

## Supplementary Materials

### Kinetics and Mechanism of the Pyridinolysis of Ethylene Phosphorochloridate in Acetonitrile

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Product:  $[(C_2H_4O_2)P(=O)NC_5H_5]^+Cl^-$

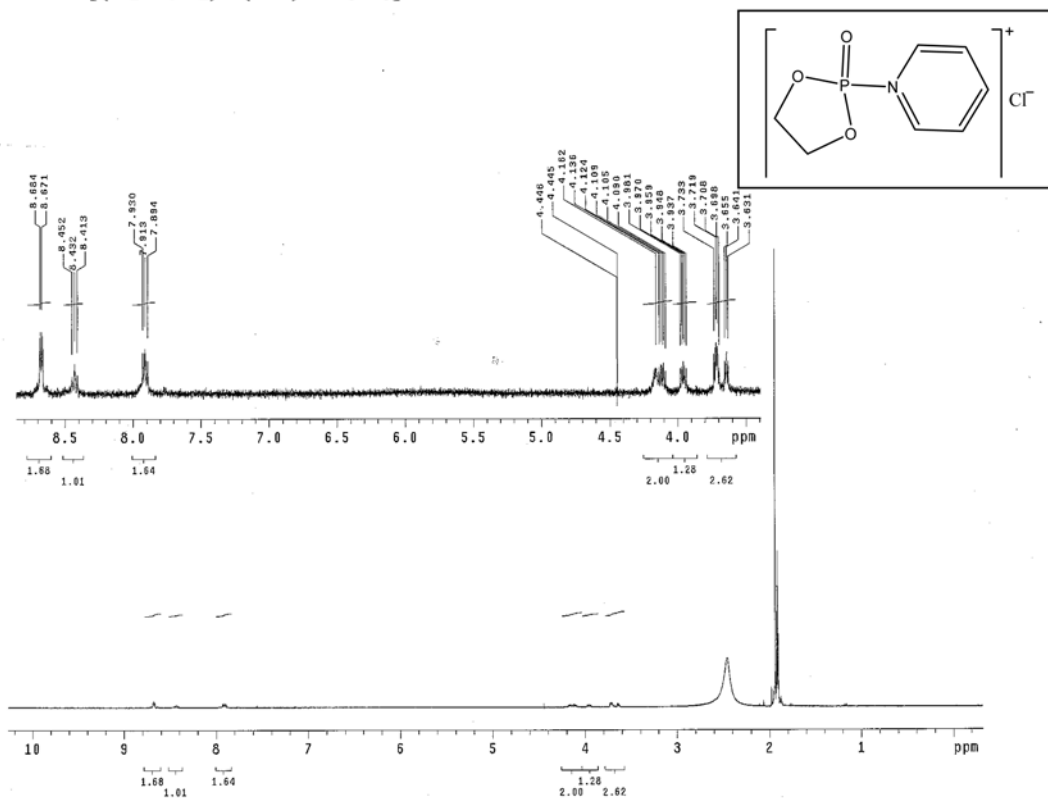
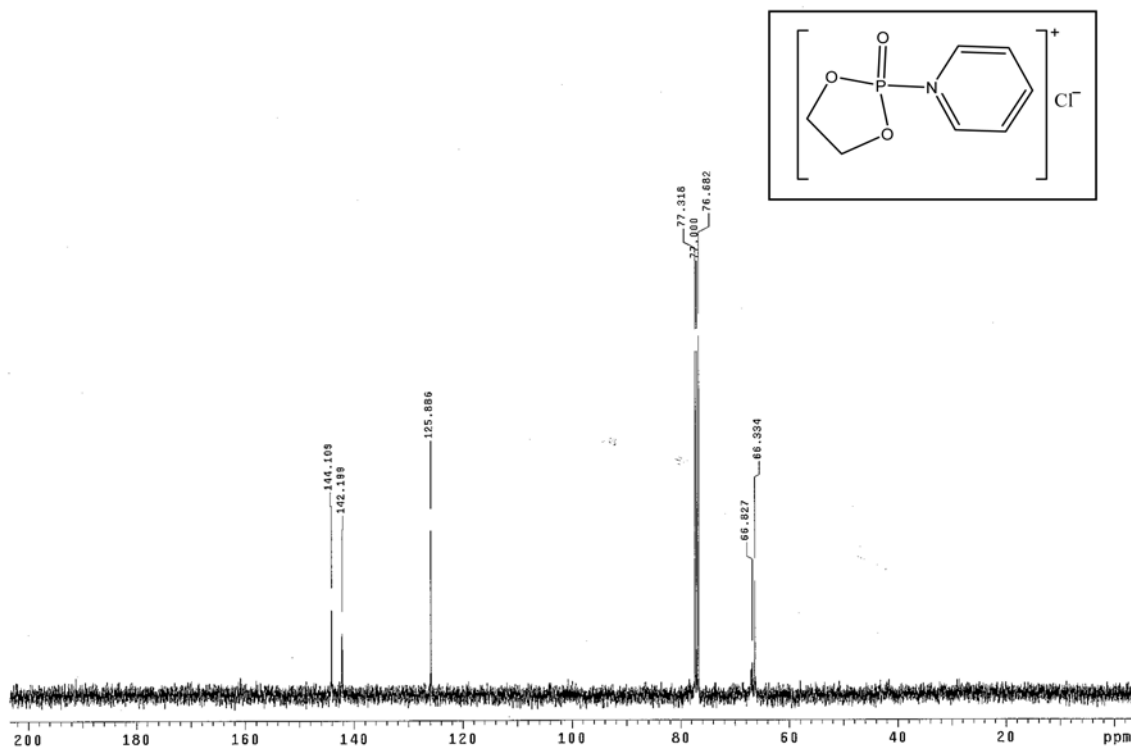


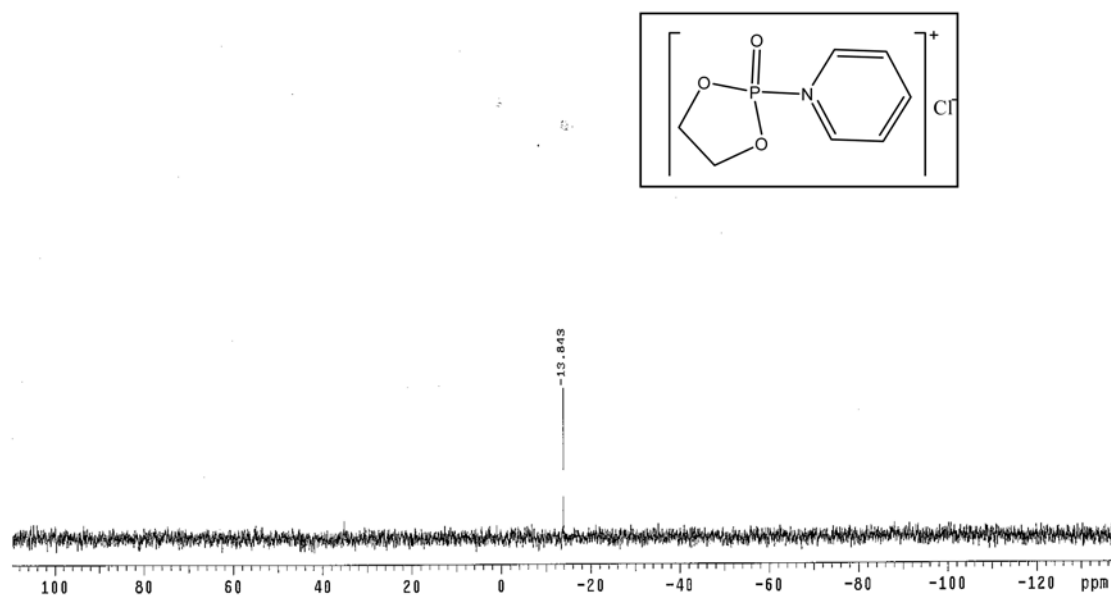
Figure S1. The  $^1H$ -NMR spectrum of  $[(C_2H_4O_2)P(=O)NC_5H_5]^+Cl^-$ .

**Product:**  $[(C_2H_4O_2)P(=O)NC_5H_5]^+Cl^-$



**Figure S2.** The  $^{13}C$ -NMR spectrum of  $[(C_2H_4O_2)P(=O)NC_5H_5]^+Cl^-$ .

**Product:**  $[(C_2H_4O_2)P(=O)NC_5H_5]^+Cl^-$



**Figure S3.** The  $^{31}P$ -NMR spectrum of  $[(C_2H_4O_2)P(=O)NC_5H_5]^+Cl^-$ .

Product:  $[(C_2H_4O_2)P(=O)NC_5H_5]^+Cl^-$

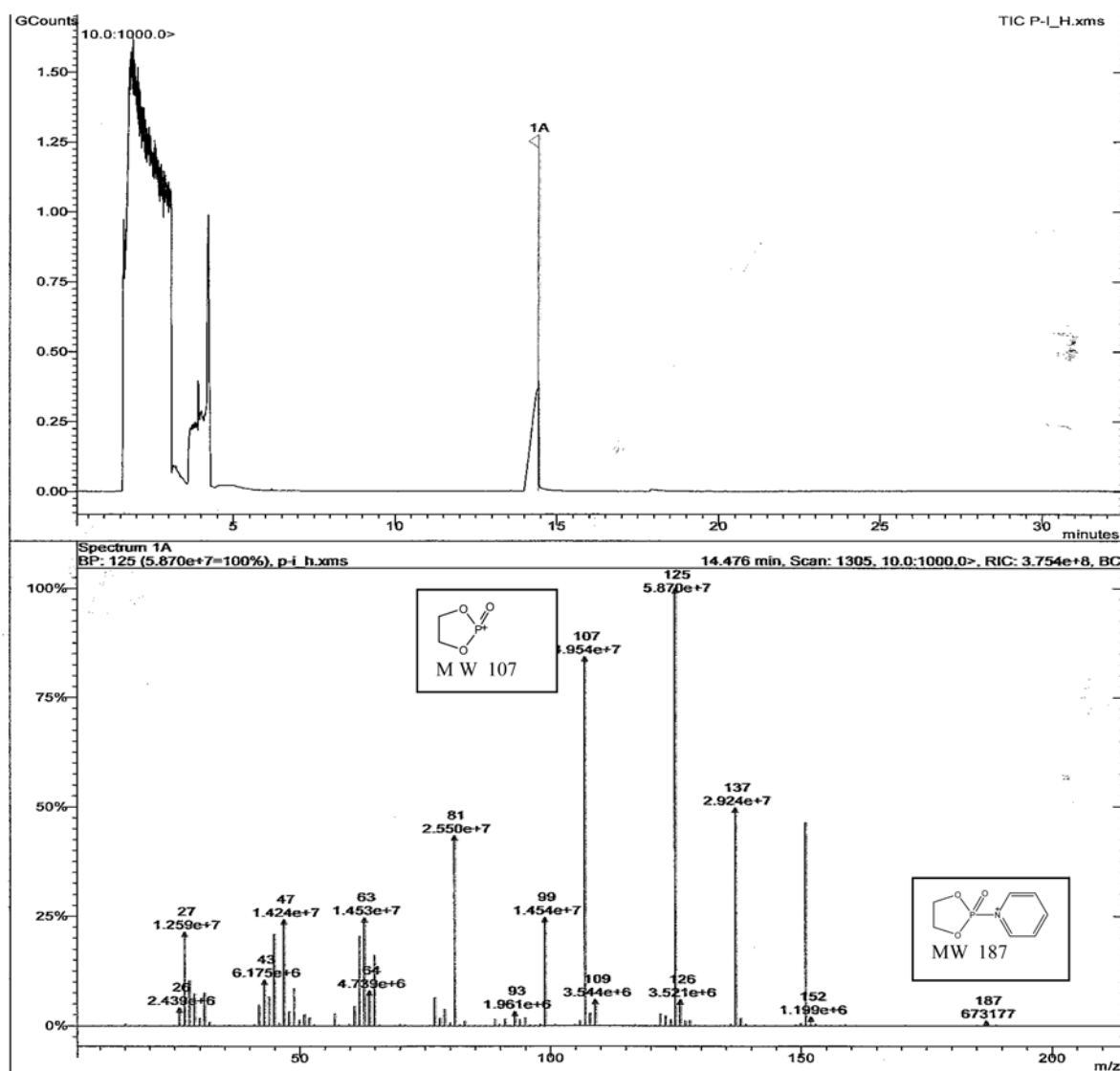


Figure S4. The GC-MS spectrum of  $[(C_2H_4O_2)P(=O)NC_5H_5]^+Cl^-$ .