Supplementary Materials

Synthesis of *N*,*O*-Chelating Hydrazidopalladium Complexes from 1,2-Bis(trifluoroacetyl)hydrazine

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X-ray Crystallographic Data for 2 and 3

Table S1. Crystallographic data for **2** and **3**

	2	**3**
Empirical Formula	$C_{31}H_{26}F_6N_2O_2P_2Pd$	$C_{10}H_{16}F_6N_4O_2Pd$
Formula Weight	740.90	444.65
Crystal Color, Habit	yellow, prism	orange, prism
Crystal System	orthorhombic	monoclinic
Space Group	*P*bca (#61)	$P2_1/n$ (#14)
Lattice Parameters	a = 14.952(6) Å	a = 13.0204(19) Å
	b = 18.858(8) Å	b = 8.1491 (10) Å
	c = 20.029(9) Å	c = 15.1590(19) Å
		β = 91.198(8) °
	V = 6211(4) Å^3	V = 1608.1(4) Å^3
Z value	8	4
D_{calc}	1.584 g/cm^3	1.836 g/cm^3
F_{000}	2976.00	880.00
μ(Mo$K\alpha$)	7.687 cm^{-1}	12.289 cm^{-1}
Exposure Rate	8.0 sec./º	4.0 sec./°
No. of Reflections Measured	46879	12071
No. of Unique Reflections	7096	3647
No. Variables	397	208
$R1$ (I>2.00σ(I))	0.0742	0.0417
w$R2$ (All Reflections)	0.1593	0.1130
GOF on F^2	1.368	1.146

$R1 = \Sigma \, ||F_o| - |F_c|| \, / \, \Sigma \, |F_o|$, $wR2 = [\Sigma (w (F_o^2 - F_c^2)^2) / \Sigma w(F_o^2)^2]^{1/2}$.

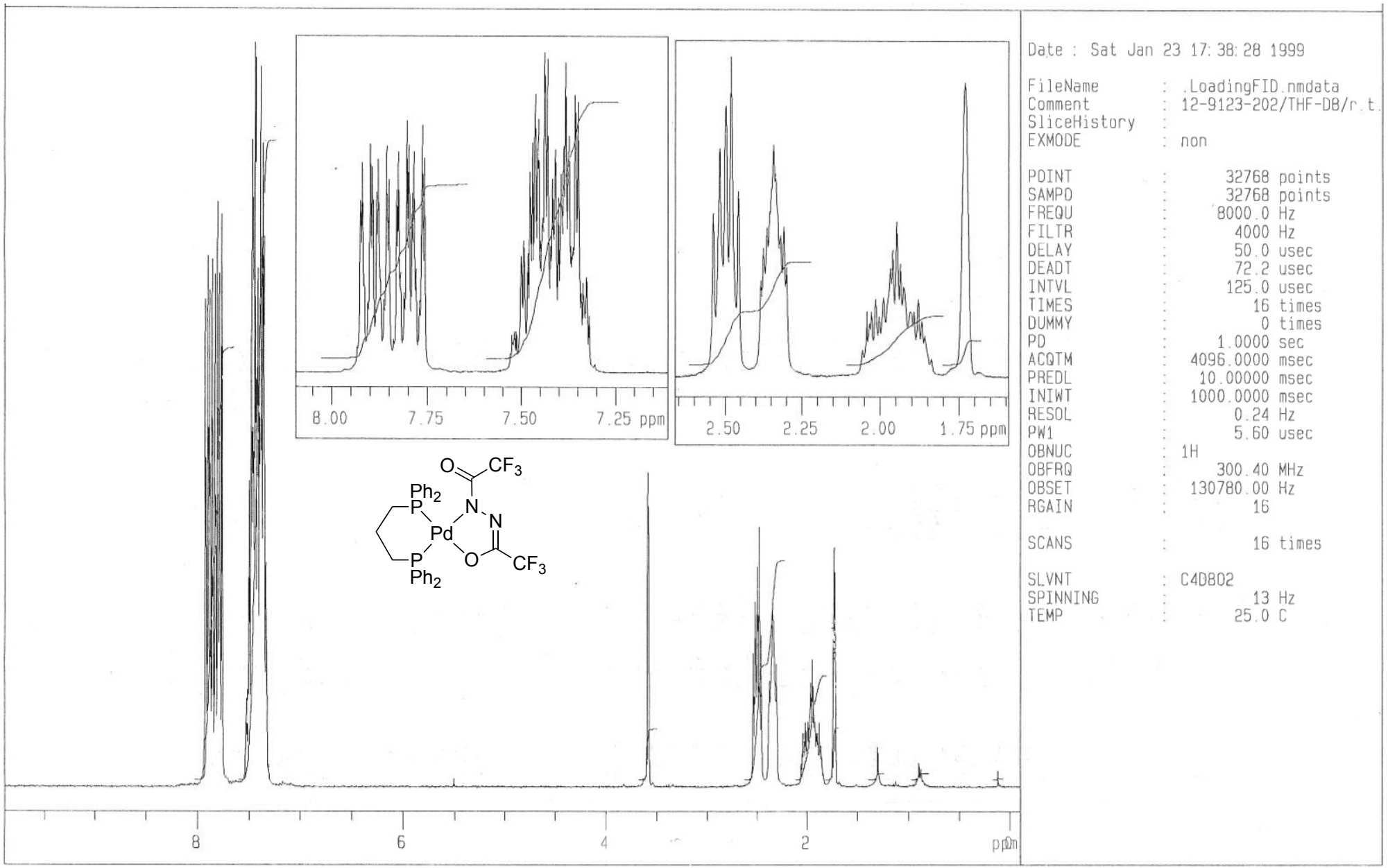

Figure S1. ^{1}H NMR Spectrum of **2** (THF-d_8, rt)

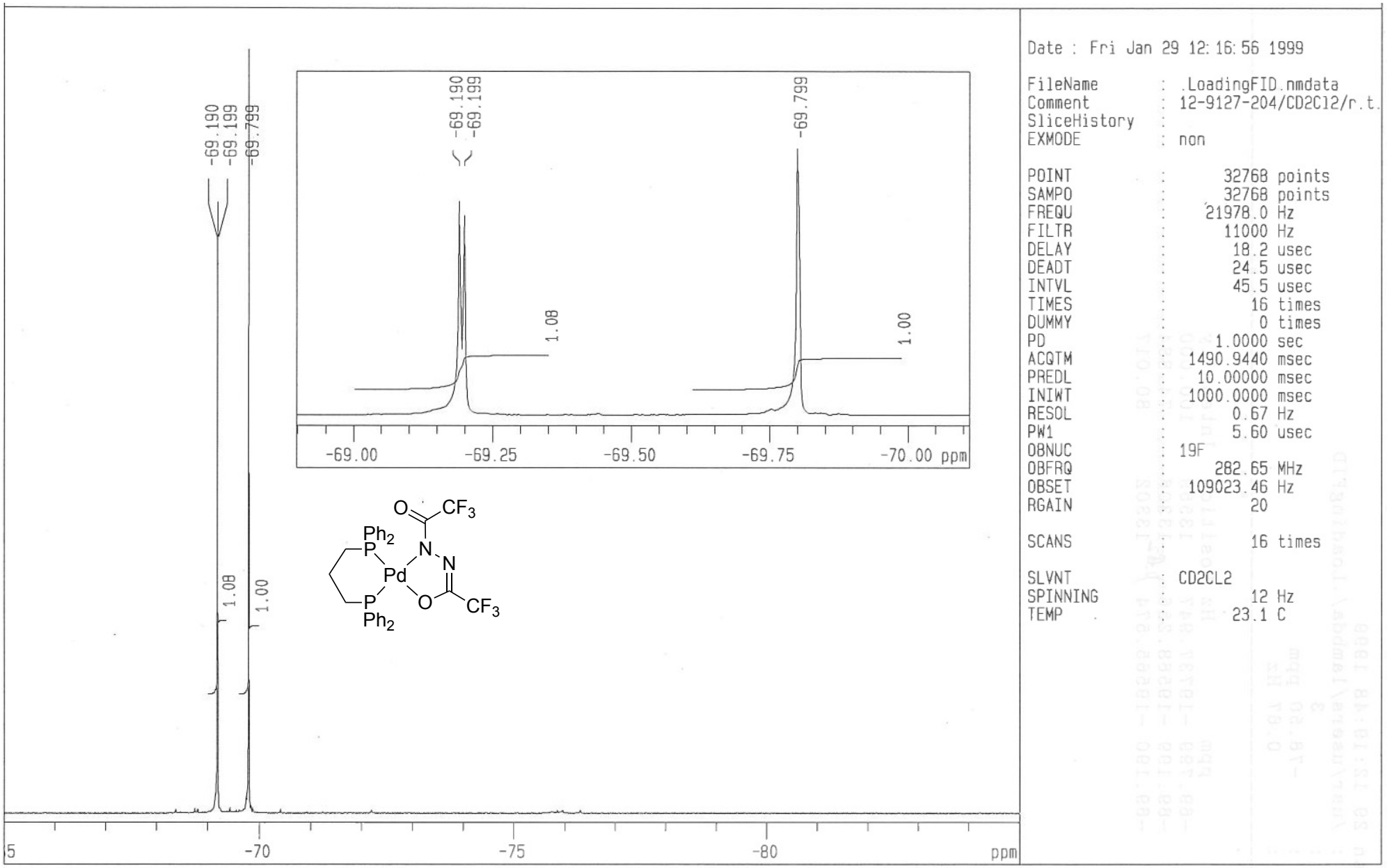

Figure S2. ^{19}F NMR Spectrum of **2** (CD_2Cl_2, rt)

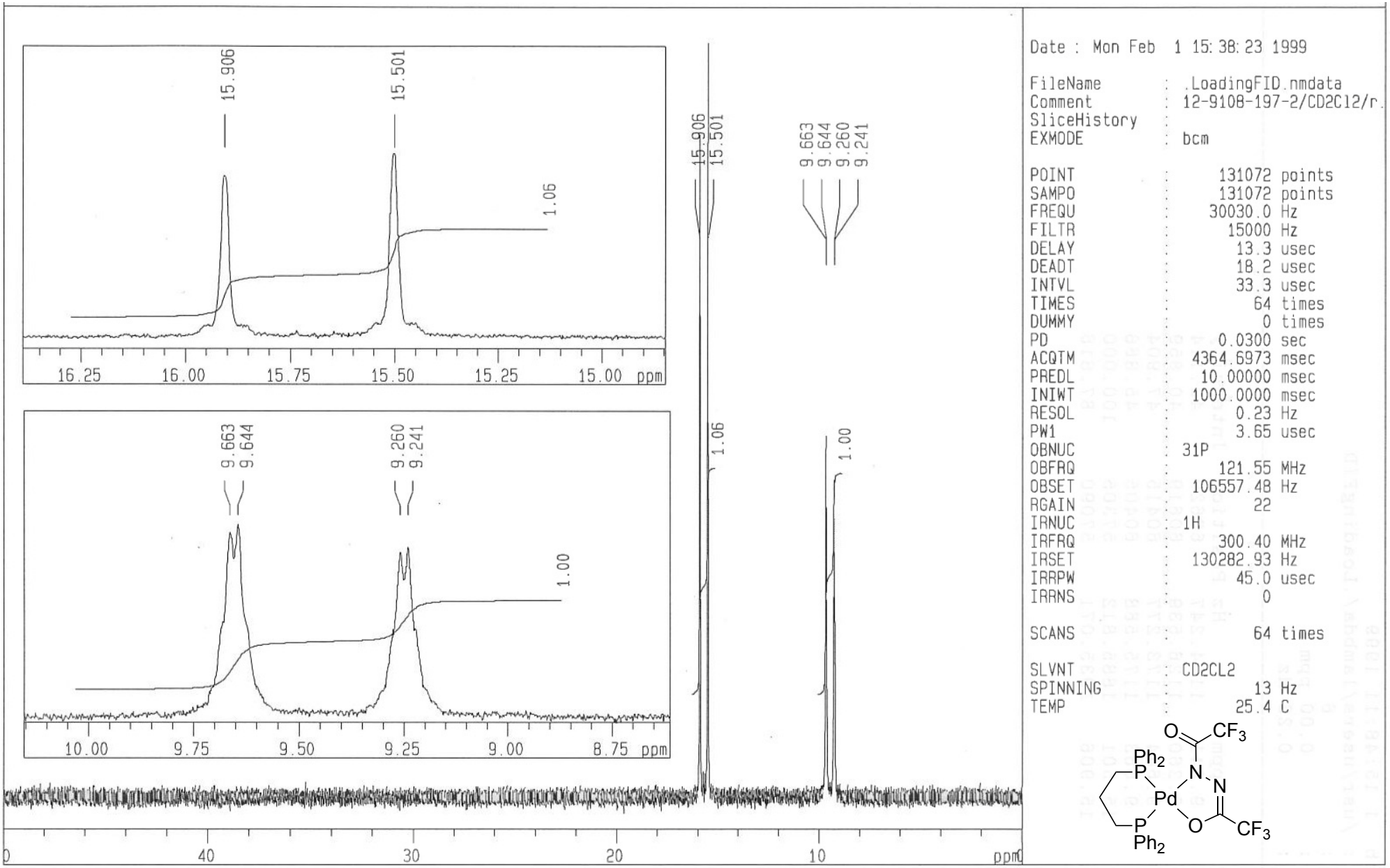

Figure S3. $^{31}P\{^{1}H\}$ NMR Spectrum of **2** (CD_2Cl_2, rt)

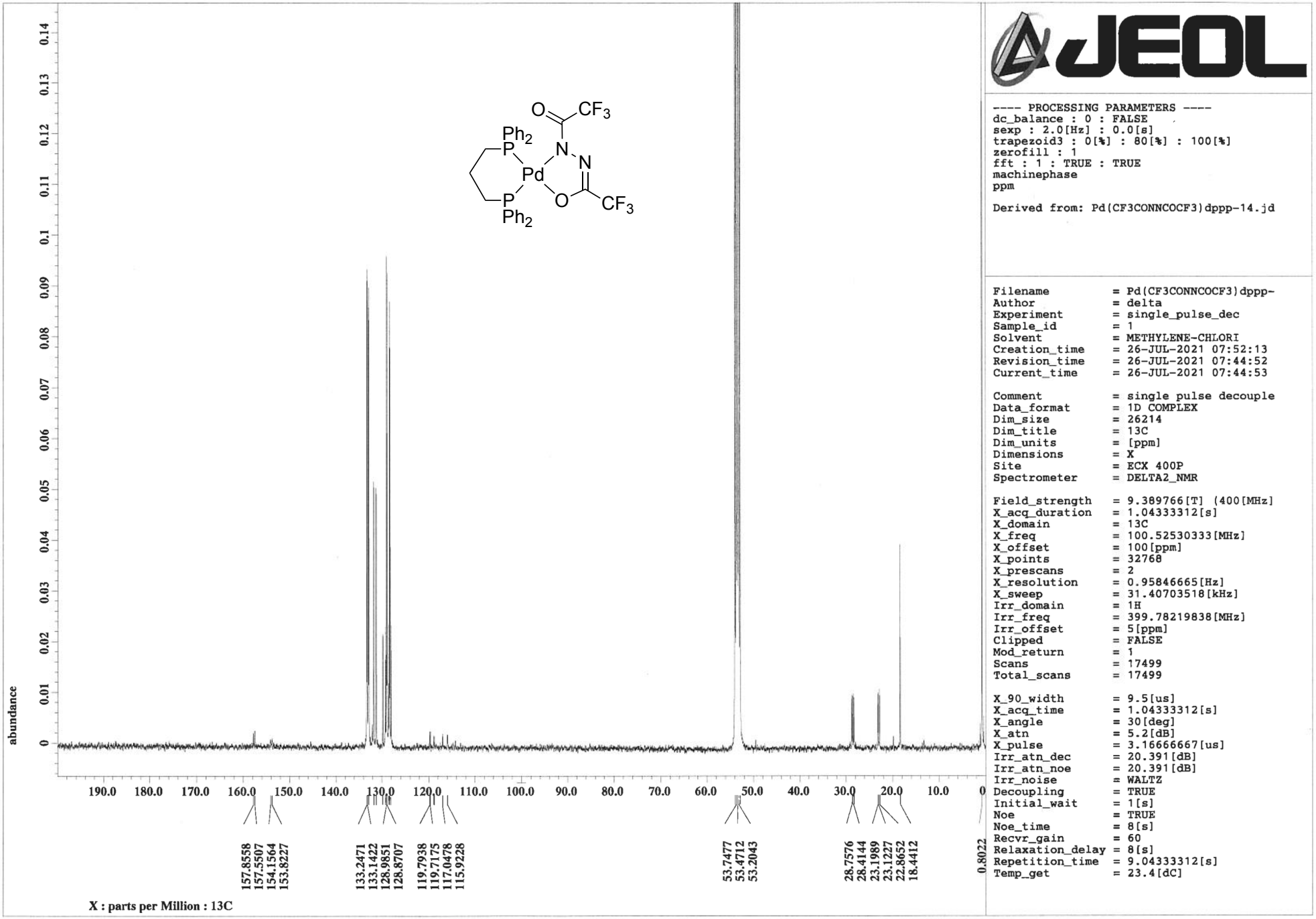

Figure S4. $^{13}C\{^{1}H\}$ NMR Spectrum of **2** (CD_2Cl_2, rt)

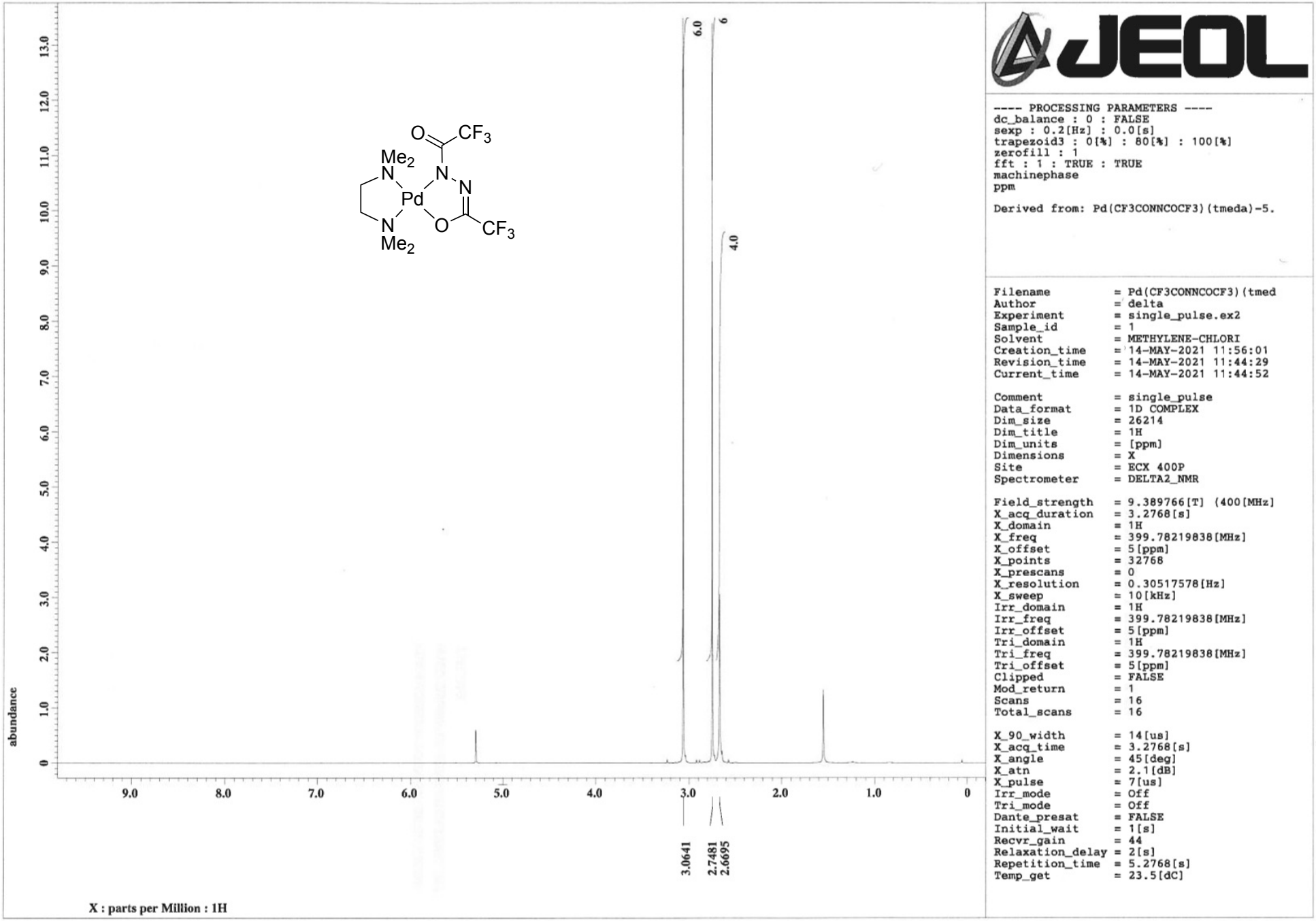

Figure S5. ^{1}H NMR Spectrum of **3** (CD_2Cl_2, rt)

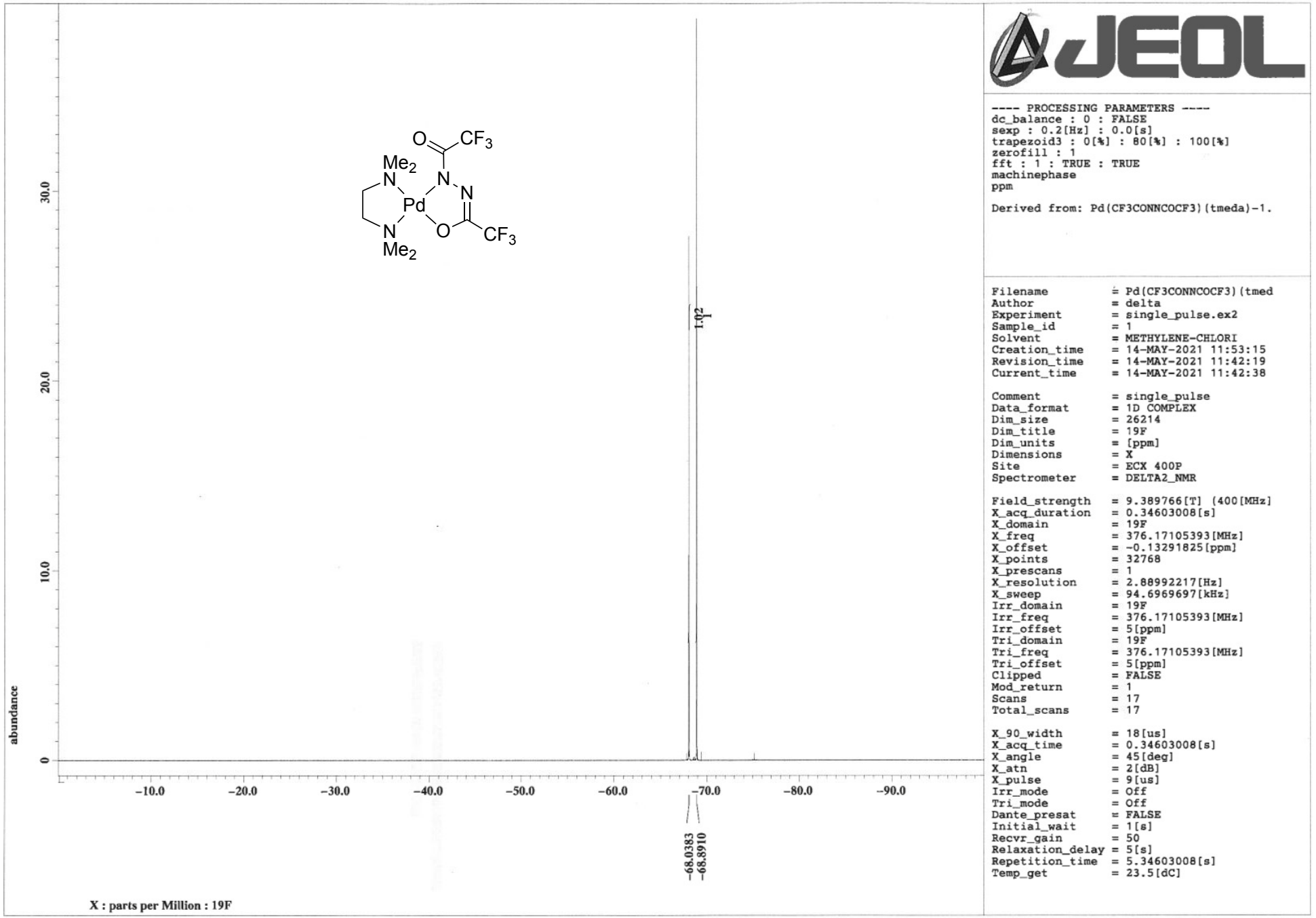

Figure S6. ^{19}F NMR Spectrum of **3** (CD_2Cl_2, rt)

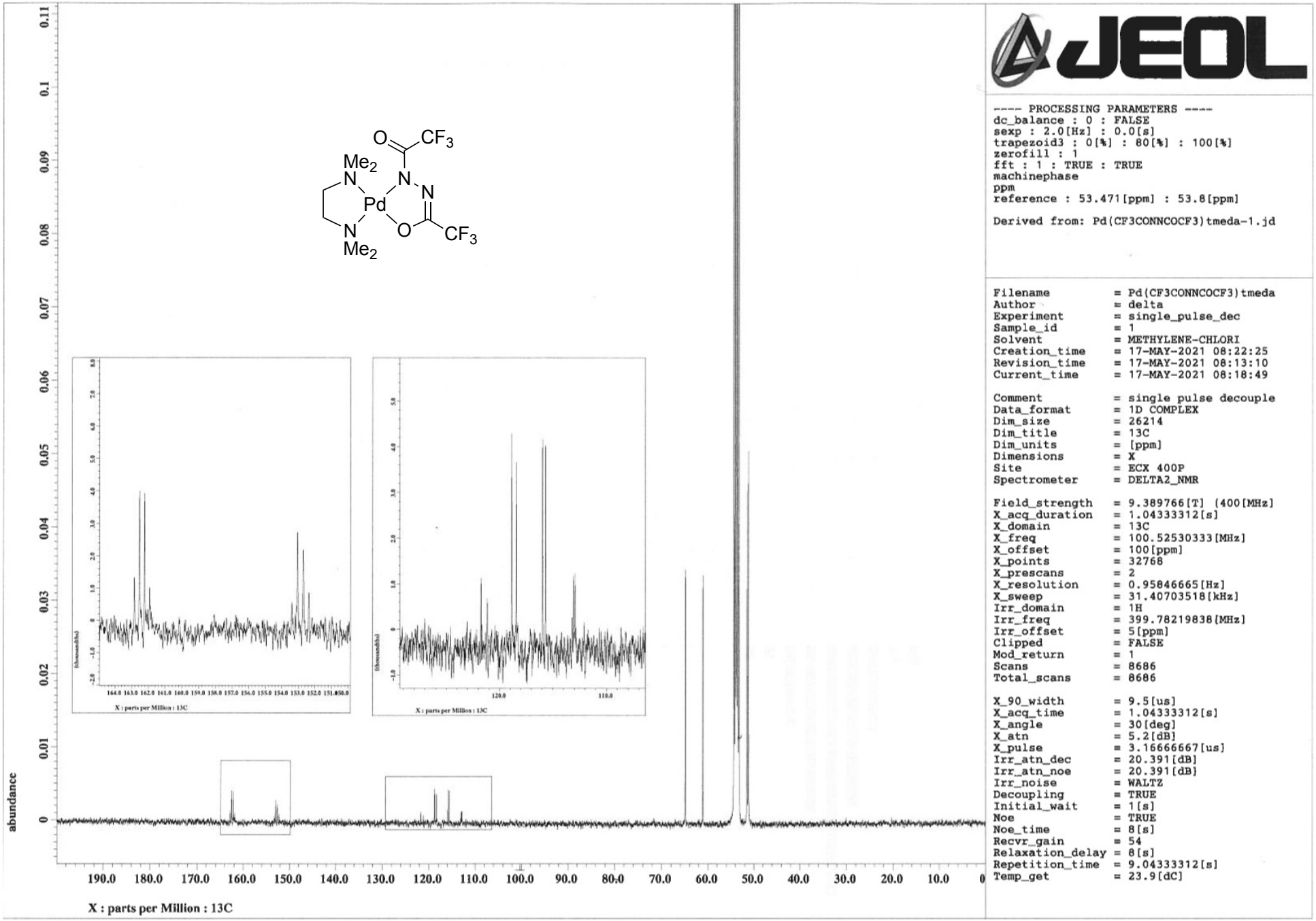

Figure S7. $^{13}C\{^1H\}$ NMR Spectrum of **3** (CD_2Cl_2, rt)

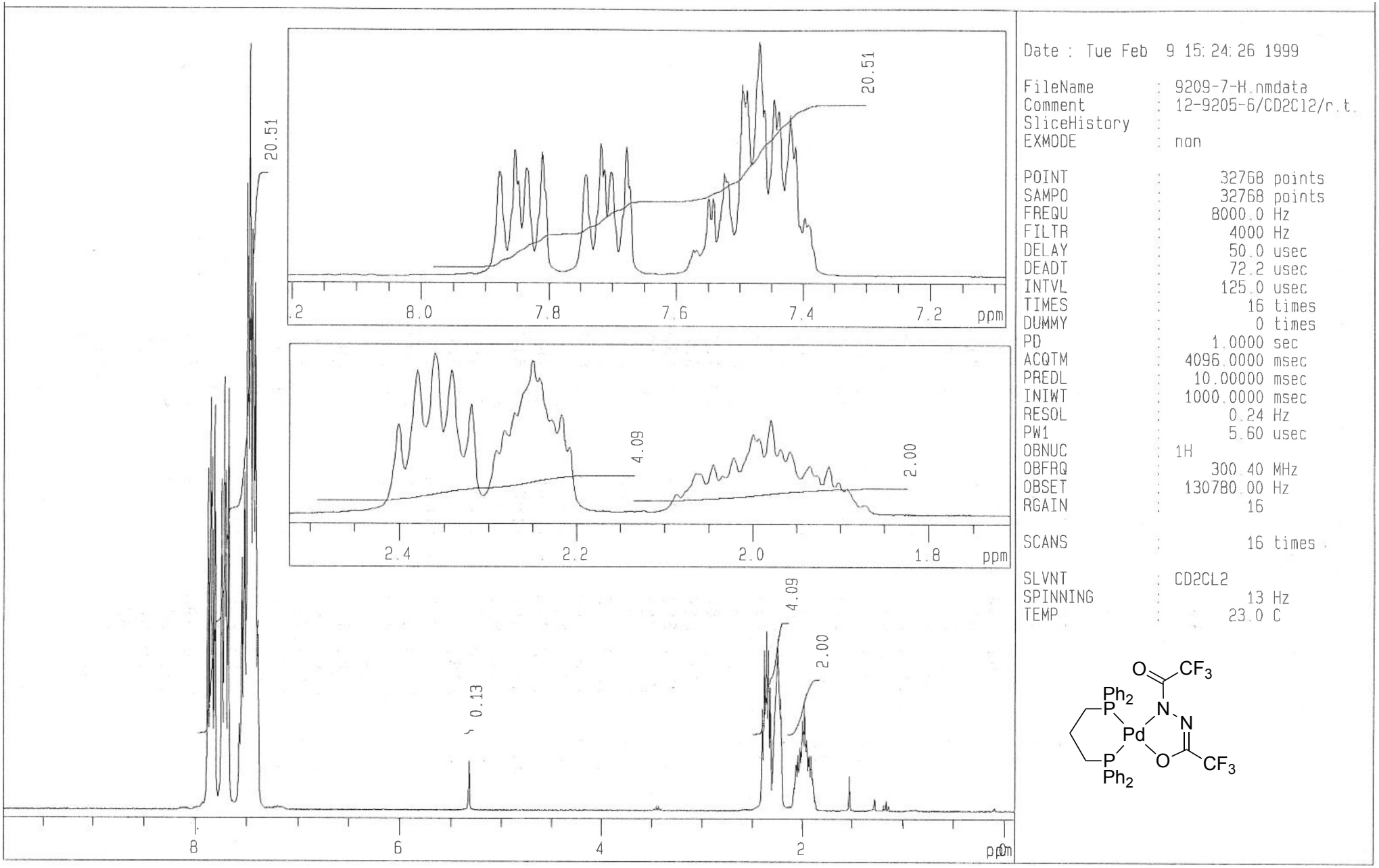

Figure S8. ^{1}H NMR Spectrum of **2** Prepared from $Pd(OAc)_2$ (CD_2Cl_2, rt)

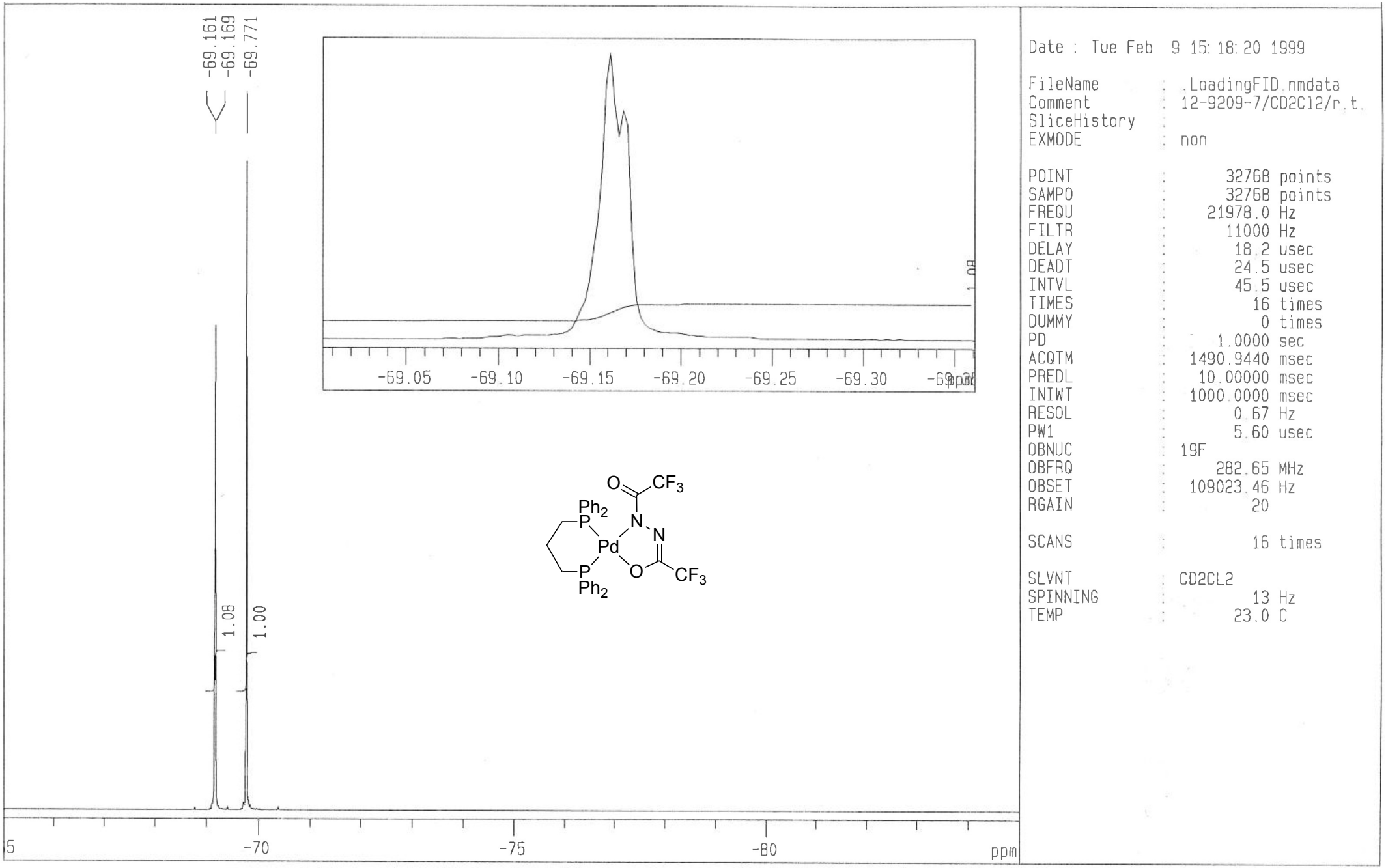

Figure S9. ^{19}F NMR Spectrum of **2** Prepared from $Pd(OAc)_2$ (CD_2Cl_2, rt)

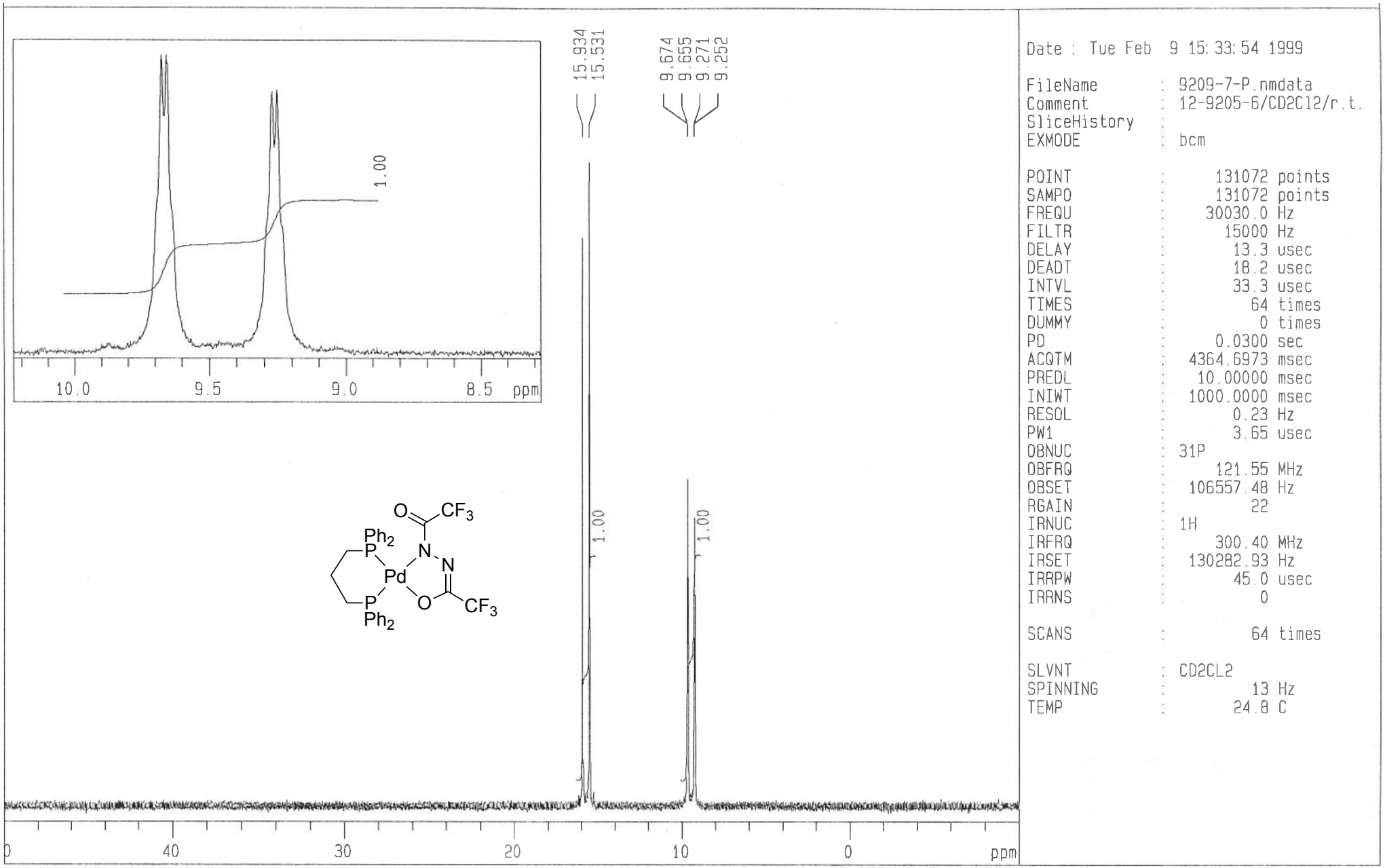

Figure S10. $^{31}P\{^{1}H\}$ NMR Spectrum of **2** Prepared from $Pd(OAc)_2$ (CD_2Cl_2, rt)

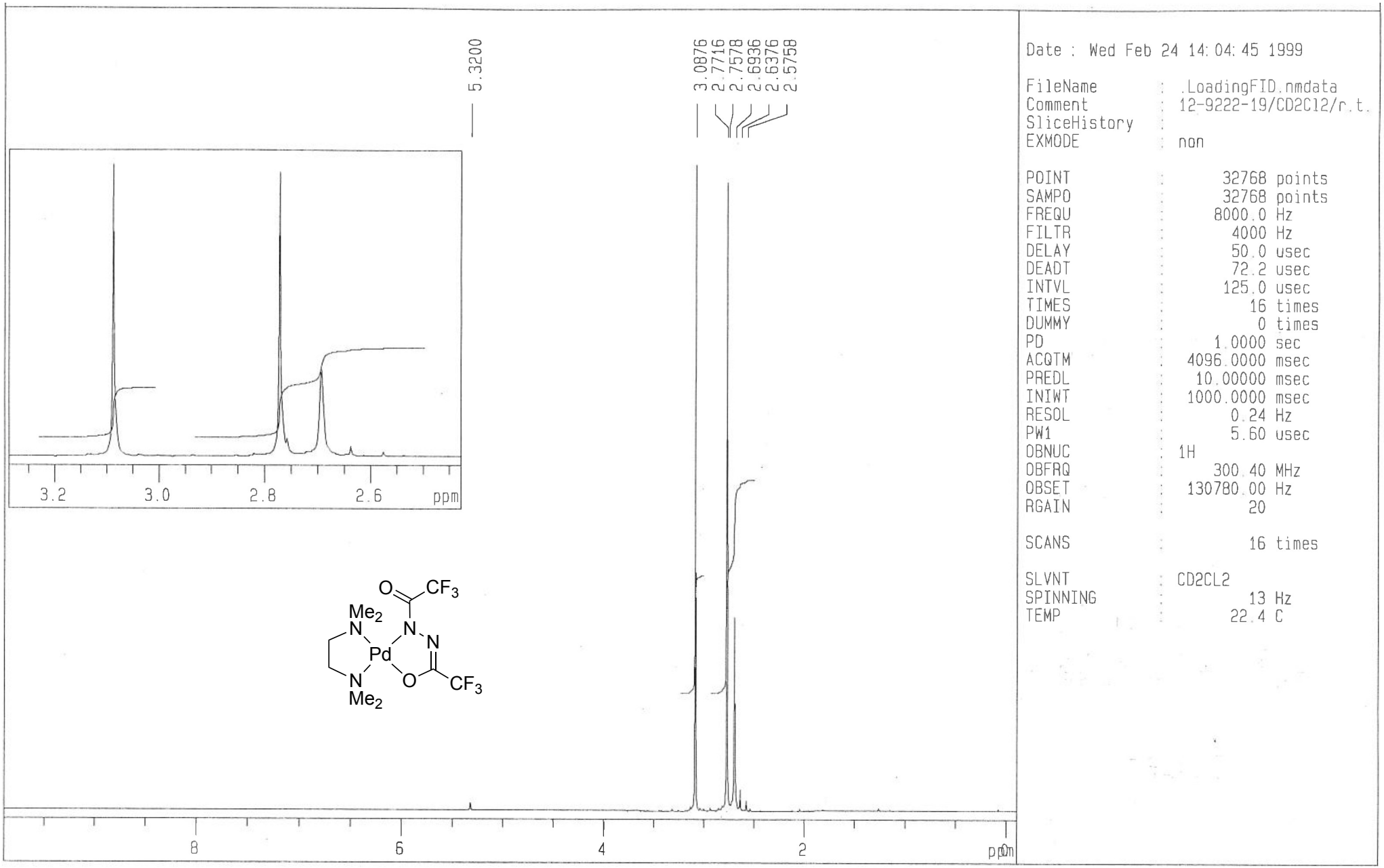

Figure S11. ^{1}H NMR Spectrum of **3** Prepared from $Pd(OAc)_2$ (CD_2Cl_2, rt)

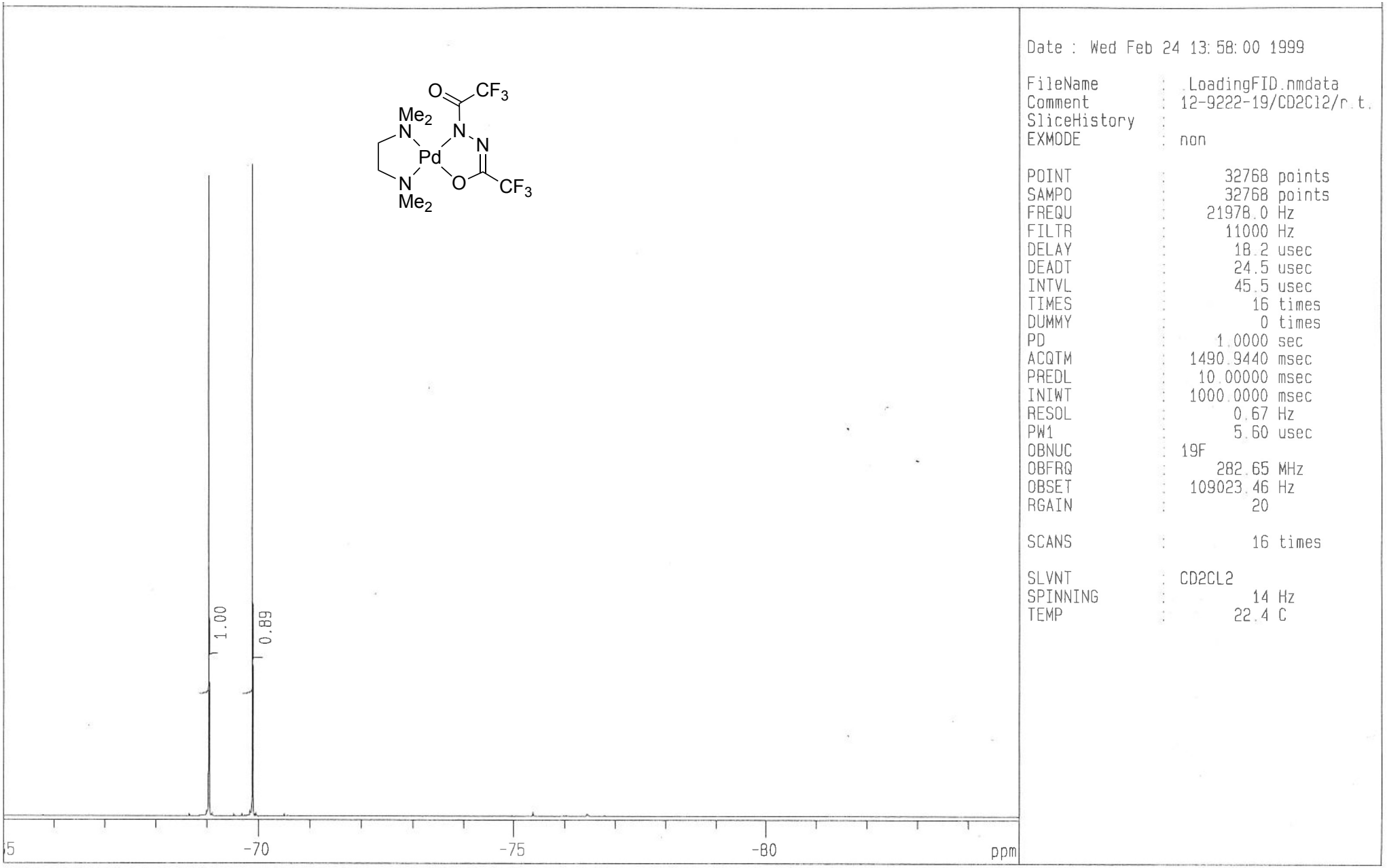

Figure S12. ^{19}F NMR Spectrum of **3** Prepared from $Pd(OAc)_2$ (CD_2Cl_2, rt)

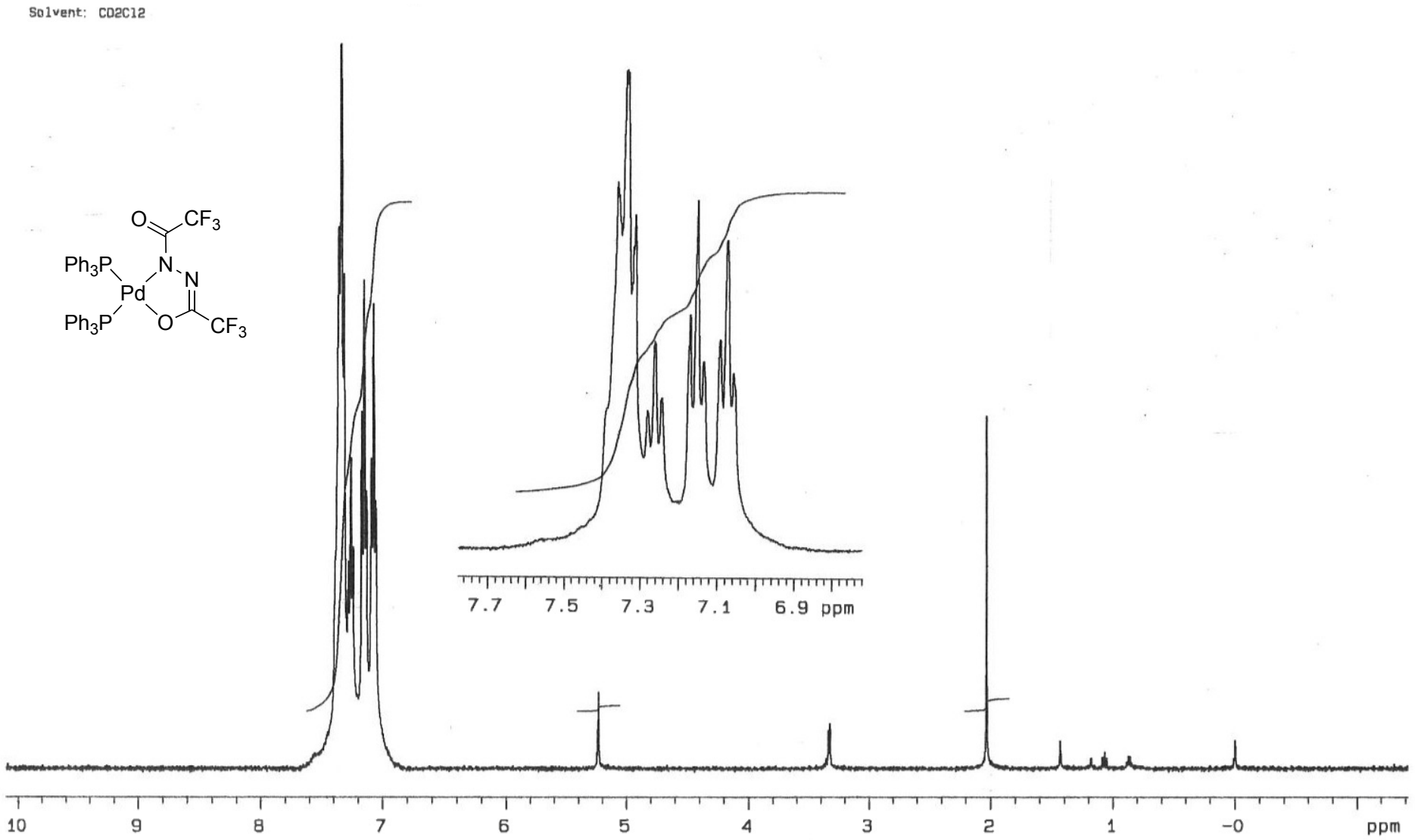

Figure S13. ^{1}H NMR Spectrum of **4** (CD_2Cl_2, rt)

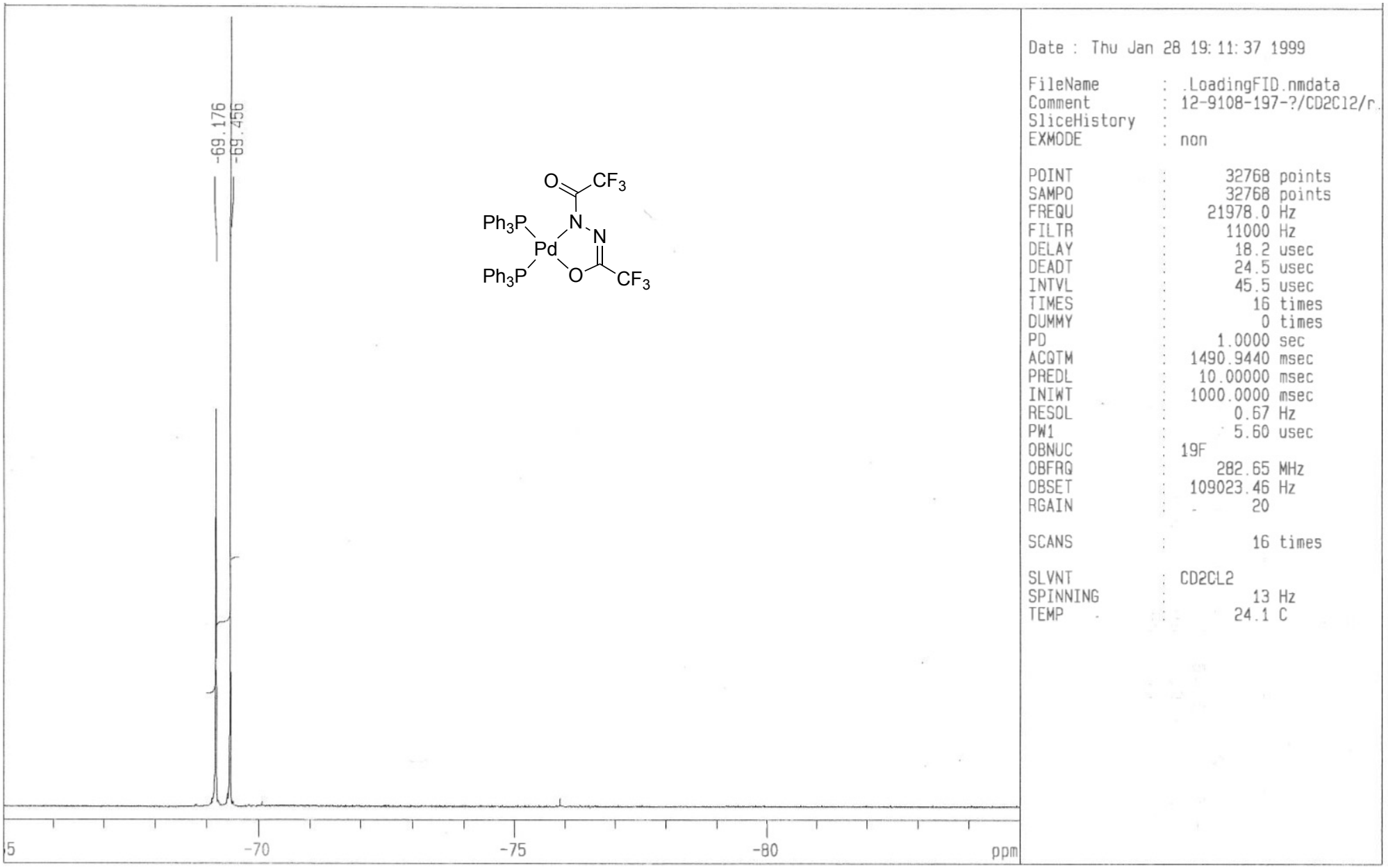

Figure S14. ^{19}F NMR Spectrum of **4** (CD_2Cl_2, rt)

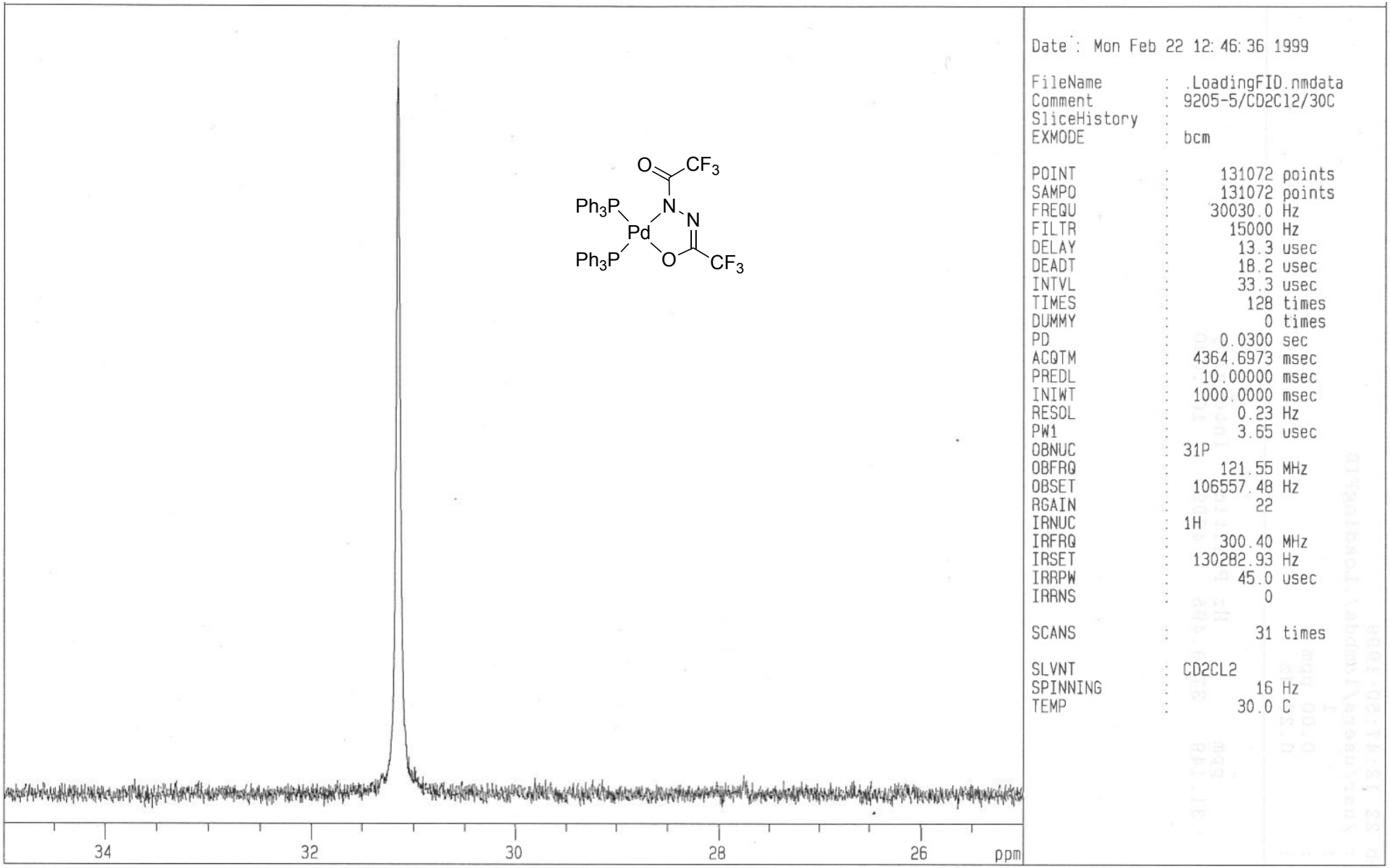

Figure S15. $^{31}P\{^{1}H\}$ NMR Spectrum of **4** (CD_2Cl_2, rt)