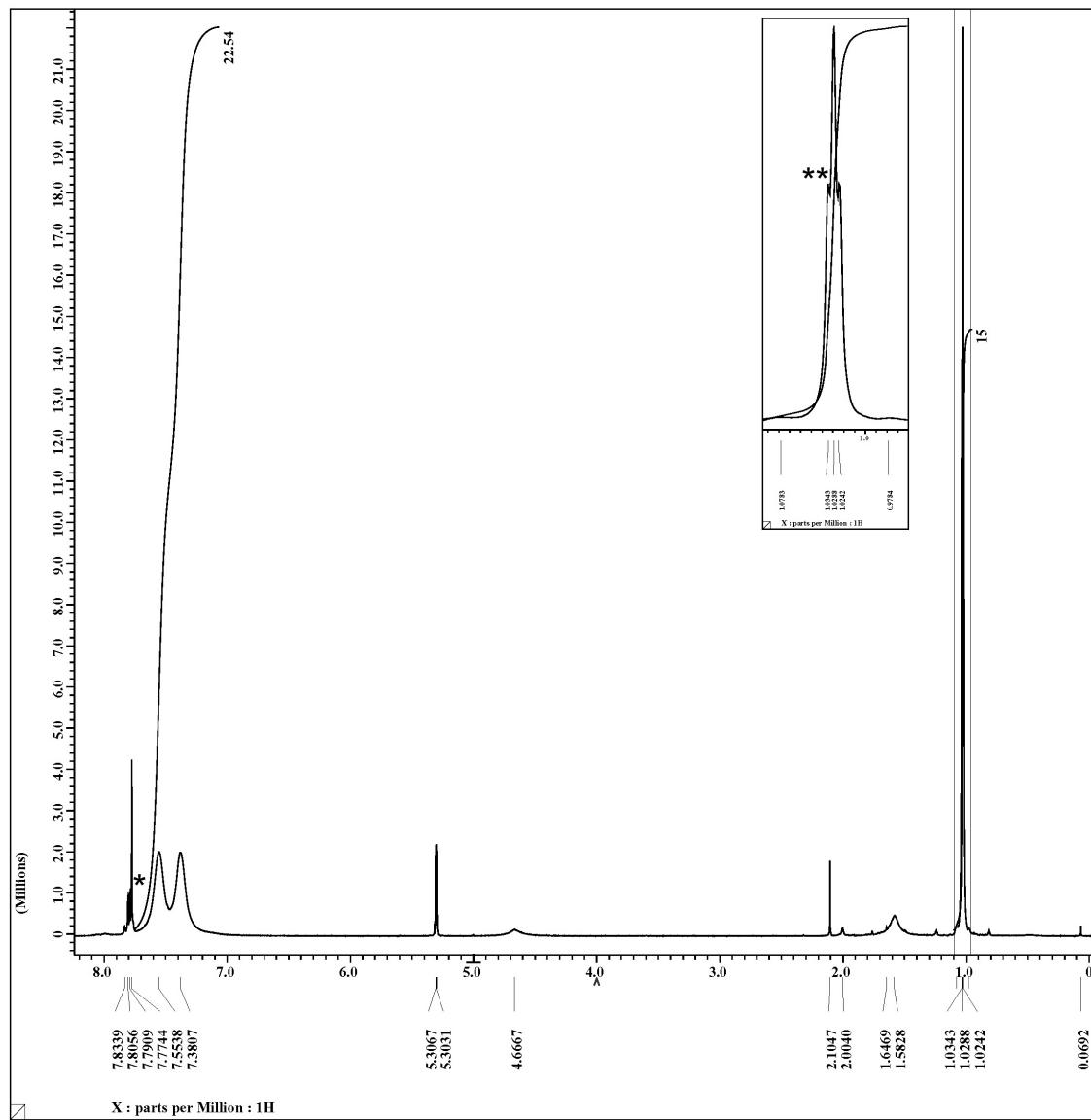


# Supplementary Information

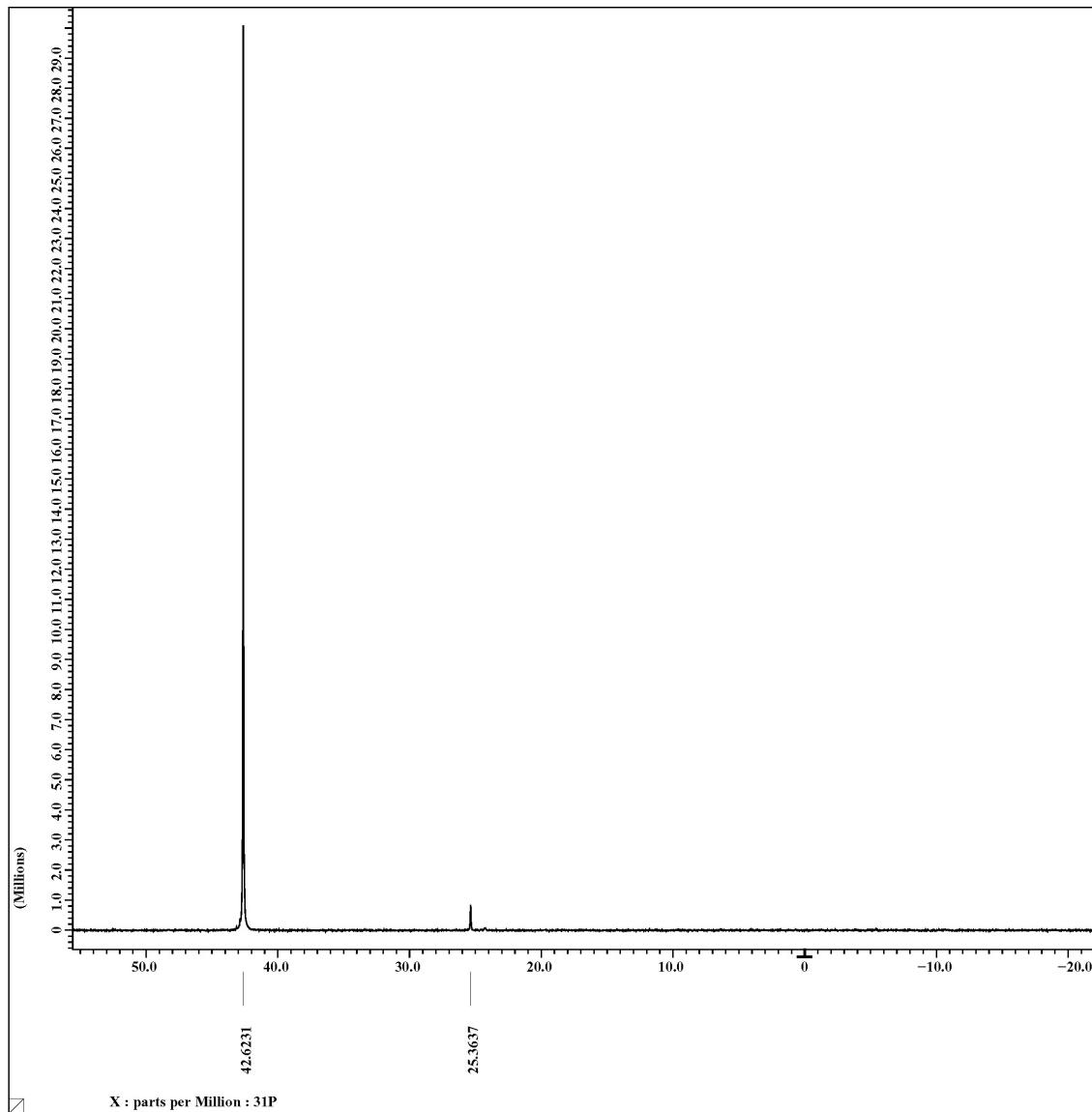
## Comparative Study of the Catalytic Activity of the Complexes $\text{Cp}^*\text{RuCl}(\text{PAr}_3)_2$ [Ar = $-\text{C}_6\text{H}_5$ and $4\text{-CF}_3\text{-C}_6\text{H}_4$ ] in the ATRP of Styrene

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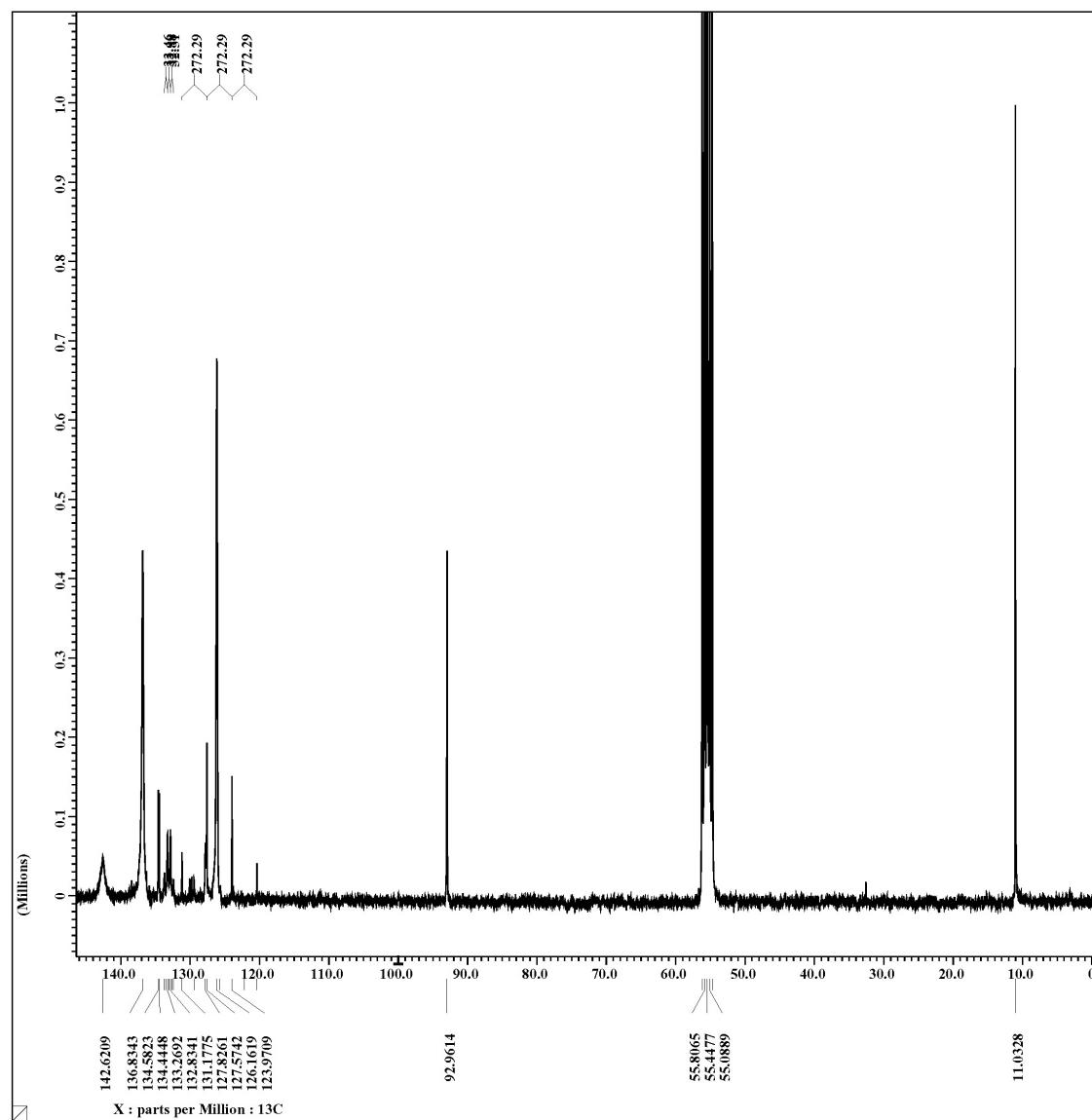
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**Figure S1.**  $^1\text{H}$  spectra of complex 2. About 20 mg of sample in 600  $\mu\text{L}$  of  $\text{CD}_2\text{Cl}_2$ . \*Aromatics signals from phosphine oxide ( $\text{OP}(4\text{-CF}_3\text{-C}_6\text{H}_4)_3$ ); \*\*A triplet signal by coupling H-P ( $^4J_{\text{H-P}} \ll 2$  Hz).



**Figure S2.** <sup>31</sup>P-NMR of complex **2** in CD<sub>2</sub>Cl<sub>2</sub>.



**Figure S3.** <sup>13</sup>C-NMR spectrum of complex **2** in CD<sub>2</sub>Cl<sub>2</sub>.

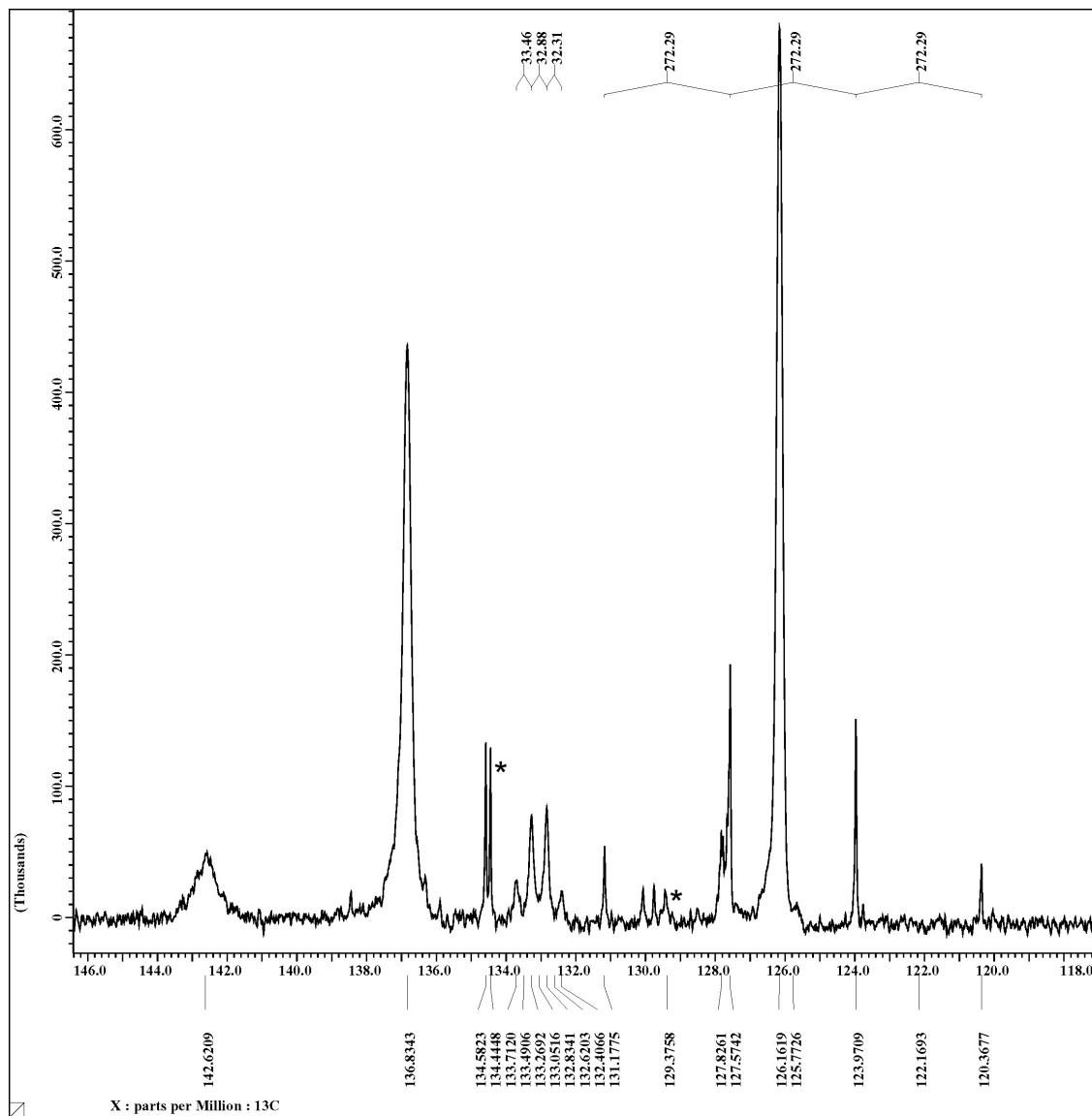
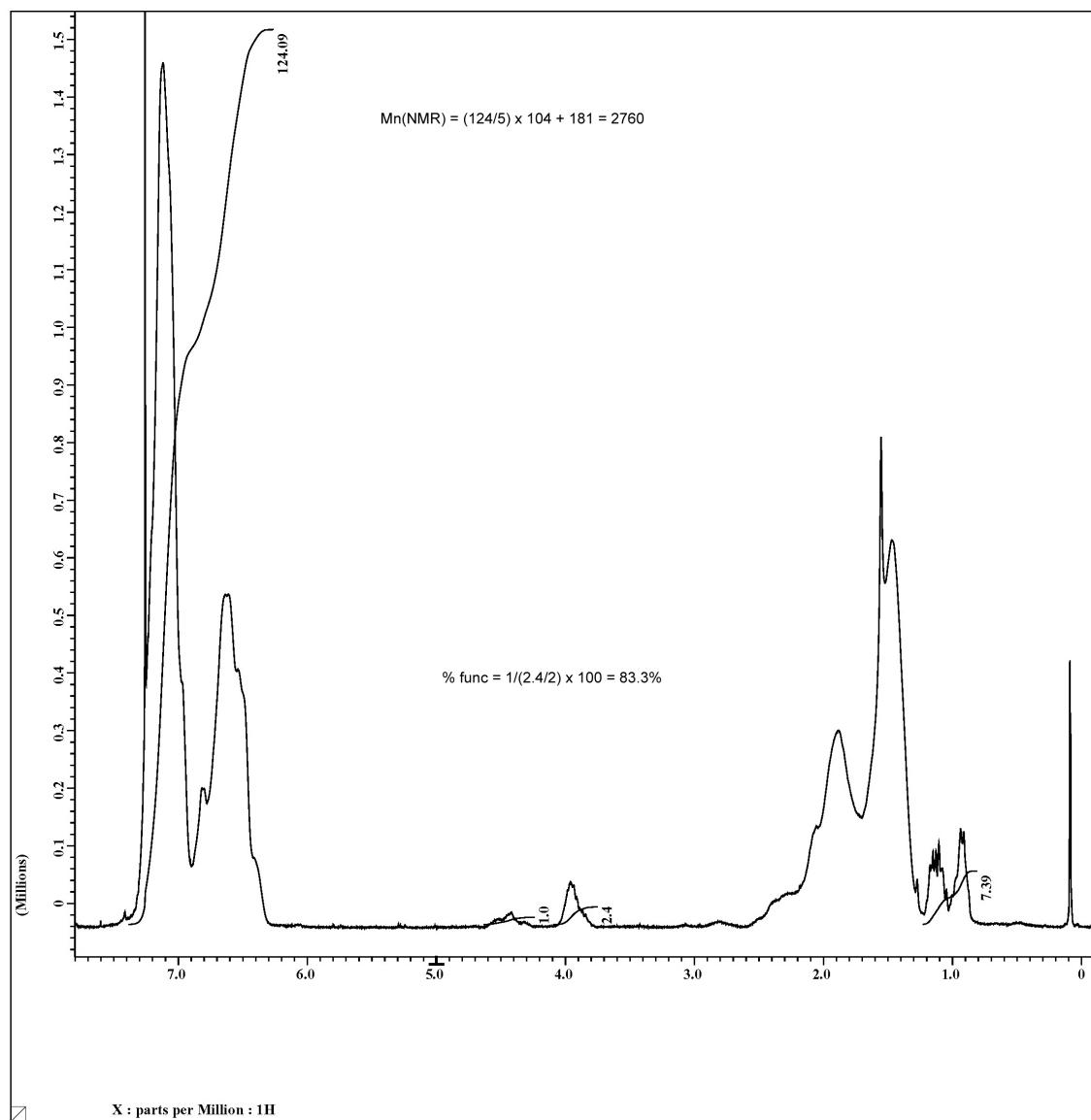


Figure S4. Aromatic region of <sup>13</sup>C spectrum of complex 2, showing the coupling constants C-F. \*Signals from phosphine oxide.



**Figure S5.** <sup>1</sup>H-NMR of PSt obtained in scCO<sub>2</sub> after 48 h of reaction.