1

Figure S1. ESI MS for $[Co(dmgBF_2)_2(H_2O)_2]$. Low resolution

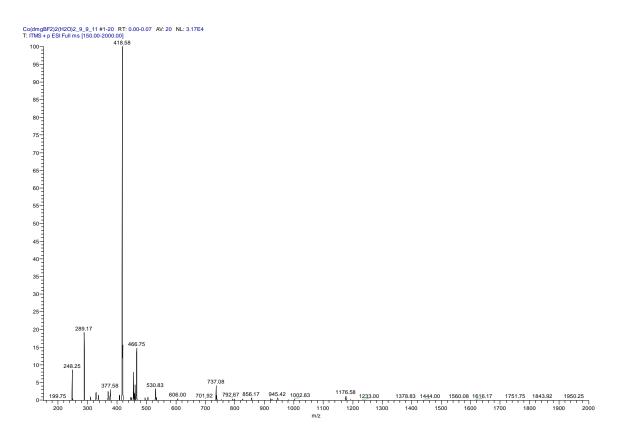
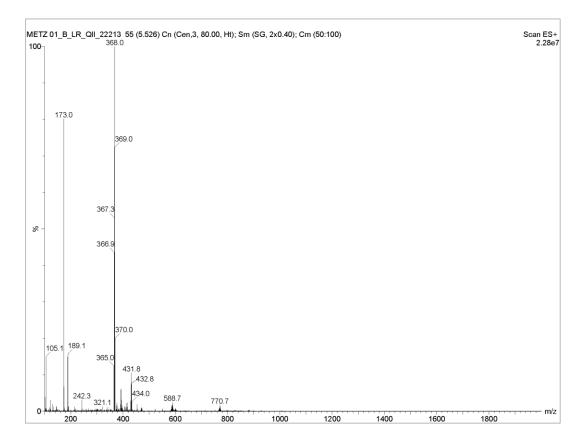
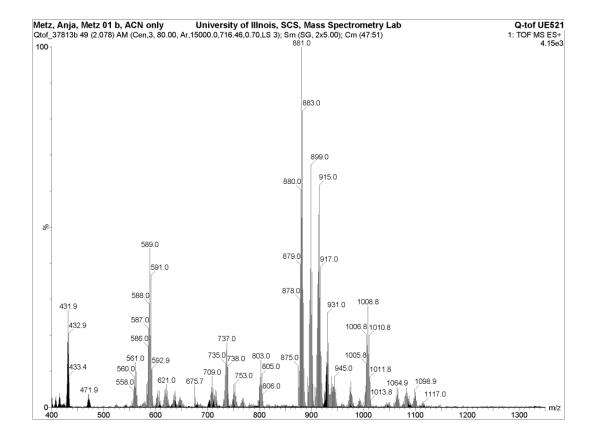


Figure S2. ESI MS for compound 4. Low resolution





High Resolution

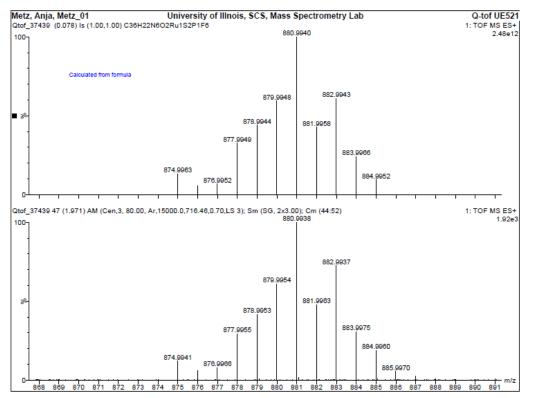
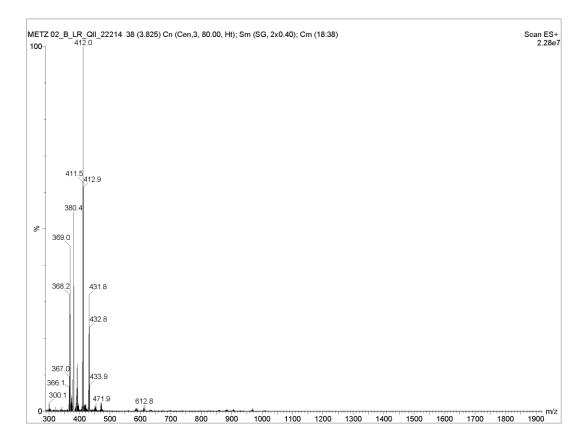
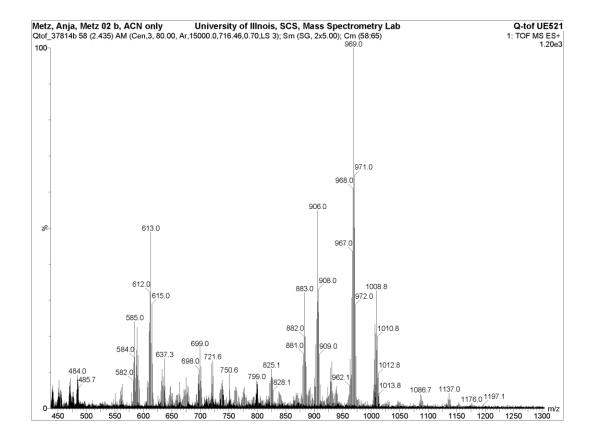


Figure S3. ESI MS for compound **5**. Low resolution





High resolution

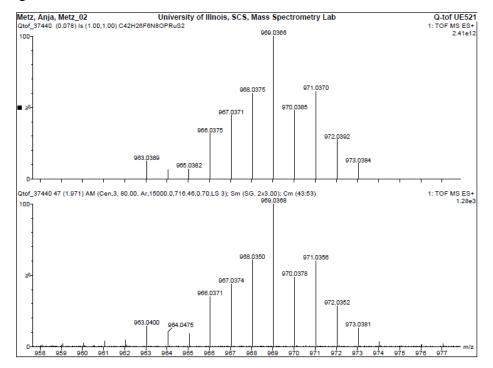
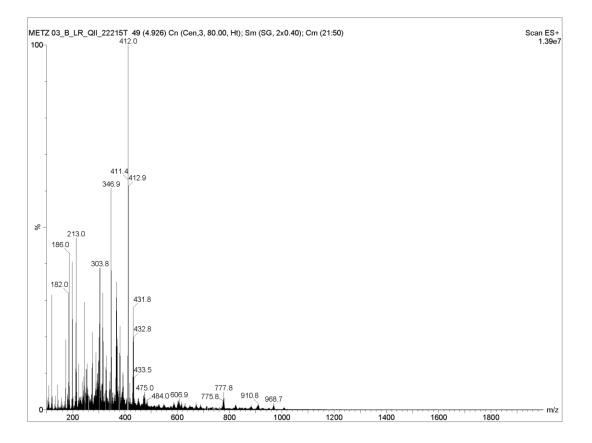
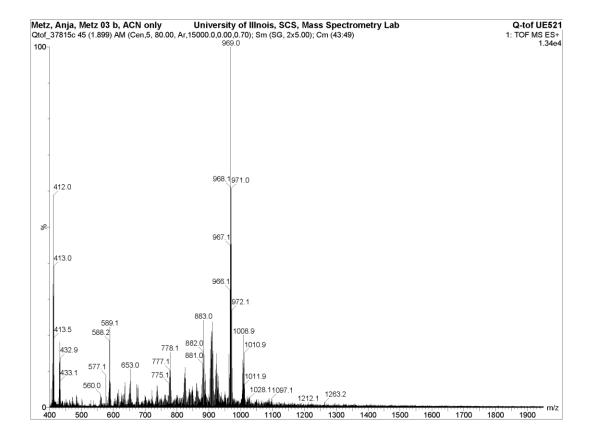
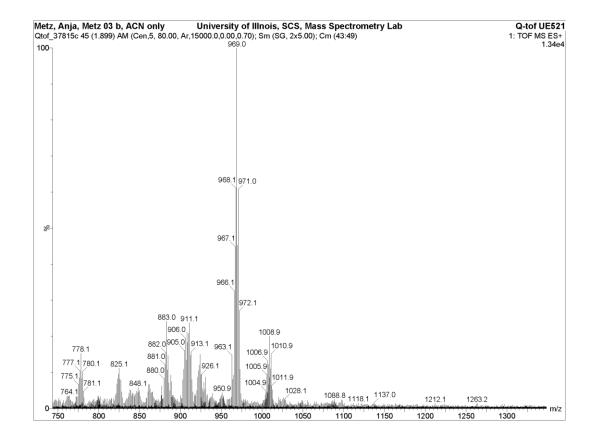


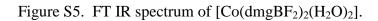
Figure S4. ESI MS for compound 6.

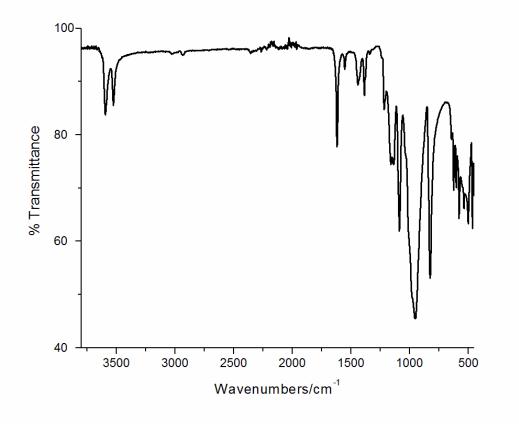
Low resolution

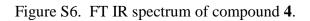


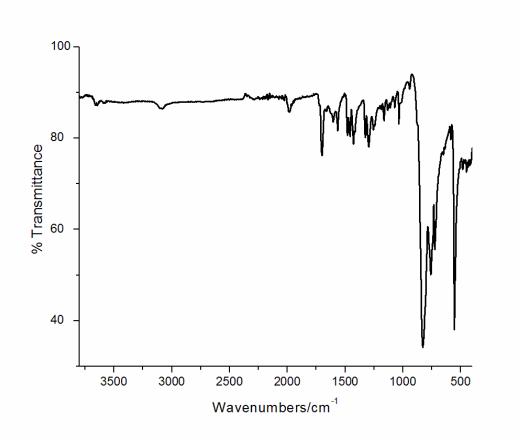


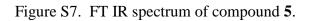


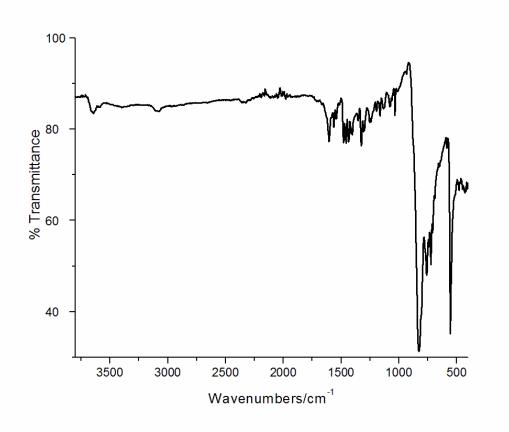


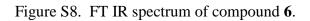












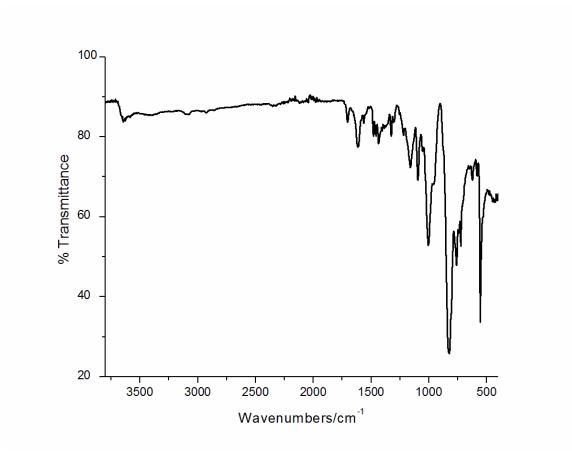
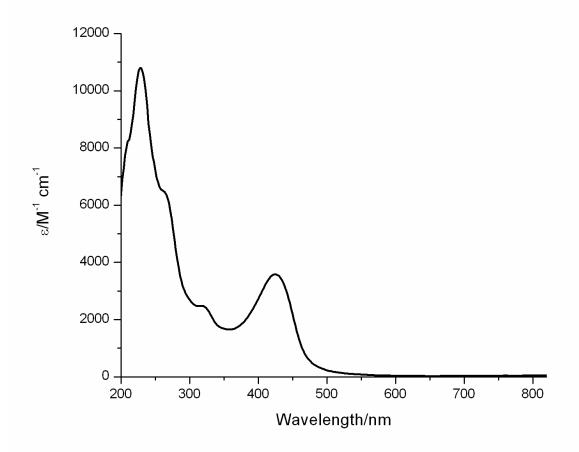


Figure S9. UV-visible spectra of dilute solutions of $[Co(dmgBF_2)_2(H_2O)_2]$, compounds 4, 5, and 6 in CH₃CN. (A) $[Co(dmgBF_2)_2(H_2O)_2]$



(B) Compounds 4, 5, and 6.

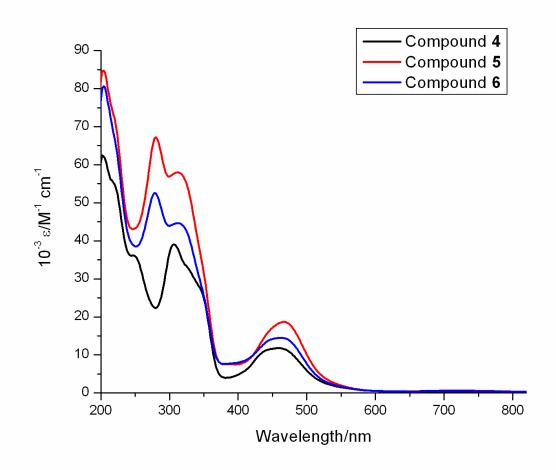


Figure S10. Q-band ESR spectra simulations of $[Co(dmgBF_2)_2(OH_2)_2]$ and compound **6** in DMSO at 100 K. Instrument settings were as follows: centre field = 11.5 kG, sweep width = 3500.00 G, microwave frequency = 34.06 GHz, microwave power = 2.00 mW, modulation frequency = 100 kHz, and modulation amplitude = 10.0 G.

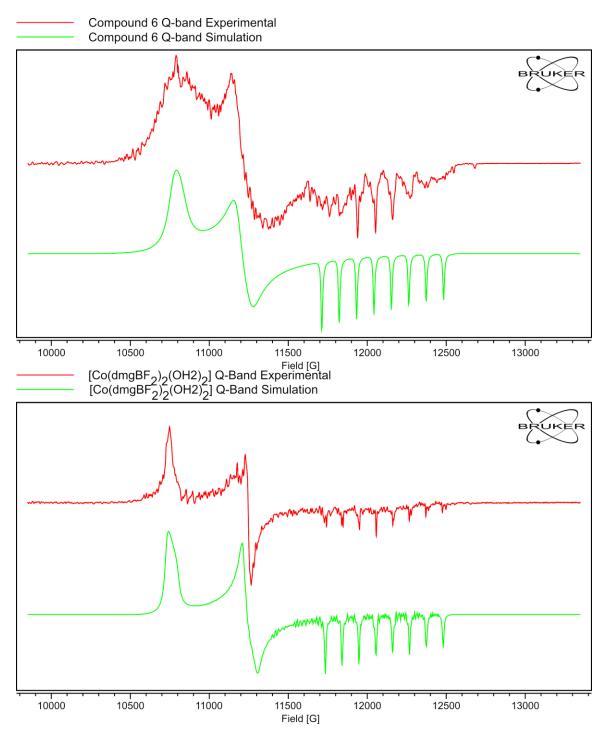


Figure S11. An X-band ESR spectrum and simulation of compound **8** in DMSO at 101 K. Instrument settings were as follows: centre field = 3200.00 G, sweep width = 1500.00 G, static field = 2450 G, microwave frequency = 9.46 GHz, microwave power = 0.22 mW, receiver gain = 5.02×10^4 , modulation frequency = 100 kHz, modulation amplitude = 2.00 G, modulation phase = 0° , time constant = 40.96 ms, conversion time = 40.00 ms, and sweep time = 96.00 s.

