

Study of electrospun nanofibers loaded with Ru(II) phenanthroline complexes as a potential material for use in dye-sensitized solar cells (DSSCs).

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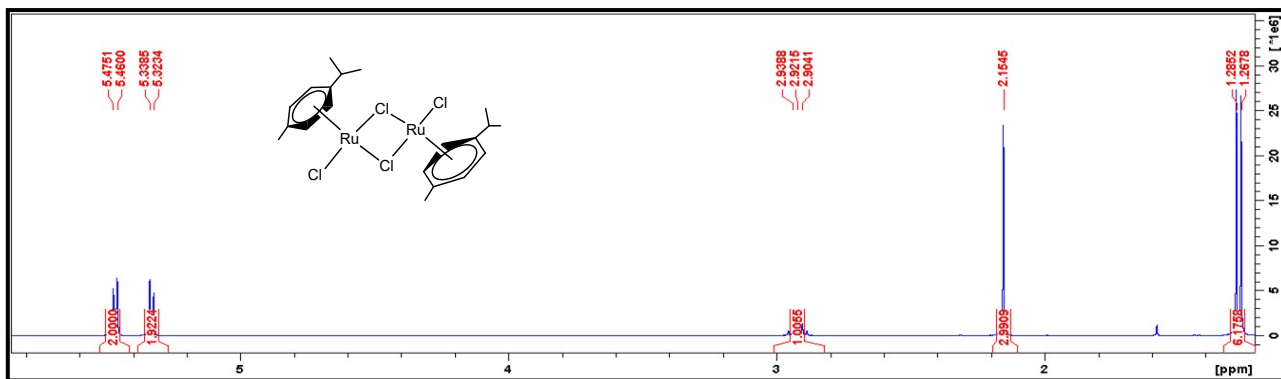


Figure S1. Full ^1H NMR of $[\text{RuCl}_2(p\text{-cymene})]_2$ in CDCl_3 (400 MHz)

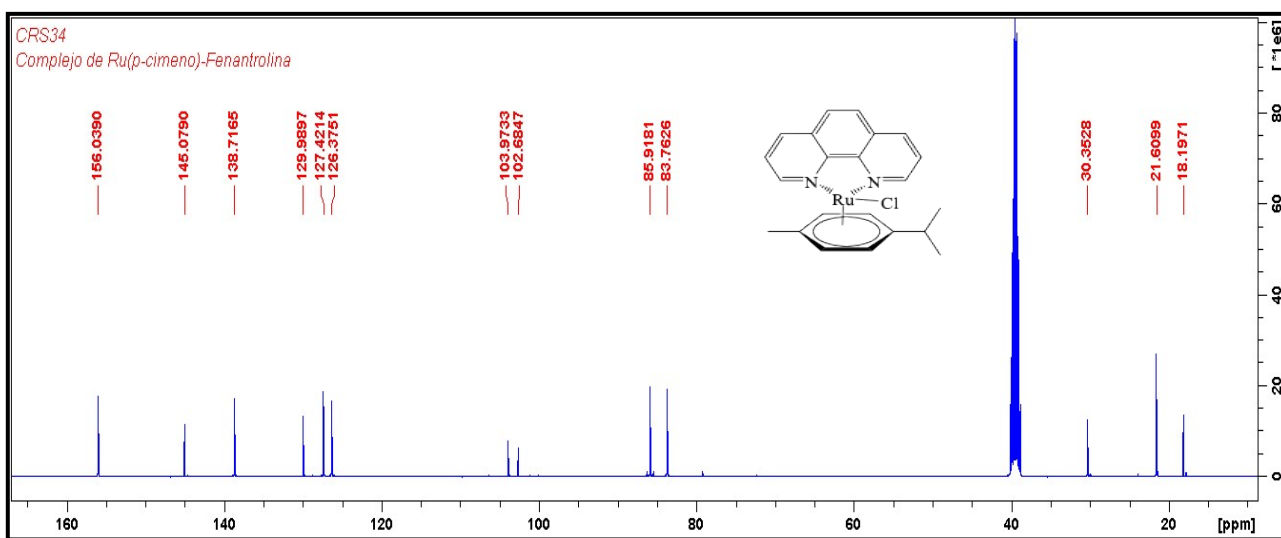
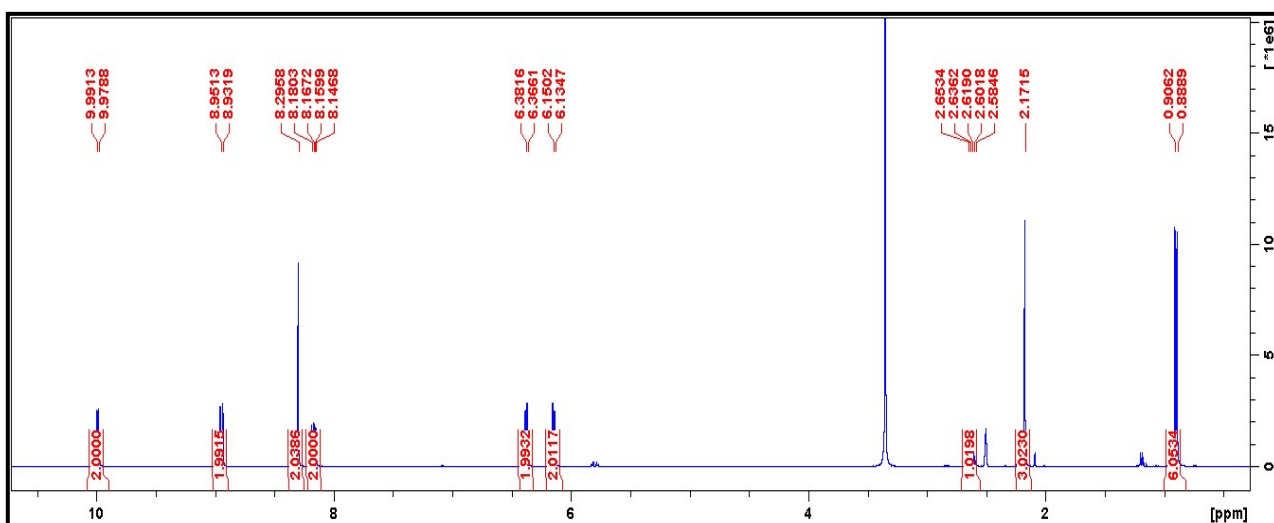
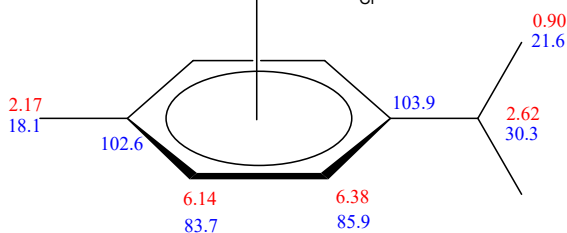


Figure S2. Full ^1H NMR (top) and ^{13}C NMR (bottom) of complex **Ru-1** in DMSO_d_6 (400 MHz)



HSQC	COSY	
Group CH=N	0.90 2.62	8.16 ³ ↔ 129.9
9.99 156.0	6.14 6.38	² ↔ 156.0
Grupos CH aromatic	8.16 8.94	² 8.30 ↔ 129.9
6.14 83.7	9.99	³ ↔ 138.7
6.38 85.9	¹H-¹³C HMBC	³ ↔ 145.0
8.16 126.3	0.90 ↔ 21.6	³ 8.94 ↔ 127.4
8.30 127.4	² ↔ 30.3	³ ↔ 145.0
8.94 138.7	³ ↔ 103.9	³ ↔ 156.0
Grupos Alkyl CH₃	2.17 ↔ 83.75	² 9.99 ↔ 126.3
0.90 21.6	² ↔ 102.6	³ ↔ 138.7
2.17 18.1	2.62 ↔ 21.6	³ ↔ 145.0
Grupos CH alkyl	³ ↔ 85.9	
2.62 30.3	² ↔ 103.9	
Ispo carbons	6.14 ↔ 85.9	¹H-¹⁵N HMBC
102.6	³ ↔ 103.9	² 8.16 ↔ 235.8
103.9	² ↔ 103.9	
129.0	2.62 ↔ 21.6	
145.0	6.14 ↔ 85.9	

Figure S3. ¹H RMN data in red, ¹³C NMR data in blue, and ¹⁵N NMR data in black.

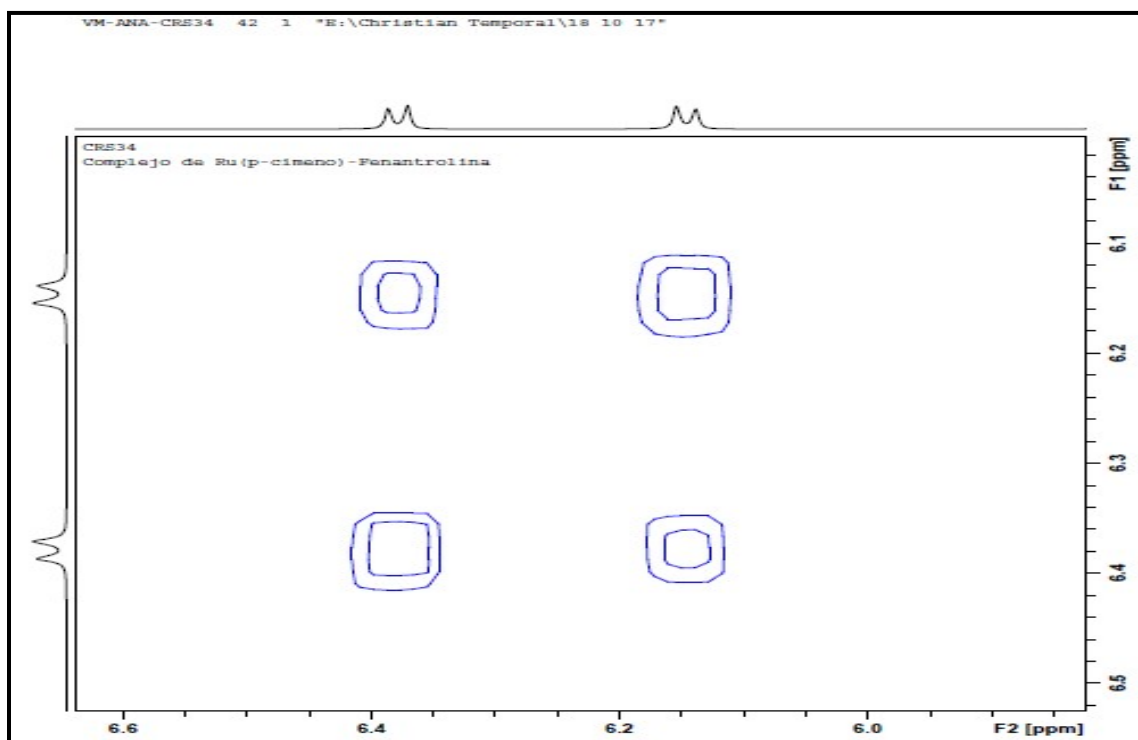
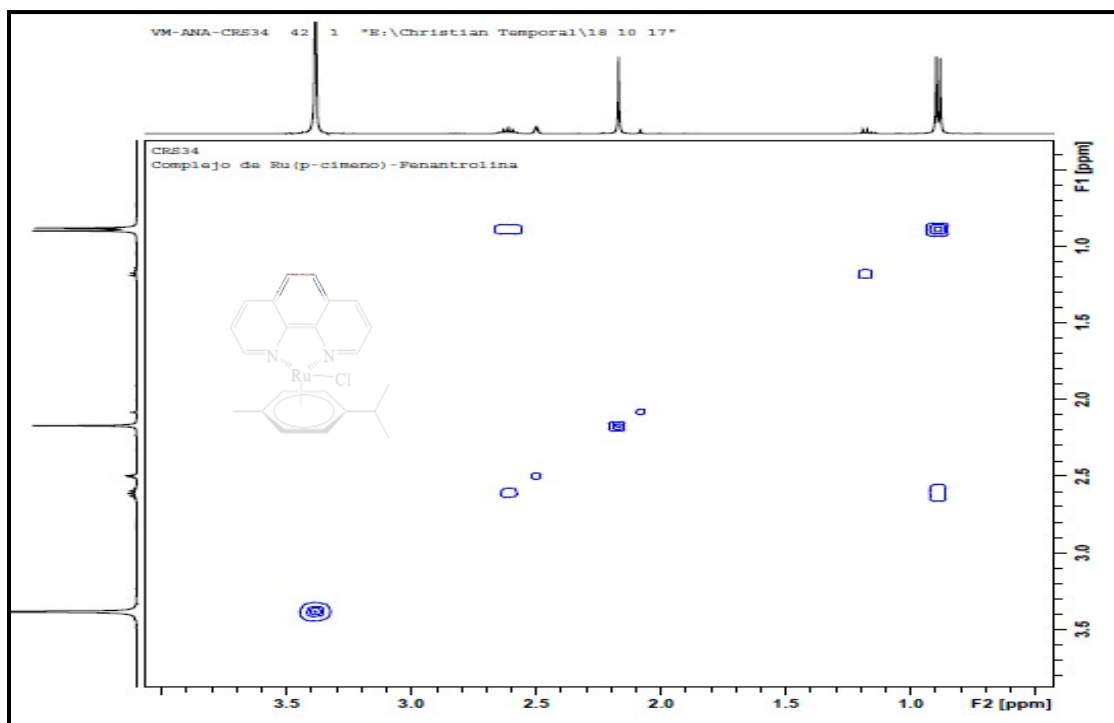


Figure S4. Partial ^1H - ^1H gCOSY NMR of **Ru-1** in DMSO_d_6 (400 MHz)

Figure S5. Partial ^1H - ^1H gCOSY NMR of **Ru-1** in DMSO_d_6 (400 MHz)

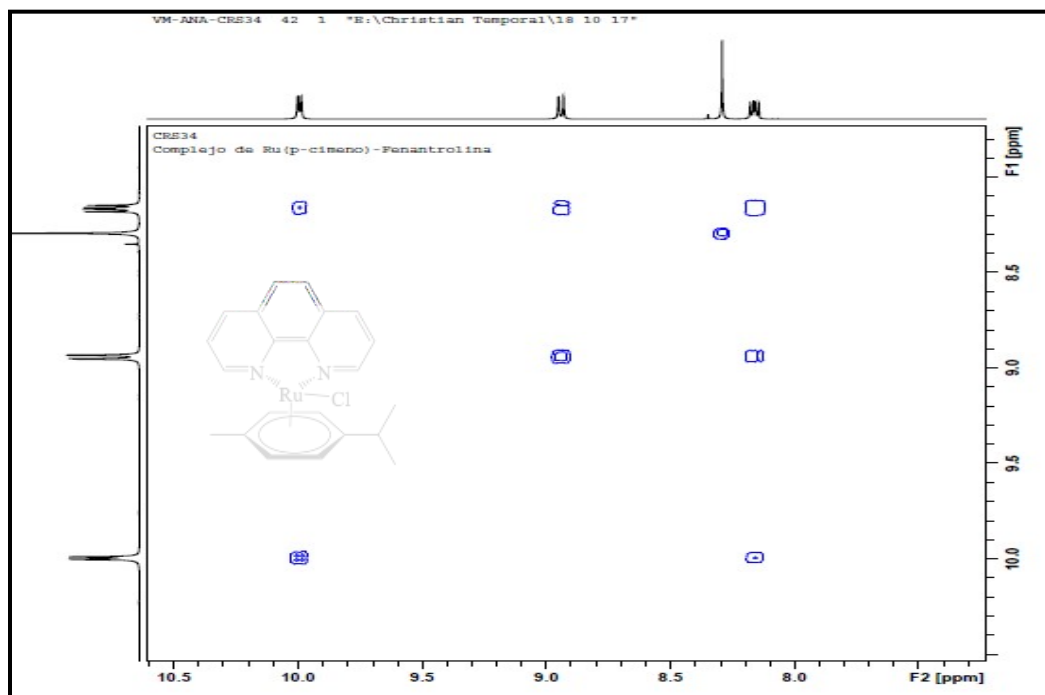


Figure S6. Partial ^1H - ^1H gCOSY NMR of **Ru-1** in DMSO_d_6 (400 MHz)

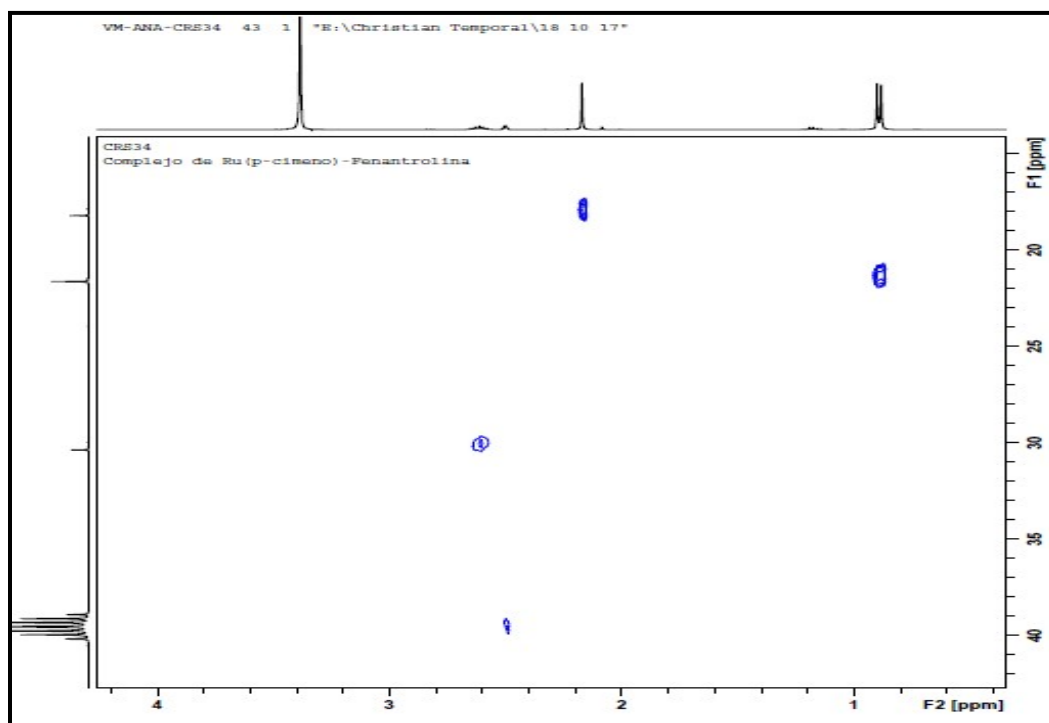


Figure S7. Partial ^1H - ^{13}C gHSQC NMR of **Ru-1** in DMSO_d_6 (400 MHz)

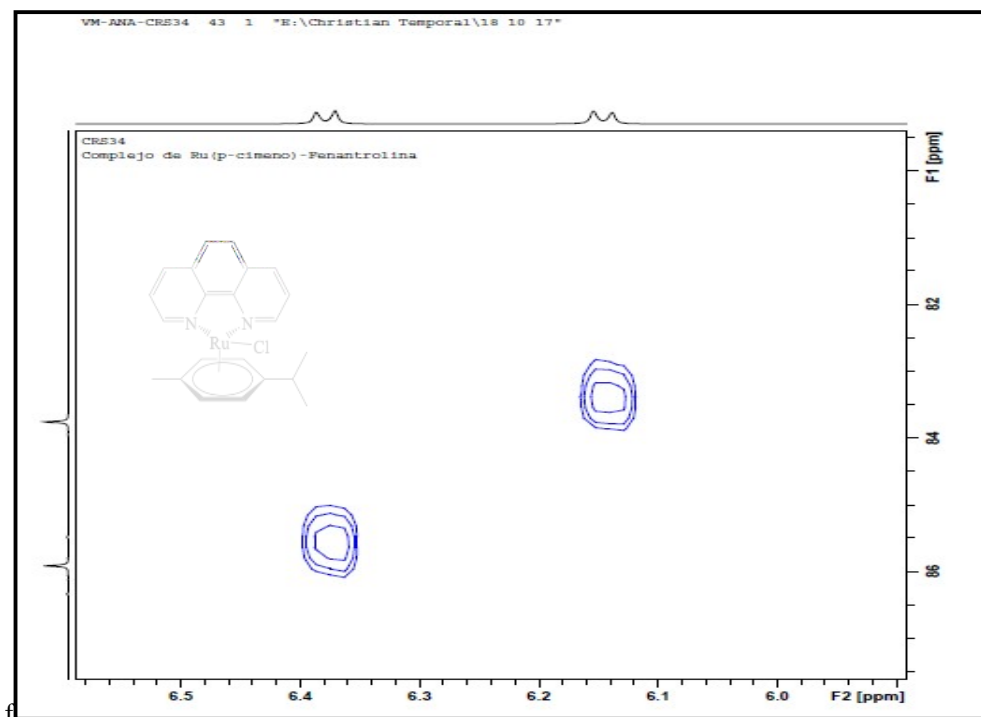


Figure S8. Partial ^1H - ^{13}C gHSQC NMR of **Ru-1** in $\text{DMSO}d_6$ (400 MHz)

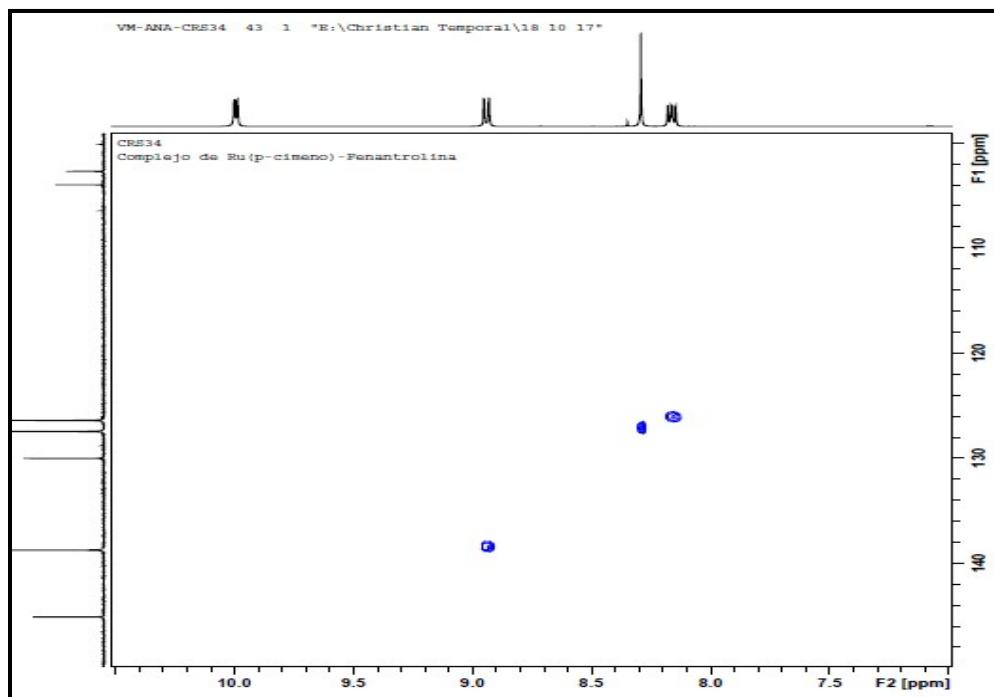


Figure S9. Partial ^1H - ^{13}C gHSQC NMR of **Ru-1** in $\text{DMSO}d_6$ (400 MHz)

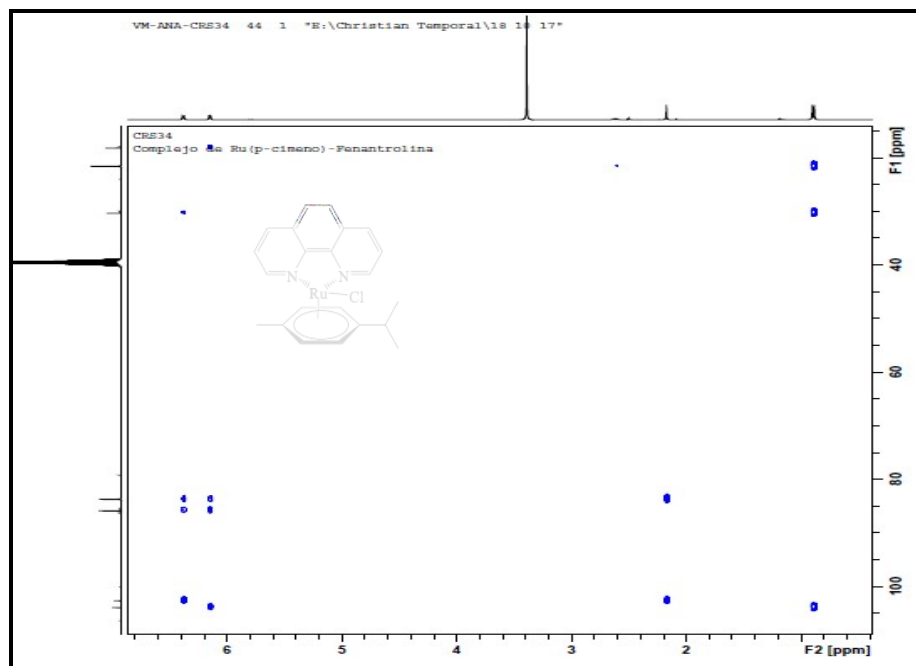


Figure S10. Full ^1H - ^{13}C HMBC NMR of **Ru-1** in DMSO_d_6 , (400 MHz)

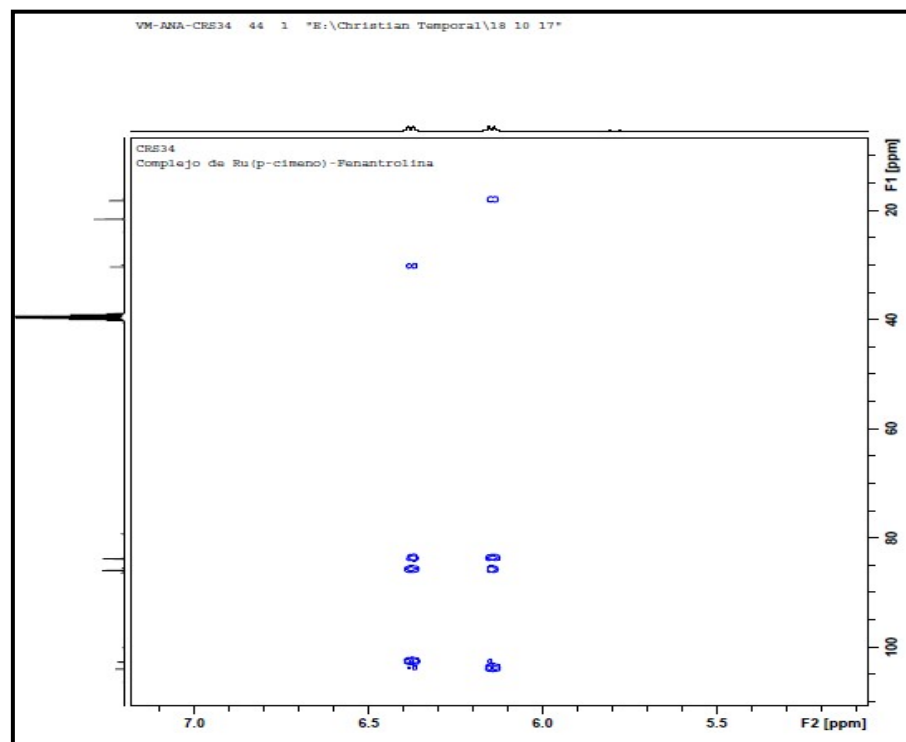


Figure S11. Partial ^1H - ^{13}C HMBC NMR of **Ru-1** in DMSO_d_6 (400 MHz)

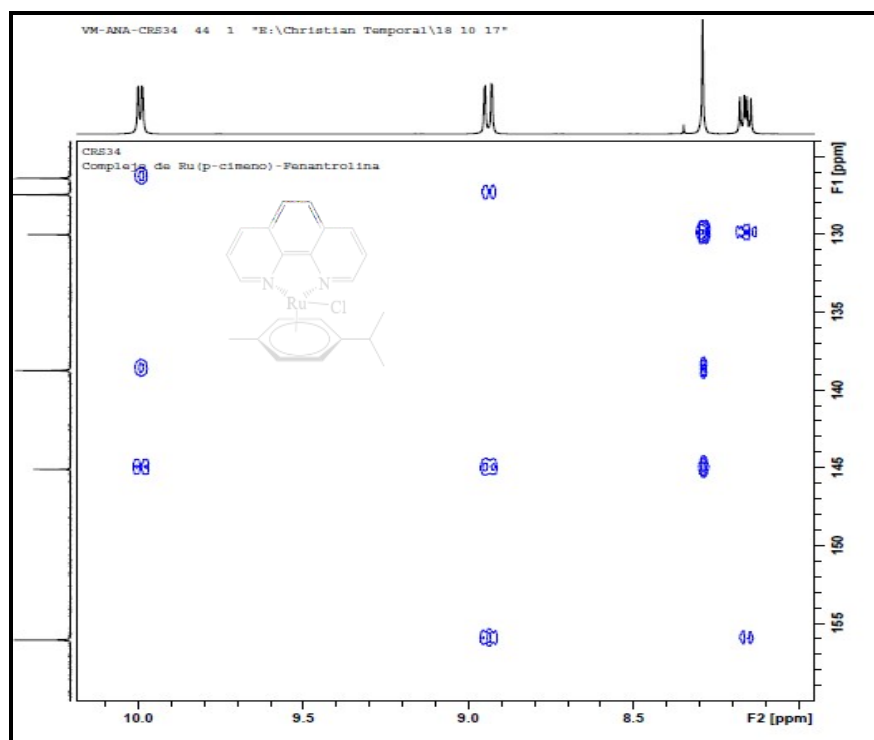


Figure S12. Full ^1H - ^{13}C HMBC NMR of **Ru-1** in $\text{DMSO}d_6$ (400 MHz)

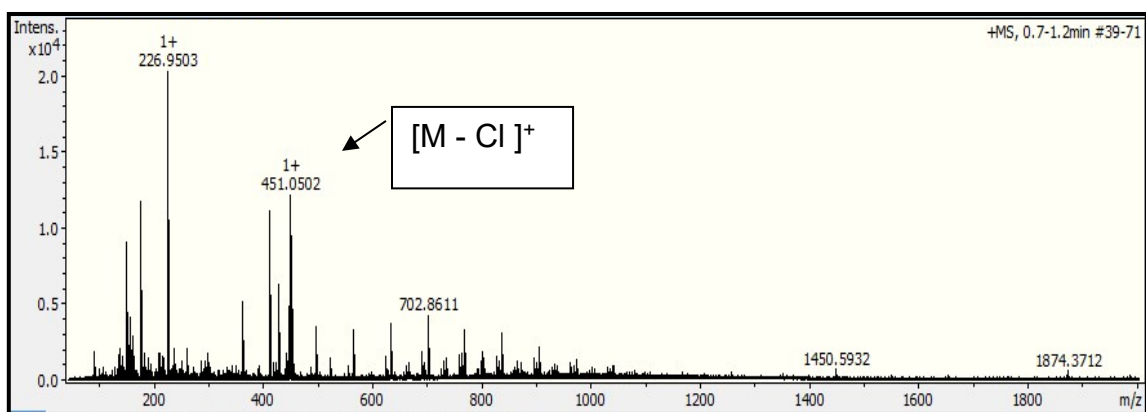


Figure S13. HRMS of compound **Ru-1**.



Figure S14. HRMS for Ru-1 (above) and simulated spectrum (below), for $[M + Na]^+$ for compound Ru-1

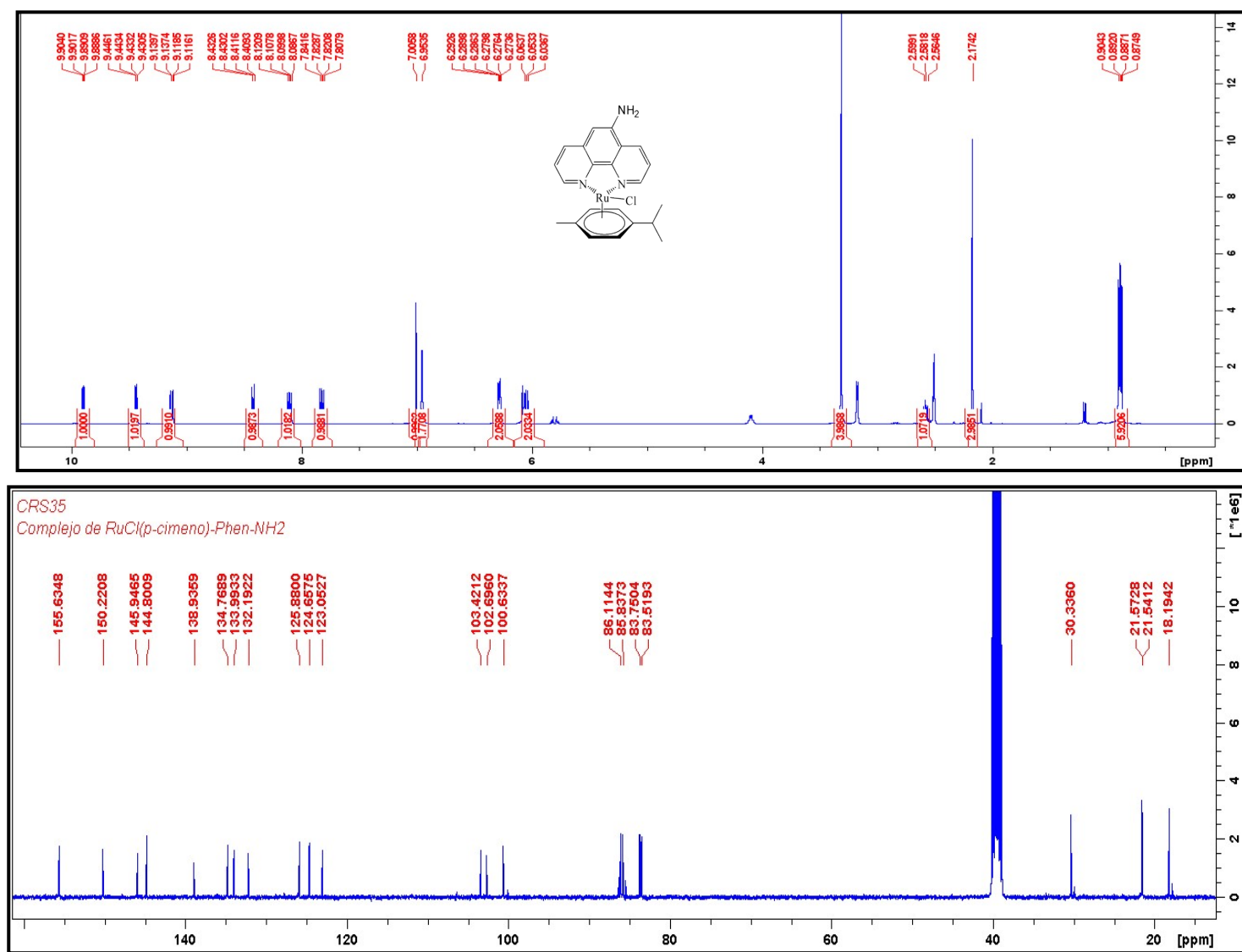
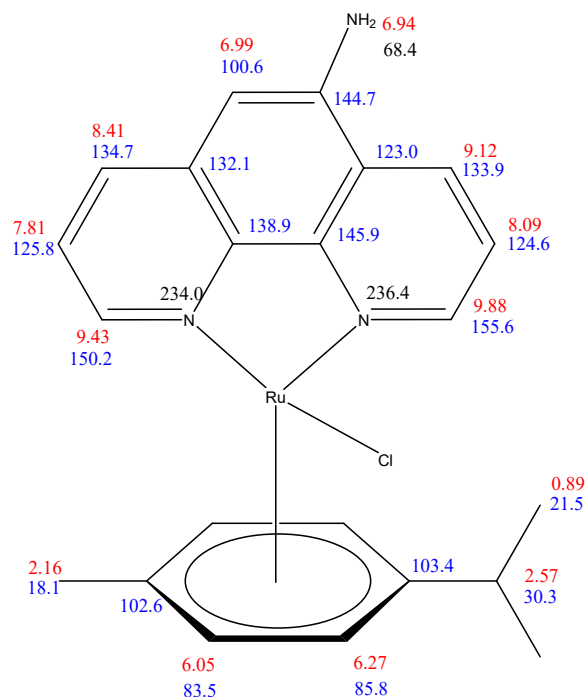


Figure S15. Full ^1H NMR (top) and ^{13}C NMR (bottom) of complex Ru-2 in DMSO-d_6 (400 MHz)



HSQC	138.9	3	3
	144.7	\leftrightarrow 83.5	\leftrightarrow 150.2
Group CH=N	145.9	2	3
	145.9	\leftrightarrow 85.8	9.12 \leftrightarrow 144.7
9.43 150.2		3	3
9.88 155.6		\leftrightarrow 103.4	\leftrightarrow 145.9
Group CH aromatic	0.89 2.57	3	3
	0.89 2.57	6.27 \leftrightarrow 30.3	\leftrightarrow 155.6
6.05 83.5	6.05 6.27	2	2
6.27 85.8	7.81 8.41	\leftrightarrow 83.5	9.43 \leftrightarrow 125.8
6.99 100.6		3	3
7.81 125.8		9.43	\leftrightarrow 85.8
8.09 124.6	8.09 9.12	3	3
		9.88	\leftrightarrow 102.3
8.41 134.7		\leftrightarrow 102.3	\leftrightarrow 138.9
9.12 133.9	^1H-^{13}C HMBC	3	2
		6.94 \leftrightarrow 100.6	9.88 \leftrightarrow 124.6
Group alkyl CH₃	0.89 \leftrightarrow 21.5	3	3
		\leftrightarrow 123.0	\leftrightarrow 133.9
0.89 21.5	\leftrightarrow 30.3	3	3
2.16 18.1		6.99 \leftrightarrow 123.0	\leftrightarrow 145.9
Group CH alkyl	\leftrightarrow 103.4	2	
		\leftrightarrow 132.1	
2.57 30.3	2.16 \leftrightarrow 83.5	3	^1H-^{15}N HMBC
Ipsocarbons		\leftrightarrow 134.7	3
102.6	\leftrightarrow 102.6	3	6.99 \leftrightarrow 68.4
103.4		\leftrightarrow 138.9	3
123.0	2.57 \leftrightarrow 21.5	3	7.81 \leftrightarrow 234
132.1		7.81 \leftrightarrow 132.1	3
		2	8.09 \leftrightarrow 236.4
		\leftrightarrow 150.2	
		\leftrightarrow 103.4	
	6.05 \leftrightarrow 18.1		

Figure S16. ^1H RMN data in red, ^{13}C NMR data in blue, and ^{15}N NMR data in black

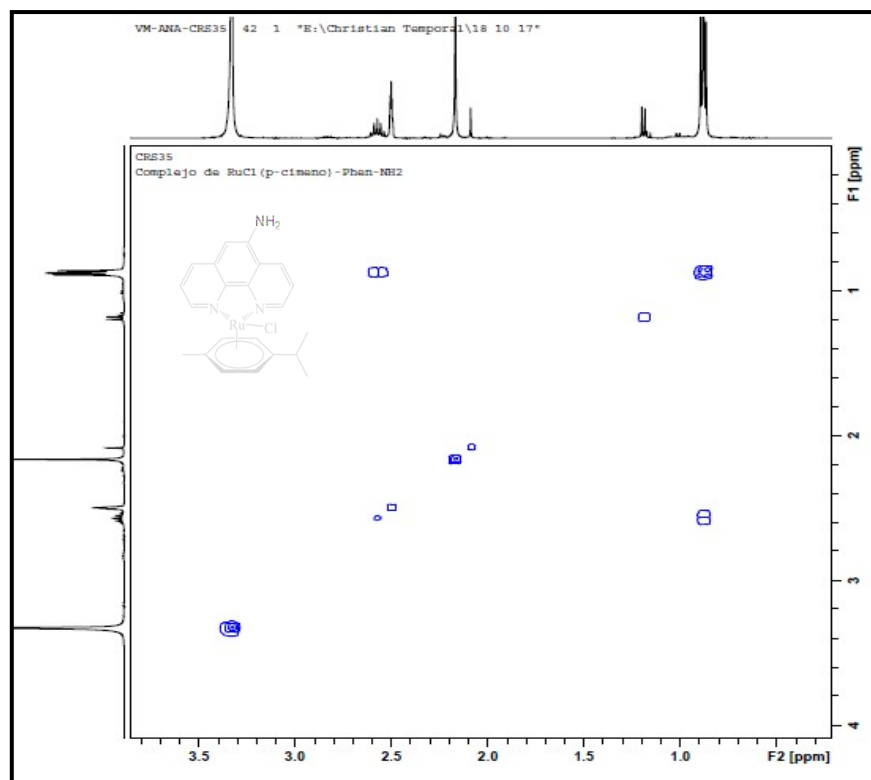


Figure S17. Partial ^1H - ^1H gCOSY NMR of **Ru-2** in DMSO-d_6 (400 MHz).

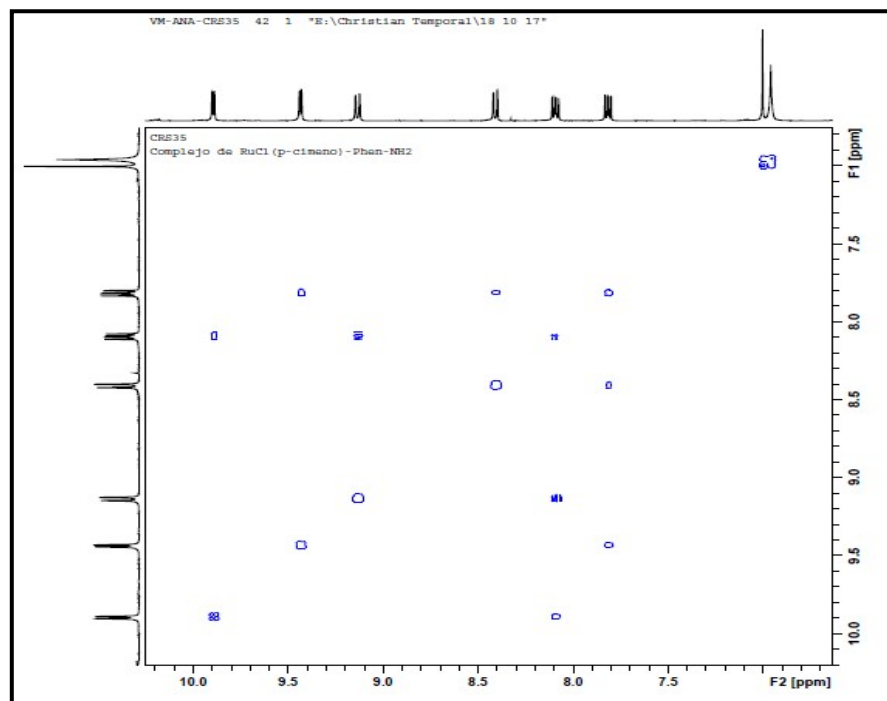


Figure S18. Partial ^1H - ^1H gCOSY NMR of **Ru-2** in DMSO-d_6 (400 MHz)

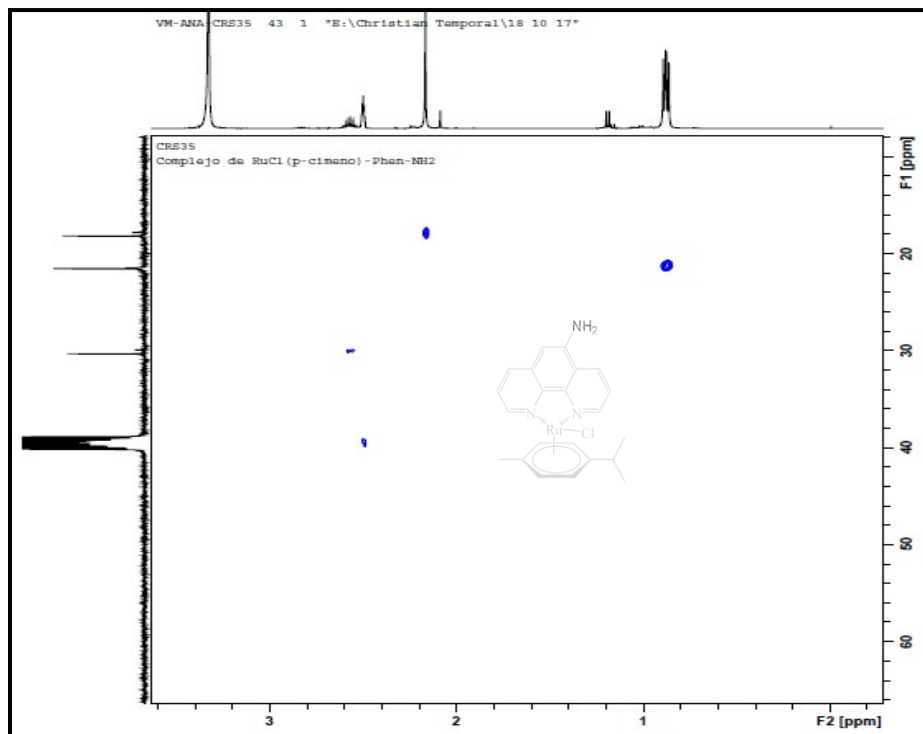


Figure S19. Partial ^1H - ^{13}C NMR HSQC of **Ru-2** in DMSO_d_6 (400 MHz)

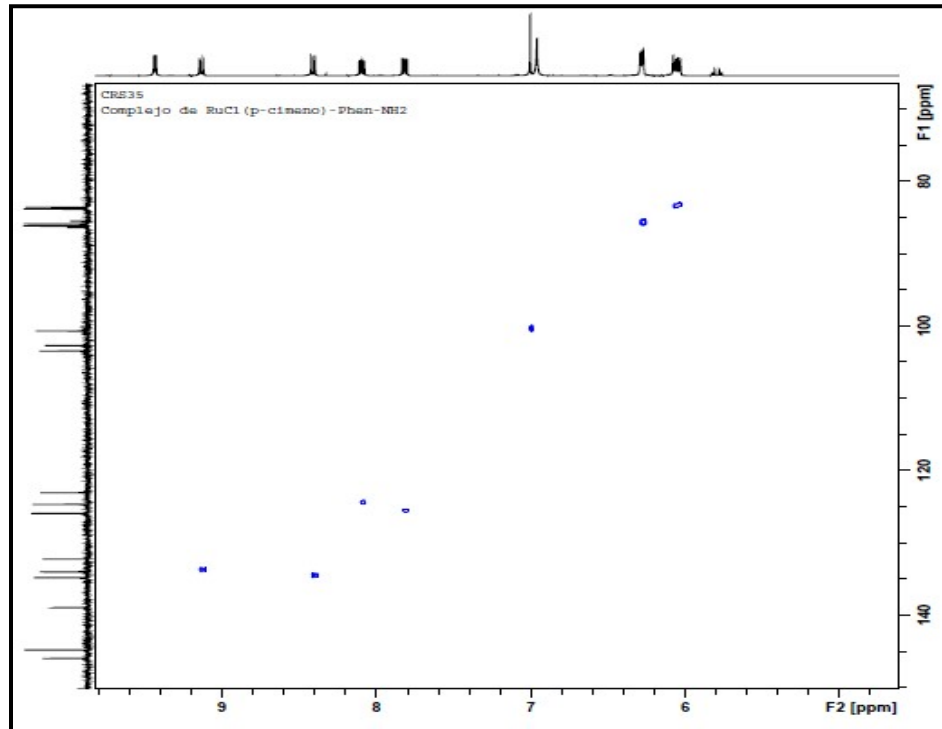


Figure S20. Partial ^1H - ^{13}C NMR HSQC of **Ru-2** in DMSO_d_6 (400 MHz)

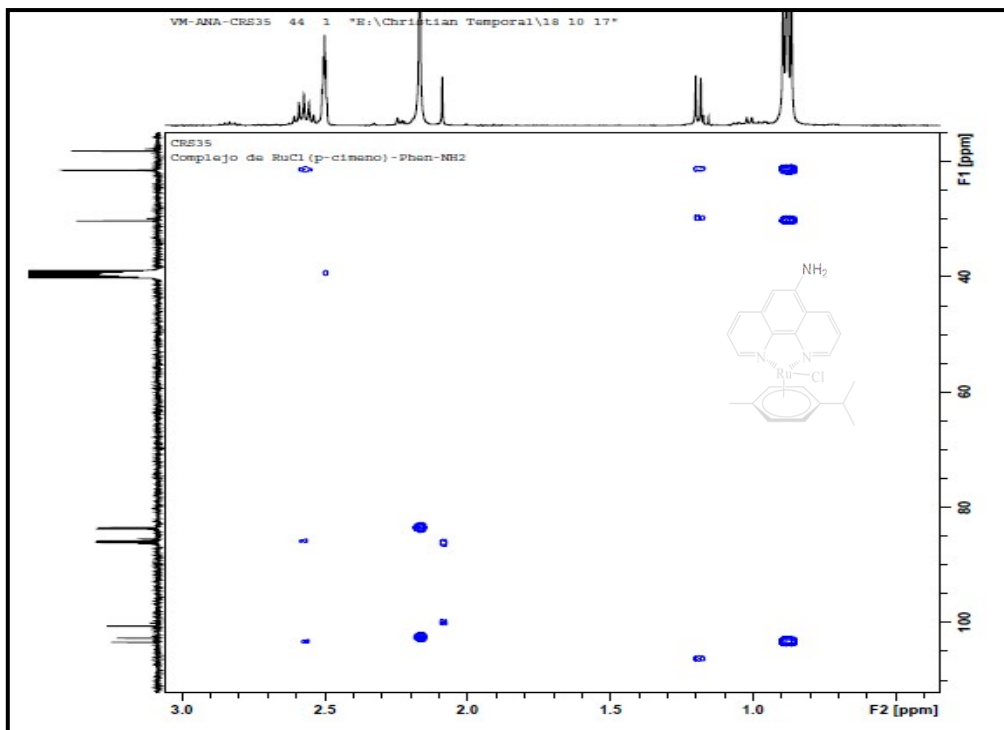


Figure S21. Partial ^1H - ^{13}C NMR HMBC of **Ru-2** in DMSO_d_6 (400 MHz)

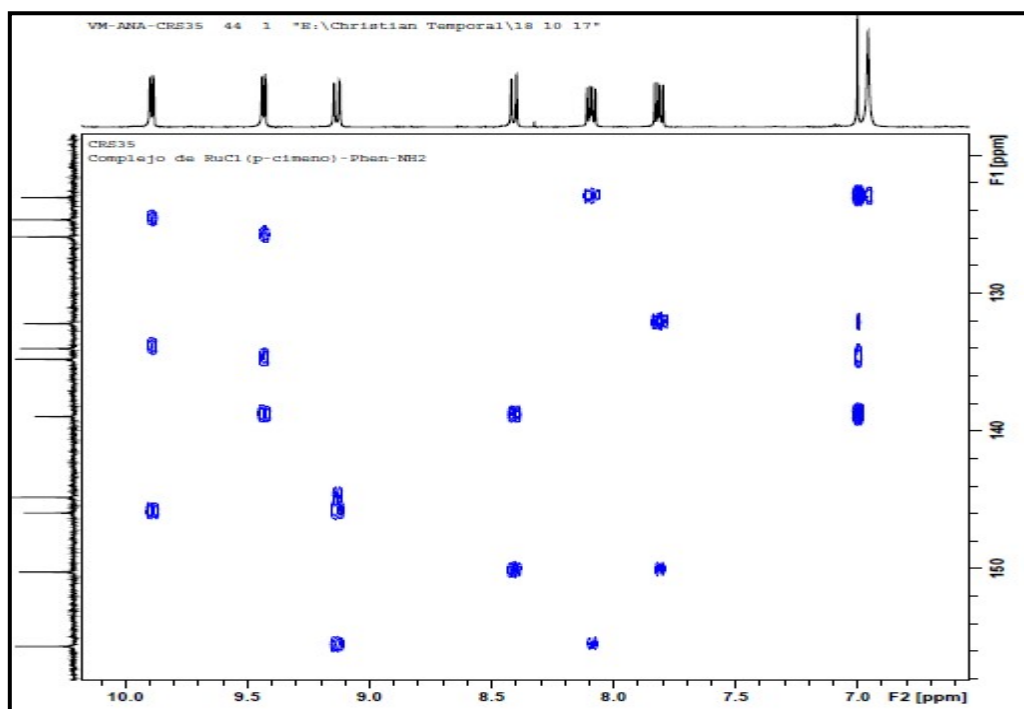


Figure S22. Partial ^1H - ^{13}C NMR HMBC of **Ru-2** in DMSO_d_6 (400 MHz)

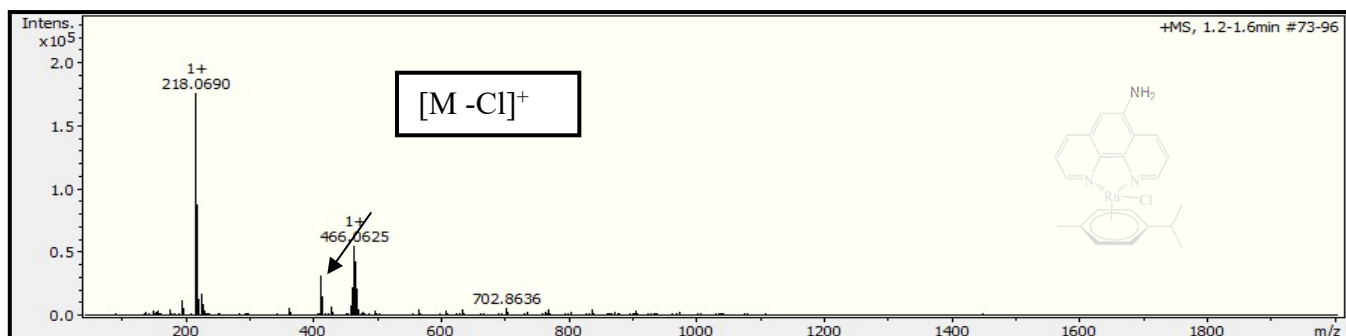


Figure S23. HRMS of compound Ru-2.

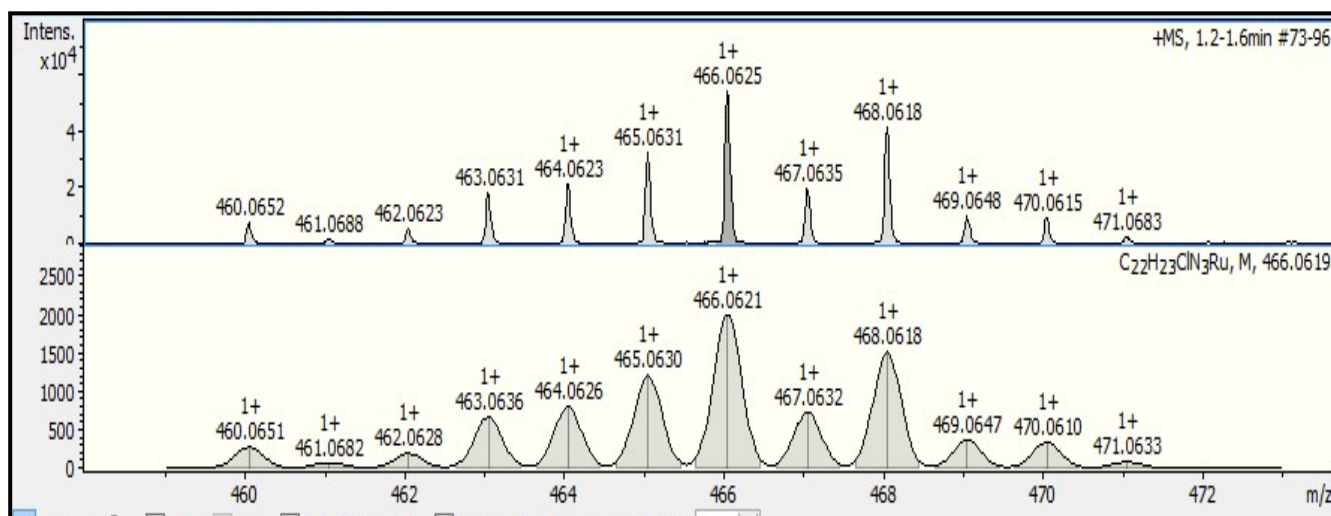


Figure S24. HRMS for Ru-2 (above) and simulated spectrum (below), for [M + Na]⁺ for complex Ru-2.

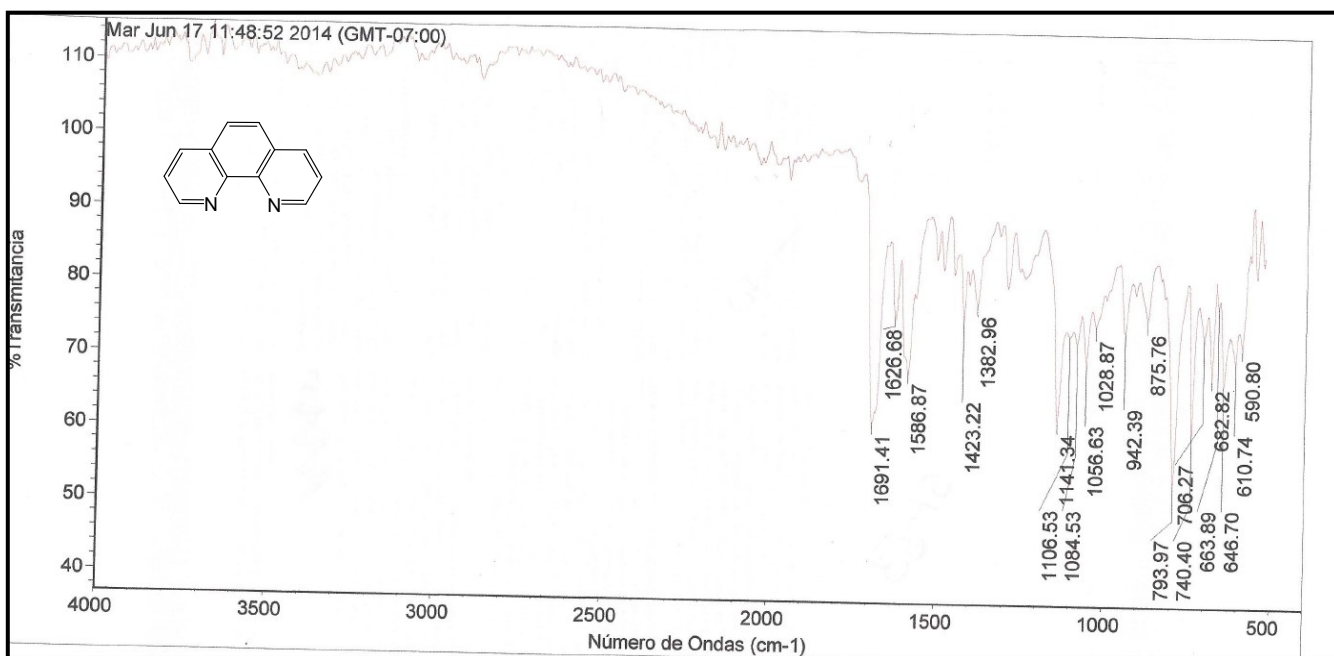


Figure S25. FT-IR spectrum of 1,10-phenanthroline (phen).

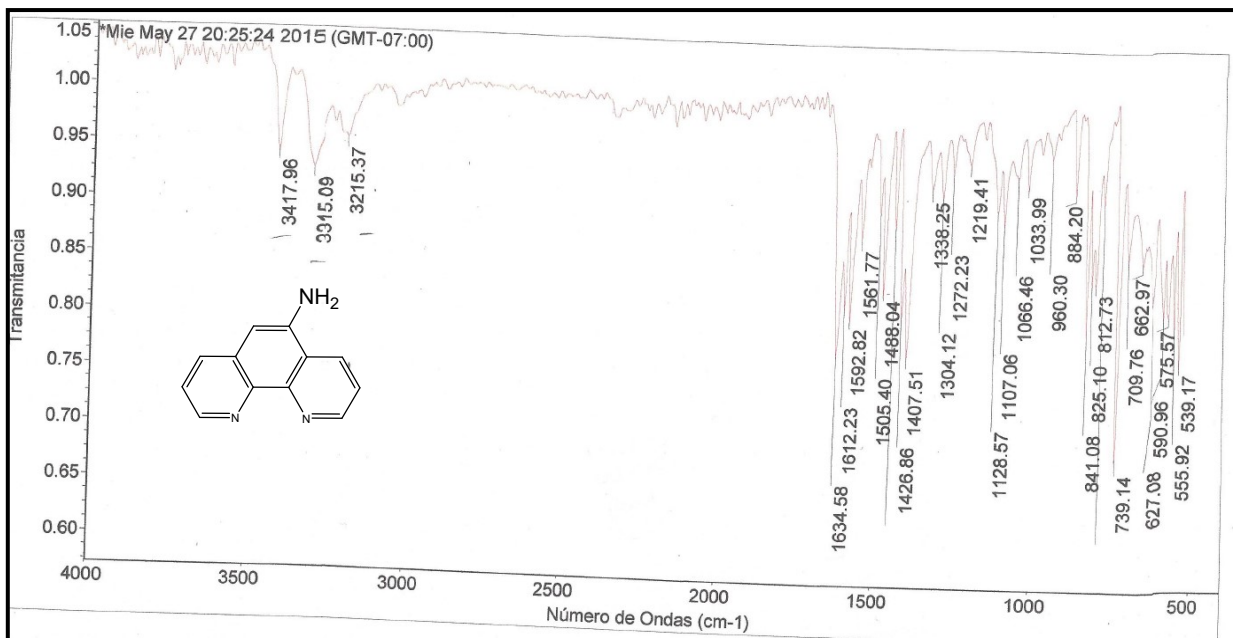


Figure S26. FT-IR spectrum of 5-amino-1,10-phenanthroline (5-phen).

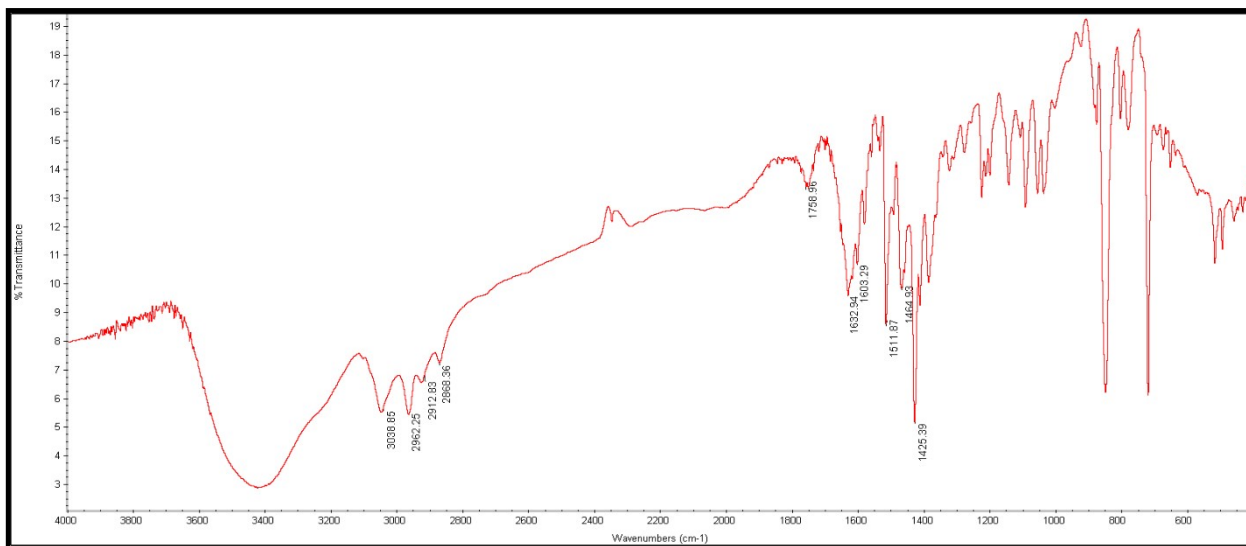


Figure S27. FT-IR spectrum of Ru-1 complex

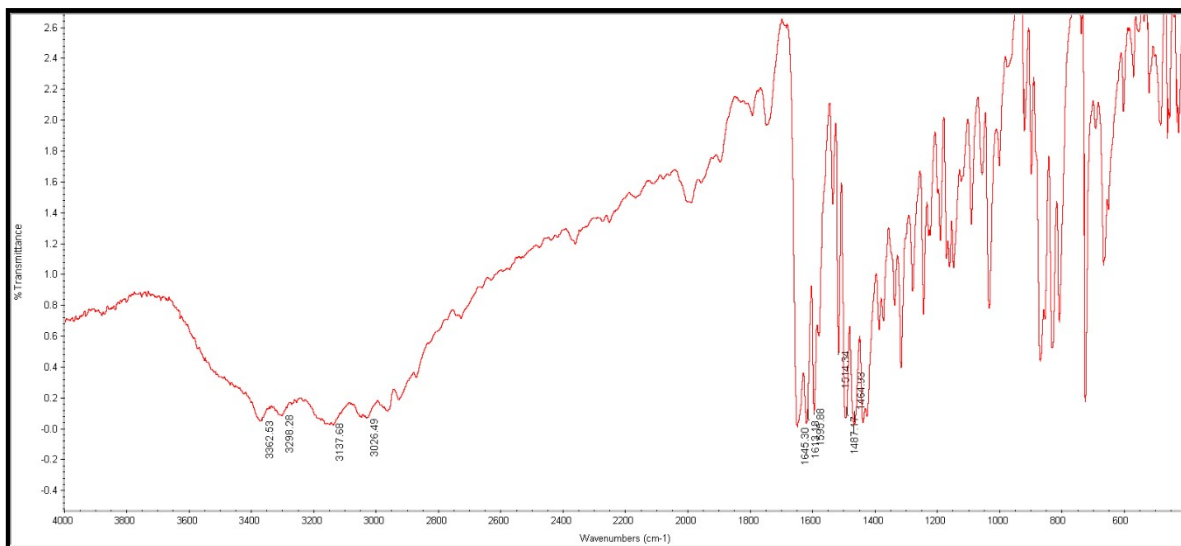


Figure S28. FT-IR spectrum of Ru-2 complex.