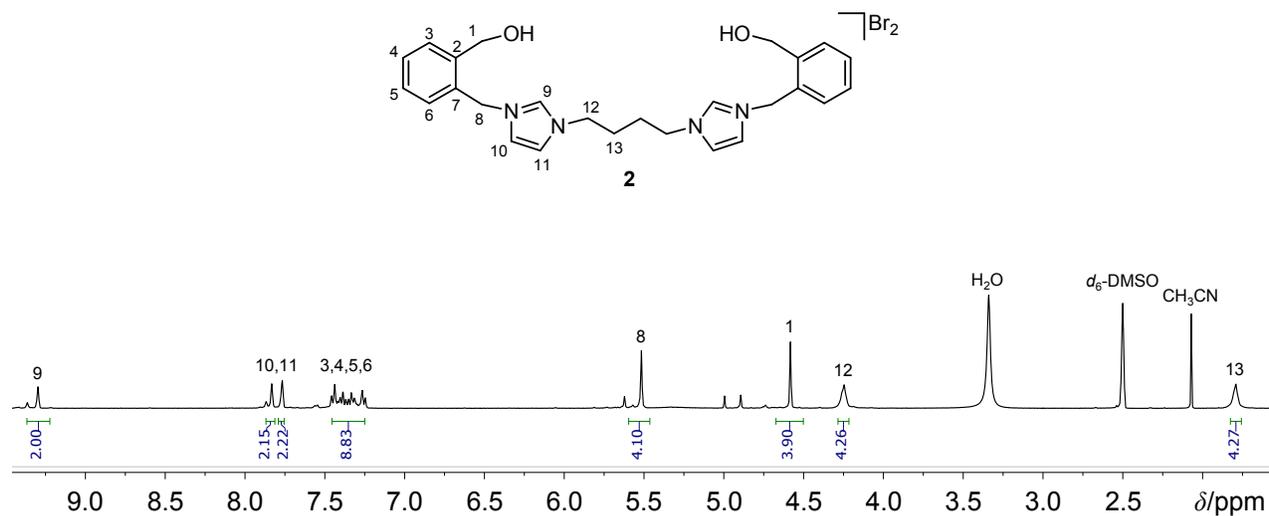


# **Synthesis of a flexible macrocyclic tetraimidazolium salt – precursor for a tetracarbene ligand with metal dependent coordination modes**

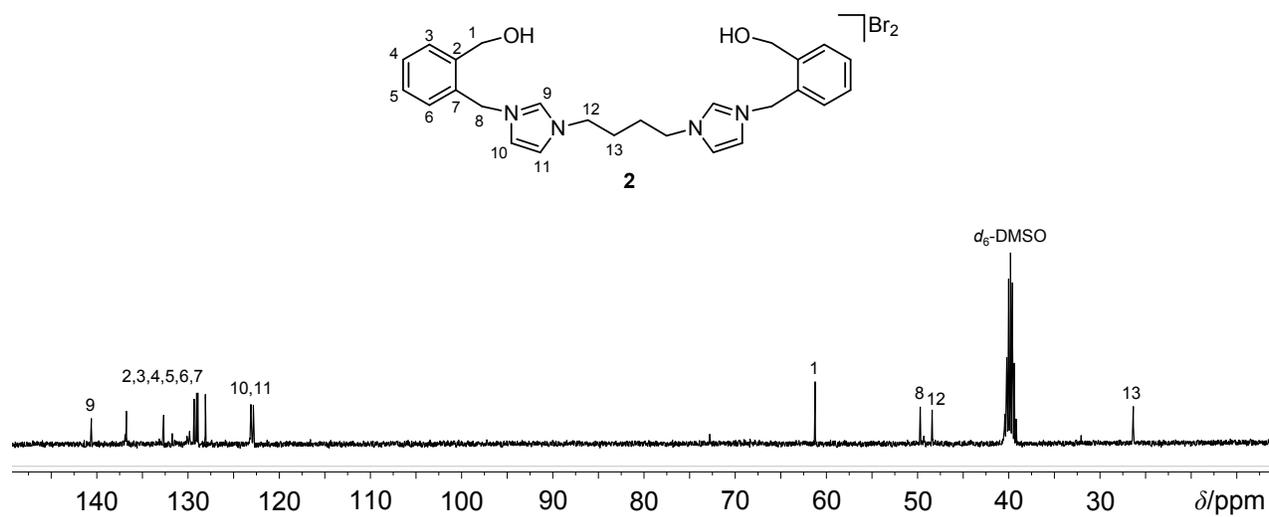
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Corrensstraße 30, D-48149 Münster, Germany. \*e-mail: fehahn@uni-muenster.de*

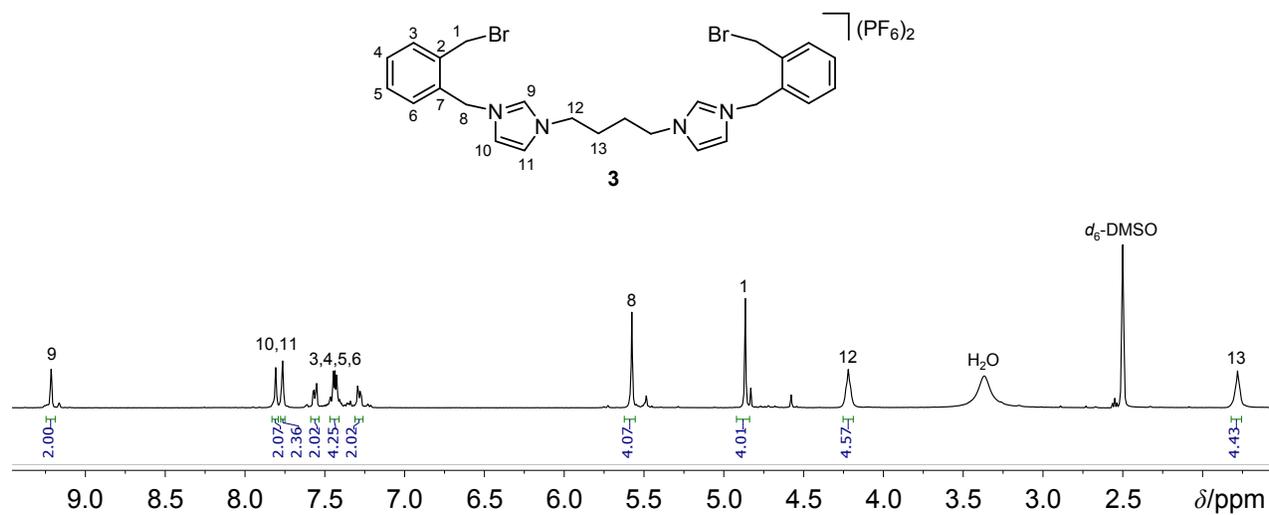
## **Supporting Information**



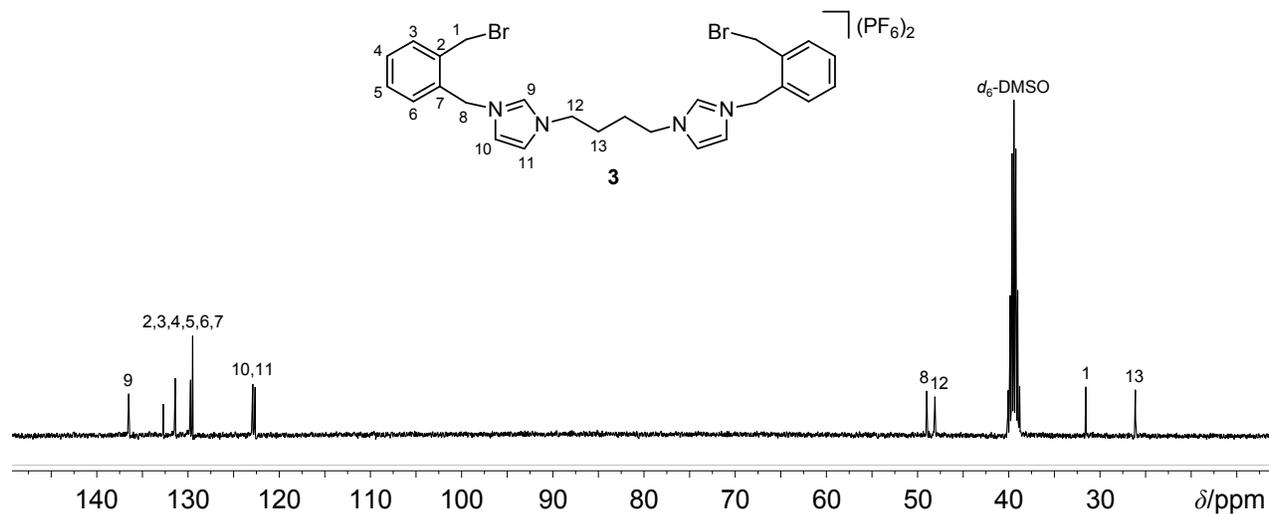
**Figure S1.**  $^1\text{H}$  NMR spectrum of diimidazolium salt **2** in  $\text{DMSO-}d_6$ .



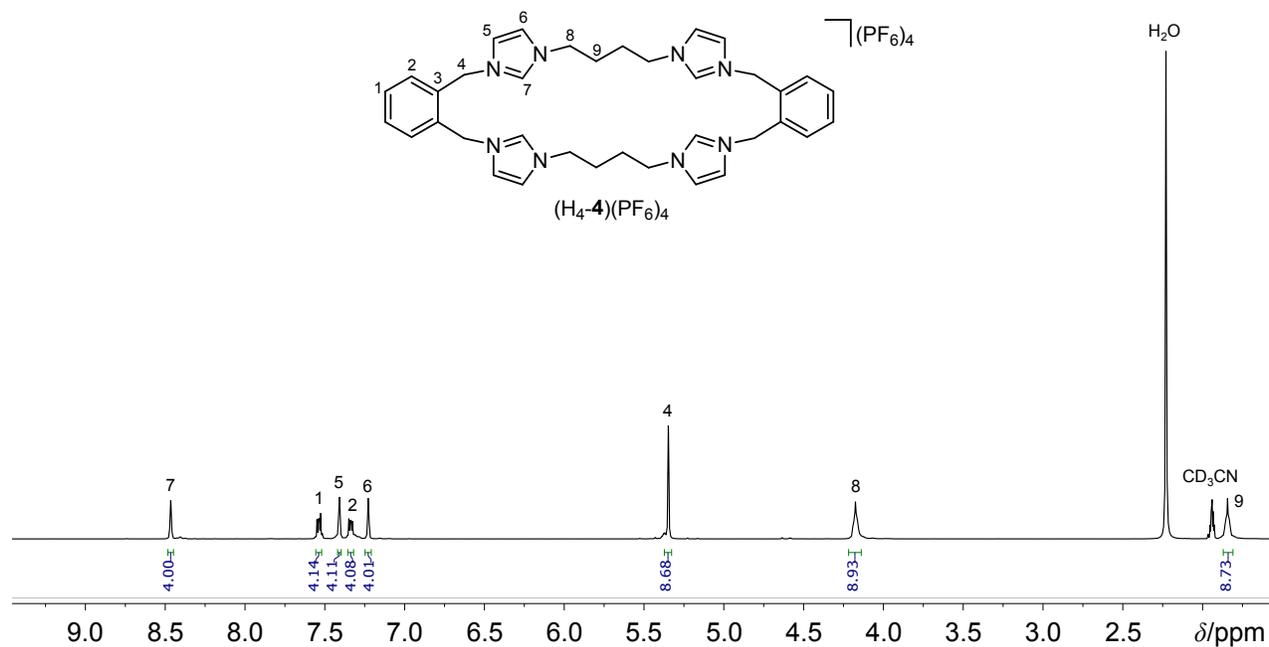
**Figure S2.**  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum of diimidazolium salt **2** in  $\text{DMSO-}d_6$ .



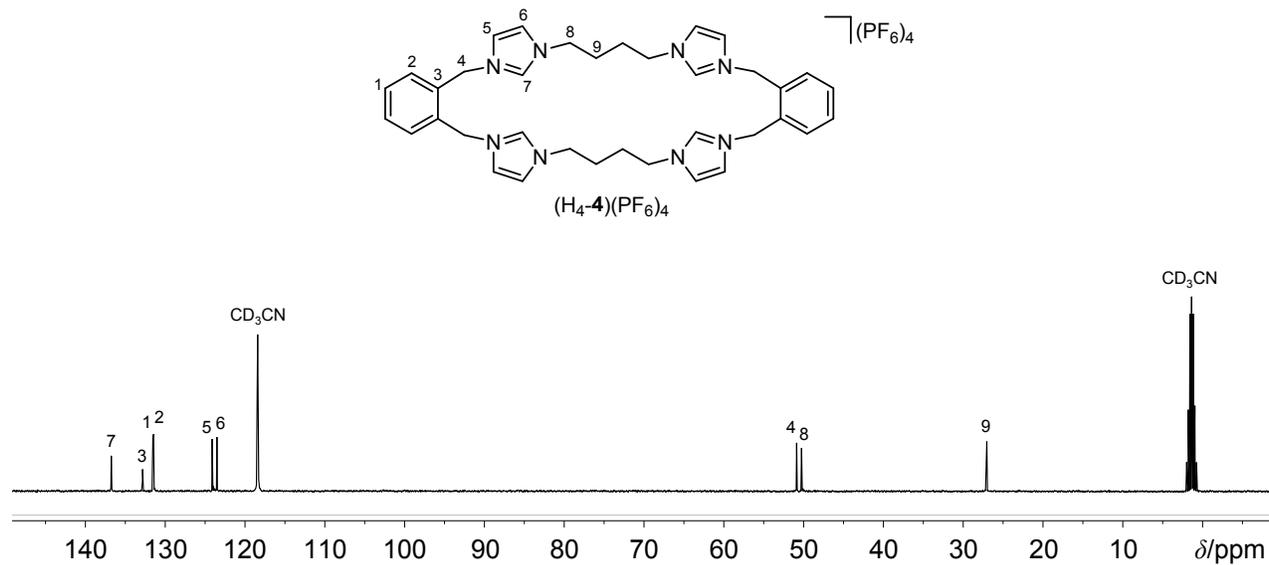
**Figure S3.**  $^1H$  NMR spectrum of diimidazolium salt **3** in  $DMSO-d_6$ .



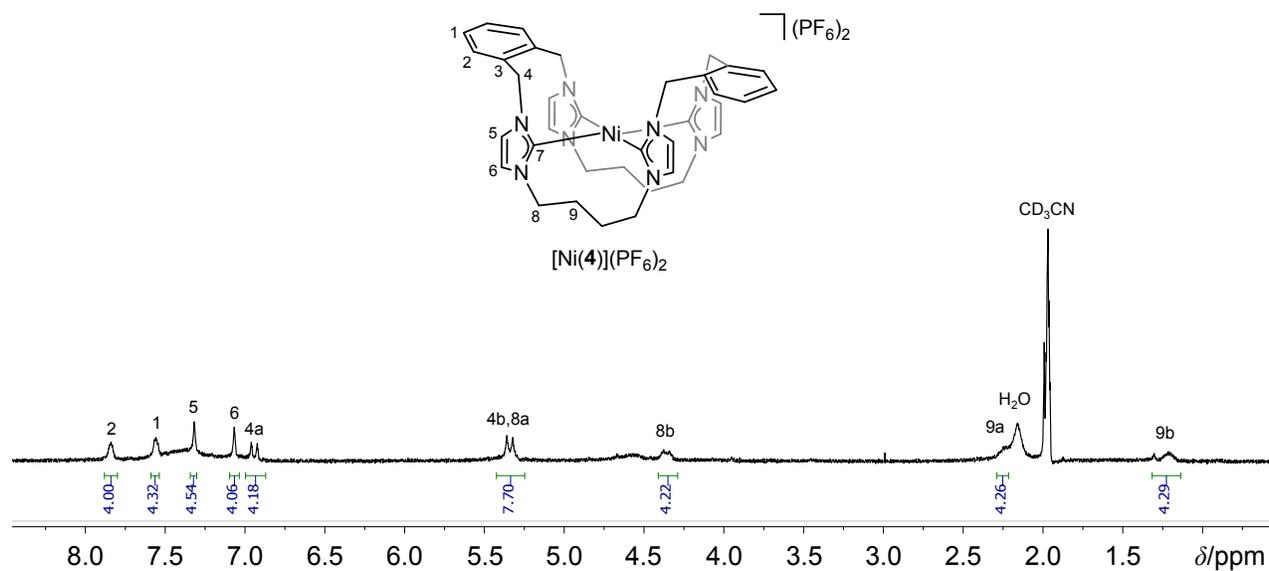
**Figure S4.**  $^{13}C\{^1H\}$  NMR spectrum of diimidazolium salt **3** in  $DMSO-d_6O$ .



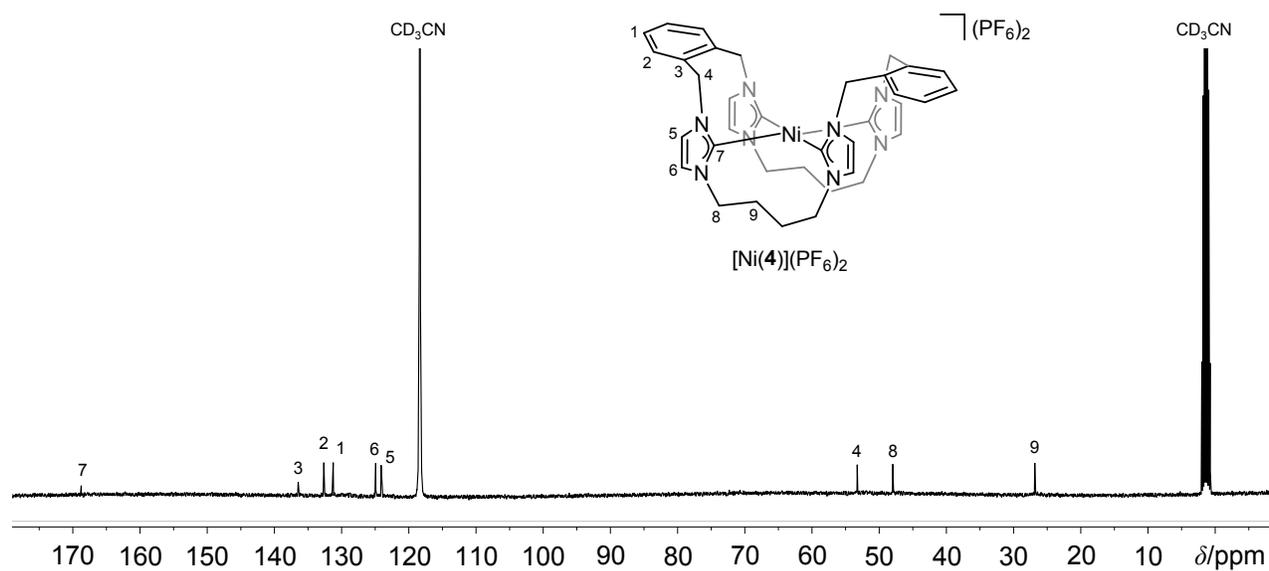
**Figure S5.**  $^1\text{H}$  NMR spectrum of tetraimidazolium salt  $(\text{H}_4\text{-4})(\text{PF}_6)_4$  in  $\text{CD}_3\text{CN}$ .



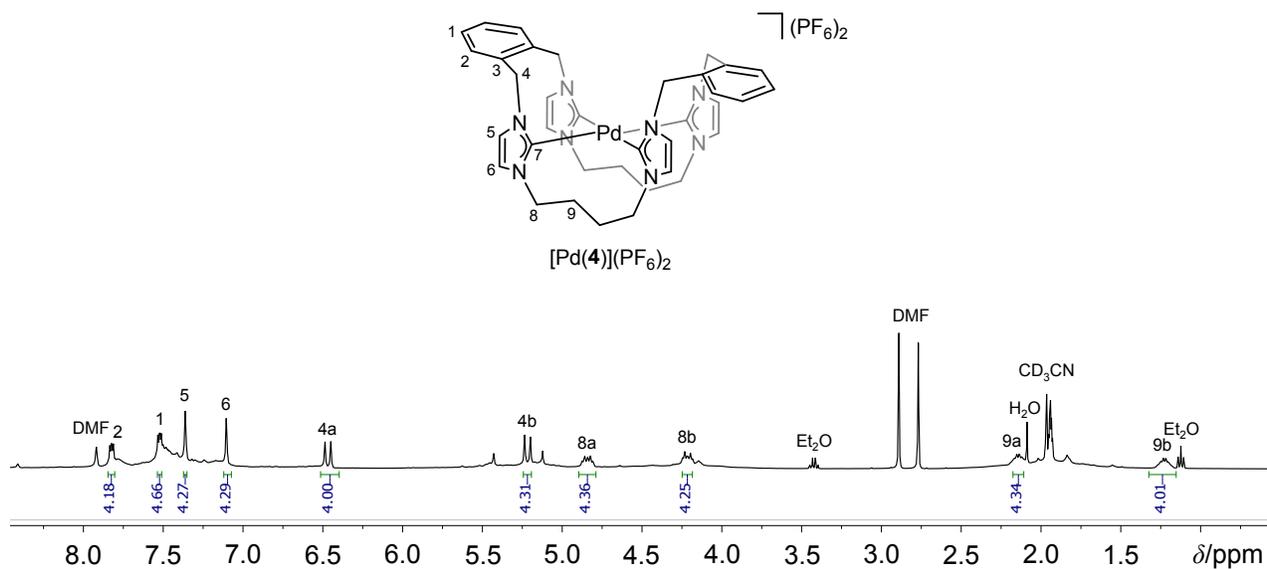
**Figure S6.**  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum of tetraimidazolium salt  $(\text{H}_4\text{-4})(\text{PF}_6)_4$  in  $\text{CD}_3\text{CN}$ .



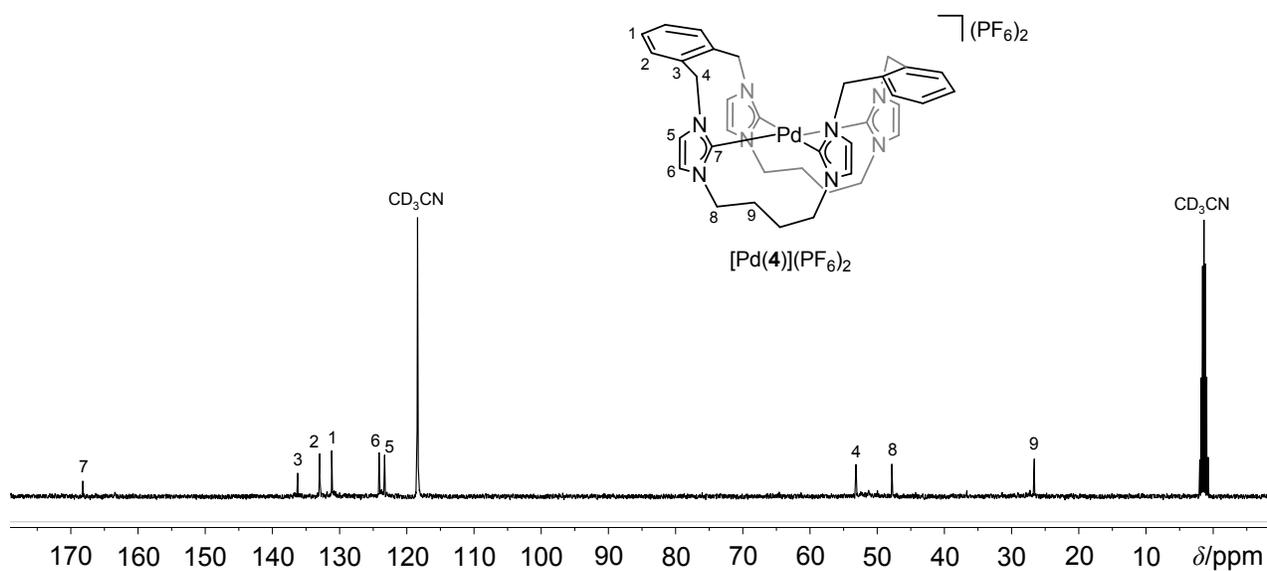
**Figure S7.**  $^1\text{H}$  NMR spectrum of nickel(II) complex  $[\text{Ni}(\mathbf{4})](\text{PF}_6)_2$  in  $\text{CD}_3\text{CN}$ .



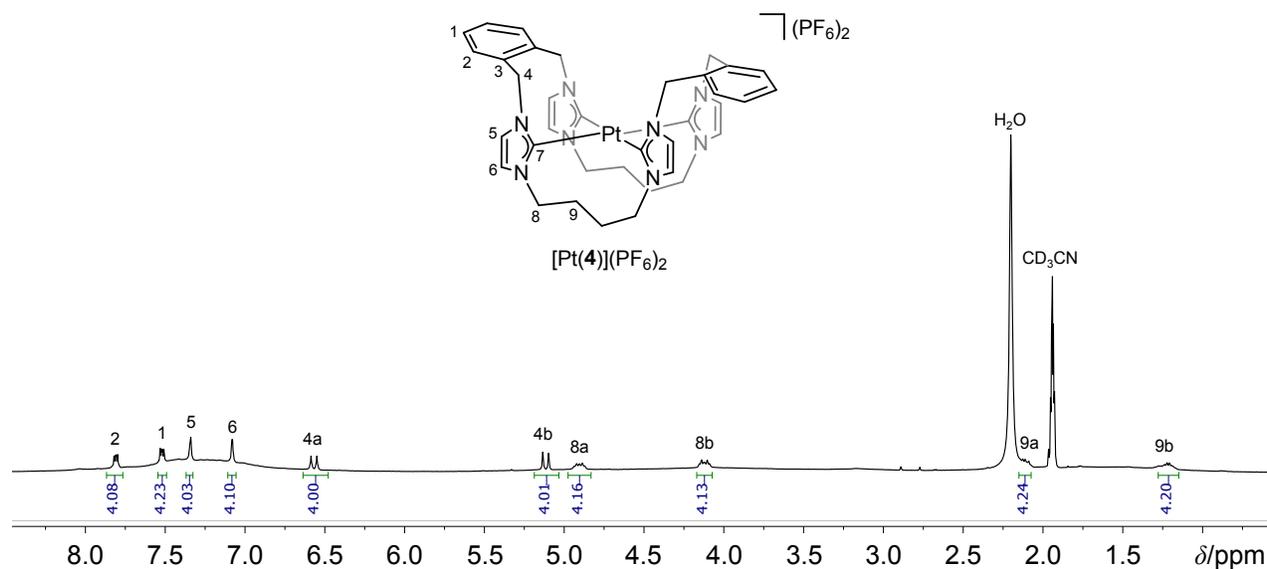
**Figure S8.**  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum of nickel(II) complex  $[\text{Ni}(\mathbf{4})](\text{PF}_6)_2$  in  $\text{CD}_3\text{CN}$ .



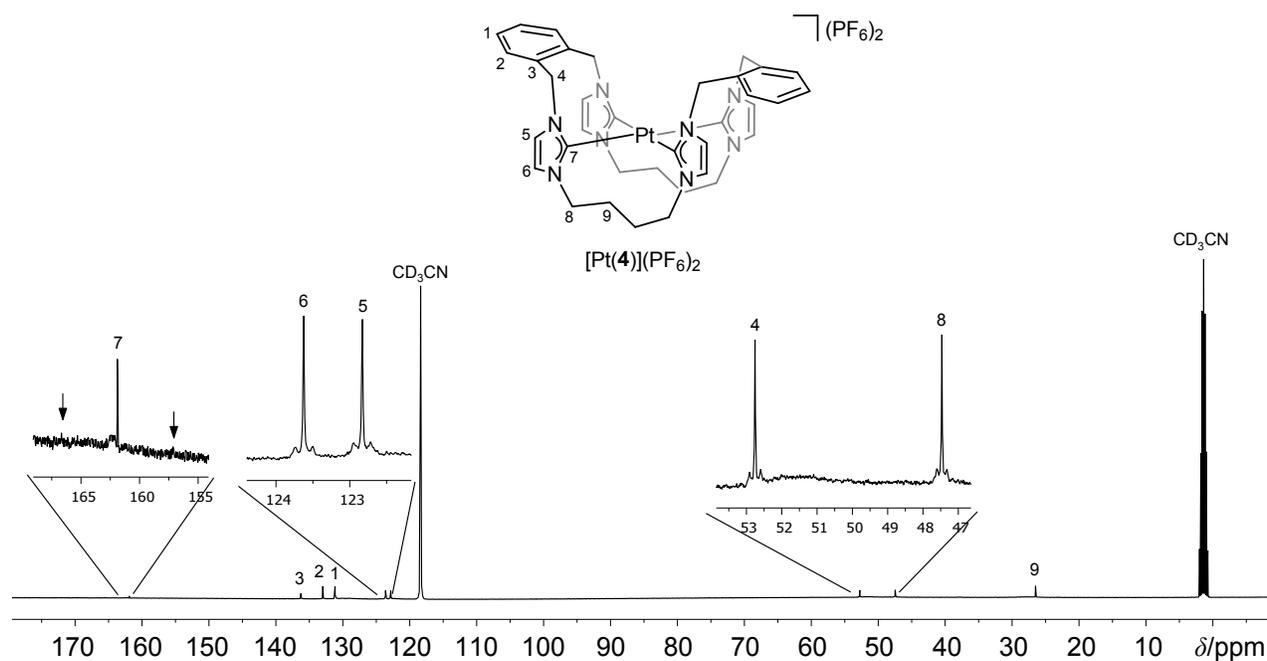
**Figure S9.**  $^1\text{H}$  NMR spectrum of palladium(II) complex  $[\text{Pd}(\mathbf{4})](\text{PF}_6)_2$  in  $\text{CD}_3\text{CN}$ .



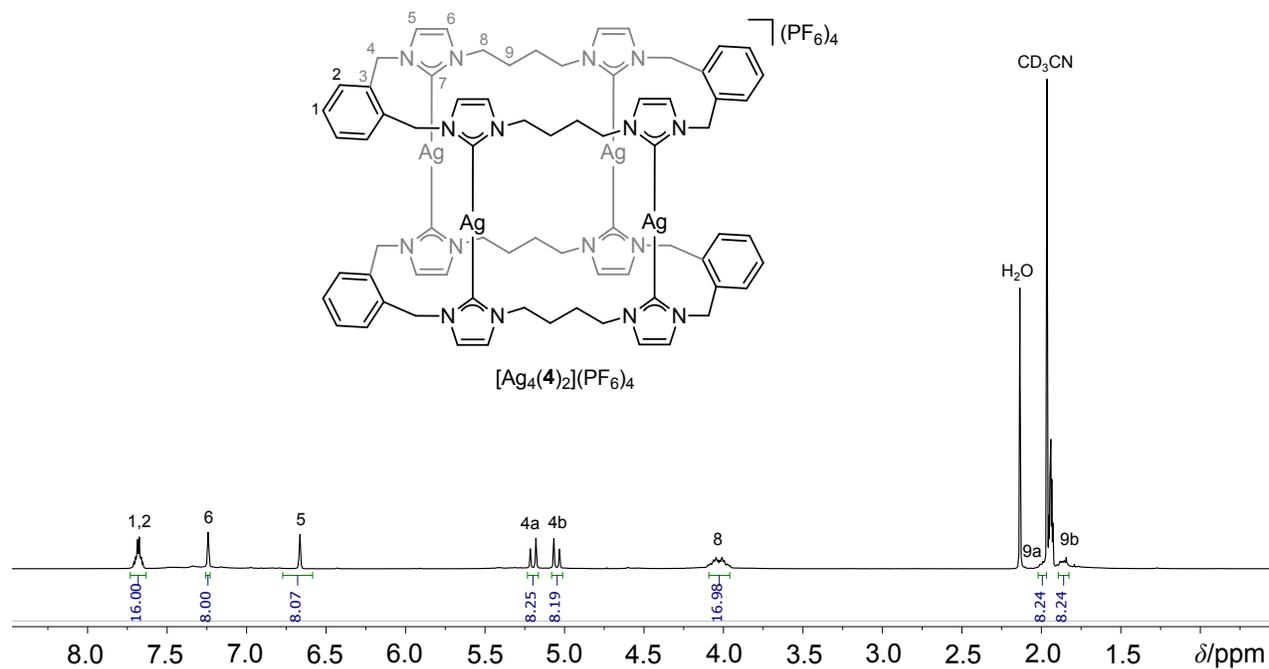
**Figure S10.**  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum of palladium(II) complex  $[\text{Pd}(\mathbf{4})](\text{PF}_6)_2$  in  $\text{CD}_3\text{CN}$ .



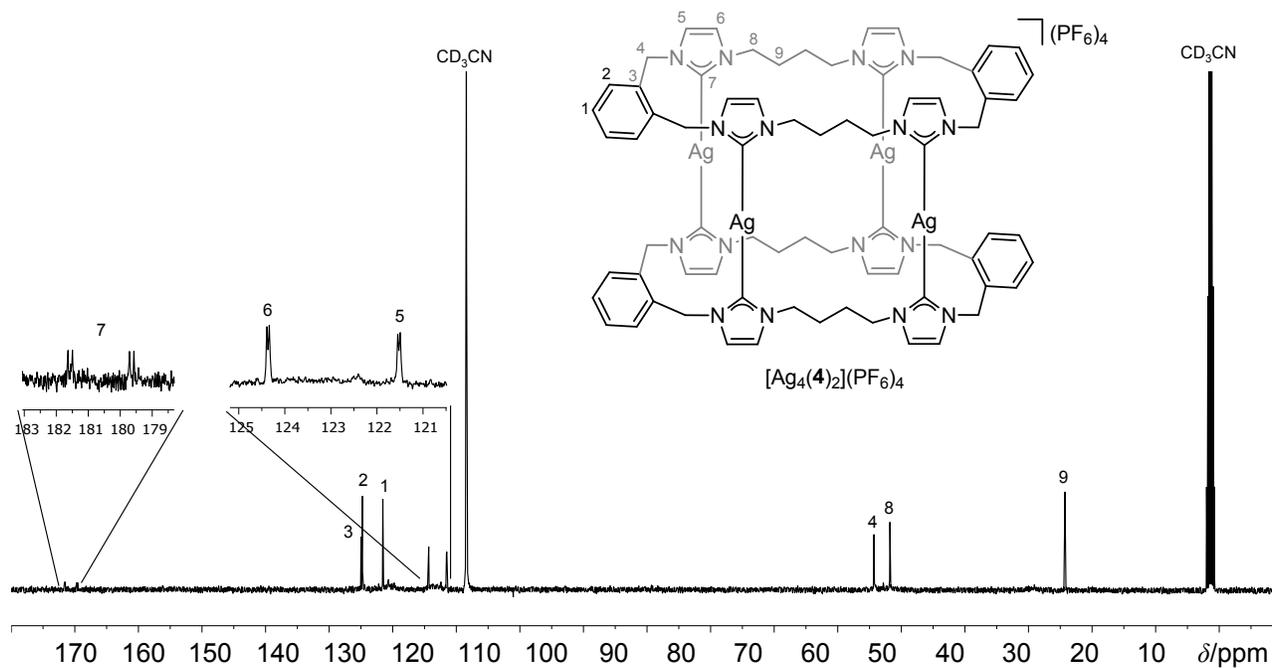
**Figure S11.** <sup>1</sup>H NMR spectrum of platinum(II) complex [Pt(4)](PF<sub>6</sub>)<sub>2</sub> in CD<sub>3</sub>CN.



**Figure S12.** <sup>13</sup>C{<sup>1</sup>H} NMR spectrum of platinum(II) complex [Pt(4)](PF<sub>6</sub>)<sub>2</sub> in CD<sub>3</sub>CN.



**Figure S13.**  $^1H$  NMR spectrum of silver(I) complex  $[Ag_4(\mathbf{4})_2](PF_6)_4$  in  $CD_3CN$ .



**Figure S14.**  $^{13}C\{^1H\}$  NMR spectrum of silver(I) complex  $[Ag_4(\mathbf{4})_2](PF_6)_4$  in  $CD_3CN$ .