عنوان مقاله:

Applications of Phosphonium-Based Ionic Liquids in Chemical Processes

محل انتشار:

بیست و ششمین سمینار شیمی آلی ایران (سال: 1397)

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خلاصه مقاله:

Among ionic liquids, phosphonium-based ionic liquids (PILs) are quite elegant. This categoryof ionic liquids represents some merits such as higher thermal and chemical stability comparewith other types of ionic liquids. These influential characteristics of PILs, make them as potentialmaterials for various kinds of applications in the laboratory and industrial processes.They can be applied as elegant catalyst and/or solvent for organic functional group interconversion.Also, the diffusivities of gases such as carbon dioxide, in the PILs are much higherthan imidazolium-based ionic liquids. PILs have numbers of unique applications in electrochemicalsystems. PILs are an unprecedented class of electrolytes that can support the electrochemicalgeneration of a stable superoxide ion, unlike of organic solvents. There is also agrowing interest for their use in separation processes including metal ions extraction, extractivedesulfurization, gas adsorption and dissolution or extraction of biologically relevantcompounds. Also, experimental works have also satisfied that the PILs fulfil the necessaryrequirement of being a good inhibitor of metal corrosion under different media because oftheir surface active properties. Owning to special physicochemical properties, the PILs areemerging as possible candidates to improve surfactant enhanced oil recovery methods [1-3].This work will present an excellent puzzle that each of its pieces leads to the rational design,synthesis, and applications of the novel and tasked-specific PILs as multi-purpose materials.

کلمات کلیدی: