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Supporting Information

İmidazolium based ionic liquids bearing hydroxyl group as highly efficient catalysts for the addition of CO_2 to epoxides

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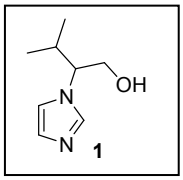
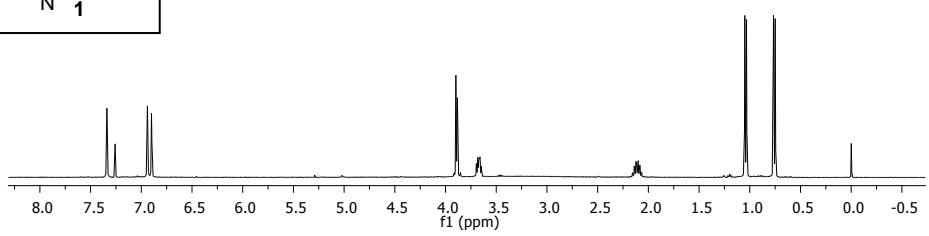
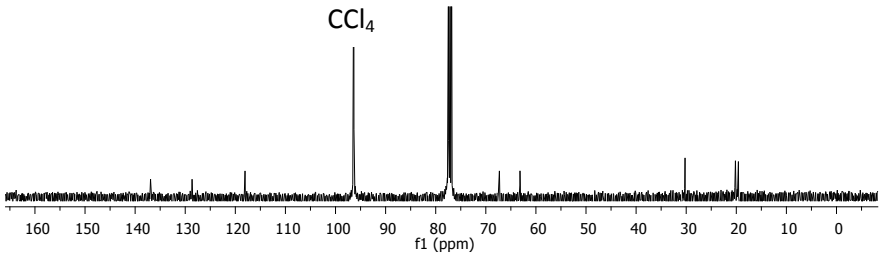
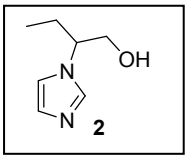
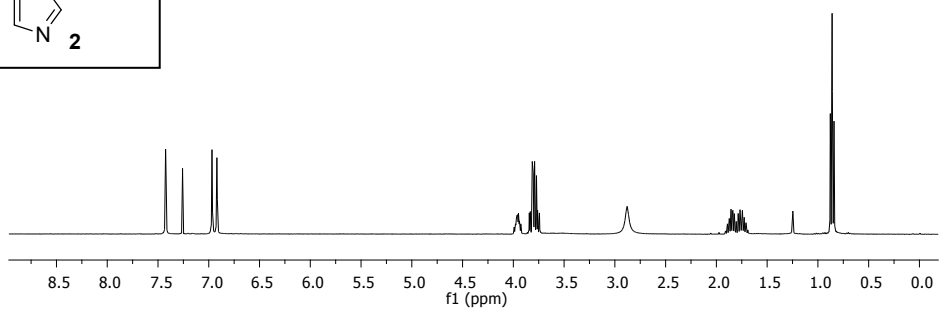
^{1}H and ^{13}C NMR spectra of compounds (1-11)

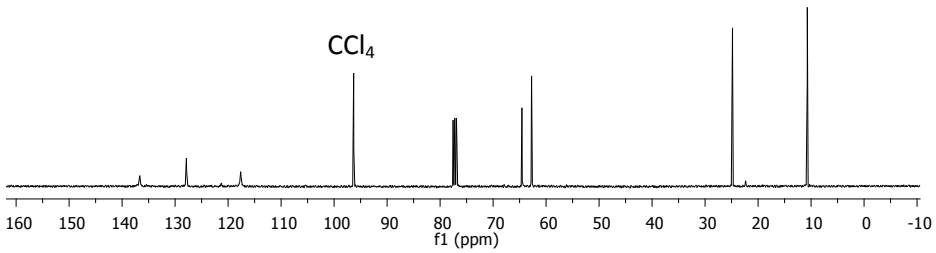


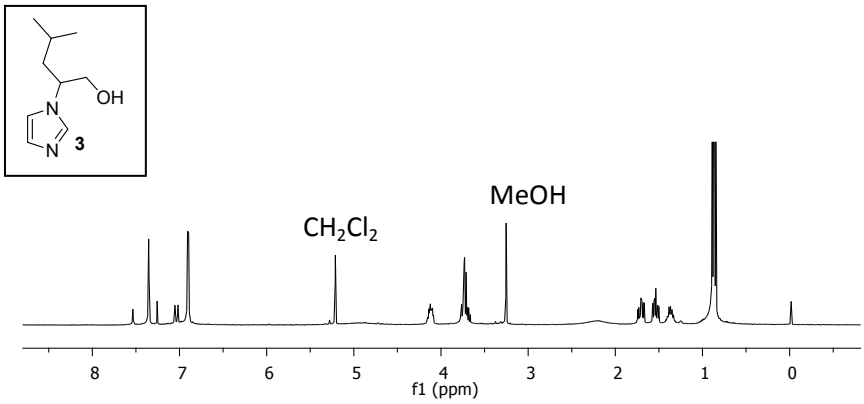








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N
N
3
MeOH
CH_2Cl_2
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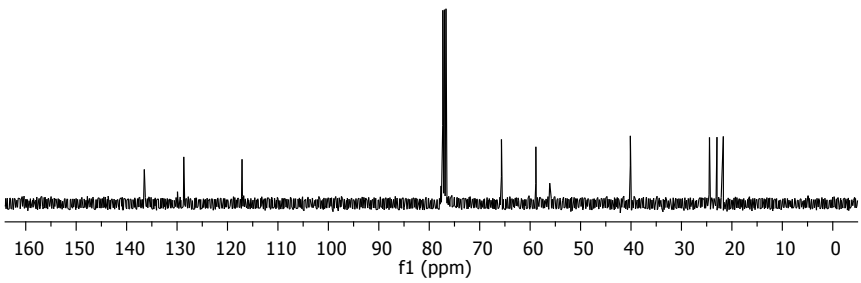
f1 (ppm)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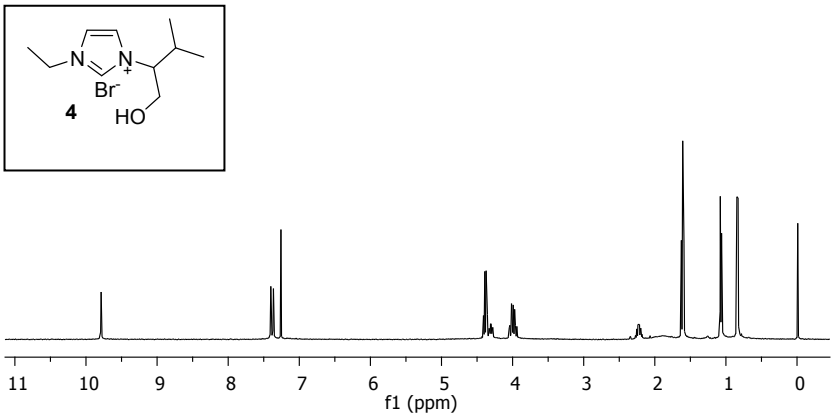
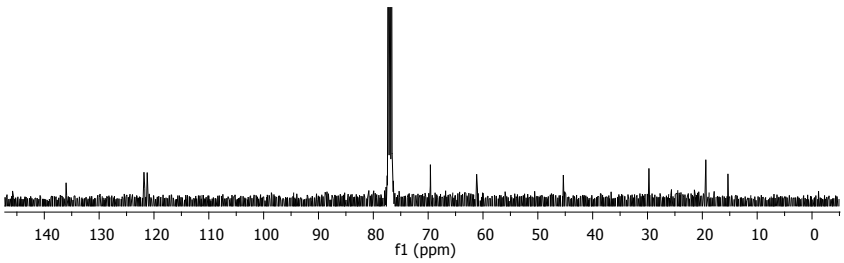

N
N
+
Br-
4
HO
11 10 9 8 7 6 5 4 3 2 1 0
f1 (ppm)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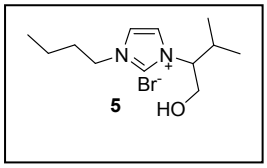
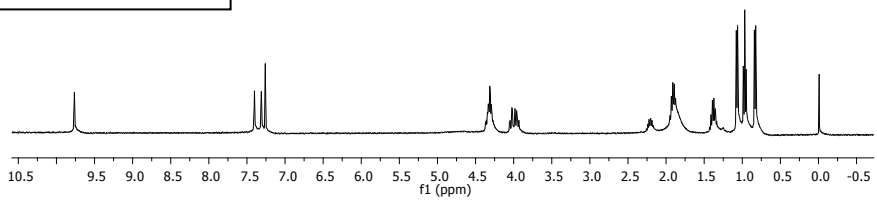
f1 (ppm)


N
N
Br-
HO
5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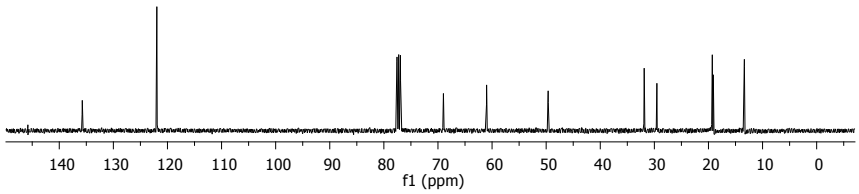
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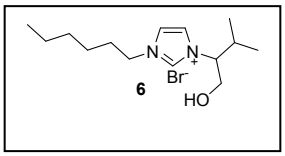
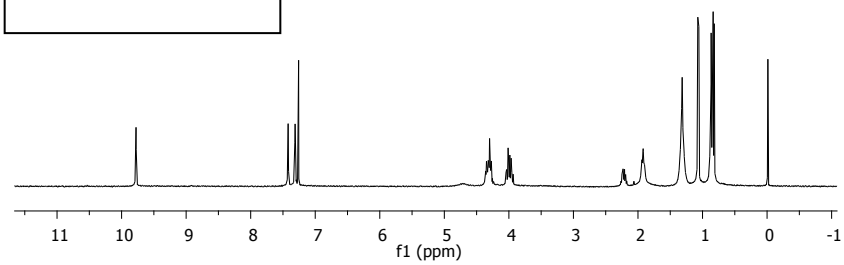

N
N
Br-
HO
6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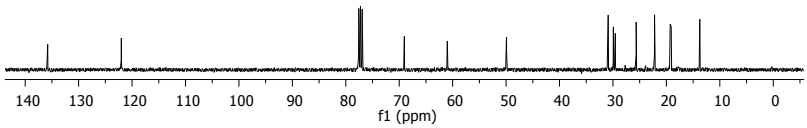
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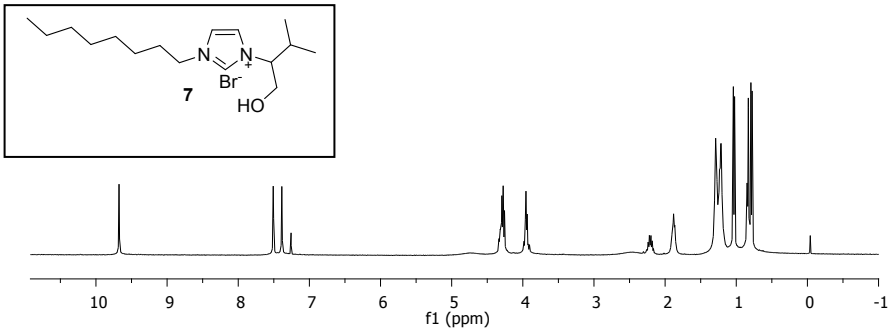
7
Br-
HO
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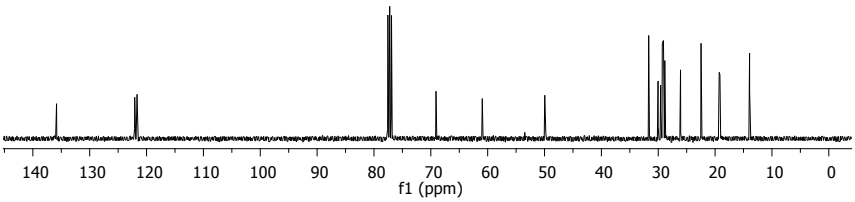
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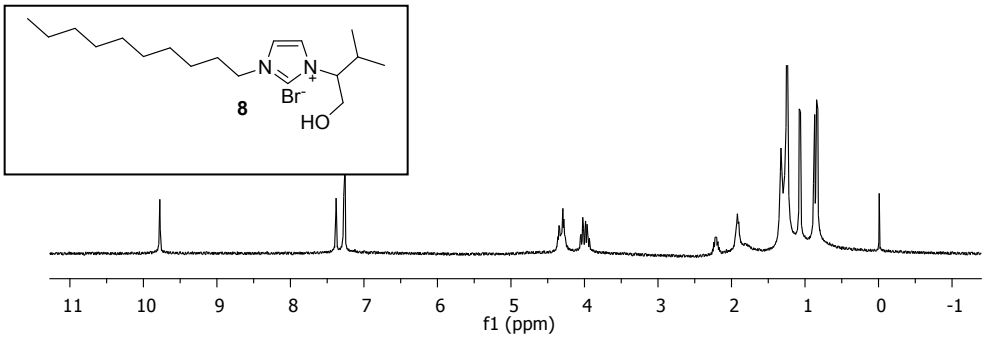
8
Br-
HO
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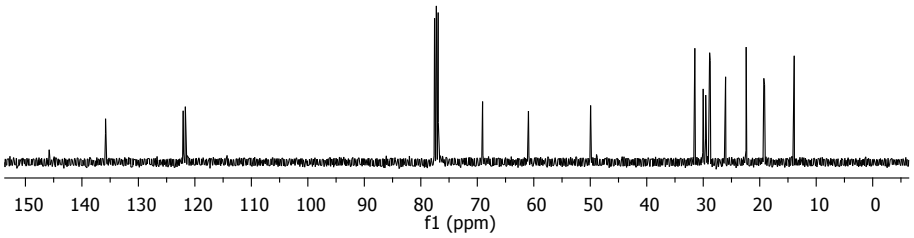
f1 (ppm)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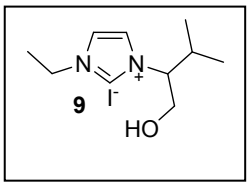
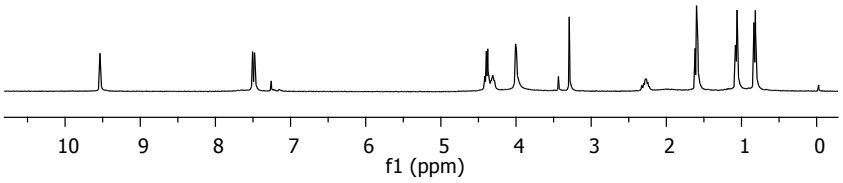
f1 (ppm)


N
N
+
I-
9
HO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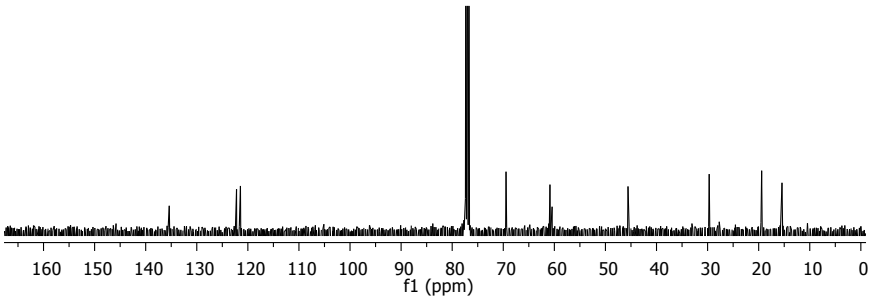
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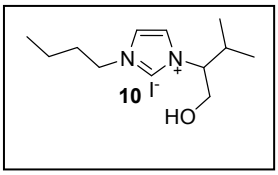
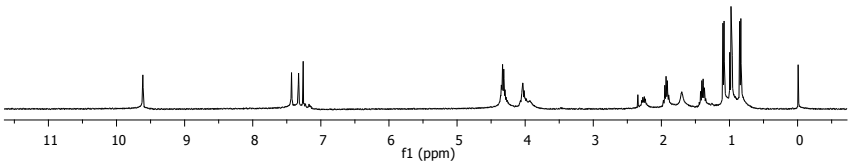

N
N
+
I-
10
HO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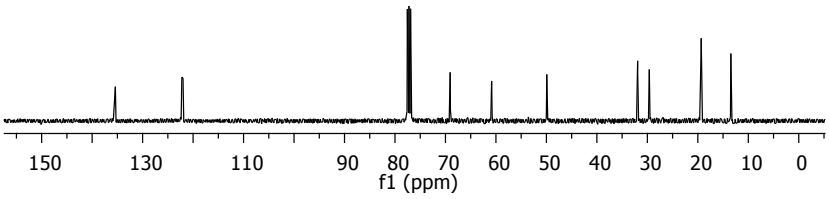
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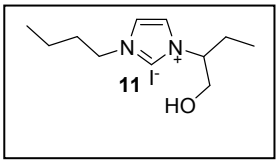
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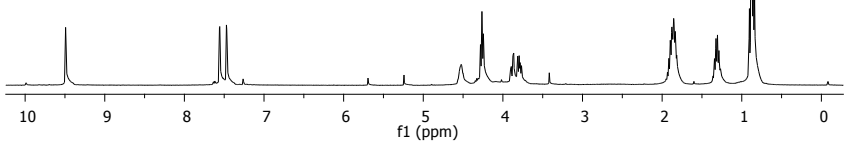
N
+
I-
11
HO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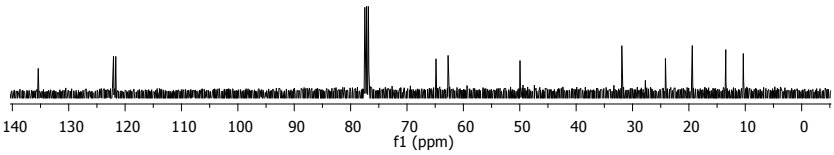
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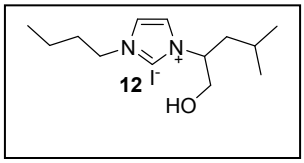
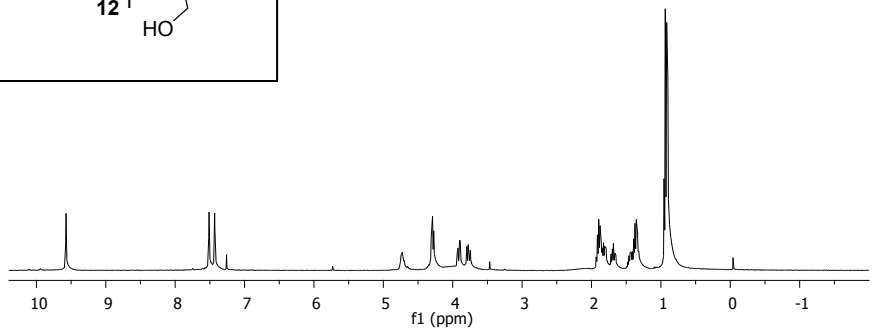
f1 (ppm)


N
N
+
I-
12
HO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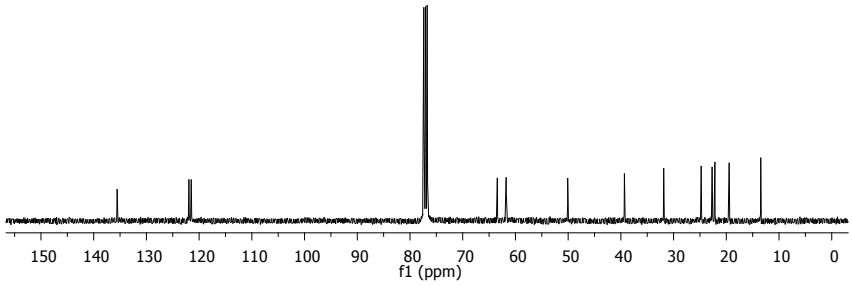
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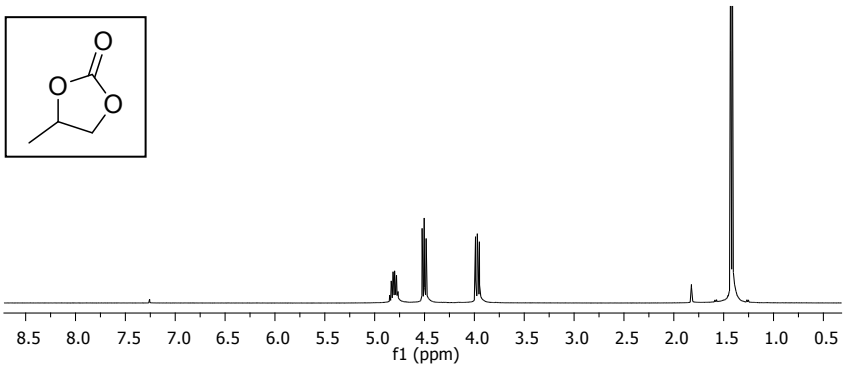
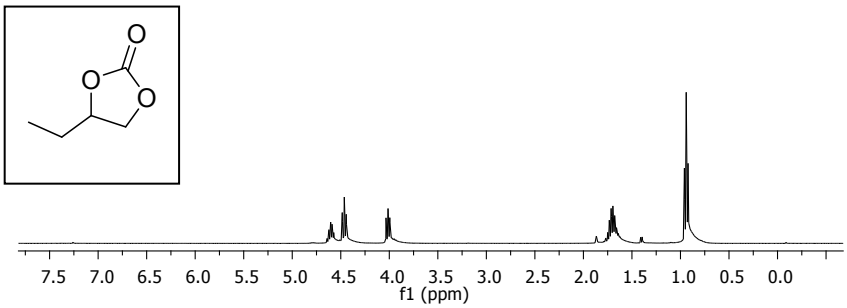
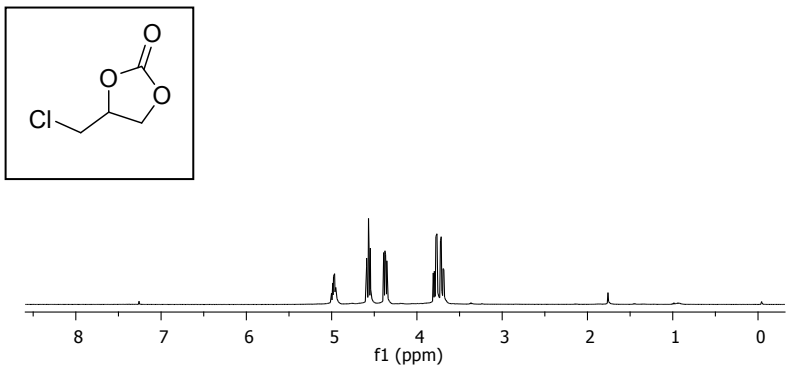
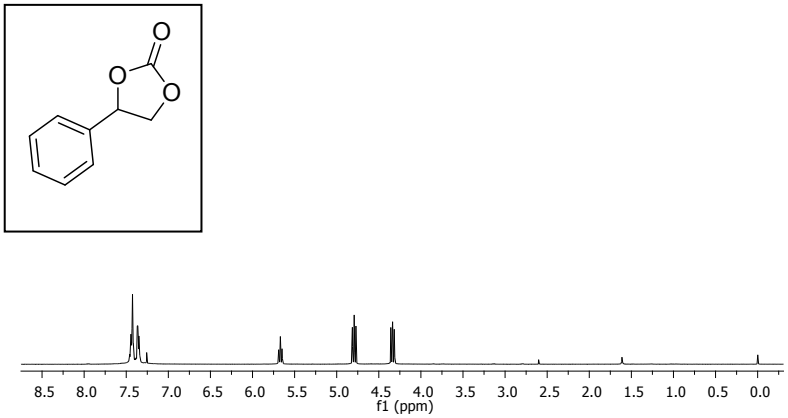
f1 (ppm)

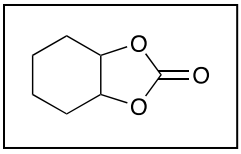
^{1}H NMR spectra of the catalytic products

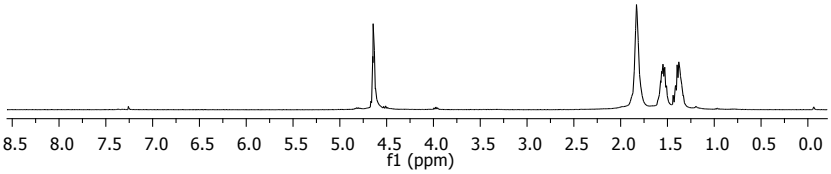






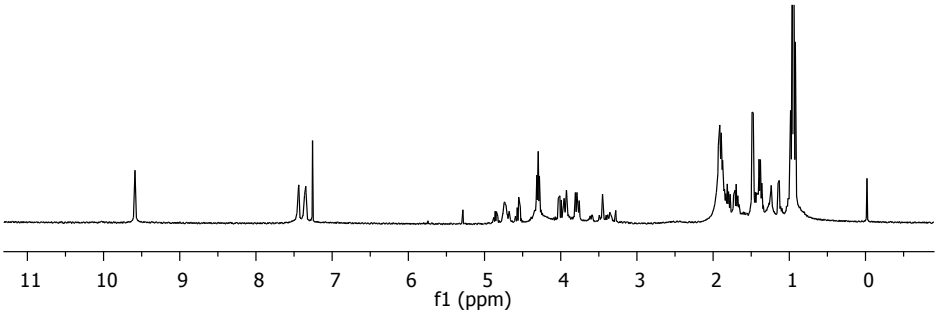




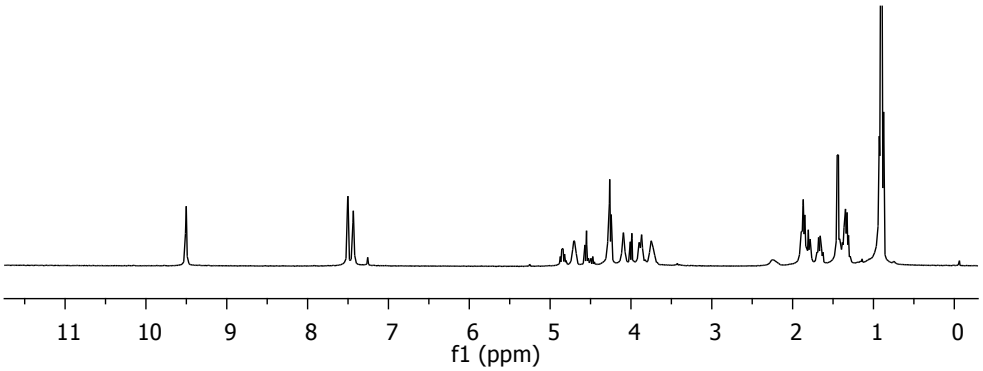
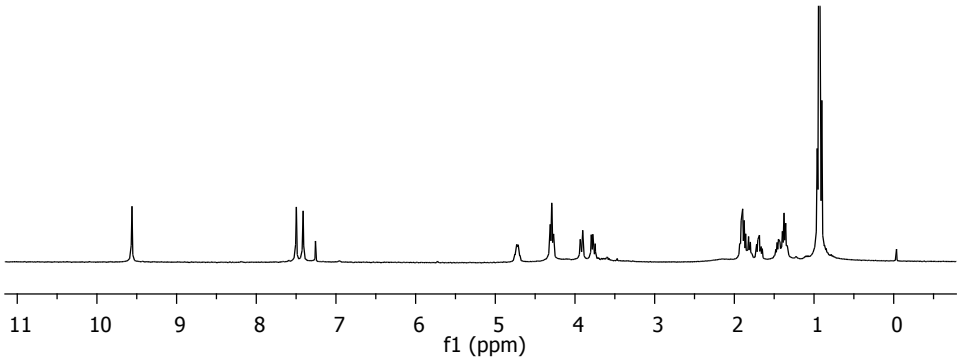

8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0
f1 (ppm)

^{1}H NMR spectra of the recovered catalyst 12

after the distillation (first run) (without filtration)



after the distillation (second run) (without filtration)



after the distillation (first run), the residue was filtered over silica