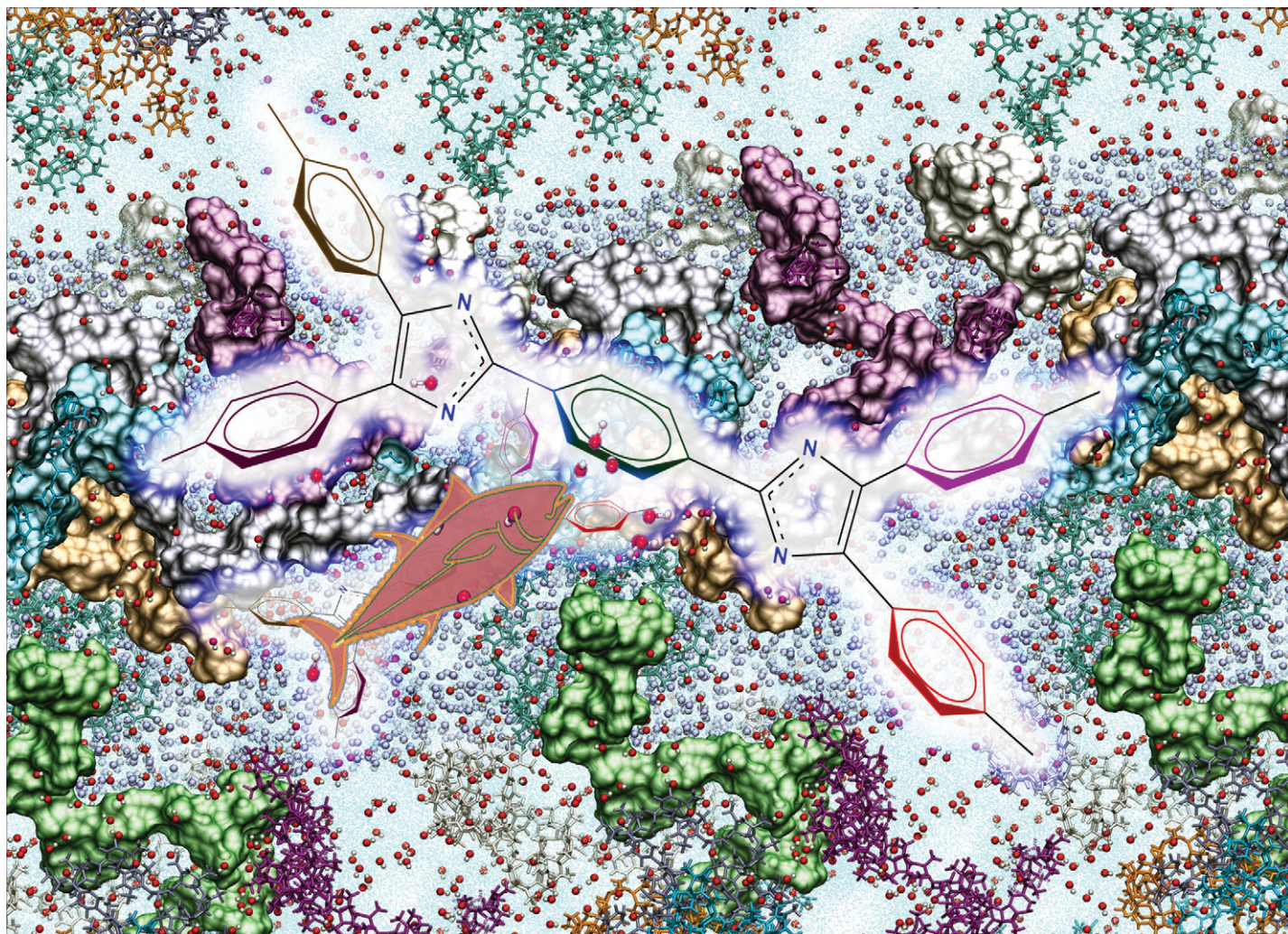
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Showcasing research from Professor Sunda's laboratory, Department of Chemistry, J. C. Bose University of Science and Technology, YMCA, Faridabad, India.

Atomistic Insights into Structure–Morphology Relationships in Hydrated Poly(benzimidazolium) and Poly(bis-arylimidazolium) Ionene Membranes

MD simulations to compare the ionene membranes for cost-effective anion exchange membranes in alkaline fuel cells. It highlights how differences in polymer backbone flexibility and functional group chemistry affect hydration structure, hydroxide mobility, and water channel formation. The benzimidazolium-based HMT-PMBI membrane forms more ordered hydration networks and enables faster OH⁻ transport, while PALmMM shows steric hindrance that restricts ion conduction and reduces overall transport efficiency.

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As featured in:



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