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Supplementary Materials

Kinetics and Mechanism of the Anilinolysis of Diethyl Thiophosphinic Chloride in Acetonitrile

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Table 1. Activation Parameters[a] for the Reactions of Diethyl Thiophosphinic Chloride with $XC_6H_4NH_2$ in MeCN at 55.0 ºC

X	Temp. / °C	$k_H \times 10^4$ /M^{-1} s^{-1}	$\Delta H^{\neq}$ /kcal mol^{-1}	$-\Delta S^{\neq}$ /cal mol^{-1} K^{-1}
H	45	2.32 ± 0.02	7.1 ± 0.3[b]	53 ± 1[c]
	55	3.30 ± 0.03		
	65	4.80 ± 0.04		

[a] Calculated by Eyring equation. [b,c] Standard deviation.

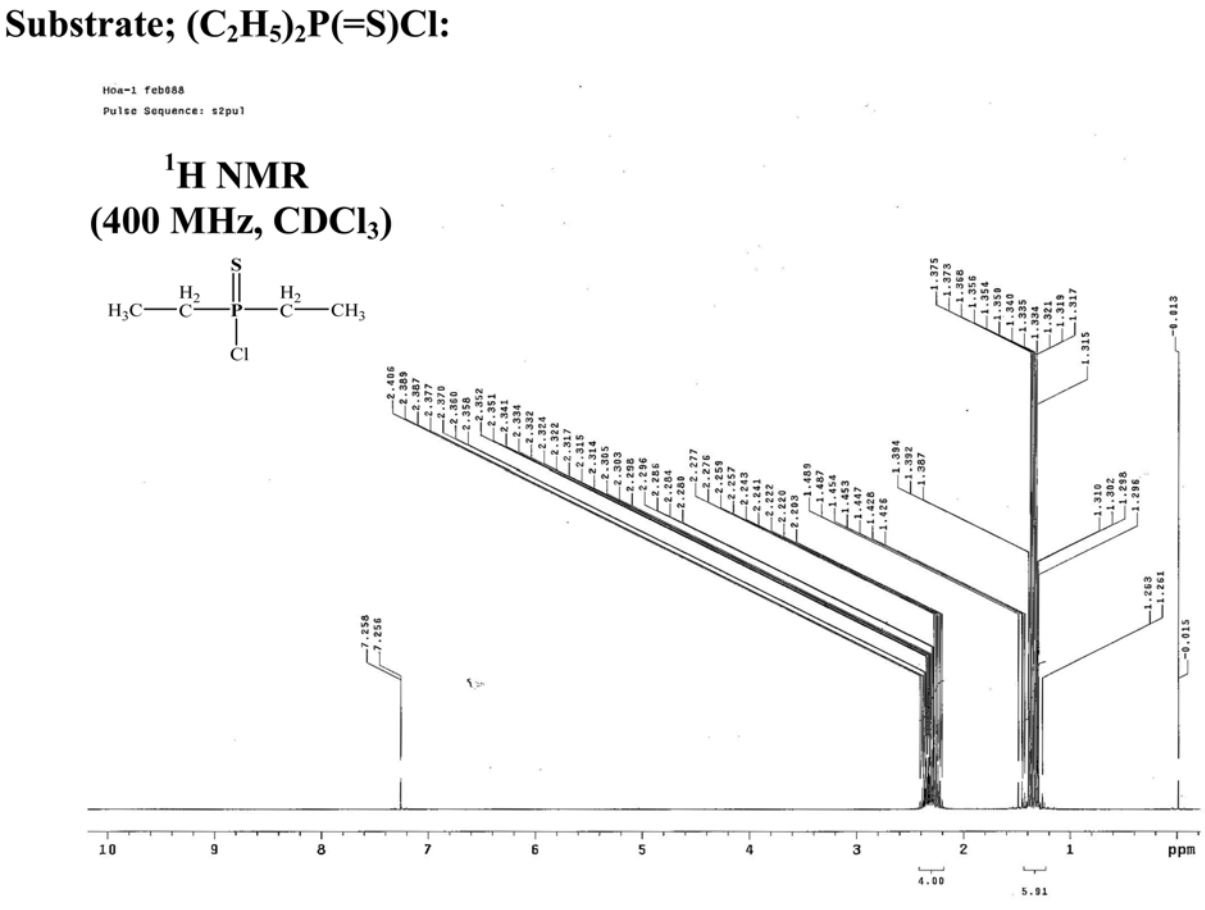

Figure S1. ^1H NMR spectrum of $(C_2H_5)_2P(=S)Cl$.

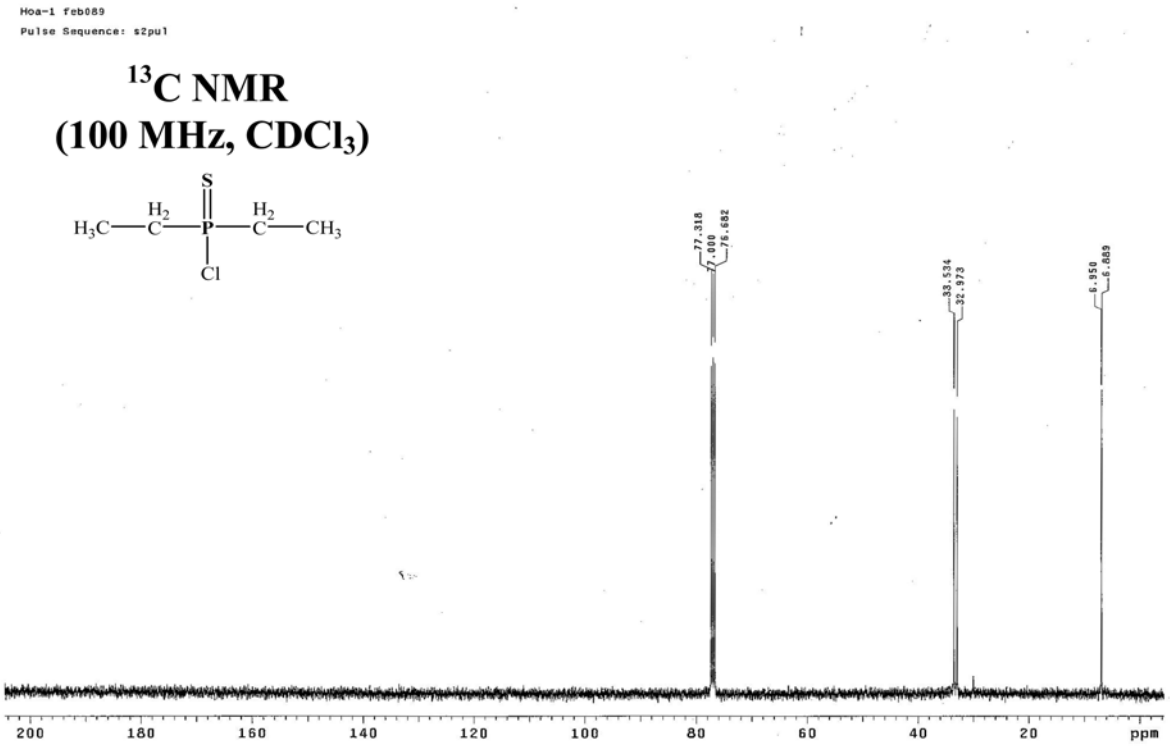

Figure S2. ^{13}C NMR spectrum of $(C_2H_5)_2P(=S)Cl$.

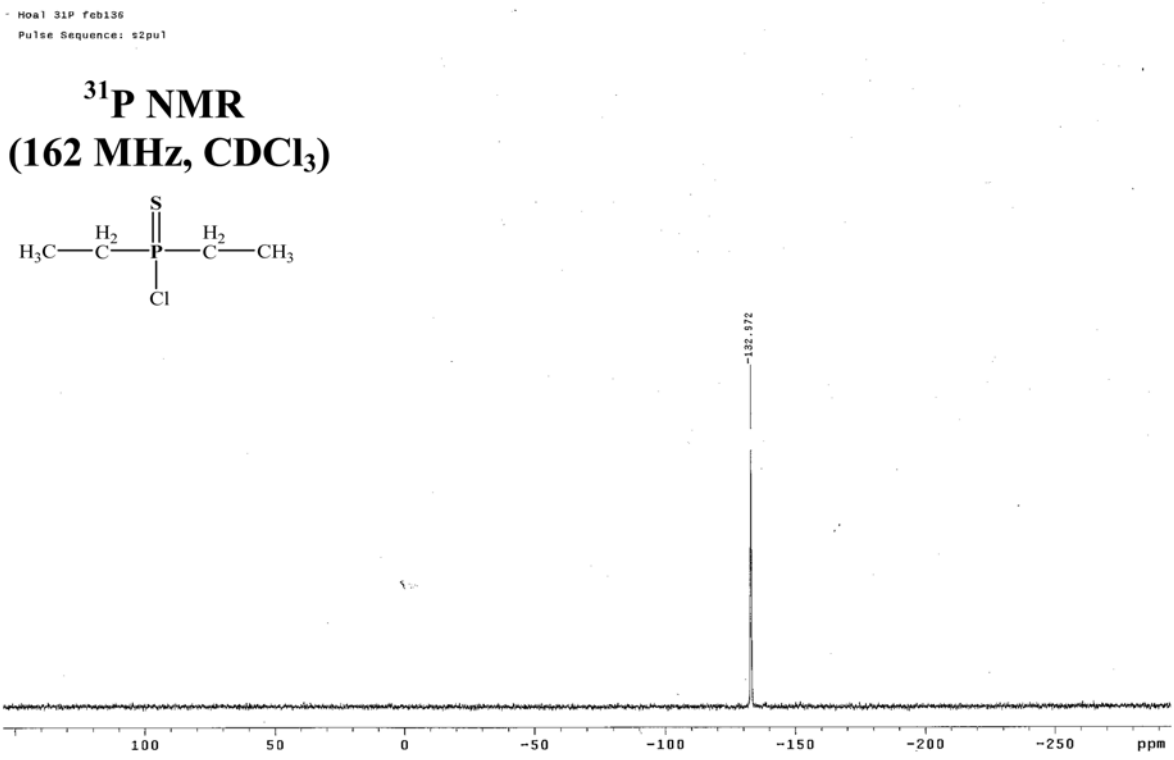

Figure S3. ^{31}P NMR spectrum of $(C_2H_5)_2P(=S)Cl$.

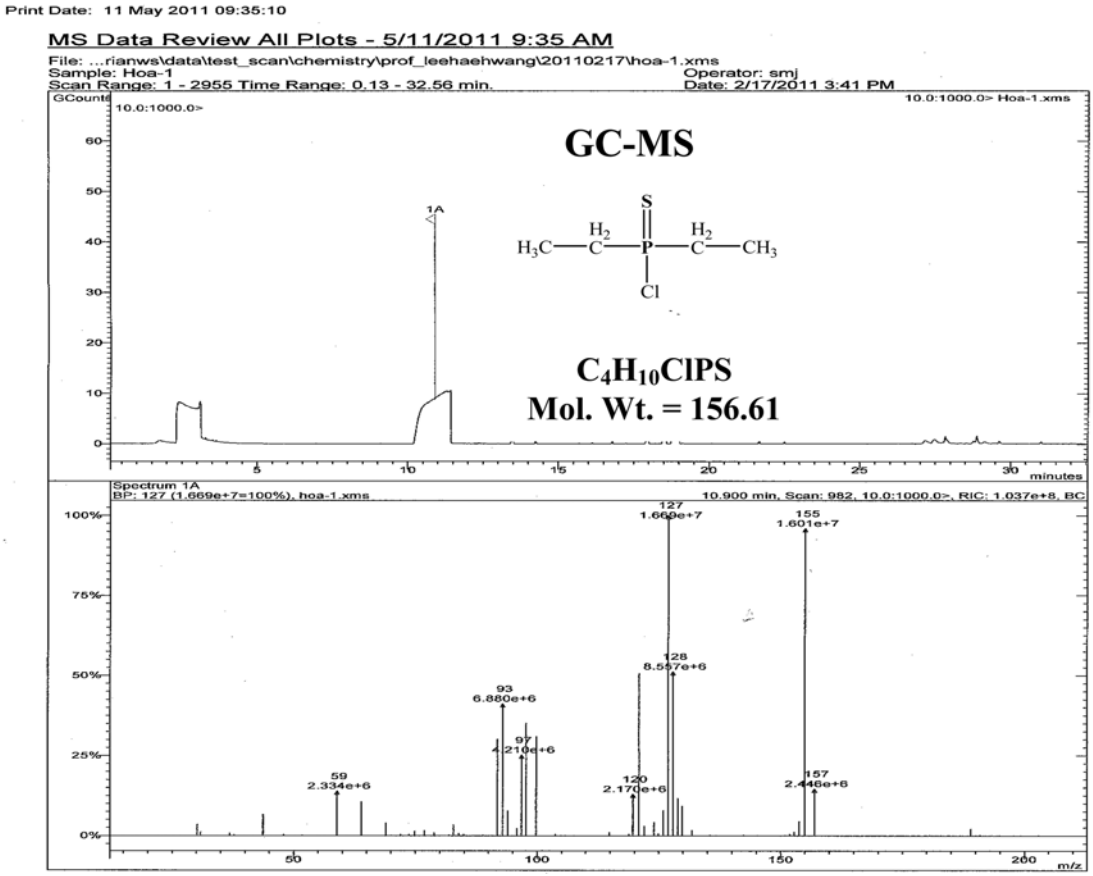

Figure S4. GC-MS spectrum of $(C_2H_5)_2P(=S)Cl$.

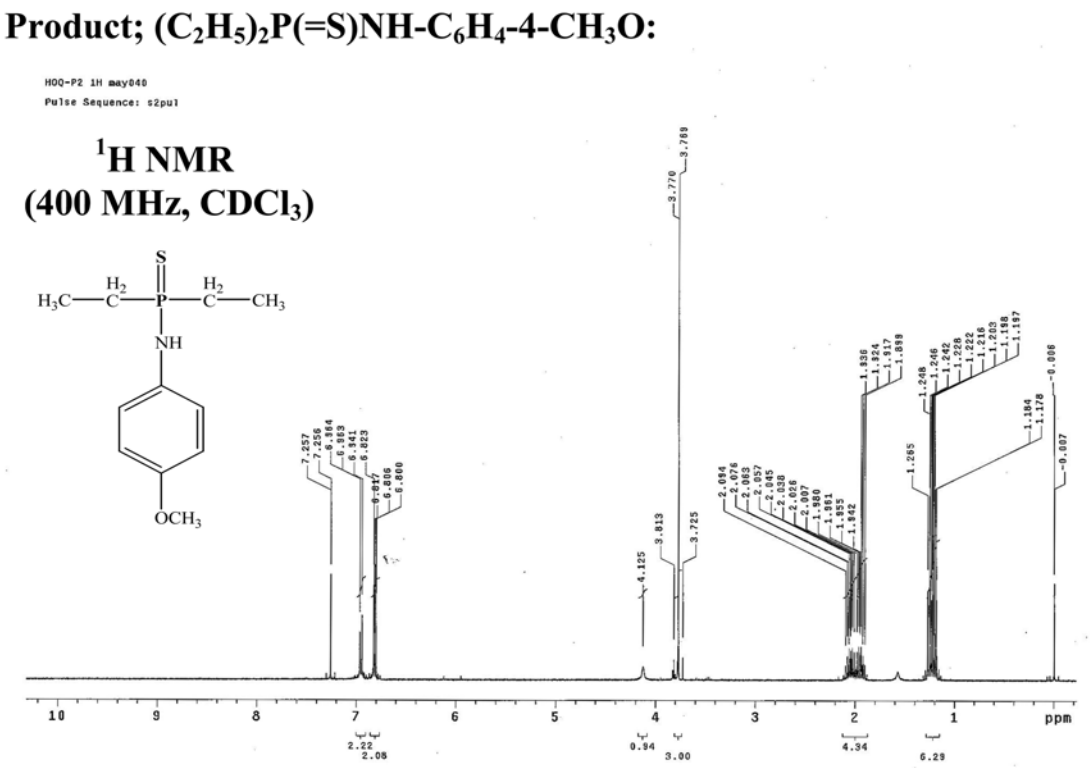

Figure S5. ^1H NMR spectrum of $(C_2H_5)_2P(=S)NH\text{-}C_6H_4\text{-}4\text{-}CH_3O$.

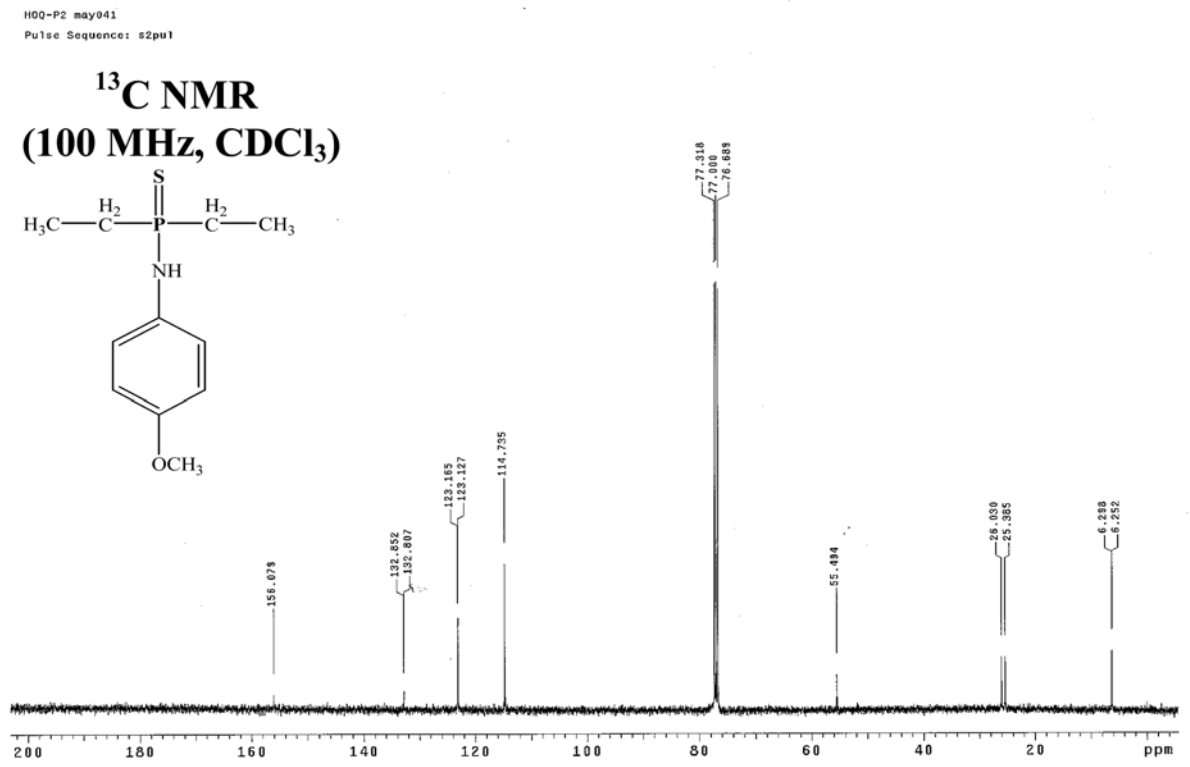

Figure S6. ^{13}C NMR spectrum of $(C_2H_5)_2P(=S)NH\text{-}C_6H_4\text{-}4\text{-}CH_3O$.

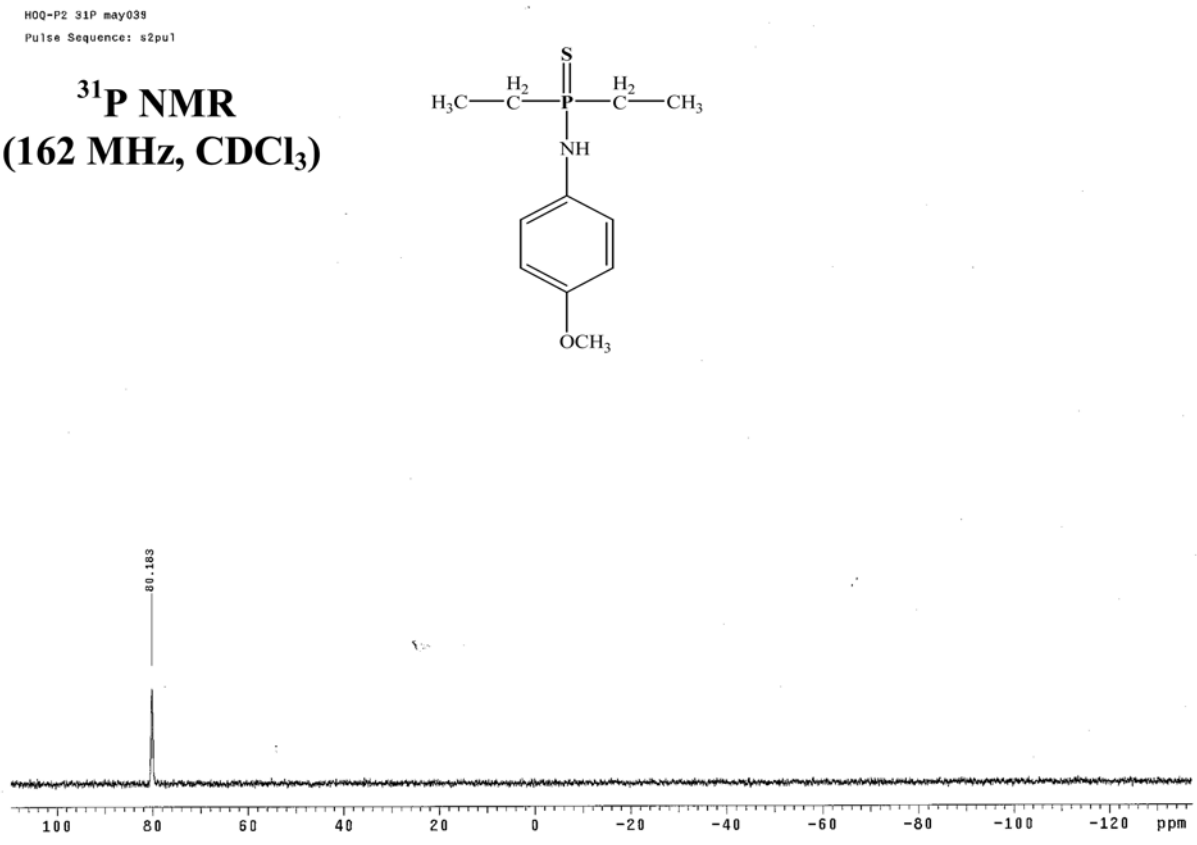

Figure S7. ^{31}P NMR spectrum of $(C_2H_5)_2P(=S)NH\text{-}C_6H_4\text{-}4\text{-}CH_3O$.

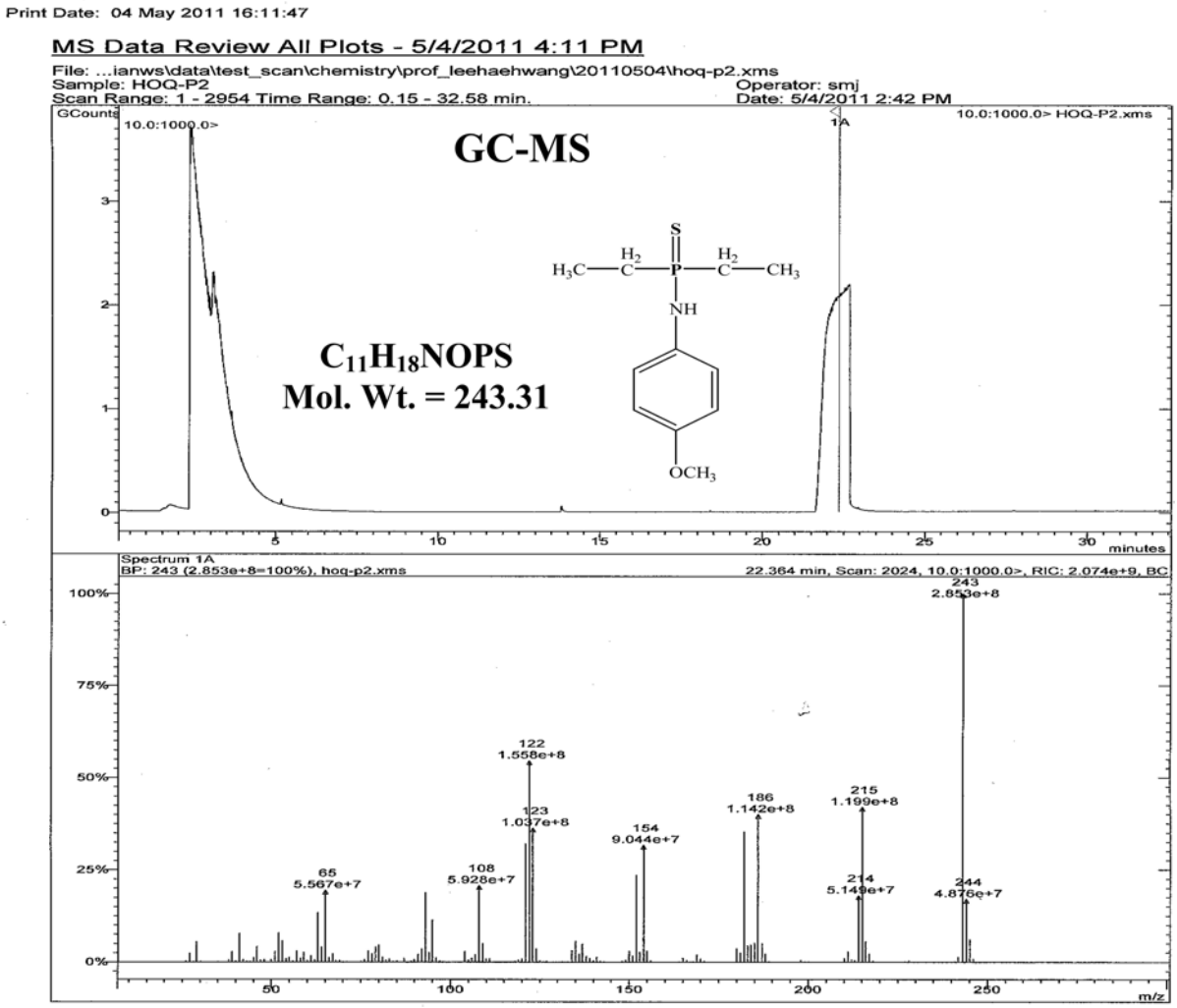

Figure S8. GC-MS spectrum of $(C_2H_5)_2P(=S)NH\text{-}C_6H_4\text{-}4\text{-}CH_3O$.