

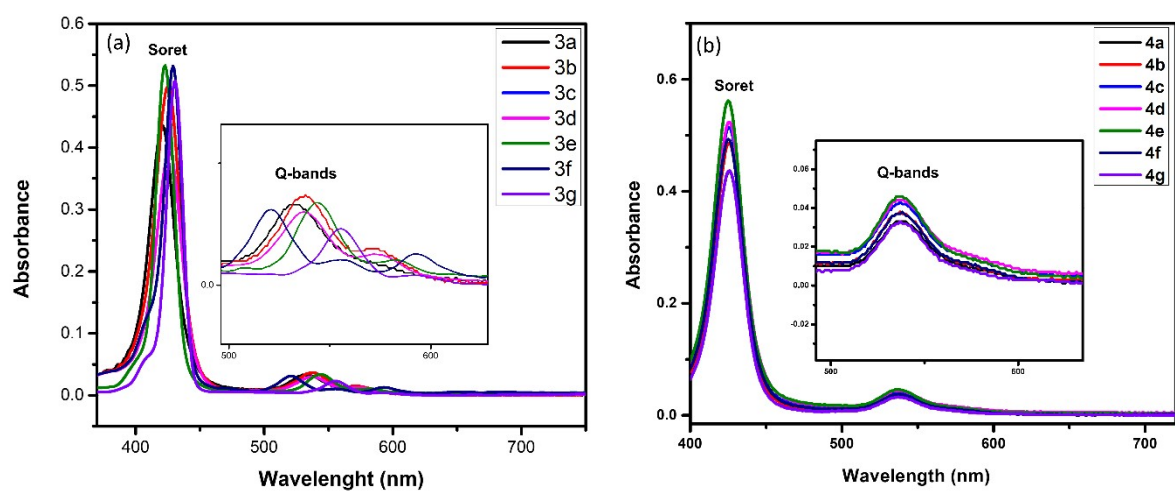
## Divergent one-pot thiol-Michael strategy to create $\beta$ -thiophene-fused porphyrins

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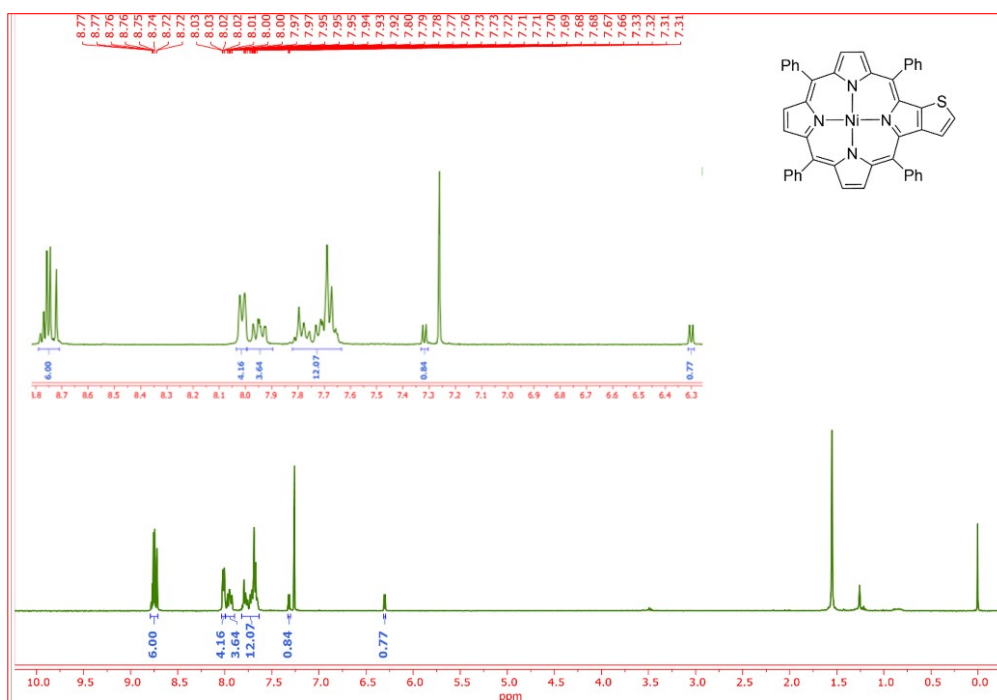
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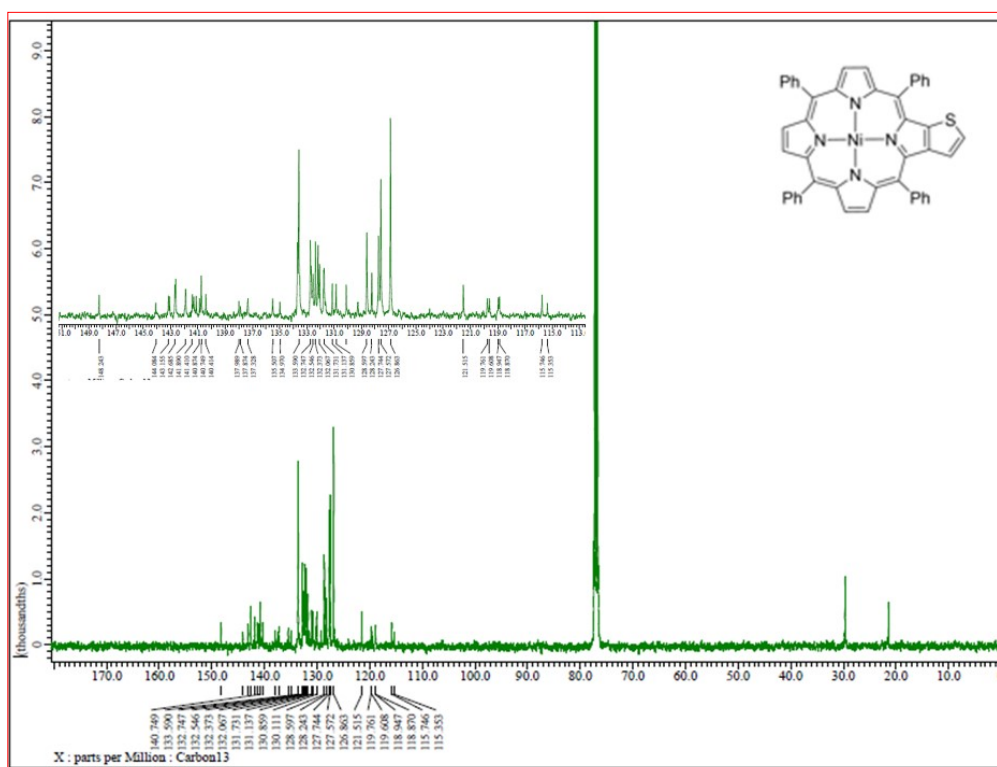
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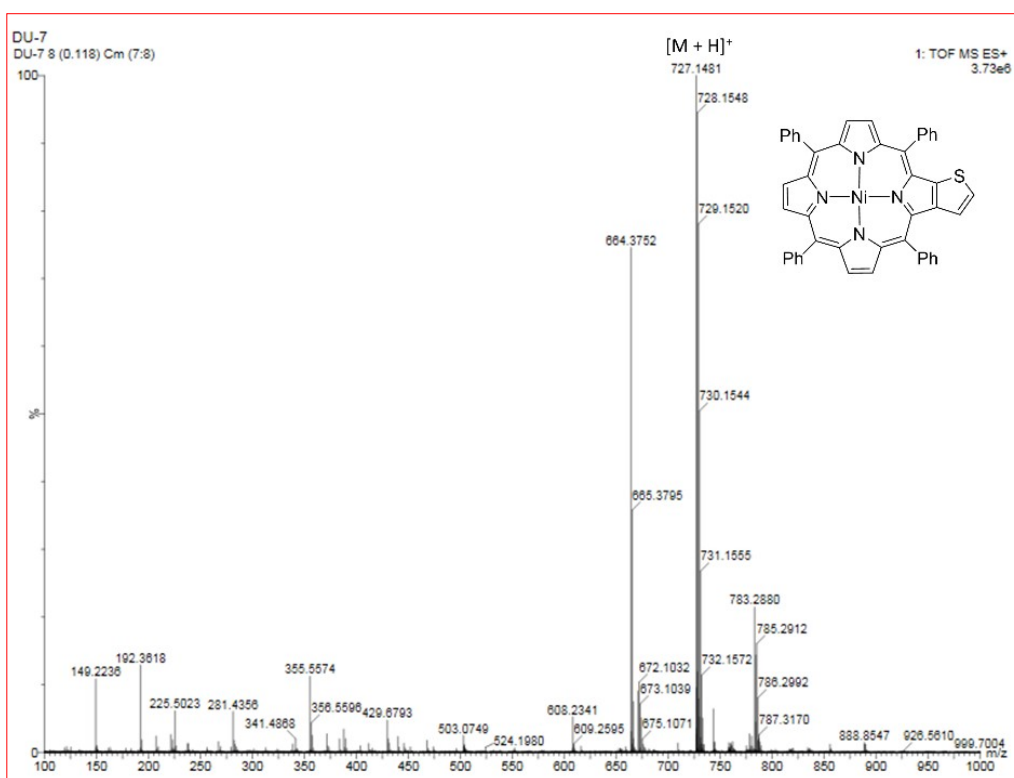
**Figure S1.** Electronic absorption spectra of porphyrins (a) **3a-g** and (b) **4a-g** in  $\text{CHCl}_3$  ( $1.5 \times 10^{-6}$  M) at 298 K. Inset shows Q-bands.



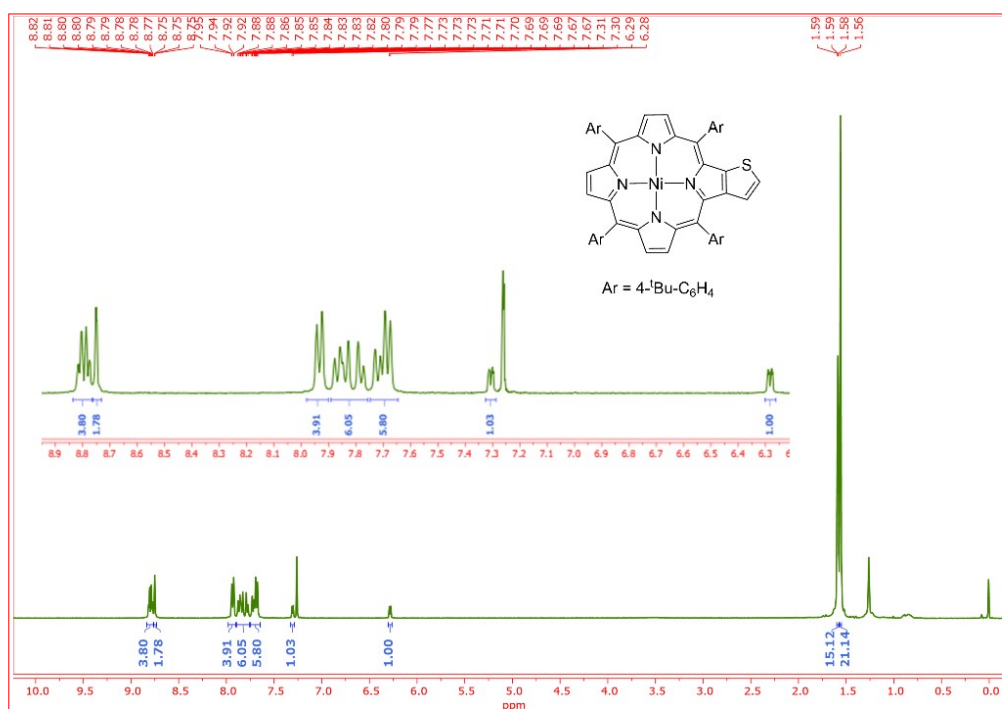
**Figure S2.** <sup>1</sup>H NMR (400 MHz) spectrum of nickel(II) thieno[2,3-*b*]-5,10,15,20-tetraphenylporphyrin (**3a**) in CDCl<sub>3</sub>.



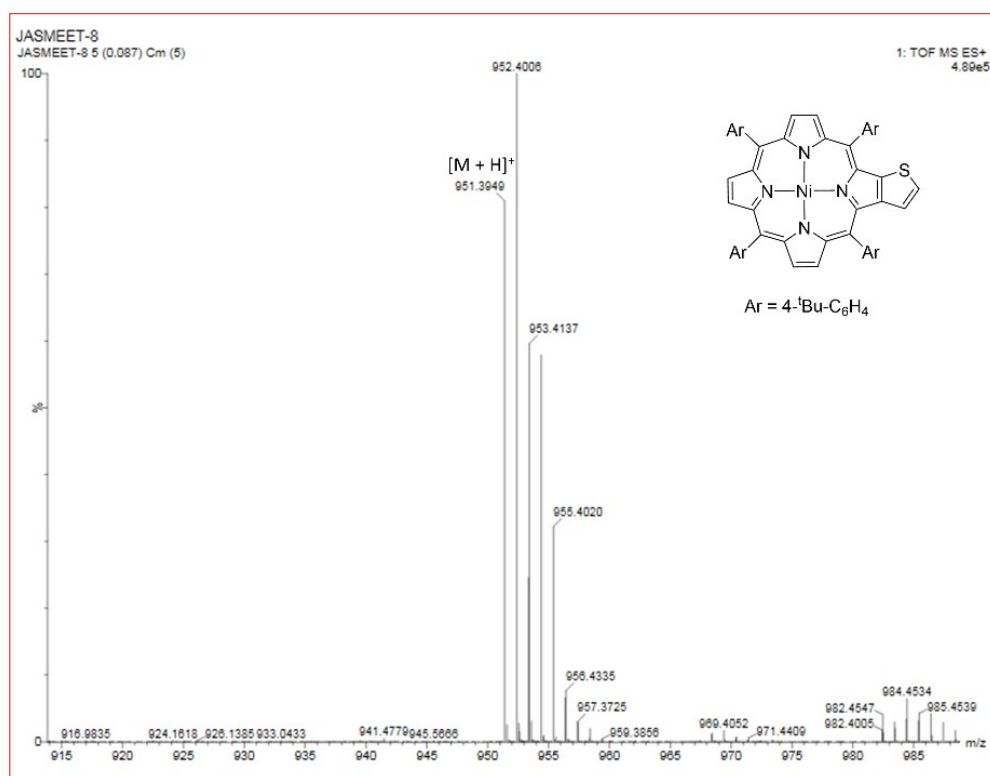
**Figure S3.** <sup>13</sup>C NMR (100 MHz) spectrum of nickel(II) thieno[2,3-*b*]-5,10,15,20-tetraphenylporphyrin (**3a**) in CDCl<sub>3</sub>.



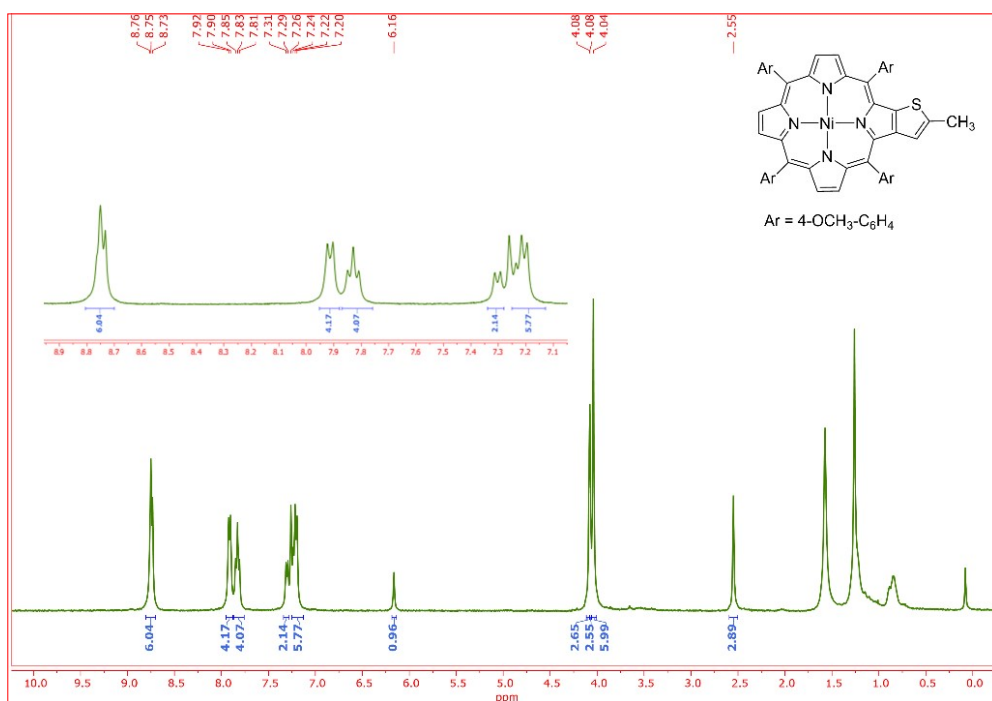
**Figure S4.** ESI high resolution mass spectrum of nickel(II) thieno[2,3-*b*]-5,10,15,20-tetraphenylporphyrin (**3a**).



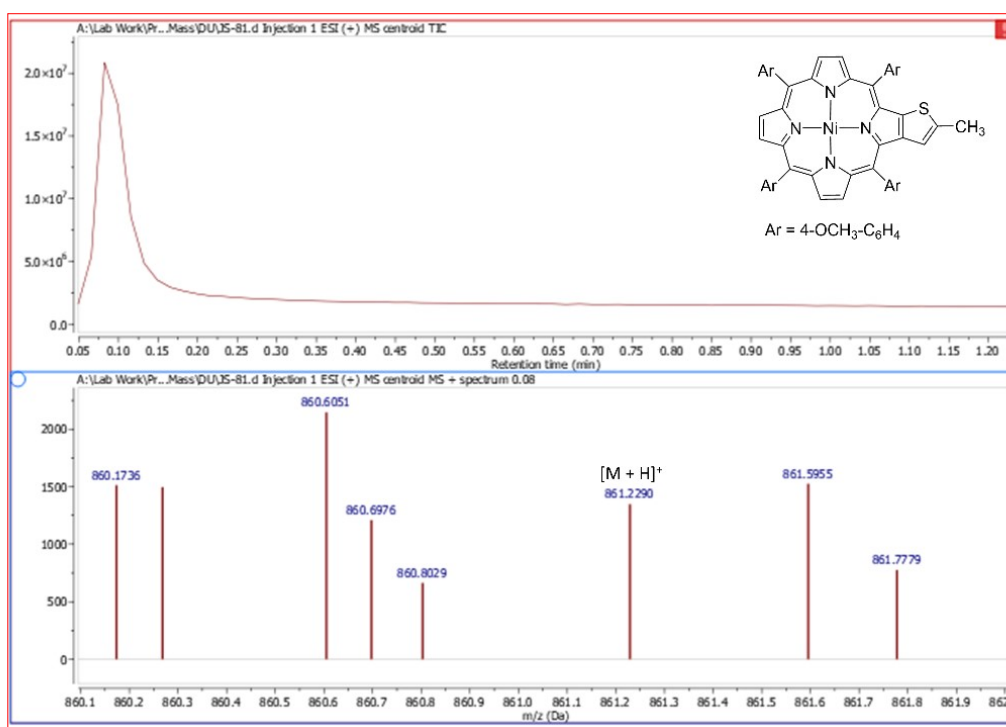
**Figure S5.** <sup>1</sup>H NMR (400 MHz) spectrum of nickel(II) thieno[2,3-*b*]-5,10,15,20-tetrakis(4-*t*-butylphenyl)porphyrin (**3b**) in CDCl<sub>3</sub>.



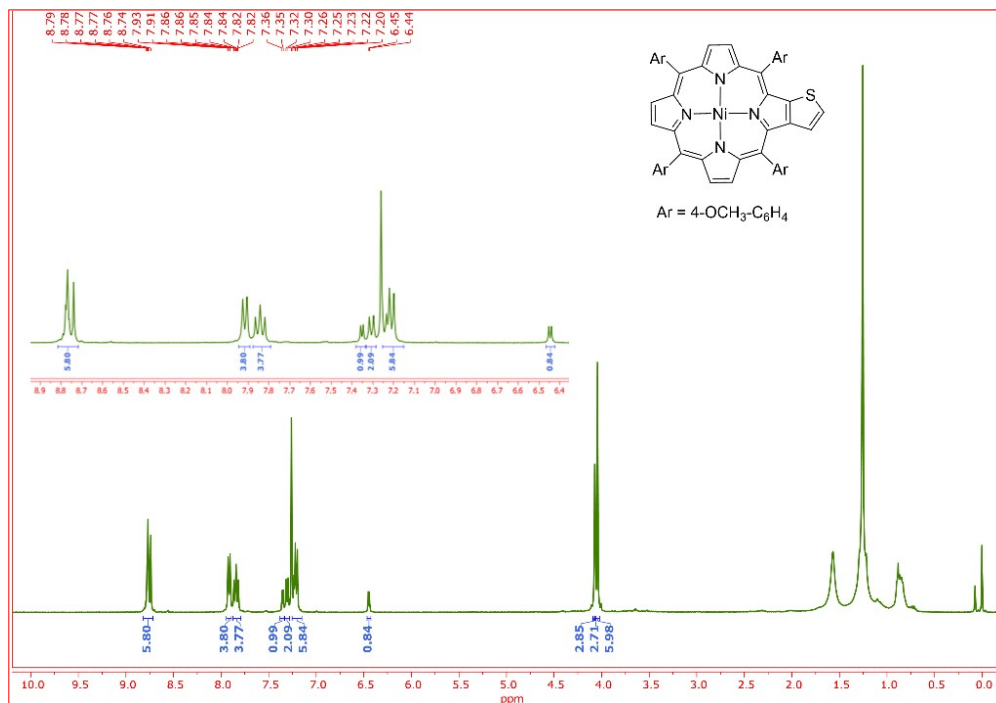
**Figure S6.** ESI high resolution mass spectrum of nickel(II) thieno[2,3-*b*]-5,10,15,20-tetrakis(4-<sup>t</sup>butylphenyl)porphyrin (**3b**).



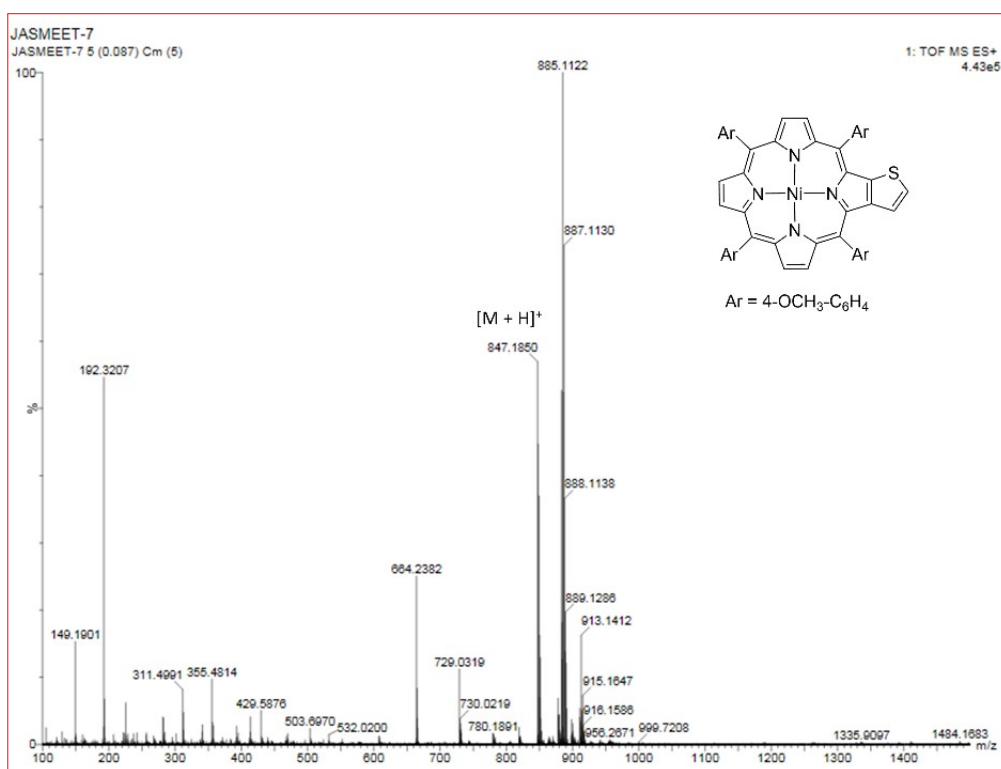
**Figure S7.** <sup>1</sup>H NMR (400 MHz) spectrum of nickel(II) 5-methylthieno[2,3-*b*]-5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin (**3c**) in CDCl<sub>3</sub>.



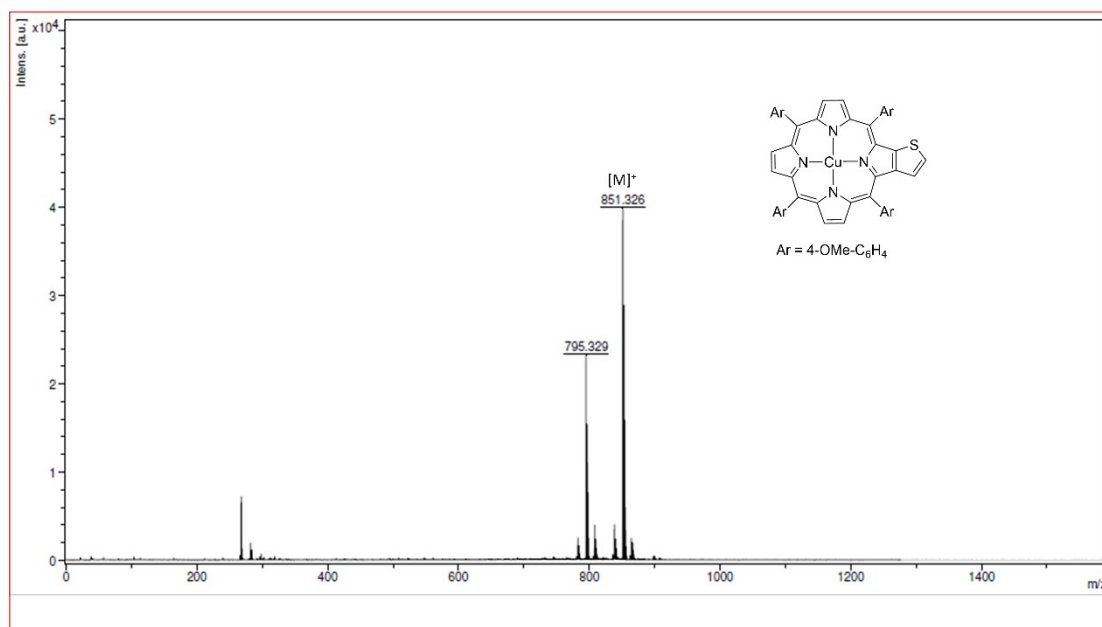
**Figure S8.** ESI high resolution mass spectrum of nickel(II) 5-methylthieno[2,3-*b*]-5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin (**3c**).



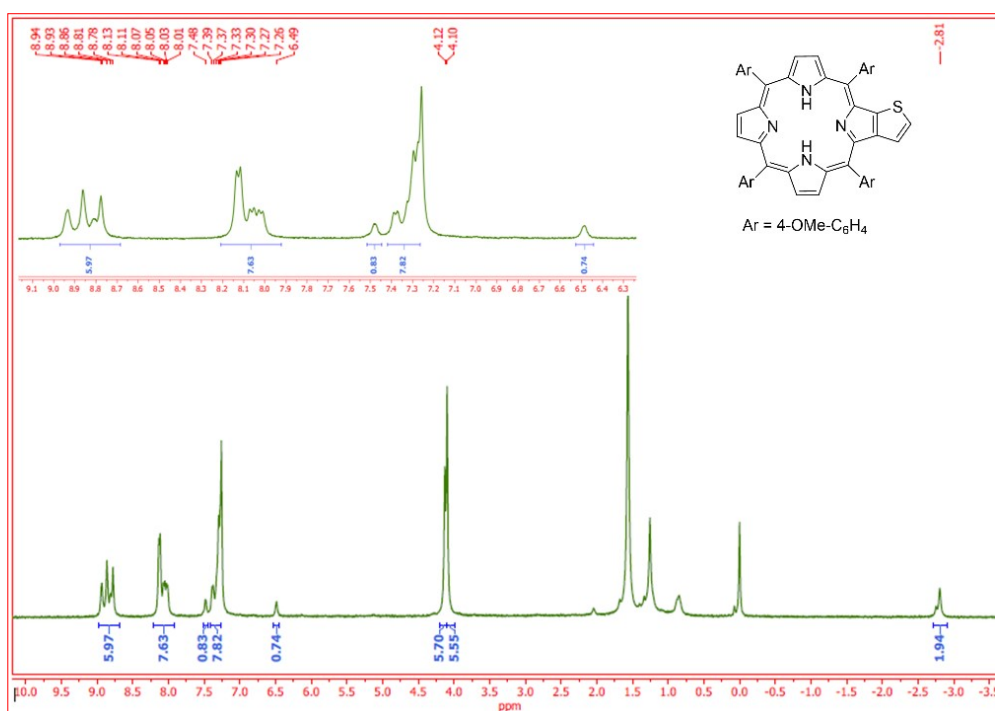
**Figure S9.** <sup>1</sup>H NMR (400 MHz) spectrum of nickel(II) thieno[2,3-*b*]-5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin (**3d**) in CDCl<sub>3</sub>.



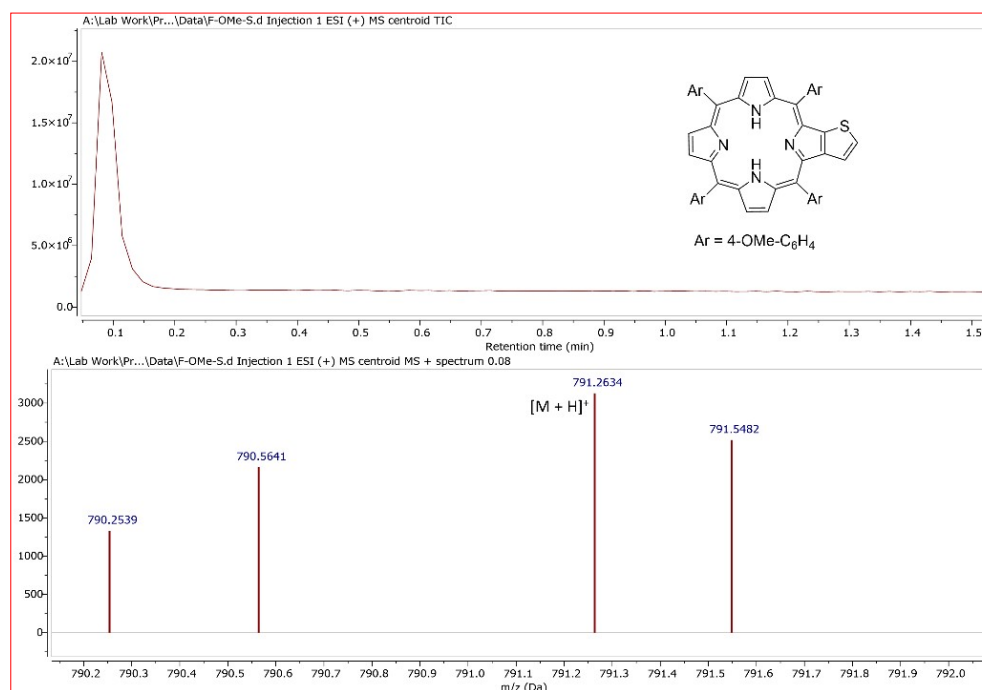
**Figure S10.** ESI high resolution mass spectrum of nickel(II) thieno[2,3-*b*]-5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin (**3d**).



**Figure S11.** MALDI-TOF mass spectrum of copper(II) thieno[2,3-*b*]-5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin (**3e**).

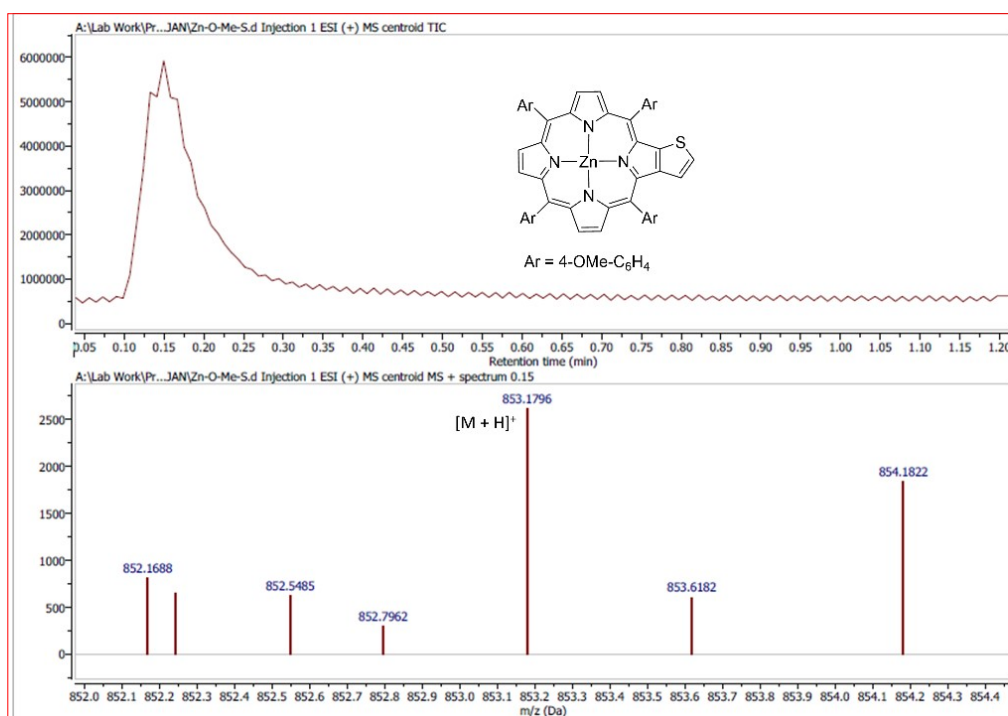


**Figure S12.**  $^1\text{H}$  NMR (400 MHz) spectrum of thieno[2,3-*b*]-5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin (**3f**) in  $\text{CDCl}_3$ .

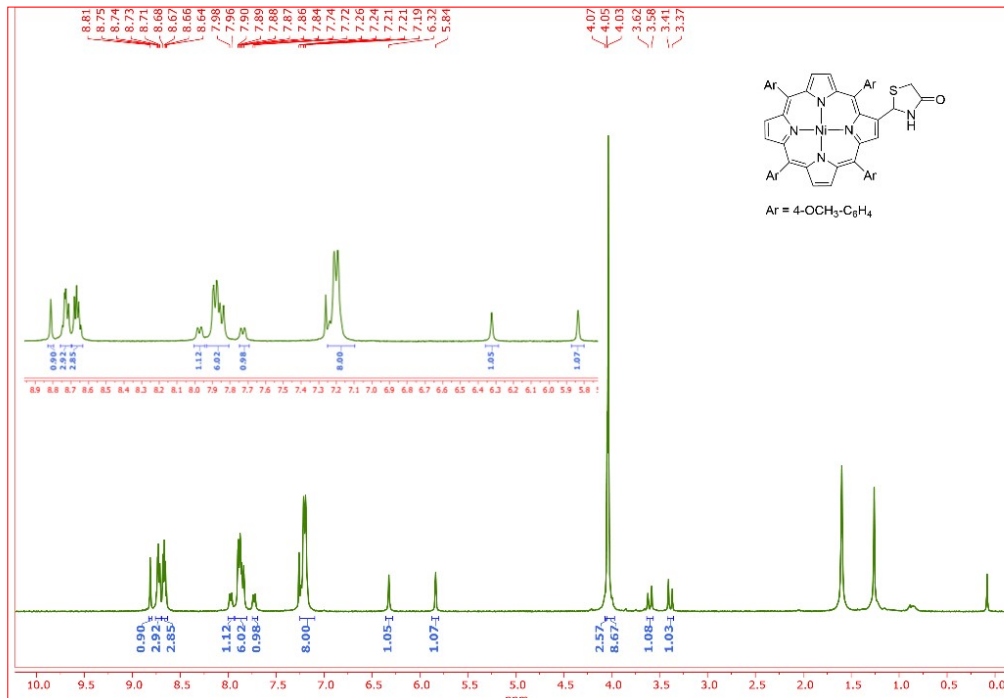


**Figure S13.** ESI high resolution mass spectrum of thieno[2,3-*b*]-5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin (**3f**).

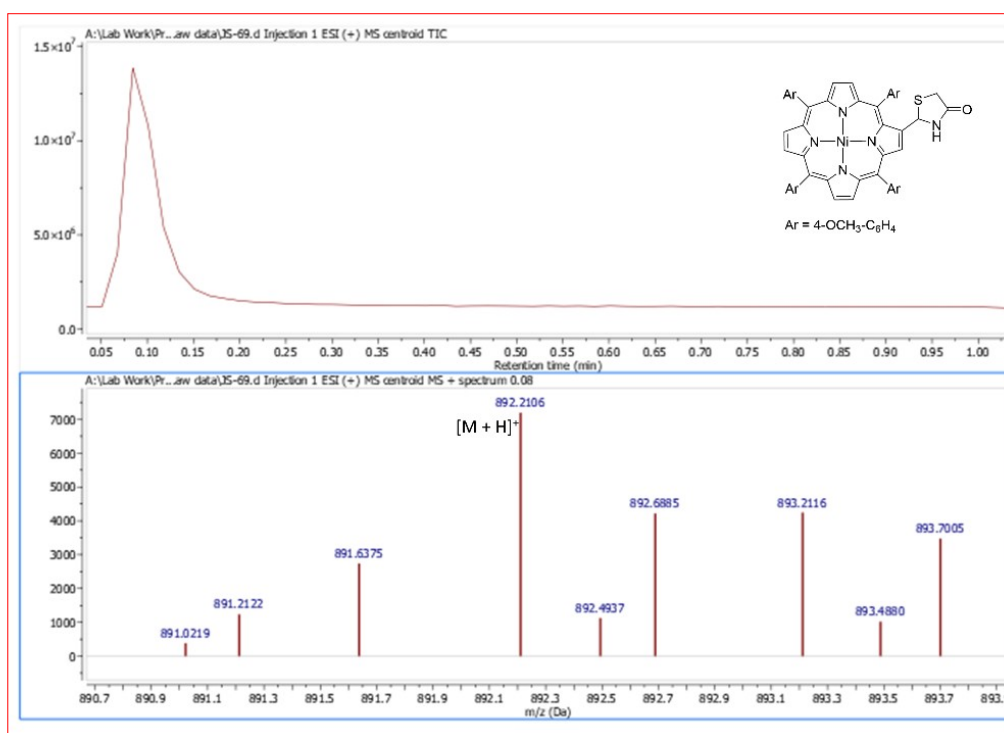




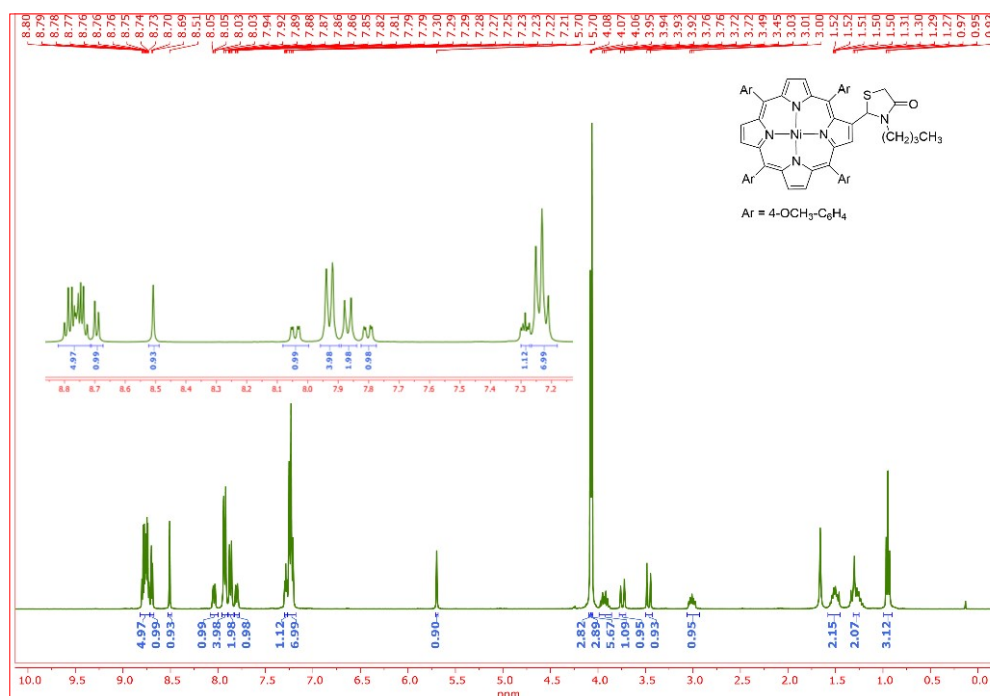
**Figure S14.** <sup>1</sup>H NMR (400 MHz) spectrum of zinc(II) thieno[2,3-*b*]-5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin (**3g**) in CDCl<sub>3</sub>.



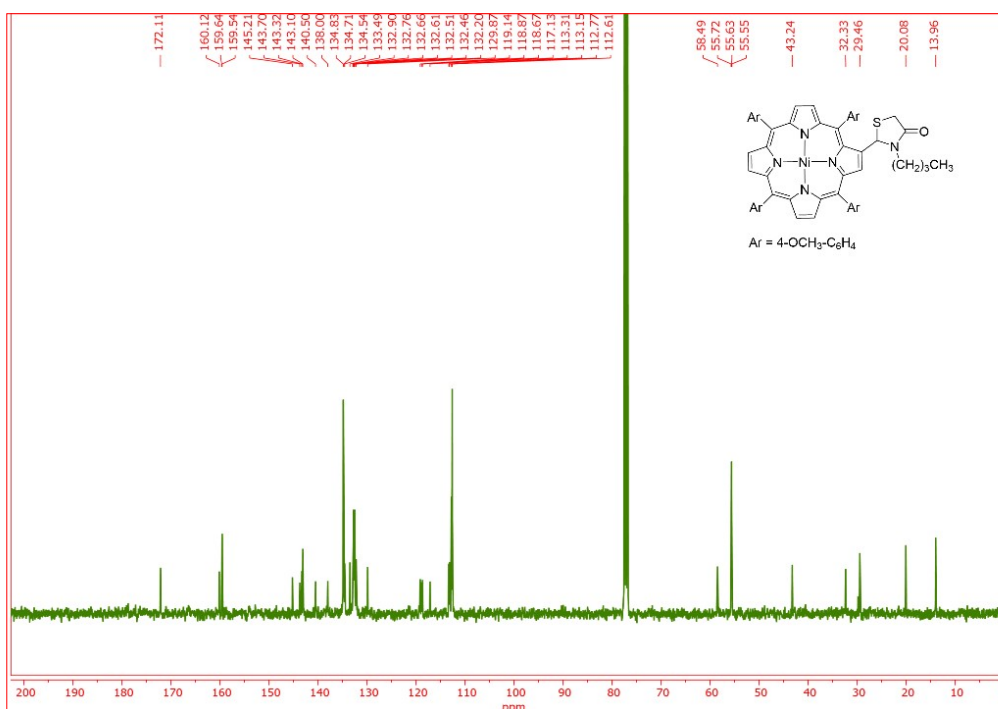
**Figure S15.** <sup>1</sup>H NMR (400 MHz) spectrum of nickel(II) 2-[2'-(5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin)]thiazolidin-4-one (**4a**) in CDCl<sub>3</sub>.



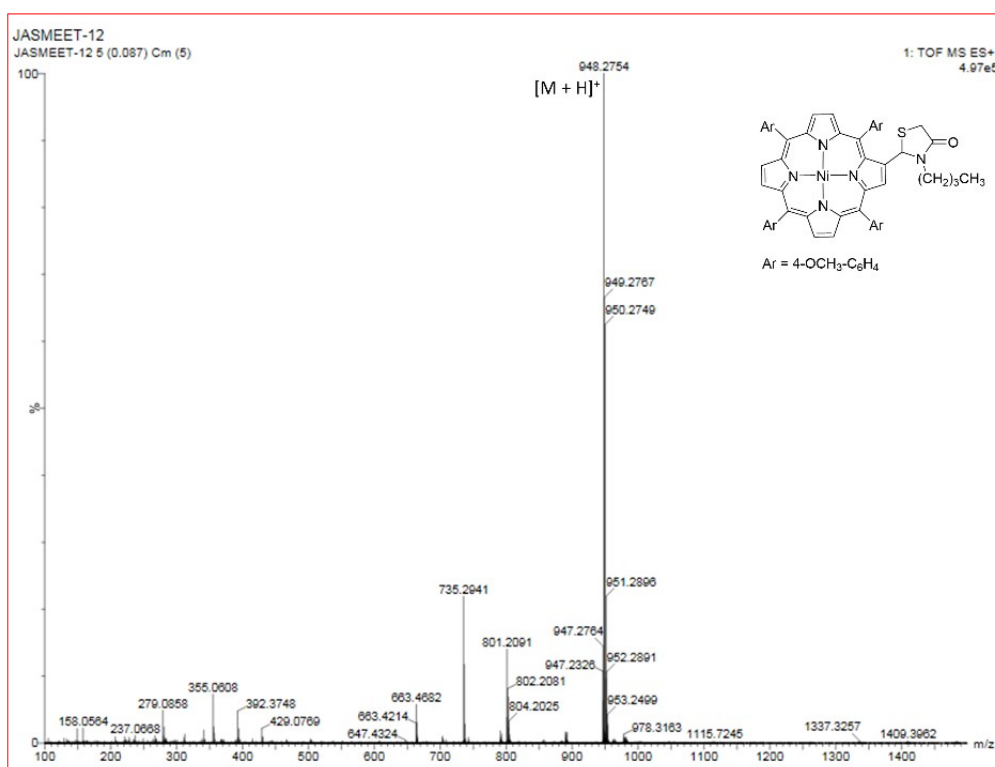
**Figure S16.** ESI high resolution mass spectrum of nickel(II) 2-[2'-(5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin)]thiazolidin-4-one (**4a**).



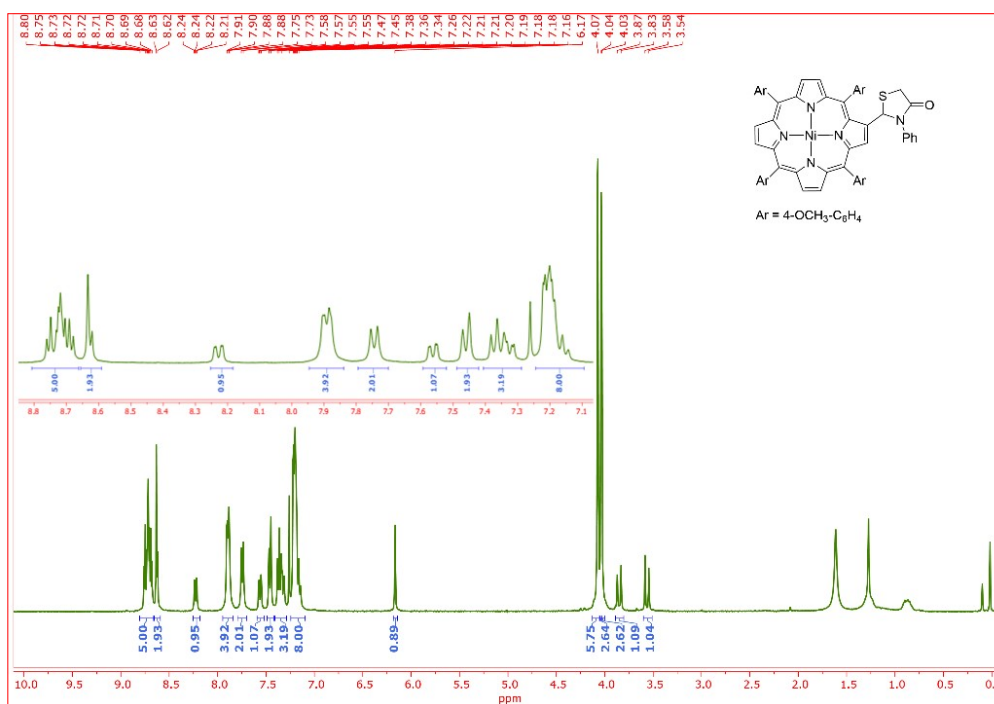
**Figure S17.**  $^1H$  NMR (400 MHz) spectrum of nickel(II) 3-butyl-2-[2'-(5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin)]thiazolidin-4-one (**4b**) in  $CDCl_3$ .



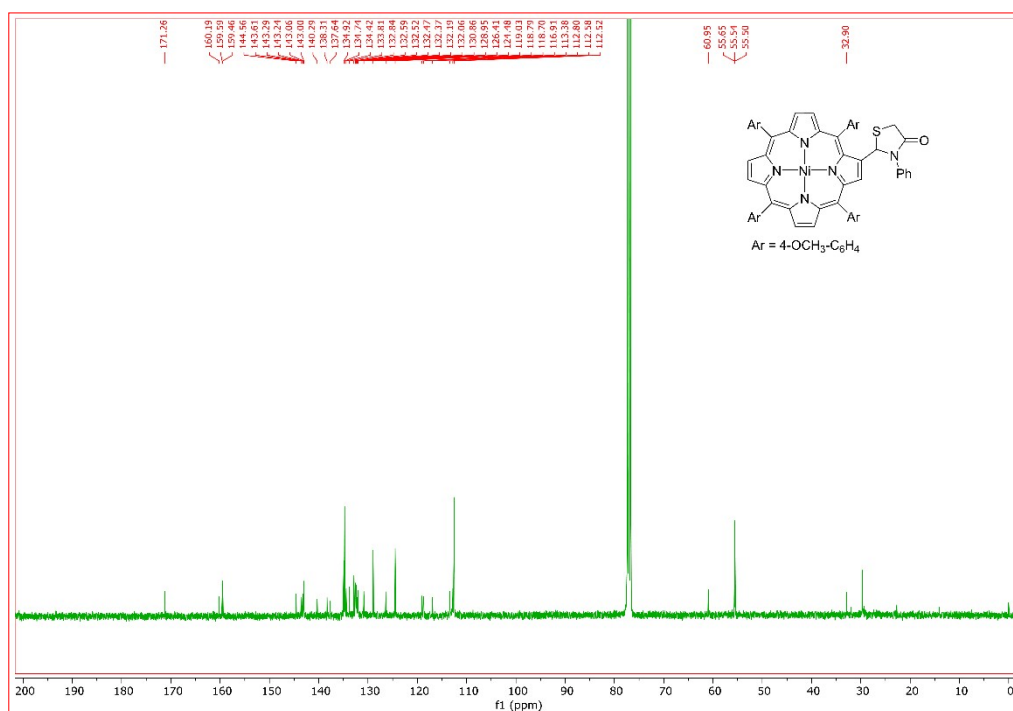
**Figure S18.** <sup>13</sup>C NMR (100 MHz) spectrum of nickel(II) 3-butyl-2-[2'-(5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin)]thiazolidin-4-one (**4b**) in CDCl<sub>3</sub>.



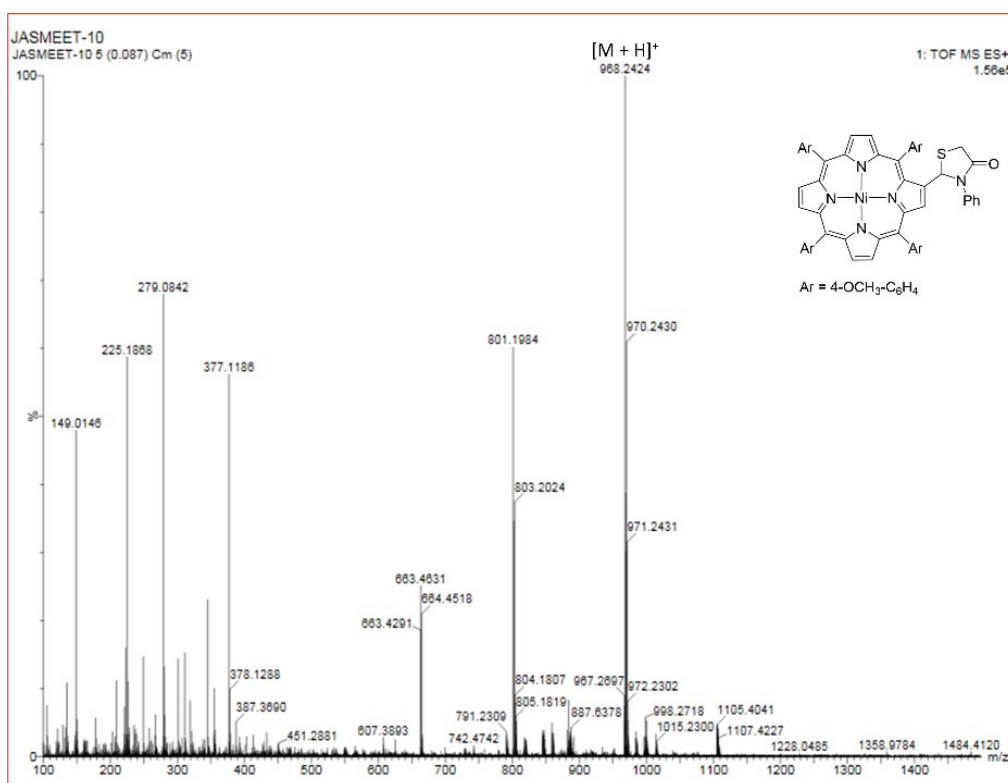
**Figure S19.** ESI high resolution mass spectrum of nickel(II) 3-butyl-2-[2'-(5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin)]thiazolidin-4-one (**4b**).



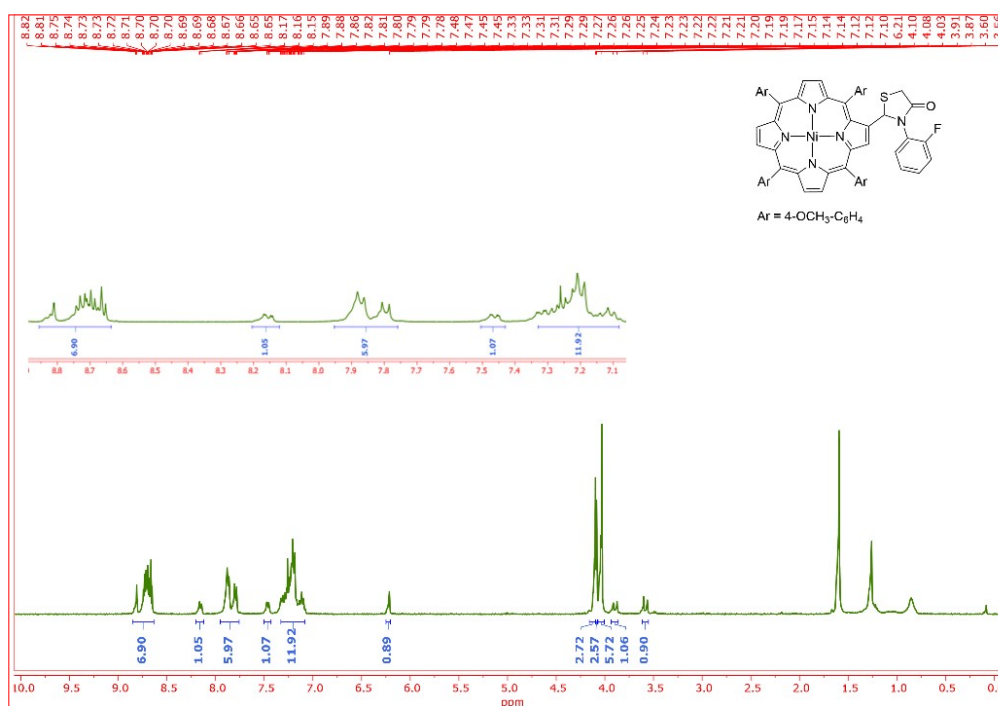
**Figure S20.** <sup>1</sup>H NMR (400 MHz) spectrum of nickel(II) 3-phenyl-2-[2'-(5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin)]thiazolidin-4-one (**4c**) in CDCl<sub>3</sub>.



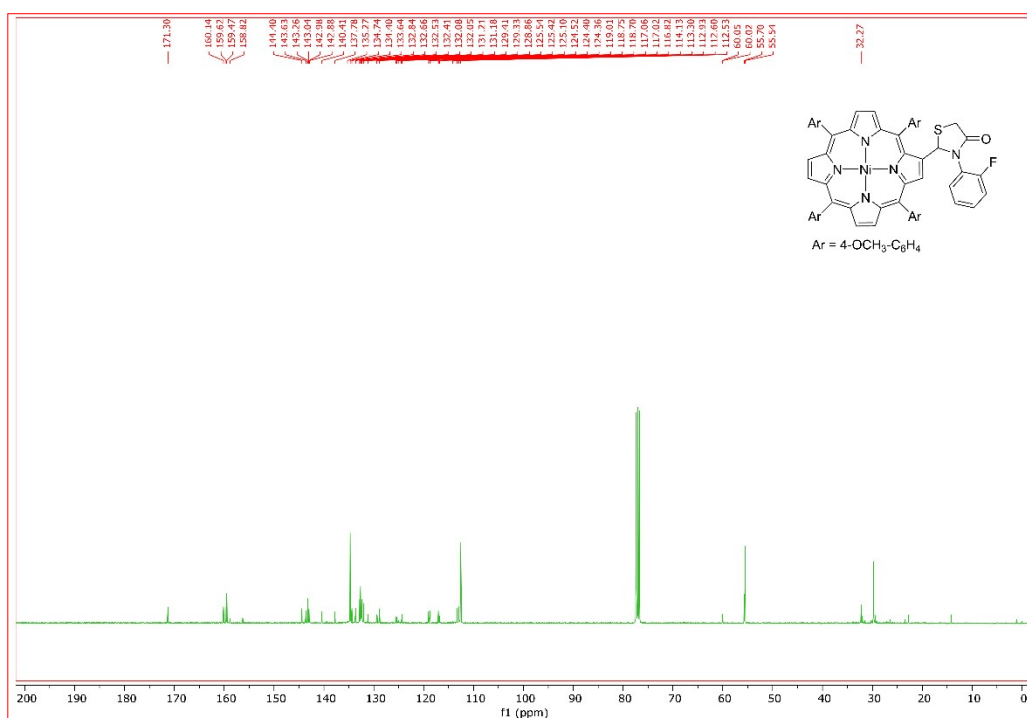
**Figure S21.** <sup>13</sup>C NMR (100 MHz) spectrum of nickel(II) 3-phenyl-2-[2'-(5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin)]thiazolidin-4-one (**4c**) in CDCl<sub>3</sub>.



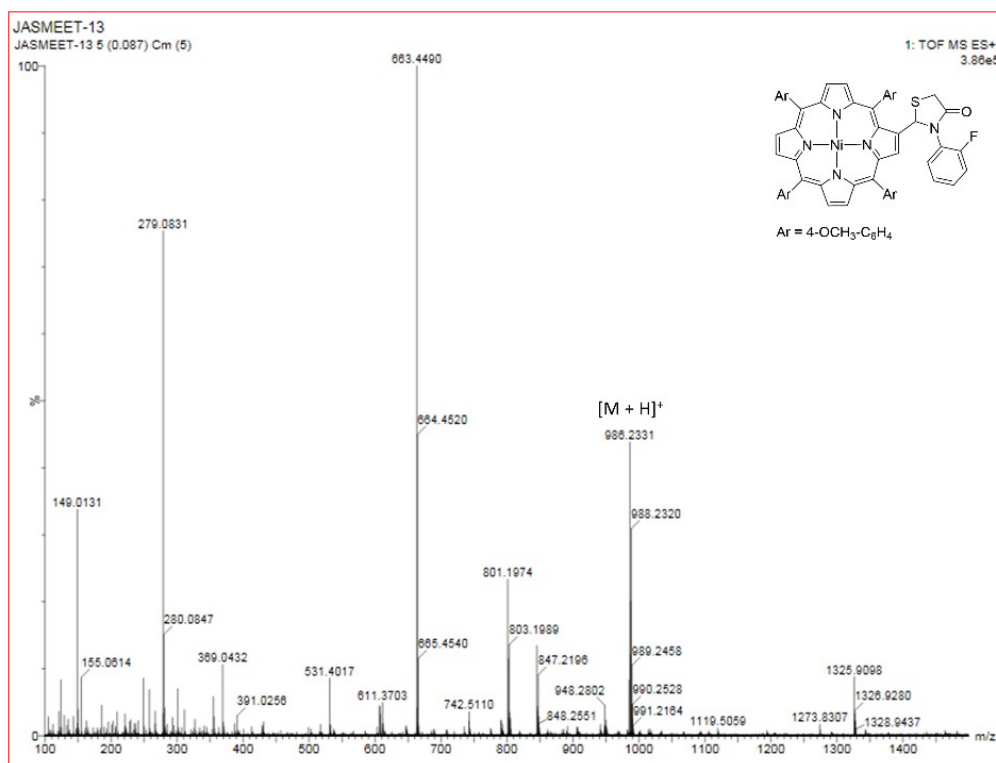
**Figure S22.** ESI high resolution mass spectrum of nickel(II) 3-phenyl-2-[2'-(5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin)]thiazolidin-4-one (**4c**).



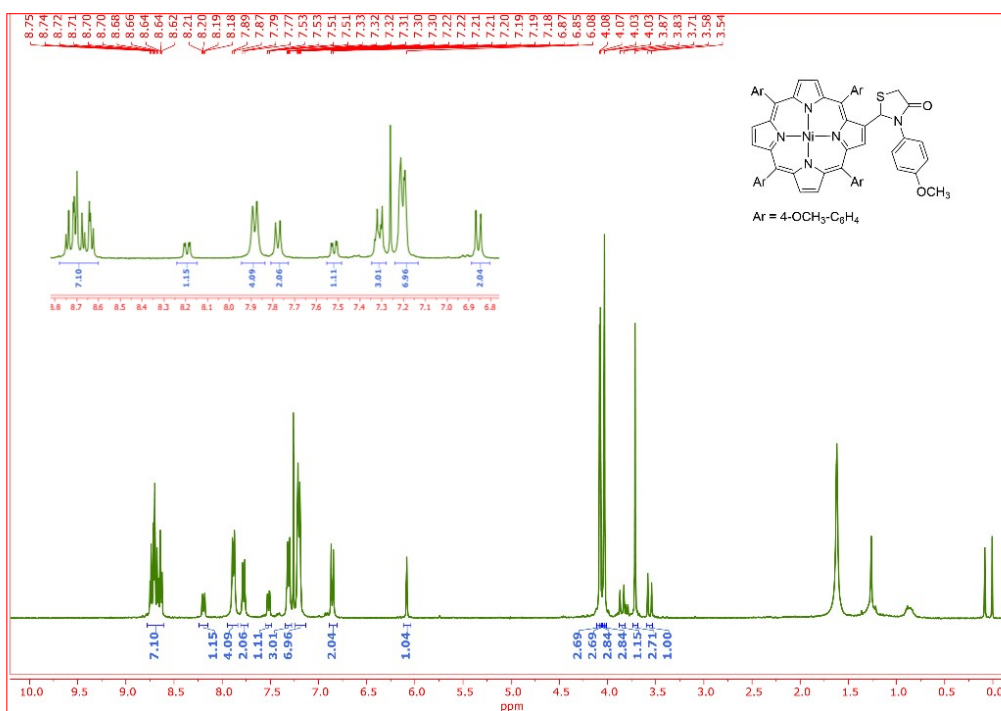
**Figure S23.** <sup>1</sup>H NMR (400 MHz) spectrum of nickel(II) 3-(2-fluorophenyl)-2-[2'-(5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin)]thiazolidin-4-one (**4d**) in CDCl<sub>3</sub>.



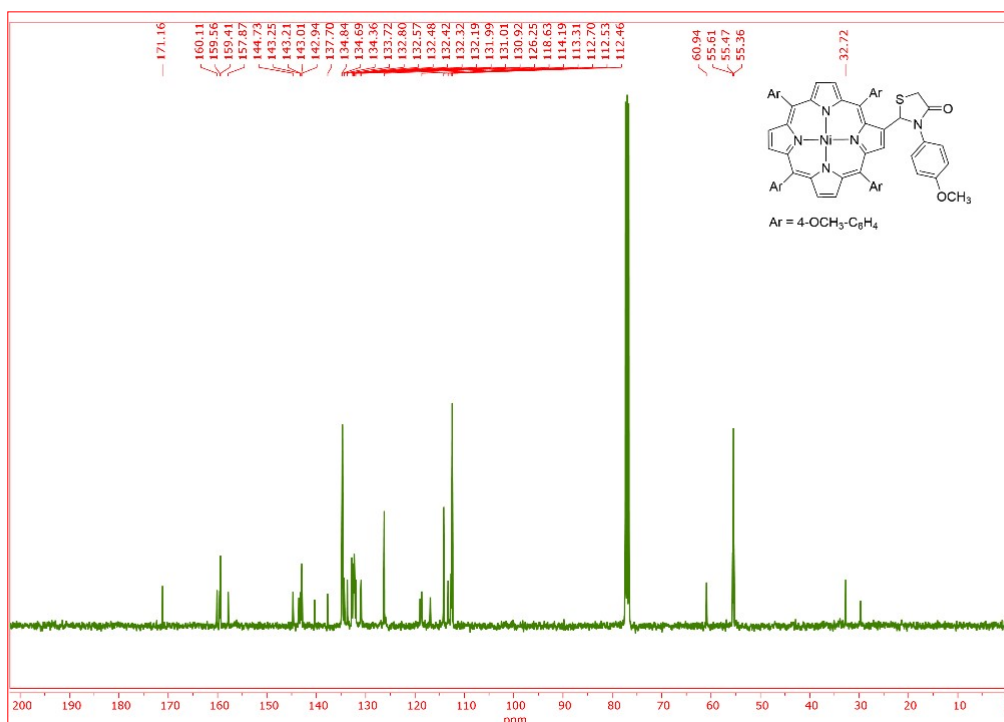
**Figure S24.**  $^{13}\text{C}$  NMR (100 MHz) spectrum of nickel(II) 3-(2-fluorophenyl)-2-[2'-(5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin)]thiazolidin-4-one (**4d**) in  $\text{CDCl}_3$ .



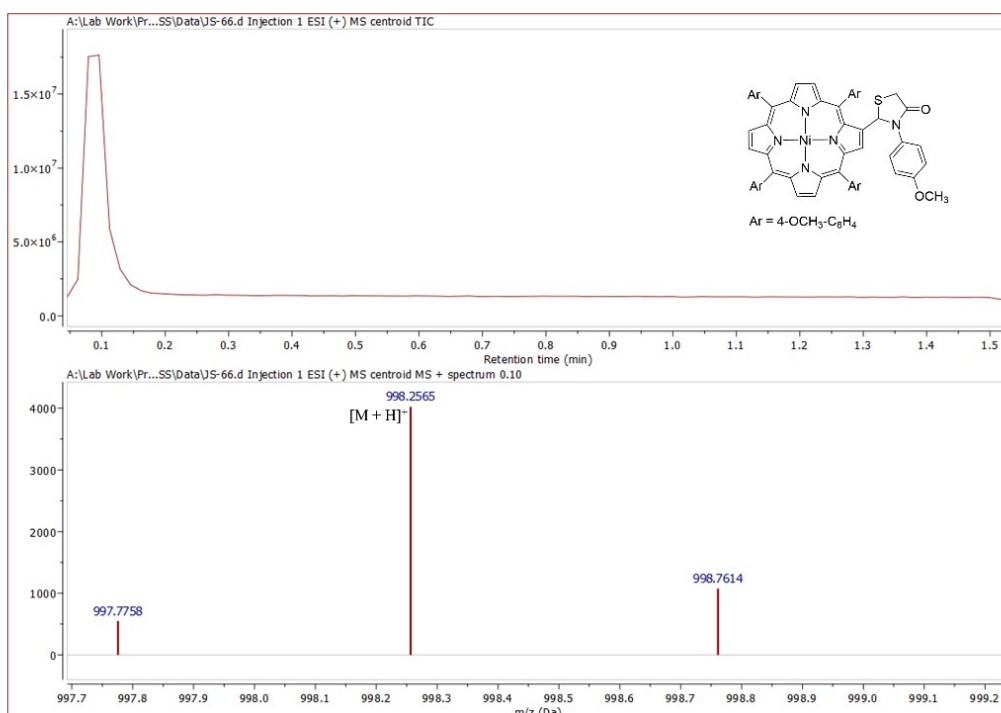
**Figure S25.** ESI high resolution mass spectrum of nickel(II) 3-(2-fluorophenyl)-2-[2'-(5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin)]thiazolidin-4-one (**4d**).



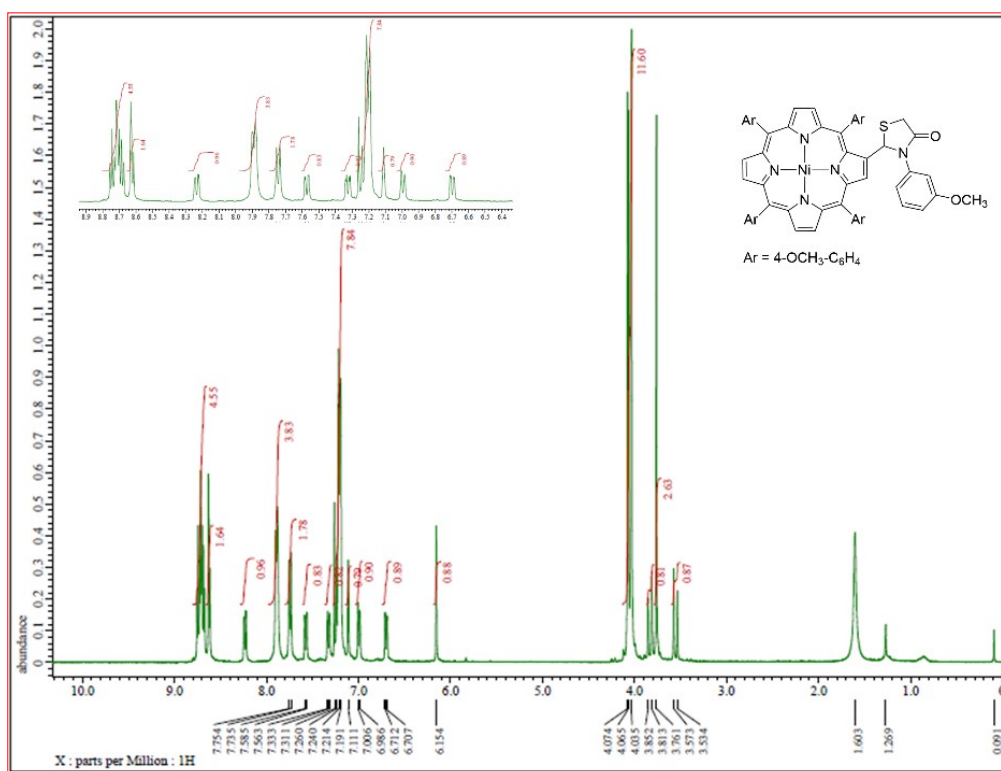
**Figure S26.** <sup>1</sup>H NMR (400 MHz) spectrum of nickel(II) 3-(4-methoxyphenyl)-2-[2'-(5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin)]thiazolidin-4-one (**4e**) in CDCl<sub>3</sub>.



**Figure S27.** <sup>13</sup>C NMR (100 MHz) spectrum of nickel(II) 3-(4-methoxyphenyl)-2-[2'-(5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin)]thiazolidin-4-one (**4e**) in CDCl<sub>3</sub>.

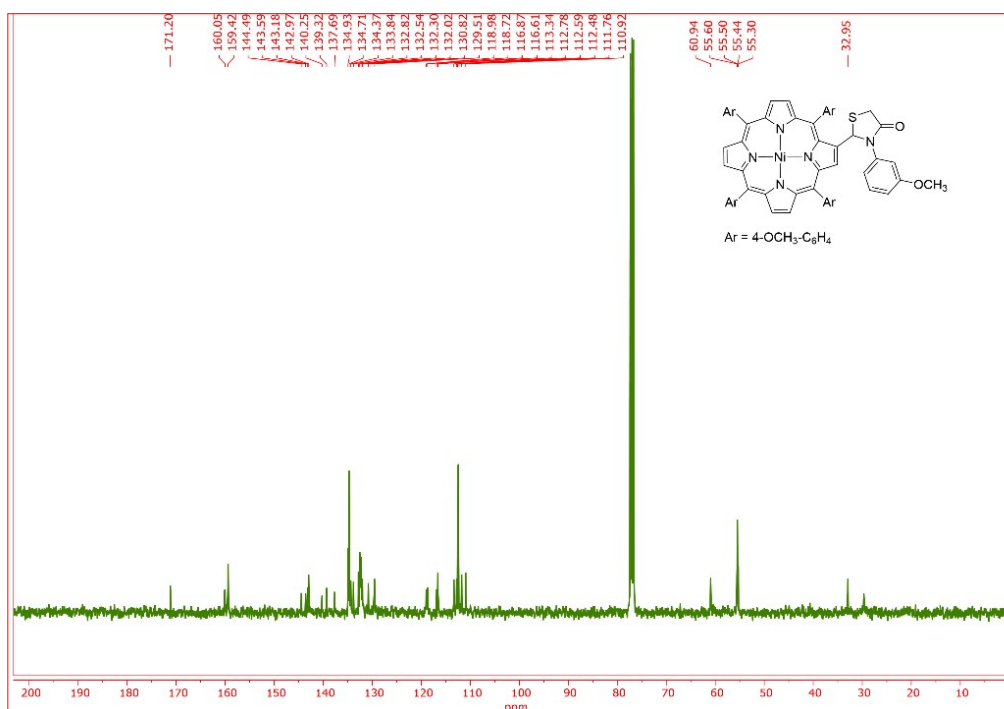


**Figure S28.** ESI high resolution mass spectrum of nickel(II) 3-(4-methoxyphenyl)-2-[2'-(5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin)]thiazolidin-4-one (**4e**).

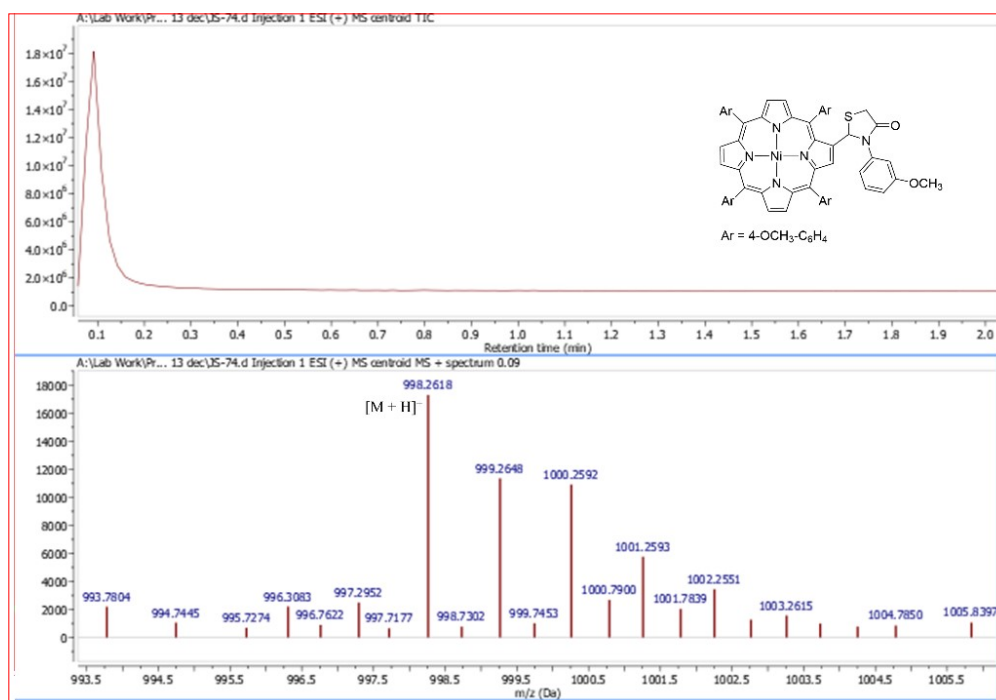


**Figure S29.**  $^1H$  NMR (400 MHz) spectrum of nickel(II) 3-(3-methoxyphenyl)-2-[2'-(5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin)]thiazolidin-4-one (**4f**) in  $CDCl_3$ .

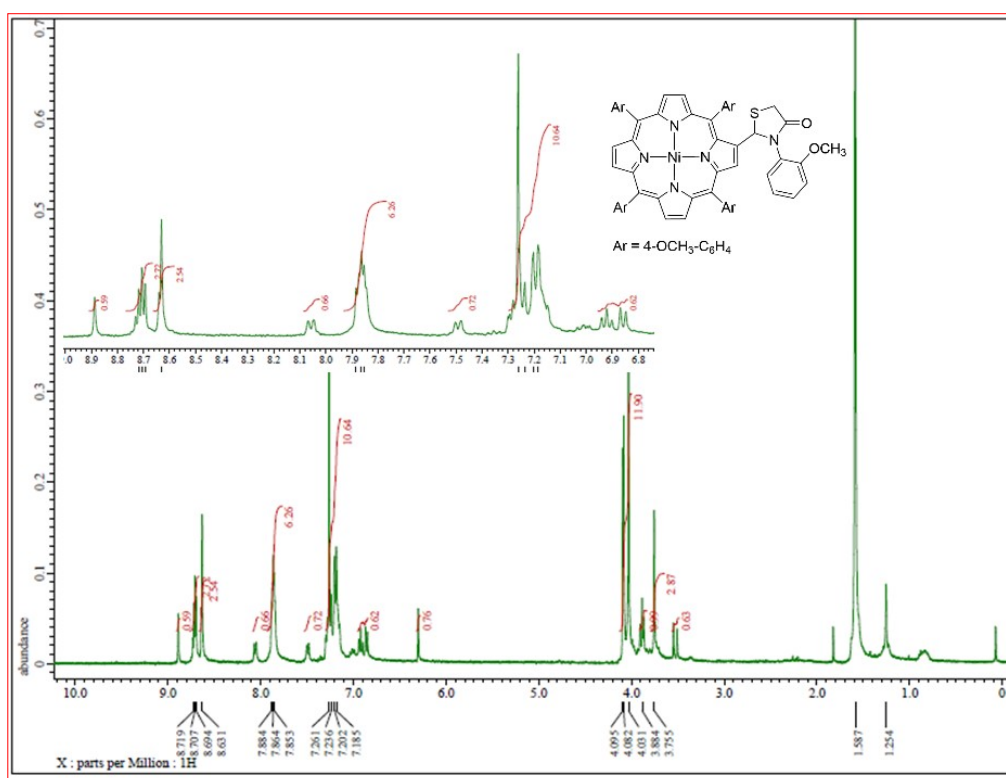




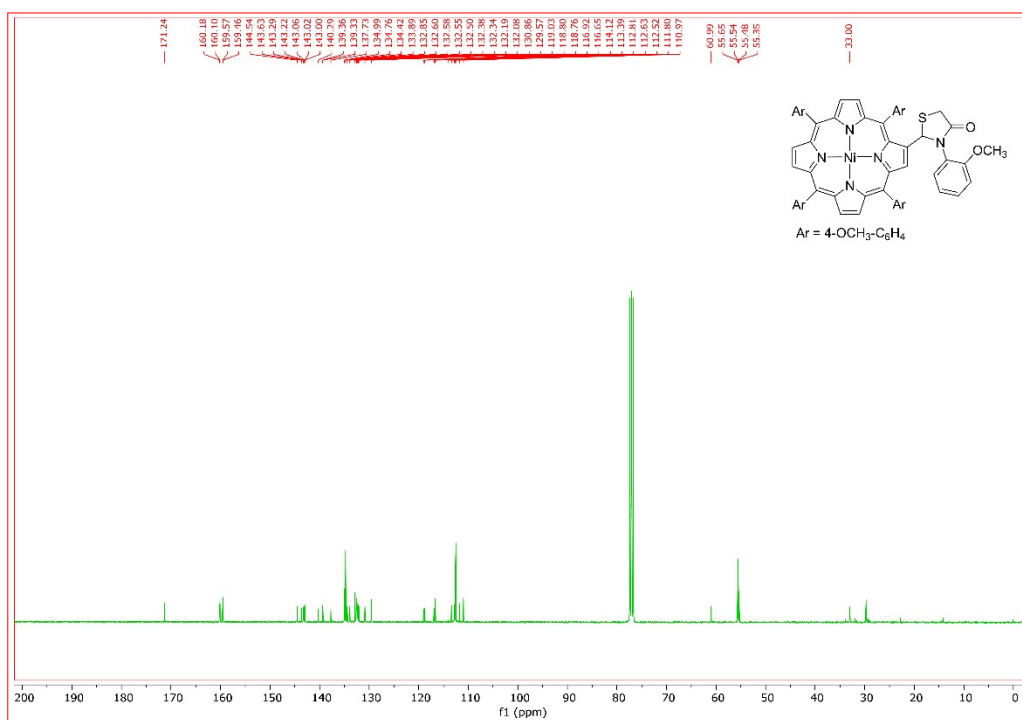
**Figure S30.** <sup>13</sup>C NMR (100 MHz) spectrum of nickel(II) 3-(3-methoxyphenyl)-2-[2'-(5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin)]thiazolidin-4-one (**4f**) in CDCl<sub>3</sub>.



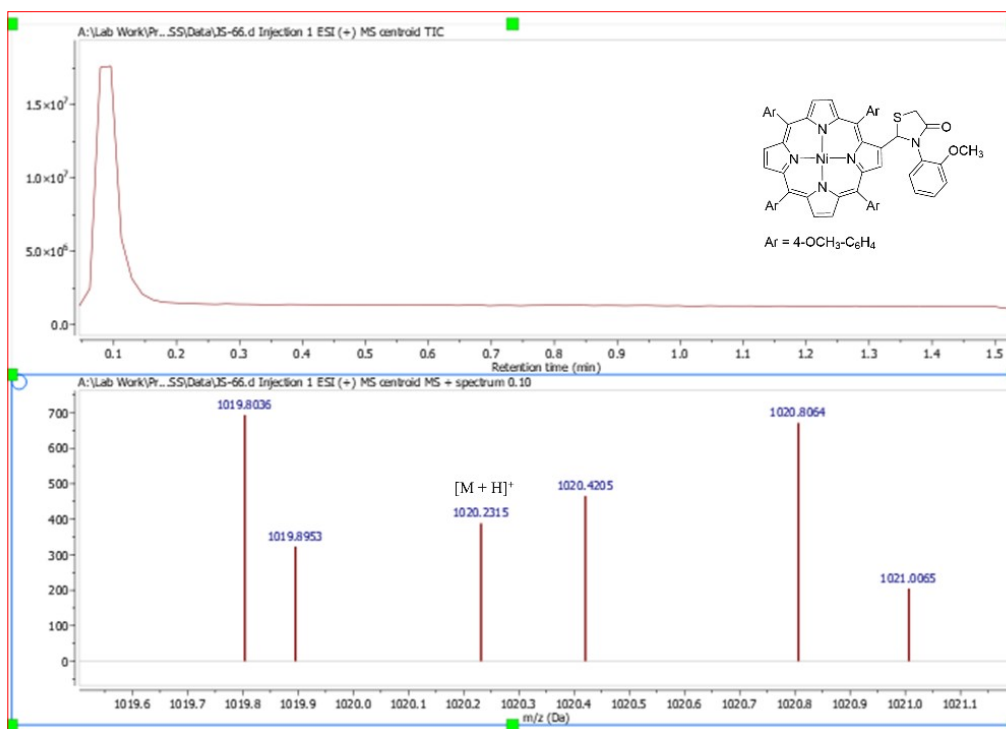
**Figure S31.** ESI high resolution mass spectrum of nickel(II) 3-(3-methoxyphenyl)-2-[2'-(5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin)]thiazolidin-4-one (**4f**).



**Figure S32.**  $^1\text{H}$  NMR (400 MHz) spectrum of nickel(II) 3-(2-methoxyphenyl)-2-[2'-(5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin)]thiazolidin-4-one (**4g**) in  $\text{CDCl}_3$ .



**Figure S33.**  $^{13}\text{C}$  NMR (100 MHz) spectrum of nickel(II) 3-(2-methoxyphenyl)-2-[2'-(5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin)]thiazolidin-4-one (**4g**) in  $\text{CDCl}_3$ .



**Figure S34.** ESI high resolution mass spectrum of nickel(II) 3-(2-methoxyphenyl)-2-[2'-(5,10,15,20-tetrakis(4-methoxyphenyl)porphyrin)]thiazolidin-4-one (**4g**).