

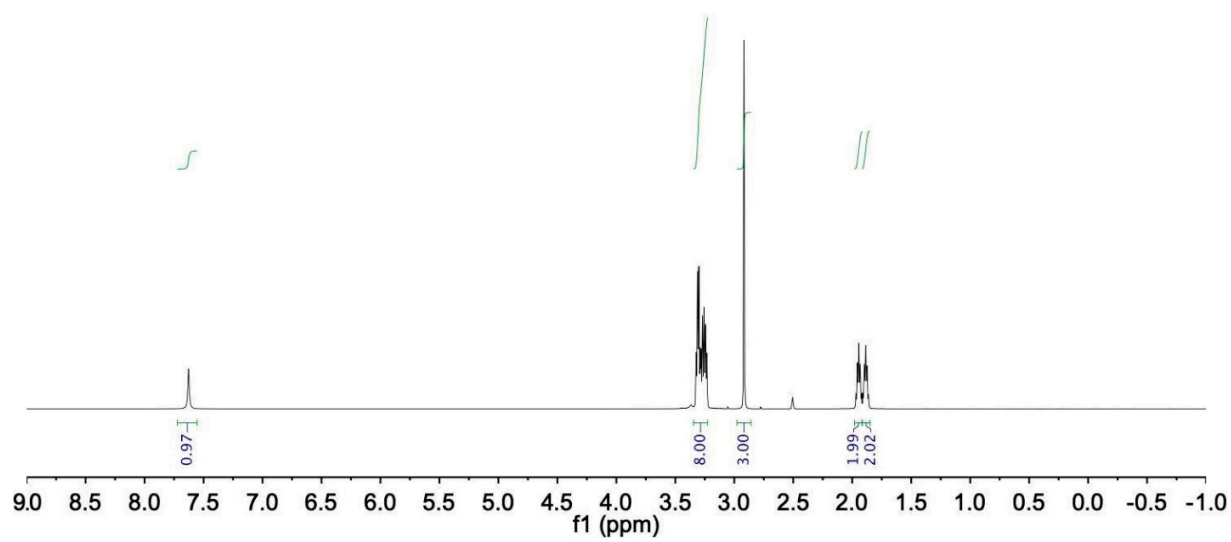
## **Supplementary Information**

### **The activity enhancement effect of ionic liquids on oxygen reduction reaction catalysts: from rotating disk electrode to membrane electrode assembly**

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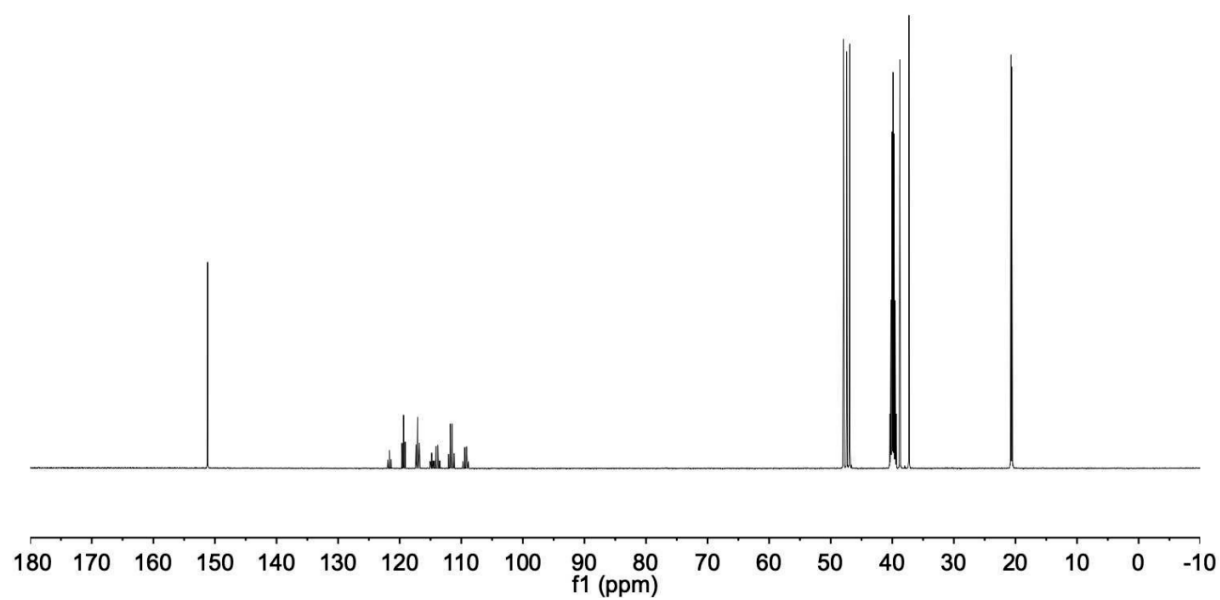
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MTBD\_BETI.10.fid



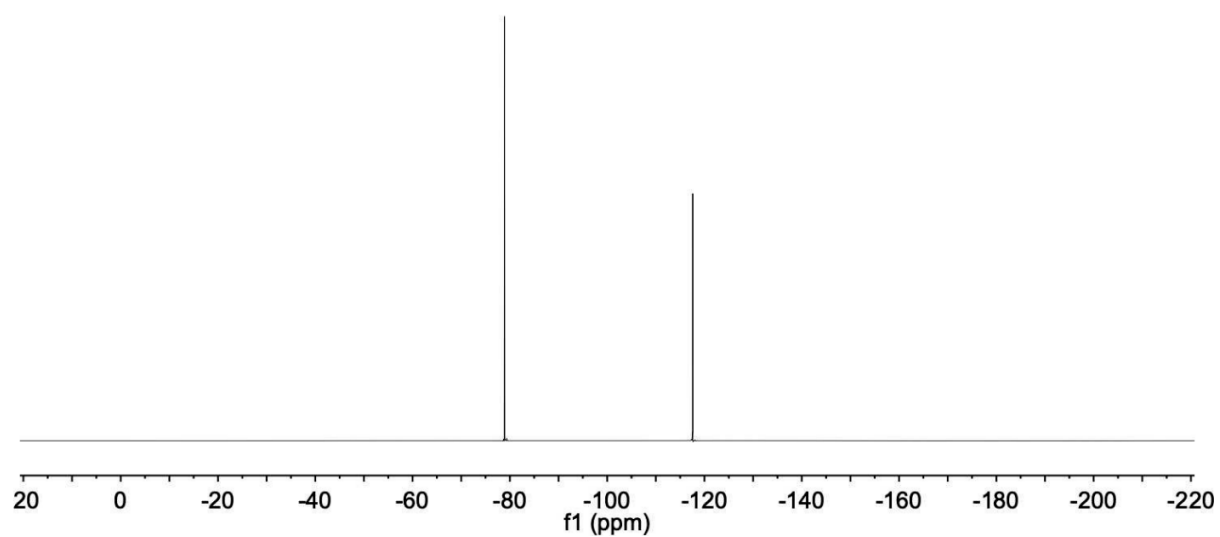
**Figure S1.**  $^1\text{H}$  NMR spectrum of [MTBD][beti].

MTBD\_BETI.11.fid



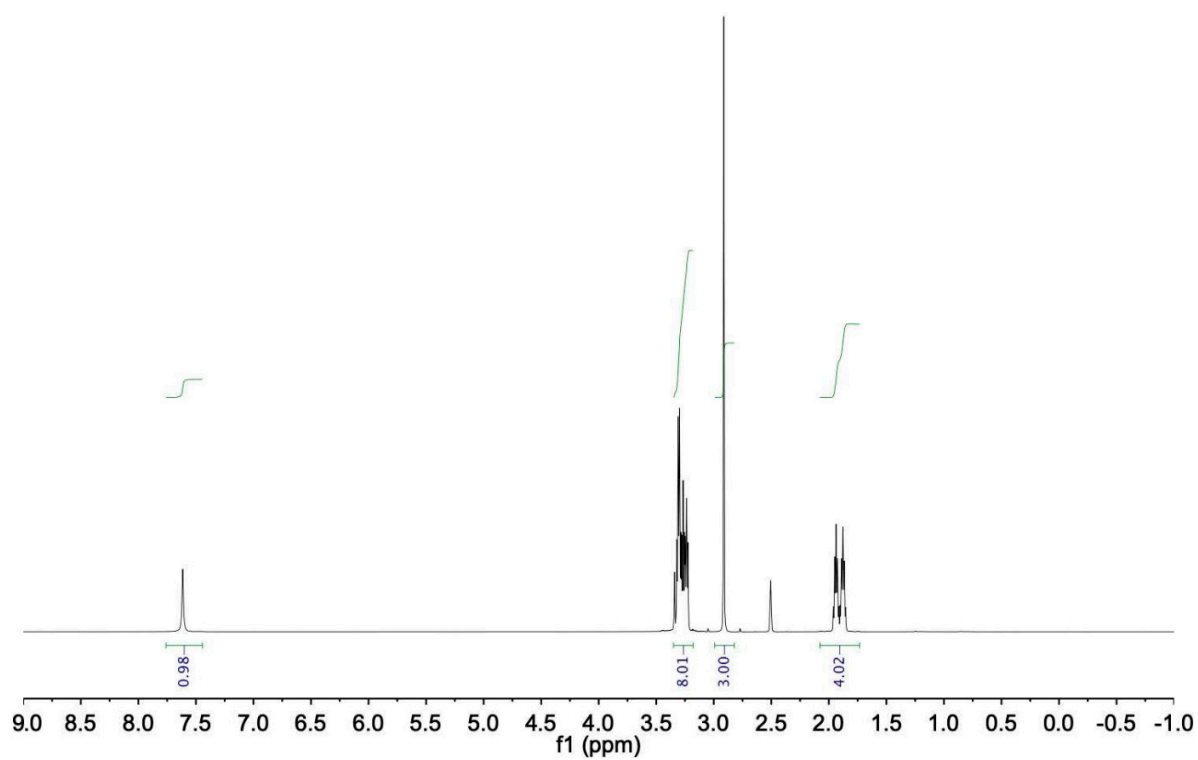
**Figure S2.**  $^{13}\text{C}$  NMR spectrum of [MTBD][beti].

MTBD\_BETI.12.fid



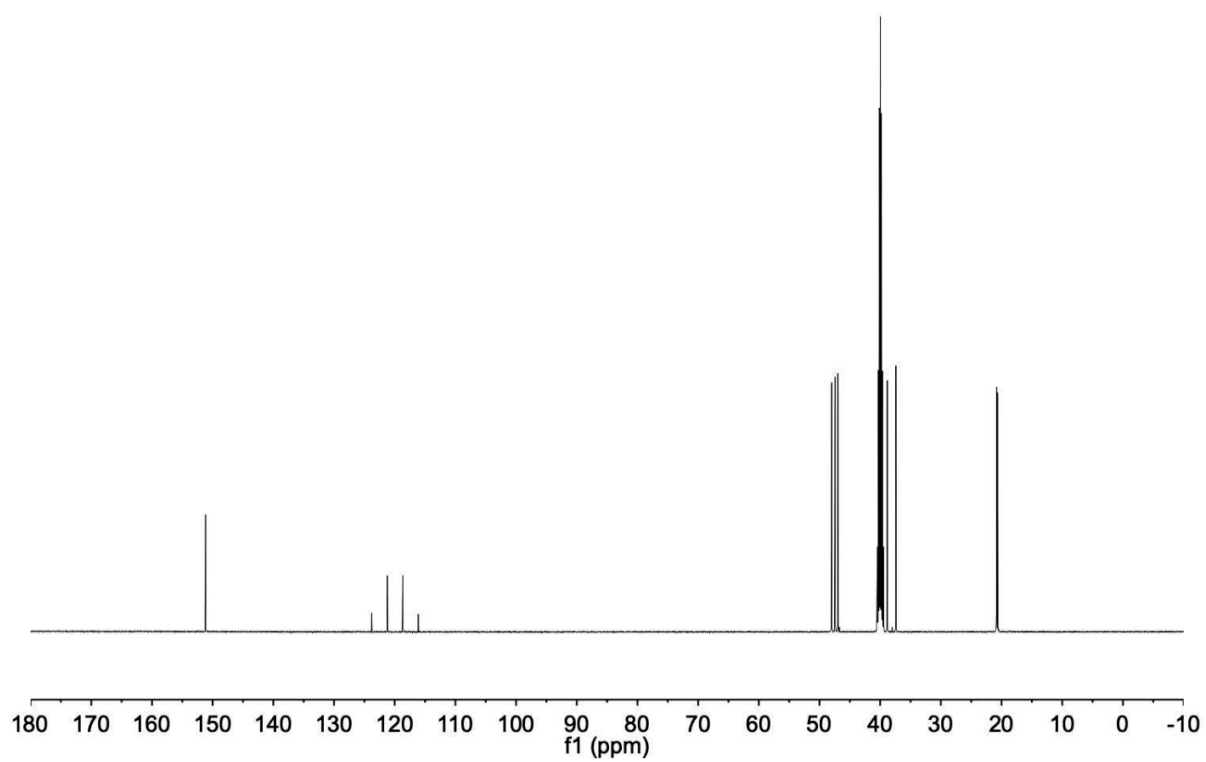
**Figure S3.**  $^{19}\text{F}$  NMR spectrum of [MTBD][beti].

MTBD\_Tf2N.10.fid



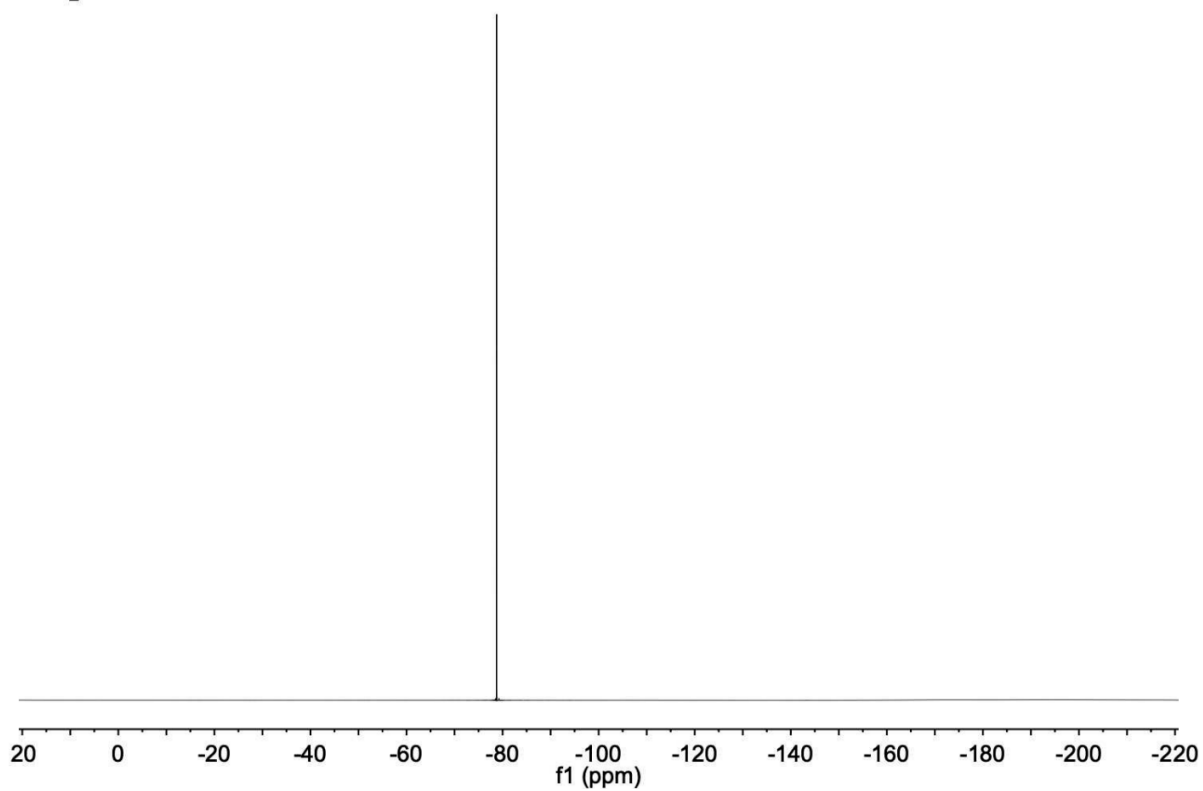
**Figure S4.**  $^1\text{H}$  NMR spectrum of [MTBD][TFSI].

MTBD\_Tf2N.11.fid

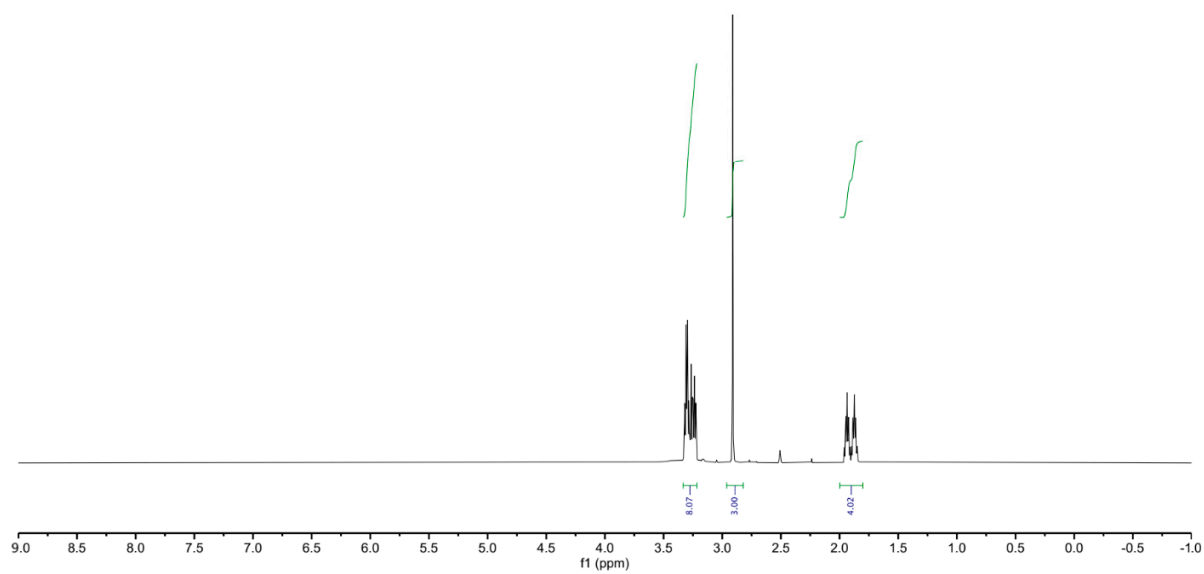


**Figure S5.**  $^{13}\text{C}$  NMR spectrum of [MTBD][TFSI].

MTBD\_Tf2N.12.fid



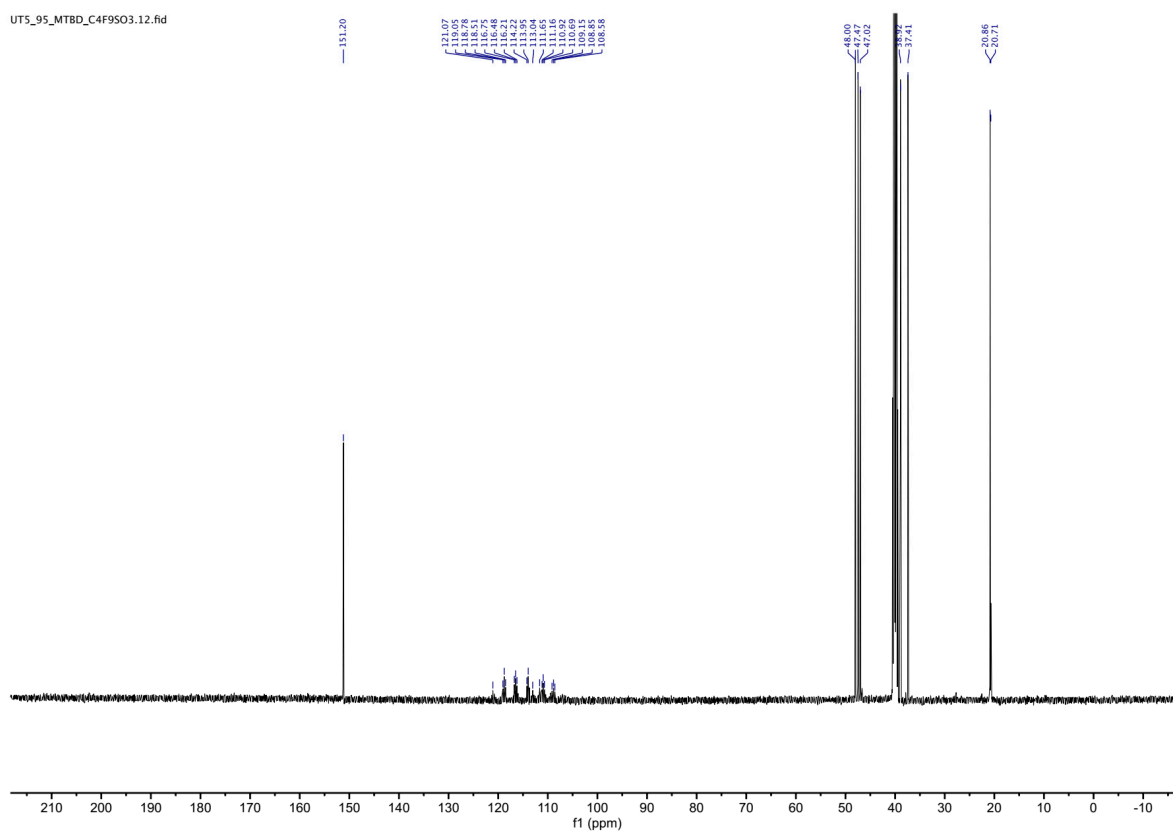
**Figure S6.**  $^{19}\text{F}$  NMR spectrum of [MTBD][TFSI].



**Figure S7.**  $^1\text{H}$  NMR spectrum of  $[\text{MTBD}][\text{C}_4\text{F}_9\text{SO}_3]$ .

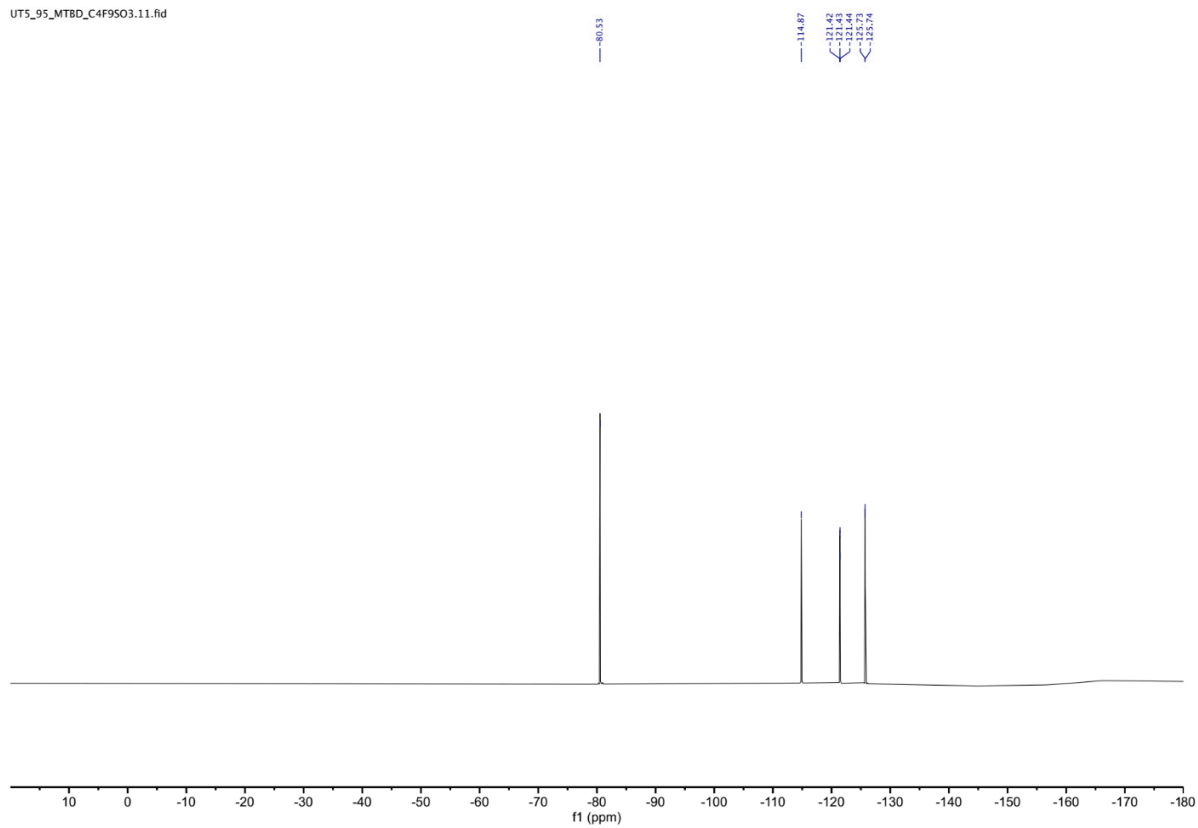


UT5\_95\_MTBD\_C4F9SO3.12.fid

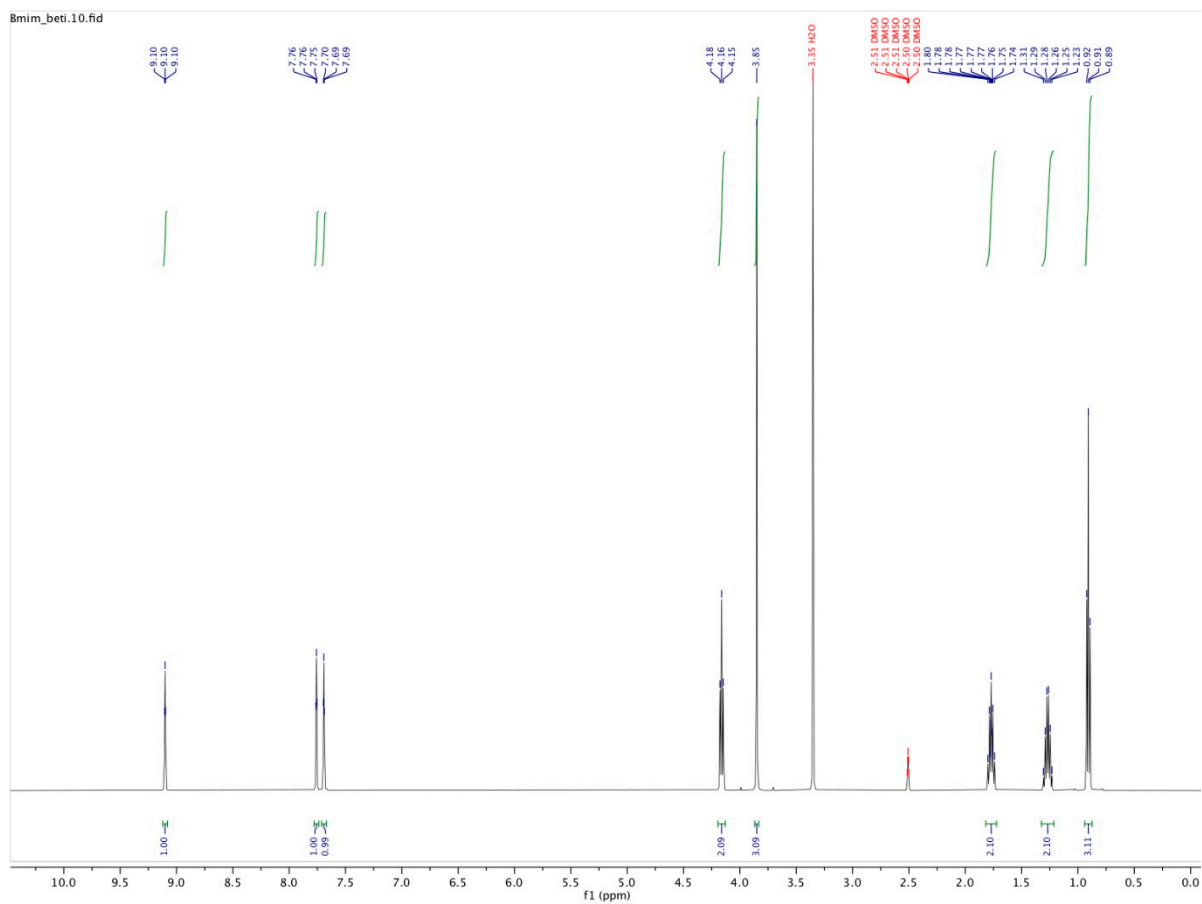


**Figure S8.**  $^{13}\text{C}$  NMR spectrum of  $[\text{MTBD}][\text{C}_4\text{F}_9\text{SO}_3]$ .

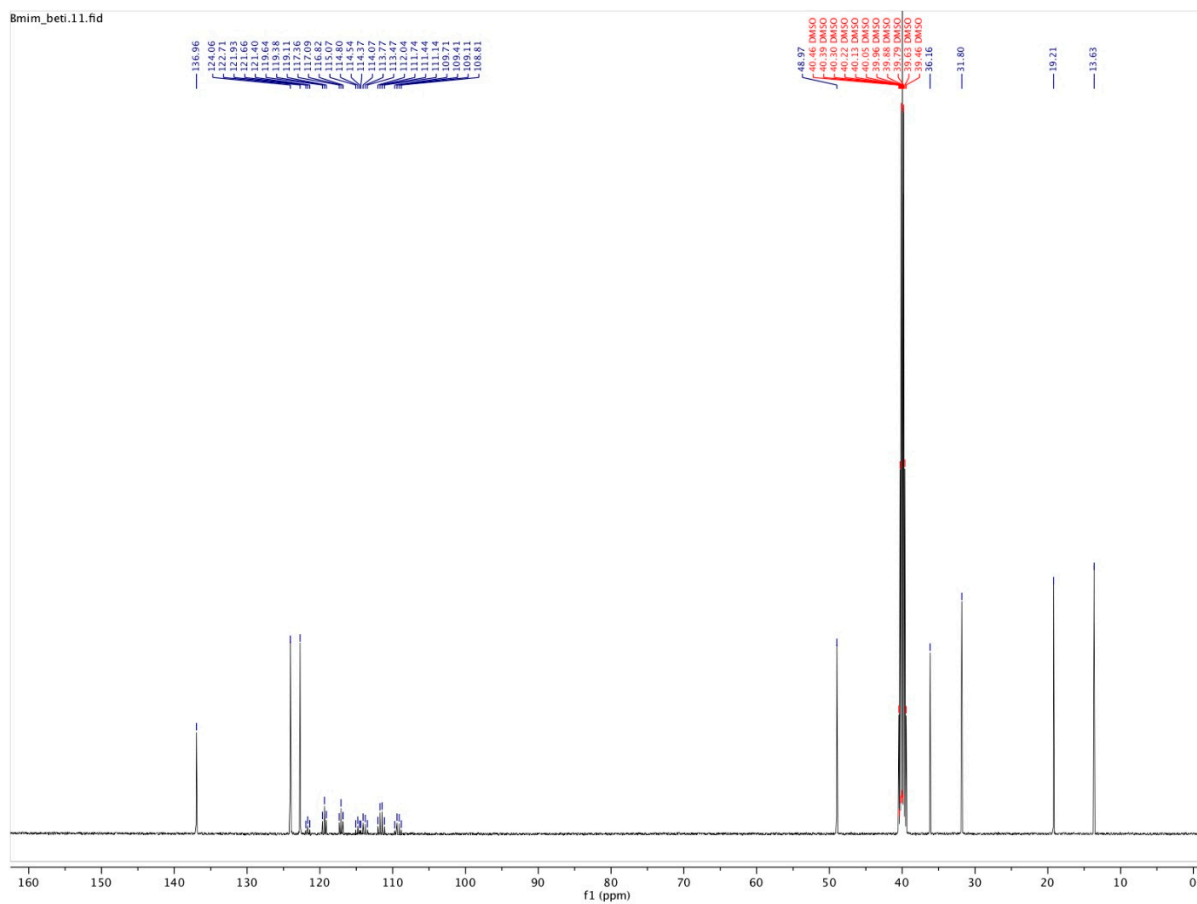
UT5\_95\_MTBDC4F9SO3.11.fid



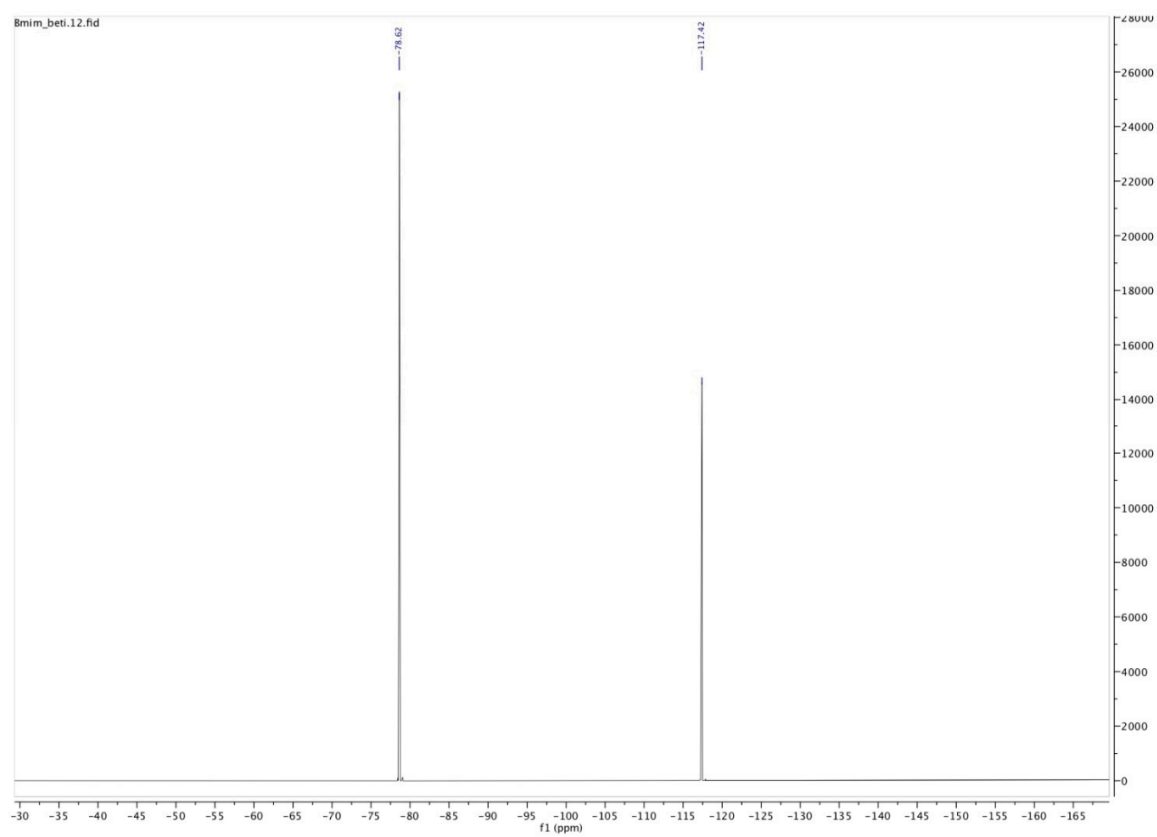
**Figure S9.**  $^{19}\text{F}$  NMR spectrum of  $[\text{MTBD}][\text{C}_4\text{F}_9\text{SO}_3]$ .



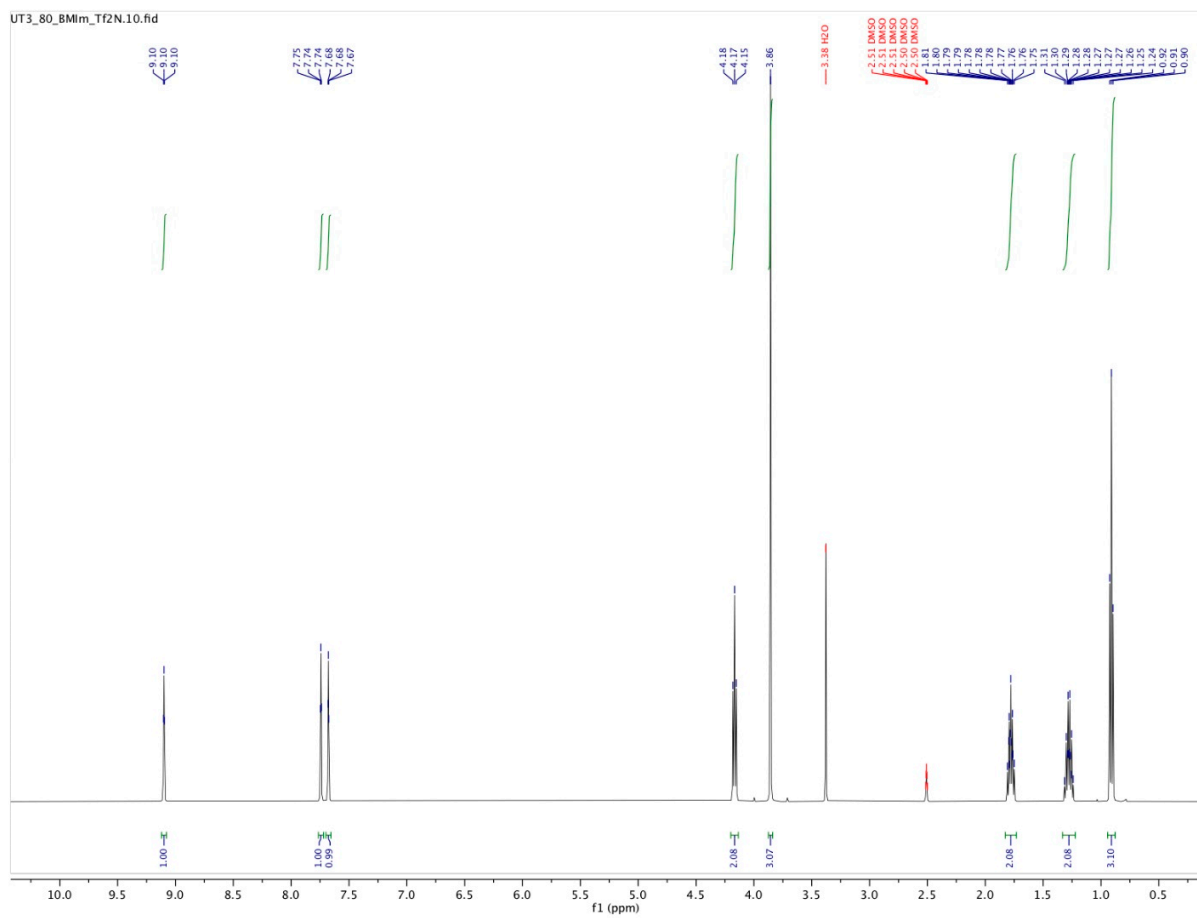
**Figure S10.**  $^1\text{H}$  NMR spectrum of [bmim][beti].



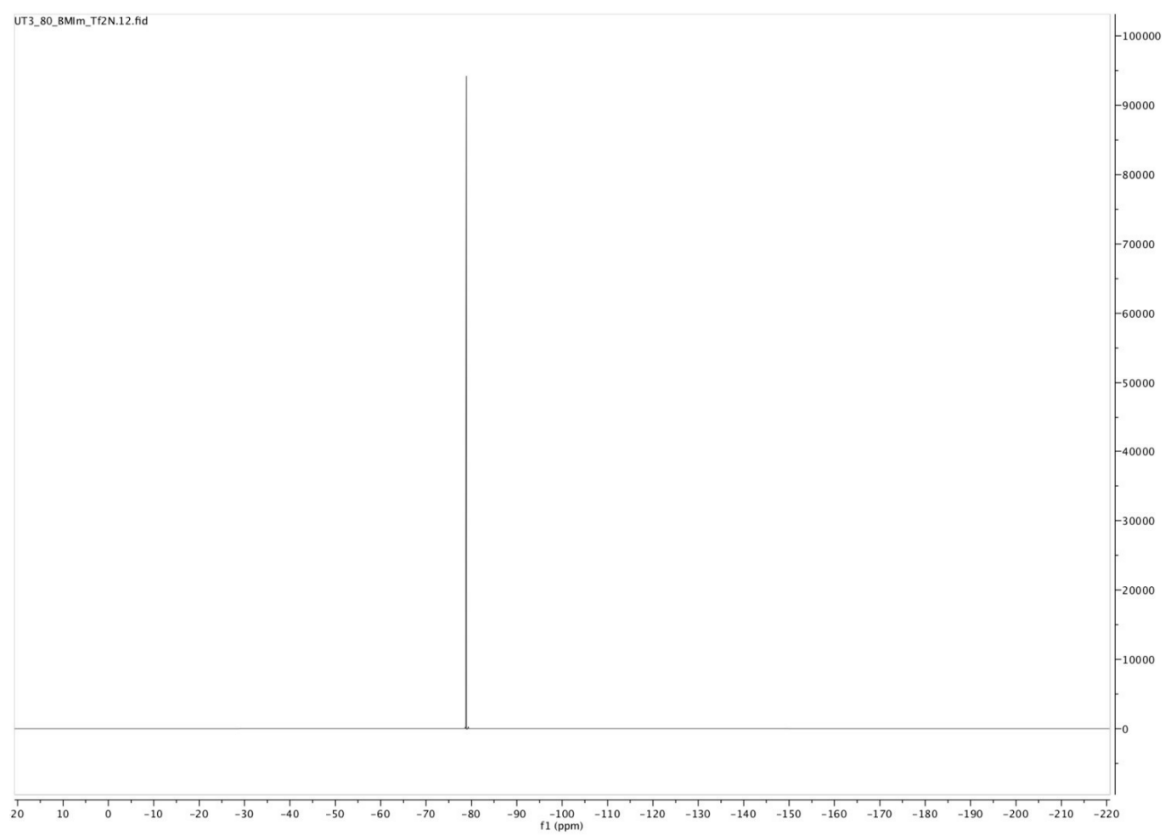
**Figure S11.**  $^{13}\text{C}$  NMR spectrum of [bmim][beti].



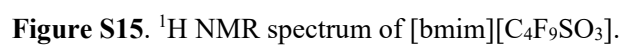
**Figure S12.**  $^{19}\text{F}$  NMR spectrum of [bmim][beti].



**Figure S13.**  $^1\text{H}$  NMR spectrum of [bmim][TFSI].

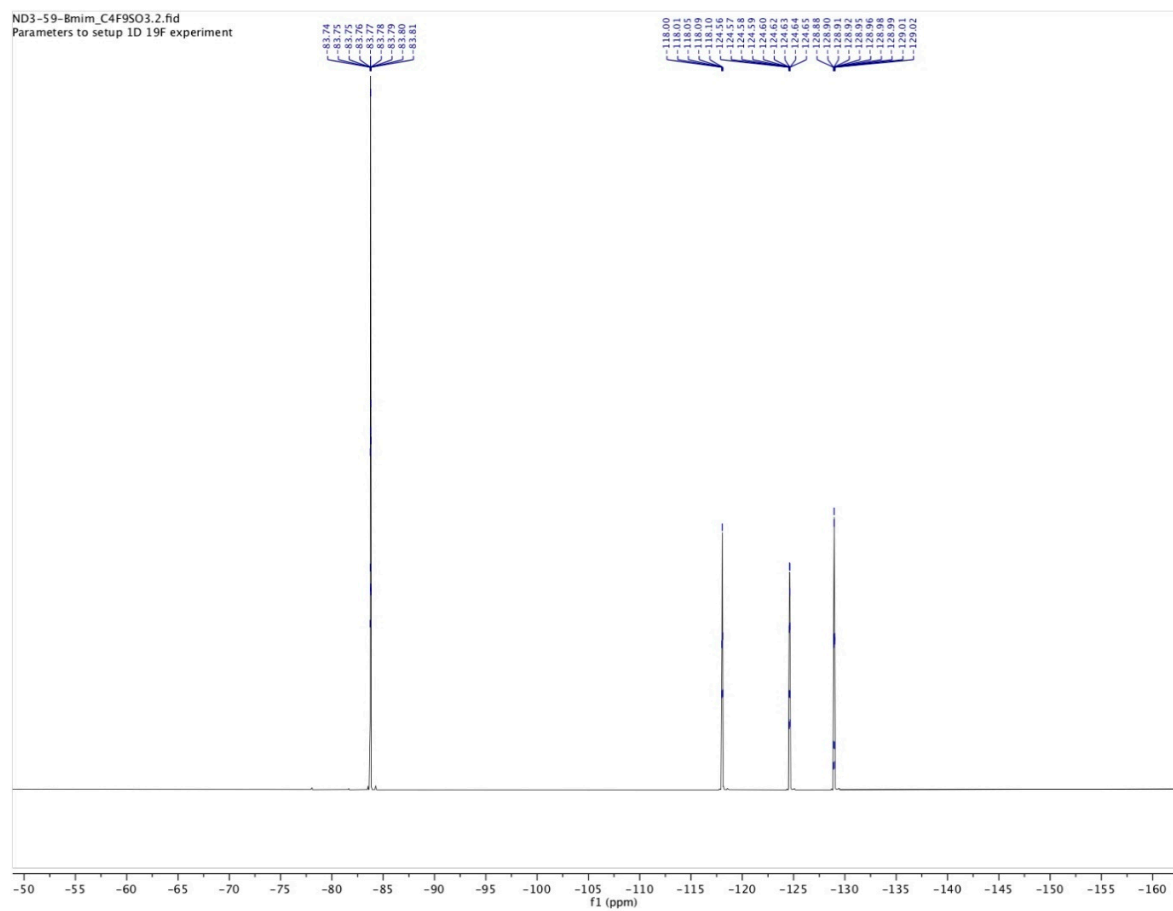


**Figure S14.**  $^{19}\text{F}$  NMR spectrum of [bmim][TFSI].



**Figure S15.**  $^1\text{H}$  NMR spectrum of [bmim][C<sub>4</sub>F<sub>9</sub>SO<sub>3</sub>].





**Figure S16.**  $^{19}\text{F}$  NMR spectrum of  $[\text{bmim}][\text{C}_4\text{F}_9\text{SO}_3]$ .