

**Electronic Supporting Information (ESI) for:**

Homoleptic ruthenium(II) complexes bearing imidazol(in)ium-2-dithiocarboxylate ligands: synthesis, characterization, and redox properties

Valdemiro P. Carvalho Jr,<sup>‡a</sup> Guillermo Zaragoza<sup>b</sup> and Lionel Delaude<sup>\*a</sup>

<sup>a</sup>Laboratory of Organometallic Chemistry <sup>[1]</sup>and Homogeneous Catalysis, <sup>[2]</sup>Institut de chimie (B6a),  
Allée du six Août 13, Quartier Agora, Université de Liège, 4000 Liège, Belgium.  
E-mail: l.delaude@uliege.be; <http://www.cata.ulg.ac.be>

<sup>b</sup>Unidade de Difracción de Raios X, Edificio CACTUS, Universidade de Santiago de Compostela,  
Campus Vida, 15782 Santiago de Compostela, Spain

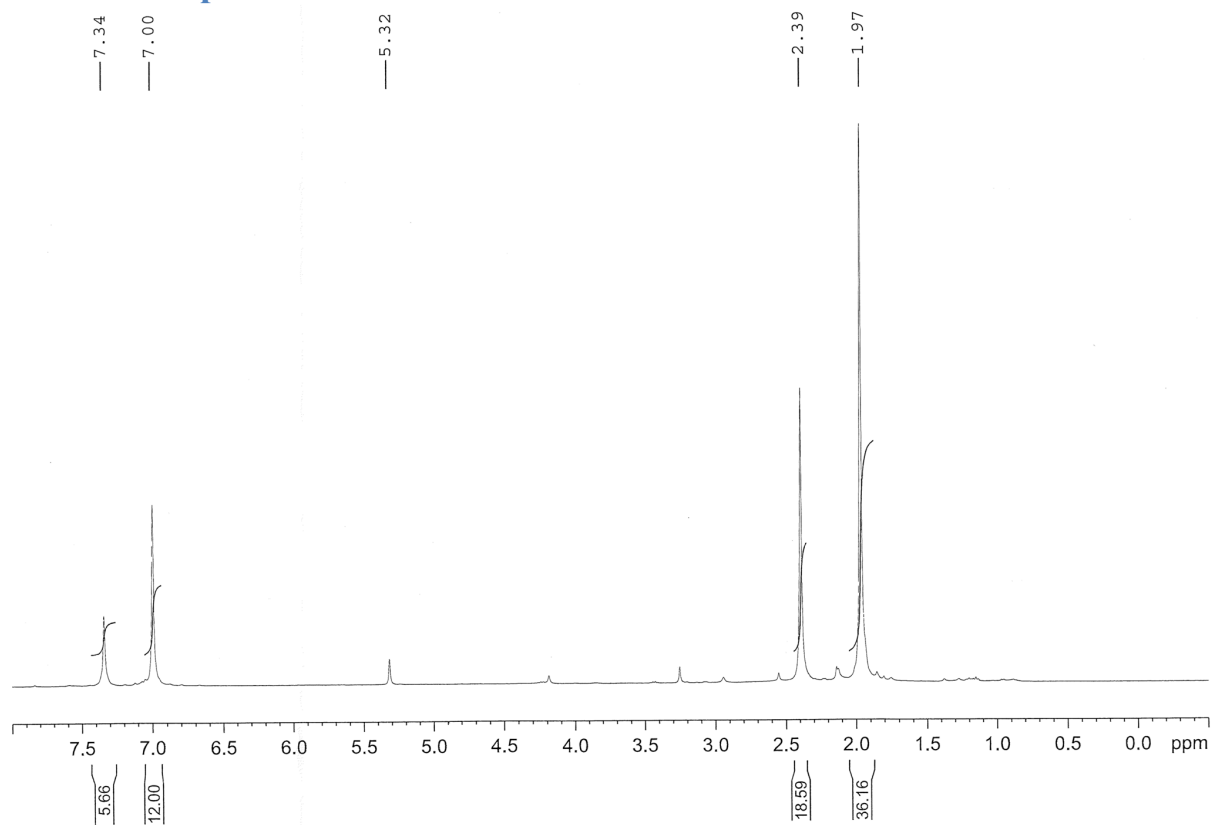
<sup>‡</sup>Present address: Faculdade de Ciências e Tecnologia, UNESP – Univ. Estadual Paulista,  
Presidente Prudente, SP, Brazil.

## Table of content

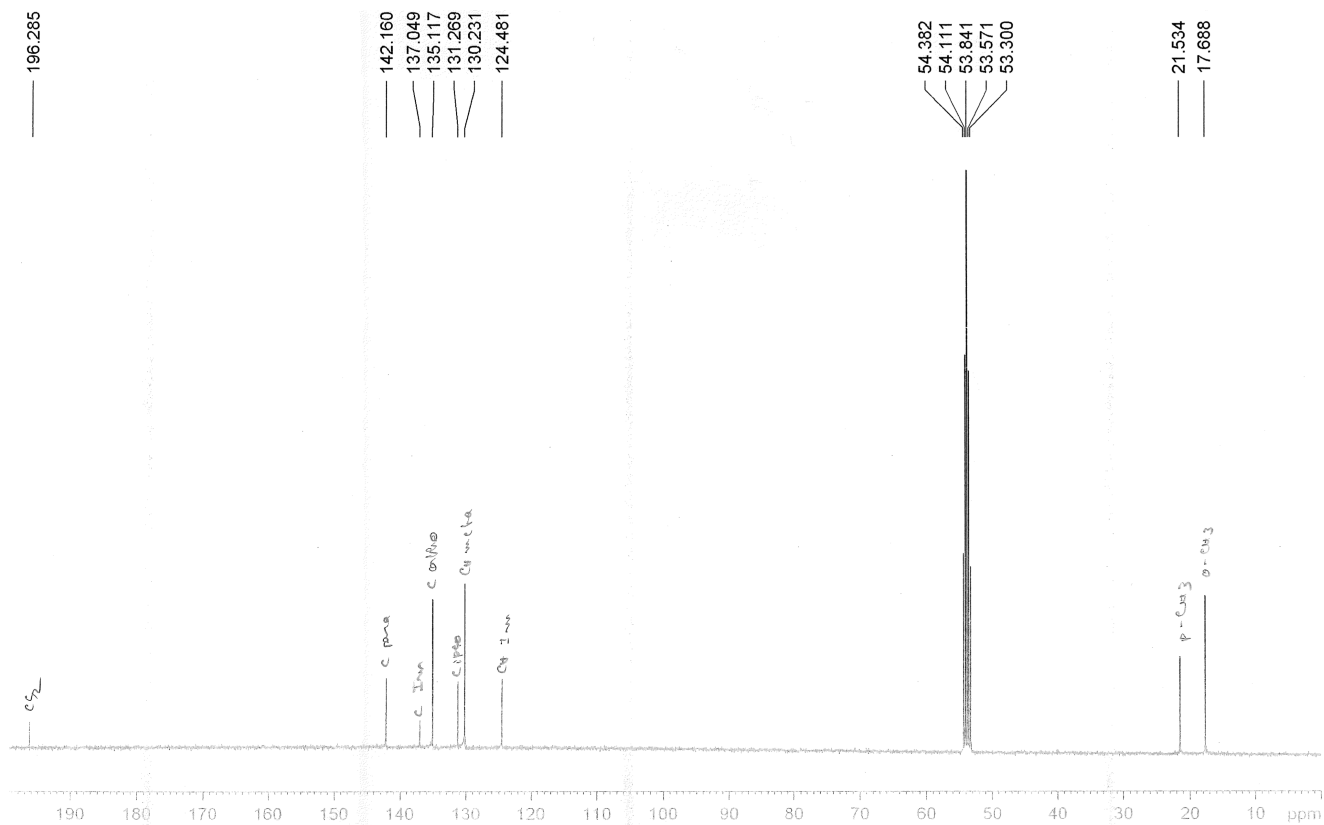
<b>Part 1 – NMR spectra</b> .....	<b>4</b>
Fig. S1. <sup>1</sup> H NMR spectrum (400 MHz, CD <sub>2</sub> Cl <sub>2</sub> , 298 K) of [Ru(S <sub>2</sub> C·IMes) <sub>3</sub> ](PF <sub>6</sub> ) <sub>2</sub> ( <b>2a</b> ) .....	4
Fig. S2. <sup>13</sup> C{ <sup>1</sup> H} NMR spectrum (101 MHz, CD <sub>2</sub> Cl <sub>2</sub> , 298 K) of [Ru(S <sub>2</sub> C·IMes) <sub>3</sub> ](PF <sub>6</sub> ) <sub>2</sub> ( <b>2a</b> ) .....	4
Fig. S3. <sup>31</sup> P NMR spectrum (101 MHz, CD <sub>2</sub> Cl <sub>2</sub> , 298 K) of [Ru(S <sub>2</sub> C·IMes) <sub>3</sub> ](PF <sub>6</sub> ) <sub>2</sub> ( <b>2a</b> ) .....	5
Fig. S4. <sup>1</sup> H NMR spectrum (400 MHz, CD <sub>2</sub> Cl <sub>2</sub> , 298 K) of [Ru(S <sub>2</sub> C·IDip) <sub>3</sub> ](PF <sub>6</sub> ) <sub>2</sub> ( <b>2b</b> ) .....	6
Fig. S5. <sup>13</sup> C{ <sup>1</sup> H} NMR spectrum (101 MHz, CD <sub>2</sub> Cl <sub>2</sub> , 298 K) of [Ru(S <sub>2</sub> C·IDip) <sub>3</sub> ](PF <sub>6</sub> ) <sub>2</sub> ( <b>2b</b> ) .....	6
Fig. S6. <sup>31</sup> P NMR spectrum (101 MHz, CD <sub>2</sub> Cl <sub>2</sub> , 298 K) of [Ru(S <sub>2</sub> C·IDip) <sub>3</sub> ](PF <sub>6</sub> ) <sub>2</sub> ( <b>2b</b> ) .....	7
Fig. S7. <sup>1</sup> H NMR spectrum (400 MHz, CD <sub>2</sub> Cl <sub>2</sub> , 298 K) of [Ru(S <sub>2</sub> C·ICy) <sub>3</sub> ](PF <sub>6</sub> ) <sub>2</sub> ( <b>2c</b> ) .....	8
Fig. S8. <sup>13</sup> C{ <sup>1</sup> H} NMR spectrum (101 MHz, CD <sub>2</sub> Cl <sub>2</sub> , 298 K) of [Ru(S <sub>2</sub> C·ICy) <sub>3</sub> ](PF <sub>6</sub> ) <sub>2</sub> ( <b>2c</b> ) .....	8
Fig. S9. <sup>31</sup> P NMR spectrum (101 MHz, CD <sub>2</sub> Cl <sub>2</sub> , 298 K) of [Ru(S <sub>2</sub> C·ICy) <sub>3</sub> ](PF <sub>6</sub> ) <sub>2</sub> ( <b>2c</b> ) .....	9
Fig. S10. <sup>1</sup> H NMR spectrum (400 MHz, CD <sub>2</sub> Cl <sub>2</sub> , 298 K) of [Ru(S <sub>2</sub> C·SIMes) <sub>3</sub> ](PF <sub>6</sub> ) <sub>2</sub> ( <b>2d</b> ) .....	10
Fig. S11. <sup>13</sup> C{ <sup>1</sup> H} NMR spectrum (101 MHz, CD <sub>2</sub> Cl <sub>2</sub> , 298 K) of [Ru(S <sub>2</sub> C·SIMes) <sub>3</sub> ](PF <sub>6</sub> ) <sub>2</sub> ( <b>2d</b> ) .....	10
Fig. S12. <sup>31</sup> P NMR spectrum (101 MHz, CD <sub>2</sub> Cl <sub>2</sub> , 298 K) of [Ru(S <sub>2</sub> C·SIMes) <sub>3</sub> ](PF <sub>6</sub> ) <sub>2</sub> ( <b>2d</b> ) .....	11
Fig. S13. <sup>1</sup> H NMR spectrum (400 MHz, CD <sub>2</sub> Cl <sub>2</sub> , 298 K) of [Ru(S <sub>2</sub> C·SIDip) <sub>3</sub> ](PF <sub>6</sub> ) <sub>2</sub> ( <b>2e</b> ) .....	12
Fig. S14. <sup>13</sup> C{ <sup>1</sup> H} NMR spectrum (101 MHz, CD <sub>2</sub> Cl <sub>2</sub> , 298 K) of [Ru(S <sub>2</sub> C·SIDip) <sub>3</sub> ](PF <sub>6</sub> ) <sub>2</sub> ( <b>2e</b> ) .....	12
Fig. S15. <sup>31</sup> P NMR spectrum (101 MHz, CD <sub>2</sub> Cl <sub>2</sub> , 298 K) of [Ru(S <sub>2</sub> C·SIDip) <sub>3</sub> ](PF <sub>6</sub> ) <sub>2</sub> ( <b>2e</b> ) .....	13
<b>Part 2 – IR spectra</b> .....	<b>14</b>
Fig. S16. FT-IR spectrum (KBr) of [Ru(S <sub>2</sub> C·IMes) <sub>3</sub> ](PF <sub>6</sub> ) <sub>2</sub> ( <b>2a</b> ) .....	14
Fig. S17. FT-IR spectrum (KBr) of [Ru(S <sub>2</sub> C·IDip) <sub>3</sub> ](PF <sub>6</sub> ) <sub>2</sub> ( <b>2b</b> ) .....	15
Fig. S18. FT-IR spectrum (KBr) of [Ru(S <sub>2</sub> C·ICy) <sub>3</sub> ](PF <sub>6</sub> ) <sub>2</sub> ( <b>2c</b> ) .....	16
Fig. S19. FT-IR spectrum (KBr) of [Ru(S <sub>2</sub> C·SIMes) <sub>3</sub> ](PF <sub>6</sub> ) <sub>2</sub> ( <b>2d</b> ) .....	17
Fig. S20. FT-IR spectrum (KBr) of [Ru(S <sub>2</sub> C·SIDip) <sub>3</sub> ](PF <sub>6</sub> ) <sub>2</sub> ( <b>2e</b> ) .....	18
<b>Part 3 – Mass spectra</b> .....	<b>19</b>
Fig. S21. ESI-MS spectrum of [Ru(S <sub>2</sub> C·IMes) <sub>3</sub> ](PF <sub>6</sub> ) <sub>2</sub> ( <b>2a</b> ) .....	19
Fig. S22. Isotope profiles of [Ru(S <sub>2</sub> C·IMes) <sub>3</sub> ] <sup>2+</sup> obtained by ESI-MS (in red) and simulated isotope patterns of the corresponding ion (in black) .....	20
Fig. S23. ESI-MS spectrum of [Ru(S <sub>2</sub> C·IDip) <sub>3</sub> ](PF <sub>6</sub> ) <sub>2</sub> ( <b>2b</b> ) .....	21
Fig. S24. Isotope profiles of [Ru(S <sub>2</sub> C·IDip) <sub>3</sub> ] <sup>2+</sup> obtained by ESI-MS (in red) and simulated isotope patterns of the corresponding ion (in black) .....	22

Fig. S25. ESI-MS spectrum of $[\text{Ru}(\text{S}_2\text{C}\cdot\text{ICy})_3](\text{PF}_6)_2$ ( <b>2c</b> ).....	23
Fig. S26. Isotope profiles of $[\text{Ru}(\text{S}_2\text{C}\cdot\text{ICy})_3]^{2+}$ obtained by ESI-MS (in red) and simulated isotope patterns of the corresponding ion (in black) .....	24
Fig. S27. ESI-MS spectrum of $[\text{Ru}(\text{S}_2\text{C}\cdot\text{SIMes})_3](\text{PF}_6)_2$ ( <b>2d</b> ).....	25
Fig. S28. Isotope profiles of $[\text{Ru}(\text{S}_2\text{C}\cdot\text{SIMes})_3]^{2+}$ obtained by ESI-MS (in red) and simulated isotope patterns of the corresponding ion (in black) .....	26
Fig. S29. ESI-MS spectrum of $[\text{Ru}(\text{S}_2\text{C}\cdot\text{SIDip})_3](\text{PF}_6)_2$ ( <b>2e</b> ) .....	27
Fig. S30. Isotope profiles of $[\text{Ru}(\text{S}_2\text{C}\cdot\text{SIDip})_3]^{2+}$ obtained by ESI-MS (in red) and simulated isotope patterns of the corresponding ion (in black) .....	28
<b>Part 4 – Cyclic voltammetry .....</b>	<b>29</b>
Fig. S31. <i>Left</i> - Cyclic voltammograms of $[\text{Ru}(\text{S}_2\text{C}\cdot\text{IMes})_3](\text{PF}_6)_2$ ( <b>2a</b> ) in $\text{CH}_2\text{Cl}_2$ at 25 °C. <i>Right</i> - Current ( $I$ ) of the anodic ( $I_{p,\text{ox}}$ ) and cathodic ( $I_{p,\text{red}}$ ) processes vs. square root of the potential scan rate ( $v$ ).....	29
Fig. S32. <i>Left</i> - Cyclic voltammograms of $[\text{Ru}(\text{S}_2\text{C}\cdot\text{IDip})_3](\text{PF}_6)_2$ ( <b>2b</b> ) in $\text{CH}_2\text{Cl}_2$ at 25 °C. <i>Right</i> - Current ( $I$ ) of the anodic ( $I_{p,\text{ox}}$ ) and cathodic ( $I_{p,\text{red}}$ ) processes vs. square root of the potential scan rate ( $v$ ).....	29
Fig. S33. <i>Left</i> - Cyclic voltammograms of $[\text{Ru}(\text{S}_2\text{C}\cdot\text{ICy})_3](\text{PF}_6)_2$ ( <b>2c</b> ) in $\text{CH}_2\text{Cl}_2$ at 25 °C. <i>Right</i> - Current ( $I$ ) of the anodic ( $I_{p,\text{ox}}$ ) and cathodic ( $I_{p,\text{red}}$ ) processes vs. square root of the potential scan rate ( $v$ ).....	30
Fig. S34. <i>Left</i> - Cyclic voltammograms of $[\text{Ru}(\text{S}_2\text{C}\cdot\text{SIMes})_3](\text{PF}_6)_2$ ( <b>2d</b> ) in $\text{CH}_2\text{Cl}_2$ at 25 °C. <i>Right</i> - Current ( $I$ ) of the anodic ( $I_{p,\text{ox}}$ ) and cathodic ( $I_{p,\text{red}}$ ) processes vs. square root of the potential scan rate ( $v$ ).....	30
Fig. S35. <i>Left</i> - Cyclic voltammograms of $[\text{Ru}(\text{S}_2\text{C}\cdot\text{SIMes})_3](\text{PF}_6)_2$ ( <b>2e</b> ) in $\text{CH}_2\text{Cl}_2$ at 25 °C. <i>Right</i> - Current ( $I$ ) of the anodic ( $I_{p,\text{ox}}$ ) and cathodic ( $I_{p,\text{red}}$ ) processes vs. square root of the potential scan rate ( $v$ ).....	31
Fig. S36. Cyclic voltammogram of ferrocene in $\text{CH}_2\text{Cl}_2$ at 25 °C.....	31

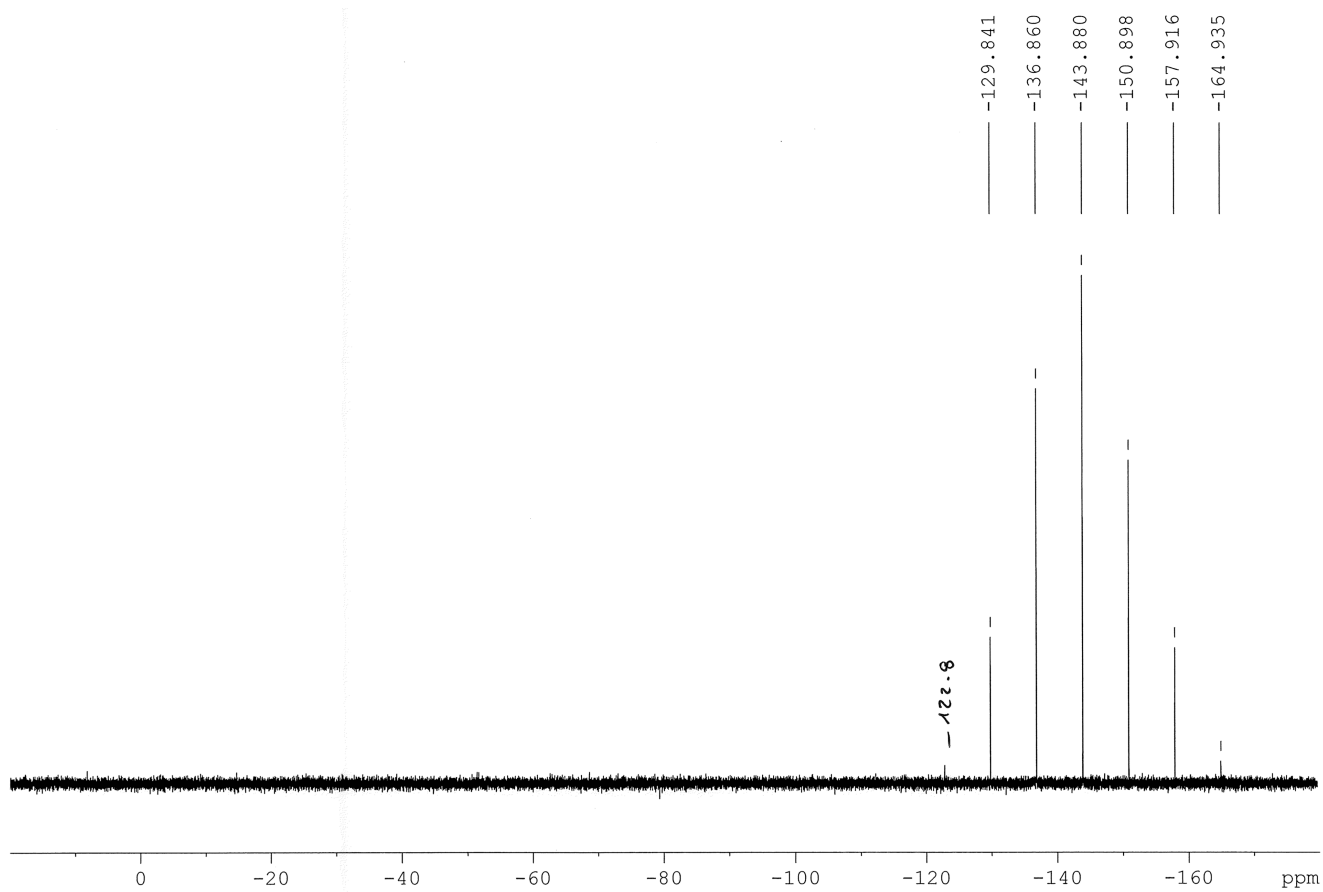
## Part 1 – NMR spectra



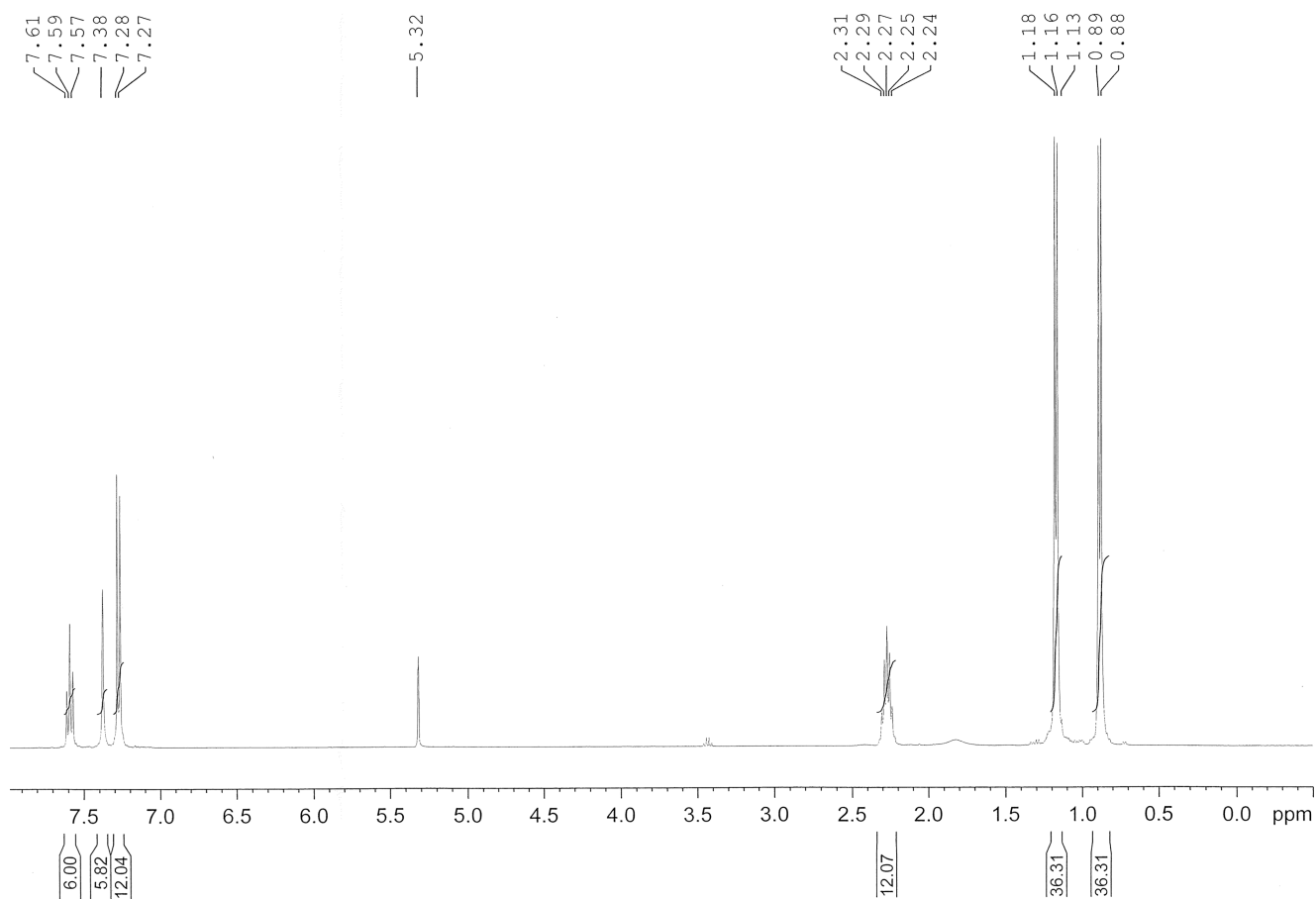
**Fig. S1.**  $^1\text{H}$  NMR spectrum (400 MHz,  $\text{CD}_2\text{Cl}_2$ , 298 K) of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{IMes})_3](\text{PF}_6)_2$  (**2a**)



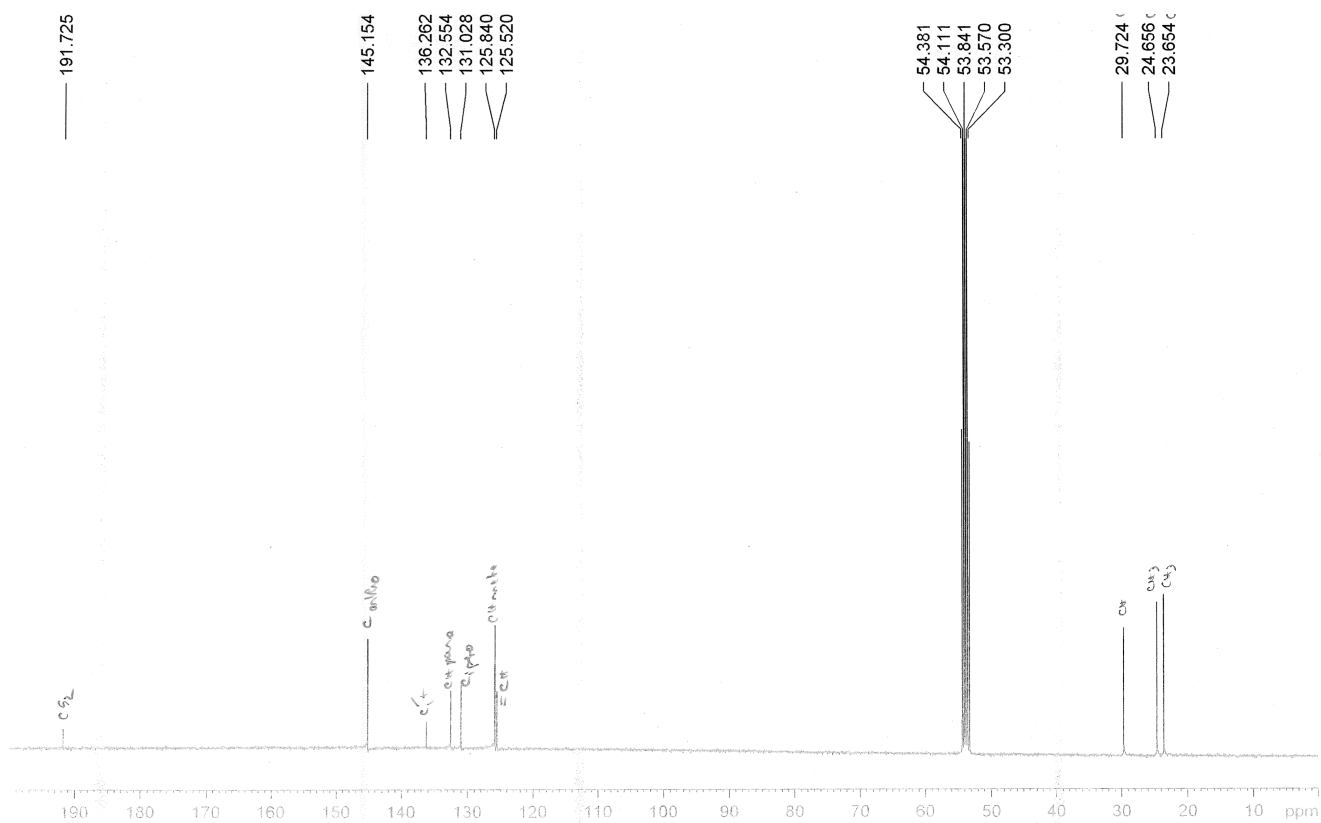
**Fig. S2.**  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum (101 MHz,  $\text{CD}_2\text{Cl}_2$ , 298 K) of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{IMes})_3](\text{PF}_6)_2$  (**2a**)



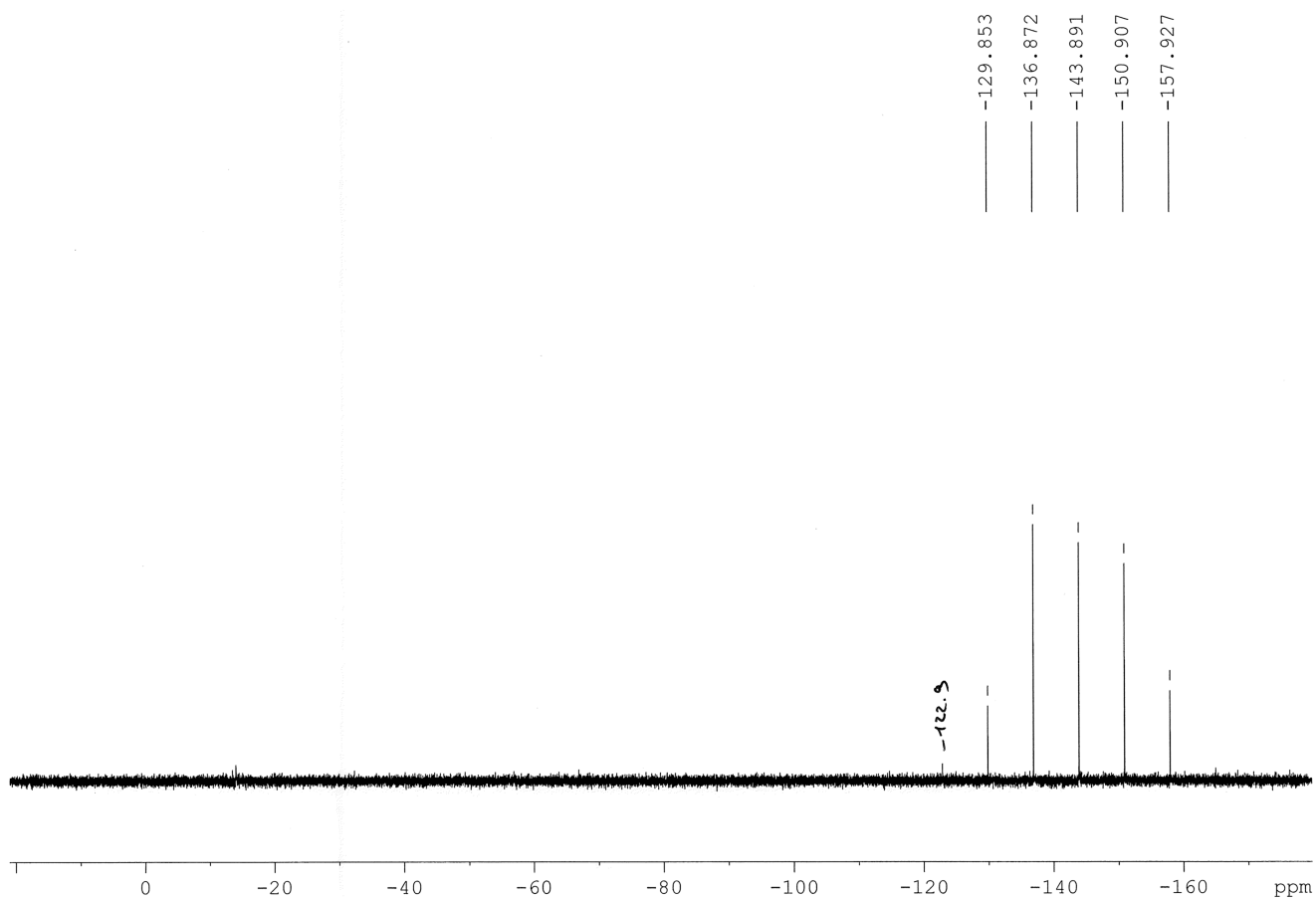
**Fig. S3.**  $^{31}\text{P}$  NMR spectrum (101 MHz,  $\text{CD}_2\text{Cl}_2$ , 298 K) of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{IMes})_3](\text{PF}_6)_2$  (**2a**)



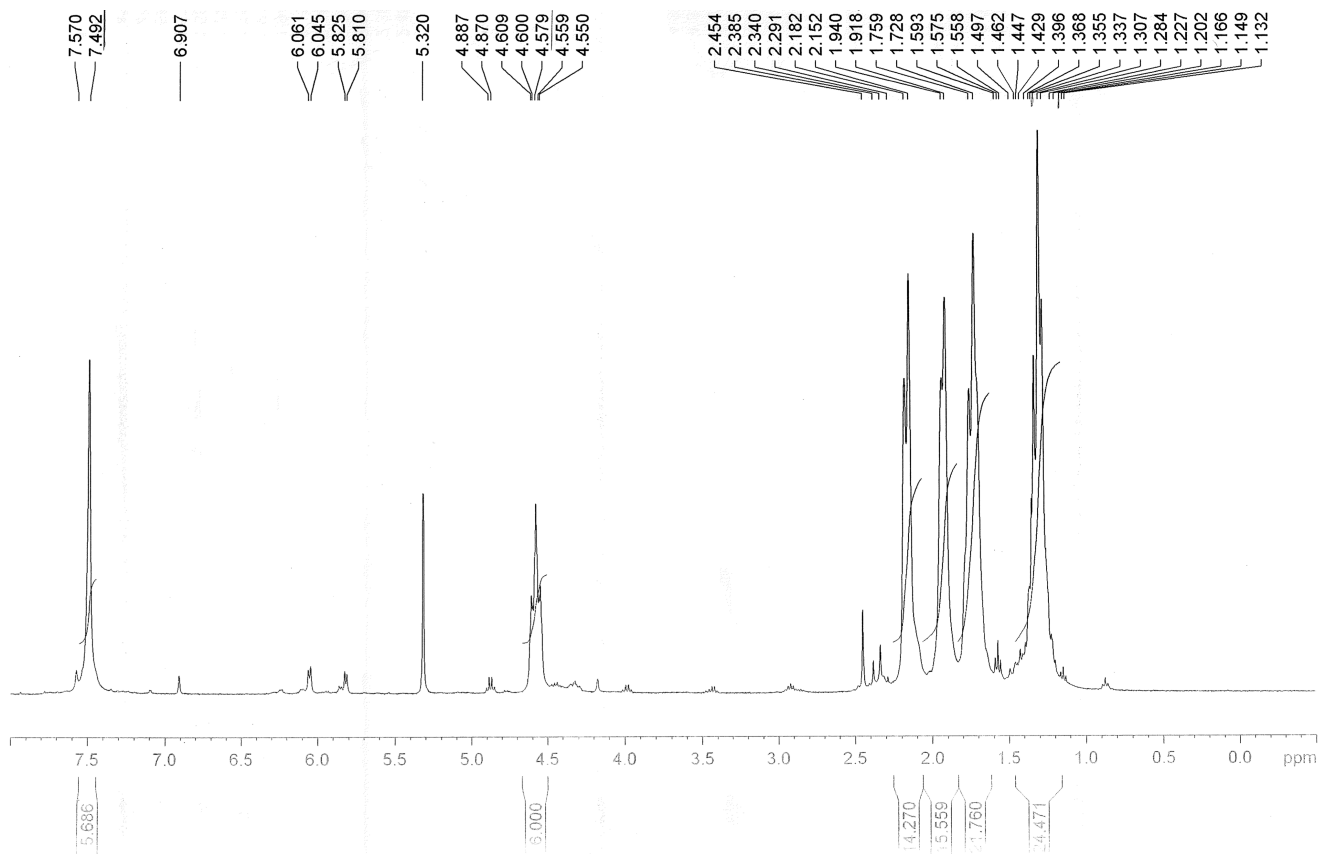
**Fig. S4.**  $^1\text{H}$  NMR spectrum (400 MHz,  $\text{CD}_2\text{Cl}_2$ , 298 K) of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{IDip})_3](\text{PF}_6)_2$  (**2b**)



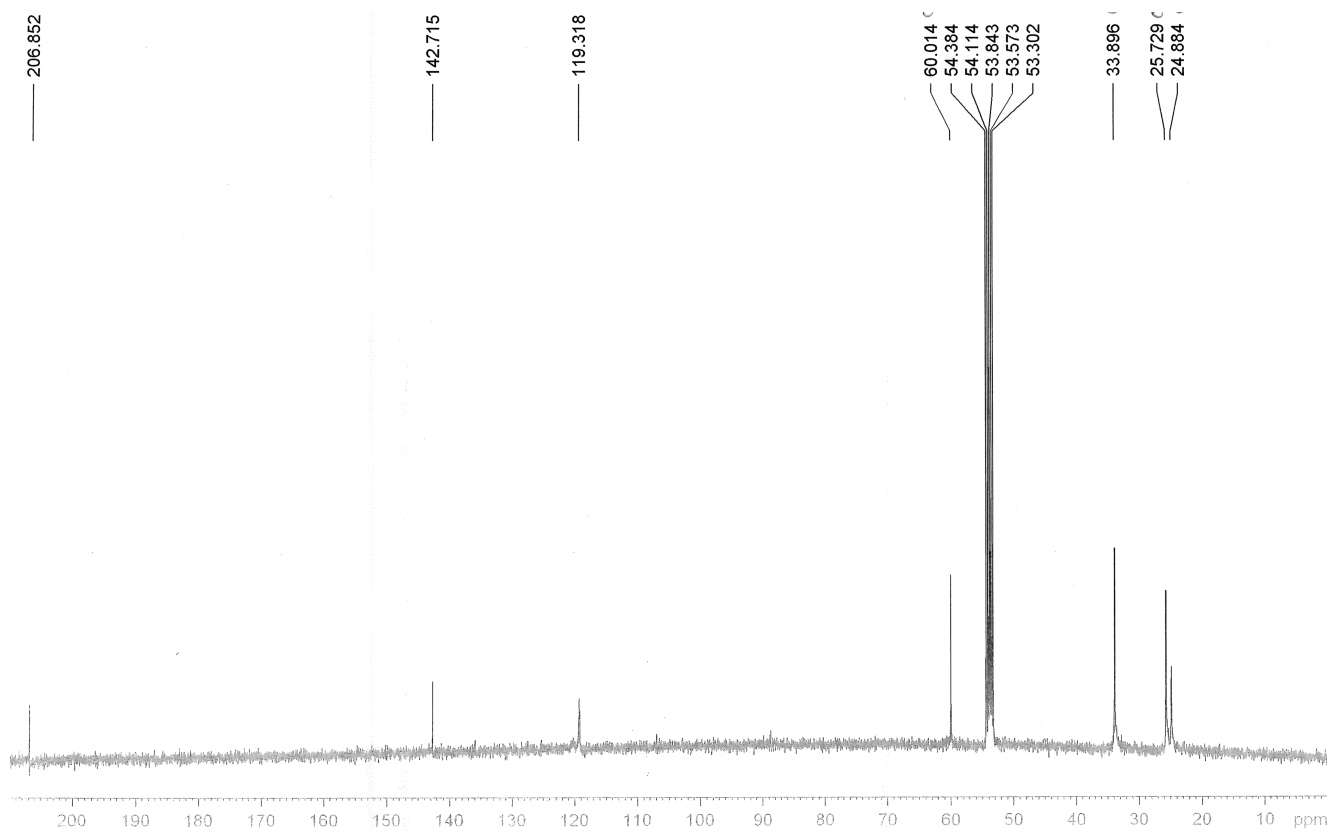
**Fig. S5.**  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum (101 MHz,  $\text{CD}_2\text{Cl}_2$ , 298 K) of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{IDip})_3](\text{PF}_6)_2$  (**2b**)



**Fig. S6.**  $^{31}\text{P}$  NMR spectrum (101 MHz,  $\text{CD}_2\text{Cl}_2$ , 298 K) of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{IDip})_3](\text{PF}_6)_2$  (**2b**)

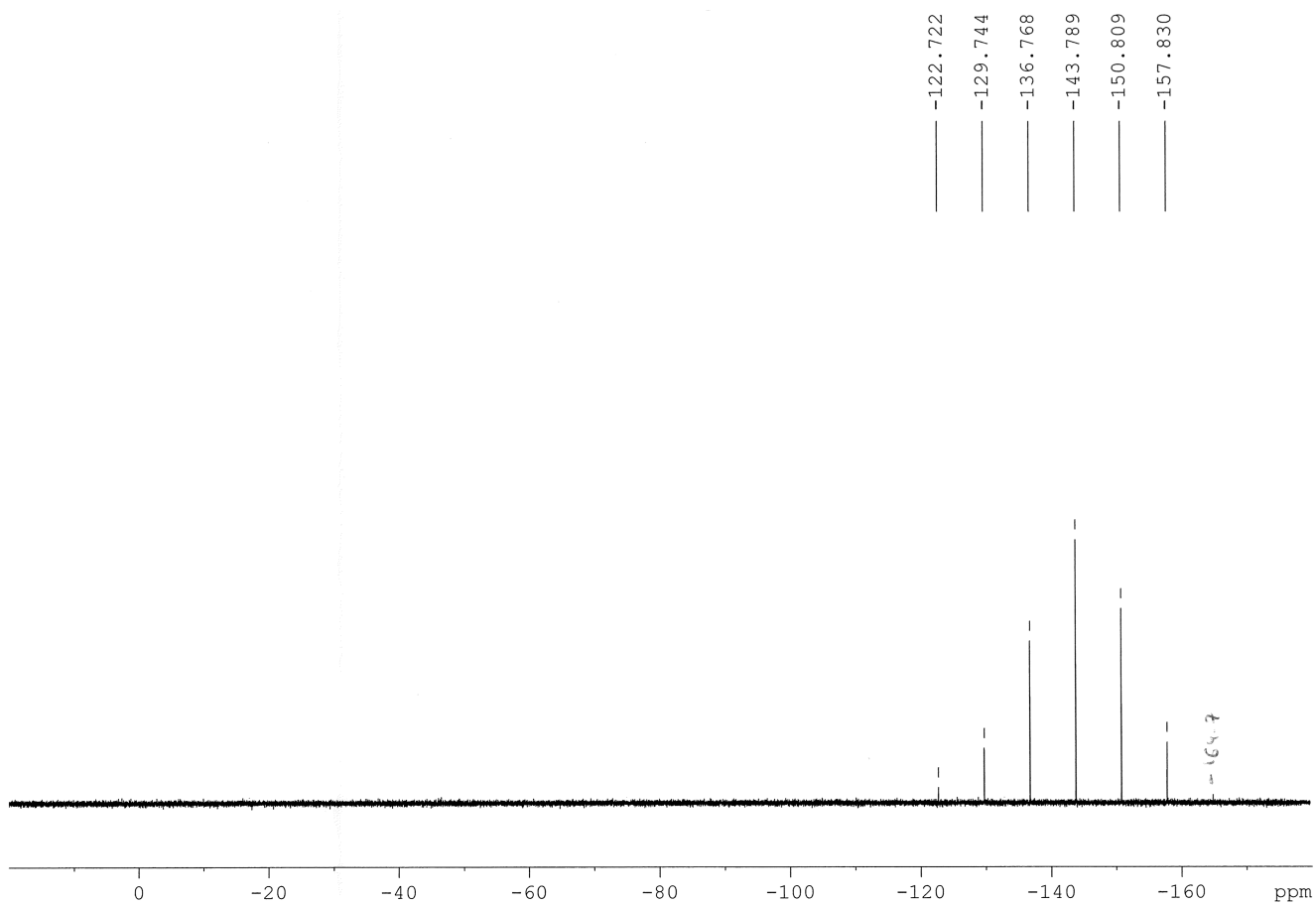


**Fig. S7.**  $^1\text{H}$  NMR spectrum (400 MHz,  $\text{CD}_2\text{Cl}_2$ , 298 K) of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{ICy})_3](\text{PF}_6)_2$  (**2c**)



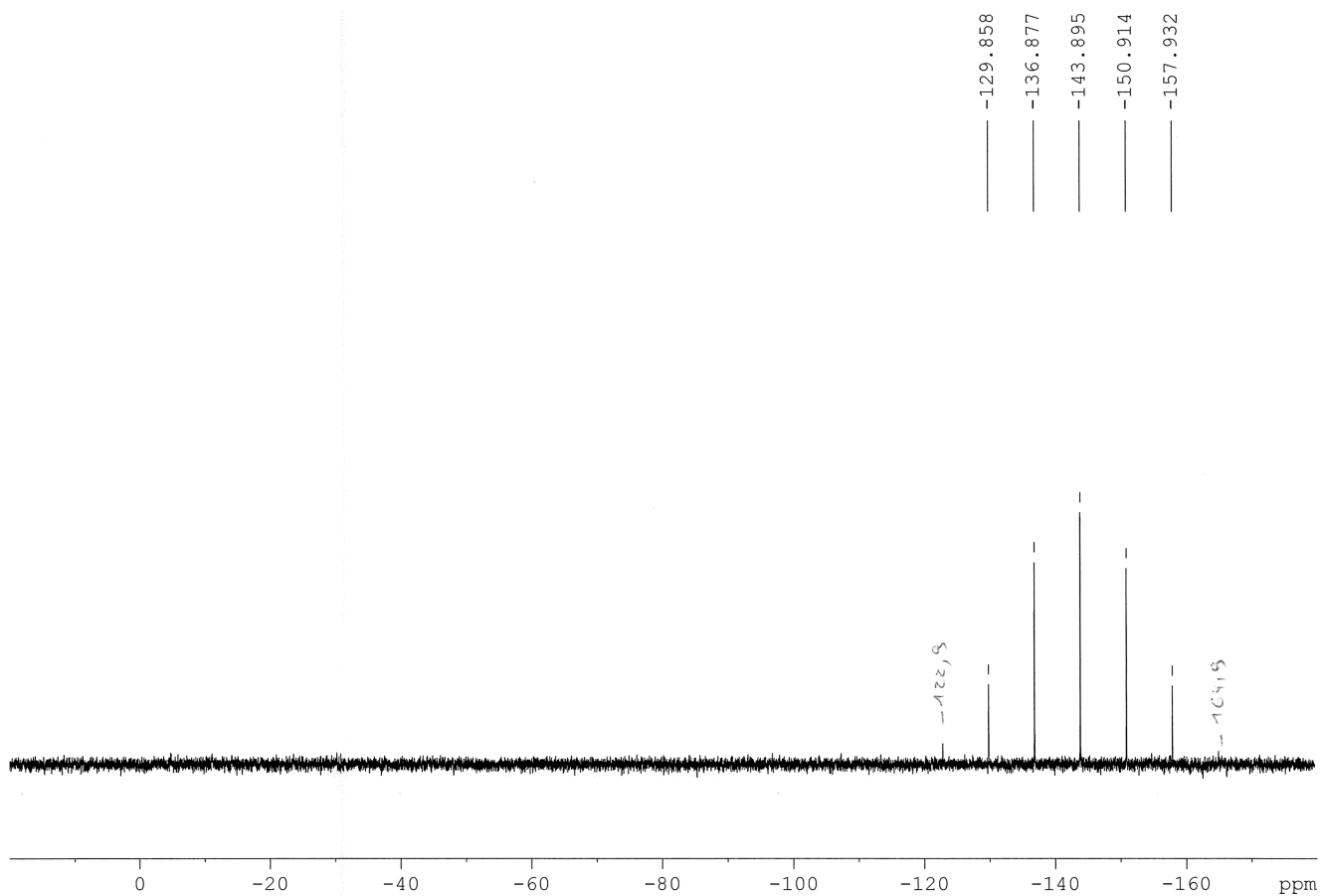
**Fig. S8.**  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum (101 MHz,  $\text{CD}_2\text{Cl}_2$ , 298 K) of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{ICy})_3](\text{PF}_6)_2$  (**2c**)



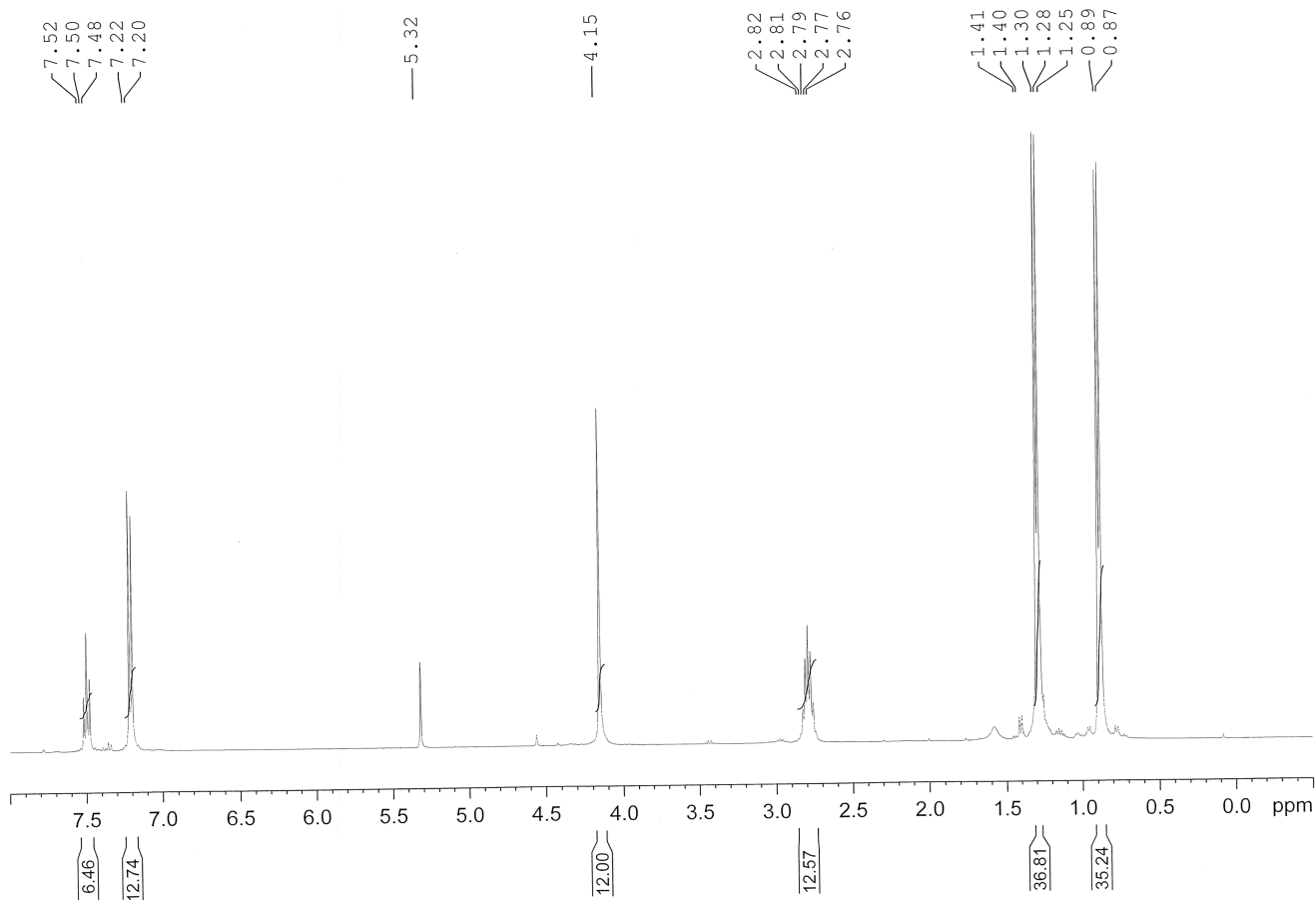


**Fig. S9.**  $^{31}\text{P}$  NMR spectrum (101 MHz,  $\text{CD}_2\text{Cl}_2$ , 298 K) of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{ICy})_3](\text{PF}_6)_2$  (**2c**)

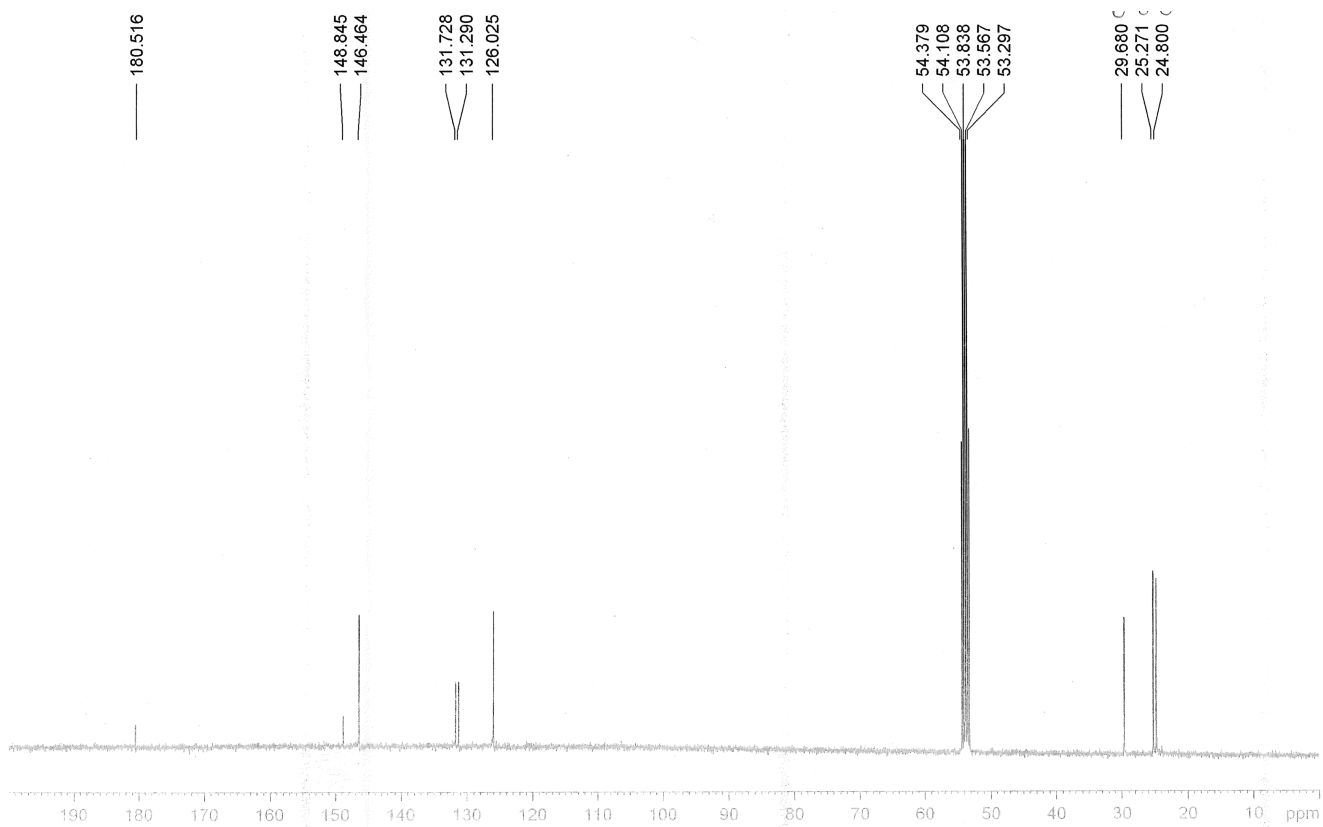




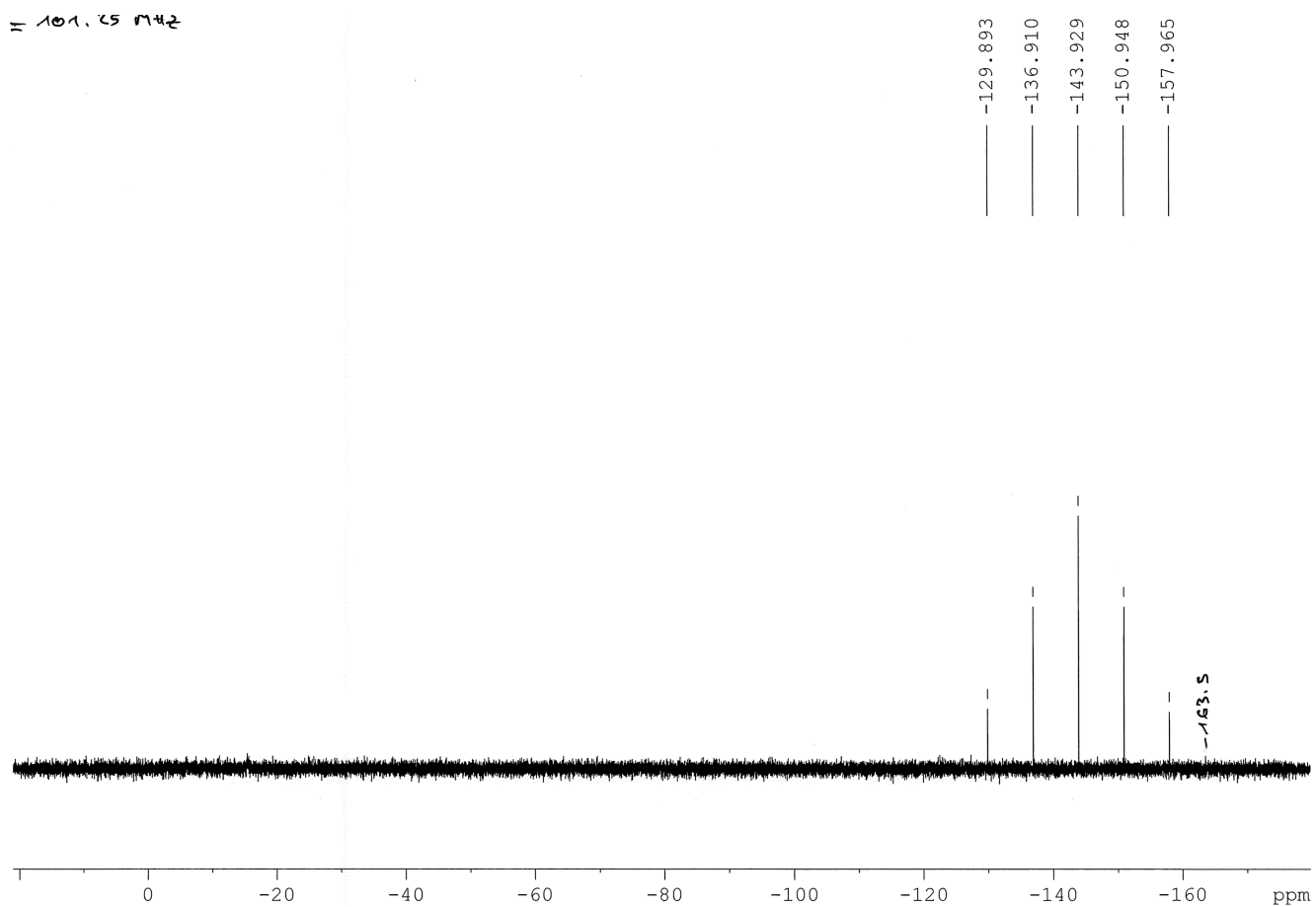
**Fig. S12.**  $^{31}\text{P}$  NMR spectrum (101 MHz,  $\text{CD}_2\text{Cl}_2$ , 298 K) of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{SIMes})_3](\text{PF}_6)_2$  (**2d**)



**Fig. S13.**  $^1\text{H}$  NMR spectrum (400 MHz,  $\text{CD}_2\text{Cl}_2$ , 298 K) of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{SIDip})_3](\text{PF}_6)_2$  (**2e**)

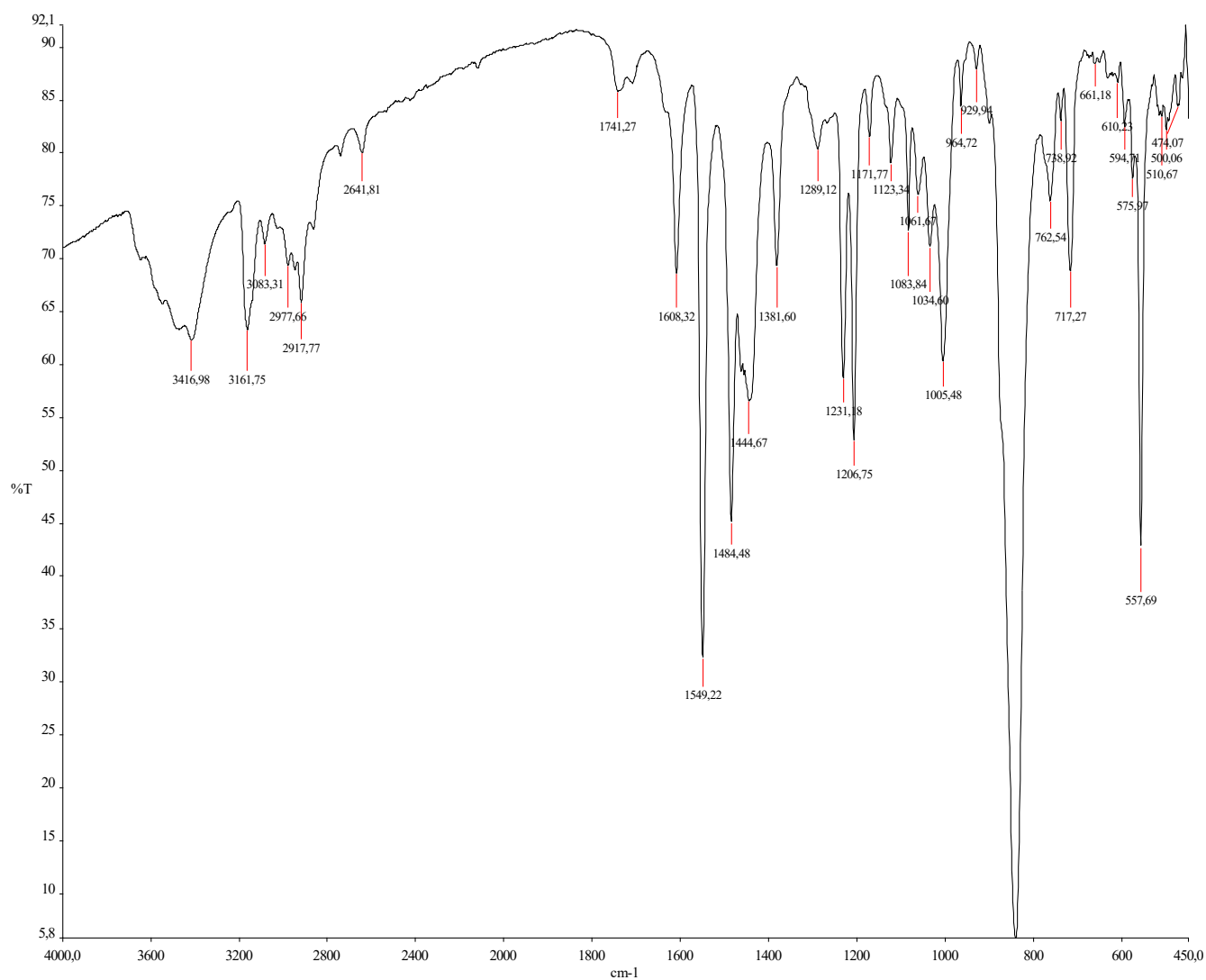


**Fig. S14.**  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum (101 MHz,  $\text{CD}_2\text{Cl}_2$ , 298 K) of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{SIDip})_3](\text{PF}_6)_2$  (**2e**)

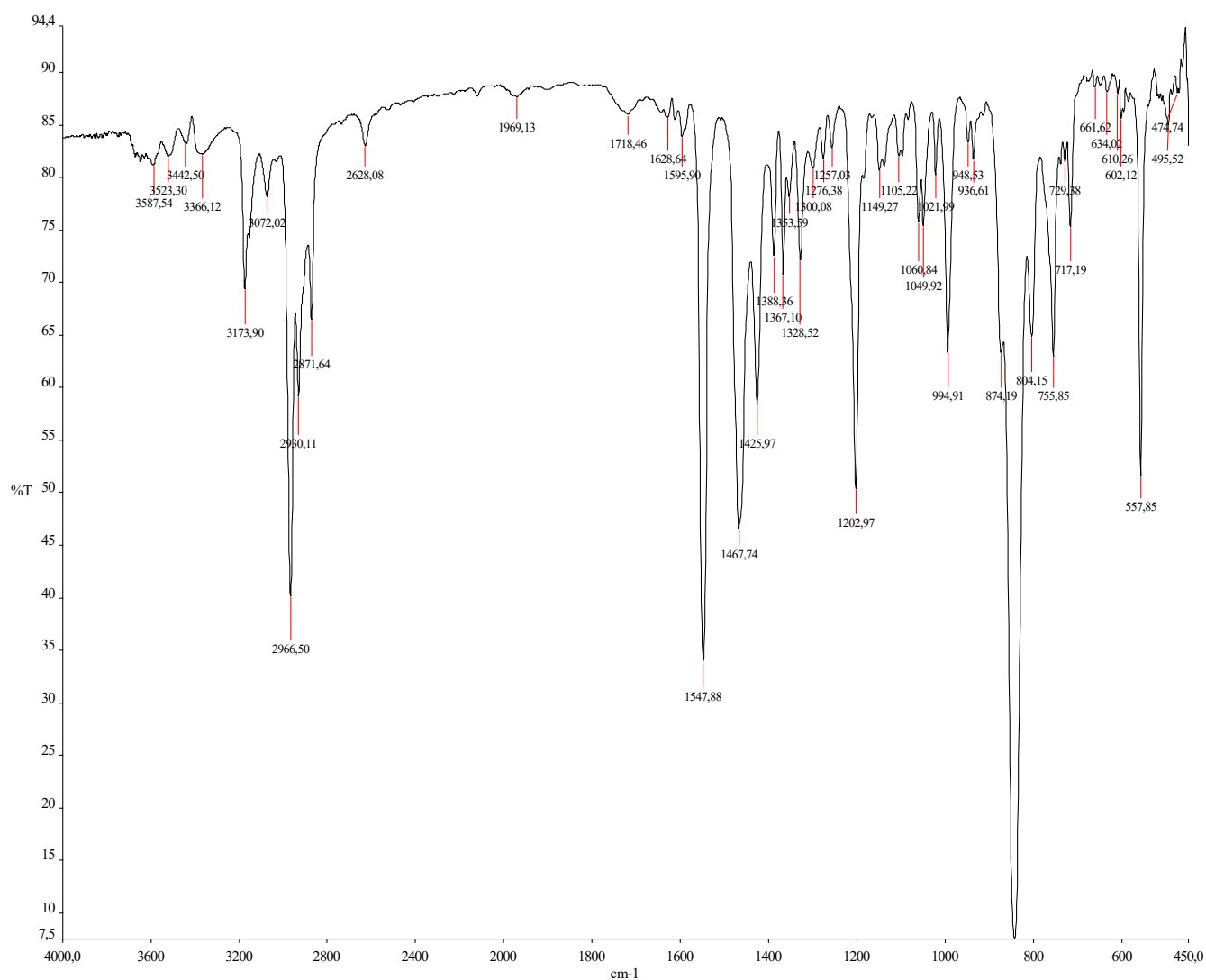


**Fig. S15.**  $^{31}\text{P}$  NMR spectrum (101 MHz,  $\text{CD}_2\text{Cl}_2$ , 298 K) of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{SIDip})_3](\text{PF}_6)_2$  (**2e**)

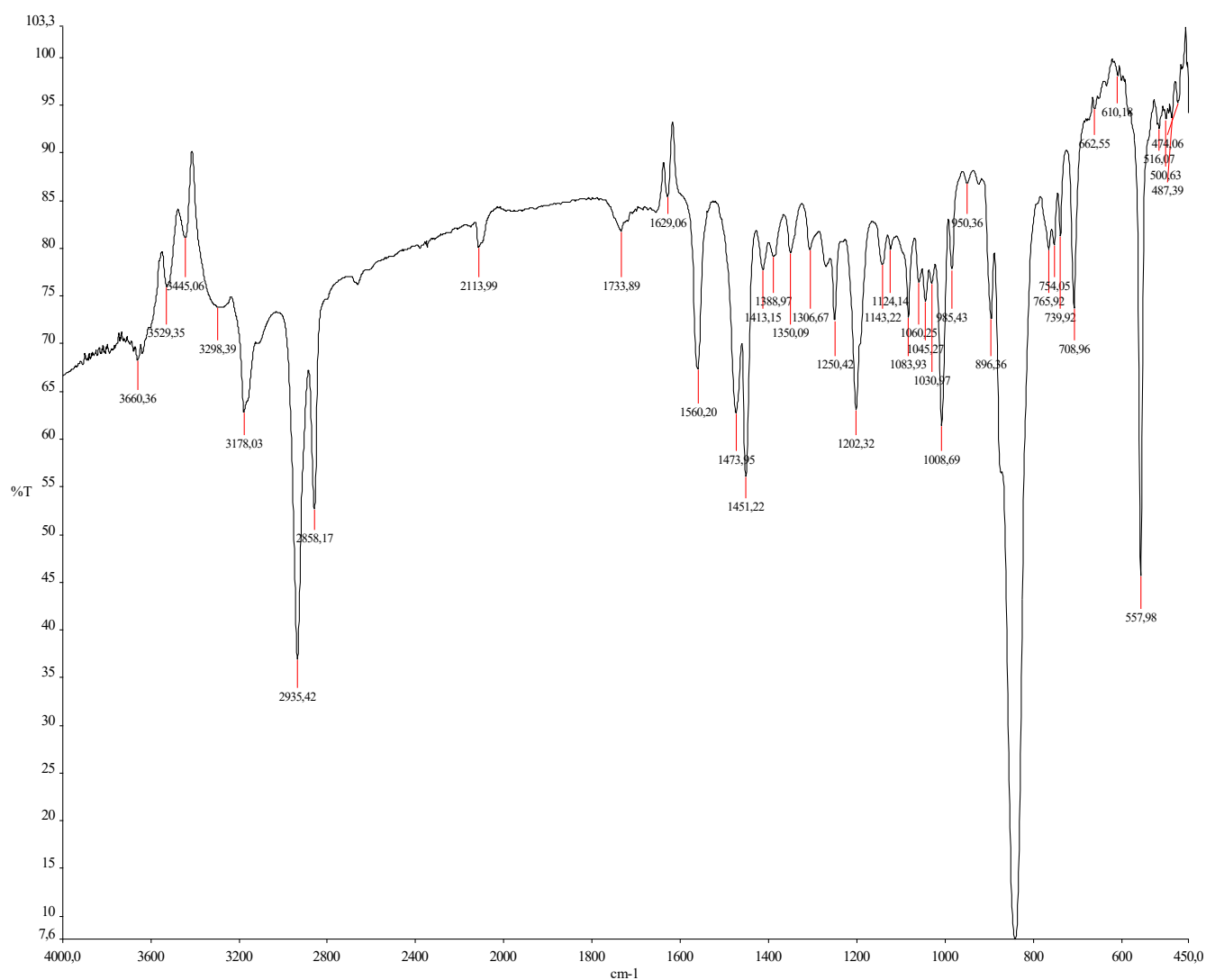
## Part 2 – IR spectra



**Fig. S16.** FT-IR spectrum (KBr) of [Ru(S<sub>2</sub>C·IMes)<sub>3</sub>](PF<sub>6</sub>)<sub>2</sub> (**2a**)

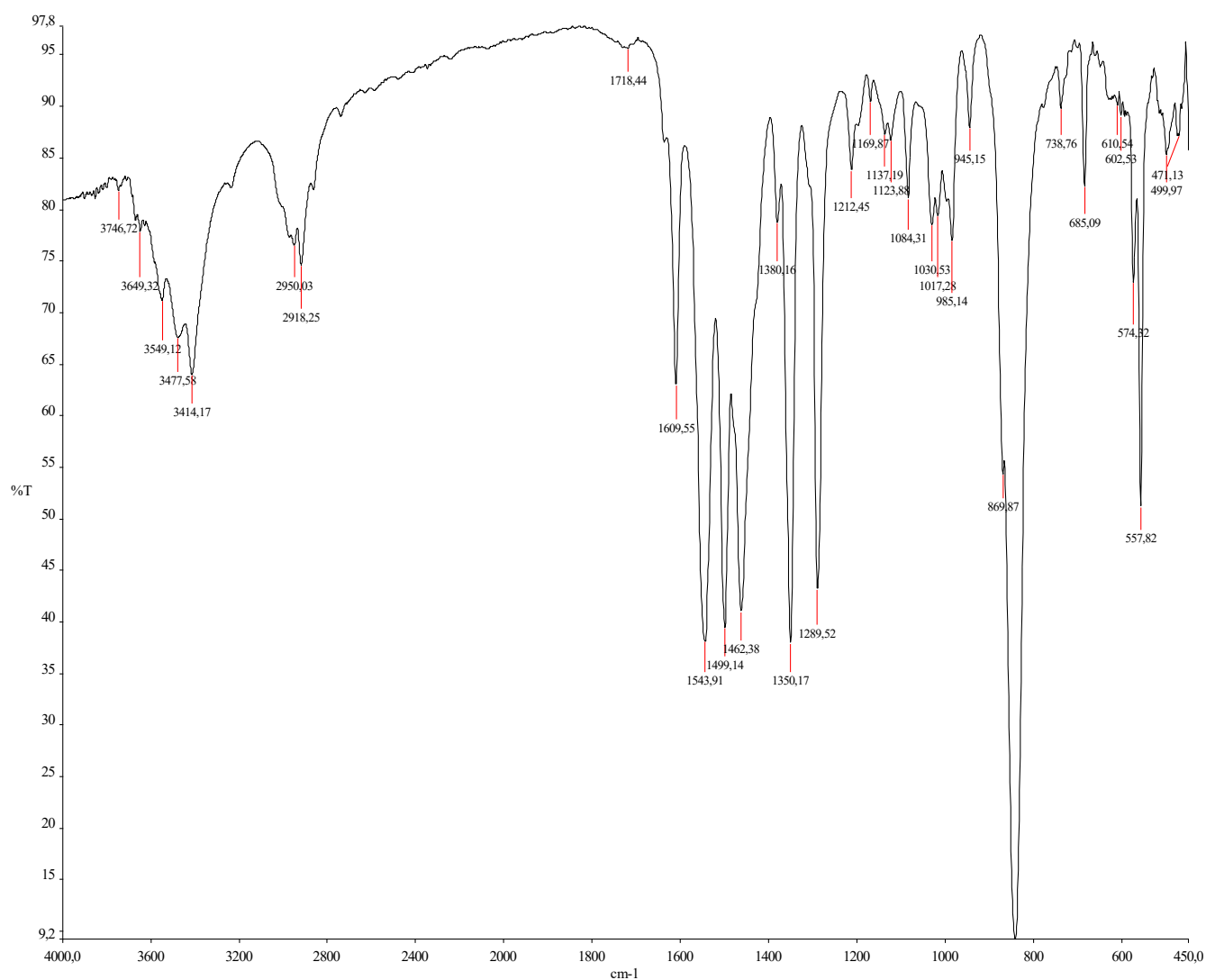


**Fig. S17.** FT-IR spectrum (KBr) of [Ru(S<sub>2</sub>C-IDip)<sub>3</sub>](PF<sub>6</sub>)<sub>2</sub> (**2b**)



**Fig. S18.** FT-IR spectrum (KBr) of [Ru(S<sub>2</sub>C·ICy)<sub>3</sub>](PF<sub>6</sub>)<sub>2</sub> (**2c**)



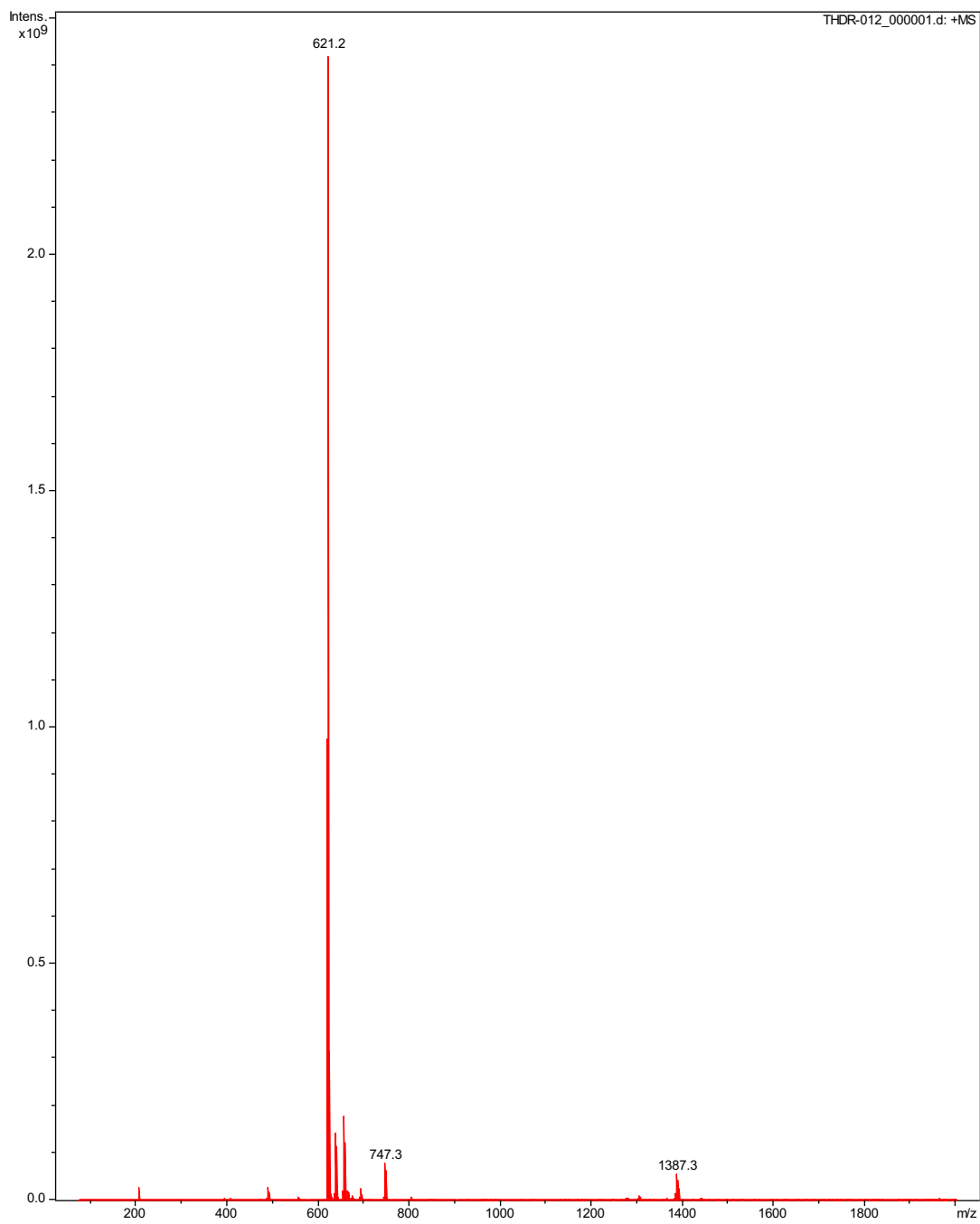


**Fig. S19.** FT-IR spectrum (KBr) of [Ru(S<sub>2</sub>C·SIMes)<sub>3</sub>](PF<sub>6</sub>)<sub>2</sub> (**2d**)

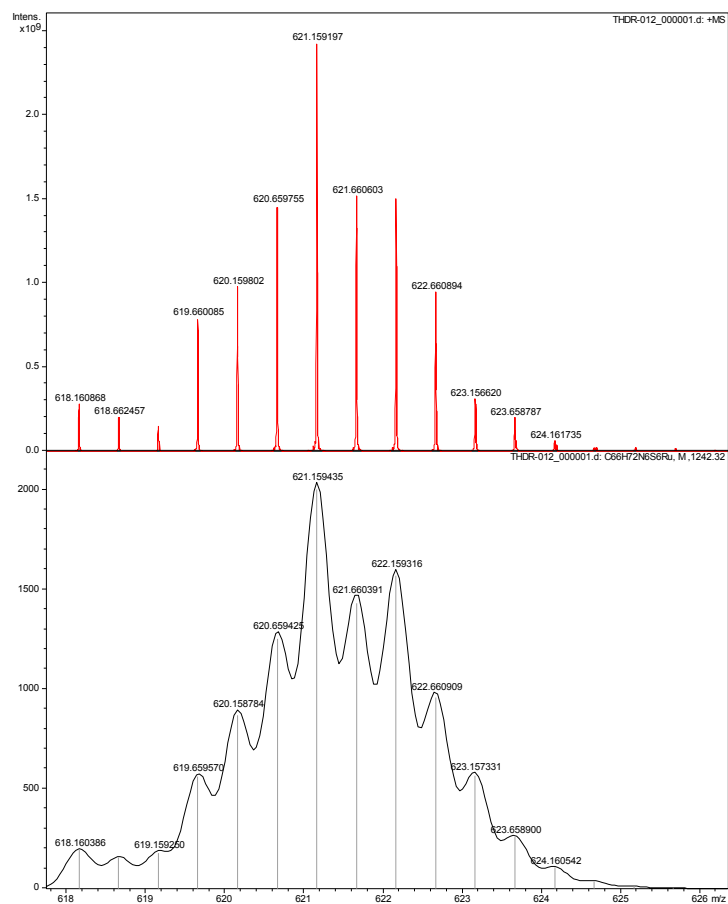


**Fig. S20.** FT-IR spectrum (KBr) of [Ru(S<sub>2</sub>C·SIDip)<sub>3</sub>](PF<sub>6</sub>)<sub>2</sub> (**2e**)

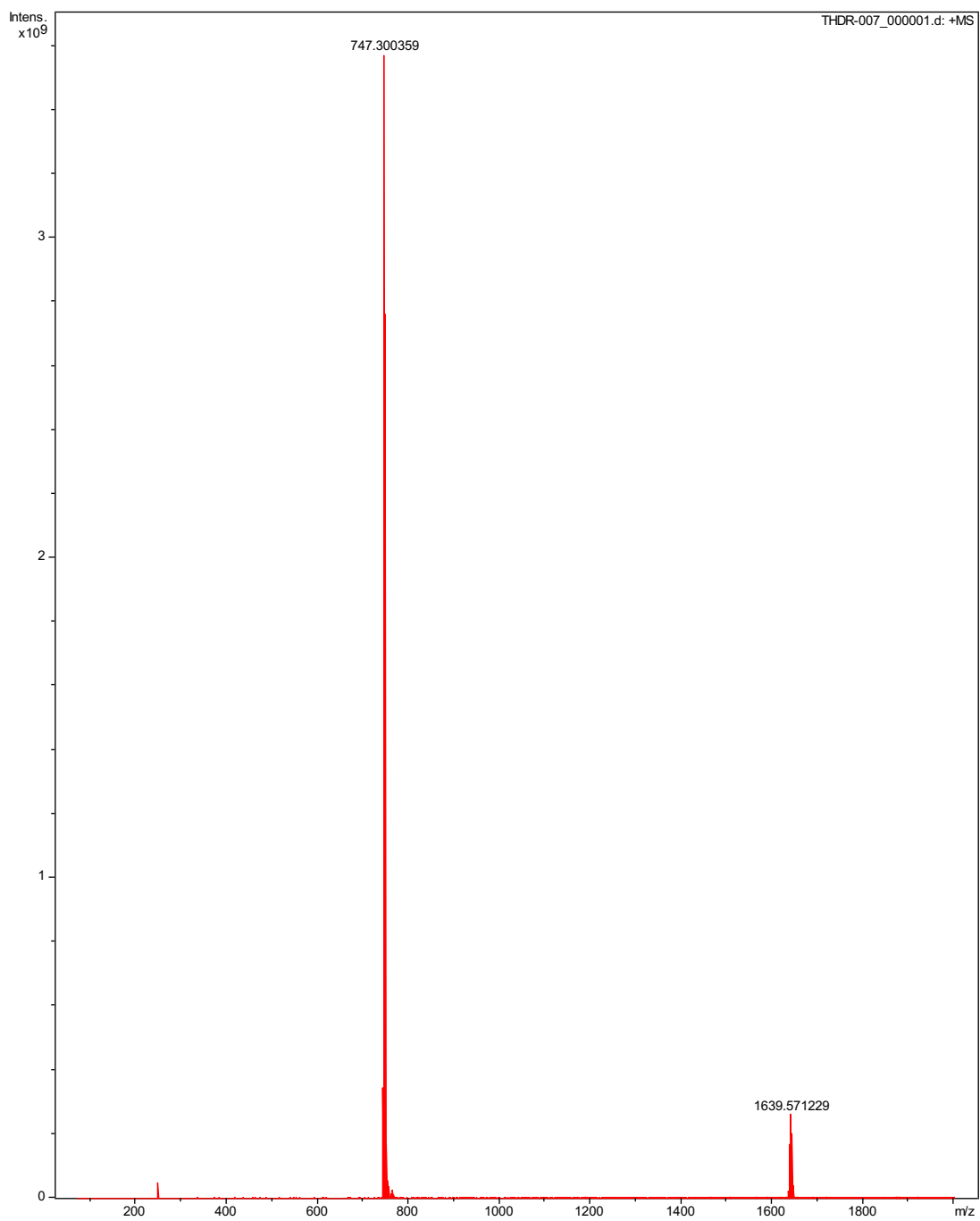
## Part 3 – Mass spectra



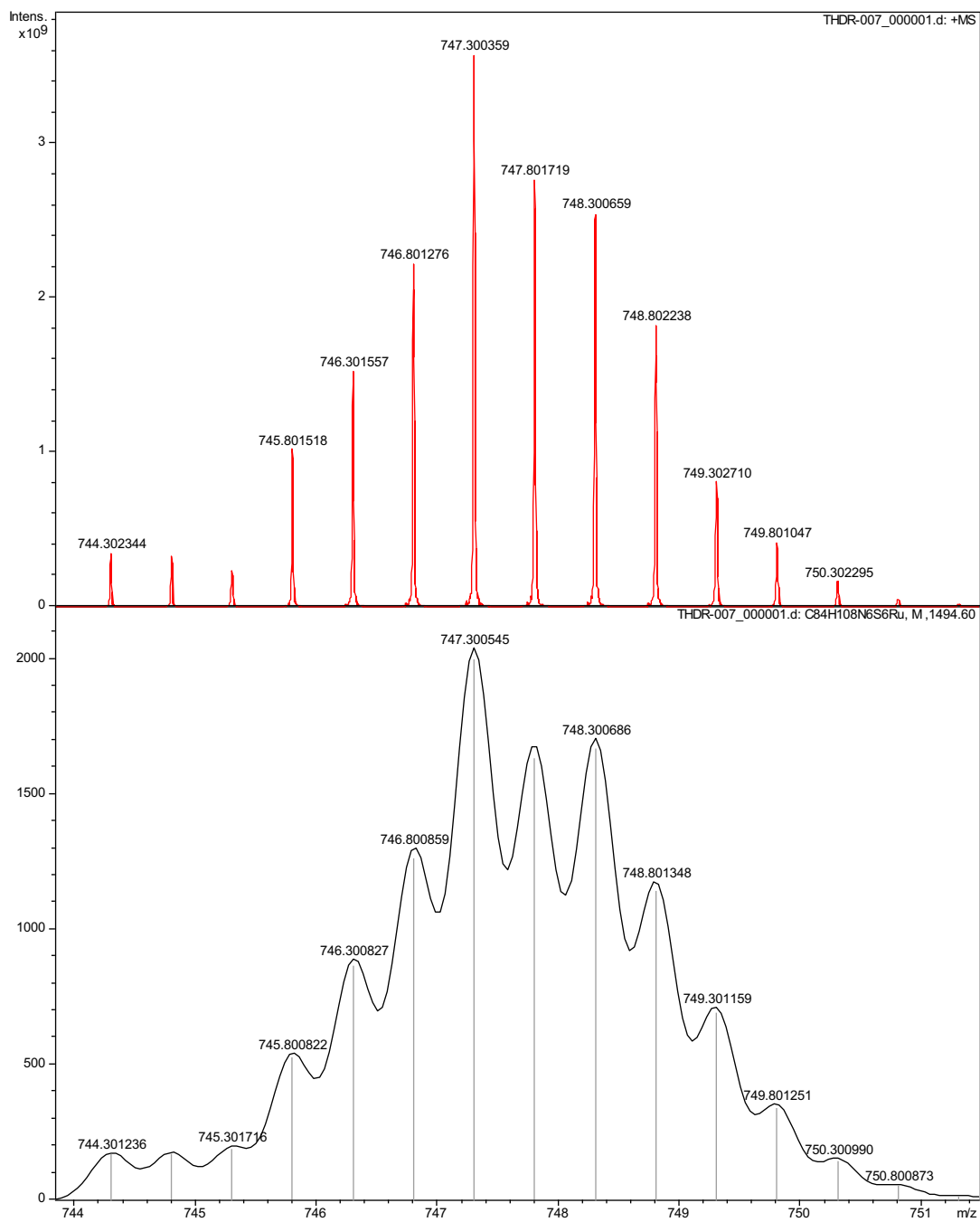
**Fig. S21.** ESI-MS spectrum of [Ru(S<sub>2</sub>C·IMes)<sub>3</sub>](PF<sub>6</sub>)<sub>2</sub> (**2a**)



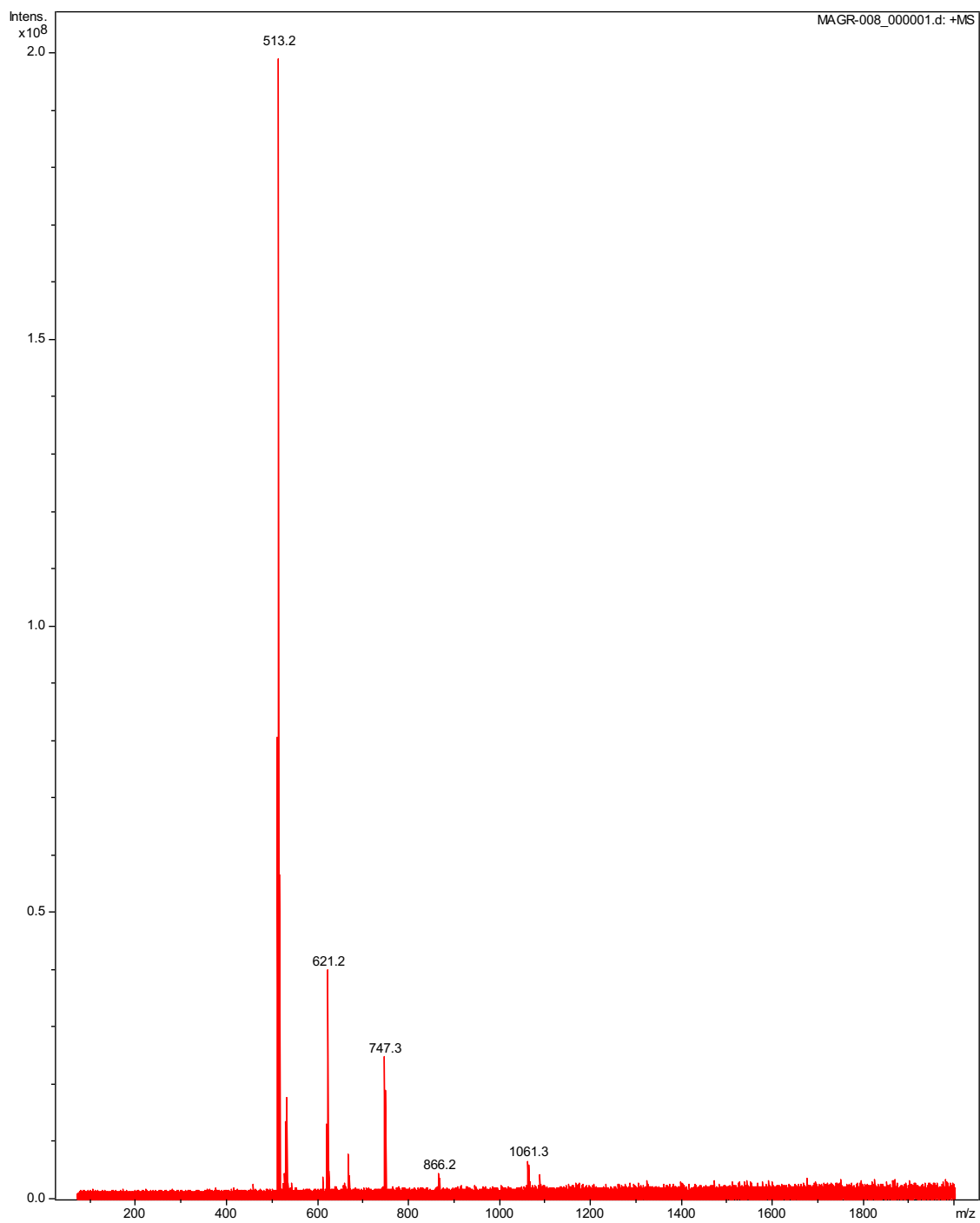
**Fig. S22.** Isotope profiles of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{IMes})_3]^{2+}$  obtained by ESI-MS (in red) and simulated isotope patterns of the corresponding ion (in black)



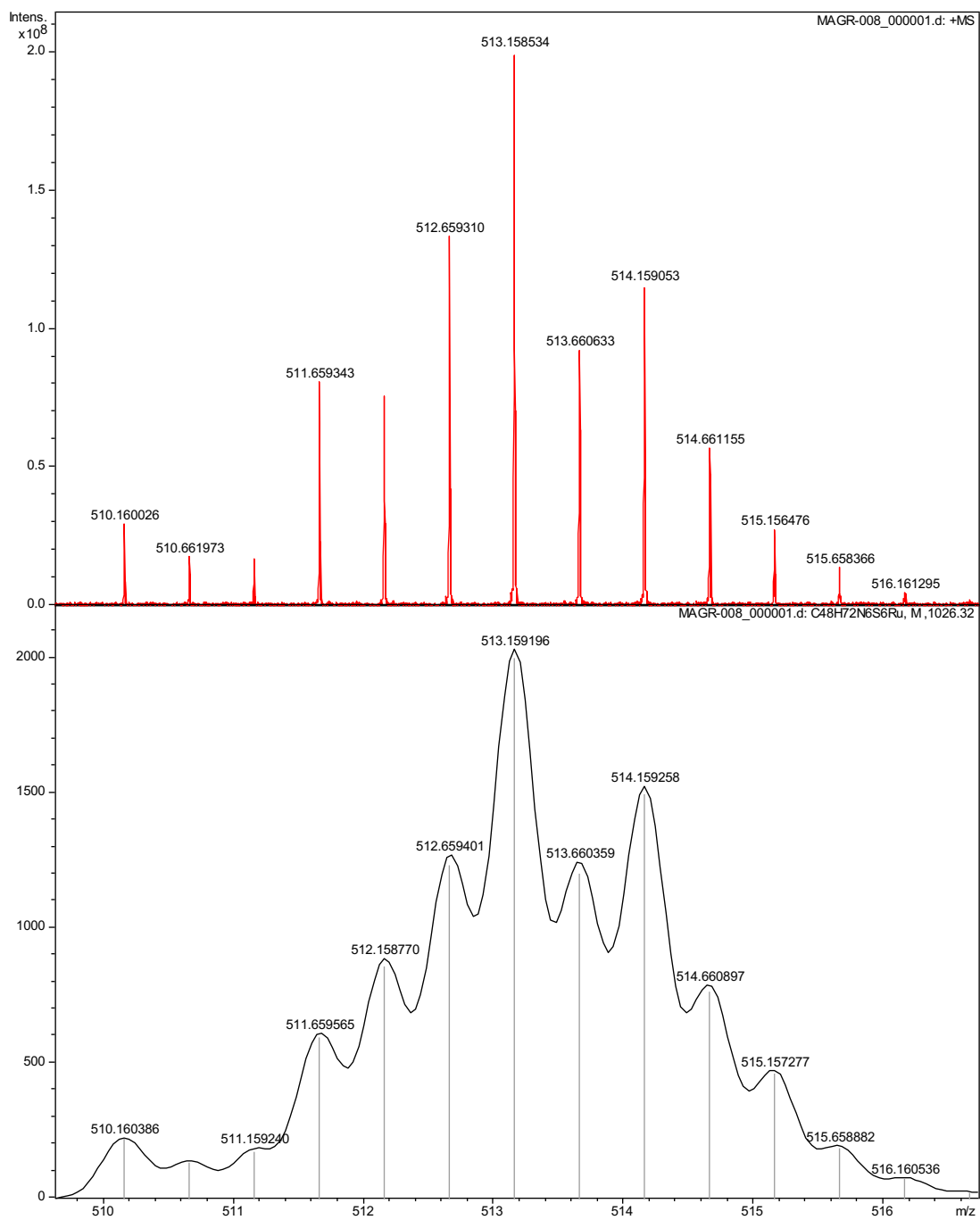
**Fig. S23.** ESI-MS spectrum of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{IDip})_3](\text{PF}_6)_2$  (**2b**)



**Fig. S24.** Isotope profiles of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{IDip})_3]^{2+}$  obtained by ESI-MS (in red) and simulated isotope patterns of the corresponding ion (in black)

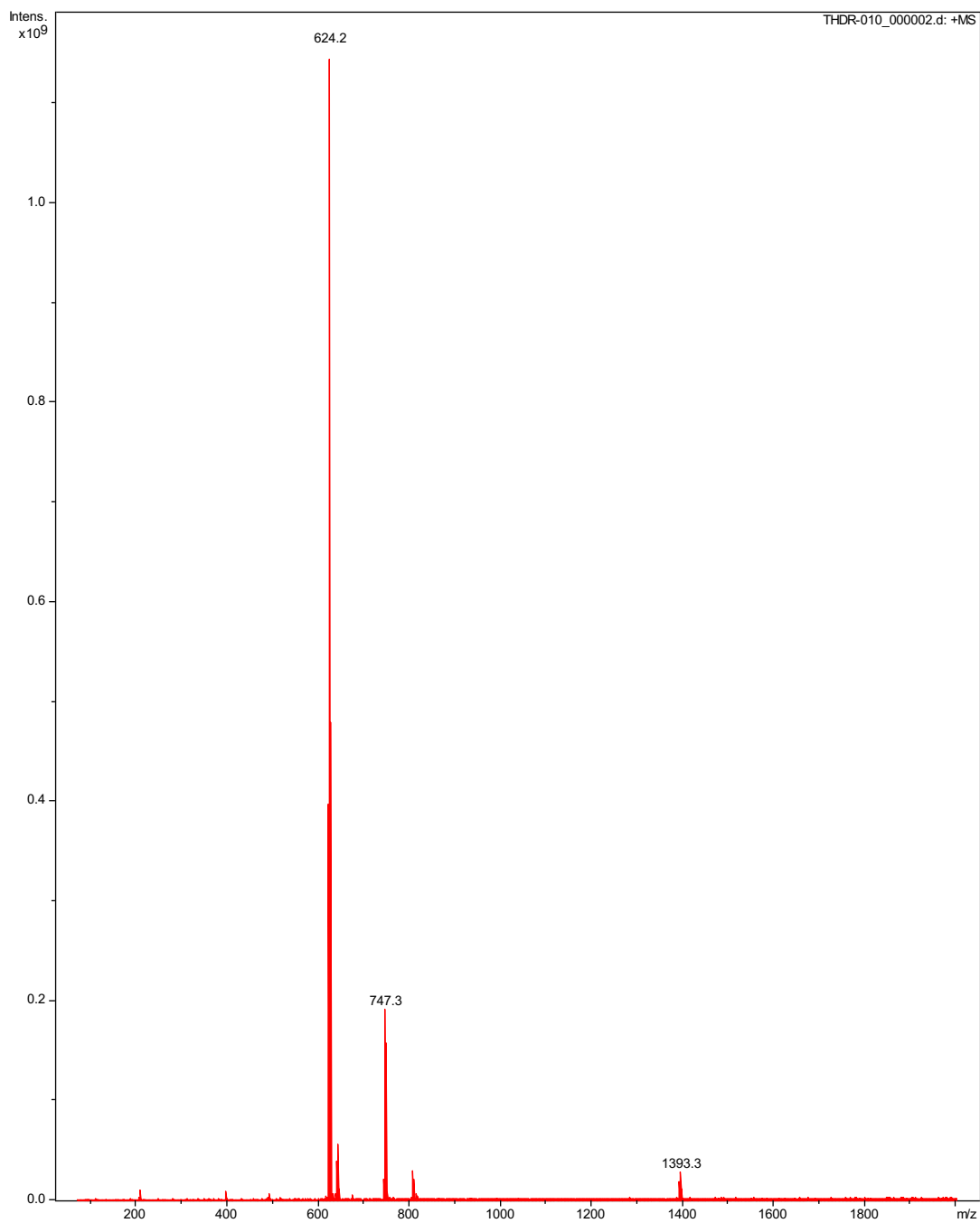


**Fig. S25.** ESI-MS spectrum of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{ICy})_3](\text{PF}_6)_2$  (**2c**)

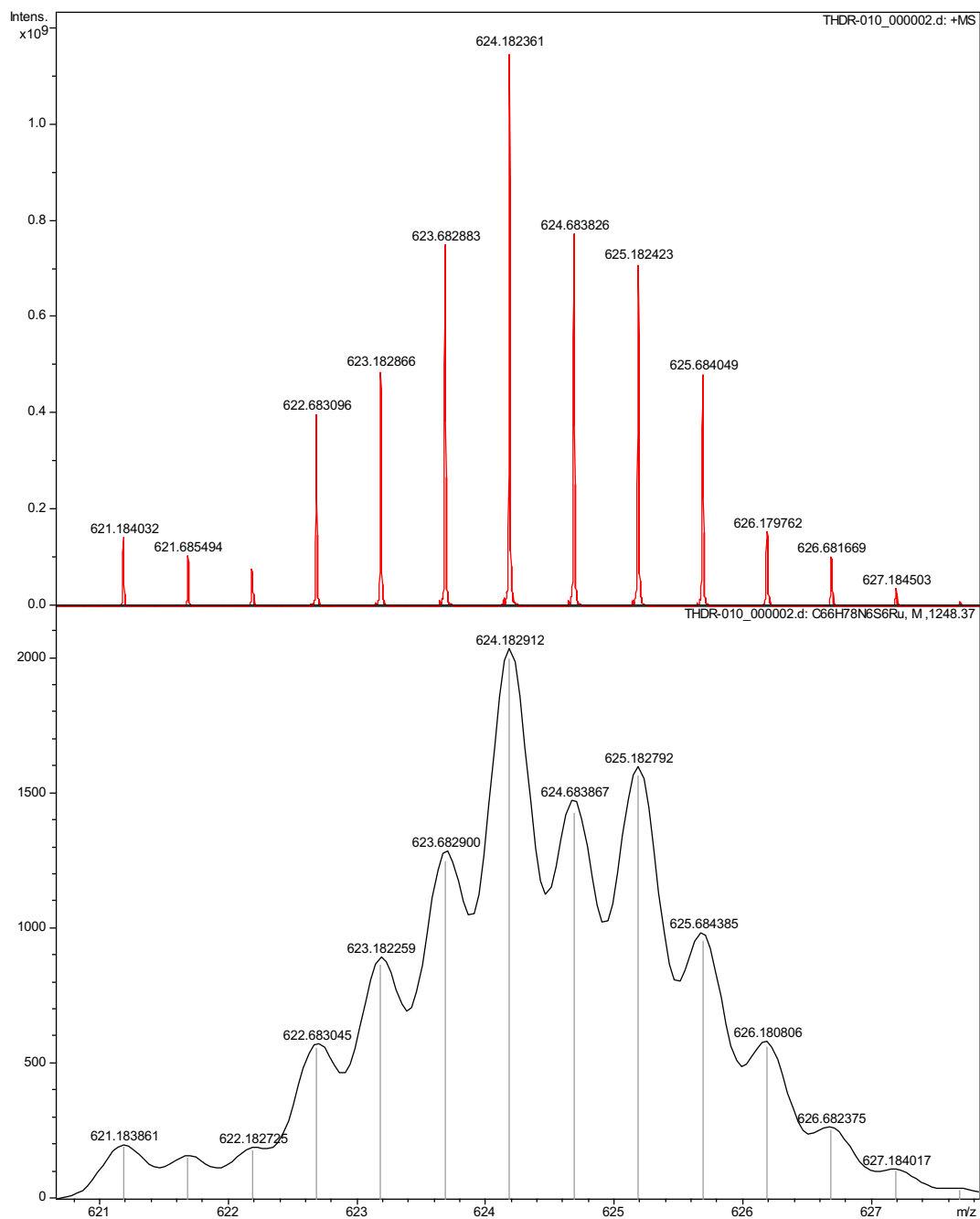


**Fig. S26.** Isotope profiles of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{ICy})_3]^{2+}$  obtained by ESI-MS (in red) and simulated isotope patterns of the corresponding ion (in black)

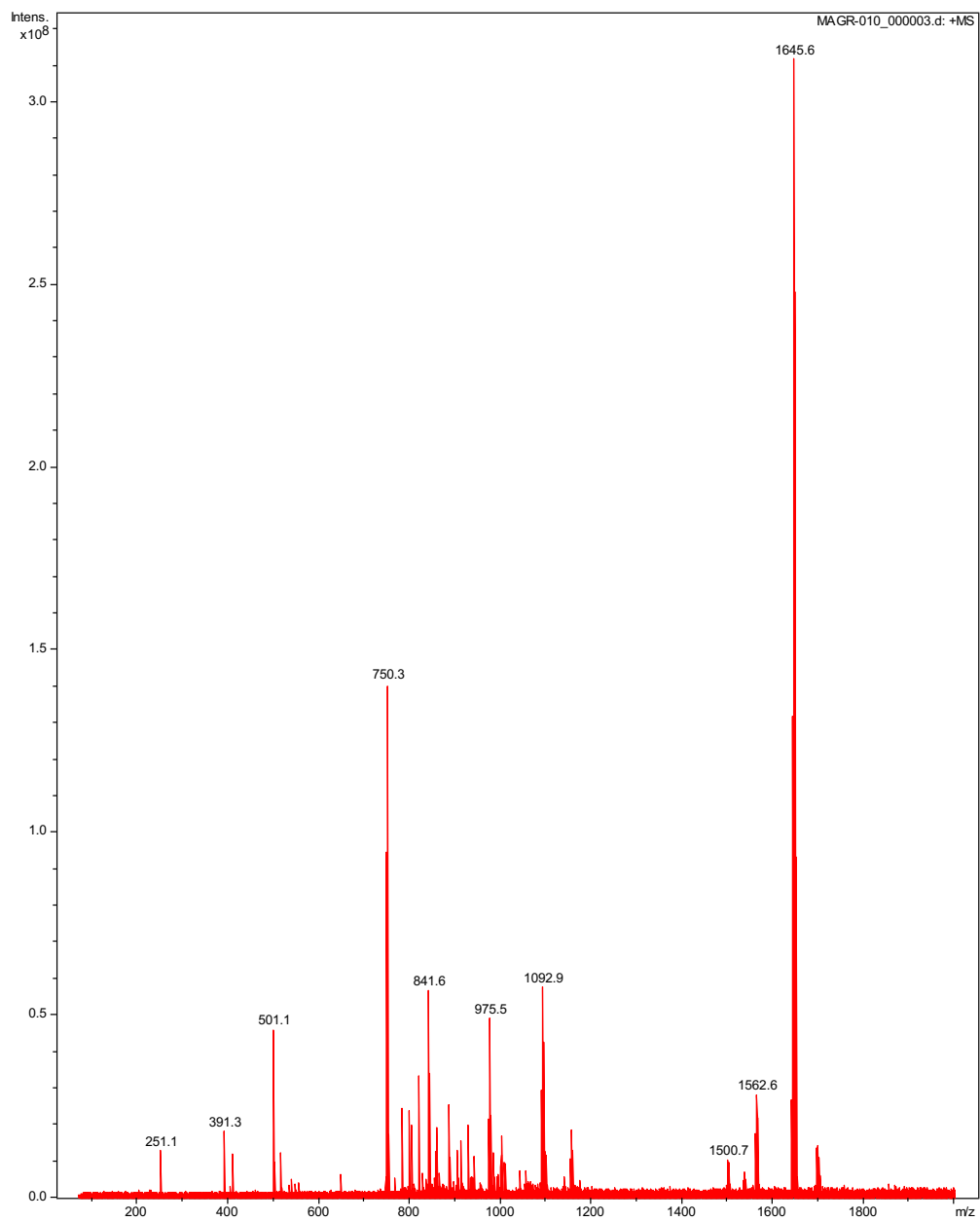




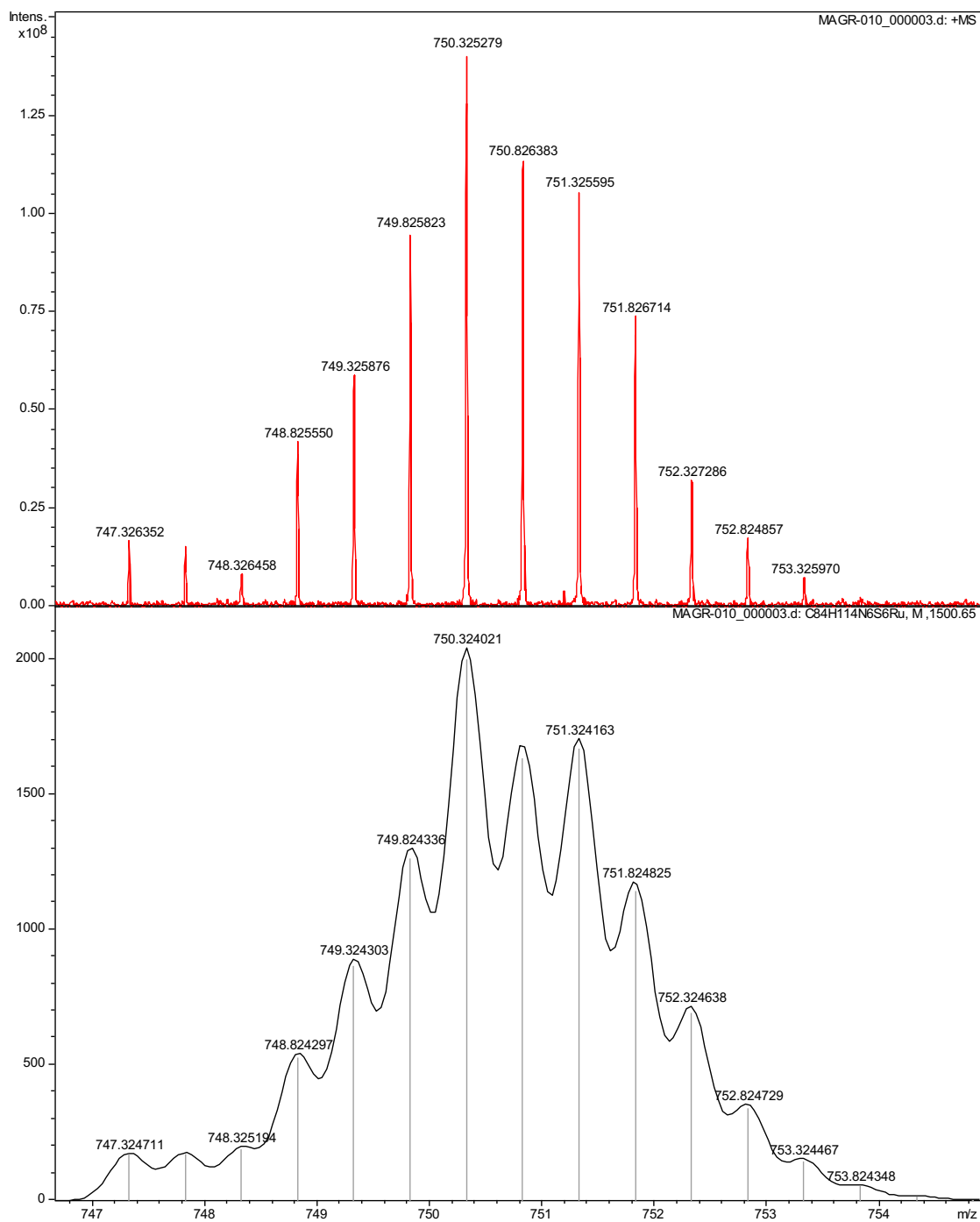
**Fig. S27.** ESI-MS spectrum of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{SIMes})_3](\text{PF}_6)_2$  (**2d**)



**Fig. S28.** Isotope profiles of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{SIMes})_3]^{2+}$  obtained by ESI-MS (in red) and simulated isotope patterns of the corresponding ion (in black)

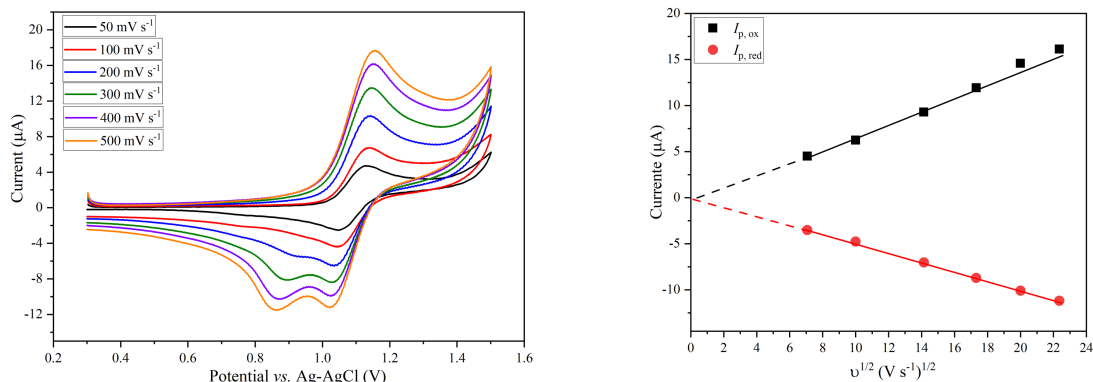


**Fig. S29.** ESI-MS spectrum of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{SIDip})_3](\text{PF}_6)_2$  (**2e**)

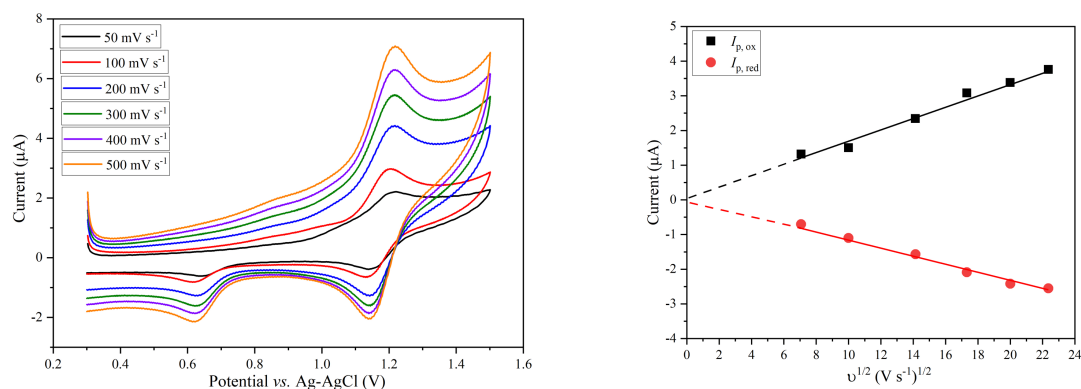


**Fig. S30.** Isotope profiles of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{SIDip})_3]^{2+}$  obtained by ESI-MS (in red) and simulated isotope patterns of the corresponding ion (in black)

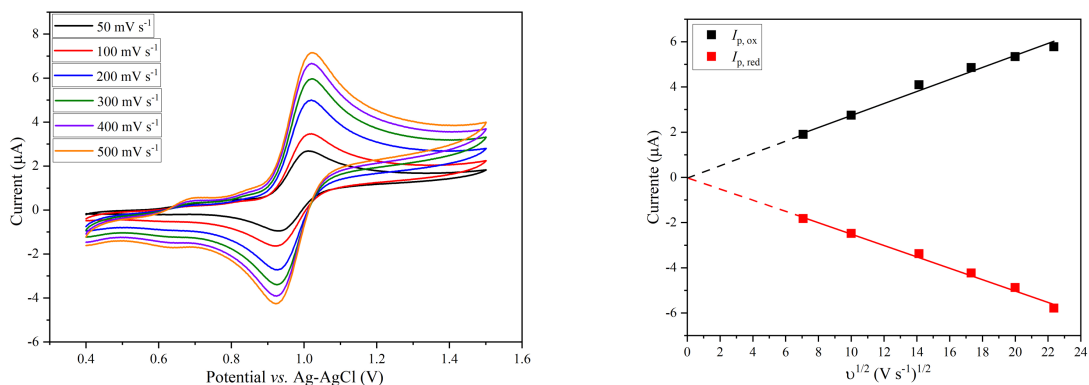
## Part 4 – Cyclic voltammetry



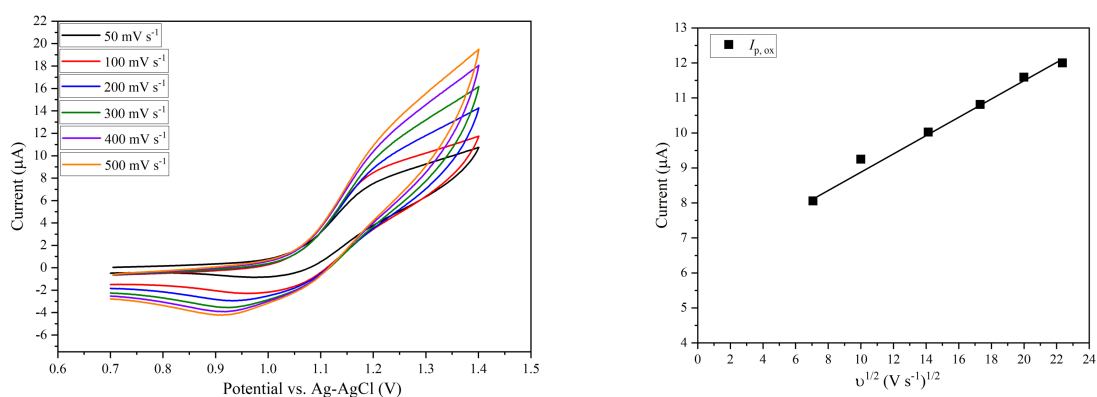
**Fig. S31.** *Left* - Cyclic voltammograms of [Ru(S<sub>2</sub>C·IMes)<sub>3</sub>](PF<sub>6</sub>)<sub>2</sub> (**2a**) in CH<sub>2</sub>Cl<sub>2</sub> at 25 °C, scanning anodically at scan rates of 50, 100, 200, 300, 400 and 500 mV s<sup>-1</sup> ([Ru] = 1.0 mM, [*n*-Bu<sub>4</sub>NPF<sub>6</sub>] = 0.1 M). *Right* - Current (*I*) of the anodic ( $I_{p,ox}$ ) and cathodic ( $I_{p,red}$ ) processes vs. square root of the potential scan rate ( $\nu$ ).



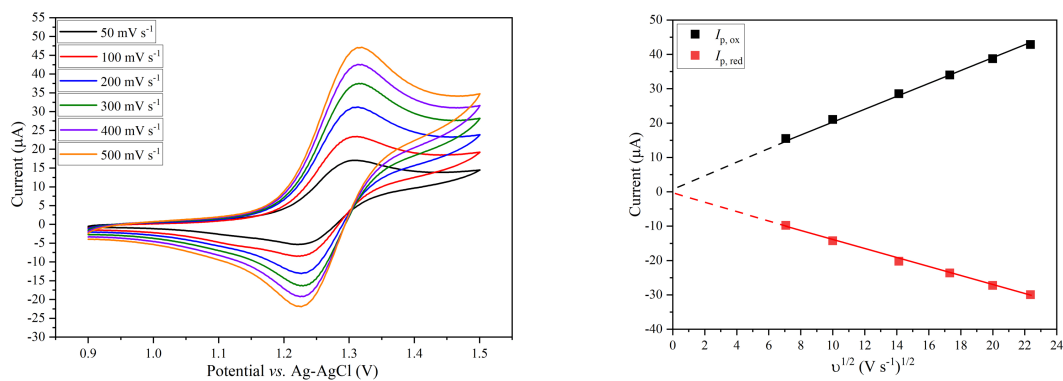
**Fig. S32.** *Left* - Cyclic voltammograms of [Ru(S<sub>2</sub>C·IDip)<sub>3</sub>](PF<sub>6</sub>)<sub>2</sub> (**2b**) in CH<sub>2</sub>Cl<sub>2</sub> at 25 °C, scanning anodically at scan rates of 50, 100, 200, 300, 400 and 500 mV s<sup>-1</sup> ([Ru] = 1.0 mM, [*n*-Bu<sub>4</sub>NPF<sub>6</sub>] = 0.1 M). *Right* - Current (*I*) of the anodic ( $I_{p,ox}$ ) and cathodic ( $I_{p,red}$ ) processes vs. square root of the potential scan rate ( $\nu$ ).



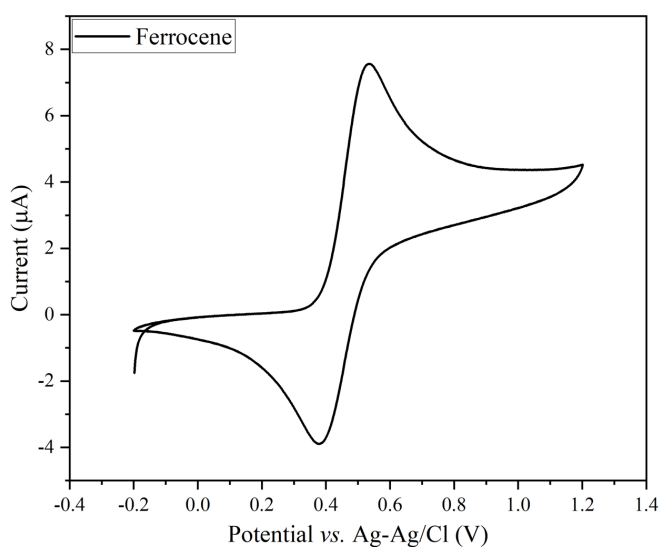
**Fig. S33.** *Left* - Cyclic voltammograms of [Ru(S<sub>2</sub>C·ICy)<sub>3</sub>](PF<sub>6</sub>)<sub>2</sub> (**2c**) in CH<sub>2</sub>Cl<sub>2</sub> at 25 °C, scanning anodically at scan rates of 50, 100, 200, 300, 400 and 500 mV s<sup>-1</sup> ([Ru] = 1.0 mM, [*n*-Bu<sub>4</sub>NPF<sub>6</sub>] = 0.1 M). *Right* - Current (*I*) of the anodic (*I*<sub>p,ox</sub>) and cathodic (*I*<sub>p,red</sub>) processes vs. square root of the potential scan rate ( $\nu$ ).



**Fig. S34.** *Left* - Cyclic voltammograms of [Ru(S<sub>2</sub>C·SIMes)<sub>3</sub>](PF<sub>6</sub>)<sub>2</sub> (**2d**) in CH<sub>2</sub>Cl<sub>2</sub> at 25 °C, scanning anodically at scan rates of 50, 100, 200, 300, 400 and 500 mV s<sup>-1</sup> ([Ru] = 1.0 mM, [*n*-Bu<sub>4</sub>NPF<sub>6</sub>] = 0.1 M). *Right* - Current (*I*) of the anodic (*I*<sub>p,ox</sub>) and cathodic (*I*<sub>p,red</sub>) processes vs. square root of the potential scan rate ( $\nu$ ).



**Fig. S35.** *Left* - Cyclic voltammograms of  $[\text{Ru}(\text{S}_2\text{C}\cdot\text{SIMes})_3](\text{PF}_6)_2$  (**2e**) in  $\text{CH}_2\text{Cl}_2$  at 25 °C, scanning anodically at scan rates of 50, 100, 200, 300, 400 and 500  $\text{mV s}^{-1}$  ( $[\text{Ru}] = 1.0 \text{ mM}$ ,  $[\textit{n}\text{-Bu}_4\text{NPF}_6] = 0.1 \text{ M}$ ). *Right* - Current ( $I$ ) of the anodic ( $I_{\text{p,ox}}$ ) and cathodic ( $I_{\text{p,red}}$ ) processes vs. square root of the potential scan rate ( $v$ ).



**Fig. S36.** Cyclic voltammogram of ferrocene in  $\text{CH}_2\text{Cl}_2$  at 25 °C, scanning anodically from  $-0.2$  to  $1.2 \text{ V}$  at scan rate of  $100 \text{ mV s}^{-1}$  ( $[\text{Fc}] = 1.0 \text{ mM}$ ,  $[\textit{n}\text{-Bu}_4\text{NPF}_6] = 0.1 \text{ M}$ ).