

Supporting Information

**Inorganic Salts and Tasked Ionic Liquid Multi-Cooperatively Promoted Ru-Catalyzed
Ethylene Methoxycarbonylation Using CO₂ as a CO Surrogate**

Meijiao Qi, Tianli Dong, Yu Kang, Li Zhang, Zhongyu Duan, Binyuan Liu*

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5. ESI-MS spectra of BmimMgCl_3

1. IR spectra of a mixture of $\text{Ru}_3(\text{CO})_{12}$ and 2-CP.

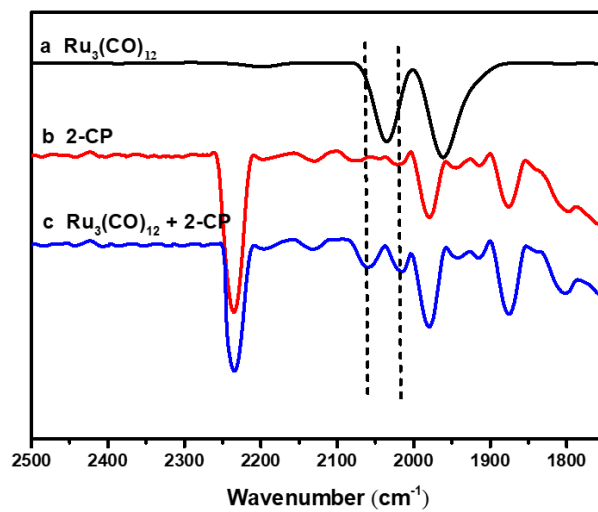


Figure S1. IR spectra of a mixture of $\text{Ru}_3(\text{CO})_{12}$ and 2-CP.

2. ^{29}Si NMR spectrum of the reaction mixture

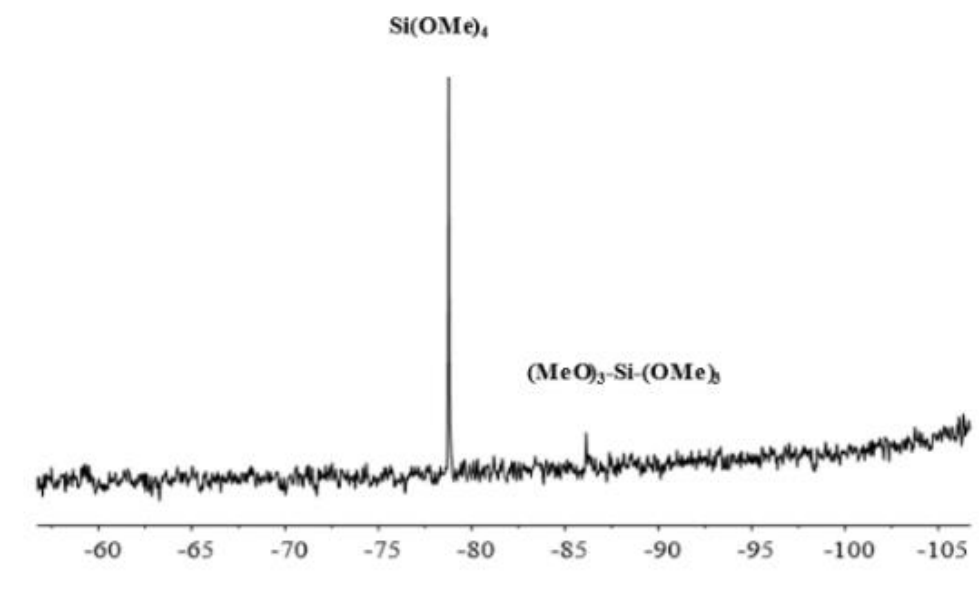


Figure S2 ^{29}Si NMR spectrum of the reaction mixture

3. ^1H NMR spectrum of $[\text{TmsPmim}]\text{Cl}$

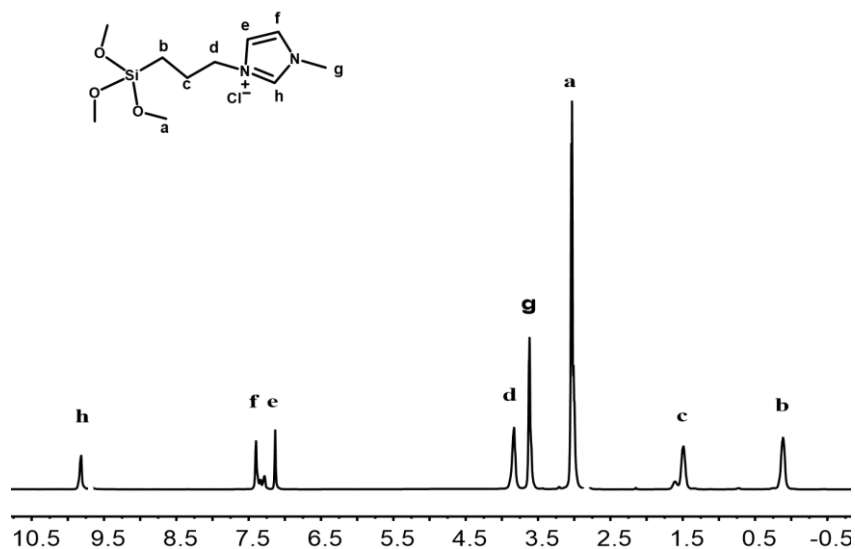


Figure S3. ^1H NMR spectrum of $[\text{TmsPmim}]\text{Cl}$

4. ^1H NMR spectrum of BmimMgCl_3

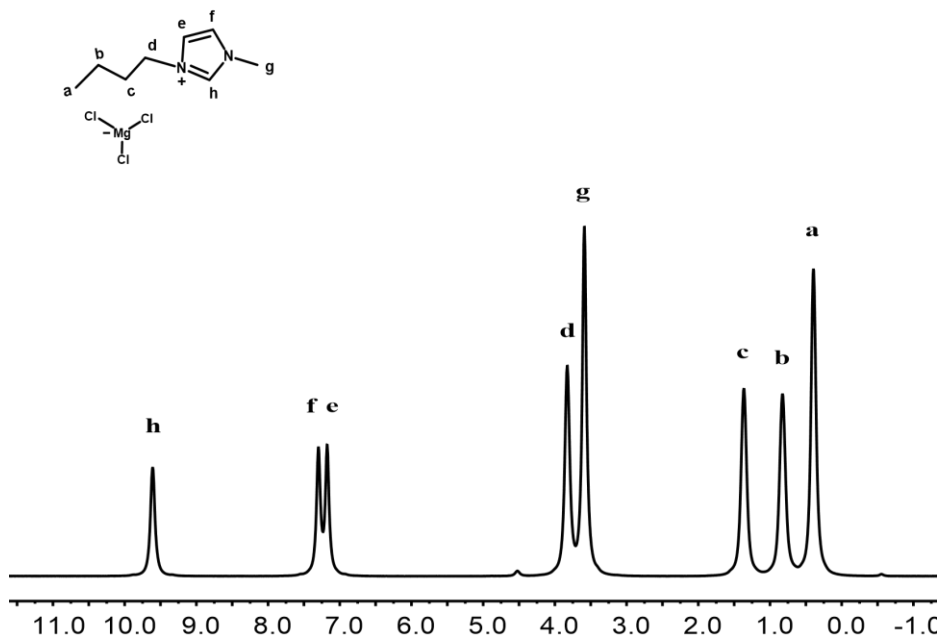


Figure S4. ^1H NMR spectrum of BmimMgCl_3

5. ESI-MS spectra of BmimMgCl₃

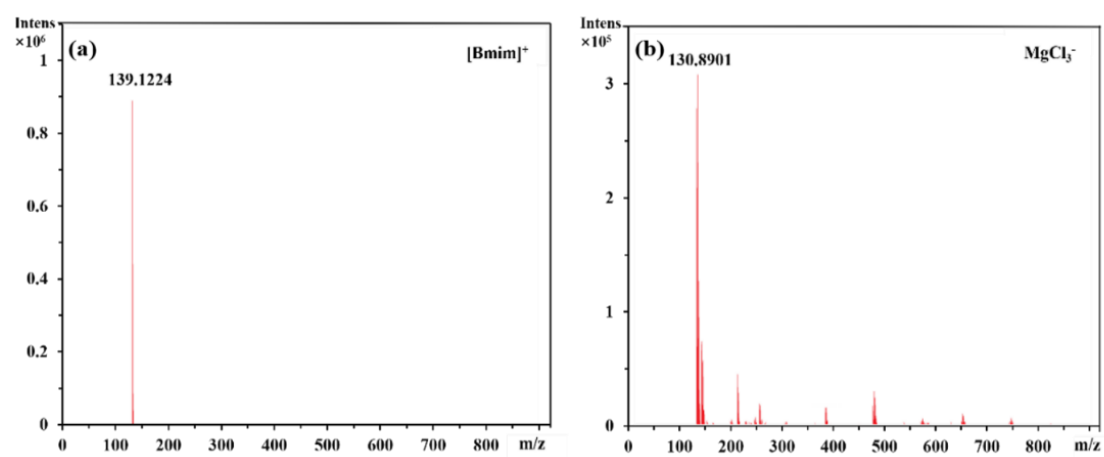


Figure S5. ESI-MS spectrum of BmimMgCl₃