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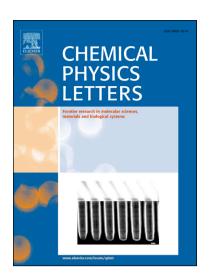
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Conductivity of Gel Polymer Electrolytes Doped with Solutions of Phosphonic Acid or Protic Ionic Liquids

Liudmila E. Shmukler¹, Yuliya A. Fadeeva¹, Ekaterina V. Glushenkova², Nguyen Van Thuc³, Liubov P. Safonova¹

¹G.A. Krestov Institute of Solution Chemistry of the Russian Academy of Sciences, 1, ul.

Akademicheskaja, d.1, Ivanovo, 153045 Russia

² Ivanovo State University of Chemistry and Technology, Sheremetevsky prospect, d.7, Ivanovo, 153000,

Russia

³ Dept. Physical Chemistry, Faculty of Chemistry VNU University of Science, Hanoi 19 Le Thanh Tong,

Hoan Kiem, Hanoi, Vietnam

Correspondence to: Yuliya Fadeeva (E-mail: jaf@isc-ras.ru)

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ABSTRACT

The proton-conducting gel electrolytes (PCGEs) based on PMMA, PVdF or PVdF-HFP doped with solutions of phosphonic acid or ammonium based protic ionic liquids (PILs) in DMF have been synthesized. Rather high values of the conductivity ($10^{-4} - 10^{-3} \text{ S} \cdot \text{cm}^{-1}$) have been reached at low dopant concentrations (up to 1 mol I⁻¹). The influence of the nature of both polymeric matrix and dopant as well as dopant concentration on the conductivity values was discussed. It was established that the dependence of conductivity on the nature of dopant, but not the polymeric matrix, was more pronounced.

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