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Proton hopping in spatially confined ionic liquids

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294 - Proton hopping in spatially confined ionic liquids

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Pulsed field-gradient NMR and quasi-elastic neutron scattering (QENS) are shown to probe the transport of protons in a neat and block-copolymer confined ionic liquid consisting of imidazole and bis(trifluoromethylsulfonyl)-imide. In the case of the neat [Im][TFSI], excess imidazole leads to enhanced conductivity; for the confined [Im][TFSI] enhanced conductivity is also observed. These results are reconciled by examining the role of aggregation and hydrogen bonding in increasing proton transference numbers. This work was conducted with Megan Hoarfrost (NSF Predoctoral Fellow), Madhu Tyagi (NIST and U Maryland), and Rachel Segalman; it was supported by DOE.



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[Physical Chemistry of Ionic Liquids \(08:00 AM - 12:05 PM\)](#)

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