Supporting information

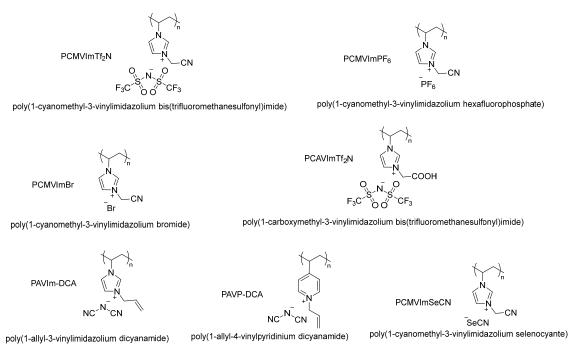
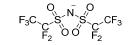


Figure S1. Structural information of PILs used for heteroatom doped porous carbon membranes.

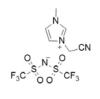


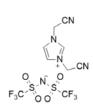


Tf₂N bis(triluoromethanesulfonyl)imide

Beti bis(perfluoroethylsulfonyl)imide

Figure S2. Chemical structures of the two anions Tf₂N and Beti.





MCNImTf₂N

BCNImTf₂N 1-cyanomethyl-3-methylimidazolium bis(trifluoromethanesulfonyl)imide 1,3-bis(cyanomethyl)imidazolium bis(trifluoromethanesulfonyl)imide

Figure S3. Chemical structures of ILs used for the construction of micro/mesoporosity.