

## Supplementary Material

# Preparation of benzannulated spiroketals by gold(III) catalyzed spirocyclization of alkynyl diols

Helgi Freyr Jónsson and Anne Fiksdahl\*

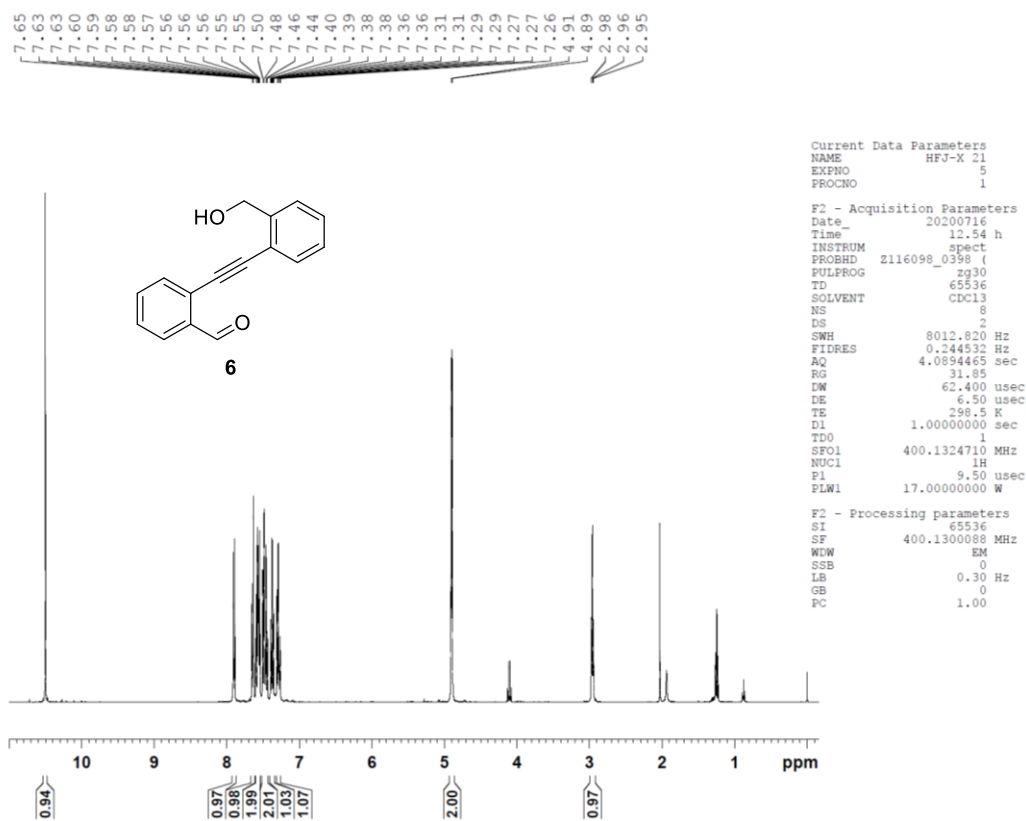
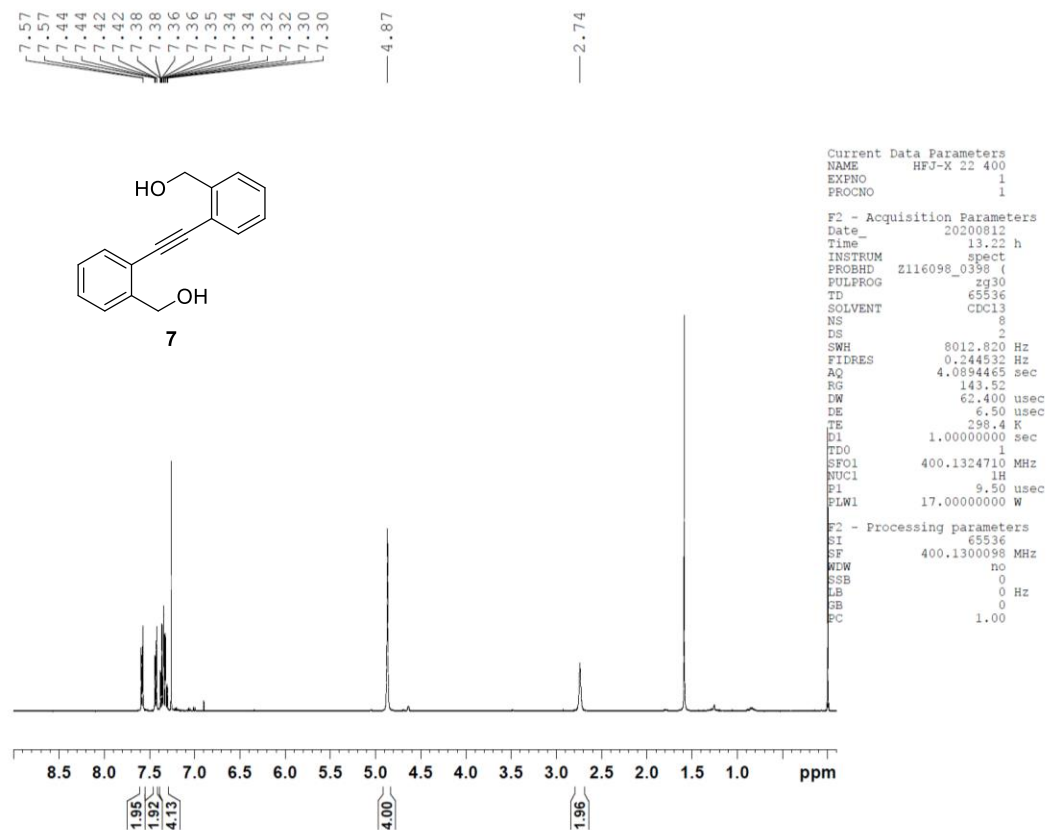
*Department of Chemistry, Norwegian University of Science and Technology*

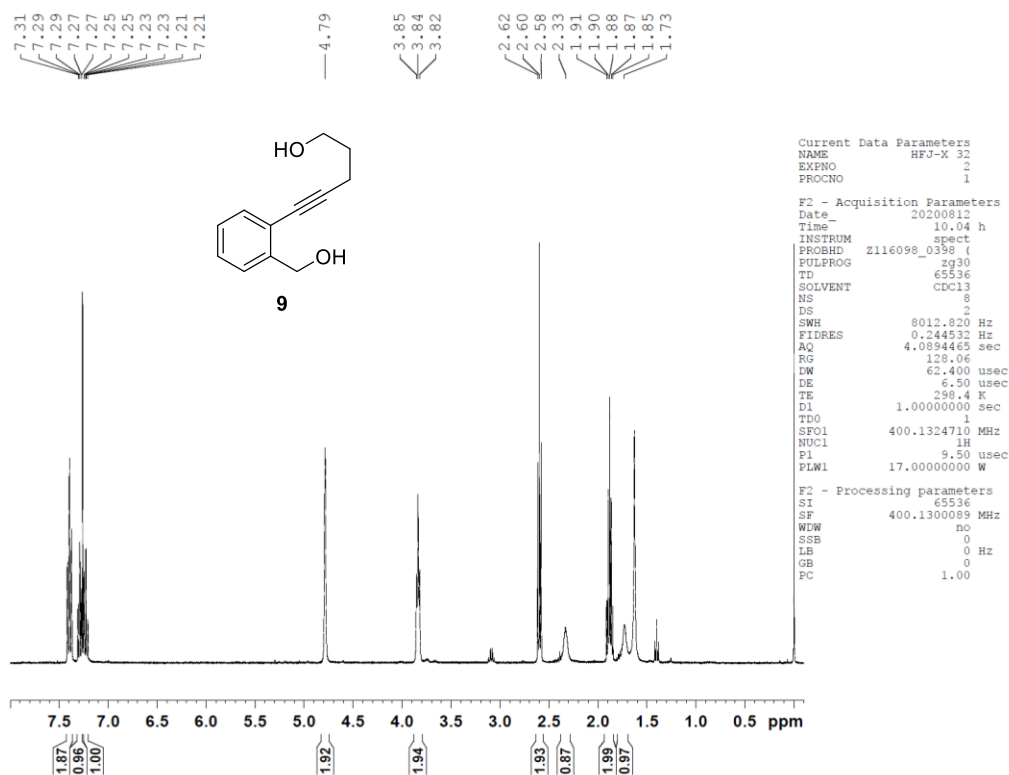
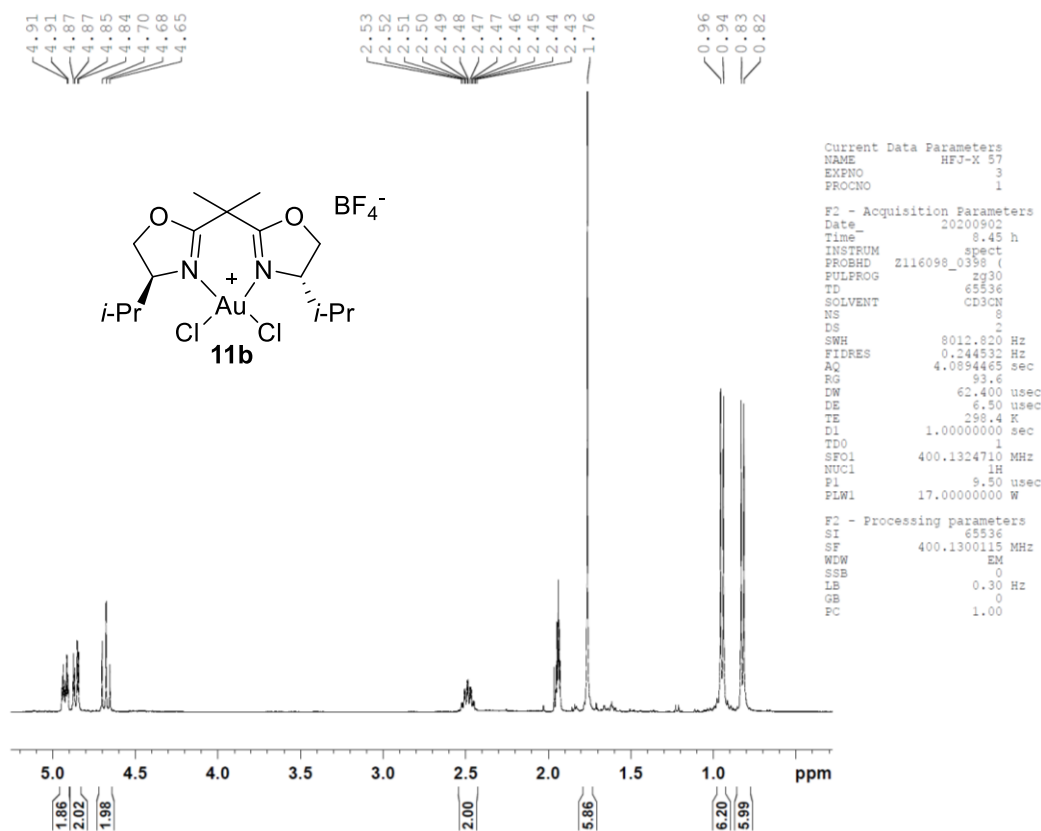
*Høgskoleringen 5, 7491, Trondheim, Norway*

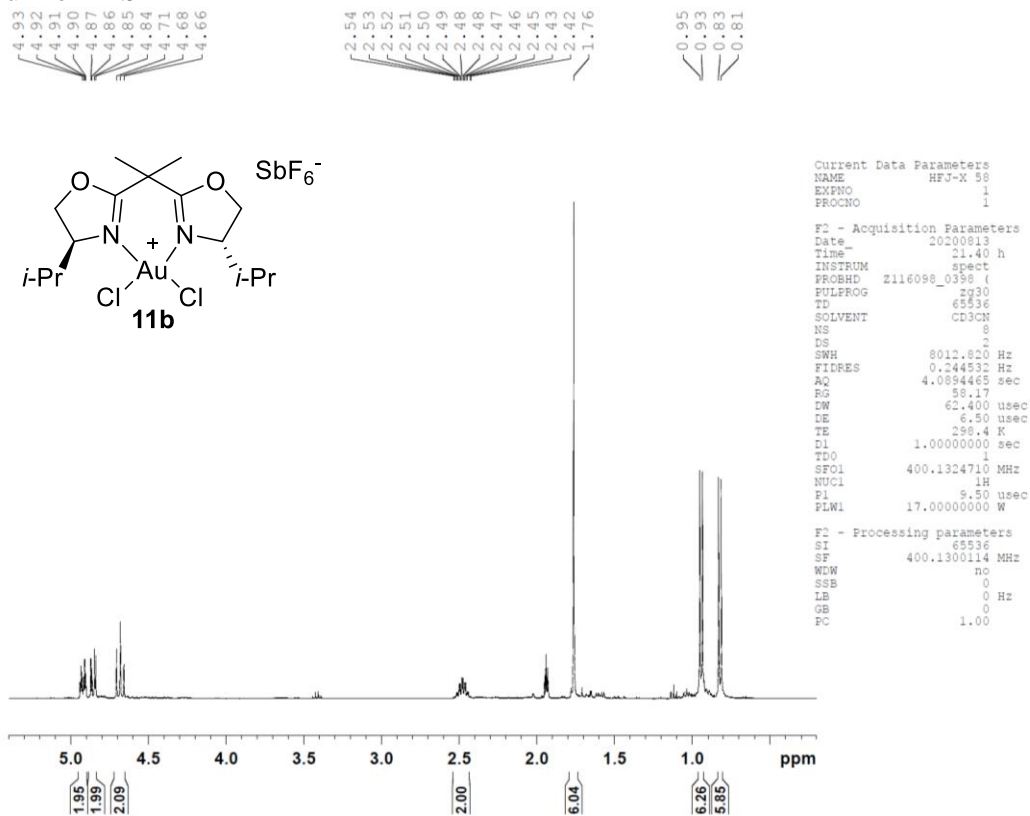
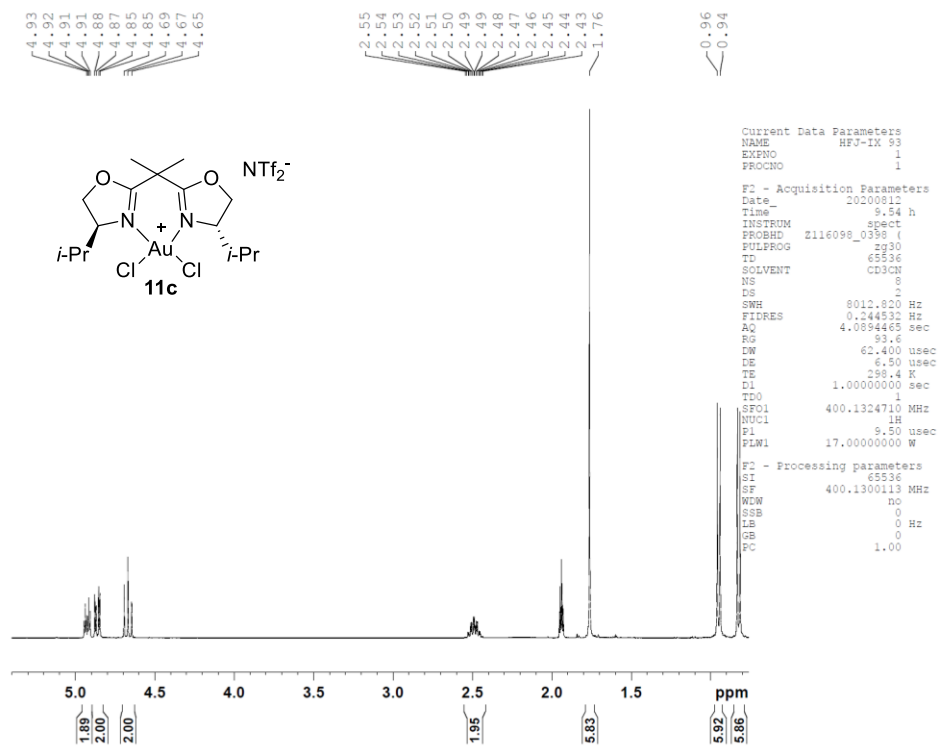
*Email: [Anne.Fiksdahl@ntnu.no](mailto:Anne.Fiksdahl@ntnu.no)*

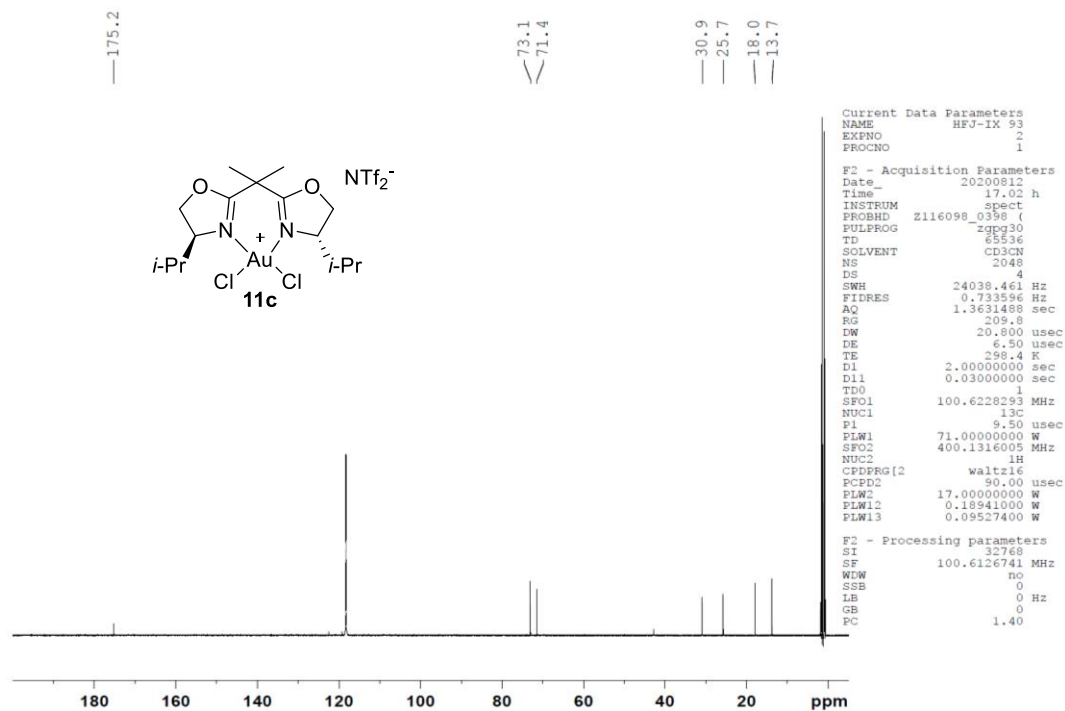
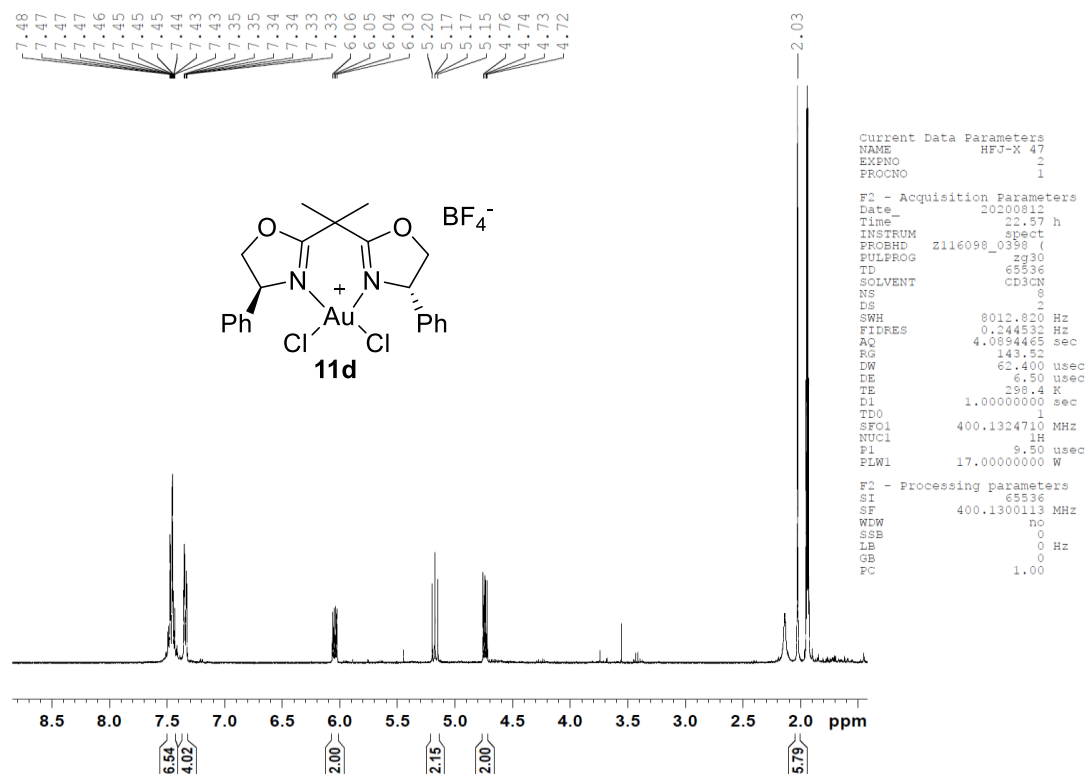
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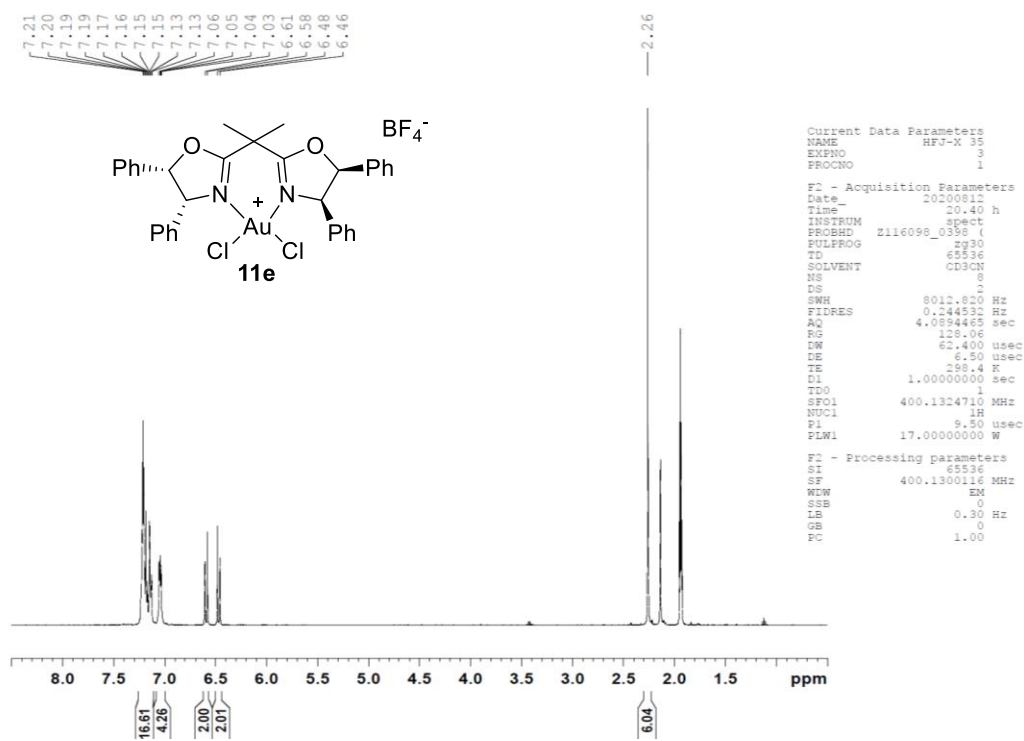
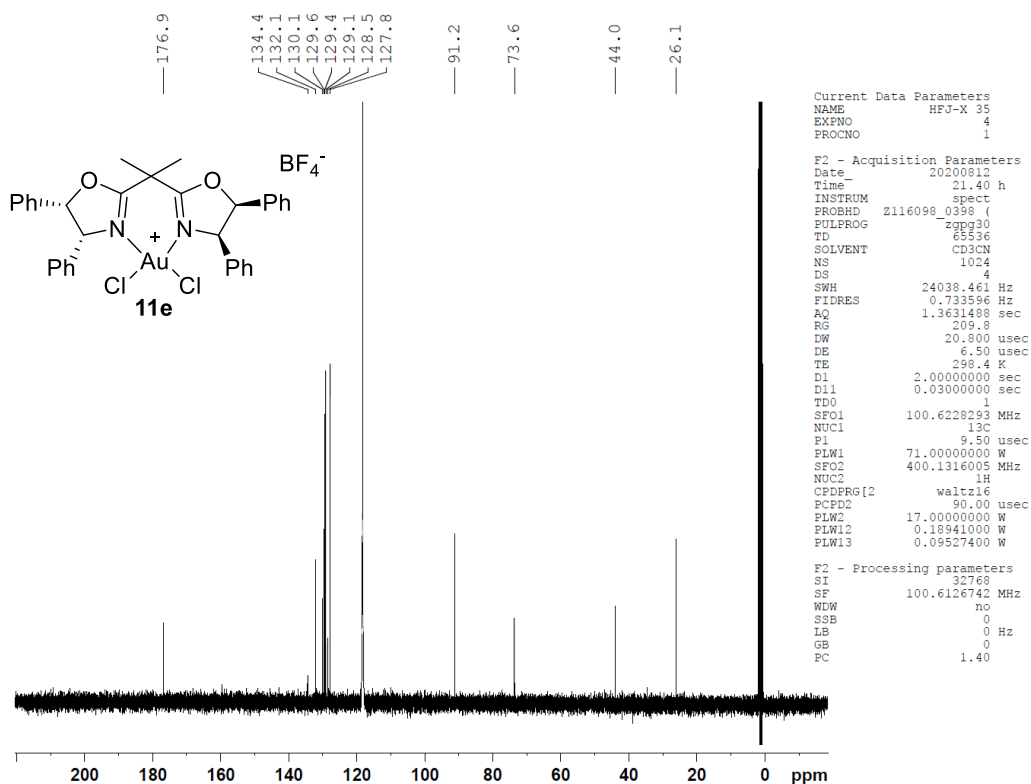
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| <sup>1</sup> H and <sup>13</sup> C NMR spectra of compounds <b>6, 7, 9,11a-e,13-16,18</b> ..... | S2 |
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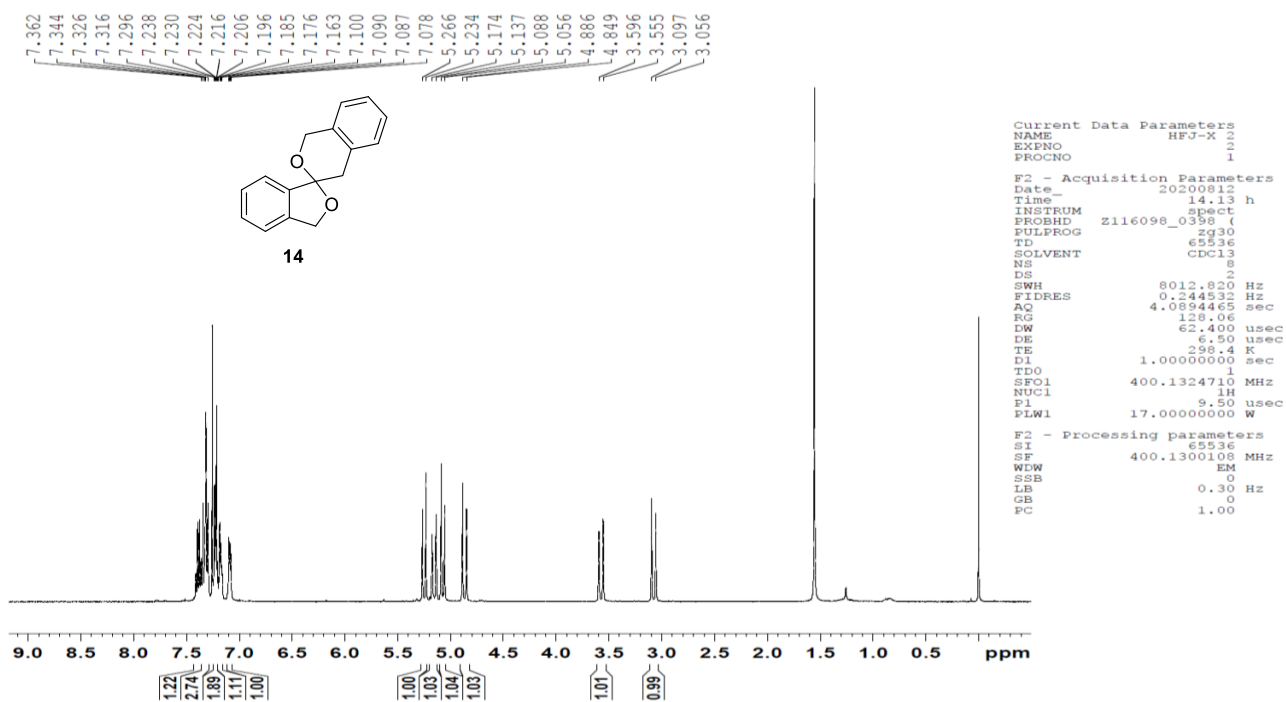
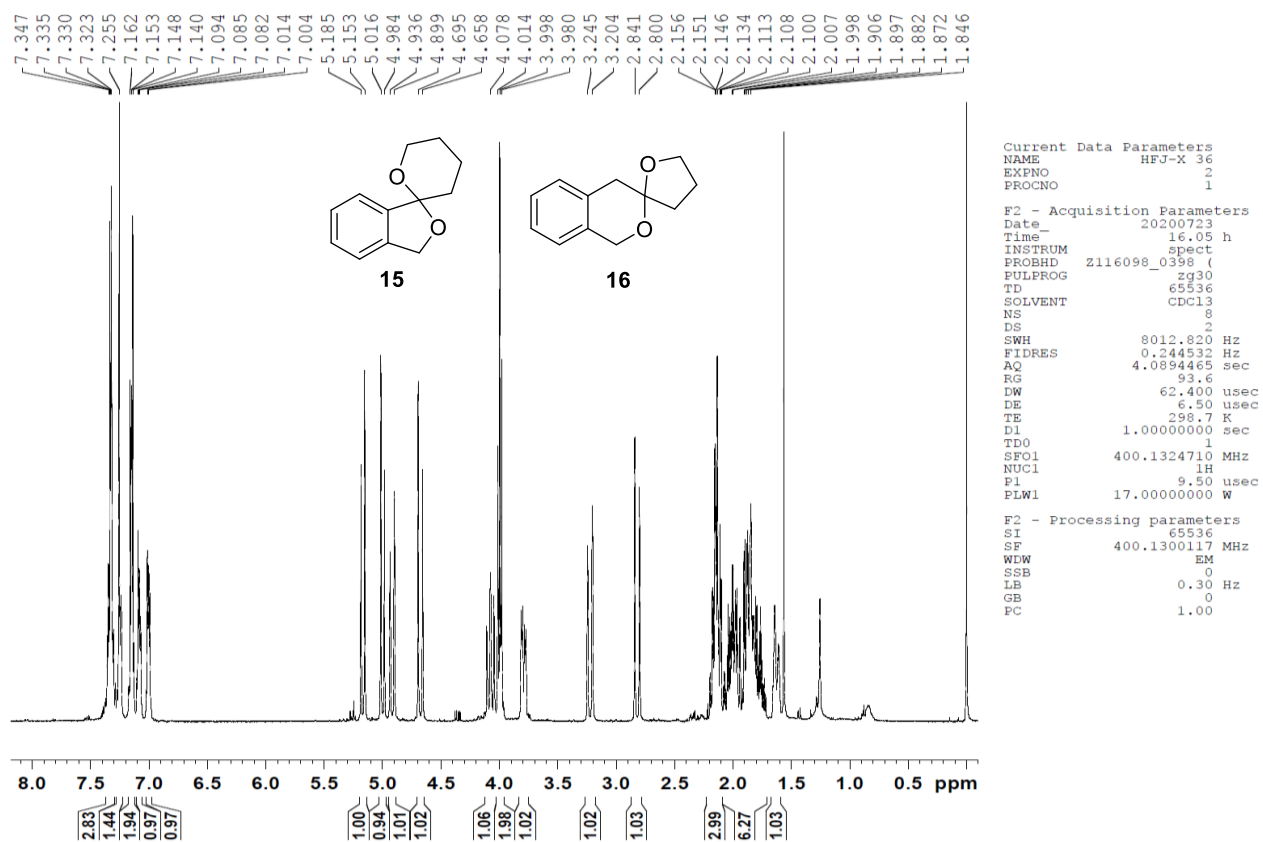
<sup>1</sup>H NMR spectrum of **6**<sup>1</sup>H NMR spectrum of **7**

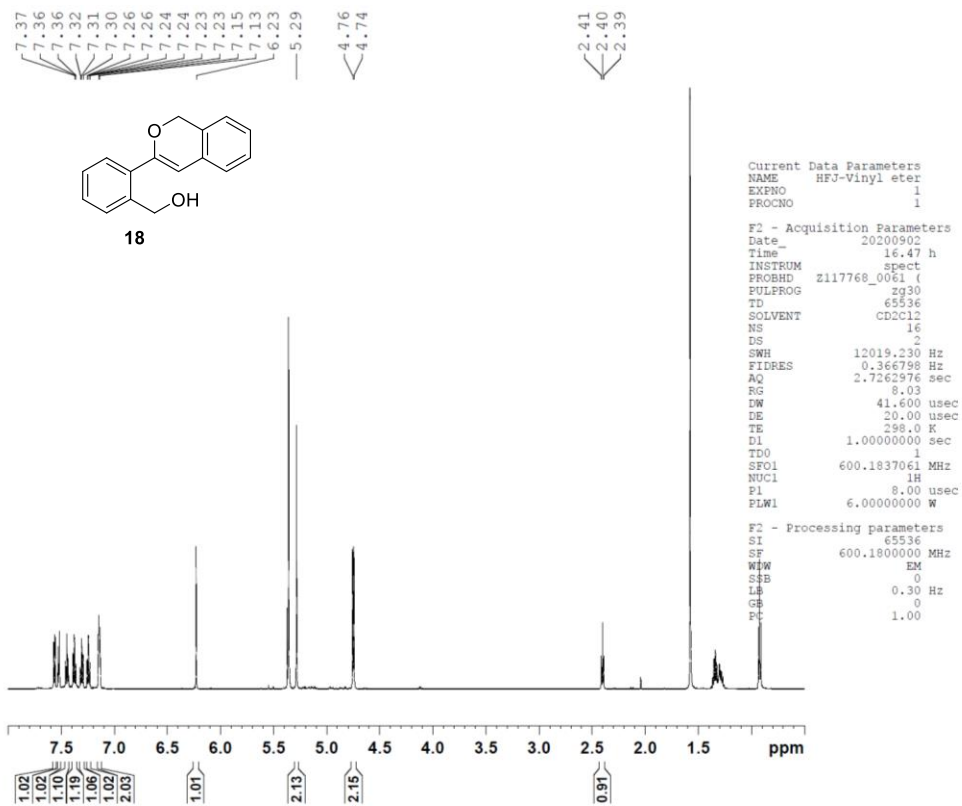
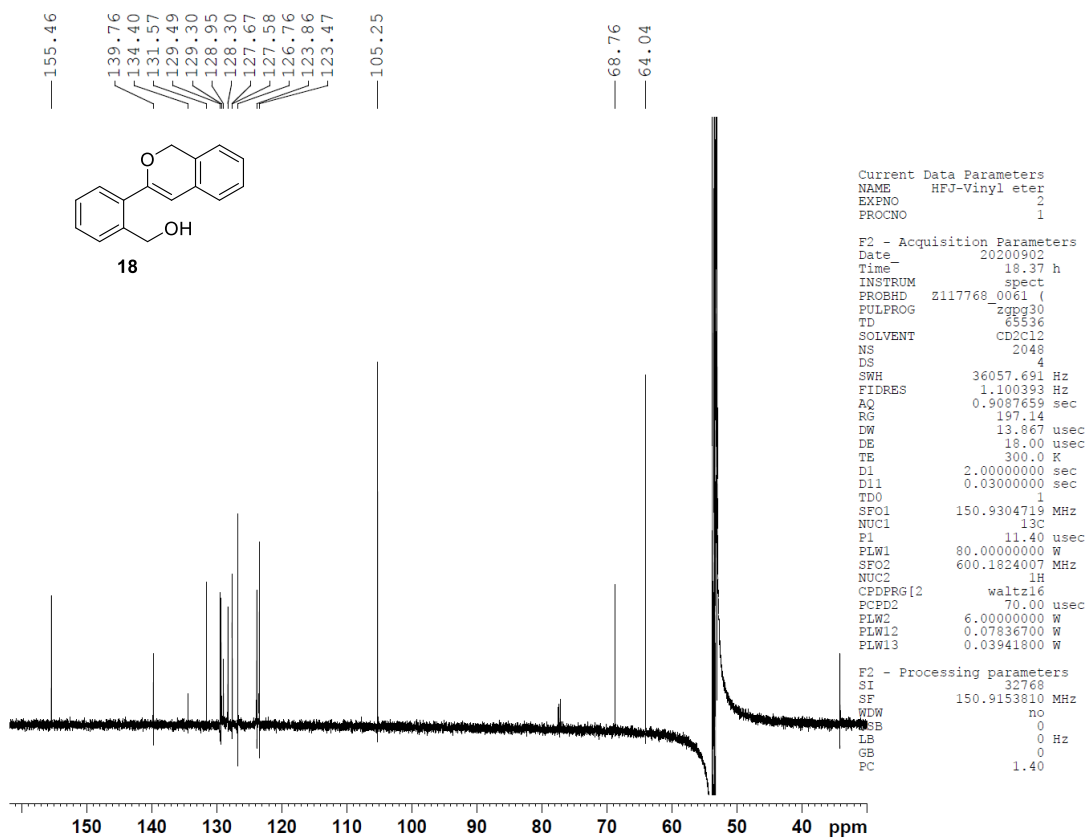
<sup>1</sup>H NMR spectrum of **9**<sup>1</sup>H NMR spectrum of **11a**

<sup>1</sup>H NMR spectrum of **11b**<sup>1</sup>H NMR spectrum of **11c**

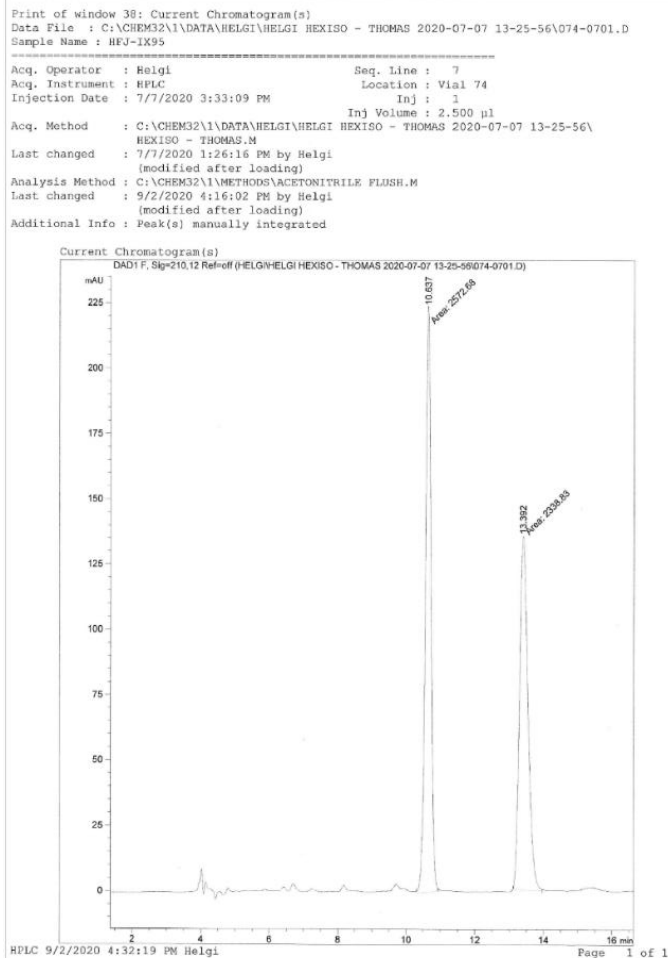
$^{13}\text{C}$  NMR spectrum of **11c** $^1\text{H}$  NMR spectrum of **11d**

<sup>1</sup>H NMR spectrum of **11e**<sup>13</sup>C NMR spectrum of **11e**

<sup>1</sup>H NMR spectrum of **14**<sup>1</sup>H NMR spectrum of **15** and **16** (1:1 mixture)

<sup>1</sup>H NMR spectrum of **18**<sup>13</sup>C NMR spectrum of **18**



Chiral HPLC chromatogram of **14**

| Ret. Time (min) | Height (mAU) | Width  | Area (mAU*min) | Rel. Area (%) | Symmetry |
|-----------------|--------------|--------|----------------|---------------|----------|
| 10.637          | 224.6        | 0.1909 | 2572.68        | 52.381%       | 0.870    |
| 13.392          | 135.1        | 0.2886 | 2338.83        | 47.619%       | 0.705    |

