Electronic Supplementary Material (ESI) for Analyst.

SUPPLEMENTARY DATA

Rational design of ionic liquid dispersive liquid–liquid micro-extraction for the detection of organophosphorus pesticides

Dingkun Lu, [a, c] Chang Liu, [a, c] Jingjing Deng, [a, c] Xinguang Zhou, [b,c] Guoyue Shi [b] and Tianshu Zhou *[a,c]

[a] School of Ecological and Environmental Sciences, Shanghai Key Lab for Urban Ecological Process and Eco-Restoration, East China Normal University, 500 Dongchuan Road, Shanghai 200241, China.

[b] School of Chemistry and Molecular Engineering, East China Normal University, 500 Dongchuan Road, Shanghai 200241, China.

[c] Institute of Eco-Chongming (IEC), 3663 North Zhongshan Road, Shanghai 20062

Corresponding author email:tszhou@des.ecnu.edu.cn

Supporting Figures

Fig. S1

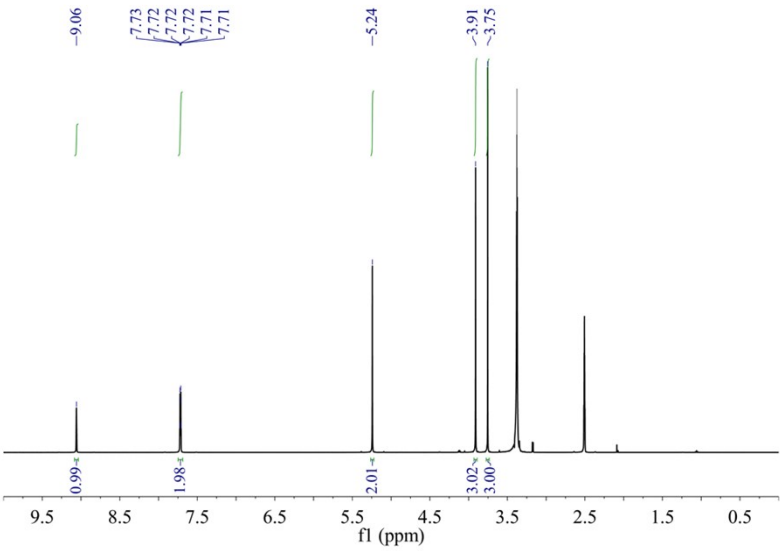

Fig. S1. ^{1}H NMR (500 MHz, d_6-DMSO) spectrum of $[MimCH_2COOCH_3][NTf_2]$ δ 9.06 (s, 1H, N-CH-N), 7.72 (dt, 2H, N-CH=CH-N), 5.24 (s, 2H, C-CH_2-N), 3.91 (s, 3H, N-CH_3), 3.75 (s, 3H, C-CH_3). The peaks of d_6-DMSO and water are not marked, respectively, corresponding to around 2.5, 3.4 ppm.

Fig. S2

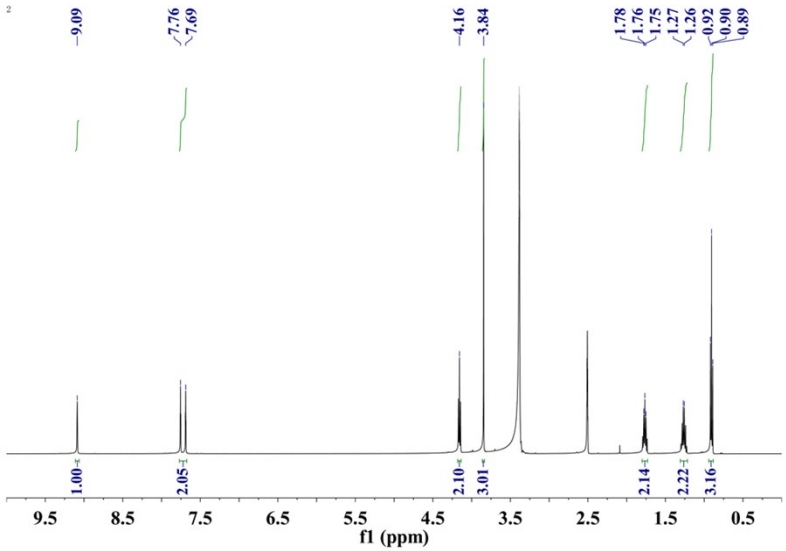

Fig. S2. ^{1}H NMR (500 MHz, d_6-DMSO) spectrum of [Bmim][NTf_2] δ 9.09 (s, 1H, N-CH-N), 7.72 (dt, 2H, N-CH=CH-N), 4.16 (s, 2H, C-CH_2-N), 3.84 (s, 3H, N-CH_3), 1.77 (dq, 2H, C-C-CH_2-C-N), 1.26 (dd, 2H, C-CH_2-C-C-N), 0.90 (s, 3H, C-CH_3). The peaks of d_6-DMSO and water are not marked, respectively, corresponding to around 2.5, 3.4 ppm.

Fig. S3

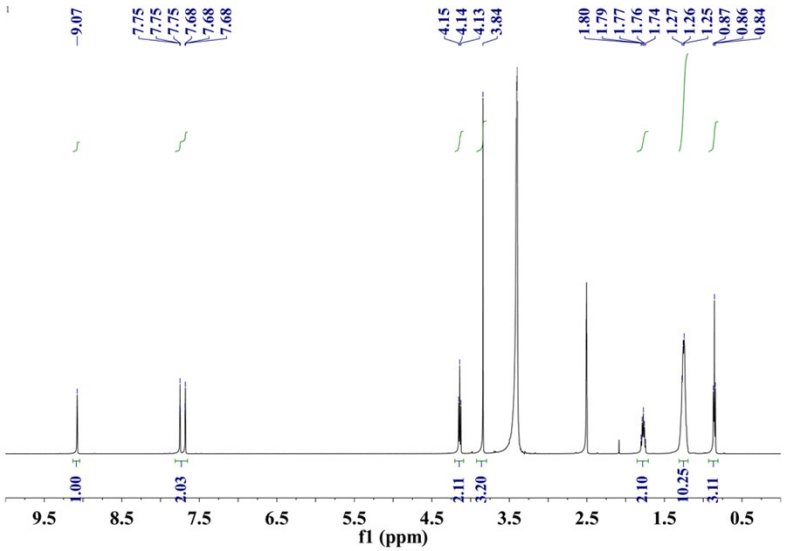

Fig. S3. ^{1}H NMR (500 MHz, d_6-DMSO) spectrum of [Omim][NTf_2] δ 9.07 (s, 1H, N-CH-N), 7.71 (dt, 2H, N-CH=CH-N), 4.14 (s, 2H, C-CH_2-N), 3.84 (s, 3H, N-CH_3), 1.85 – 1.71 (dq, 2H, C-C-CH_2-C-N), 1.31 – 1.20 (m, 10H, C-$(CH_2)_5$-C-C-N), 0.86 (s, 3H, C-CH_3). The peaks of d_6-DMSO and water are not marked, respectively, corresponding to around 2.5, 3.4 ppm.

Fig. S4

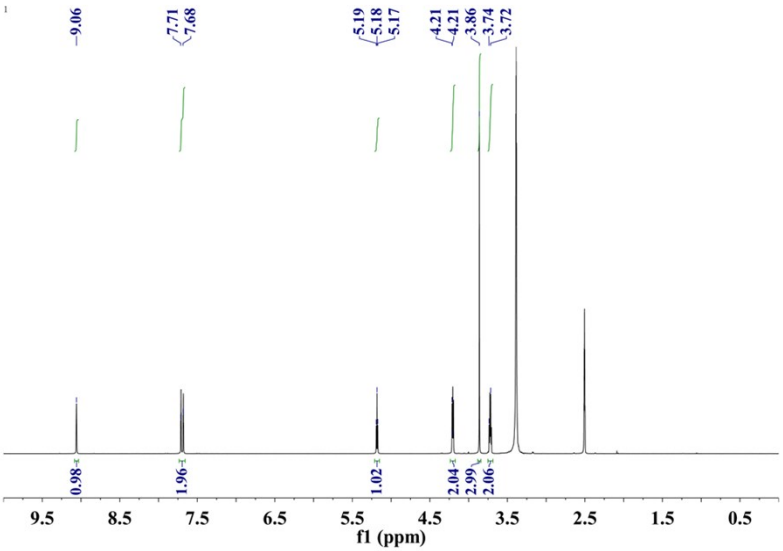

Fig. S4. ^{1}H NMR (500 MHz, d_6-DMSO) spectrum of [Hemim][NTf_2] δ 9.06 (s, 1H, N-CH-N), 7.69 (dt, 2H, N-CH=CH-N), 5.18 (t, 1H, C-OH), 4.23 – 4.17 (s, 2H, N-CH_2-C-OH), 3.86 (s, 3H, N-CH_3), 3.72 (dd, 2H, N-C-CH_2-OH). The peaks of d_6-DMSO and water are not marked, respectively, corresponding to around 2.5, 3.4 ppm.

Supporting Table

Table. S1. The chemical shift of the ^{1}H NMR (500 MHz, d_6-DMSO) spectrum

	Pure IL	After addition of OP	Chemical shift
α H of IL	9.0589	8.9873	0.0716
β H of IL	7.7088-7.7265	7.6193-7.6266	0.0895-0.0999