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Charge Transport and Structural Dynamics in Deep Eutectic Mixtures TYLER COSBY, ADAM HOLT, LOGAN TERHEGGEN, University of Tennessee, Knoxville, PHILIP GRIFFIN, University of Pennsylvania, ROBERTO BENSON, JOSHUA SANGORO, University of Tennessee, Knoxville — Charge transport and structural dynamics in a series of imidazole and carboxylic acid-based deep eutectic mixtures are investigated by broadband dielectric spectroscopy, dynamic light scattering, ^{1}H nuclear magnetic resonance spectroscopy, calorimetry, and Fourier transform infrared spectroscopy. It is found that the extended hydrogen-bonded networks characteristic of imidazoles are broken down upon addition of carboxylic acids, resulting in an increase in dc conductivity of the mixtures. These results are discussed within the framework of recent theories of hydrogen bonding and proton transport.

James Cosby
University of Tennessee, Knoxville

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