

# Organic Superbase Derived Ionic Liquids Based on the TFSI Anion: Synthesis, Characterization, and Electrochemical Properties

Zhi Wang, Zuopeng Li\*, Yunhe Jin, Wei Liu, Linhai Jiang\*, and Qinghua Zhang\*

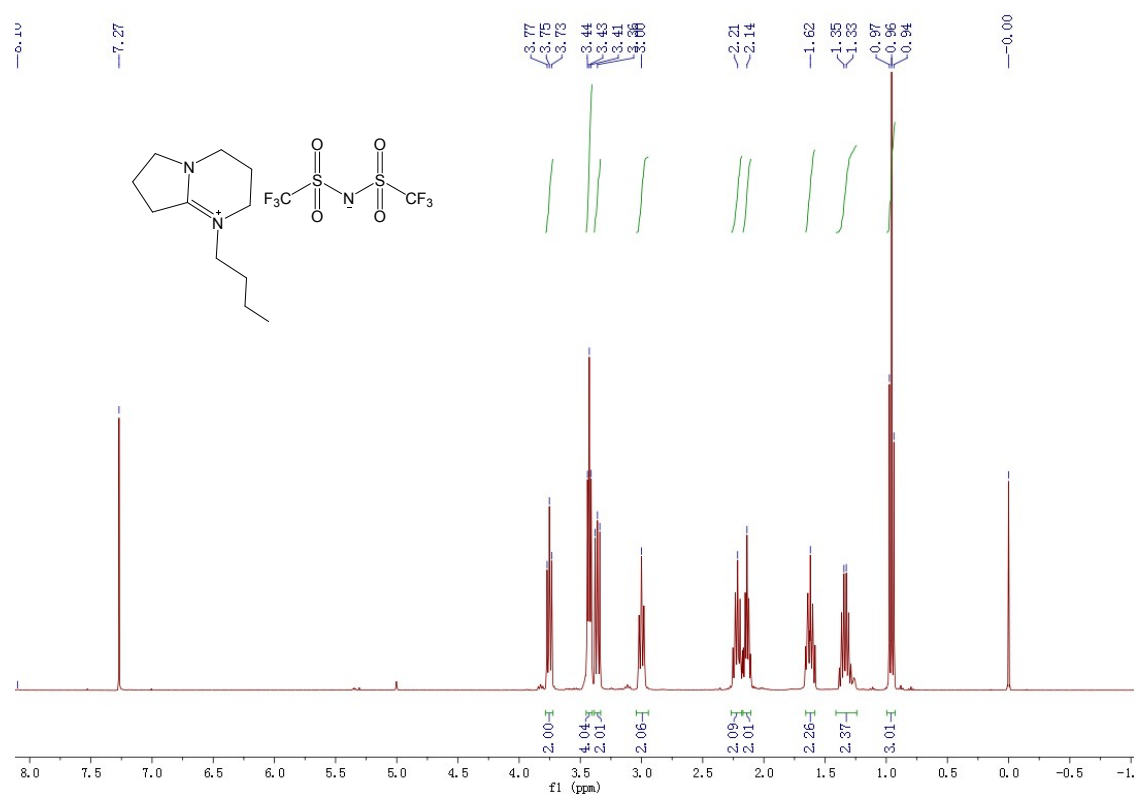


Fig. S1 <sup>1</sup>H NMR of [BuDBN][TFSI] in d<sub>6</sub>-chloroform

ZQH-20151211-DEMR

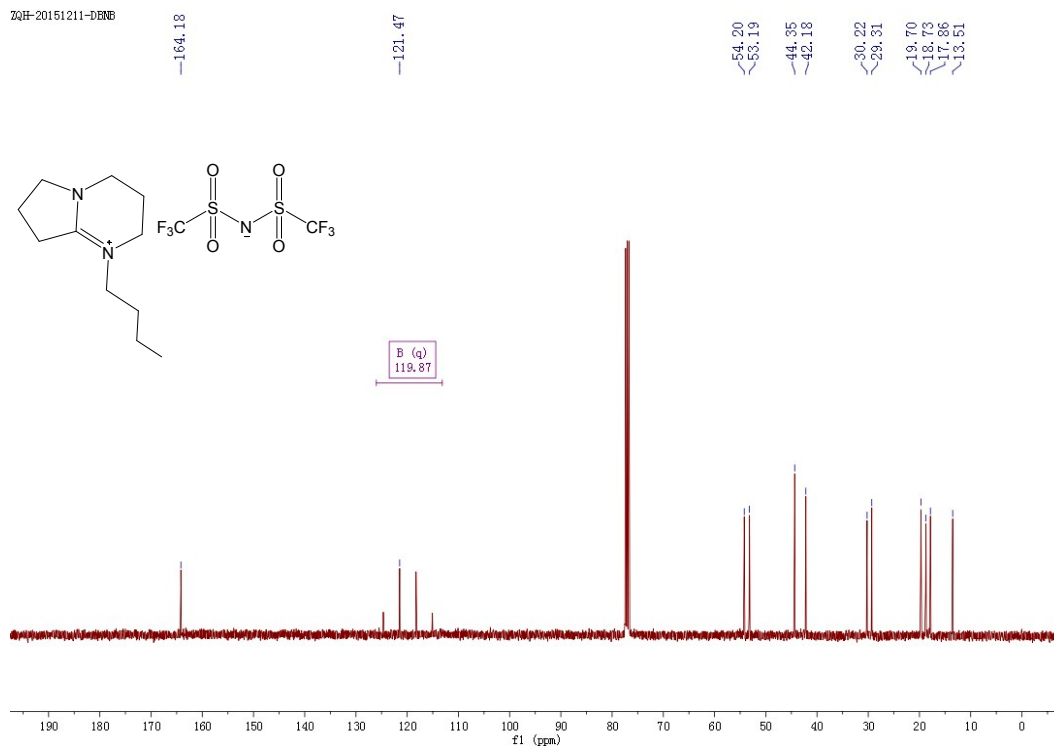


Fig. S2  $^{13}\text{C}$  NMR of [BuDBN][TFSI] in  $\text{d}_6$ -chloroform

20150723

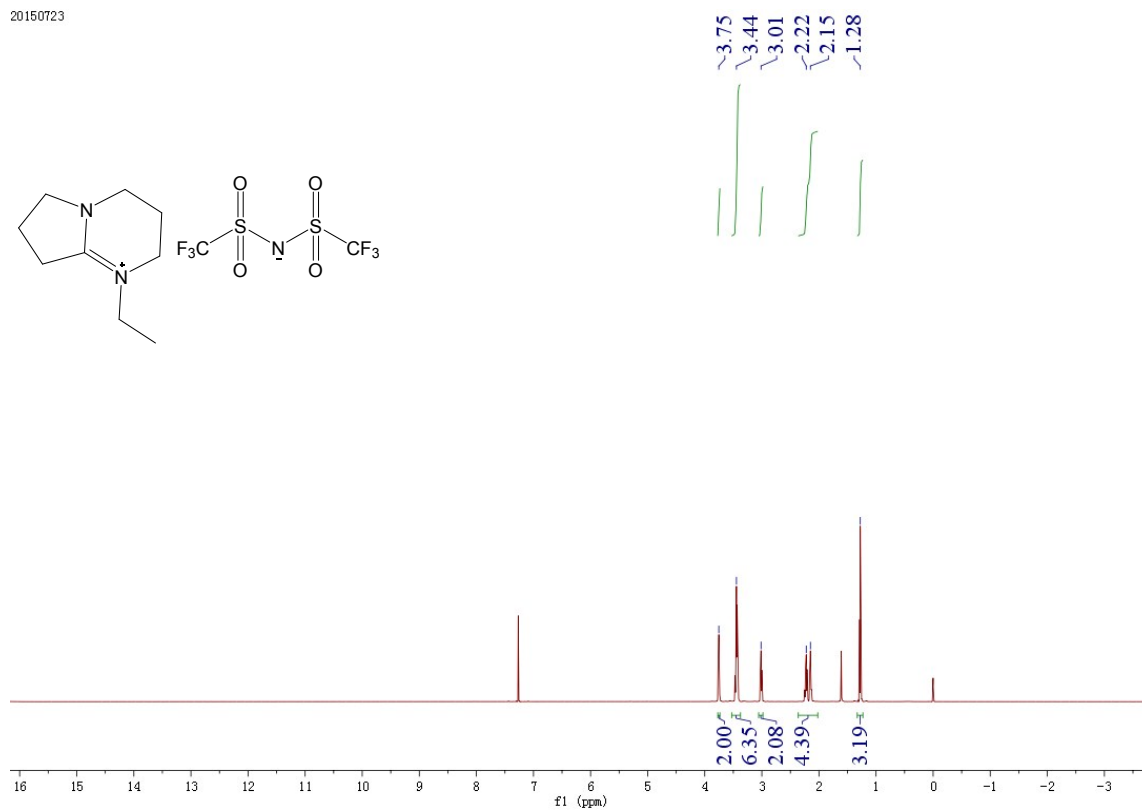


Fig. S3  $^1\text{H}$  NMR of [EtDBN][TFSI] in  $\text{d}_6$ -chloroform

ZQH-20151211-DBNE

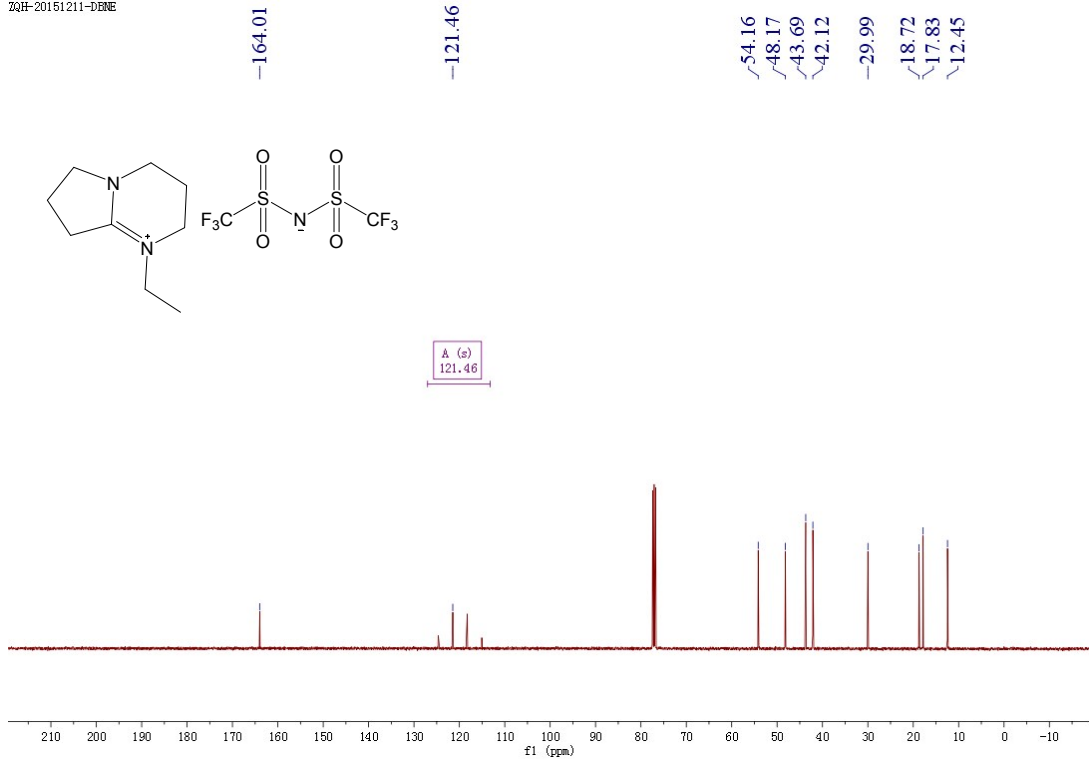


Fig. S4 <sup>13</sup>C NMR of [EtDBN][TFSI] in d<sub>6</sub> chloroform

ZQH-20151015-WZ-PD

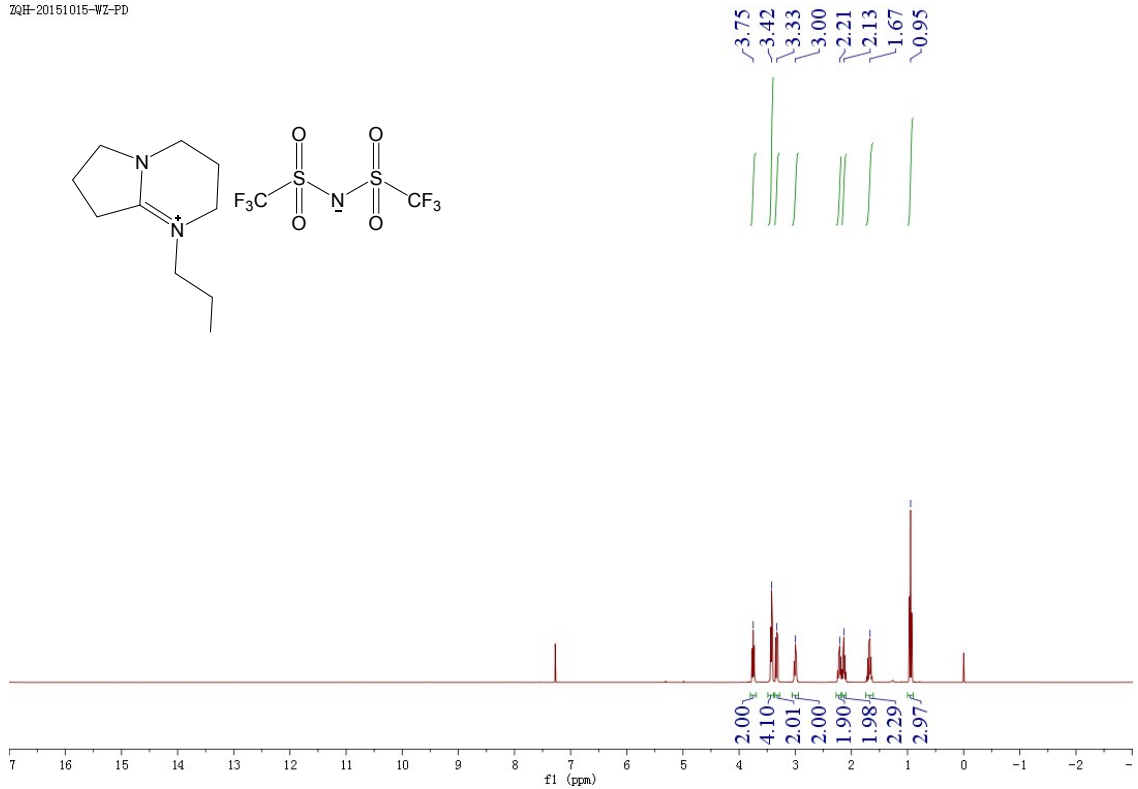


Fig. S5 <sup>1</sup>H NMR of [PrDBN][TFSI] in d<sub>6</sub> chloroform

ZQH-20151211-DENP

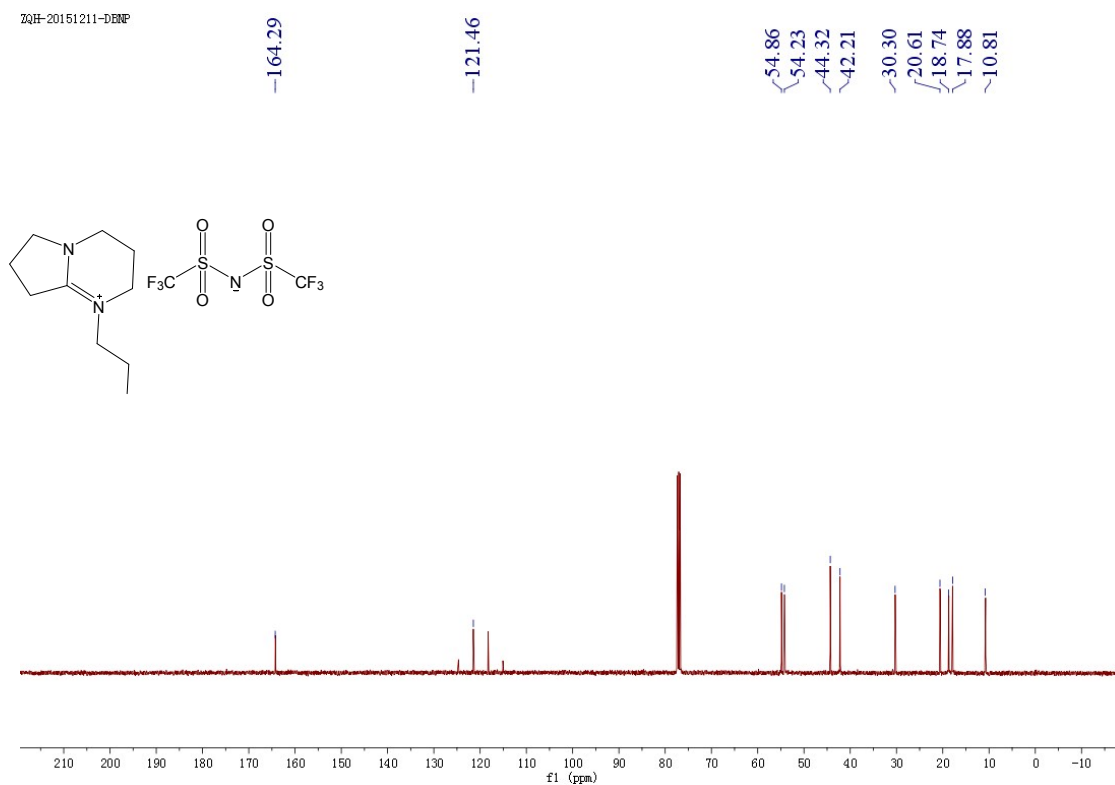


Fig. S6  $^{13}\text{C}$  NMR of [PrDBN][TFSI] in  $\text{d}_6$ -chloroform

ZQH-20151027-DBUE

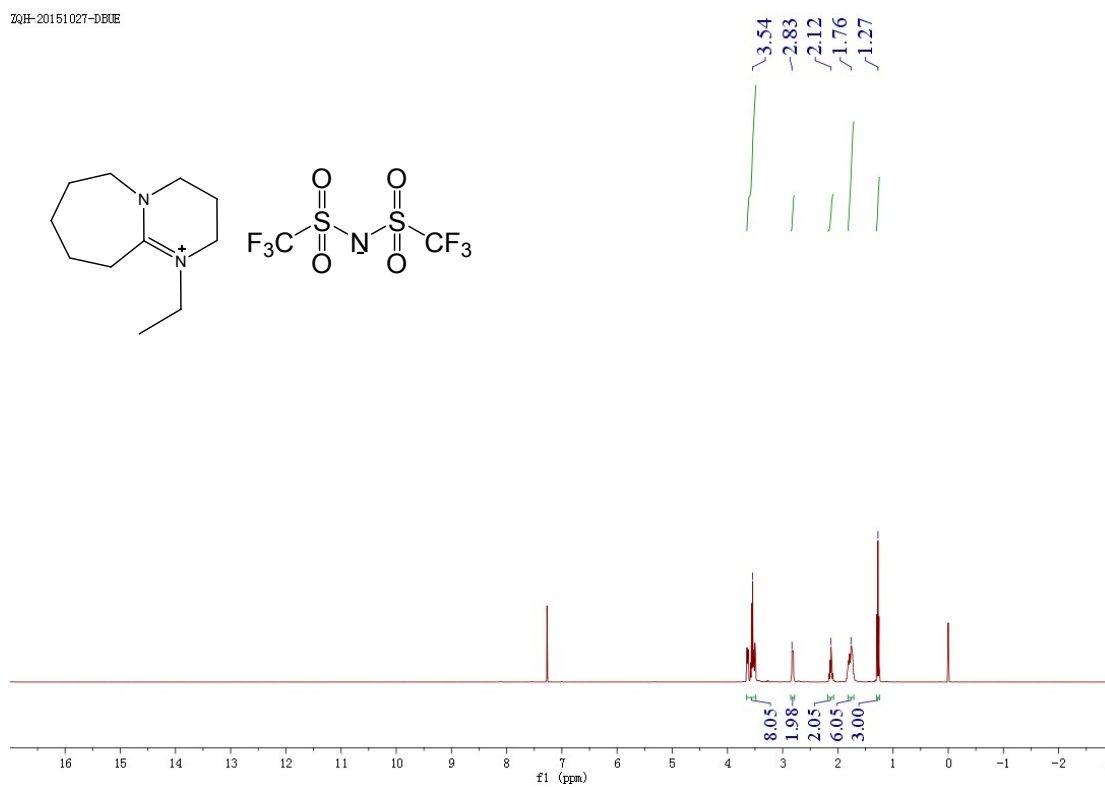


Fig. S7  $^1\text{H}$  NMR of [EtDBU][TFSI] in  $\text{d}_6$ -chloroform

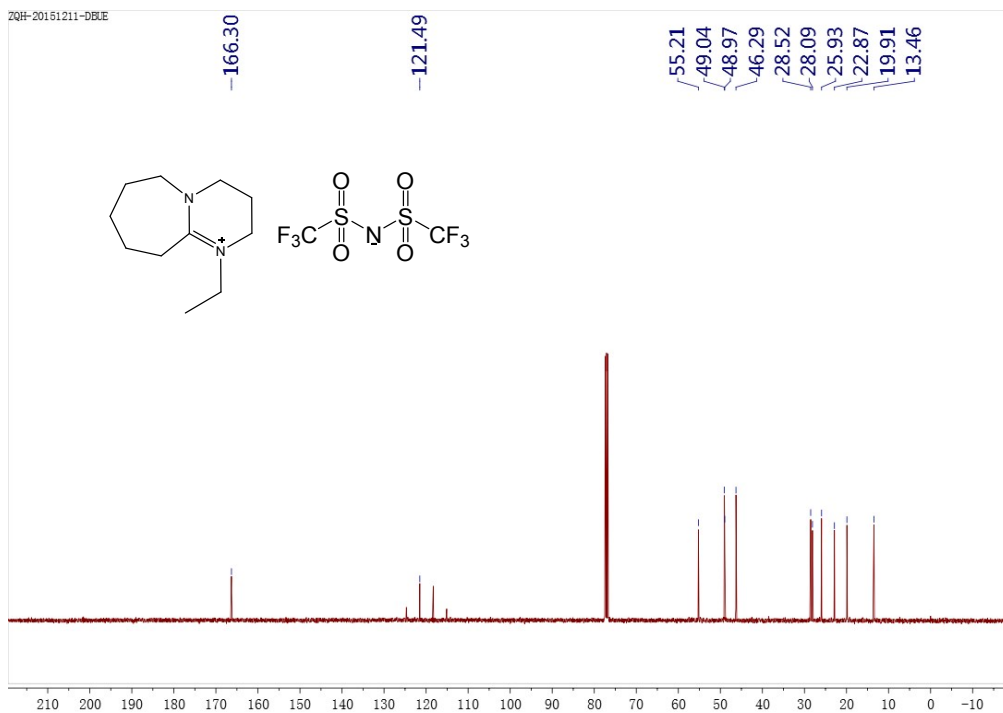


Fig. S8  $^{13}\text{C}$  NMR of [EtDBU][TFSI] in  $\text{d}_6$ -chloroform

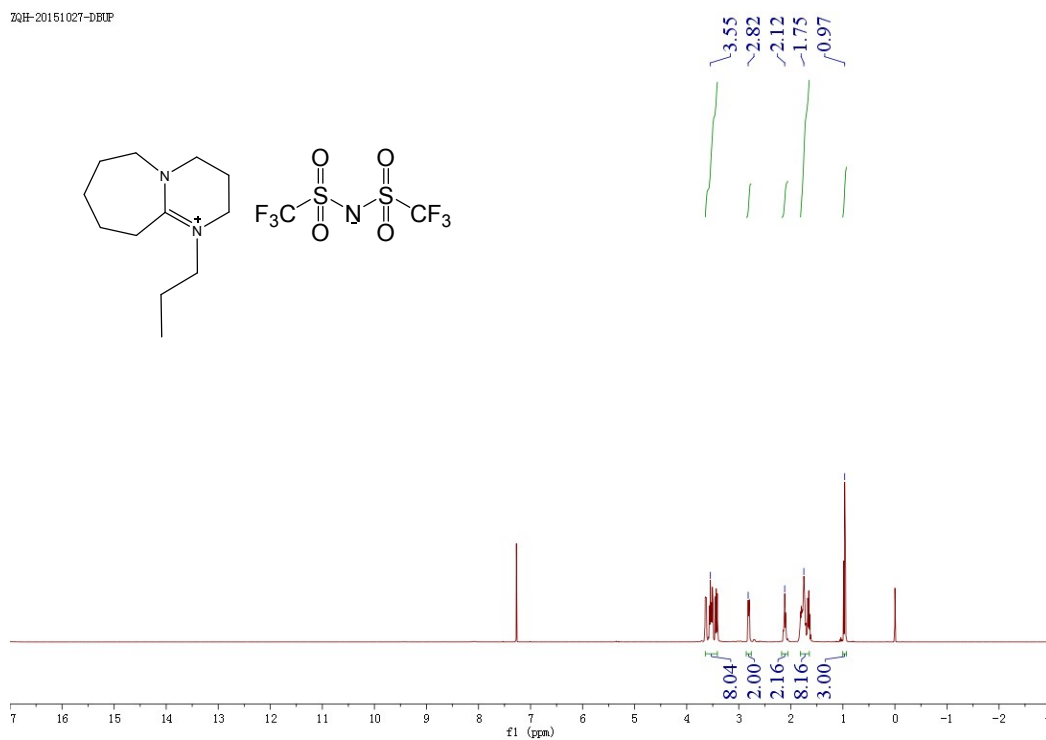


Fig. S9  $^1\text{H}$  NMR of [PrDBU][TFSI] in  $\text{d}_6$ -chloroform

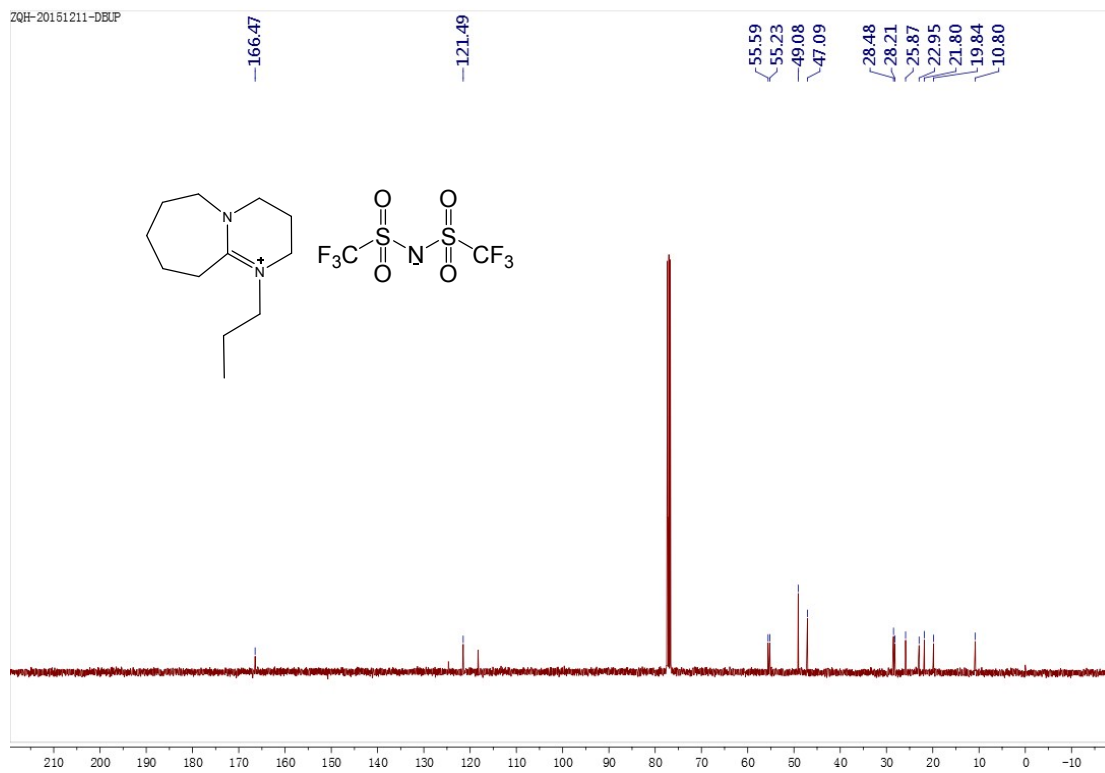


Fig. S10  $^{13}\text{C}$  NMR of [PrDBU][TFSI] in  $\text{d}^6$ -chloroform

### 3. The cyclic voltammetry scan of ionic liquids

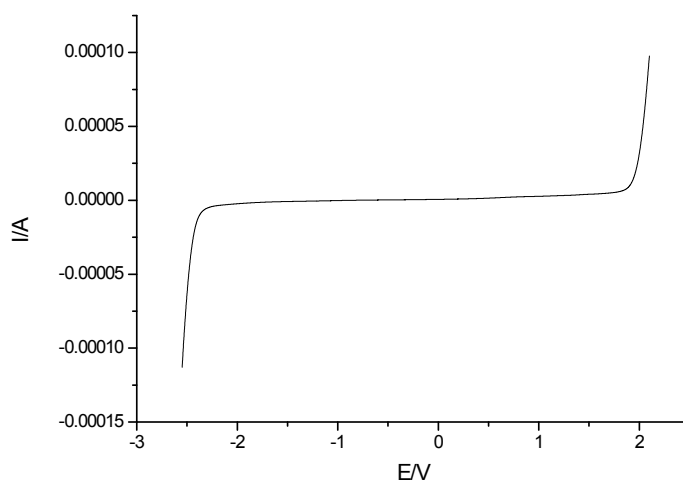


Fig. S11 The electrochemical window of [EtDBN][TFSI] at GC/Ag/Pt

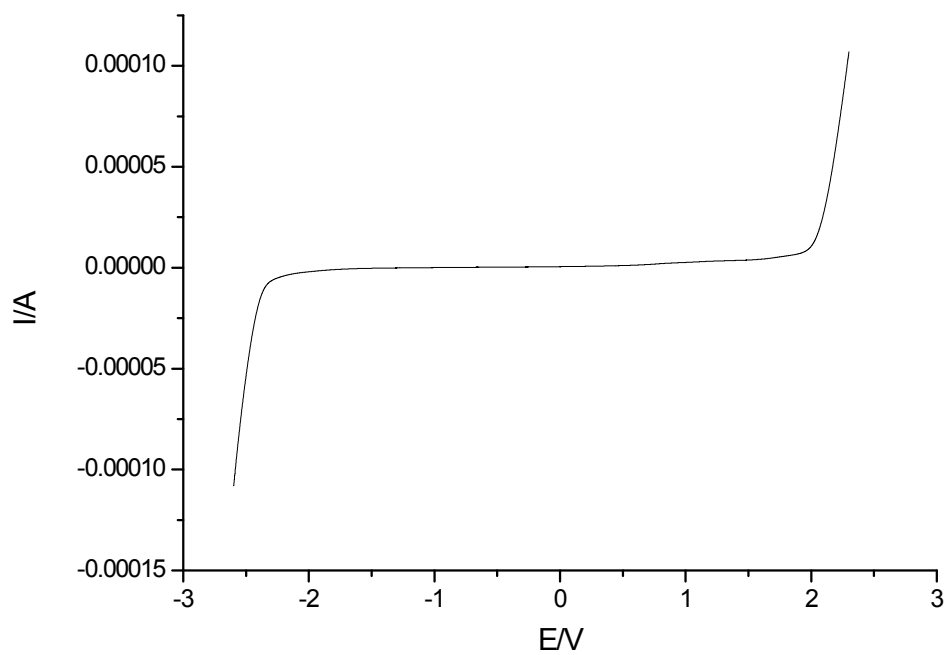


Fig. S12 The electrochemical window of [BuDBN][TFSI] at GC/Ag/Pt

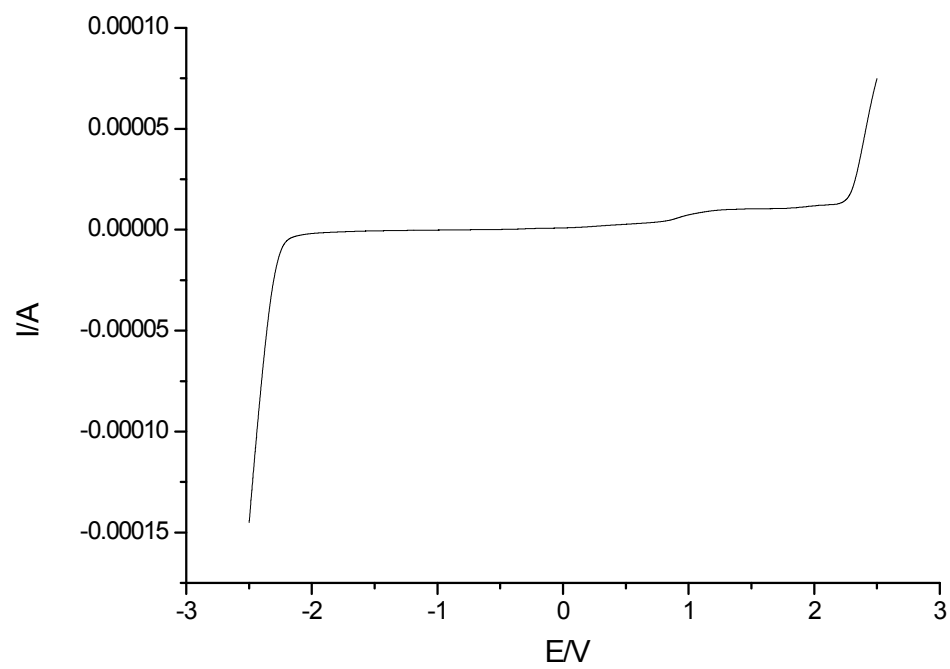


Fig. S13 The electrochemical window of [PrDBN][TFSI] at GC/Ag/Pt

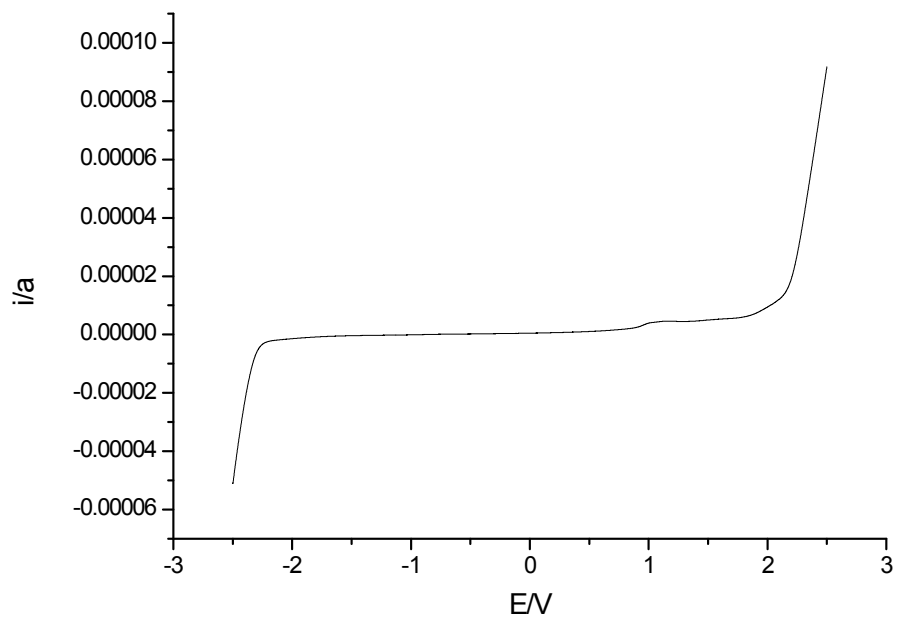


Fig. S14 The electrochemical window of [EtDBU][TFSI] at GC/Ag/Pt

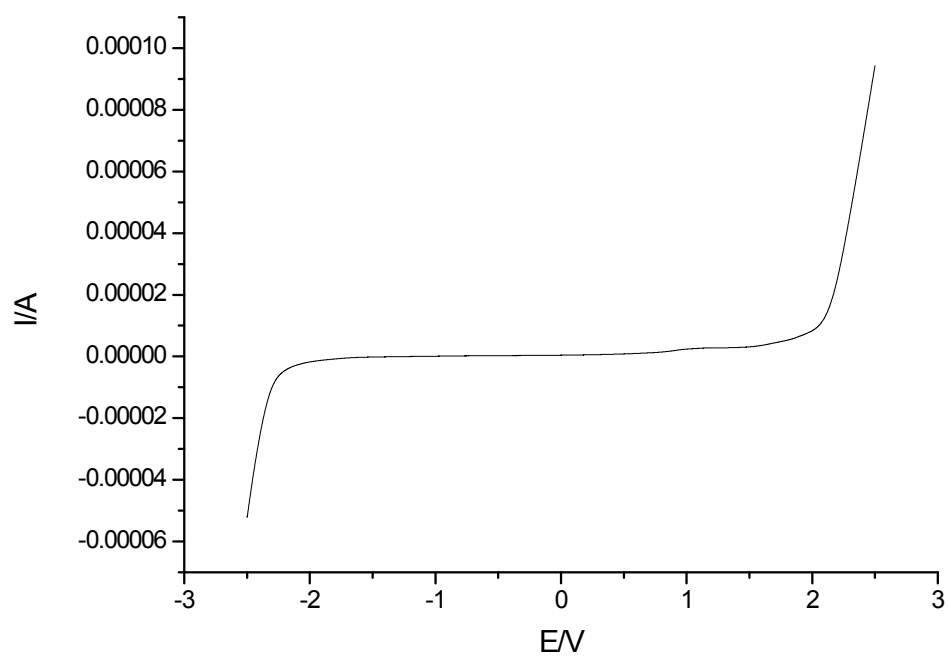


Fig. S15 The electrochemical window of [PrDBU][TFSI] at GC/Ag/Pt



#### 4. The Specific capacitance data

Table S1 The specific capacitance of ILs

Name		Specific capacitance (F/g)	
[PrDBU][TFSI]	CV(mA/g)	5	65.25
		10	42.66
		20	29.46
		50	14.39
	GCP	0.2	110.05
		0.5	57.01
		1	-----
		2	-----
[EtDBU][TFSI]	CV(mA/g)	5	54.35
		10	34.70
		20	23.37
		50	9.81
	GCP	0.2	99.17
		0.5	46.86
		1	-----
		2	-----
[PrDBN][TFSI]	CV(mA/g)	5	25.49
		10	19.59
		20	10.92
		50	4.61
	GCP	0.2	34.10
		0.5	-----
		1	-----
		2	-----
[EtDBN][TFSI]	CV(mA/g)	5	112.01
		10	101.60
		20	78.29
		50	46.71
	GCP	0.2	123.51
		0.5	98.94
		1	80.18
		2	50.18
[BuDBN][TFSI]	CV(mA/g)	5	79.89
		10	58.85
		20	44.27
		50	20.67
	GCP	0.2	92.33
		0.5	63.99
		1	36.12

