Construction of 1-D 4f and 3d-4f Coordination Polymers with Flexible Schiff Base Ligands

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Supplementary Information:

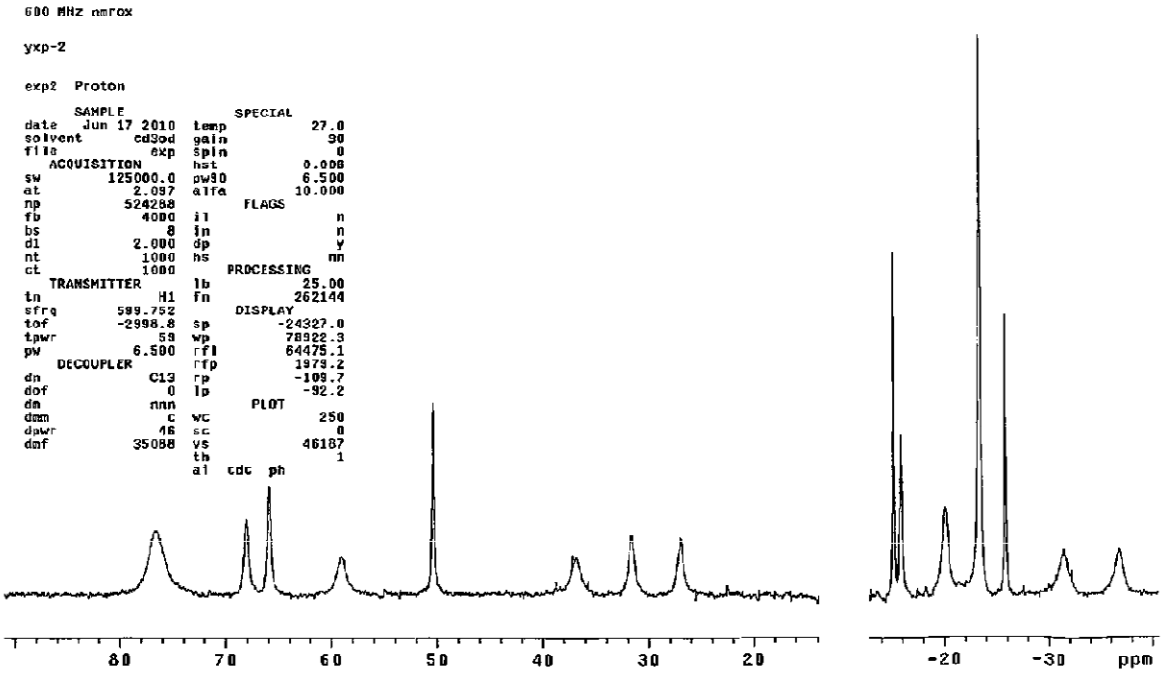

Figure S1. ^{1}H NMR spectrum of **2** in CD_3OD (600 MHz, 298 K). The peaks of solvent, H_2O and EtOH have been omitted for clarity.

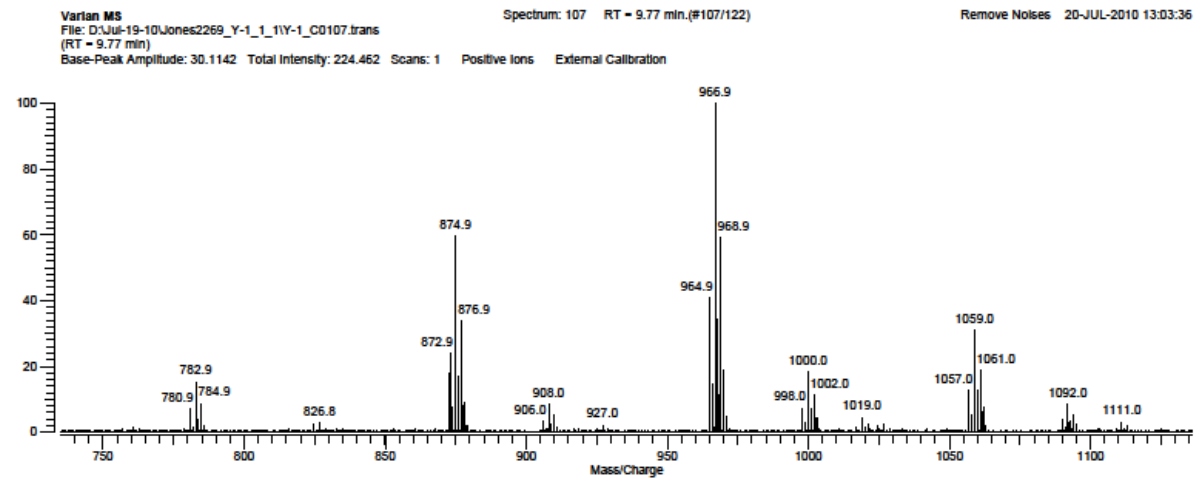

Figure S2. ESI HR-MS spectrum of **1**.

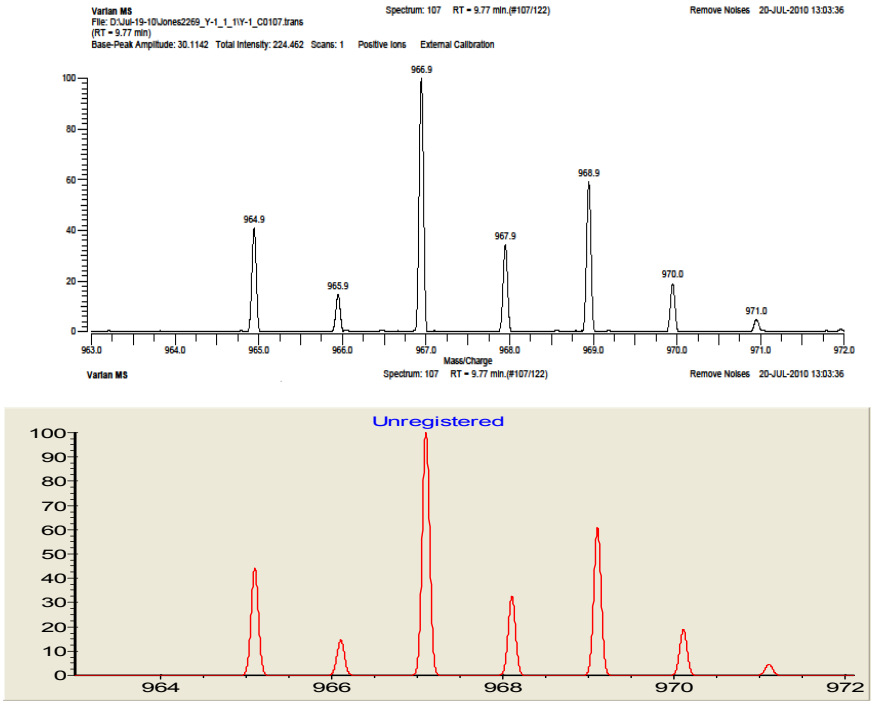

Figure S3. (a) Peaks for the species $[Eu_2(H_2L)(OAc)_4(H_2O)_3OH]^+$ ($Eu_2C_{28}H_{43}N_2O_{16}$); (b) Theoretical isotope distribution pattern for $[Eu_2C_{28}H_{43}N_2O_{16}]^+$.

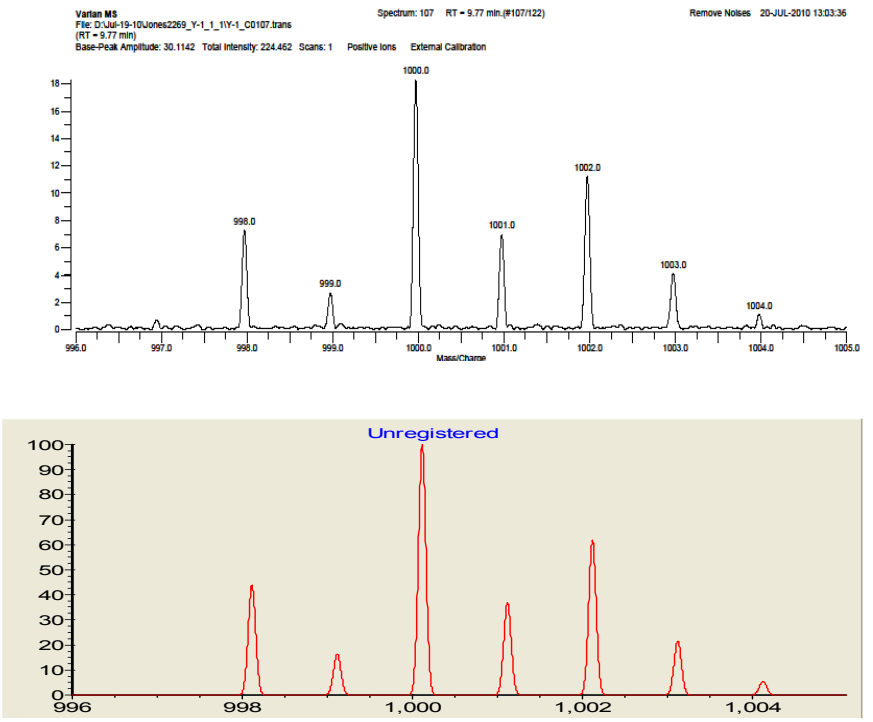

Figure S4. (a) Peaks for the species $[Eu_2(H_2L)(OAc)_5EtOH]^+$ ($Eu_2C_{32}H_{45}N_2O_{15}$); (b) Theoretical isotope distribution pattern for $[Eu_2C_{32}H_{45}N_2O_{15}]^+$.

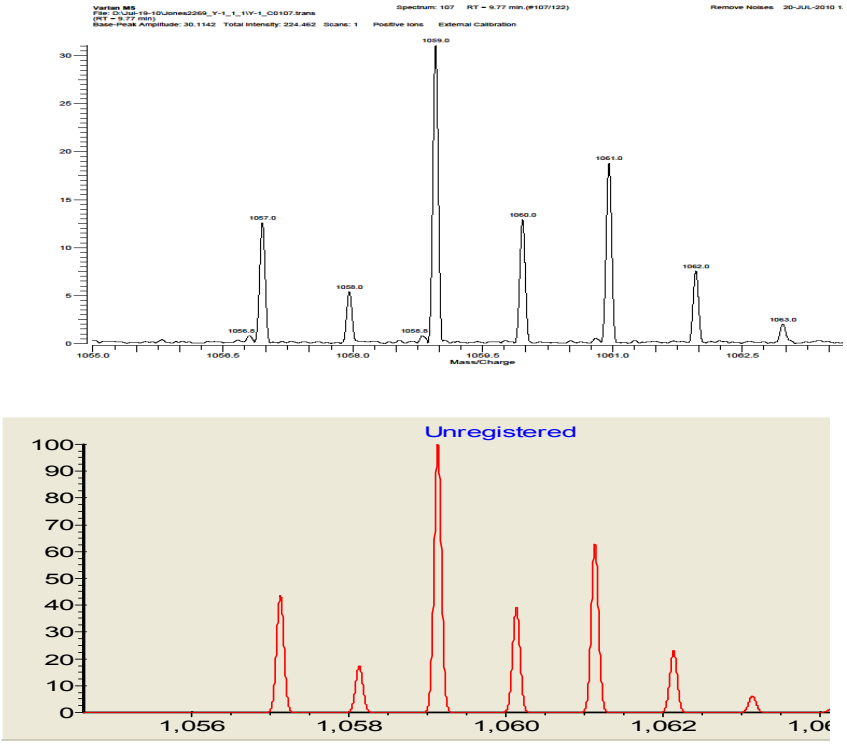

Figure S5. (a) Peaks for the species $[Eu_2(H_2L)(OAc)_6EtOH+H]^+$ ($Eu_2C_{34}H_{49}N_2O_{17}$); (b) Theoretical isotope distribution pattern for $[Eu_2C_{34}H_{49}N_2O_{17}]^+$.

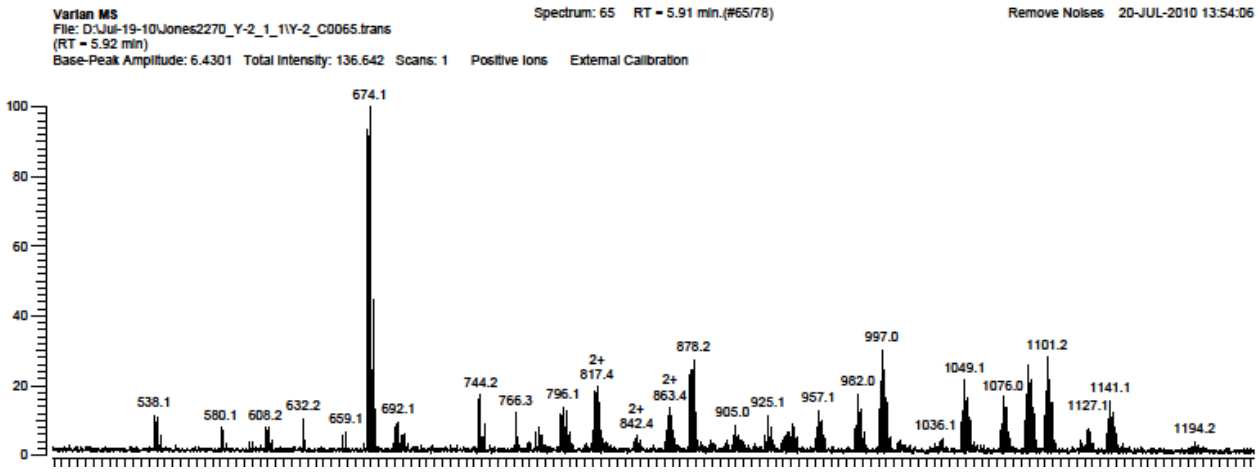

Figure S6. ESI HR-MS spectrum of **2**.

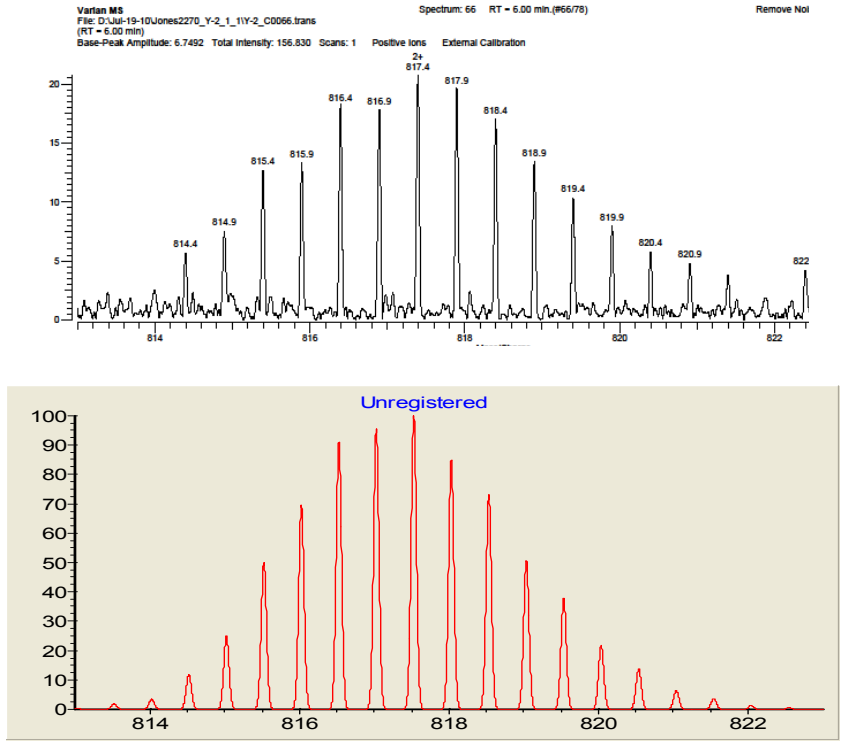

Figure S7. (a) Peaks for the species $[Er_4(H_2L)(OAc)_{10}H_2O]^{2+}$ ($Er_4C_{40}H_{56}N_2O_{25}$); (b) Theoretical isotope distribution pattern for $[Er_4C_{40}H_{56}N_2O_{25}]^{2+}$.

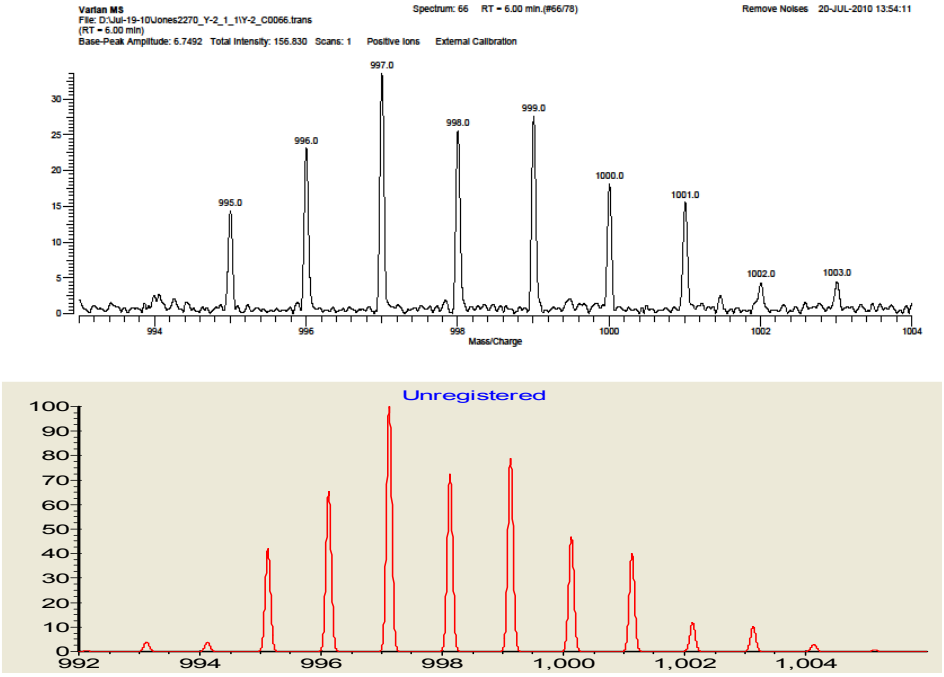

Figure S8. (a) Peaks for the species $[Er_2(H_2L)(OAc)_4(H_2O)_3OH]^{+}$ ($Er_2C_{28}H_{43}N_2O_{16}$); (b) Theoretical isotope distribution pattern for $[Er_2C_{28}H_{43}N_2O_{16}]^{+}$.

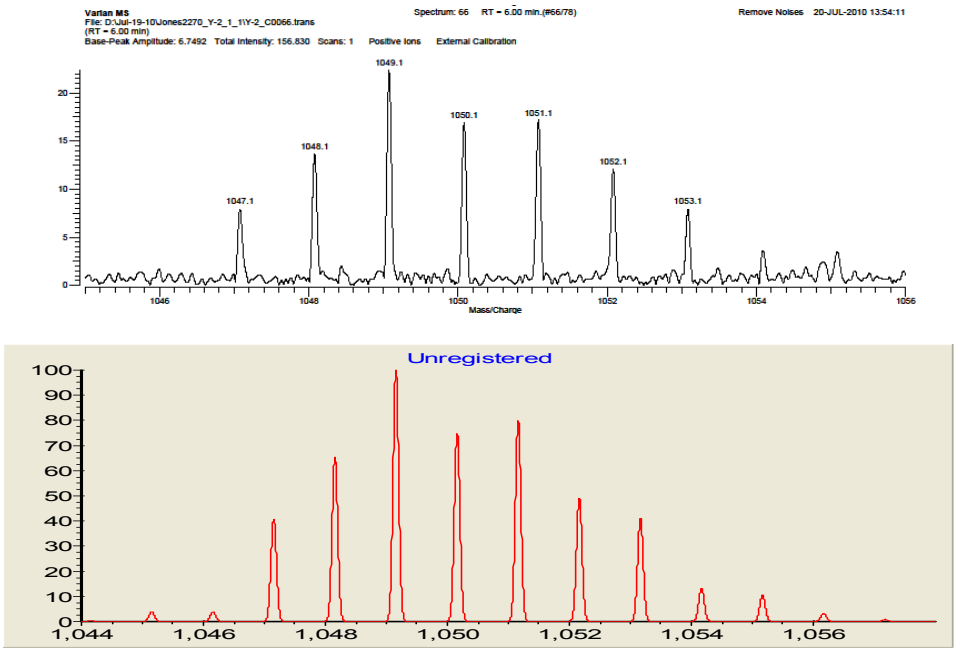

Figure S9. (a) Peaks for the species $[Er_2(H_2L)(OAc)_5(EtOH)H_2O)]^+$ ($Er_2C_{32}H_{47}N_2O_{16}$); (b) Theoretical isotope distribution pattern for $[Er_2C_{32}H_{47}N_2O_{16}]^+$.

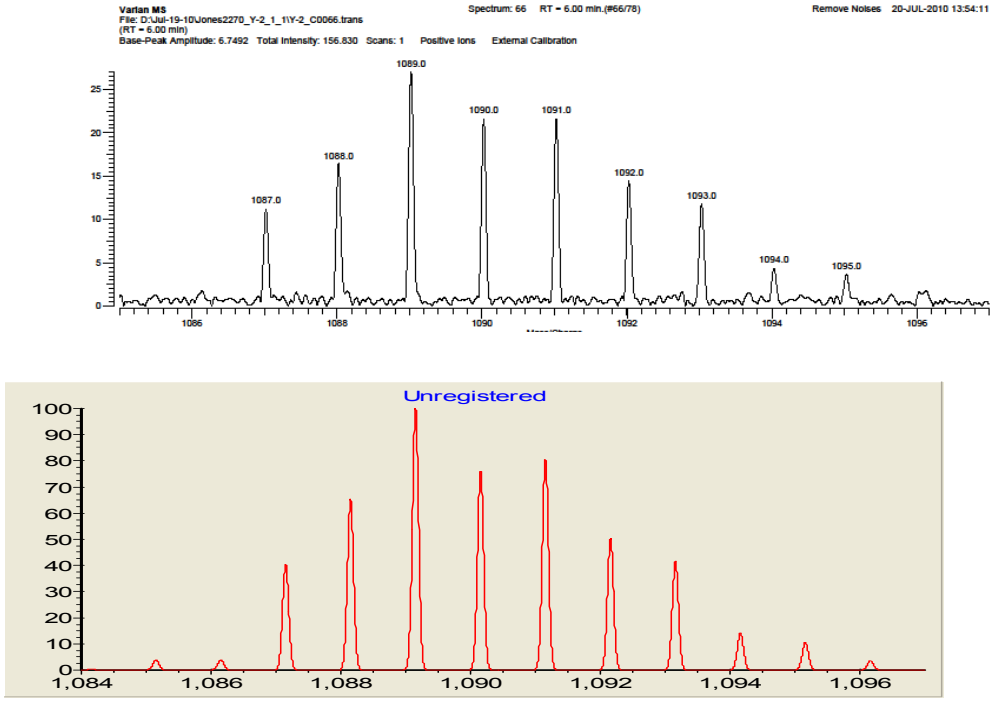

Figure S10. (a) Peaks for the species $[Er_2(H_2L)(OAc)_6EtOH+H]^+$ ($Er_2C_{34}H_{49}N_2O_{17}$); (b) Theoretical isotope distribution pattern for $[Er_2C_{34}H_{49}N_2O_{17}]^+$.

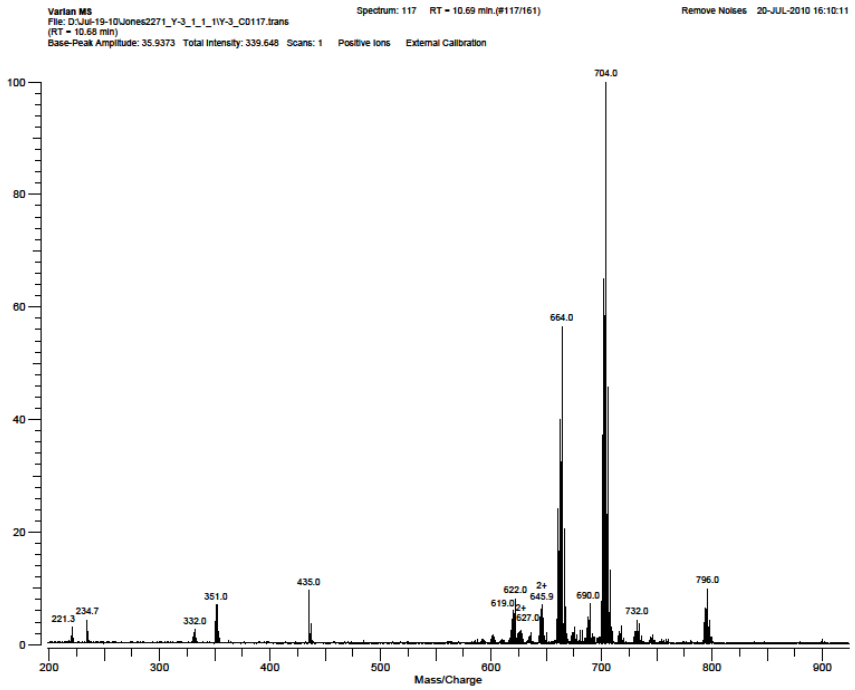

Figure S11. ESI HR-MS spectrum of **3**.

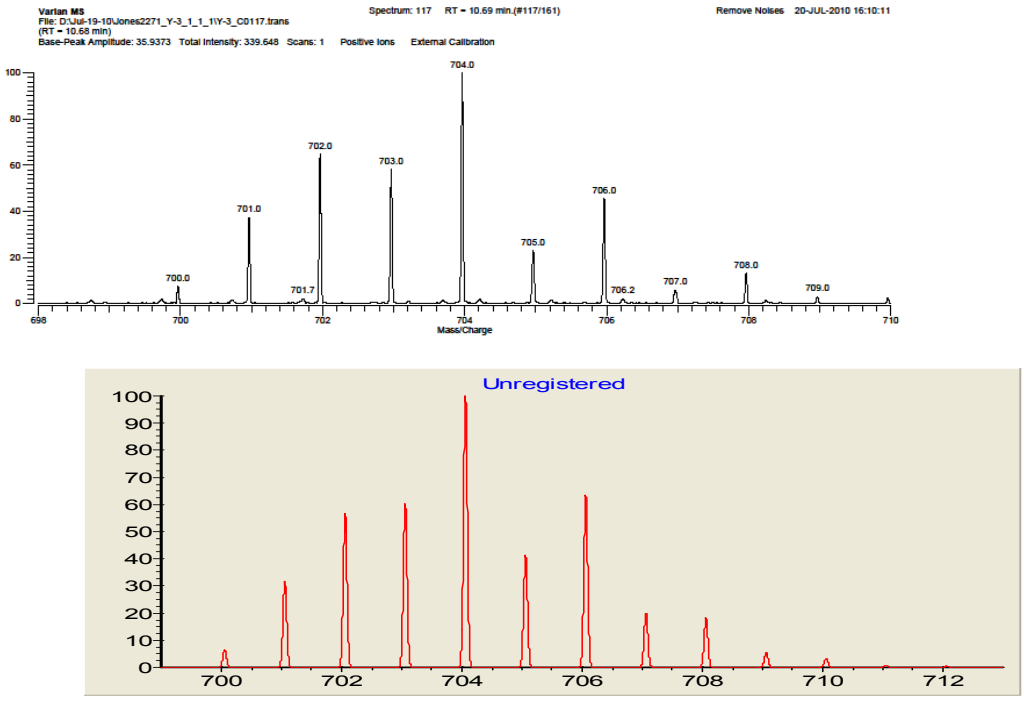

Figure S12. (a) Peaks for the species $[YbNiL(OAc)_2]^+$ ($YbNiC_{24}H_{28}N_2O_8$); (b) Theoretical isotope distribution pattern for $[YbNiC_{24}H_{28}N_2O_8]^+$.

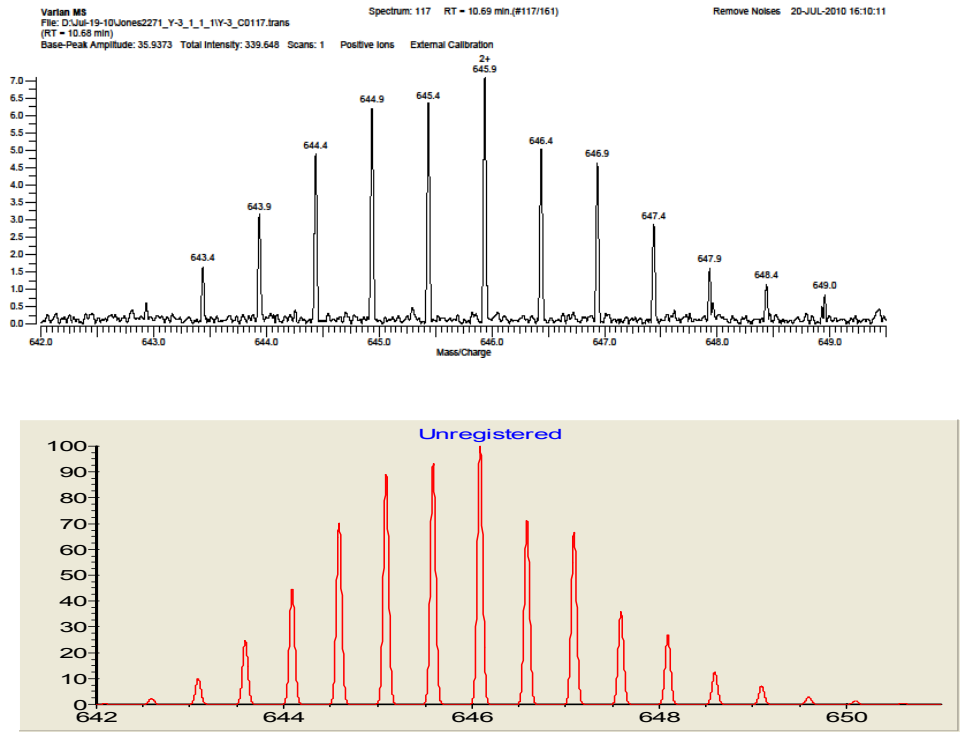

Figure S13. (a) Peaks for the species $[Yb_2NiL_2(OAc)_3+H]^{2+}$ ($Yb_2NiC_{46}H_{54}N_4O_{14}$); (b) Theoretical isotope distribution pattern for $[Yb_2NiC_{46}H_{54}N_4O_{14}]^{2+}$.

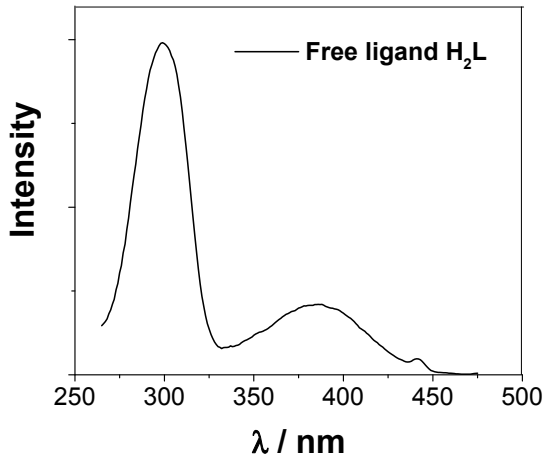

Figure S14. Excitation spectrum of the free ligand H_2L in CH_3CN.