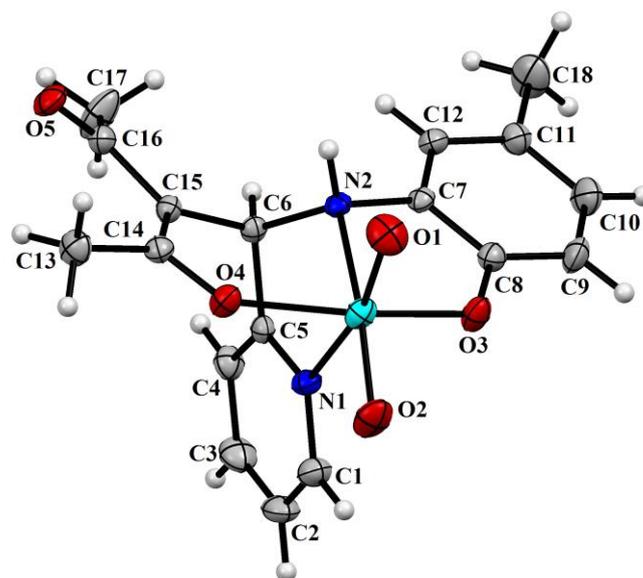
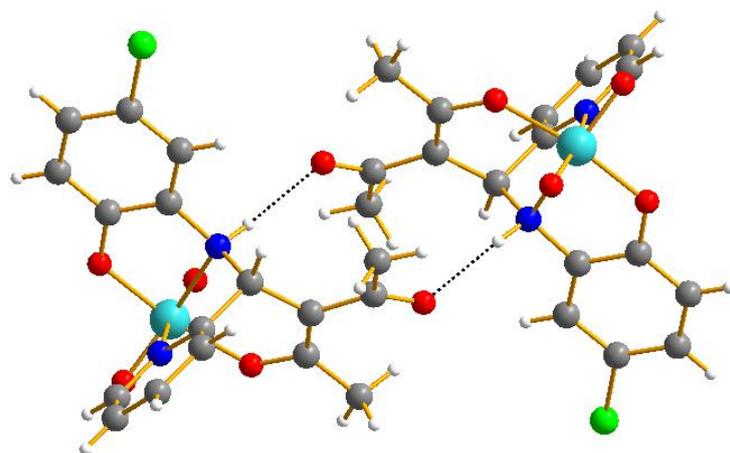


(a)

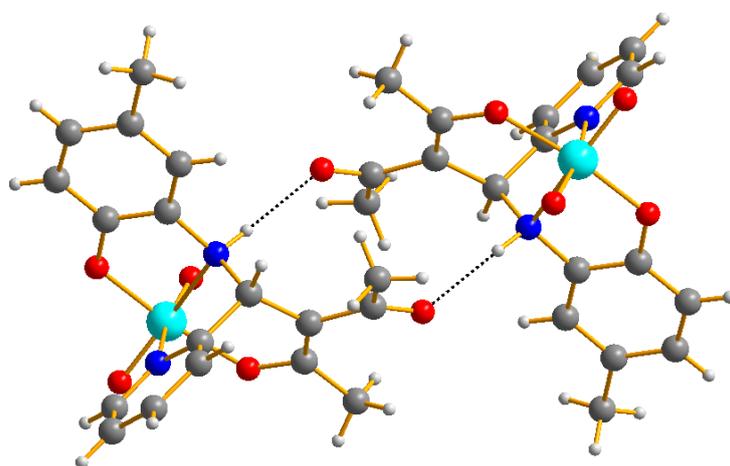


(b)

Fig. S1 X-ray molecular structures of (a) *cis*-[MoO₂(acacL³)] (3) and (b) *cis*-[MoO₂(acacL⁴)] (4) with the atom labeling schemes. In both structures, thermal ellipsoids of all non-hydrogen atoms are drawn at the 30% probability level.



(a)



(b)

Fig. S2 Centrosymmetric N–H···O hydrogen bonded dimers of (a) *cis*-[MoO₂(acacL³)] (**3**) and (b) *cis*-[MoO₂(acacL⁴)] (**4**).

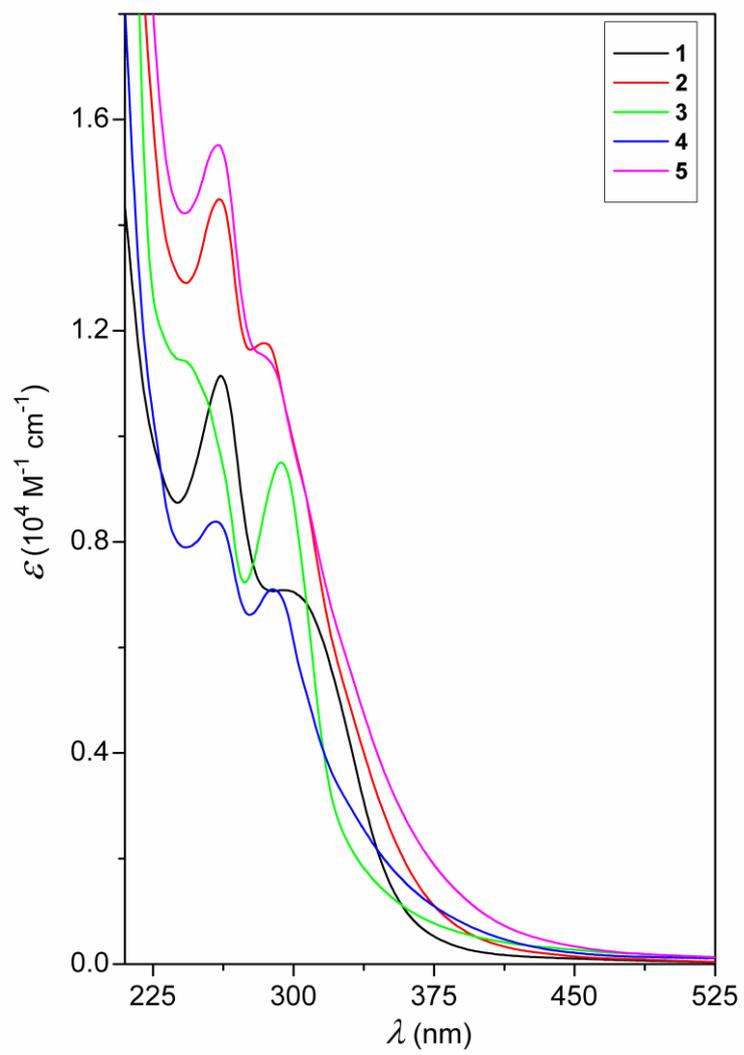


Fig. S3 Electronic spectra of **1–5** in methanol.

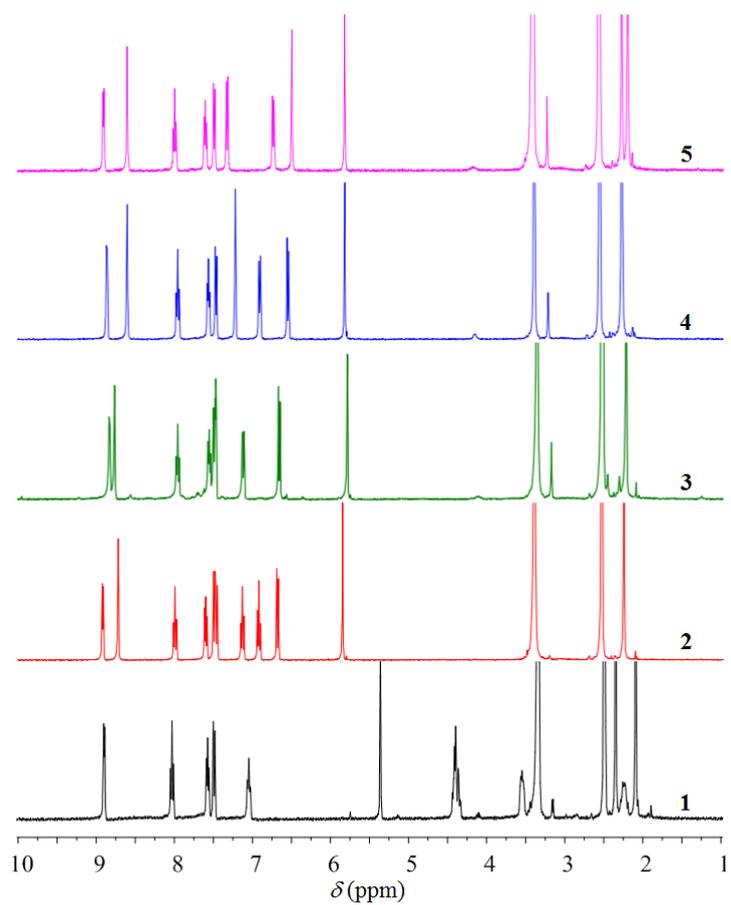


Fig. S4 ^1H NMR spectra of **1–5** in dimethylsulfoxide- d_6 .

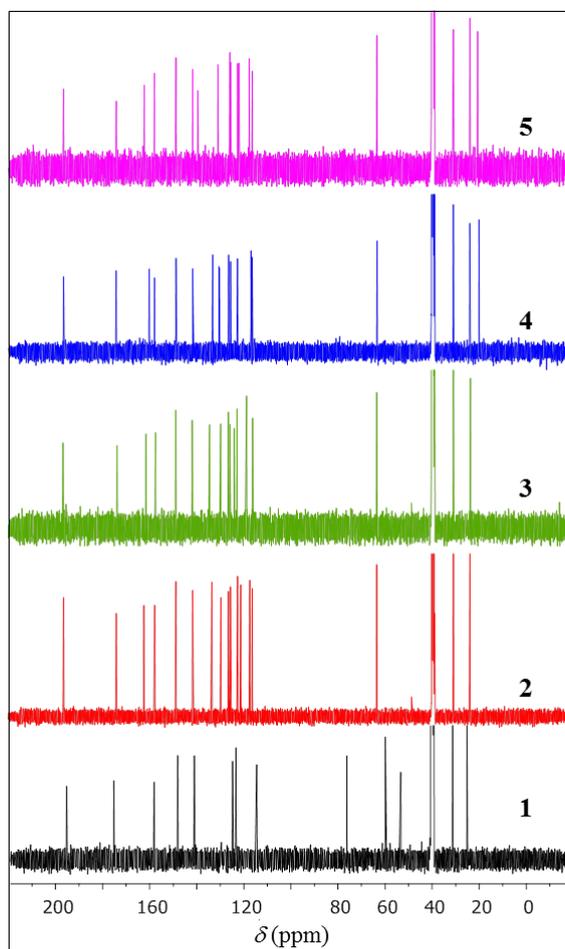


Fig. S5 ^{13}C NMR spectra of **1–5** in dimethylsulfoxide- d_6 .