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Supporting Information

for

High-speed C–H chlorination of ethylene carbonate using a new photoflow setup

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GC analysis and NMR spectra of the crude reaction mixture for the chlorination of compound 1

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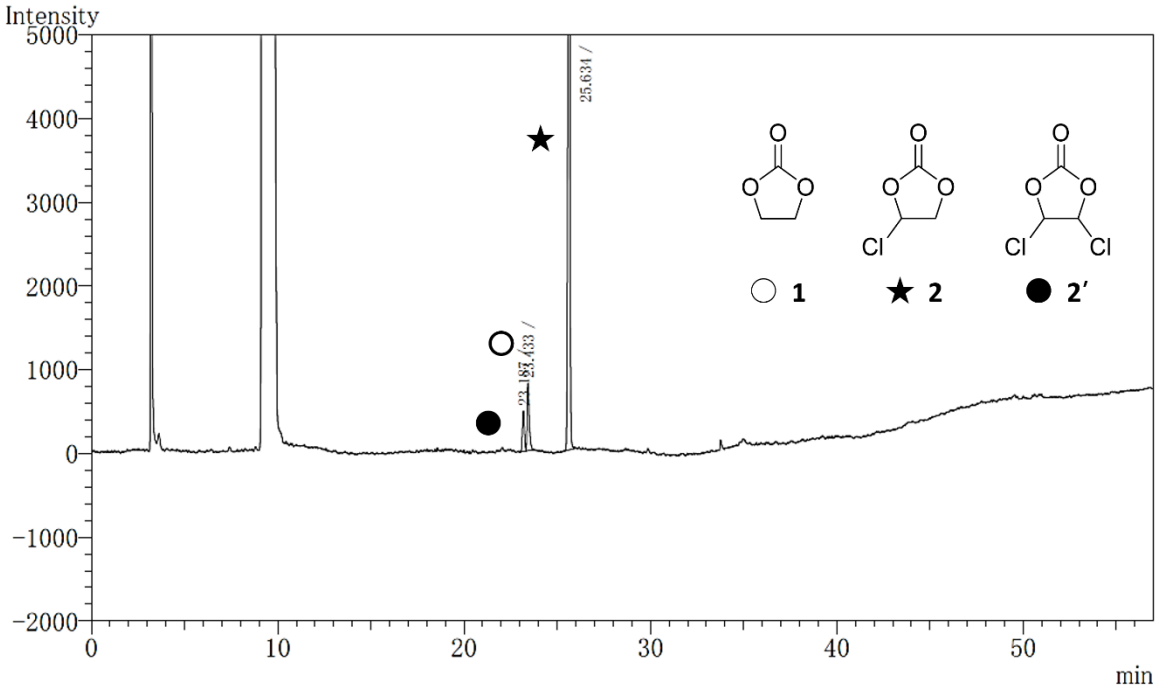
General information

GC analysis was performed on a Shimadzu GC-2014 instrument equipped with an FID detector using a J&W Scientific (Hongkong, China) DB-1 column under the following conditions: initial oven temperature was held at 40 °C for 5 min, the first ramp was 5 °C/min to 250 °C, which was held for 10 min. Yields were determined by using the percentage peak area method with compensation for the relative sensitivities of each component. ^{1}H NMR spectra were recorded with a JEOL JMN-ECS400 (400 MHz) and referenced to the solvent peak at 7.26 ppm. ^{13}C NMR spectra were recorded with a JEOL JMN-ECS400 (100 MHz) and referenced to the solvent peak at 77.0 ppm. Product **2** is a known compound [1] and the dichlorinated product **2'** is commercially available from Sigma–Aldrich Co. Inc. These compounds were identified by ^{1}H NMR and ^{13}C NMR analysis and comparison with the reported data.

Reference

1. Wang, W-.M.; Wang, W-.T.; Wang, M-.Y.; Gu, A-.L.; Hu, T-.D.; Zhang, Y-.X.; Wu, Z-.L. *Inorg. Chem*. **2021**, 60, 9122−9131



retention time (min)	area	height	concentration (area%)
23.187	3545	484	3.501
23.433	6022	805	5.948
25.634	91693	15698	90.552

Figure S1: GC analysis data of the crude product mixture from the C–H chlorination reaction of ethylene carbonate (**1**).

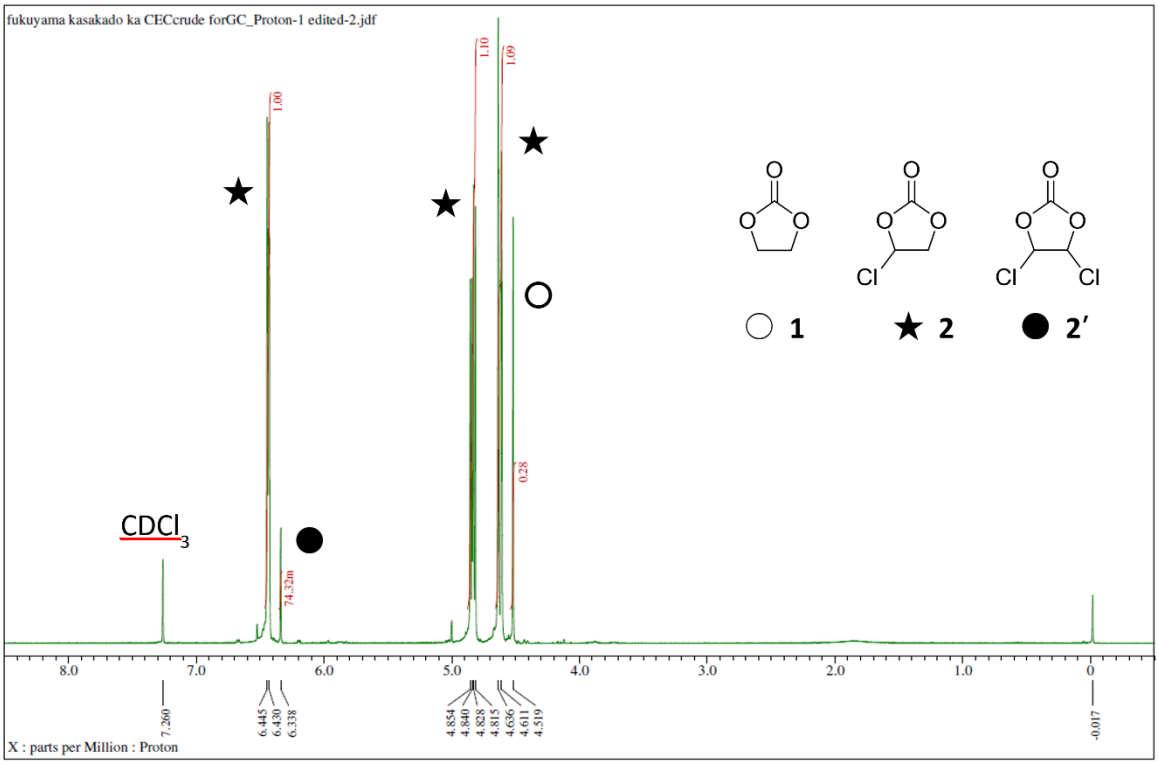


Figure S2: ^{1}H NMR spectrum of the crude reaction mixture from the C–H chlorination of ethylene carbonate (**1**) [1].

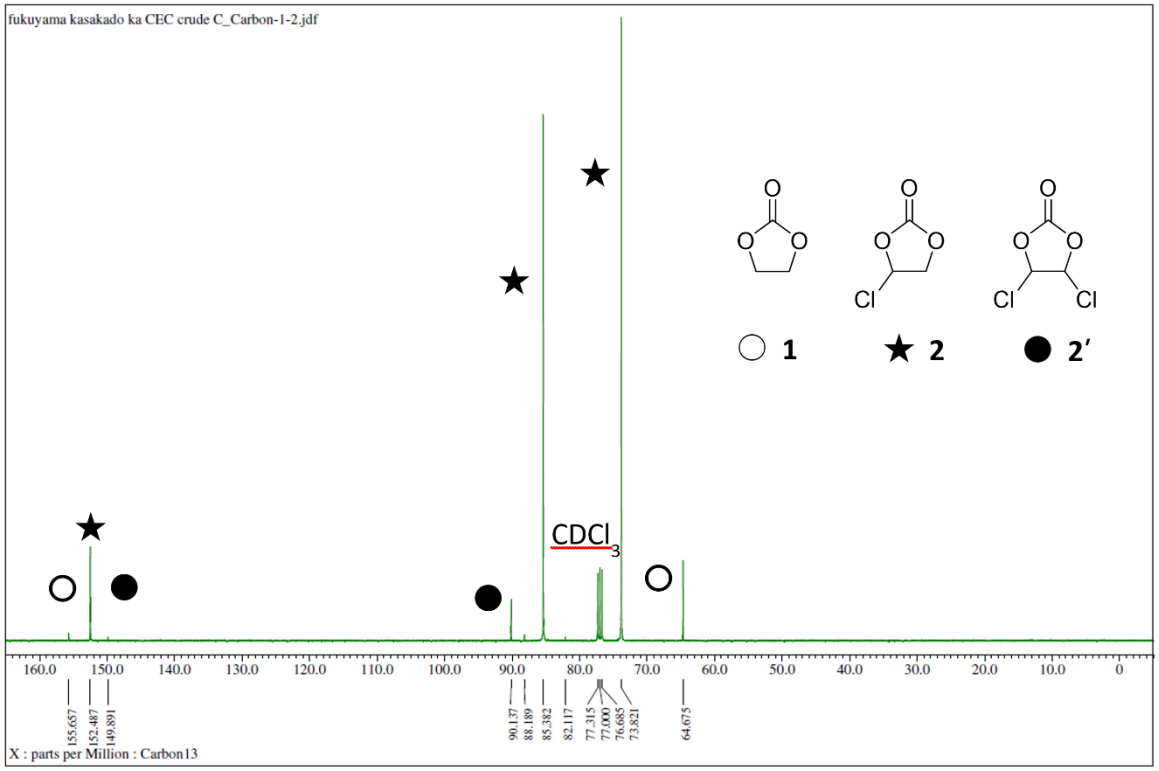


Figure S3: ^{13}C NMR spectrum of the crude reaction mixture from the C–H chlorination of ethylene carbonate (**1**) [1].