Supporting Information

Piano-stool metal complexes as inhibitors of amyloid-β aggregation *in vitro* and *in vivo*.

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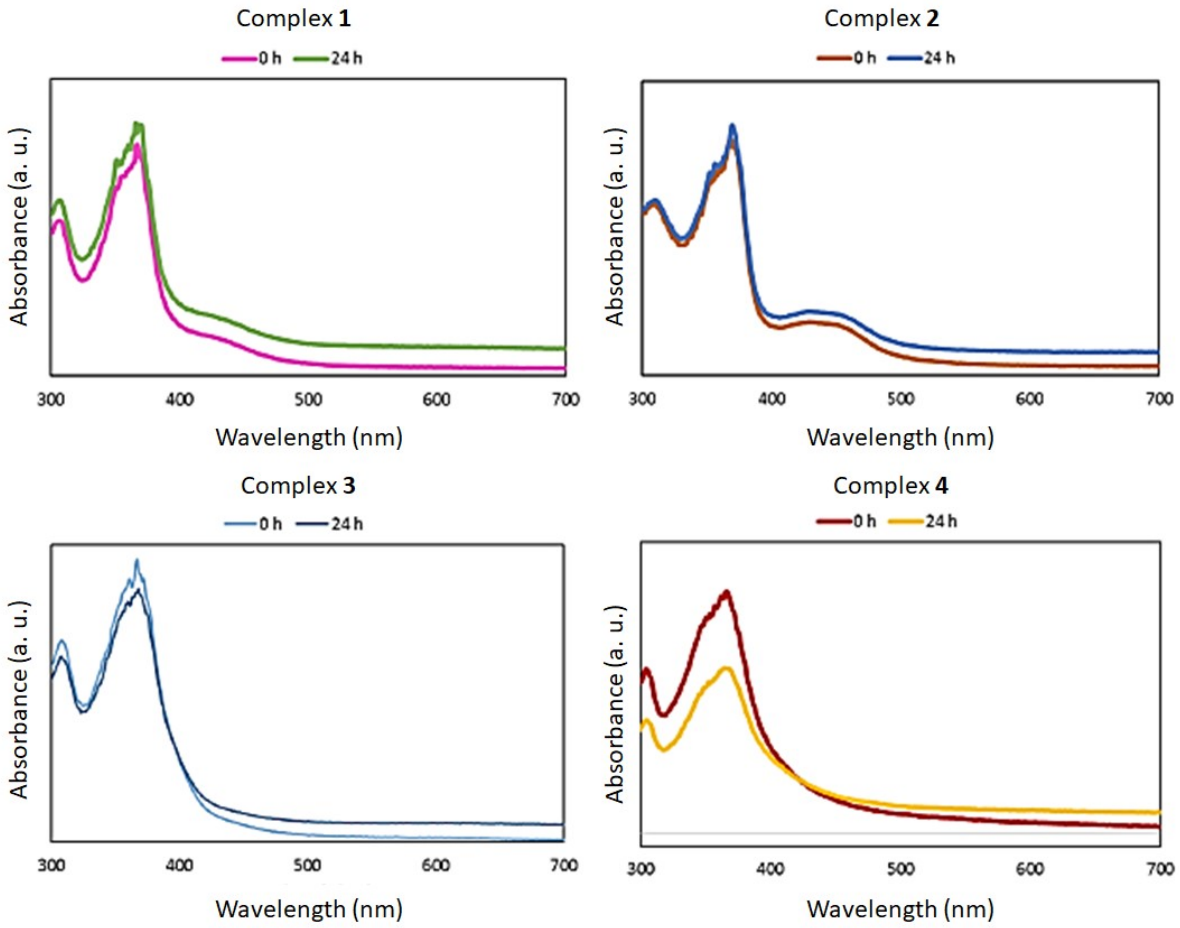


Figure S1. Evaluation by UV-Vis spectroscopy of the stability of complexes **1**–**4** in PBS (5% DMSO) at 37 ºC. [Complex] = 10 μM.

Table S1. Crystal data and structure refinement for compound **4** (CCDC 2359733).

Compound	**4**
Empirical formula	$C_{32}H_{36}ClN_3O_2Rh$, CH_2Cl_2, F_6P
Formula weight (g mol^{-1})	862.89
Temperature (K)	100
Crystal system	triclinic
Space group	*P−1*
Crystal size (mm^3)	0.3 ×0.17 × 0.13
a (Å)	11.8922(13)
b (Å)	12.5691(15)
c (Å)	13.0059(15)
α (°)	105.907(4)
β (°)	92.694(4)
γ (°)	97.271(4)
V (Å^3)	1847.8(4)
Z	2
ρ_{calcd}	1.551
μ (mm^{-1})	0.787
F(000)	876
θ for data collection (°)	1.999 – 30.642
Reflections collected / unique	303126 / 11363
Completeness to theta	1.000
Data / restraints / parameters	11363 / 3 / 449
Goodness-of-fit on F^2	1.065
Final *R* indices [$I>2\sigma(I)$]	R1 = 0.0384, wR2 = 0.0968
R indices (all data)	R1 = 0.0430, wR2 = 0.0996
largest diff. peak and hole (*e* Å^3)	1.761 and −1.424

Table S2. Selected bond distances (Å) and angles (°) for compound **4**. The atom labelling is shown in **Figure S2**.

Rh−N1	2.175(2)
Rh−N3	2.105(2)
Rh−Cl1	2.397(1)
Rh−*C*	1.780(1)
N1−Rh−N3	75.07(7)
Cl1−Rh−N3	92.52(5)
Cl1−Rh−N1	93.05(5)
Cl1−Rh−*C*	124.70(4)
N1−Rh−*C*	128.85(6)
N3−Rh−*C*	128.23(6)

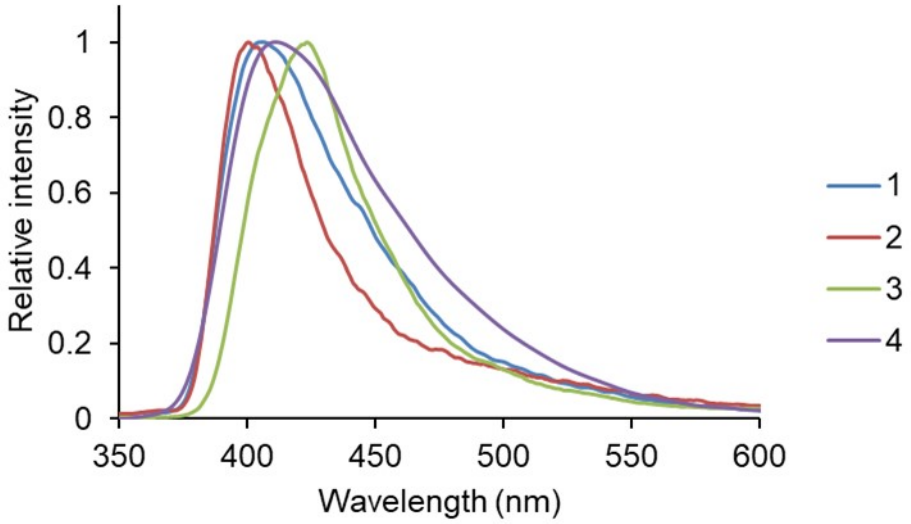


Figure S2. Fluorescence emission spectra of **1** – **4** (λ_{exc} = 330 nm). The complexes emit in the 403 – 422 nm range.

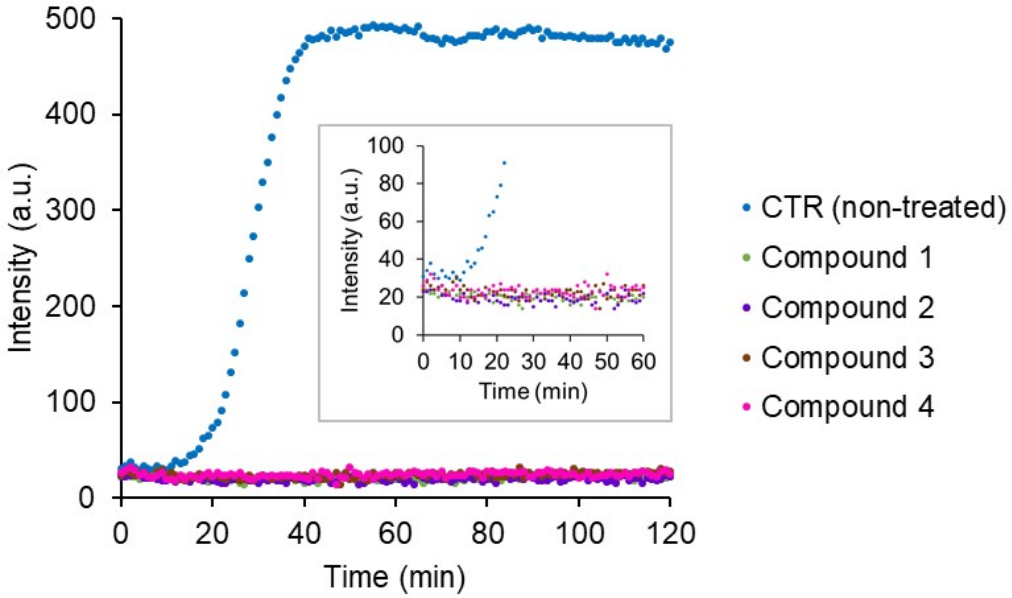


Figure S3. Time-course kinetics of the aggregation of free Aβ40 (control) and in the presence of complexes **1**–**4**. [Aβ40] = 20 μM; [complex] = 100 μM.

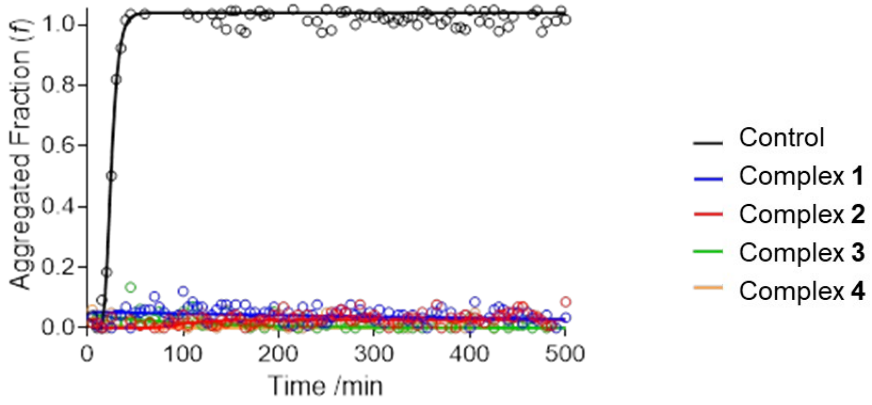


Figure S4. Time-course kinetics of the aggregation of free Aβ42 (control) and in the presence of equimolar amounts of complexes **1**–**4**. [Aβ42] = 10 μM

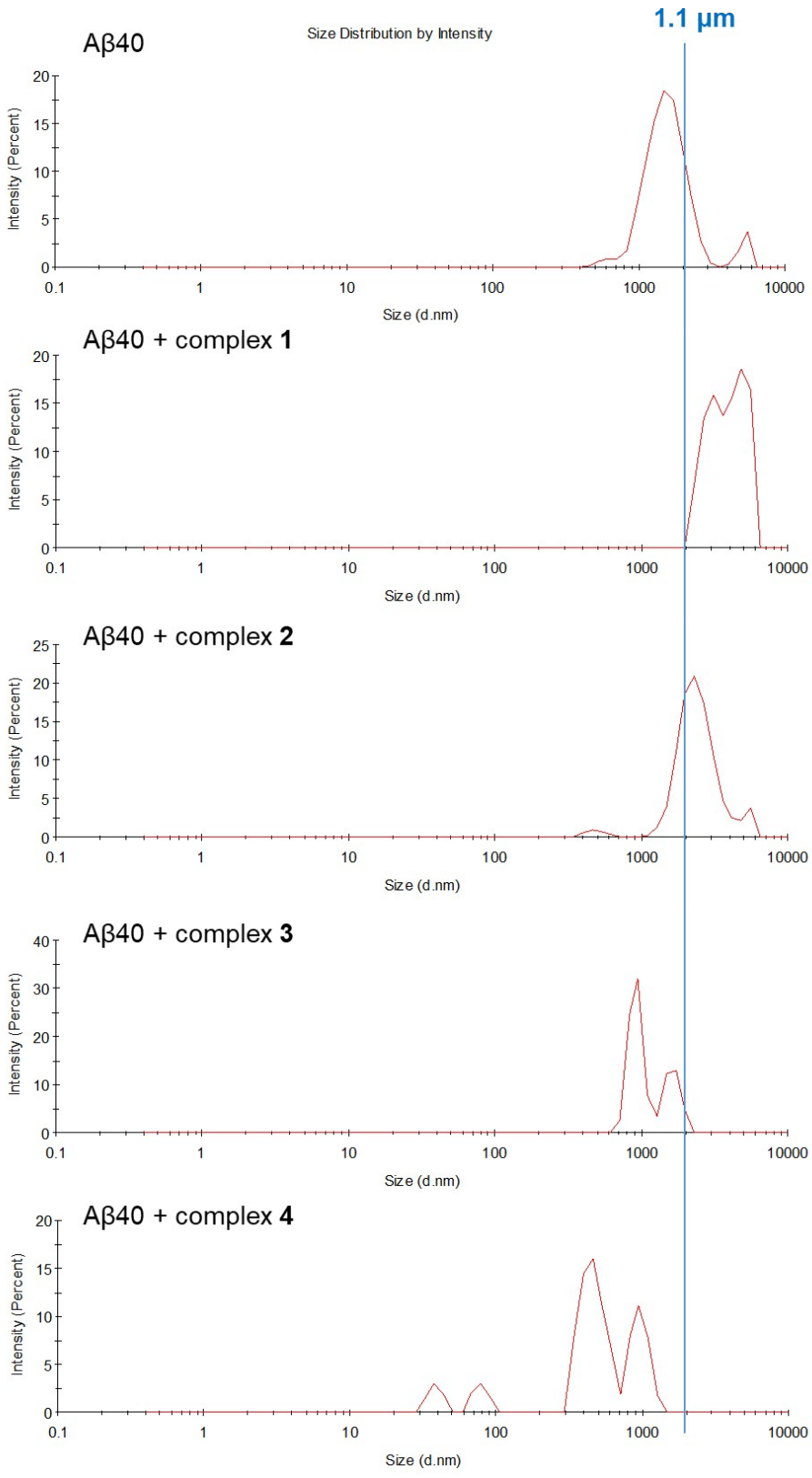


Figure S5. Size distribution by DLS intensity of liquid samples of free Aβ40 and Aβ40 in the presence of complexes **1**–**4**, after incubating at 37 ºC for 24 h. [Aβ40] = 10 µM; [complex] = 10 µM. These histograms are averaged from at least three replicates.

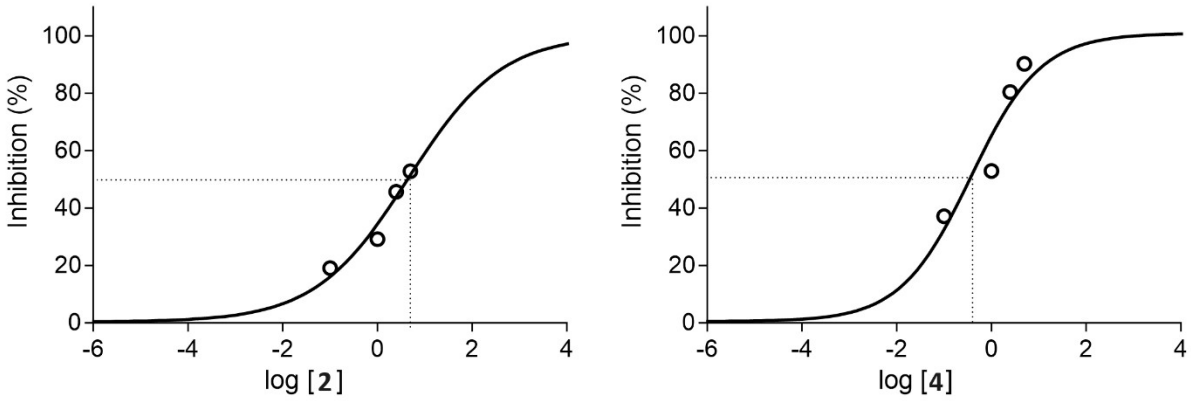
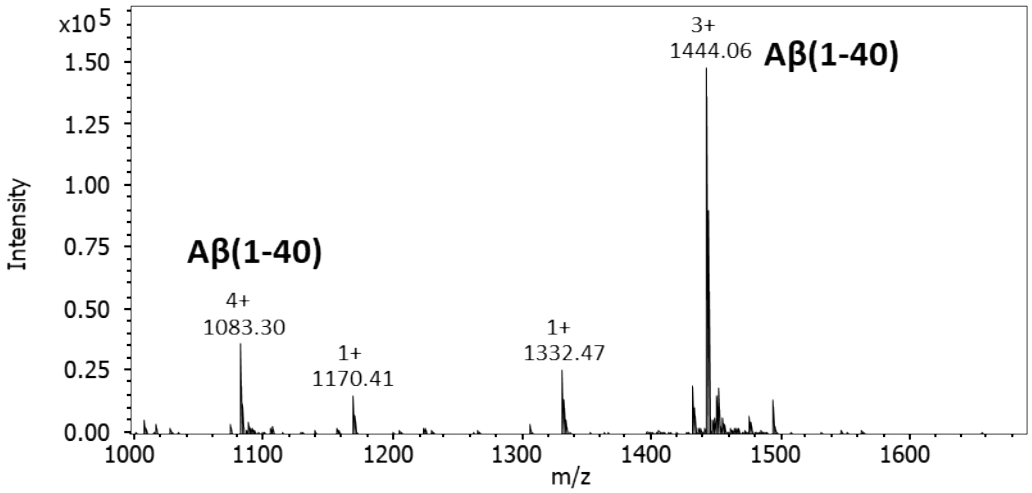
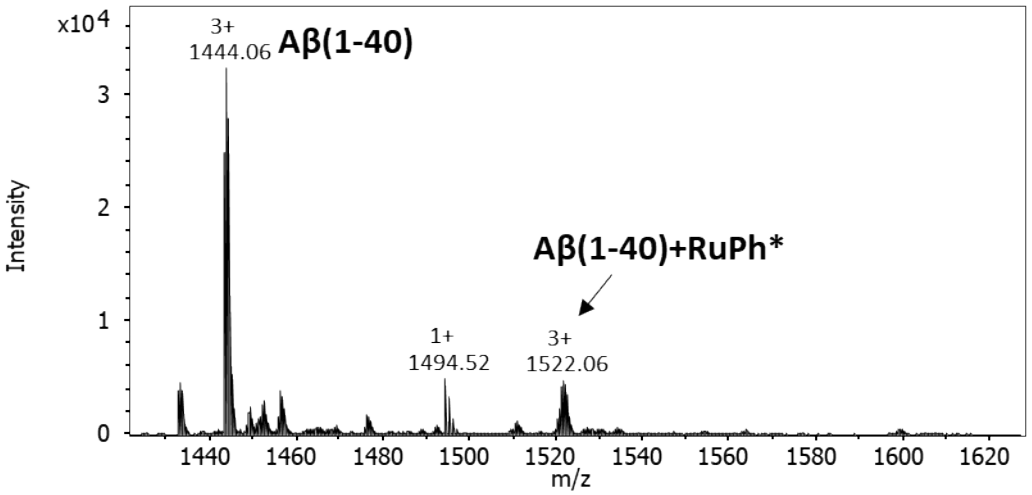


Figure S6. Inhibition *vs*. concentration curves and fitting of compounds **2** (left) and **4** (right).

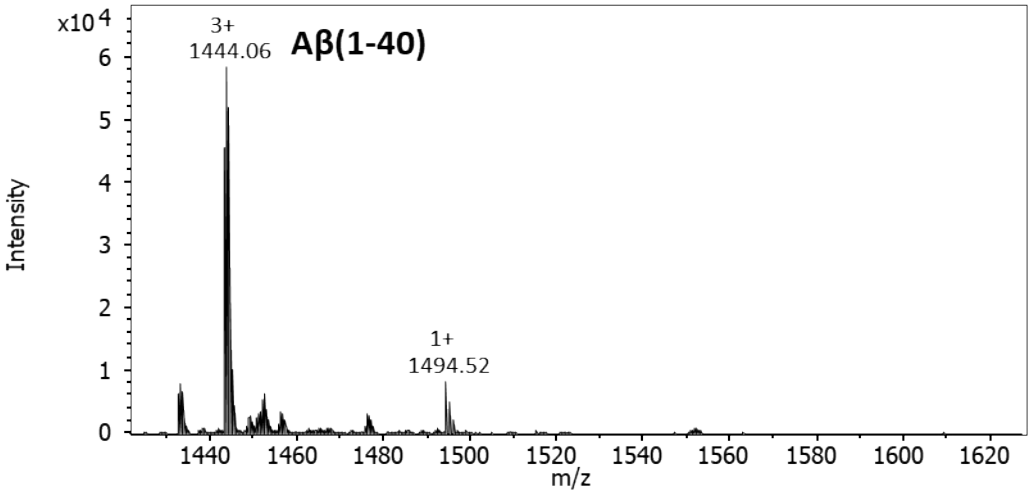
a) Aβ(1-40)



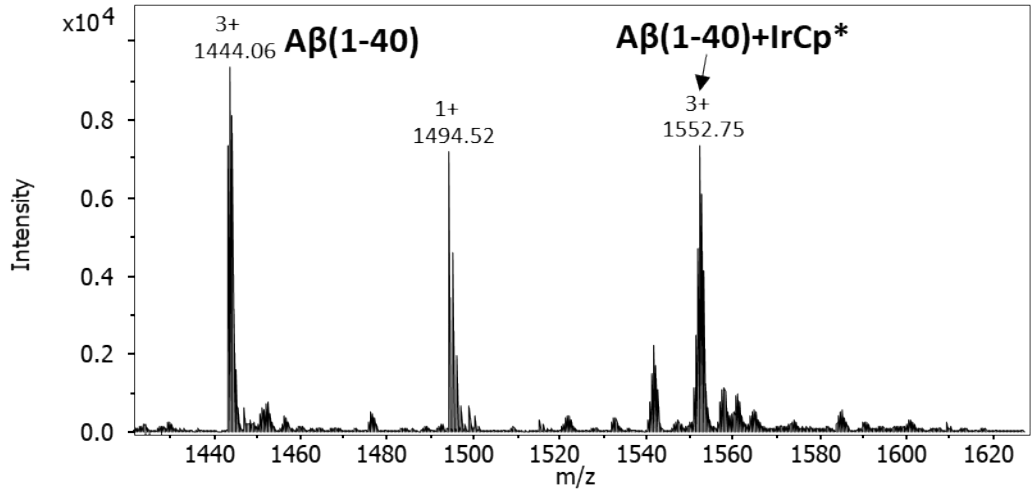
b) Aβ(1-40) + compound **1**, 1:1



c) Aβ(1-40) + compound **2**, 1:1



d) Aβ(1-40) + compound **3**, 1:1



e) Aβ(1-40) + compound **4**, 1:1

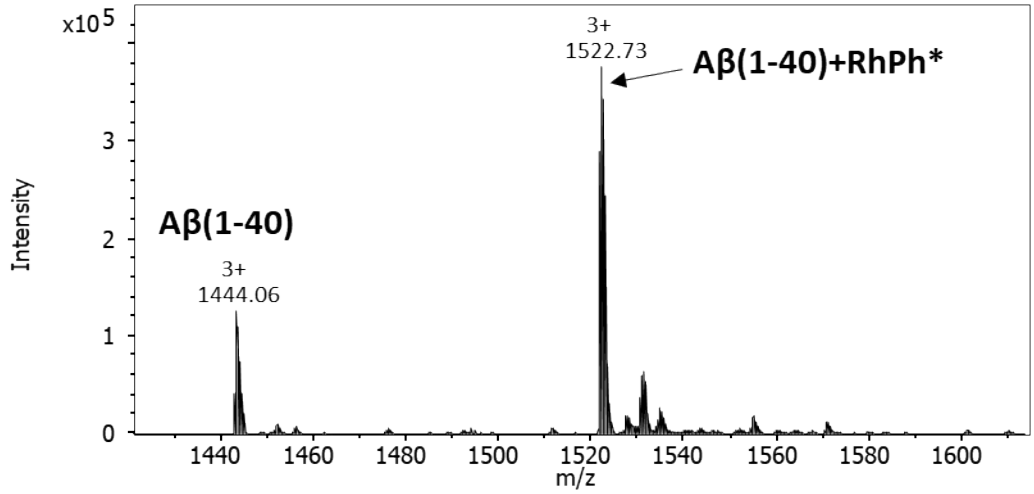


Figure S7. ESI-MS spectra recorded after the incubation of Aβ40 peptide with equimolar amounts of compounds **1-4** at 37 ºC for 24 h. [Aβ(1-40)]= 10 μM, PBS.

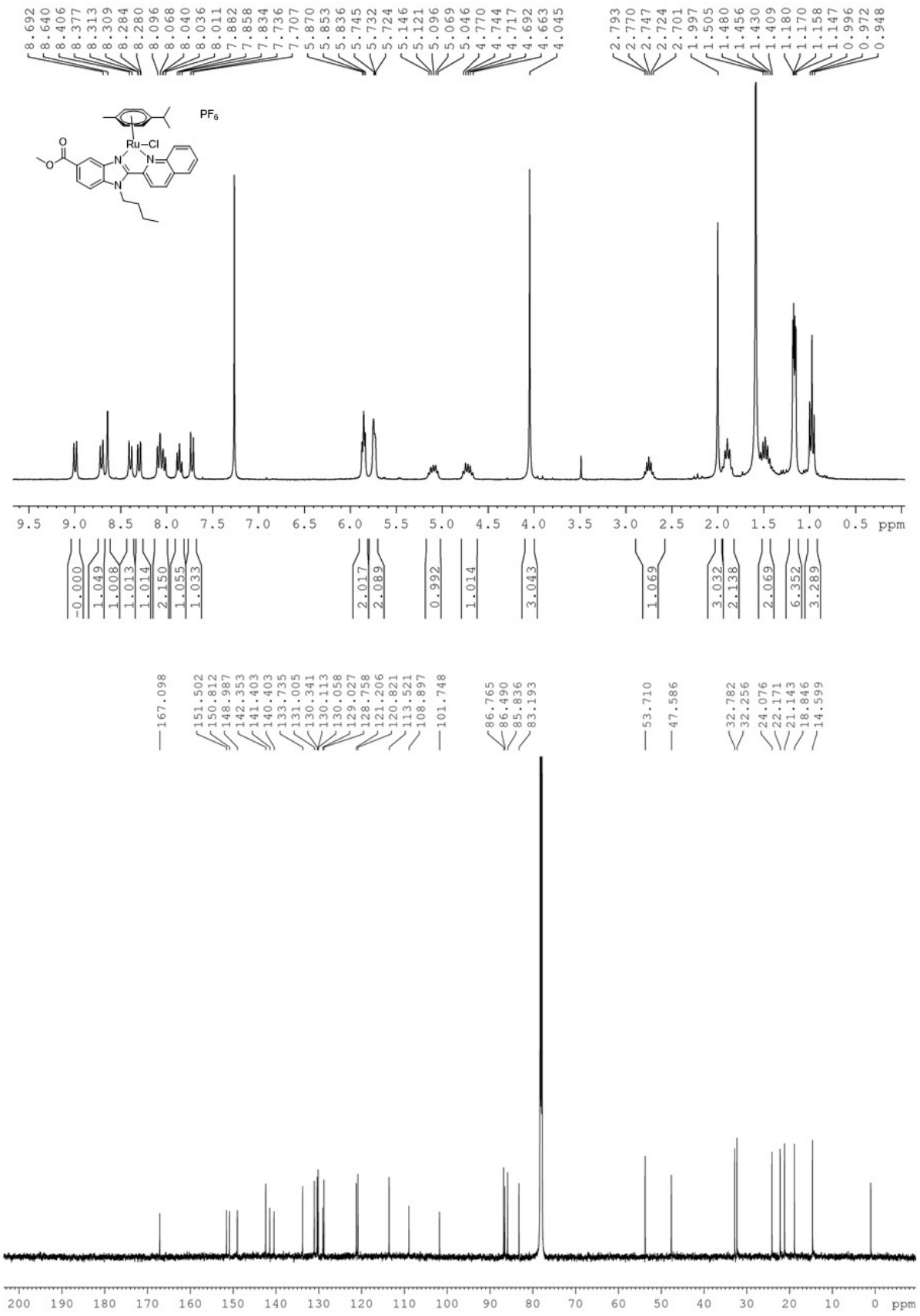


Figure S8. ^{1}H NMR (top) and ^{13}C NMR (bottom) spectra of complex **1** (600 MHz, $CDCl_3$).

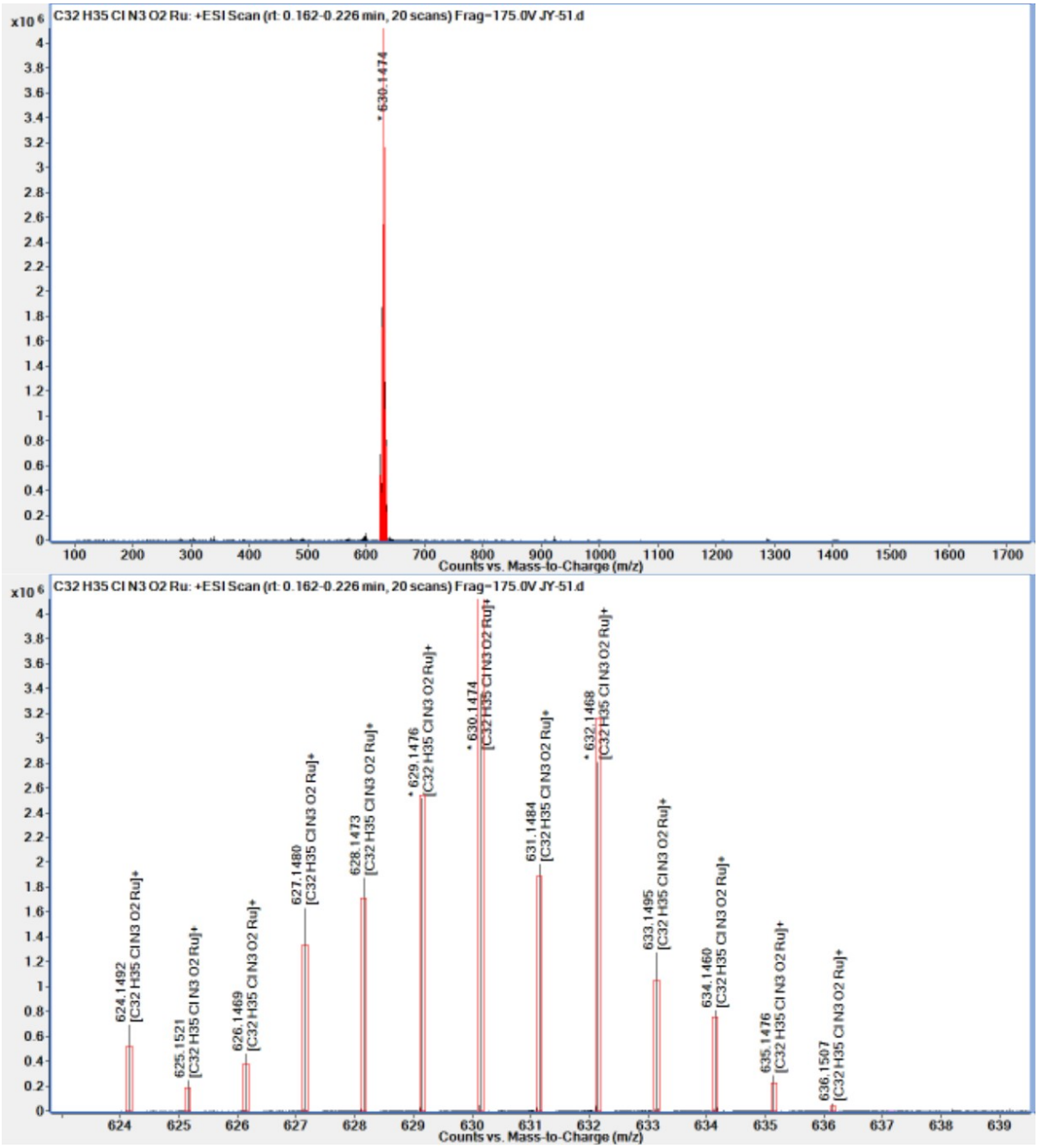


Figure S9. ESI MS spectra of **1**.

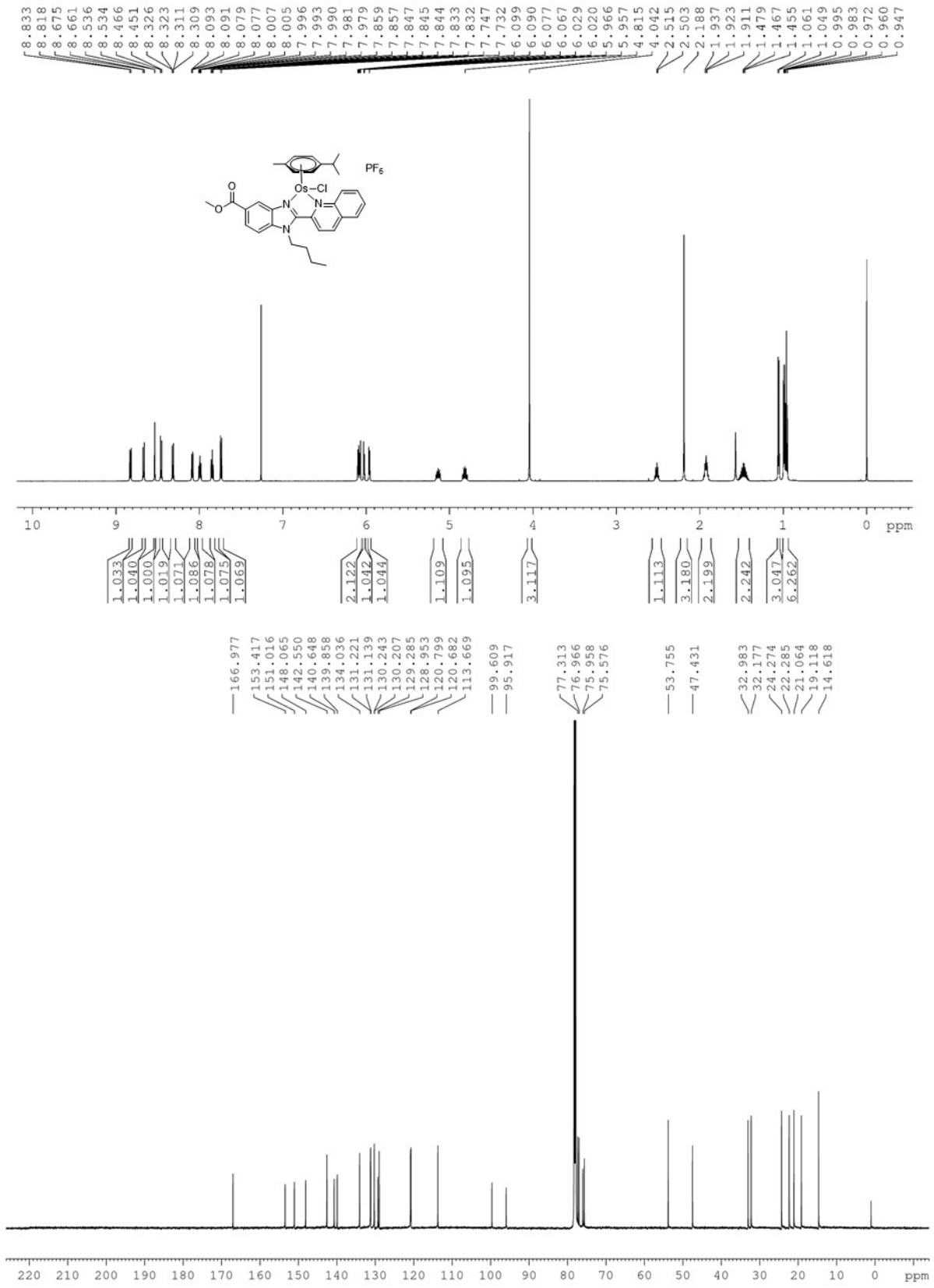


Figure S10. ^{1}H NMR (top) and ^{13}C NMR (bottom) spectra of complex **2** (600 MHz, $CDCl_3$).

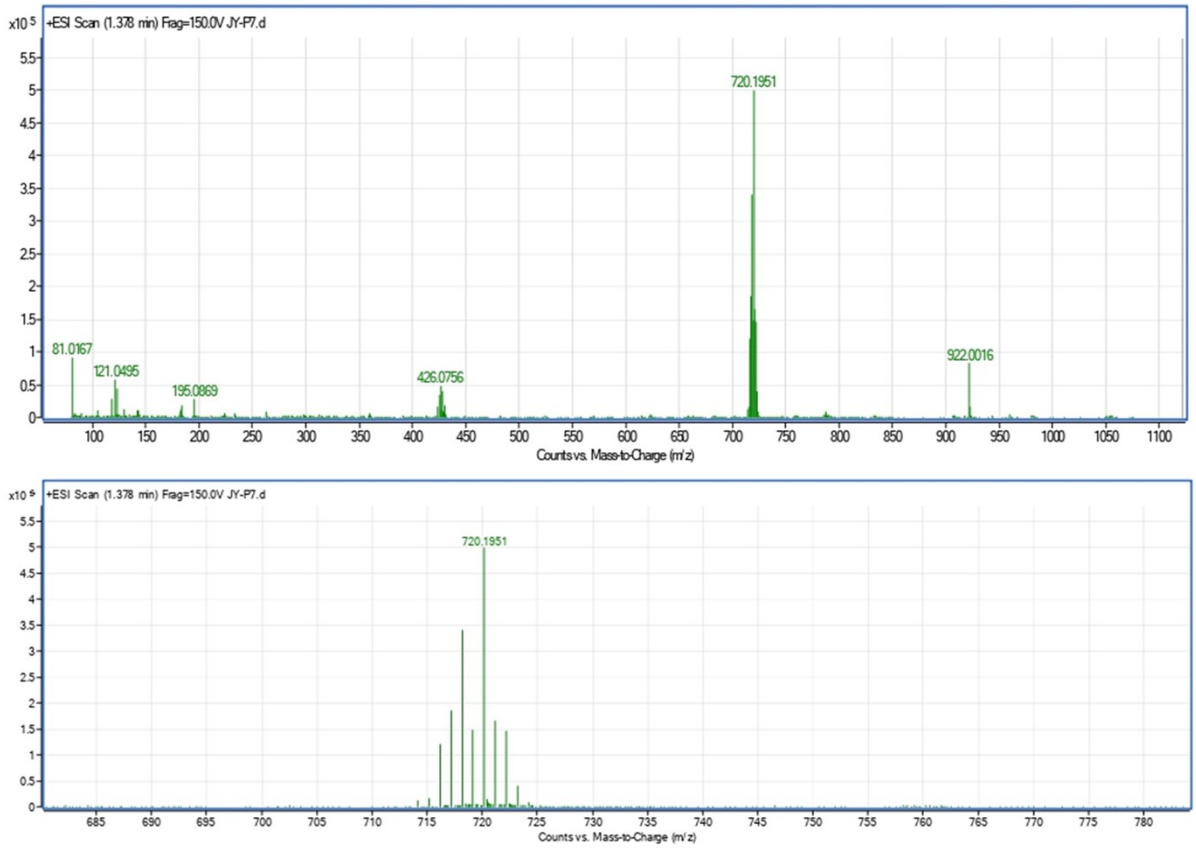


Figure S11. ESI MS spectra of **2**.

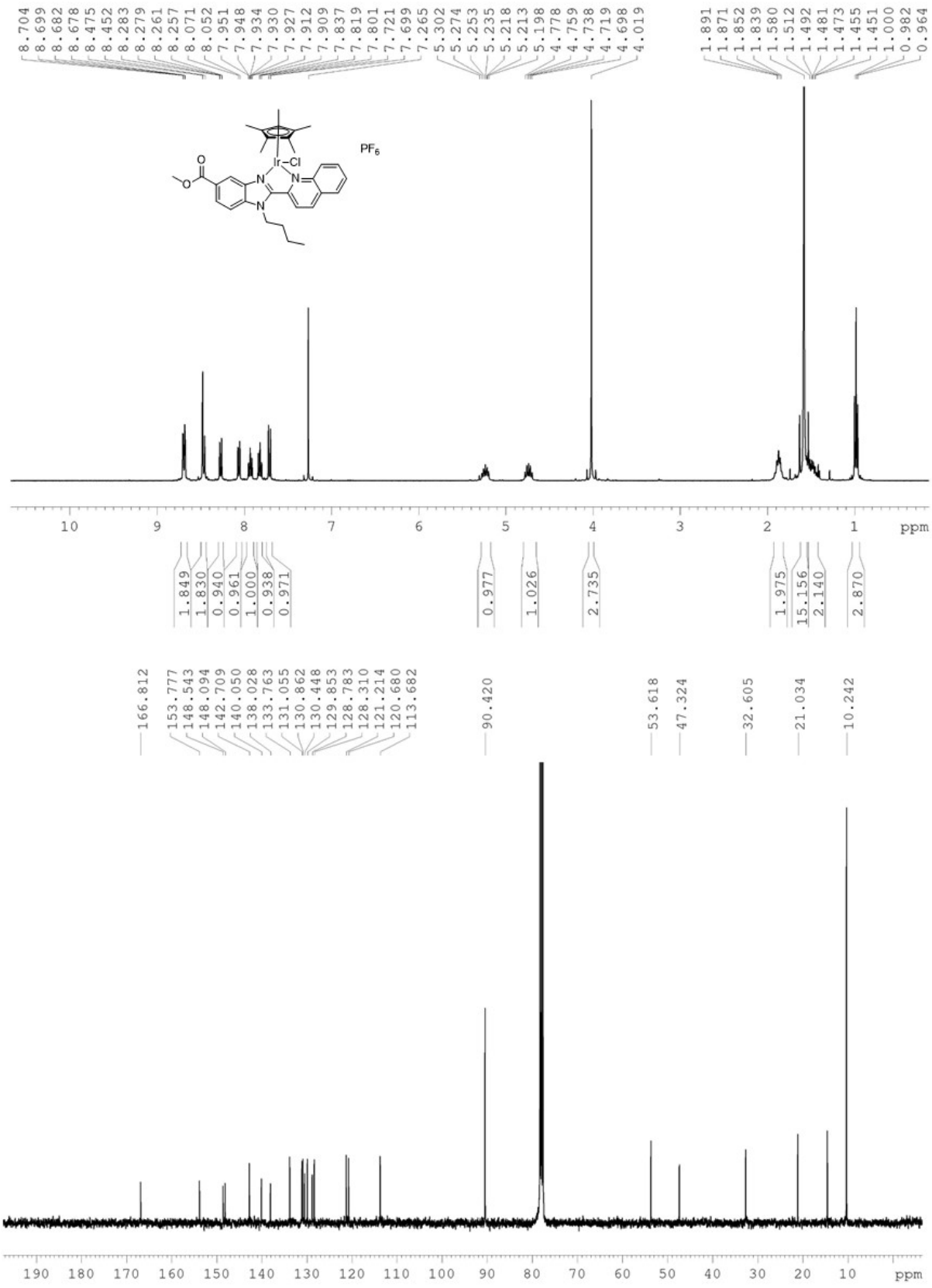


Figure S12. ^{1}H NMR (top) and ^{13}C NMR (bottom) spectra of complex **3** (400 MHz, $CDCl_3$).

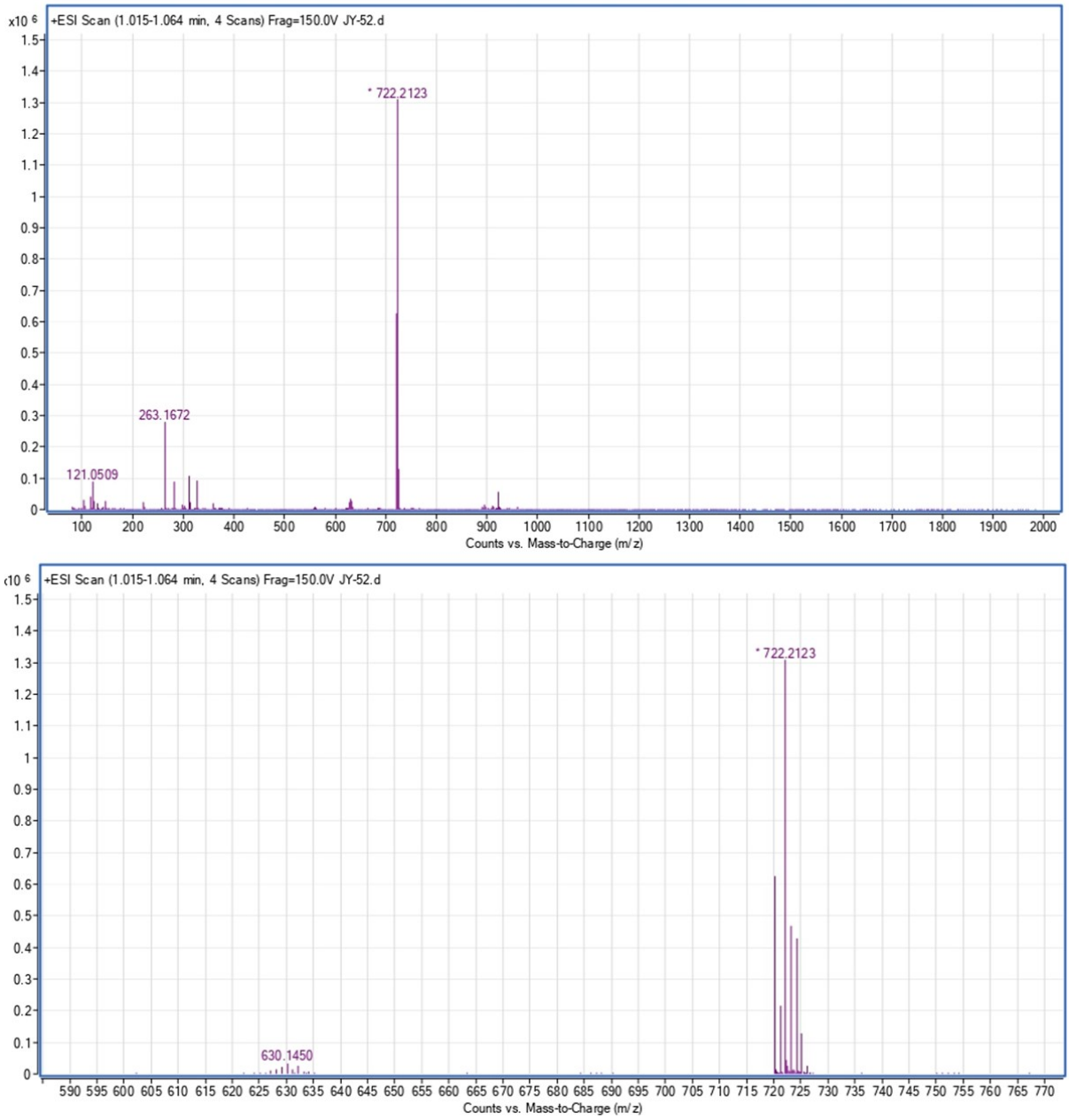


Figure S13. ESI MS spectra of **3**.

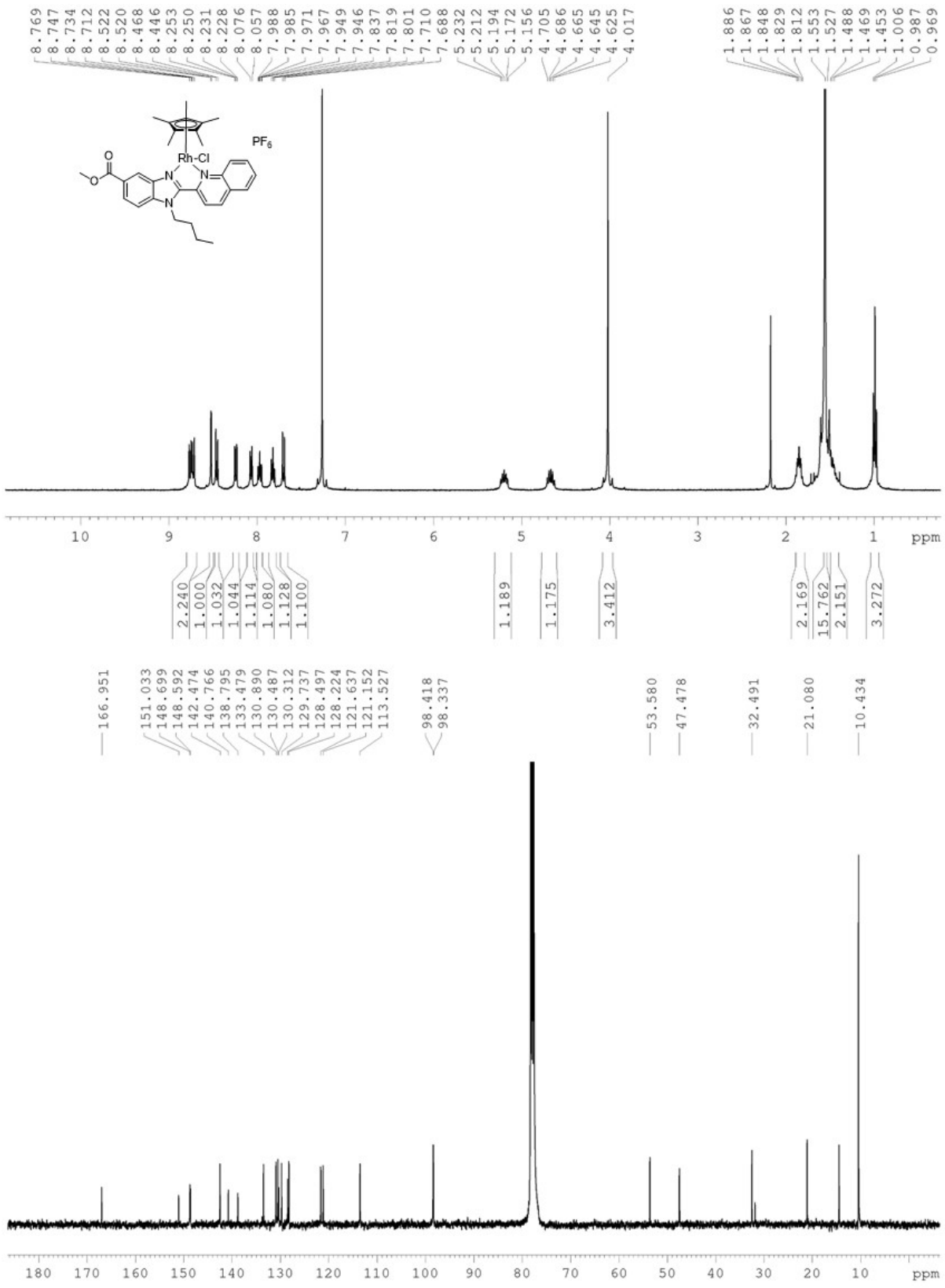


Figure S14. ^{1}H NMR (top) and ^{13}C NMR (bottom) spectra of complex **4** (400 MHz, $CDCl_3$).

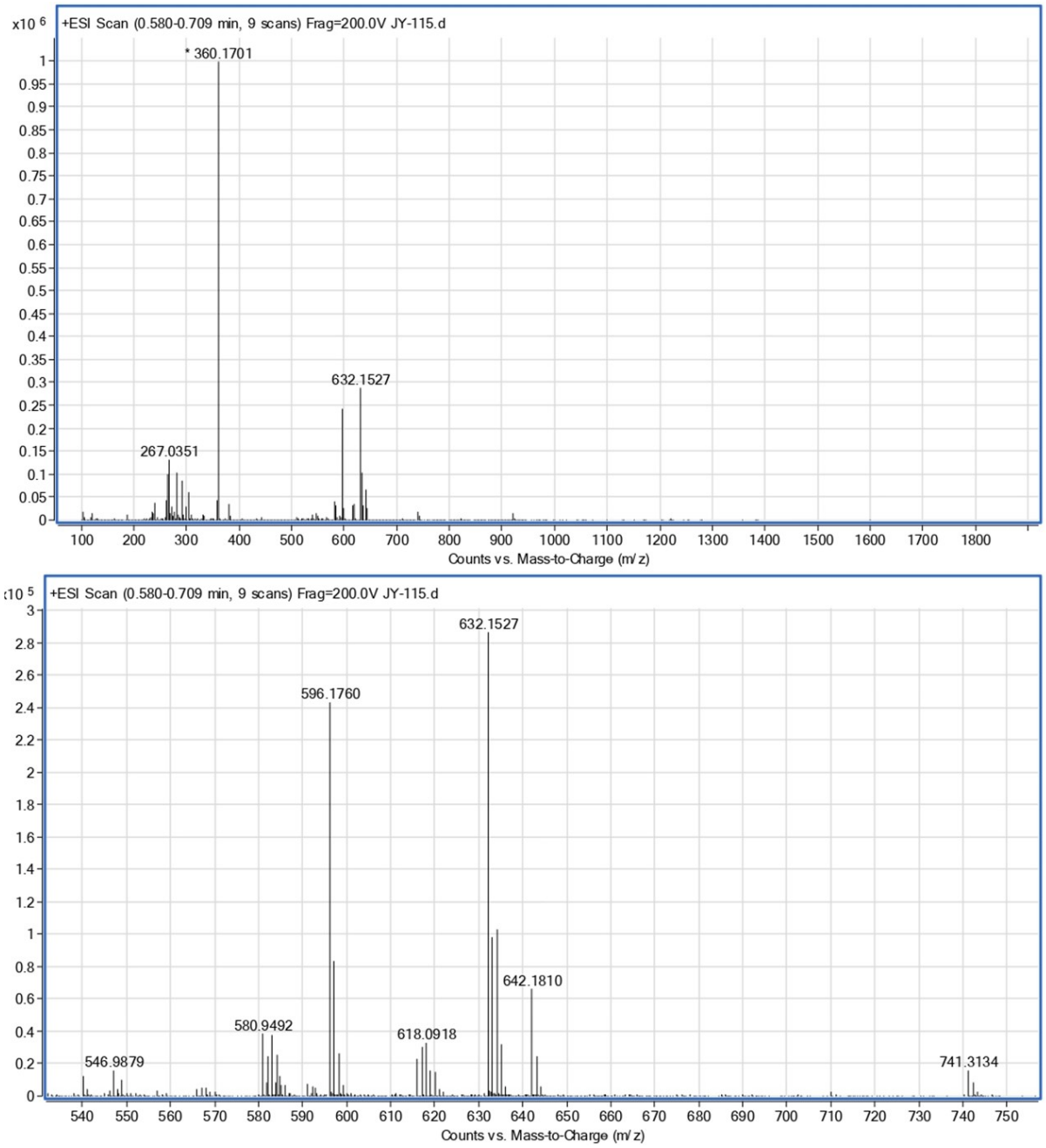


Figure S15. ESI MS spectra of **4**.