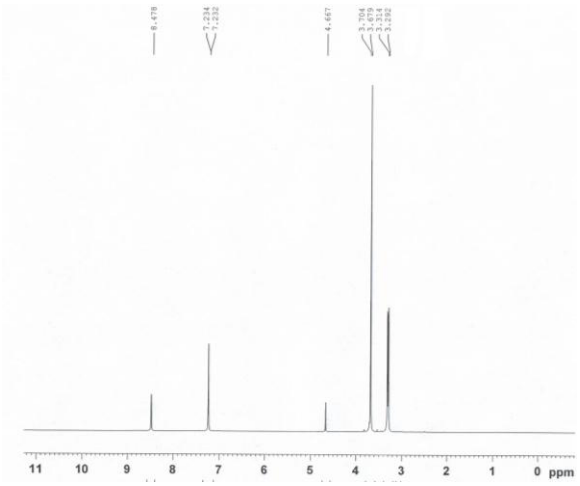
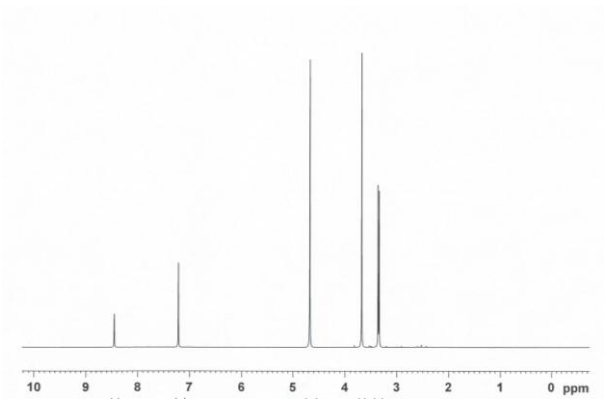
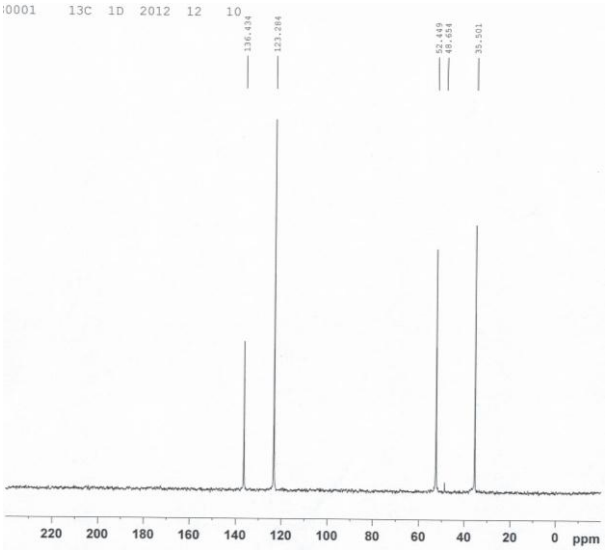
Supporting Information



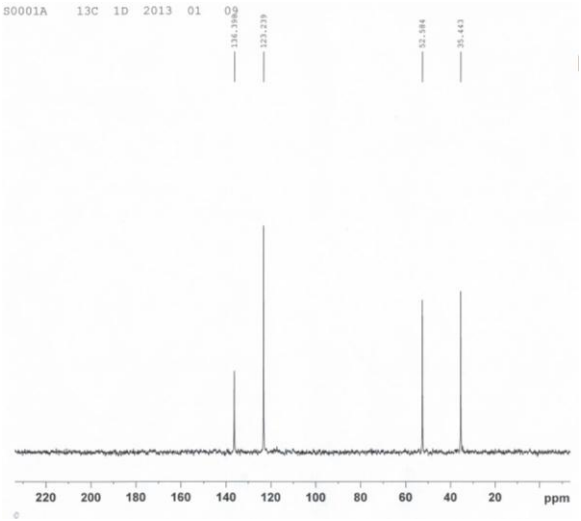
S-Figure 1. ^{1}H NMR of IL [mmim][Me_2PO_4]



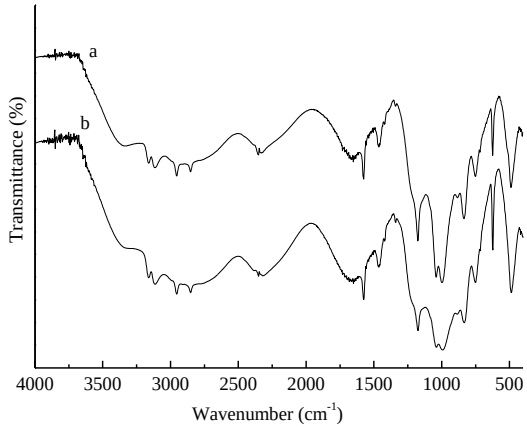
S-Figure 2. ^{1}H NMR of the six recyle IL [mmim][Me_2PO_4]



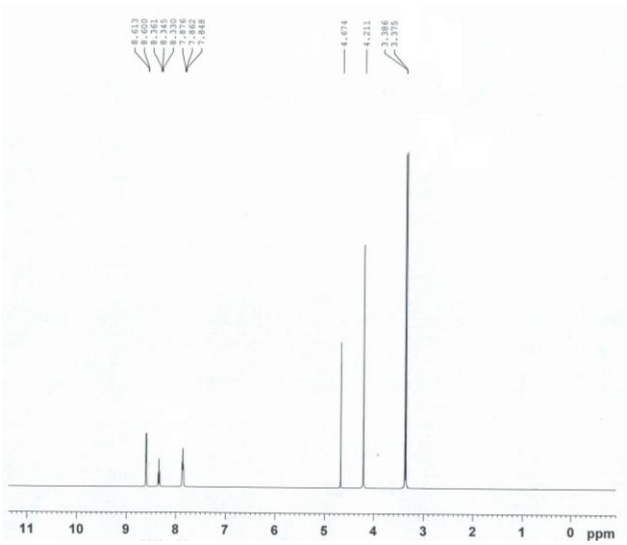
S-Figure 3. ^{13}C NMR of IL [mmim][Me_2PO_4]



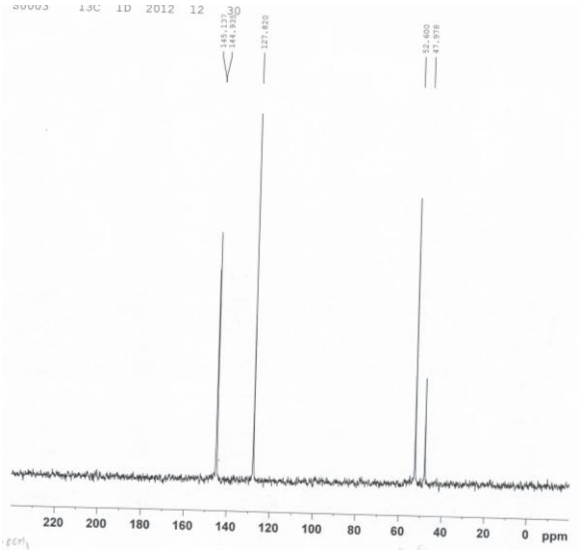
S-Figure 4. ^{13}C NMR of the six recyle IL [mmim][Me_2PO_4]



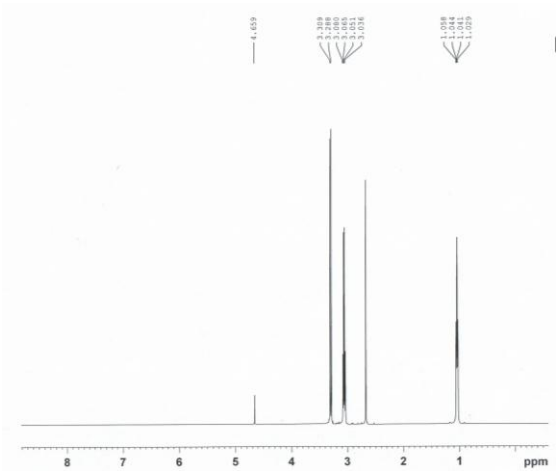
S-Figure 5. FT-IR spectra of IL [mmim][Me_2PO_4] (a: New IL, b: Reused IL for six times)



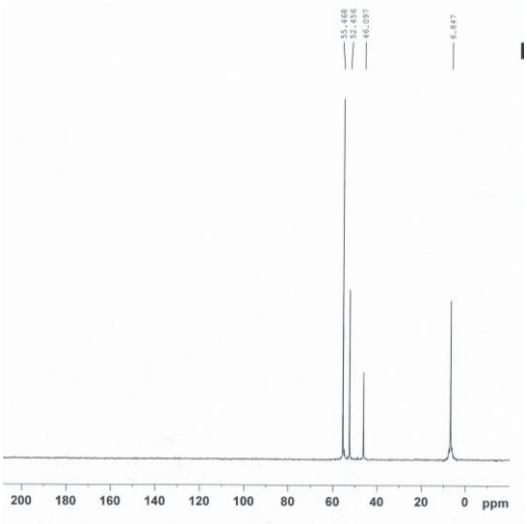
S-Figure 6. ^{1}H NMR of IL [mPy][Me_2PO_4]



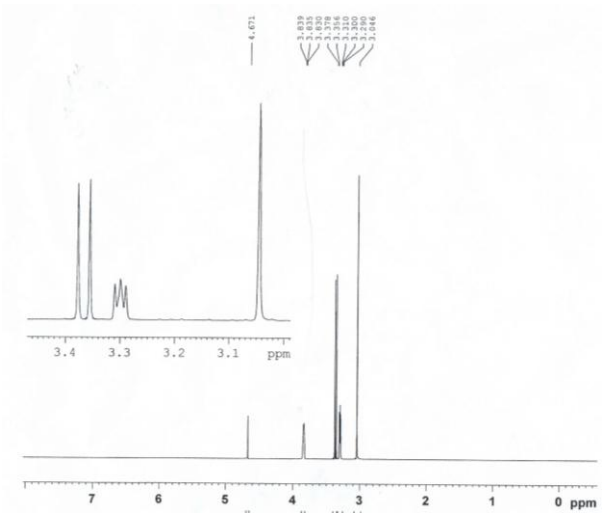
S-Figure 7. ^{13}C NMR of IL [mPy][Me_2PO_4]



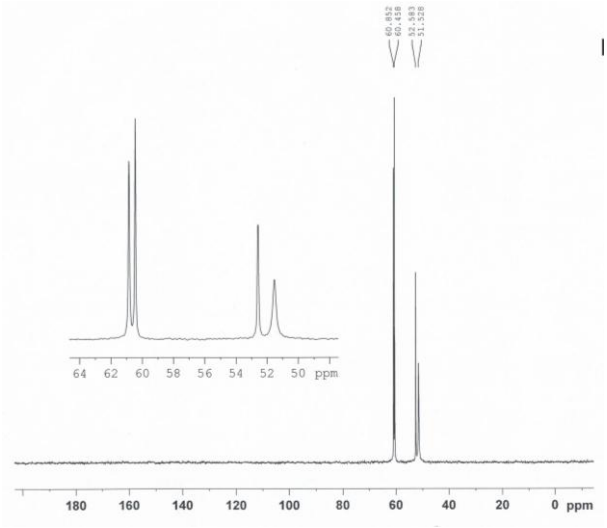
S-Figure 8. ^{1}H NMR of IL [mtetn][Me_2PO_4]



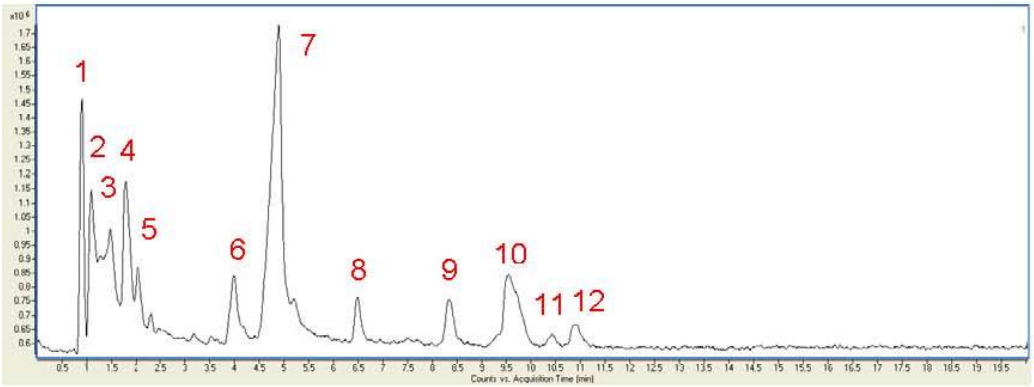
S-Figure 9. ^{13}C NMR of IL [mtetn][Me_2PO_4]



S-Figure 10. ^{1}H NMR of IL [mmo][Me_2PO_4]

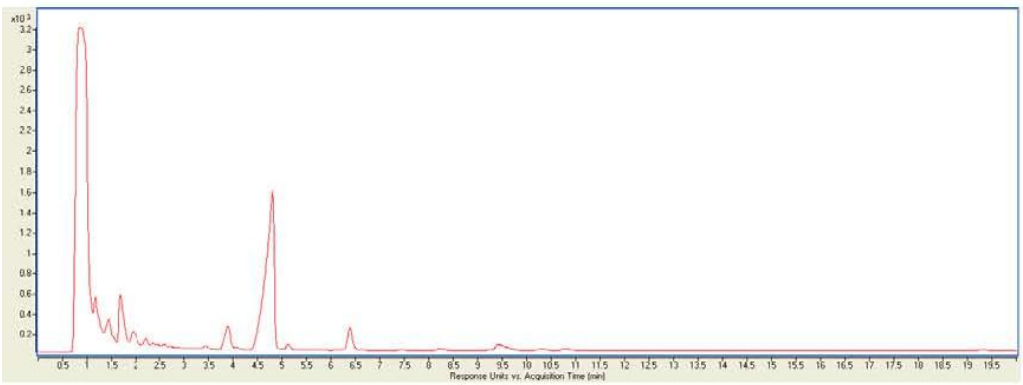


S-Figure 11. ^{13}C NMR of IL [mmo][Me_2PO_4]



S-Figure 12. LC spectra of the products in NaOH aqueous solution

1: Methanol; 2: Unkown I (EIC = 257); 3: Unkown II (EIC = 301); 4: Syringe aldehyde (EIC = 181); 5: Unkown III (EIC = 271);6: *p*-Hydroxybenzaldehyde (EIC = 121); 7: Vanillin (EIC = 151); 8: Unkown III (EIC = 165); 9: 3,5-Dimethoxybenzoic acid (EIC = 181); 10: Syringate (EIC = 197); 11: Unkown IV (EIC = 287); 12: *p*-Hydroxybenzoate (EIC = 137).



S-Figure 13. LC spectra of the products in the coupled process of reaction-separation