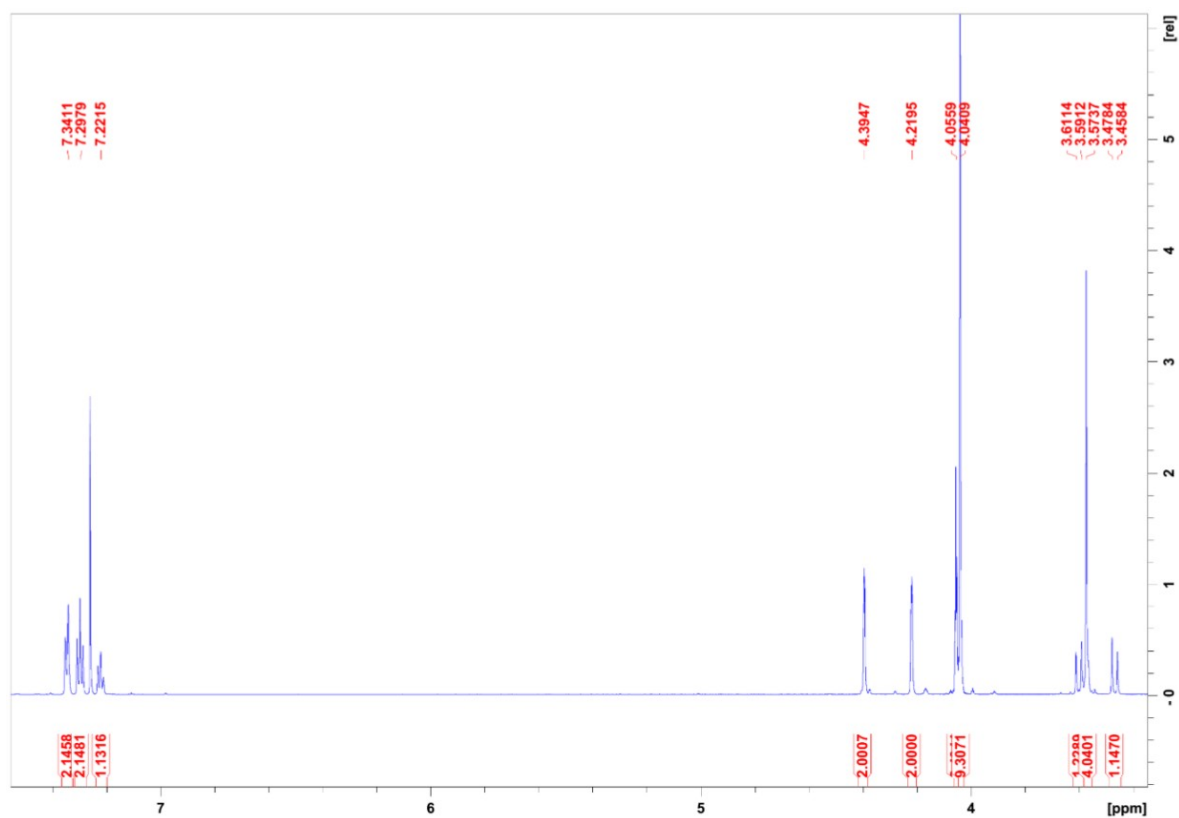
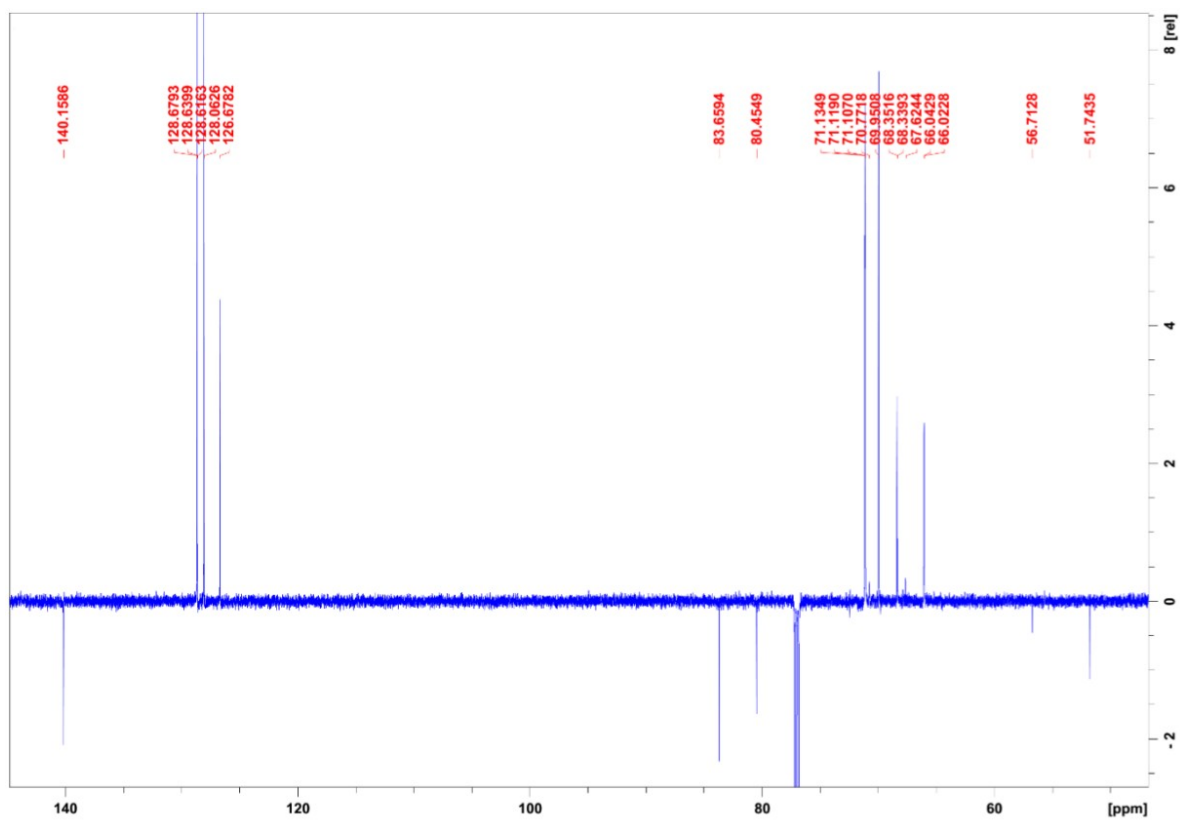


*Supporting Information*

# **Planar-chiral *P*- and *N*-bridged diferrocenes**

**Philipp Honegger\*, Lukas Scheibelberger and Michael Widhalm**

Figure S1: <sup>1</sup>H-NMR spectrum of diferrocenylamine 4Figure S2: <sup>13</sup>C-NMR spectrum of diferrocenylamine 4

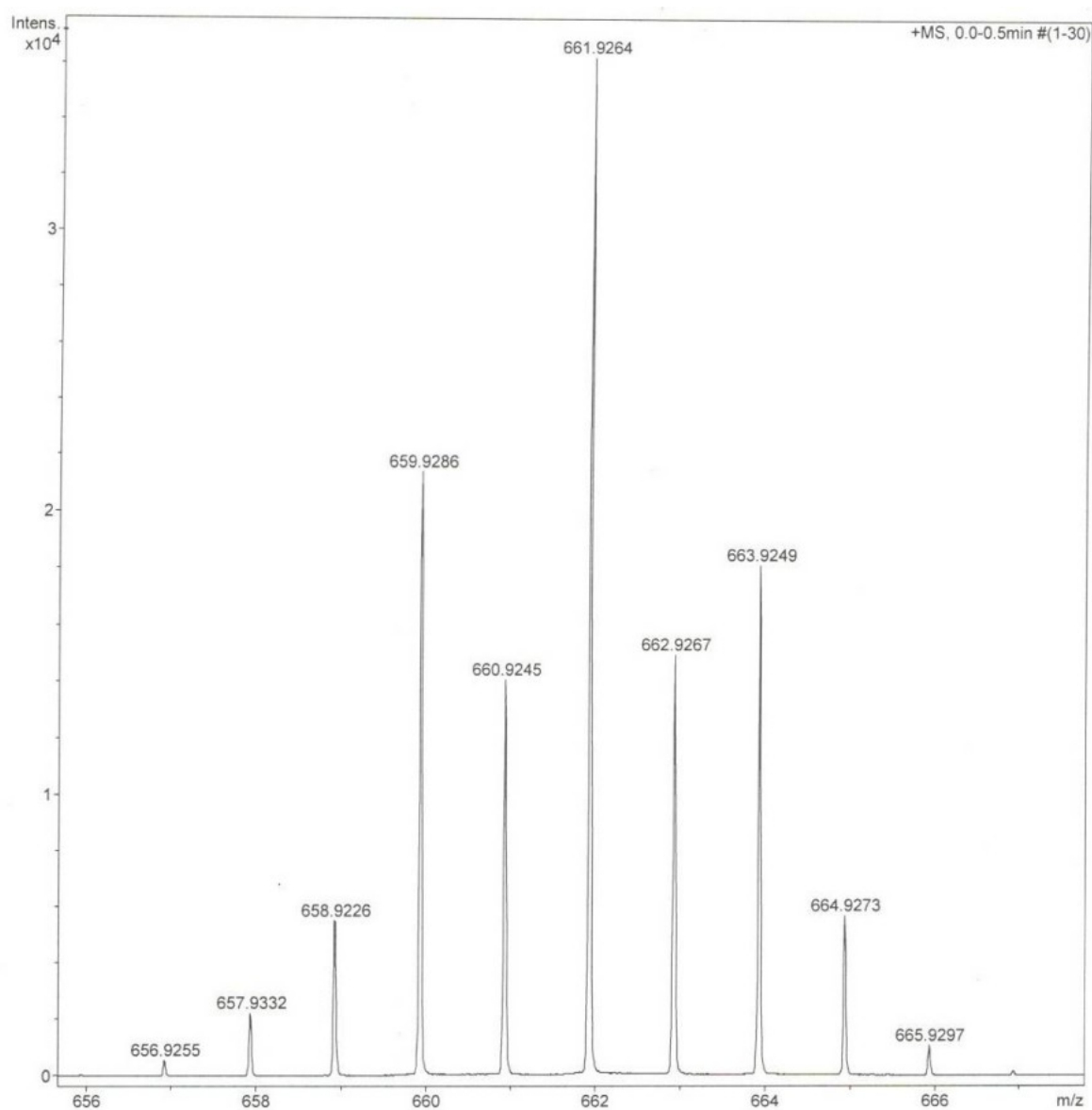
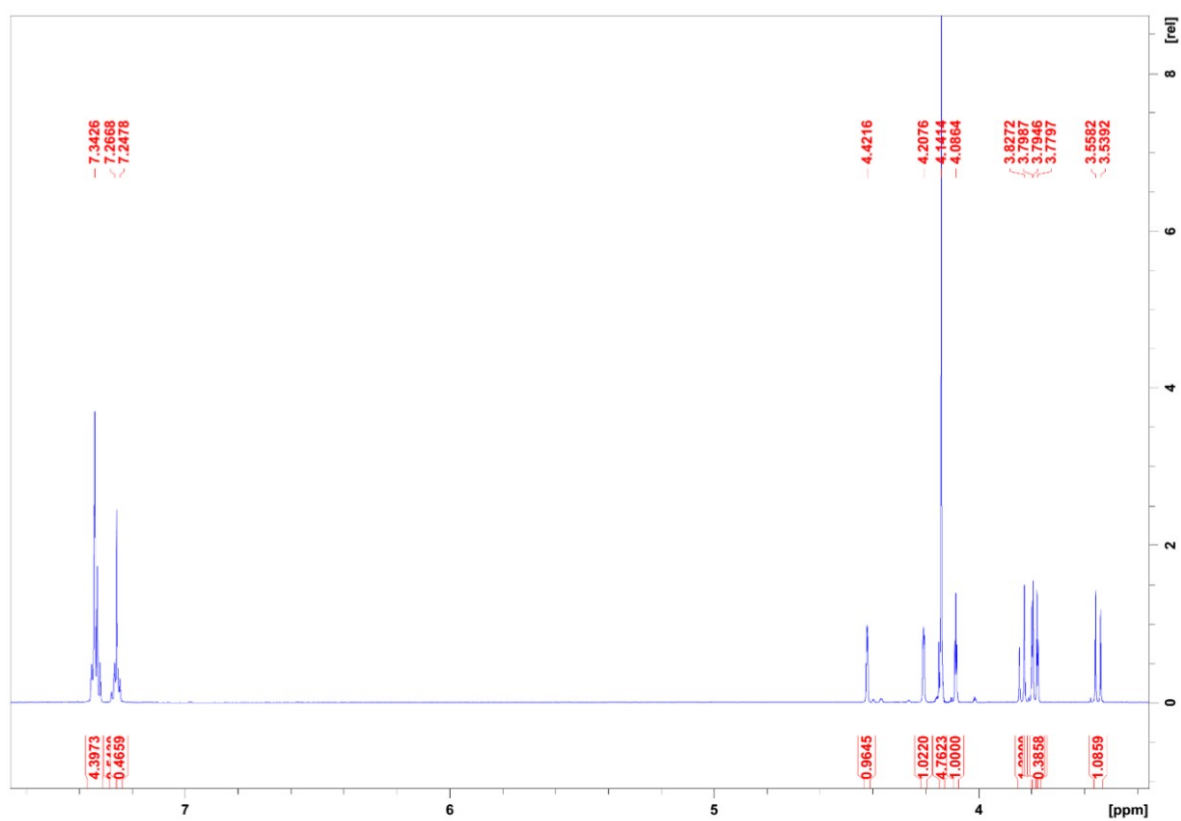
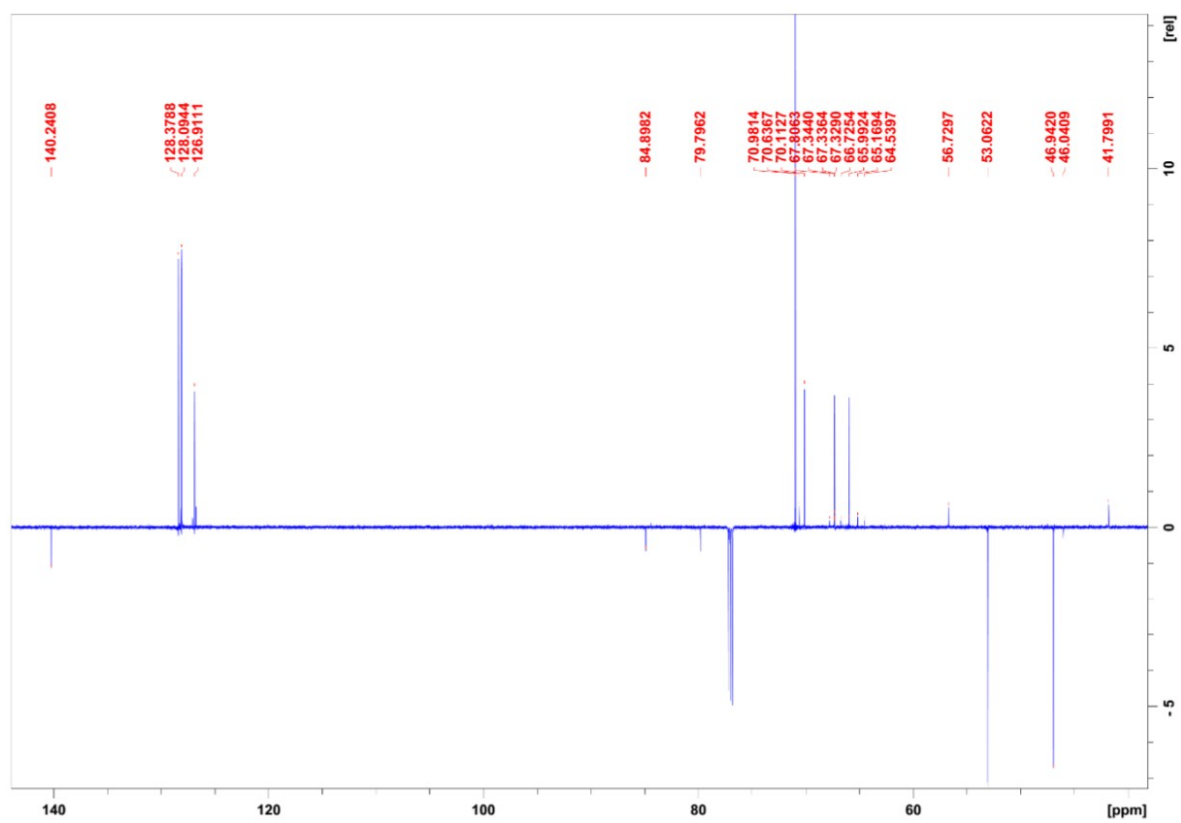


Figure S3: HRMS of diferrocenylamine 4

Figure S4: <sup>1</sup>H-NMR spectrum of monoferrocenylamine 5Figure S5: <sup>13</sup>C-NMR spectrum of monoferrocenylamine 5

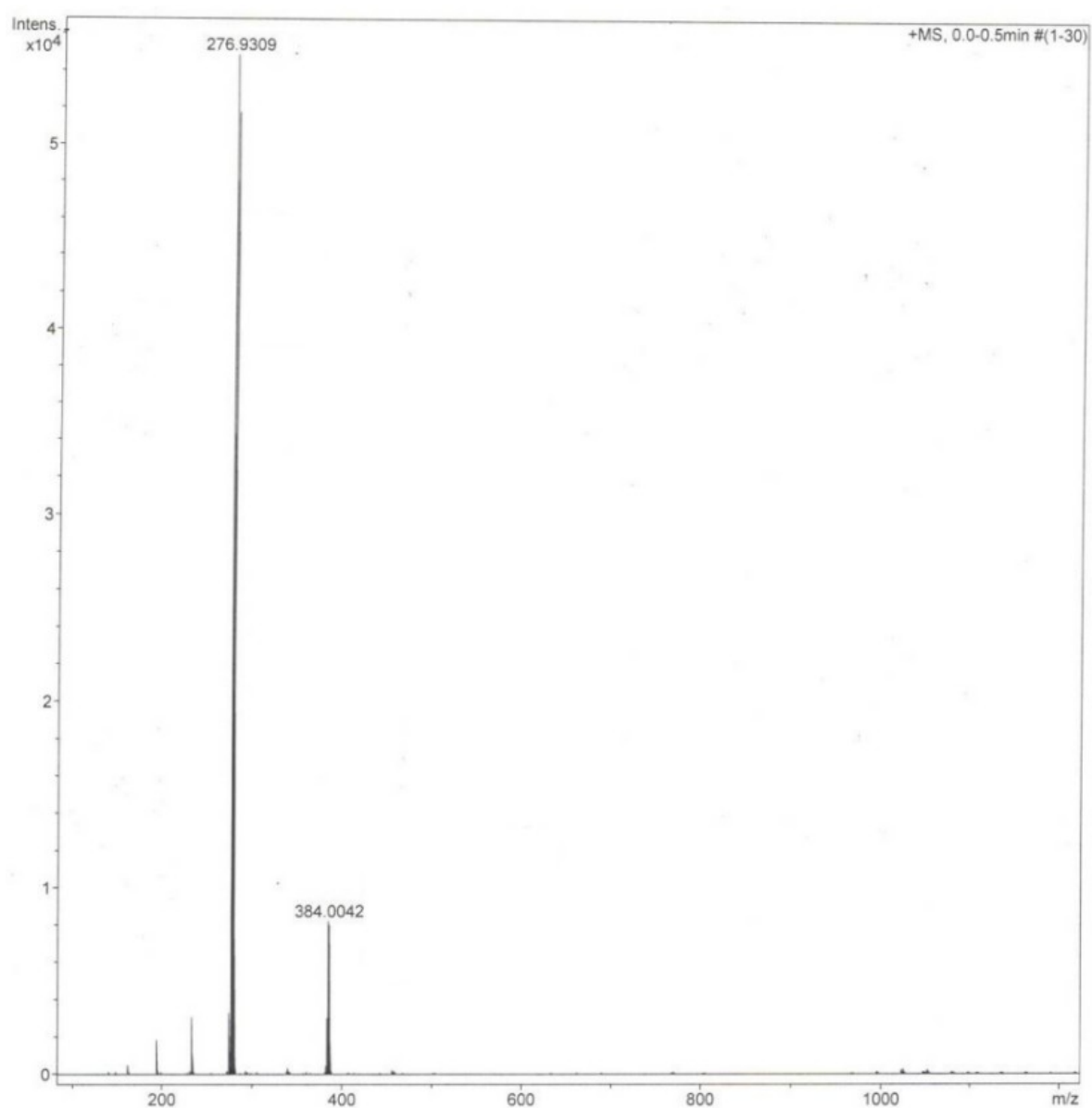


Figure S6: HRMS of monoferrocenylamine 5

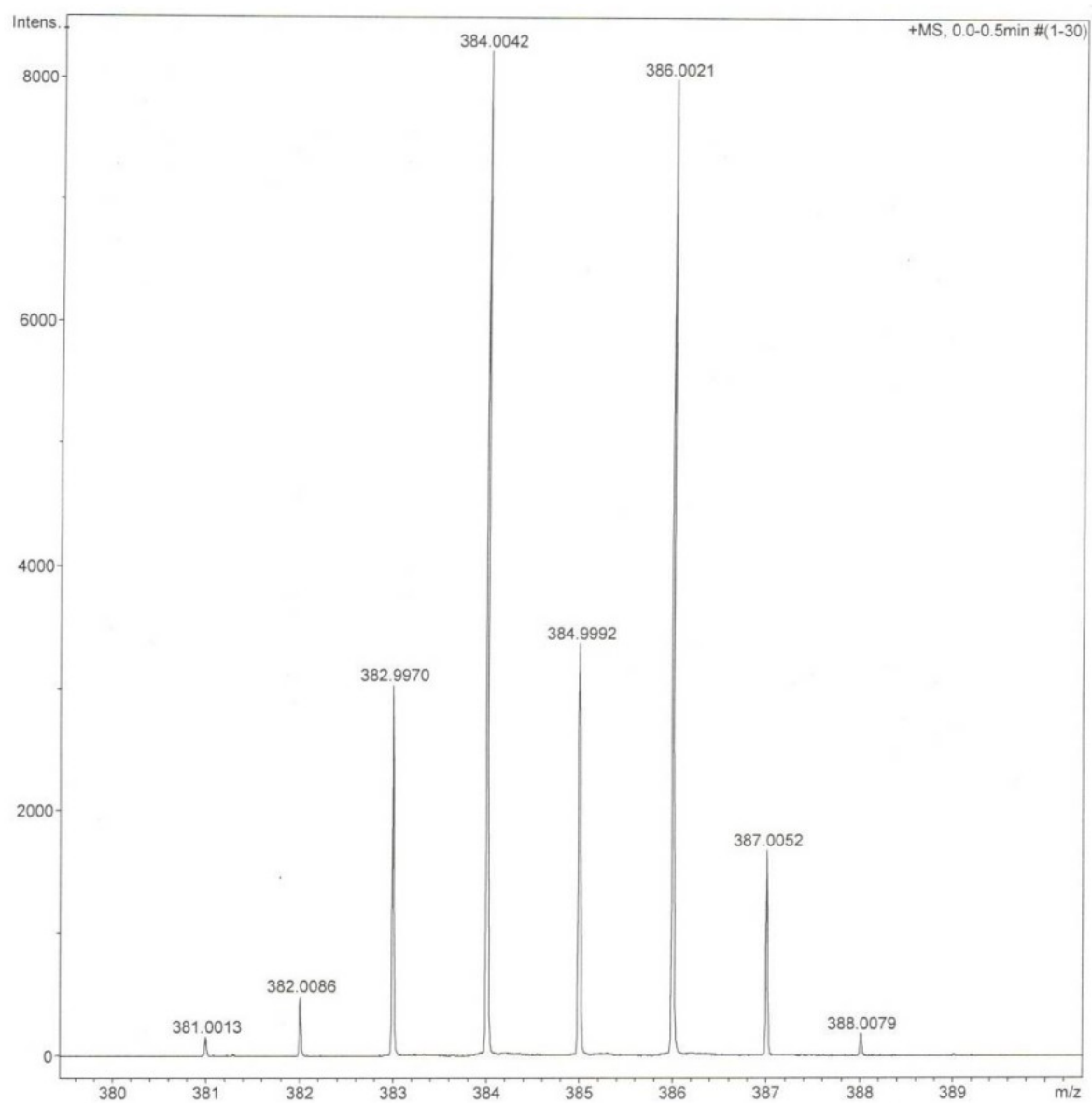
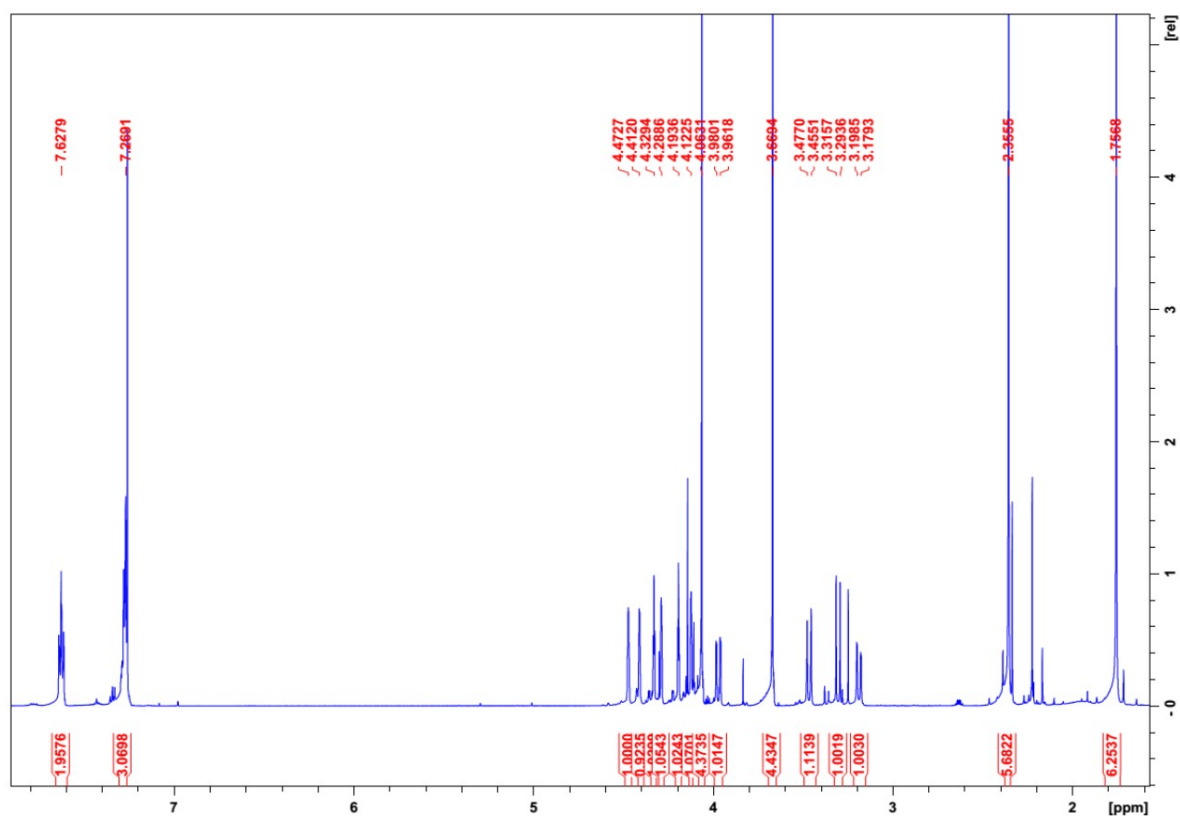
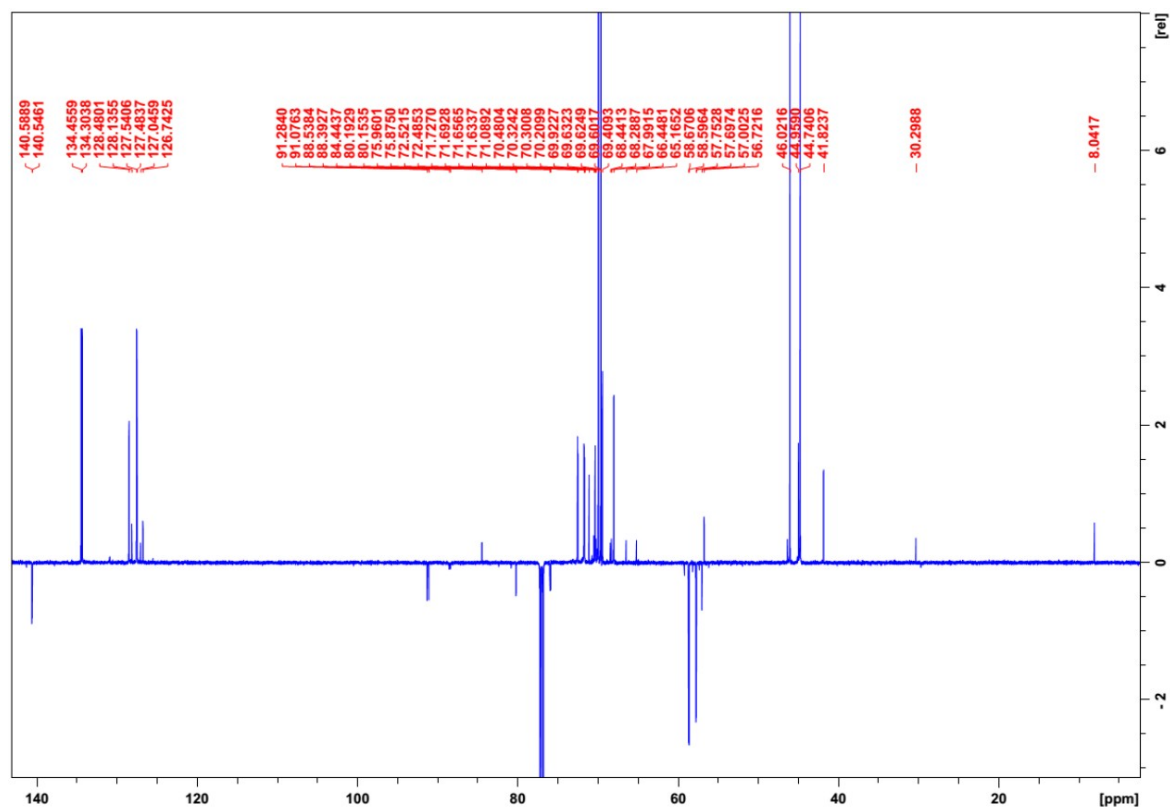


Figure S7: HRMS of monoferrocenylamine 5, detailed

Figure S8: <sup>1</sup>H-NMR spectrum of diferrocenylphosphine 7Figure S9: <sup>13</sup>C-NMR spectrum of diferrocenylphosphine 7

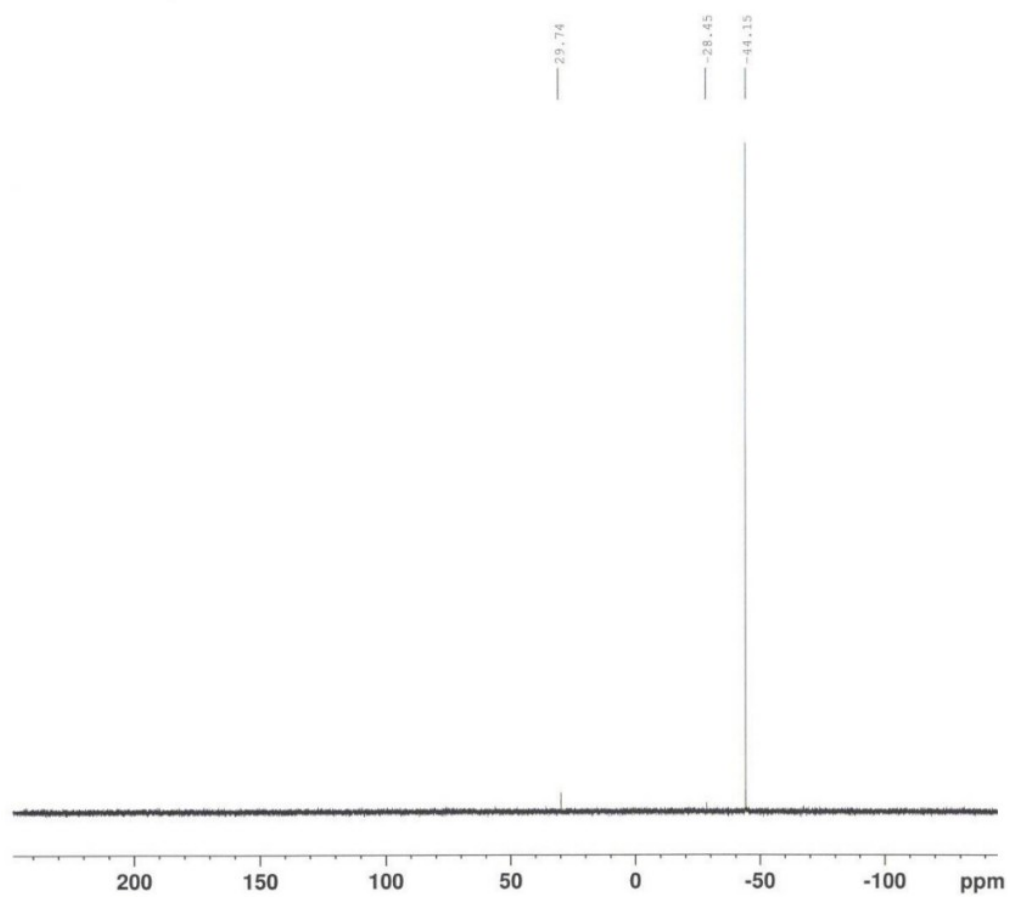


Figure S10:  $^{31}\text{P}$ -NMR spectrum of diferrocenylphosphine 7

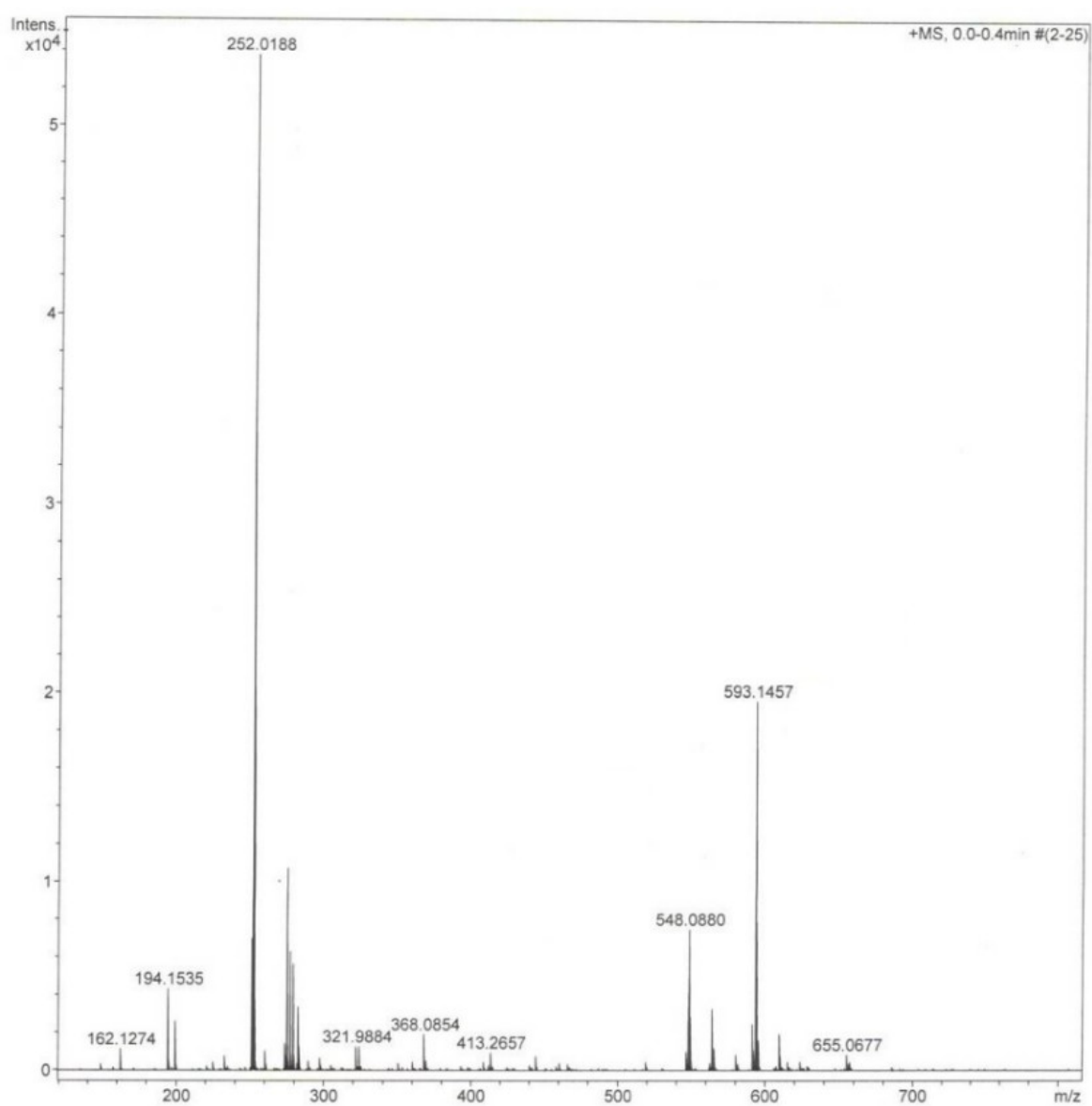
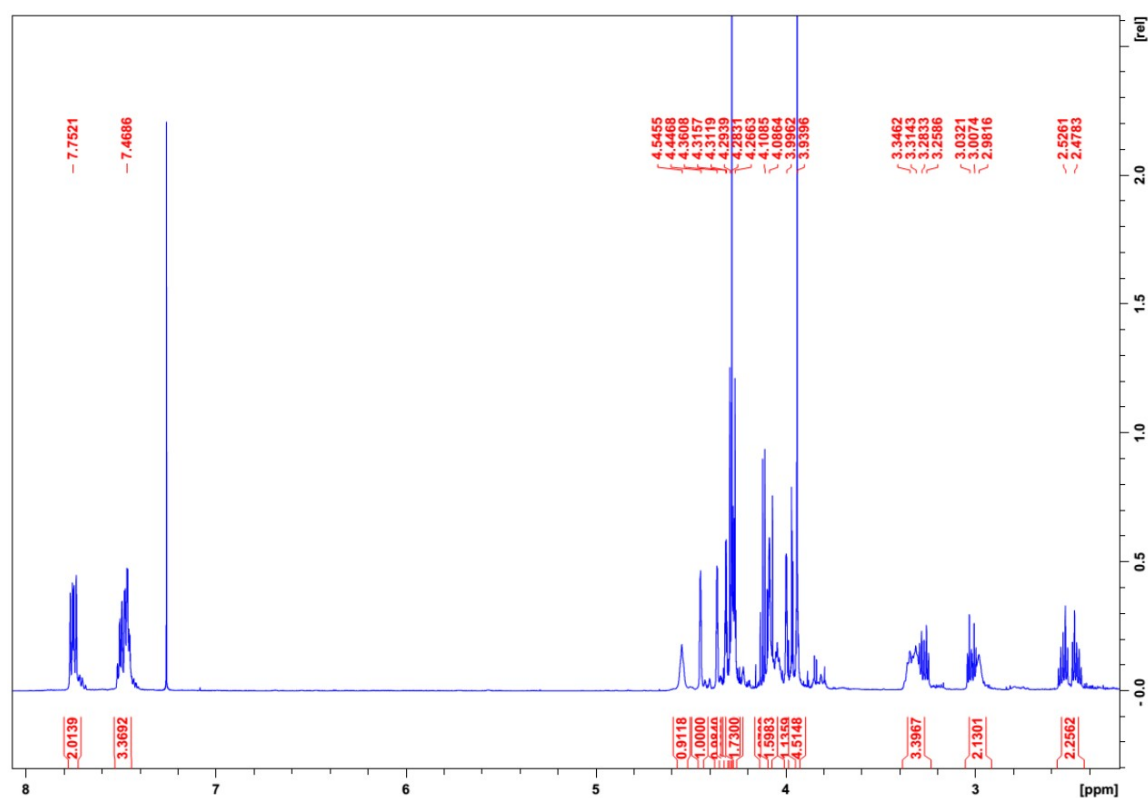
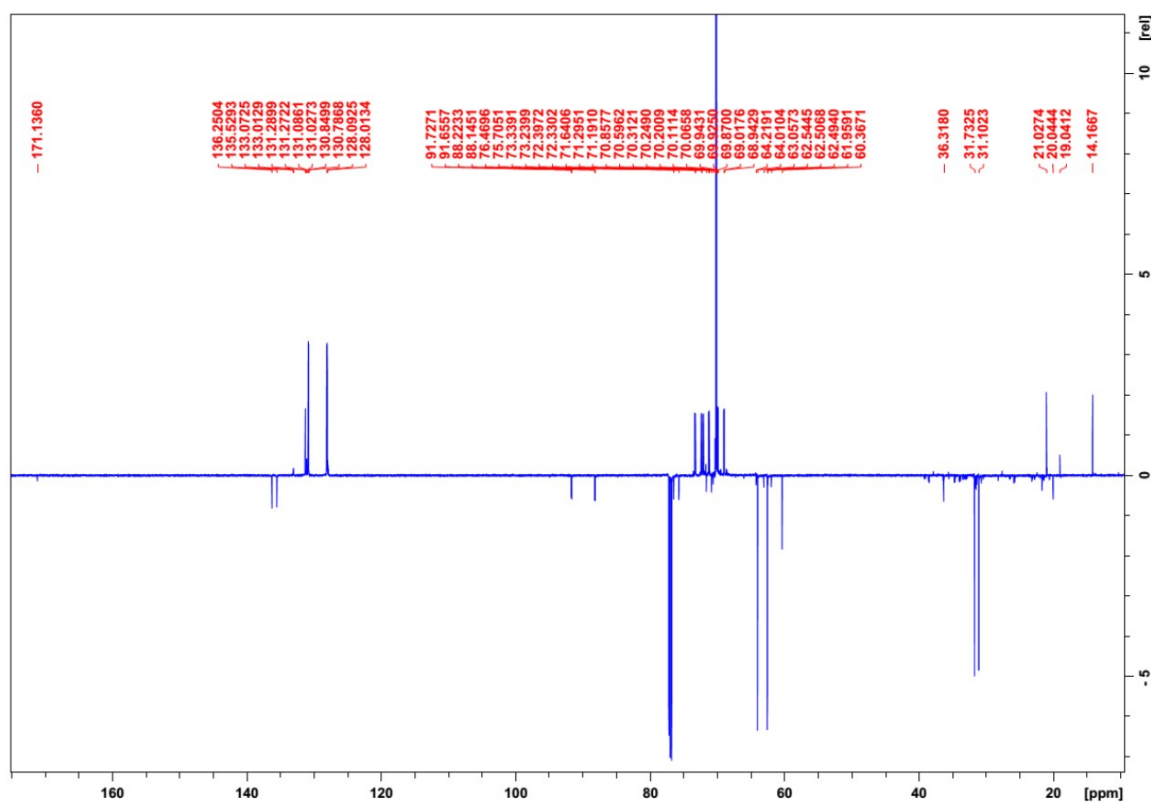


Figure S11: HRMS of diferrocenylphosphine 7

Figure S12:  $^1\text{H}$ -NMR spectrum of dihydroxyphosphineoxide **10**Figure S13:  $^{13}\text{C}$ -NMR spectrum of dihydroxyphosphineoxide **10**

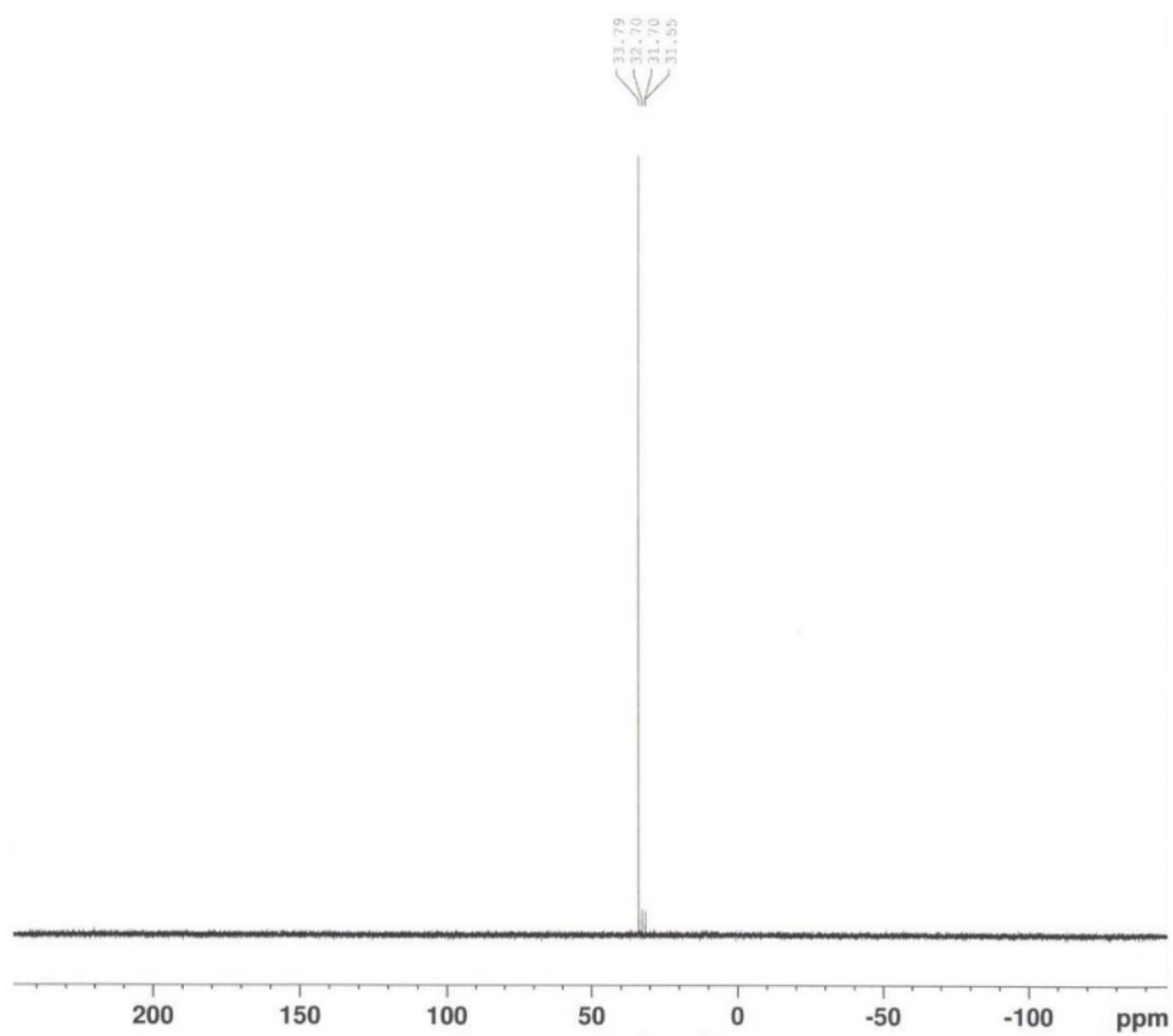
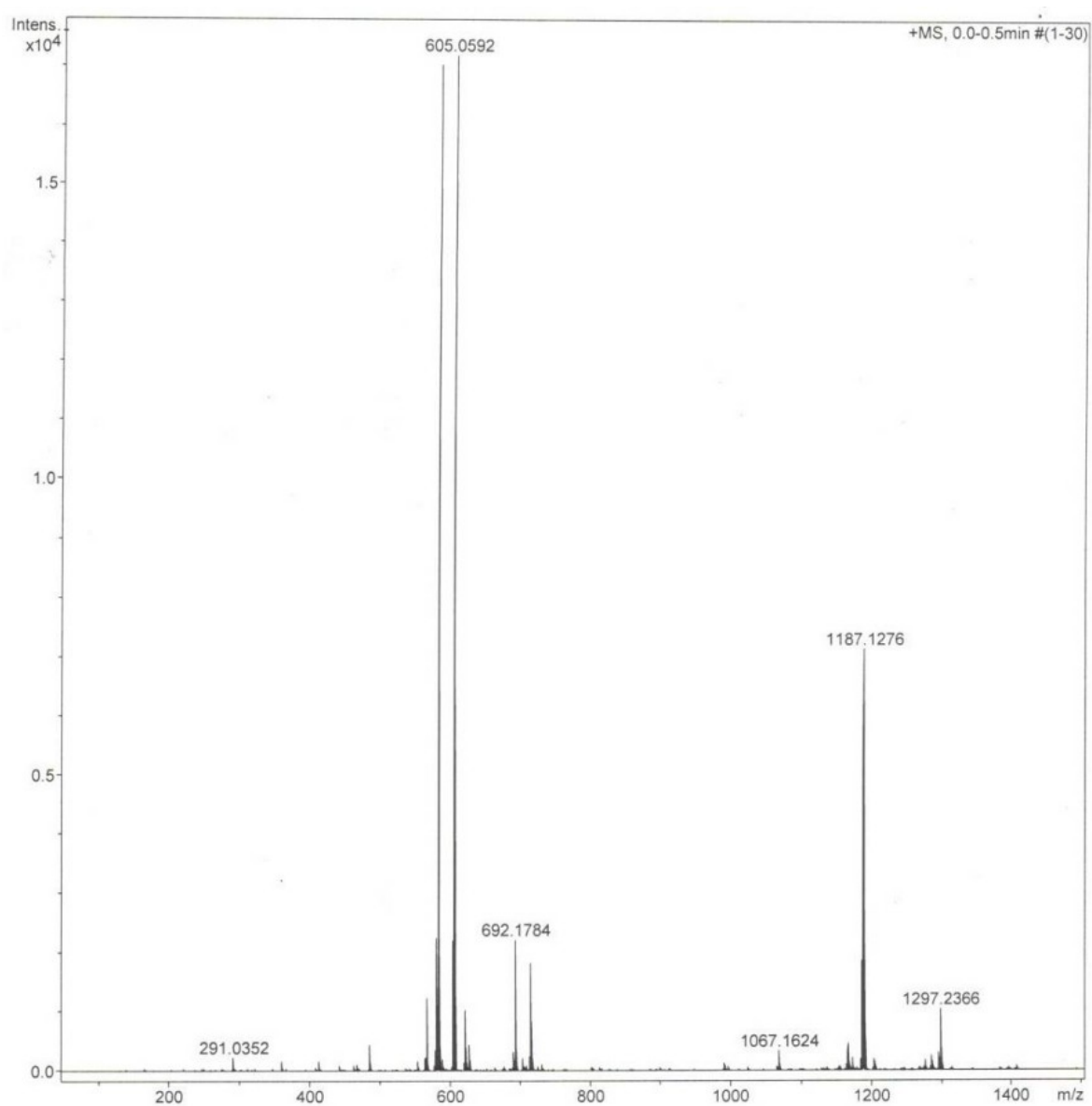
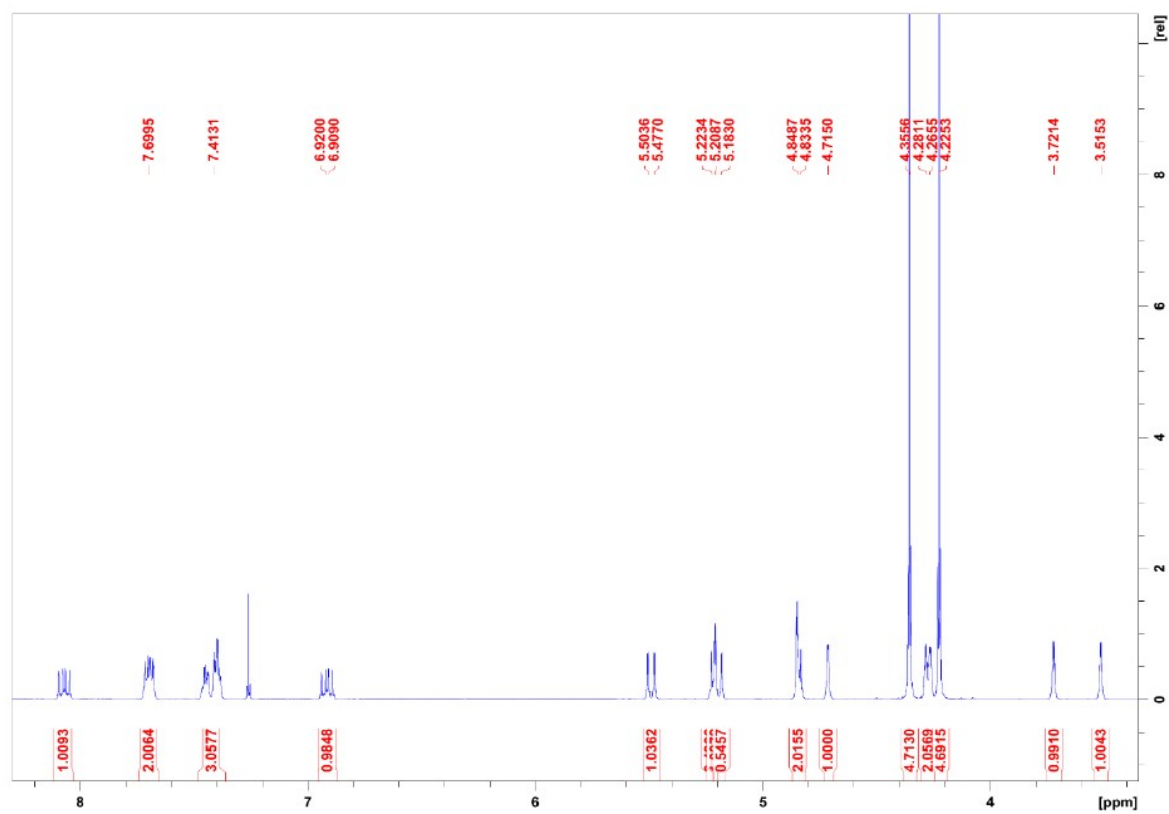
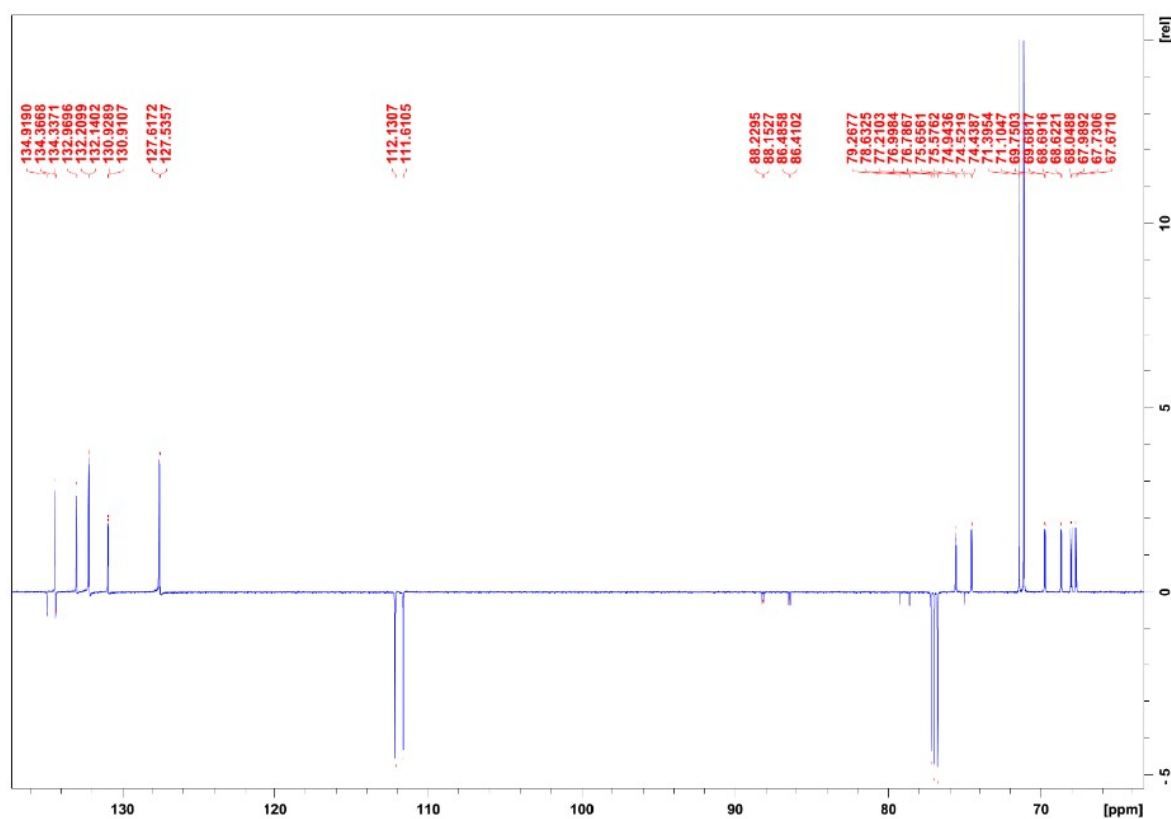


Figure S14:  $^{31}\text{P}$ -NMR spectrum of dihydroxyphosphineoxide **10**

Figure S15: HRMS of dihydroxyphosphineoxide **10**

Figure S16: <sup>1</sup>H-NMR spectrum of divinylphosphinesulfide **11**Figure S17: <sup>13</sup>C-NMR spectrum of divinylphosphinesulfide **11**

<sup>13</sup>C NMR spectrum of compound 10. The x-axis represents the chemical shift in ppm, ranging from 120 to 40. The y-axis represents the relative intensity, ranging from -4 to 4. The spectrum shows several sharp peaks, with the most prominent ones at 135.1428, 134.6487, 132.1033, 131.1146, 131.0985, 127.7261, and 127.6571 ppm. A cluster of peaks is visible between 70 and 90 ppm, and another cluster is visible between 60 and 70 ppm. The peak at 31.1911 ppm is also labeled.

Figure S19:  $^{13}\text{C}$ -NMR spectrum of dihydroxyphosphinesulfide **12**

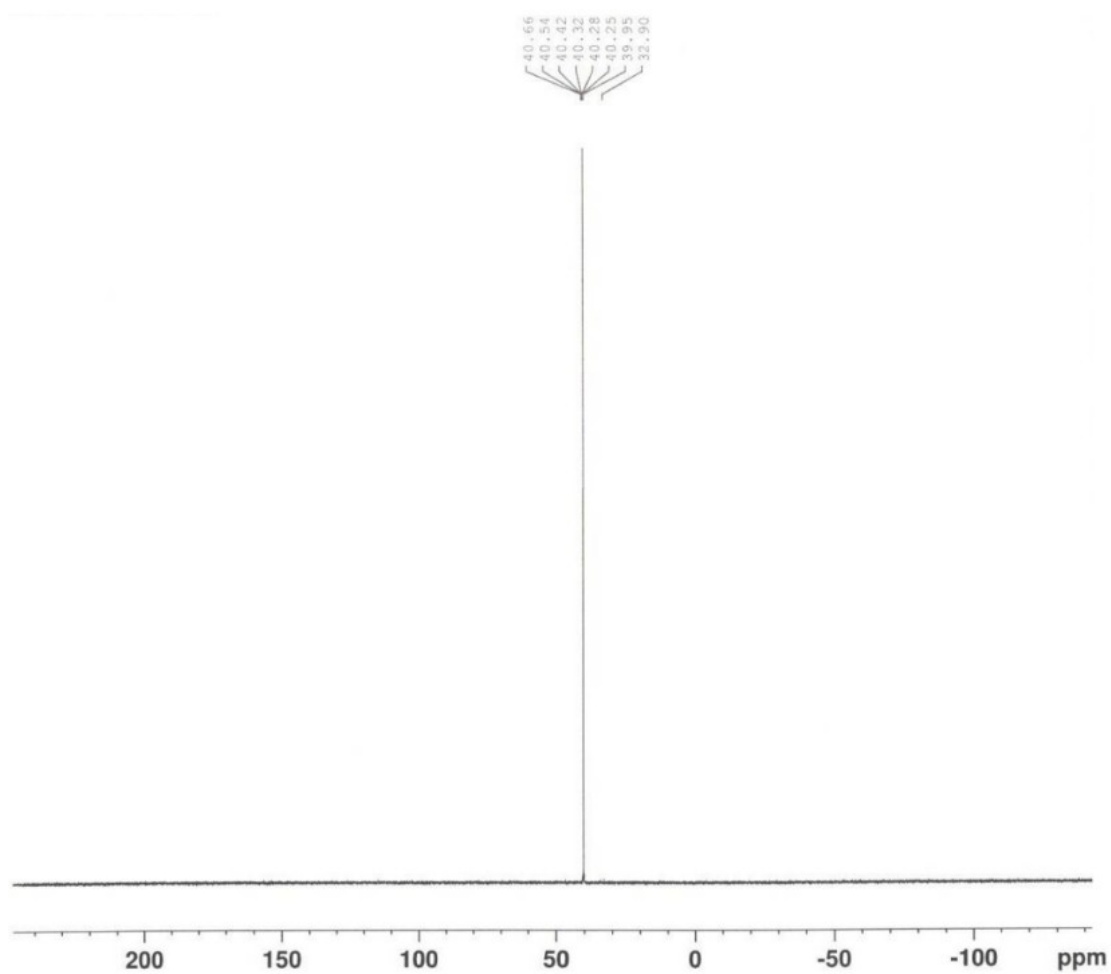


Figure S20:  $^{31}\text{P}$ -NMR spectrum of dihydroxyphosphinesulfide **12**

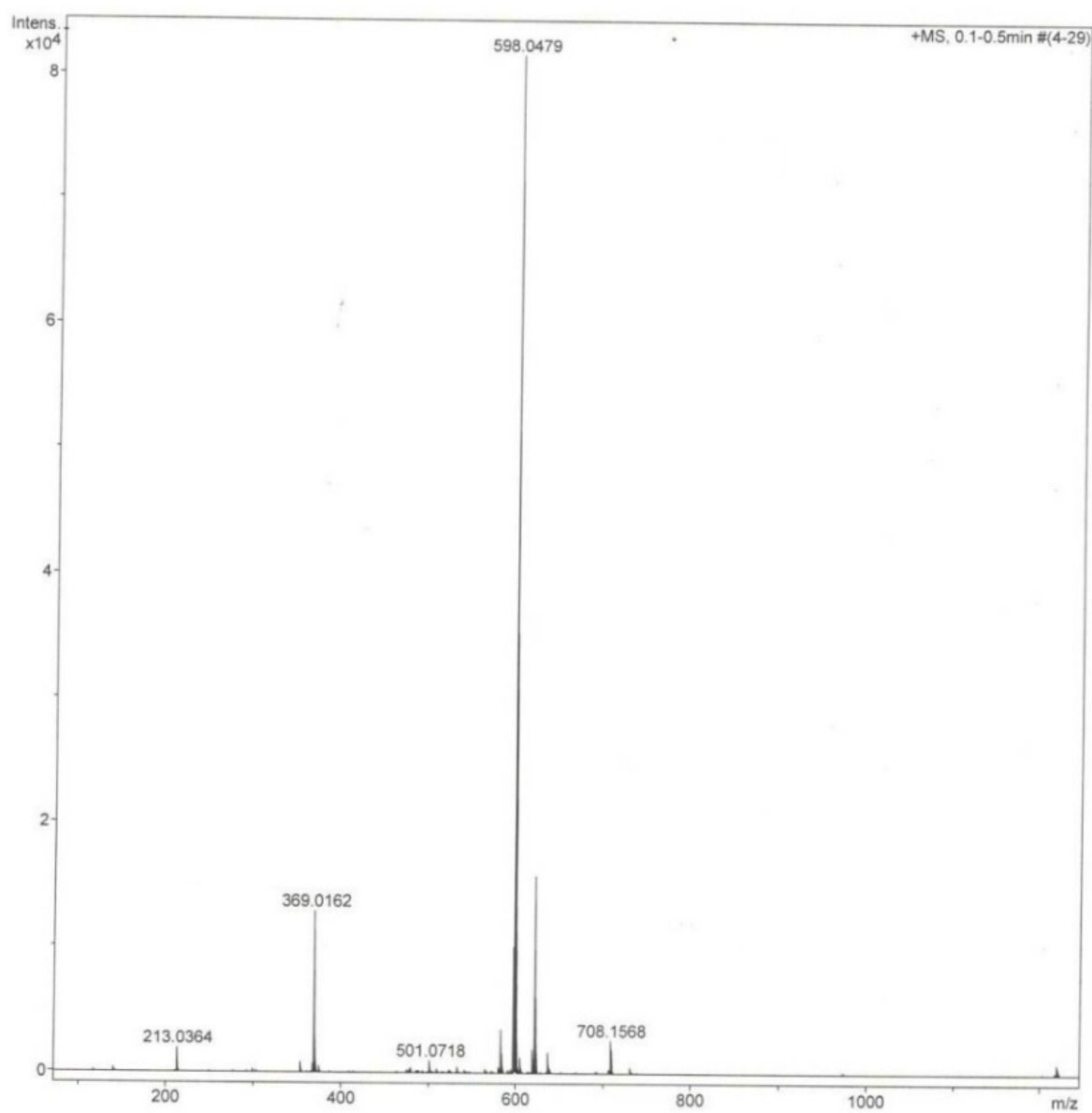


Figure S21: HRMS of dihydroxyphosphinesulfide **12**