

Supporting Information

Hemilabile Amidomonophosphine Ligand-Rhodium(I) Complex-Catalyzed Asymmetric 1,4-Addition of Arylboronic Acids to Cycloalkenones

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X-ray data for the cationic complex 2 (cif data is in the file “KURI.CIF”).

$C_{30}H_{40}ONPRhSbF_6$

$M_r = 800.28$

space group: P 21 21 21

$a = 15.420$

$b = 21.873$

$c = 9.626$

$\alpha = 90$

$\beta = 90$

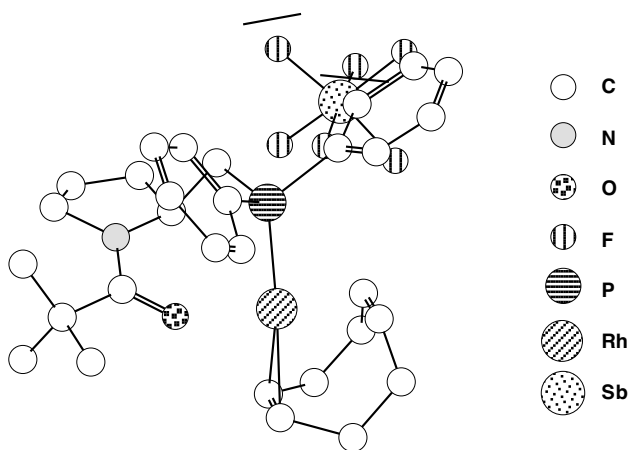
$\gamma = 90$

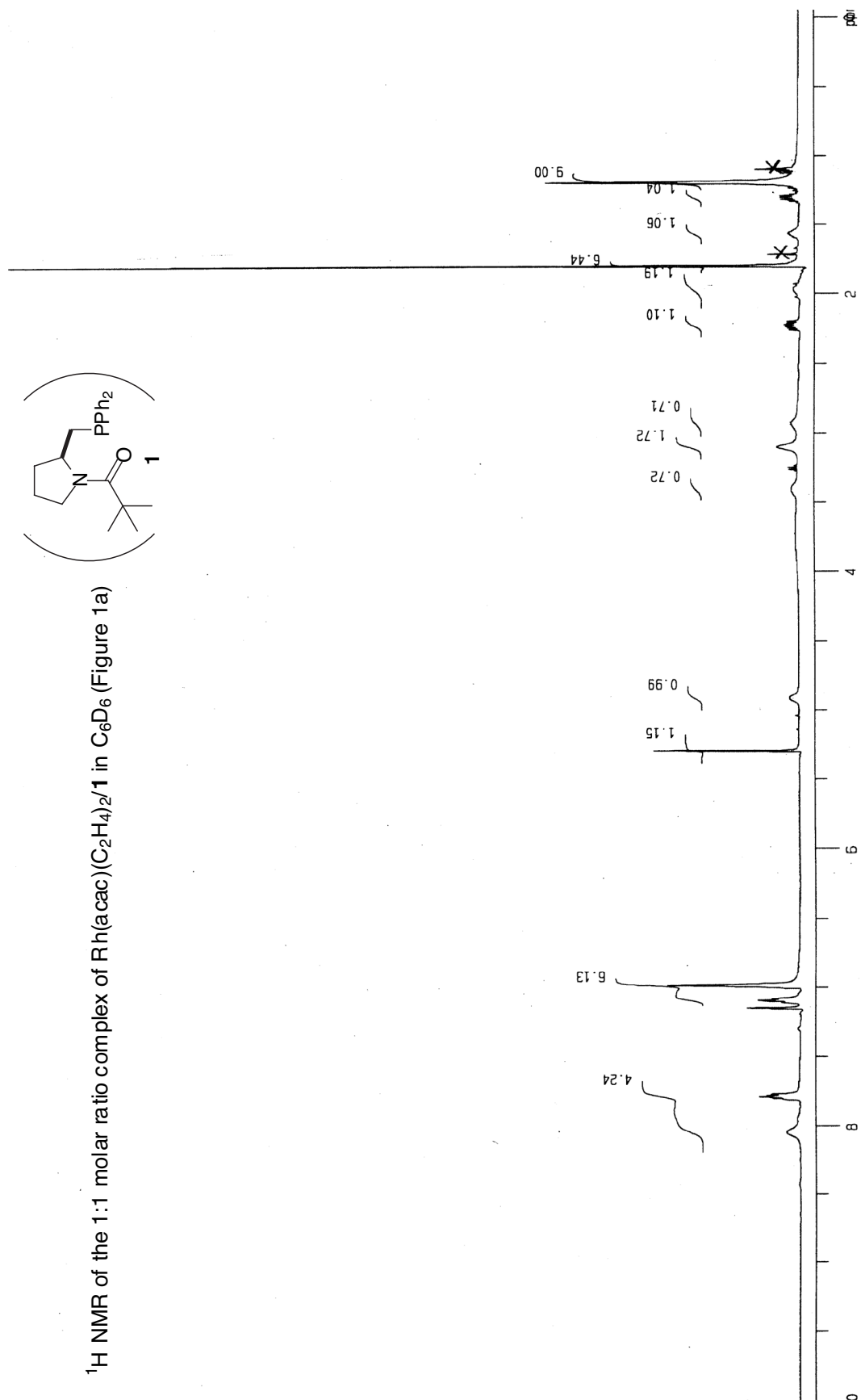
$Z = 4$

$D_{cal} = 1.6370$

Volume = 3246.7

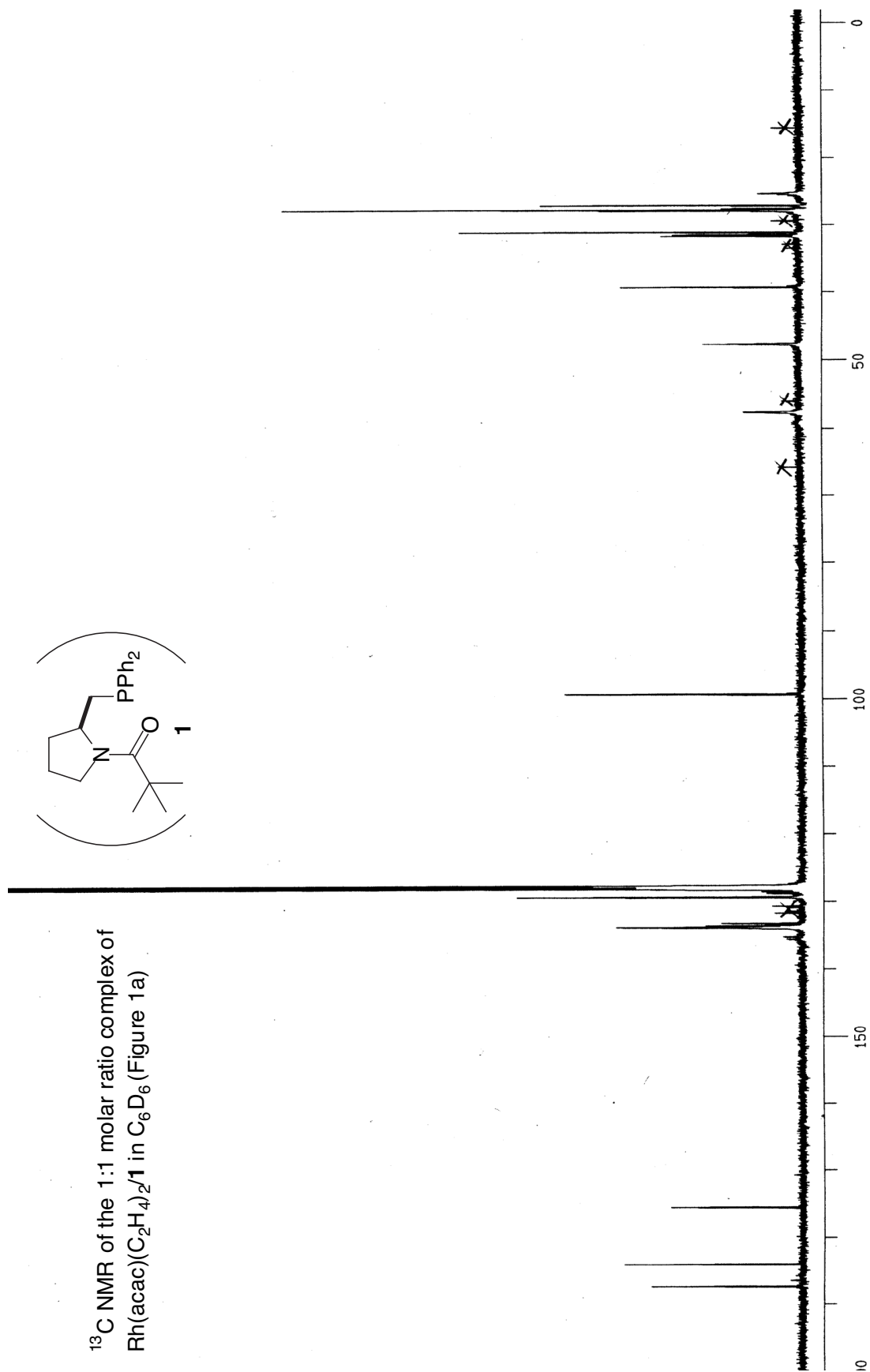
$R = 0.065$

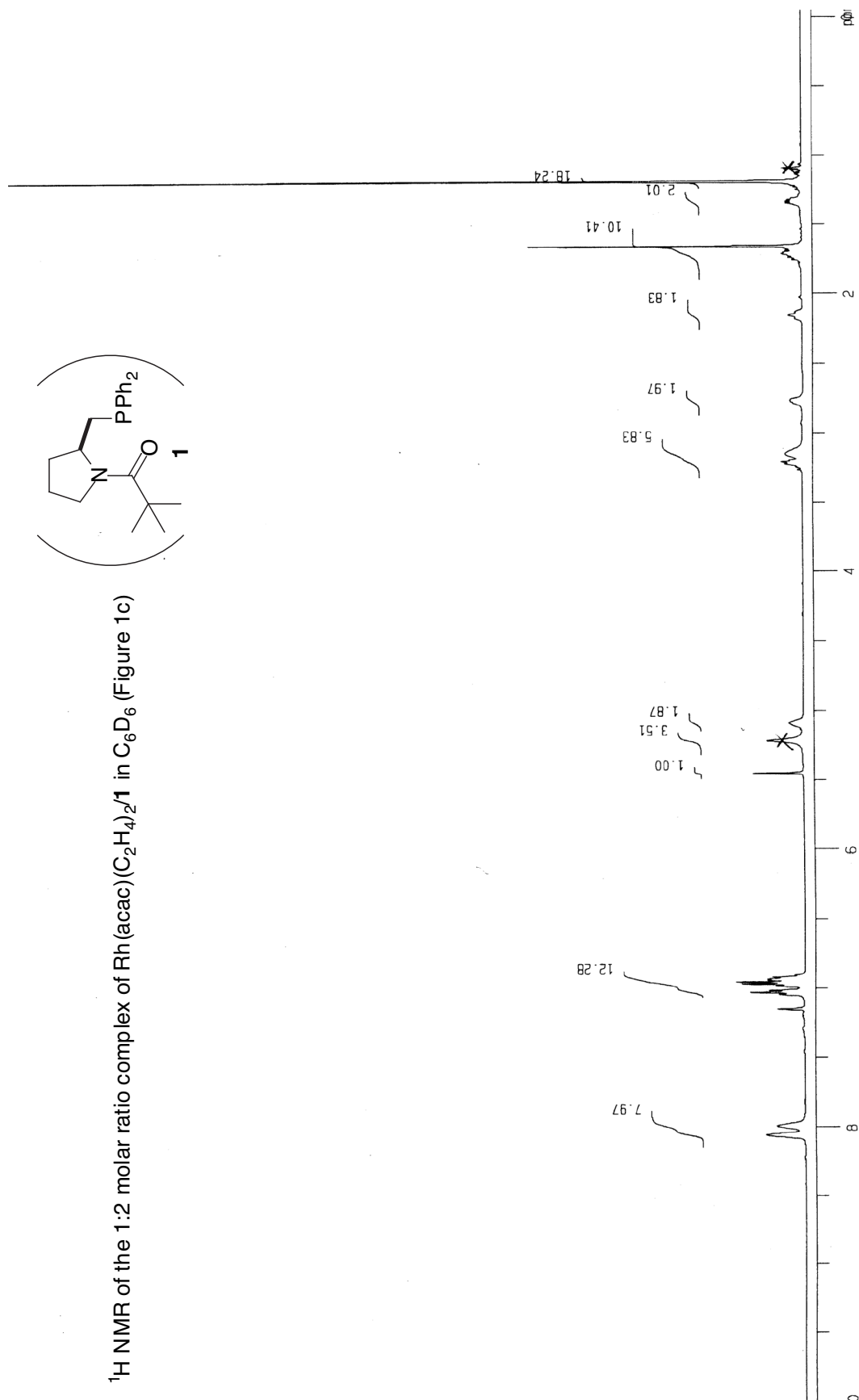




¹H NMR of the 1:1 molar ratio complex of Rh(acac)(C₂H₄)₂/1 in C₆D₆ (Figure 1a)

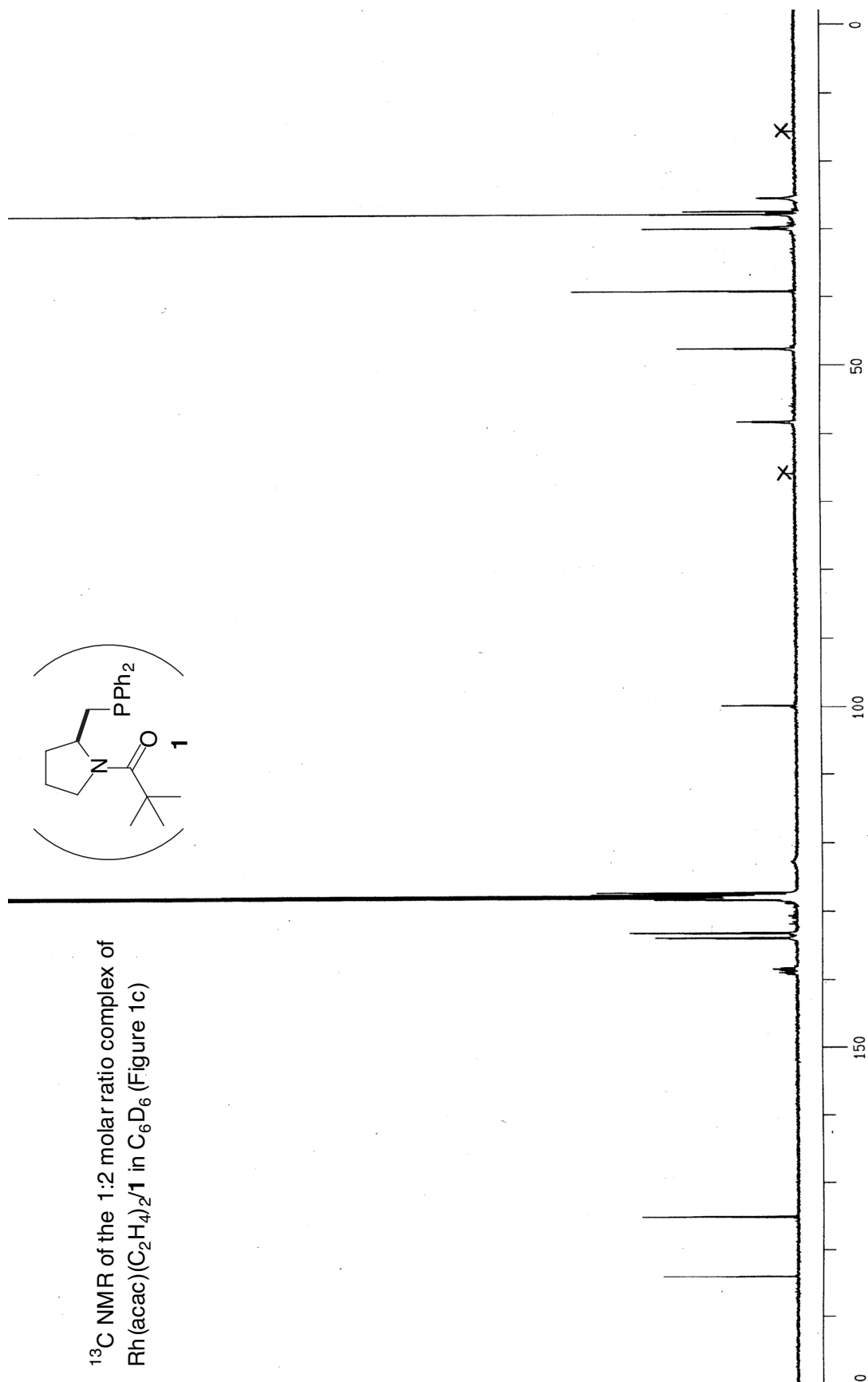
^{13}C NMR of the 1:1 molar ratio complex of
 $\text{Rh}(\text{acac})(\text{C}_2\text{H}_4)_2$ **1** in C_6D_6 (Figure 1a)

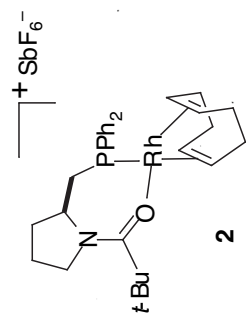




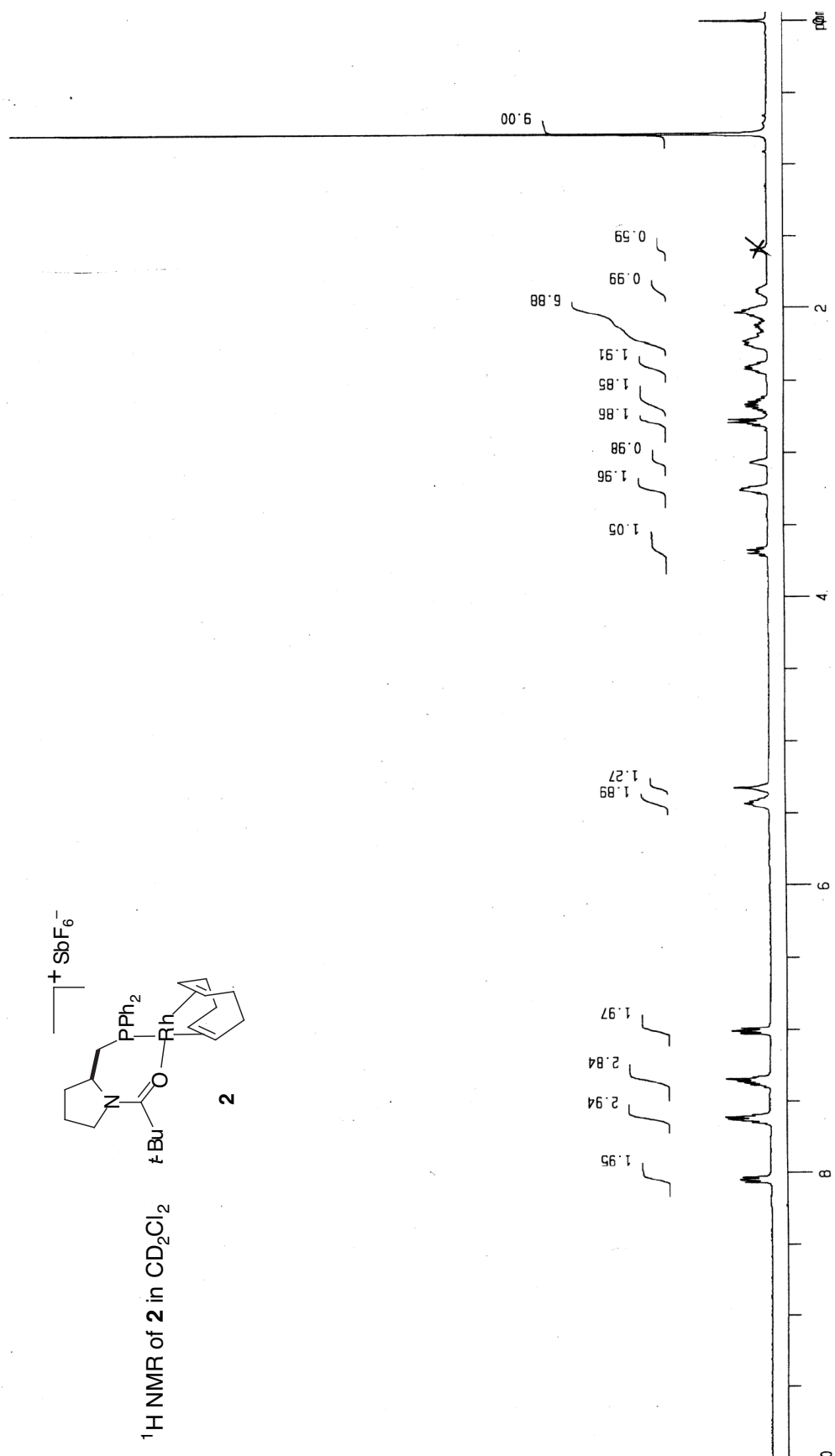
¹H NMR of the 1:2 molar ratio complex of Rh(acac)(C₂H₄)₂/1 in C₆D₆ (Figure 1c)

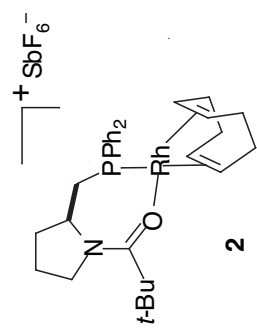
^{13}C NMR of the 1:2 molar ratio complex of
 $\text{Rh}(\text{acac})(\text{C}_2\text{H}_4)_2/\mathbf{1}$ in C_6D_6 (Figure 1c)



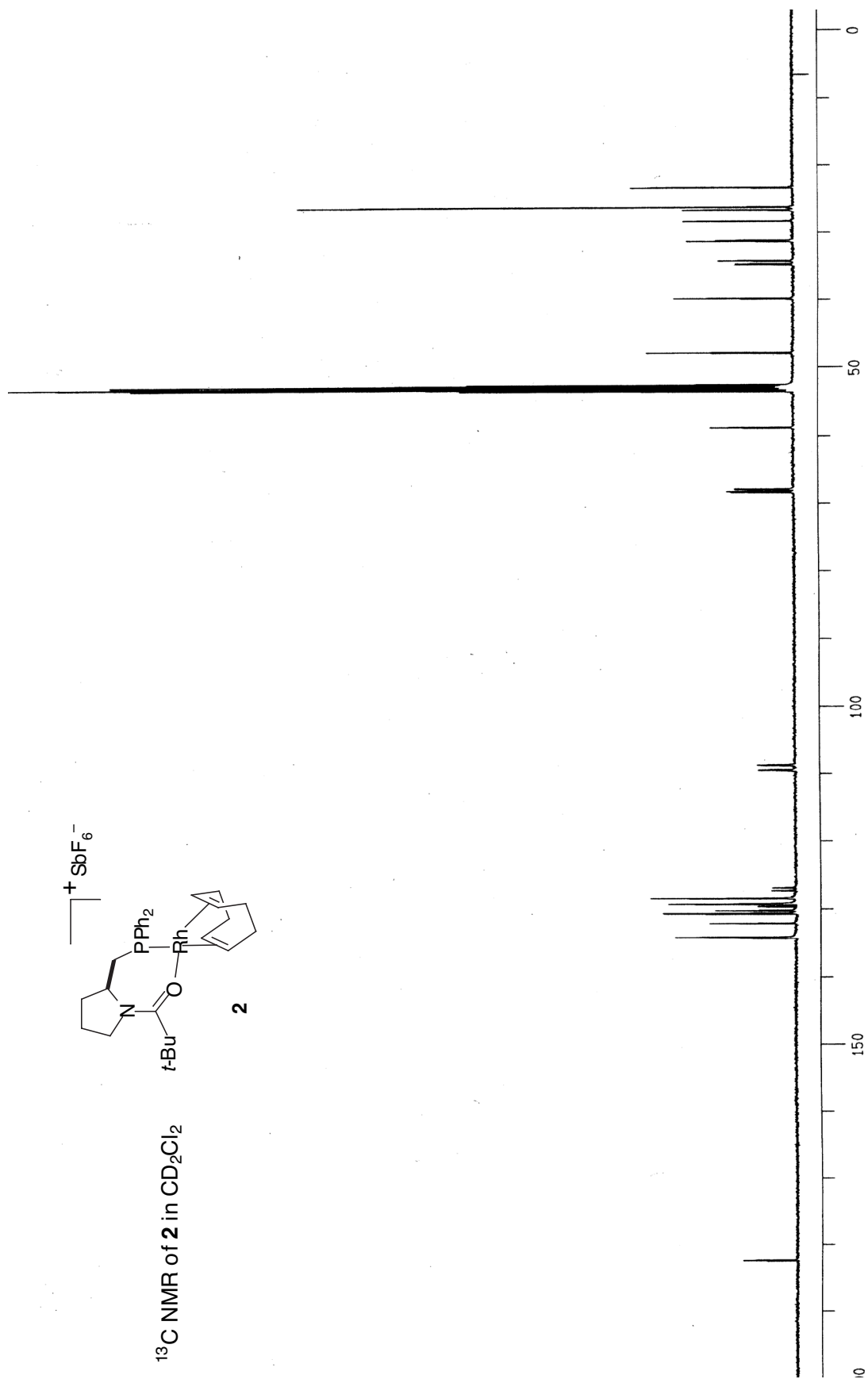


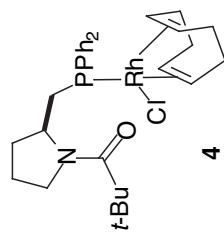
¹H NMR of **2** in CD₂Cl₂



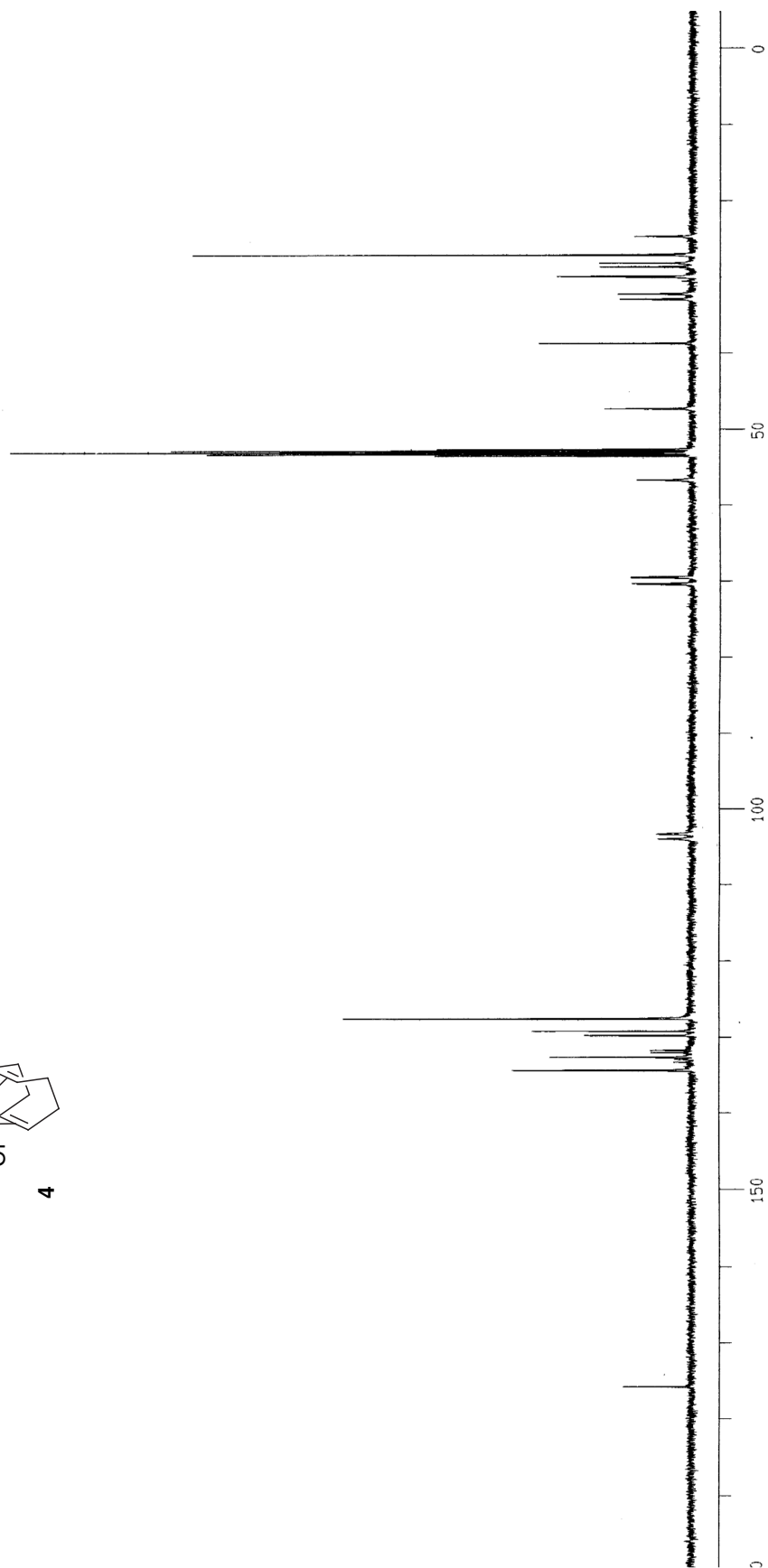


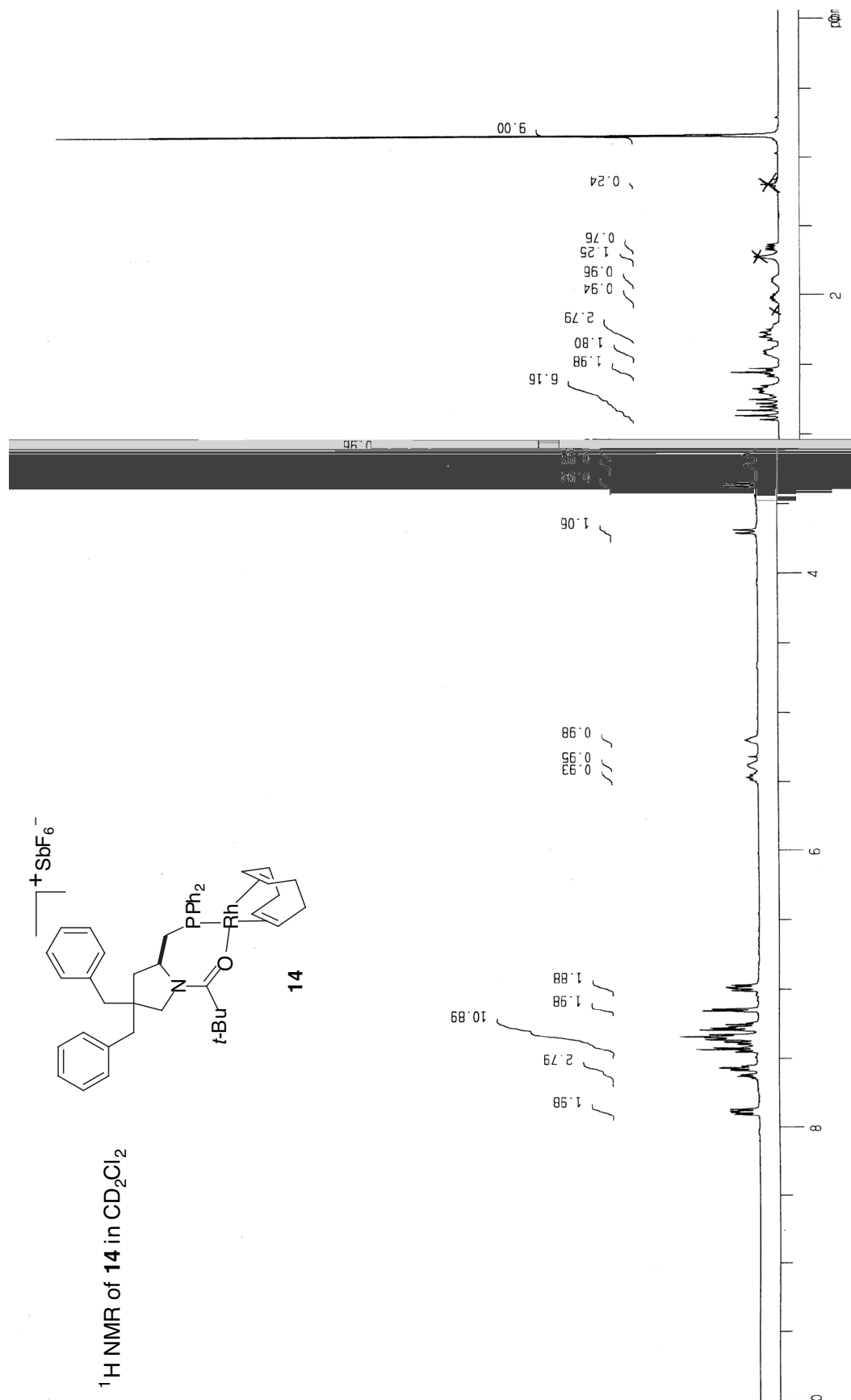
¹³C NMR of **2** in CD₂Cl₂

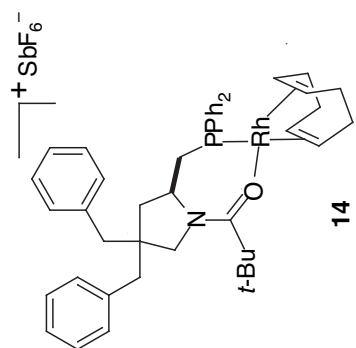




¹³C NMR of **4** in CD₂Cl₂







¹³C NMR of **14** in CD₂Cl₂

