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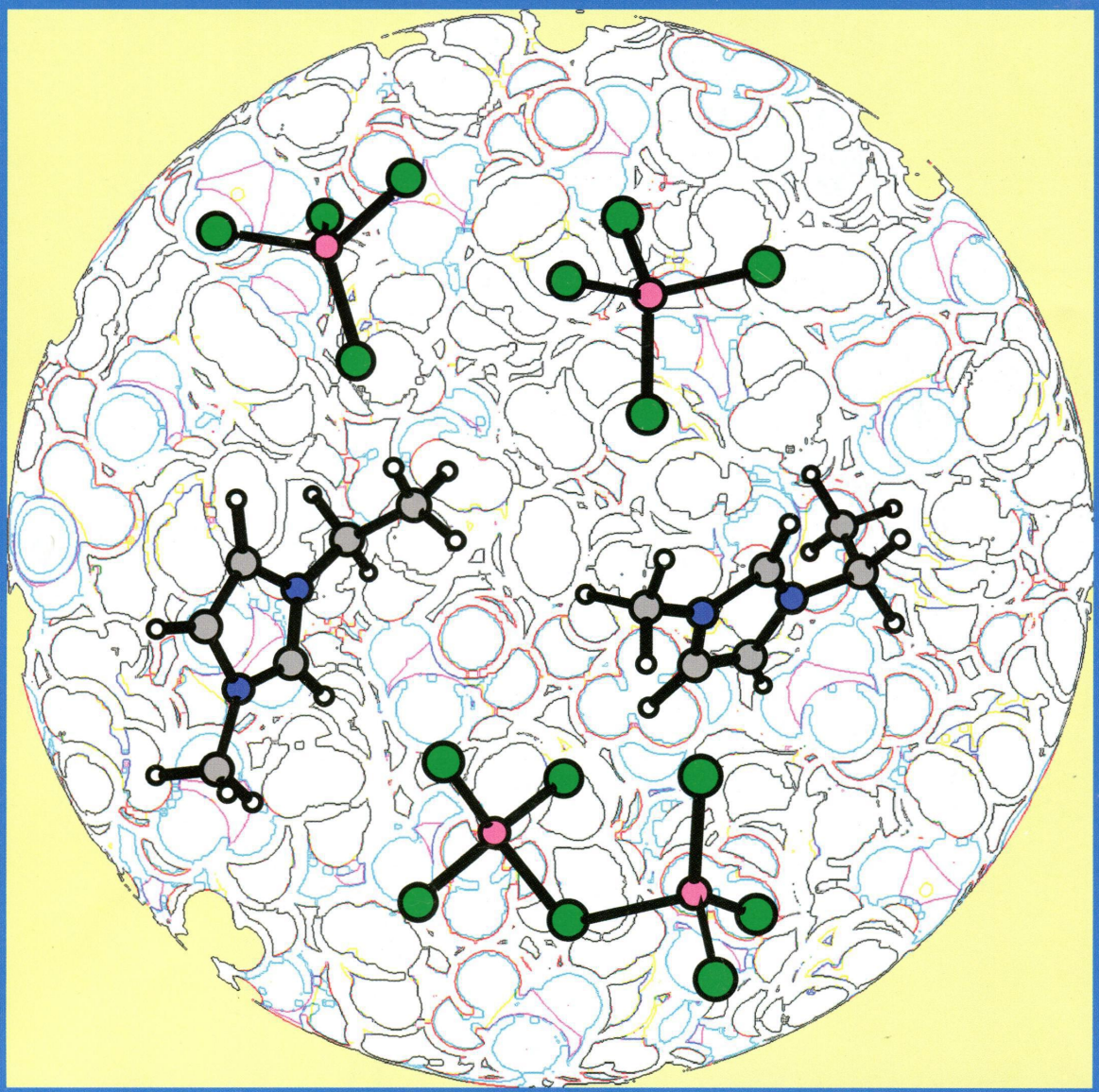

Artistic Interpretation of a 1-Ethyl-3-methylimidazolium Chloroaluminate Ionic Liquid (see page 11653)

ISOLATED MOLECULES, CLUSTERS, RADICALS, AND IONS; ENVIRONMENTAL CHEMISTRY, GEOCHEMISTRY, AND ASTROCHEMISTRY; THEORY

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ON THE COVER: As a reaction medium, ionic liquids have been reported to enhance rates and stereoselectivities for numerous chemical reactions. In some extreme cases, these molten salts have been shown to induce mechanistic changes relative to conventional solvents. This feature article reviews our efforts developing and applying mixed quantum and molecular mechanical (QM/MM) methodology to elucidate the microscopic details of how these solvents operate on industrially and academically important reactions. Technical advances are also discussed. See page 11653.

Feature Article

Articles

Kinetics and Dynamics

Spectroscopy, Photochemistry, and Excited States

Molecular Structure, Quantum Chemistry, and General Theory

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