Nucleophilic Aromatic Substitution with 2,3-Dihydro-1,3-diisopropyl-4,5-dimethylimidazol-2-ylidene

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2,3-Dihydro-1,3-diisopropyl-4,5-dimethylimidazol-2-ylidene (**1**) reacts with an excess of hexafluorobenzene in the presence of boron trifluoride diethyletherate to give 1,3-diisopropyl-4,5-dimethyl-2-(perfluorophenyl)imidazolium tetrafluoroborate (**2**). Solutions of **2** exhibit an equilibrium consisting also of hexafluorobenzene and 2,2′-(perfluoro-1,4-phenylene)bis(1,3-diisopropyl-4,5-dimethylimidazolium)bis(tetrafluoroborate) (**3**) which is obtained from **1** and hexafluorobenzene in the ratio 2 : 1 on a preparative scale. Similar to **2**, 2-(4-cyano-2,3,5,6-tetrafluorophenyl)-1,3-diisopropyl-4,5-dimethylimidazolium tetrafluoroborate (**4**), 2-(2,4-dicyano-2,5,6-trifluorophenyl)-1,3-diisopropyl-4,5-dimethylimidazolium tetrafluoroborate (**5**), and 2-(4,6-difluoro-1,3,5-triazin-2-yl)-1,3-diisopropyl-4,5-dimethylimidazolium tetrafluoroborate (**6**) are obtained from **1** and perfluorobenzonitrile, 1,3-dicyano-2,4,5,6-tetrafluorobenzene, and 2,4,6-trifluoro-1,3,5-triazin, respectively. The FAB mass spectra of compounds **2** – **6** and the results of the crystal structure analyses of compounds **2** – **4** are discussed.

Key words: Carbenes, Heterocycles, Fluorine, Nucleophilic Aromatic Substitutions, Mass Spectrometry, Crystal Structure