Fig. s1 the coordination spheres of Cu(1) and Cu(2) in compound 1.

Fig. s2 the coordination spheres of Cu(1), Cu(2) and Cu(3) in compound 2.
Fig. s3 IR spectra of compounds 1-4.

Fig. s4 TG curves of compounds 1-4.
Fig. s5. XRD patterns of compounds 1-4.

Fig. s6 UV spectra of compounds 1-4.
Fig. s7  solid state UV-Vis spectra of compounds 1-4.
Fig. S8 photoluminescent properties of 2-aminopyridine, 4,4'-bpy, Phen and compounds 1-4.
Fig. s9 Solid state photoluminescent properties of compounds 1-4.

Fig. s10 cyclic voltammograms of DMSO solutions of compounds 1-4.
Fig. s11 cyclic voltammograms of CPEs of compounds 1-4.