# Supplementary Material

# DNA binding studies of platinum(II) and palladium(II) complexes with planar tridentate 2,6-bis(*N*-substituted-benzimidazol-2-yl)pyridine ligands

**Fig S1.** Mass spectrum of 2,6-bis(NH-benzimidazol-2-yl)pyridine, **L-H**

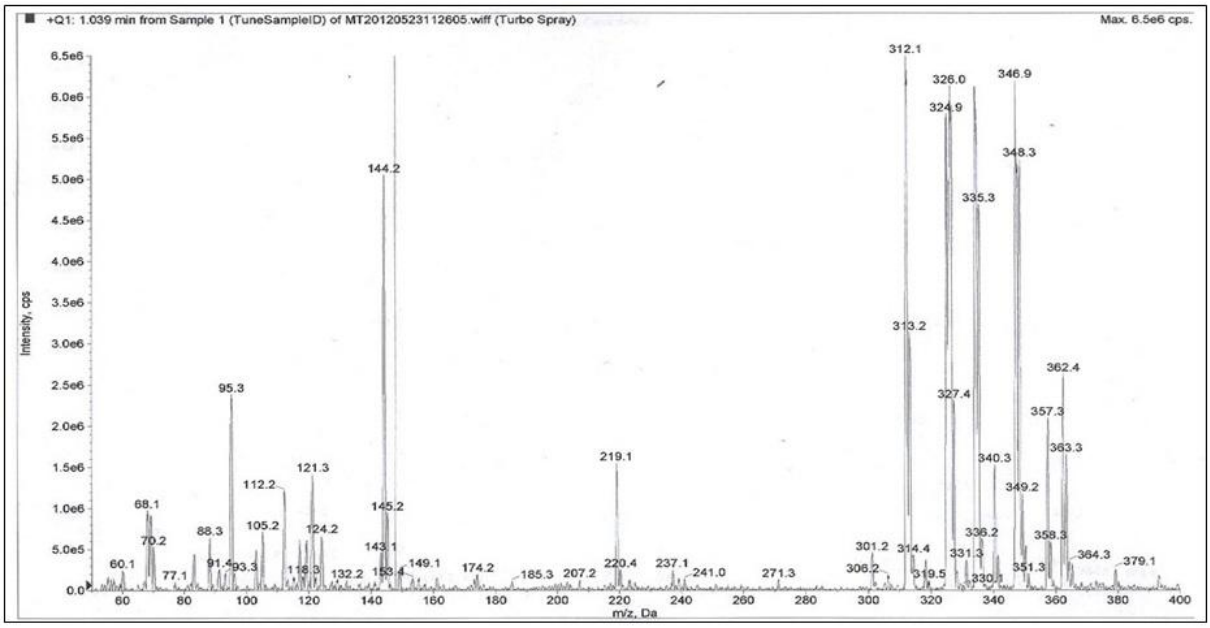

**Fig S2.** $^{1}$H-NMR spectrum of 2,6-bis(NH-benzimidazol-2-yl)pyridine, **L-H**

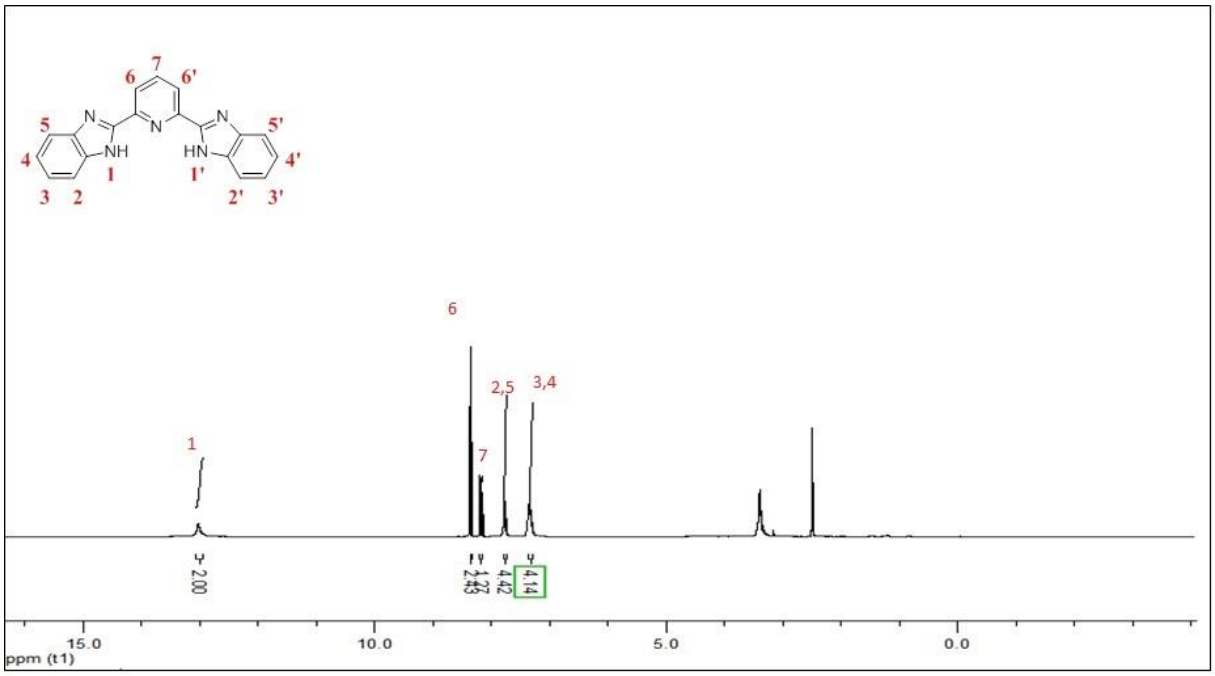

**Fig S3.** FT-IR spectrum of 2,6-bis(NH-benzimidazol-2-yl)pyridine, **L-H**

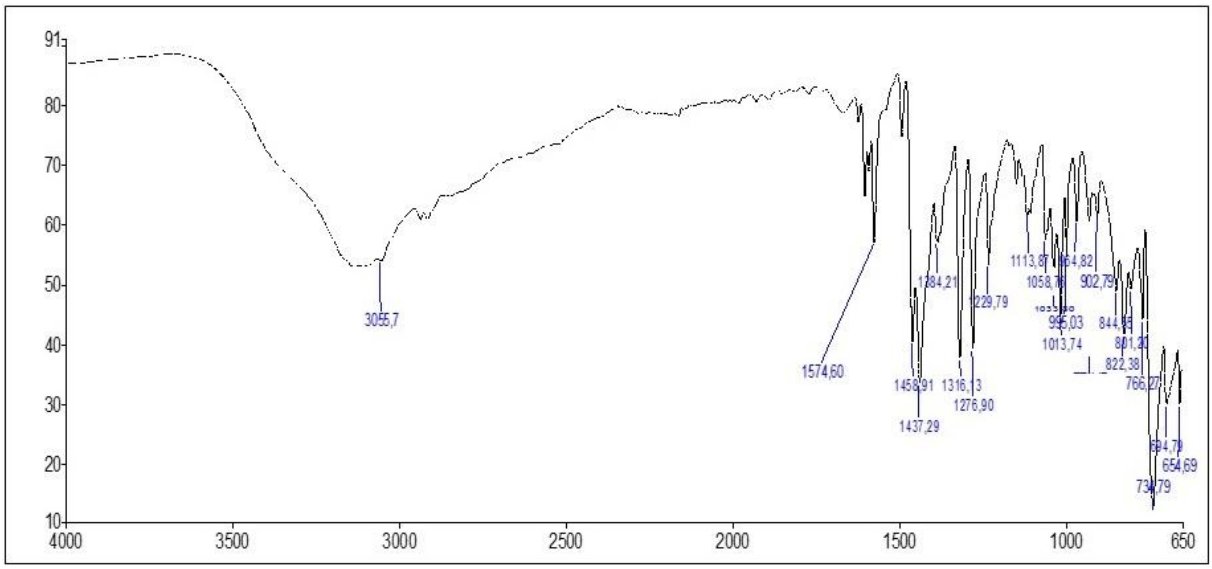

**Fig S4.** Mass spectrum of 2,6-bis(N-methyl-benzimidazol-2-yl)pyridine, **L-Me**

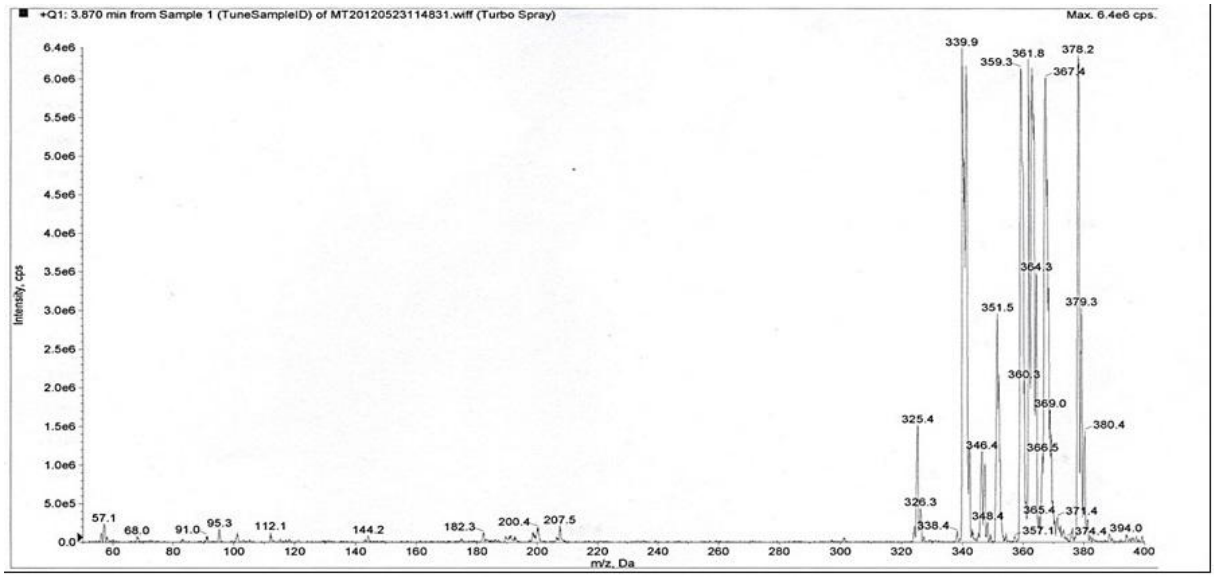

**Fig S5.** [1]H-NMR spectrum of 2,6-bis(N-methyl-benzimidazol-2-yl)pyridine, **L-Me**

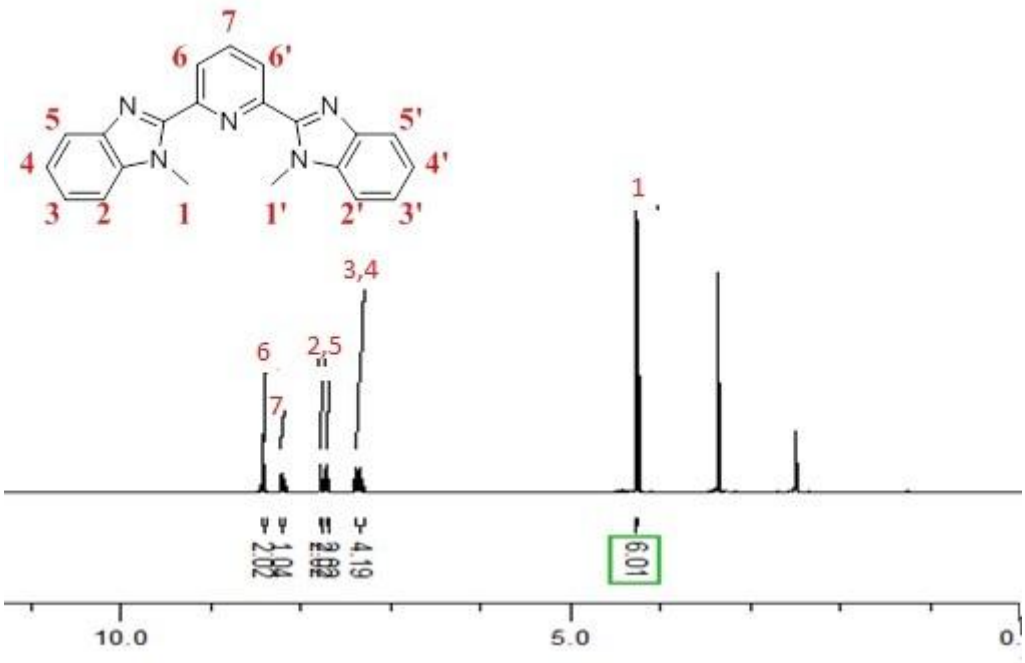

**Fig S6.** FT-IR spectrum of 2,6-bis(N-methyl-benzimidazol-2-yl)pyridine, **L-Me**

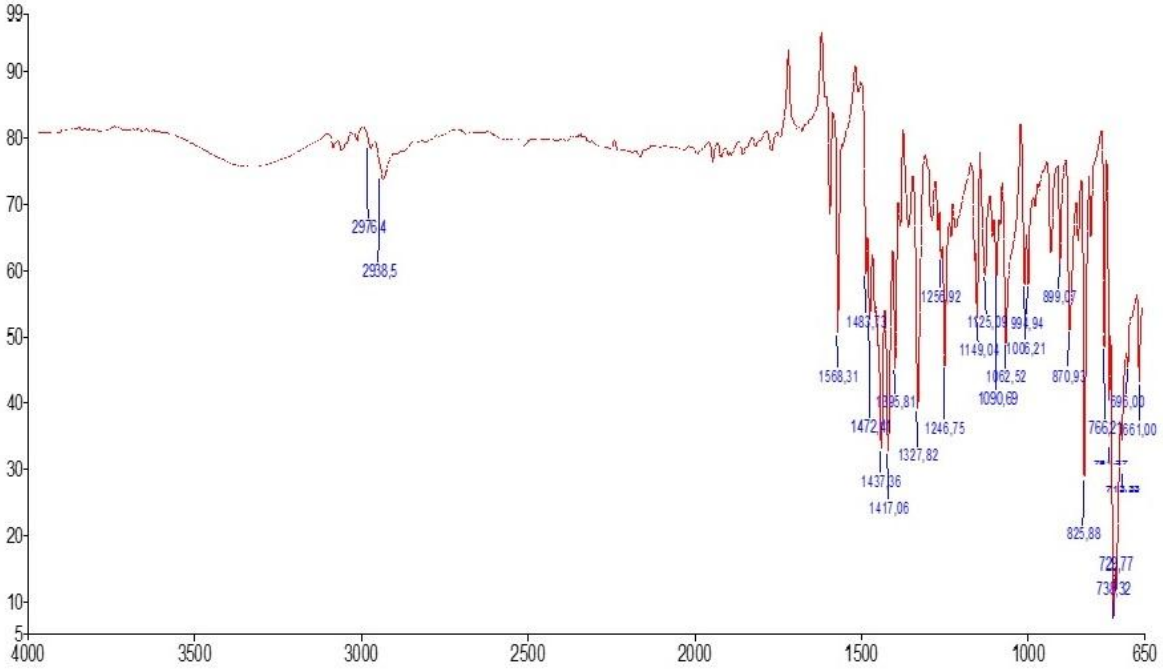

**Fig S7.** Mass spectrum of [Pt(L-H)Cl]Cl·2$H_2O$ (1)

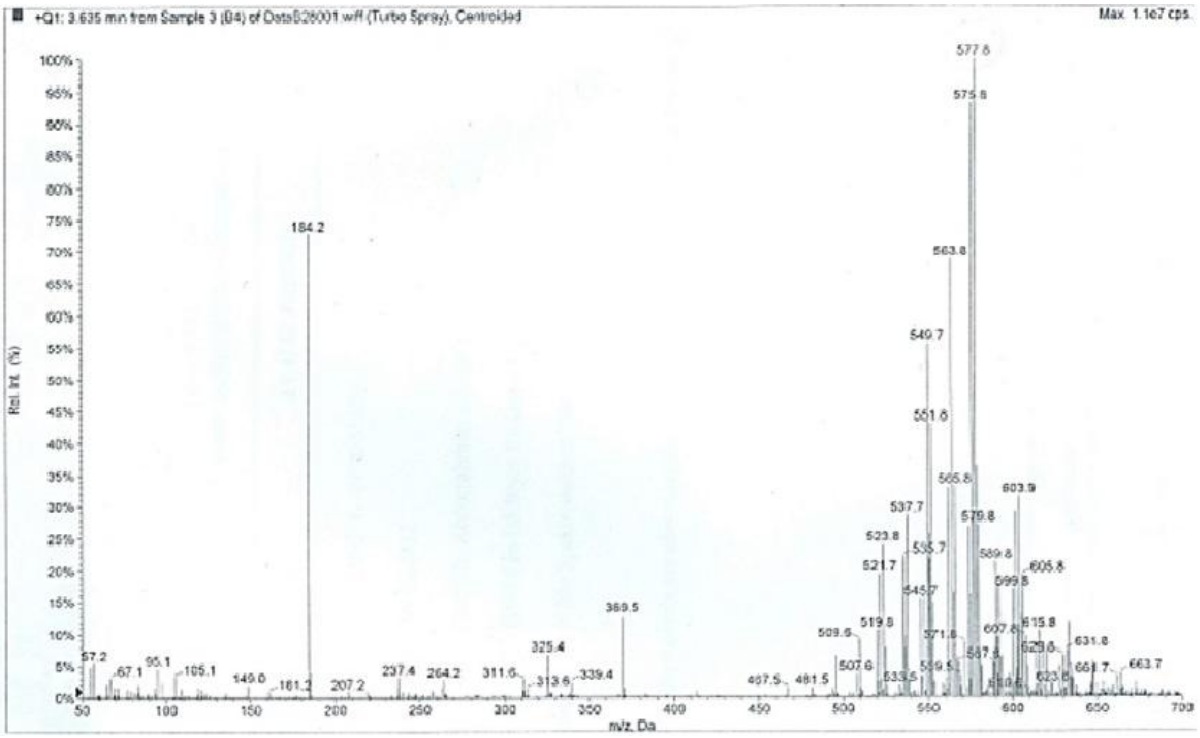

**Fig S8.** $^{1}$H-NMR spectrum of [Pt(L-H)Cl]Cl·2$H_2O$ (**1**)

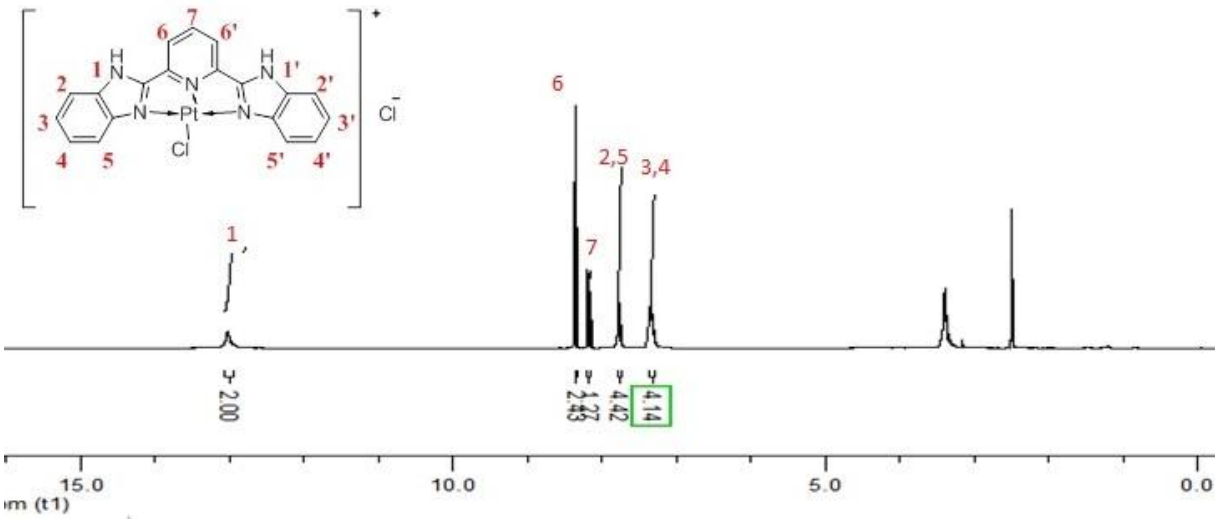

**Fig S9.** FT-IR spectrum of [Pt(L-H)Cl]Cl·2$H_2O$ (**1**)

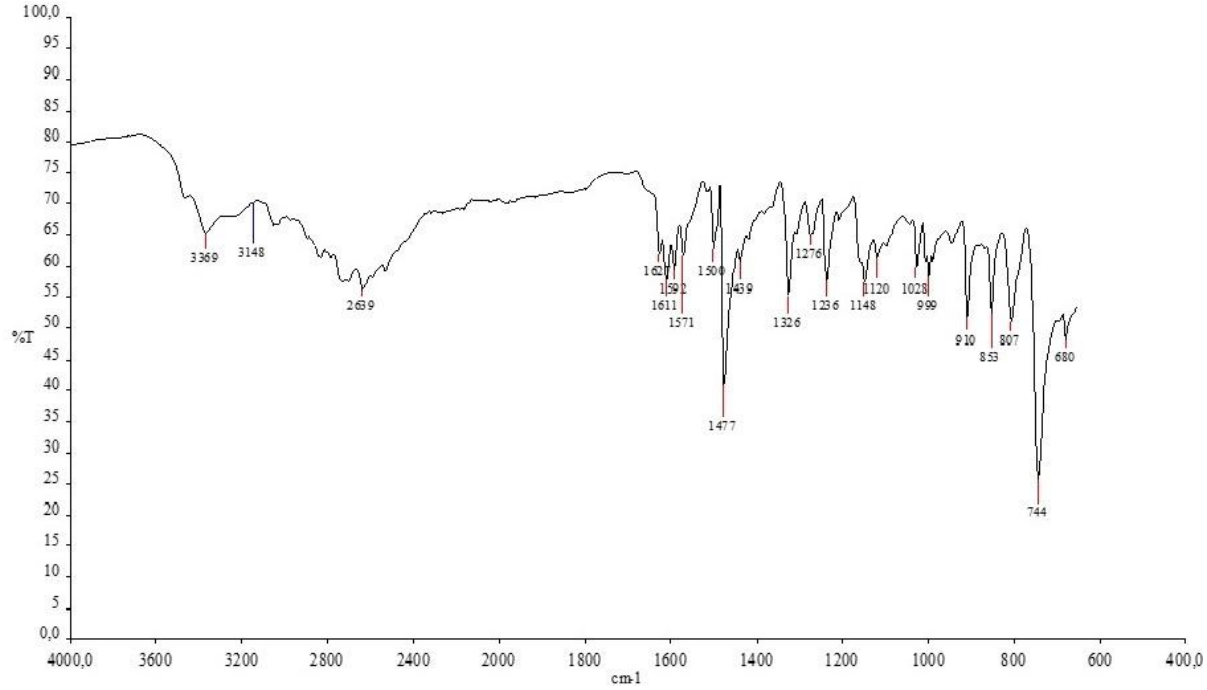

**Fig S10.** Mass spectrum of [Pd(L-H)Cl]Cl·2$H_2O$ (**2**)

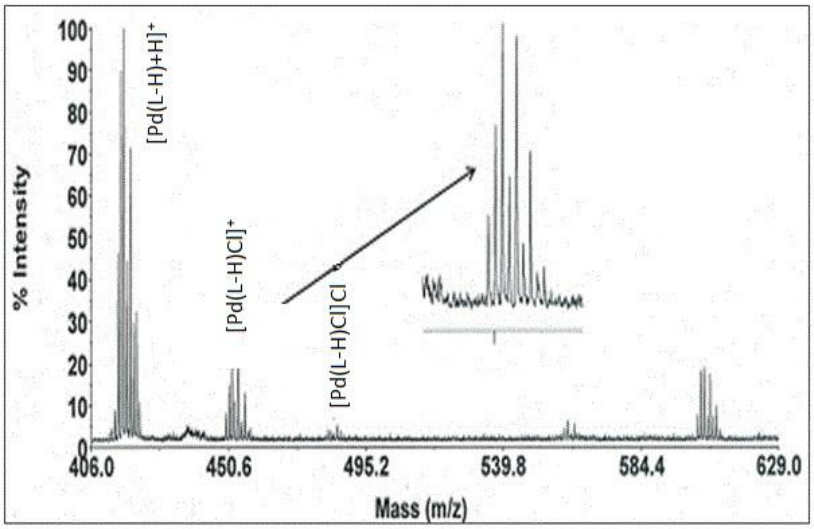

**Fig S11.** $^{1}$H-NMR spectrum of [Pd(L-H)Cl]Cl·2$H_2O$ (**2**)

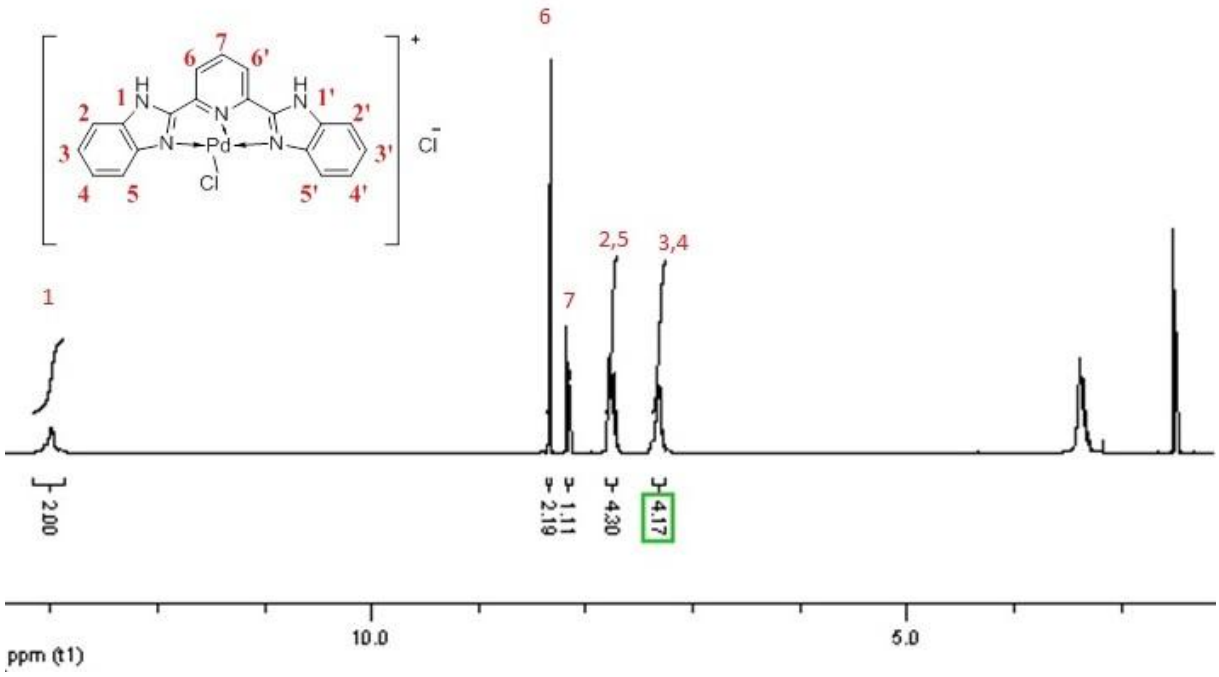

**Fig S12.** FT-IR spectrum of [Pd(L-H)Cl]Cl·2$H_2O$ (**2**)

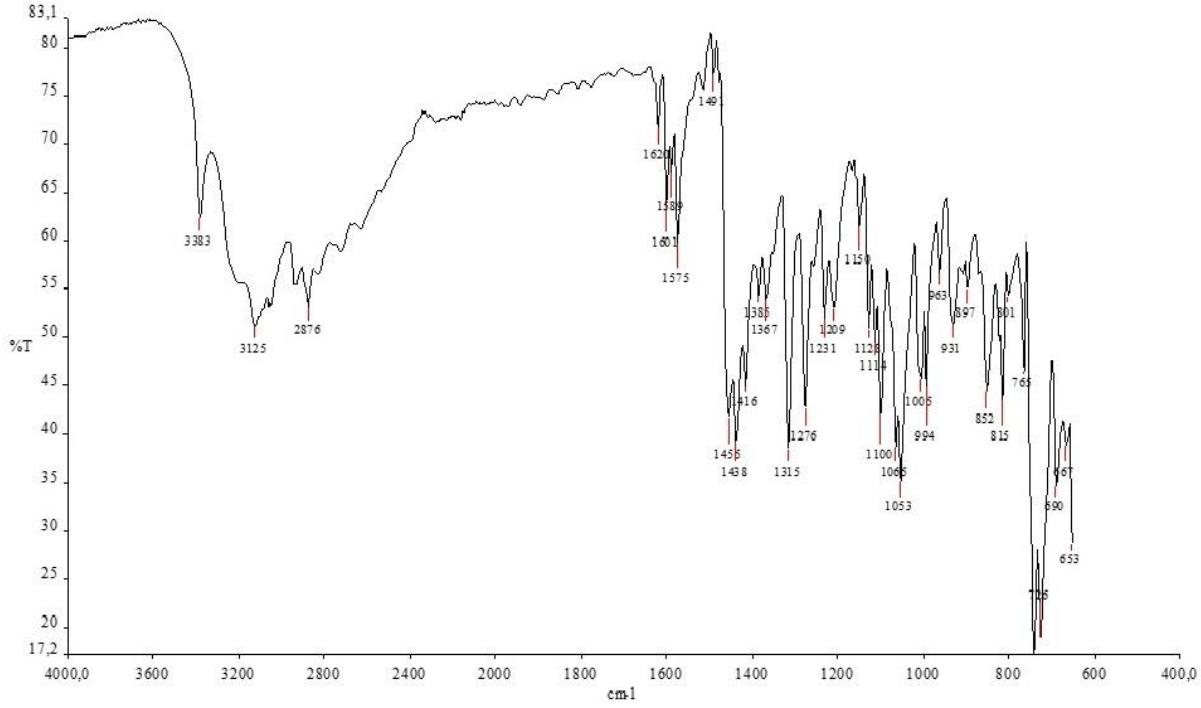

**Fig S13.** Mass spectrum of [Pt(L-Me)Cl]Cl·$CH_3OH$ (**3**)

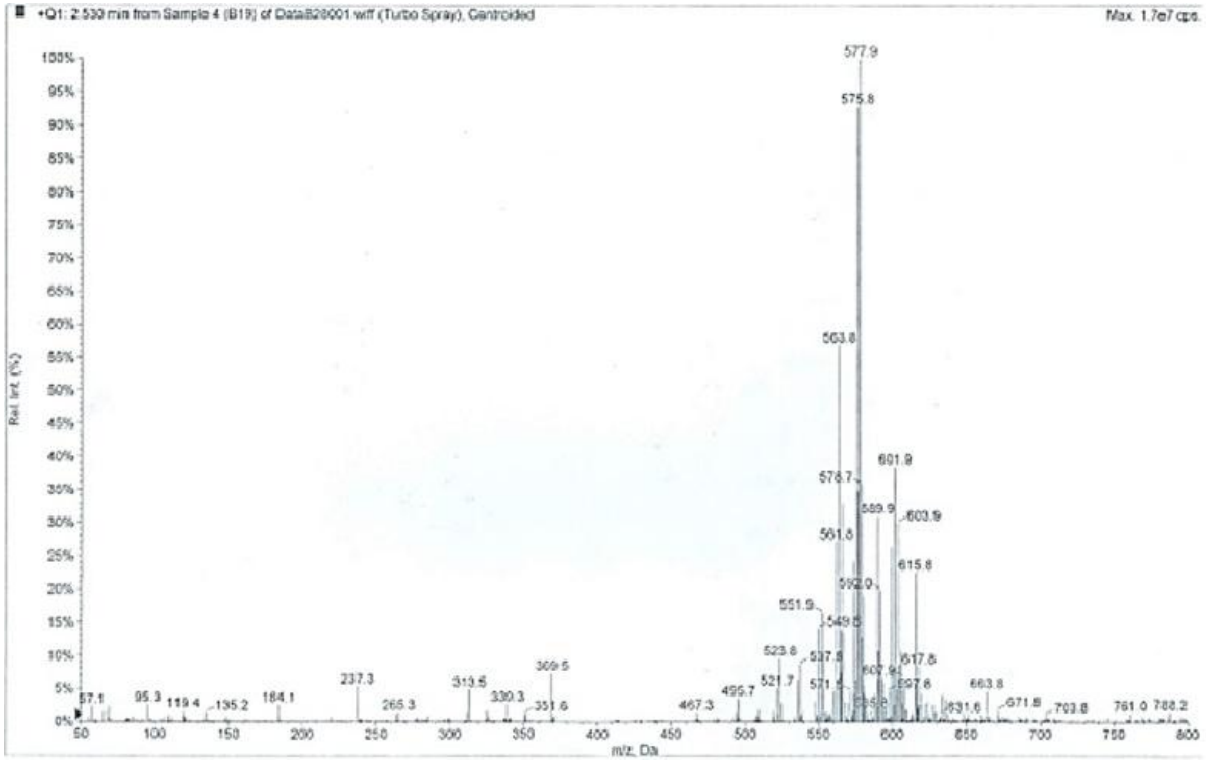

**Fig S14.** $^{1}$H-NMR spectrum of [Pt(L-Me)Cl]Cl·$CH_3OH$ (**3**)

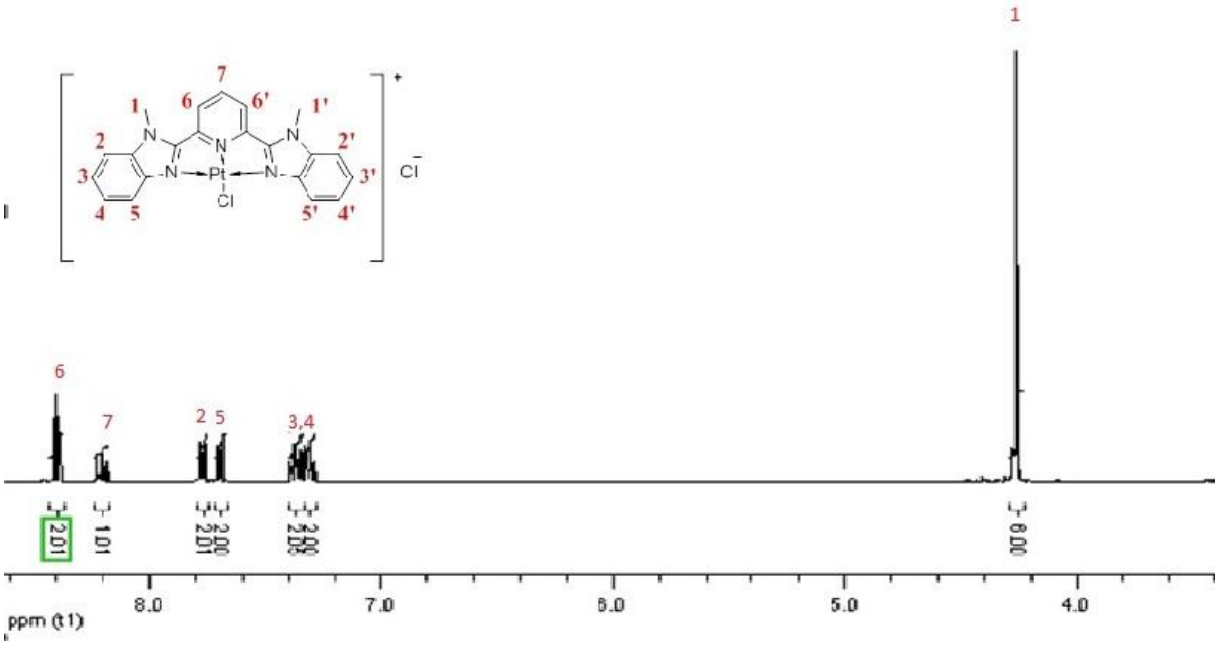

**Fig S15.** FT-IR spectrum of [Pt(L-Me)Cl]Cl·$CH_3OH$ (**3**)

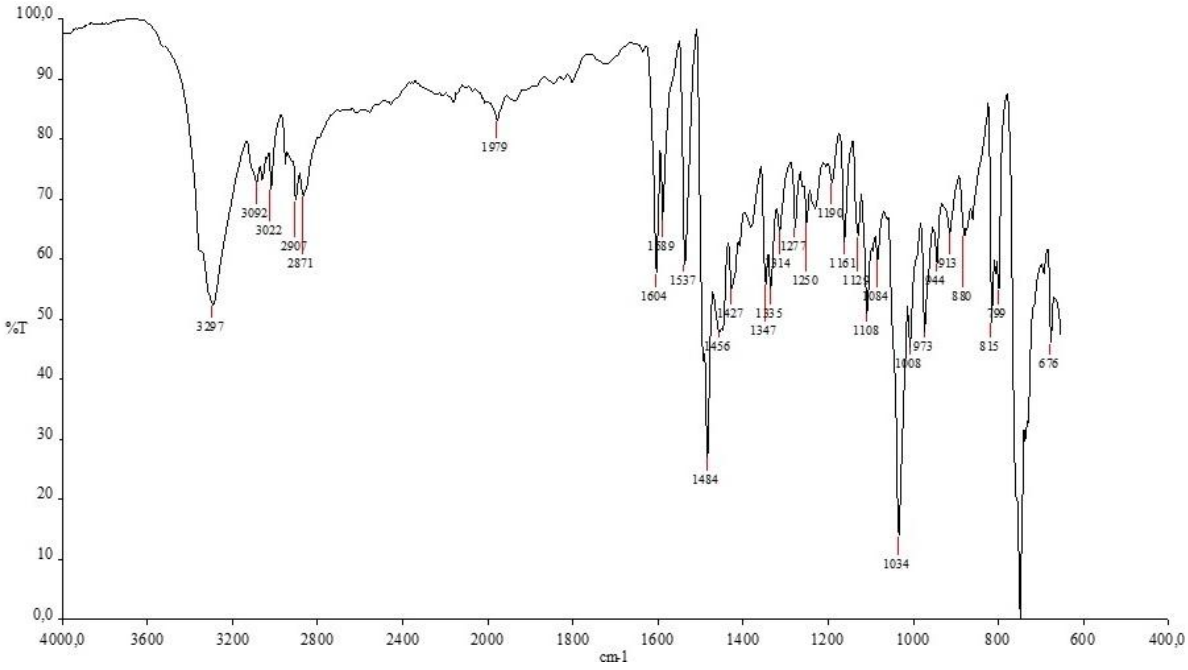

**Fig S16.** Mass spectrum of [Pd(L-Me)Cl]Cl·2$H_2O$ (**4**)

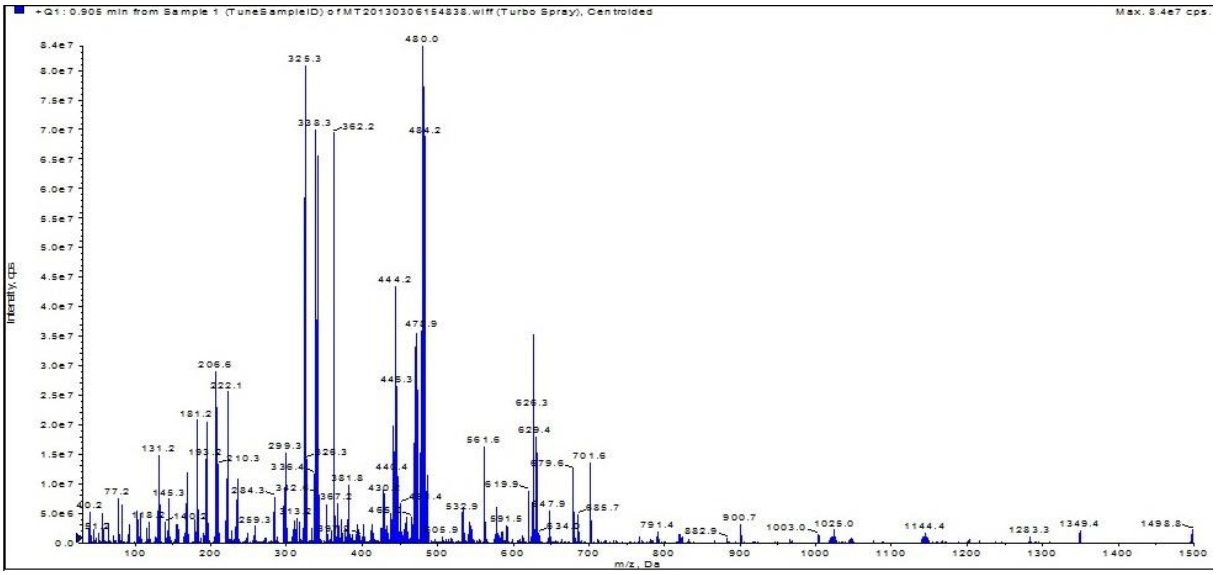

**Fig S17.** $^{1}$H-NMR spectrum of [Pd(L-Me)Cl]Cl·2$H_2O$ (**4**)

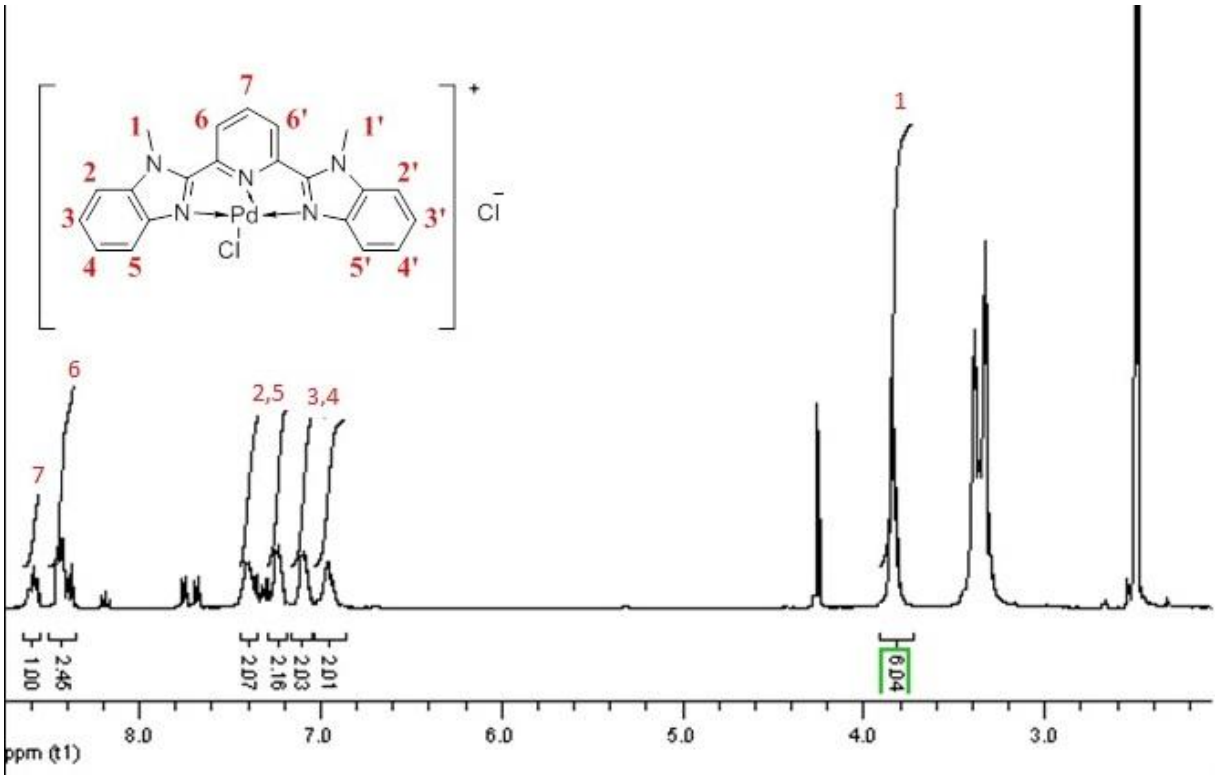

**Fig S18.** FT-IR spectrum of [Pd(L-Me)Cl]Cl·2$H_2O$ (**4**)

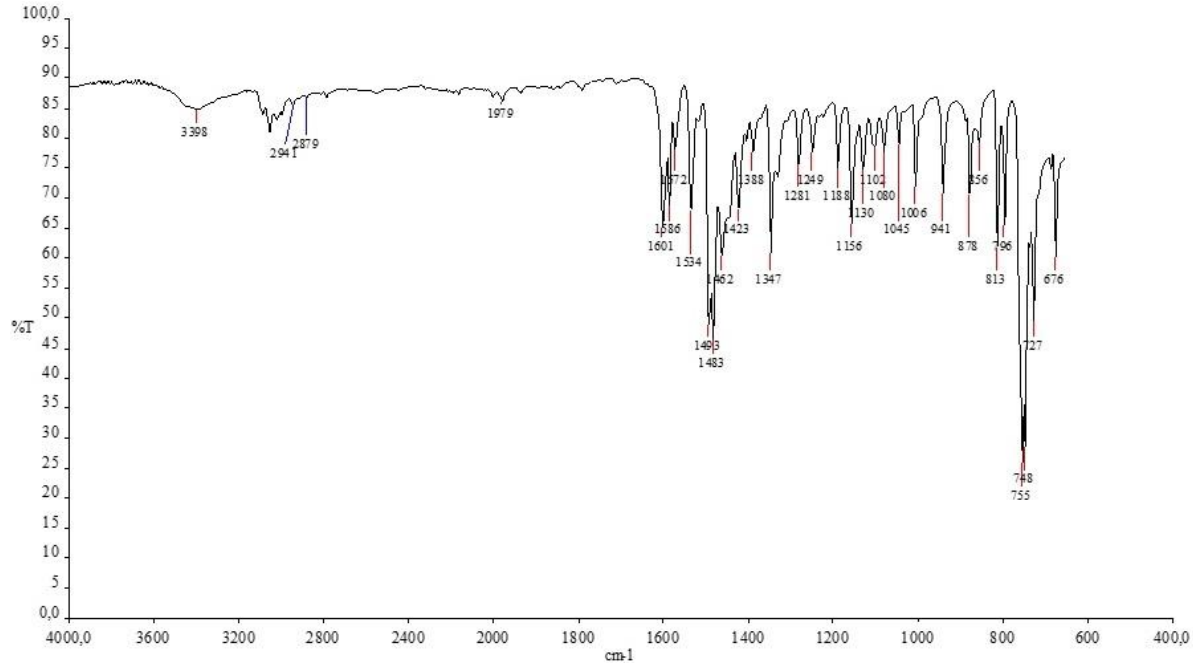

**Fig S19.** Emission spectra of complexes (**1**-**4** in a-d, respectively) (10 μM) in ammonium acetate buffer at 25 °C in the presence of 0–20 μM calf thymus DNA. The intensitiesincrease with increasing DNA concentration. The complexes were excited between 330 and 400 nm, respectively; the emission spectra were monitored at650 and 770 nm.

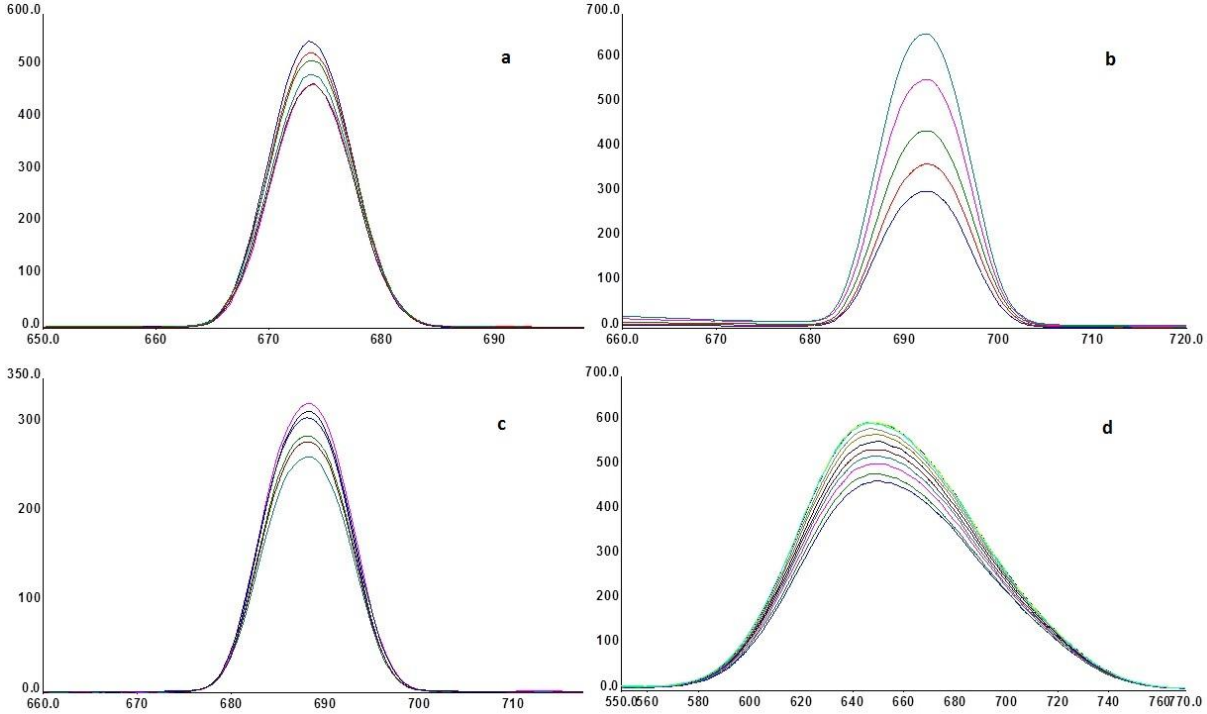

**Fig S20.**Stern-Volmer plots for the fluorescence quenching of complexes **1**-**4** by KI in aqueous buffer (solid lines) and ctDNA environment (dotted lines). Concentration of complexes and ctDNA are 2.0 x $10^{-5}$ and 1.5 x $10^{-5}$ mol $L^{-1}$, respectively. $\lambda_{exc}$ = 370 nm.

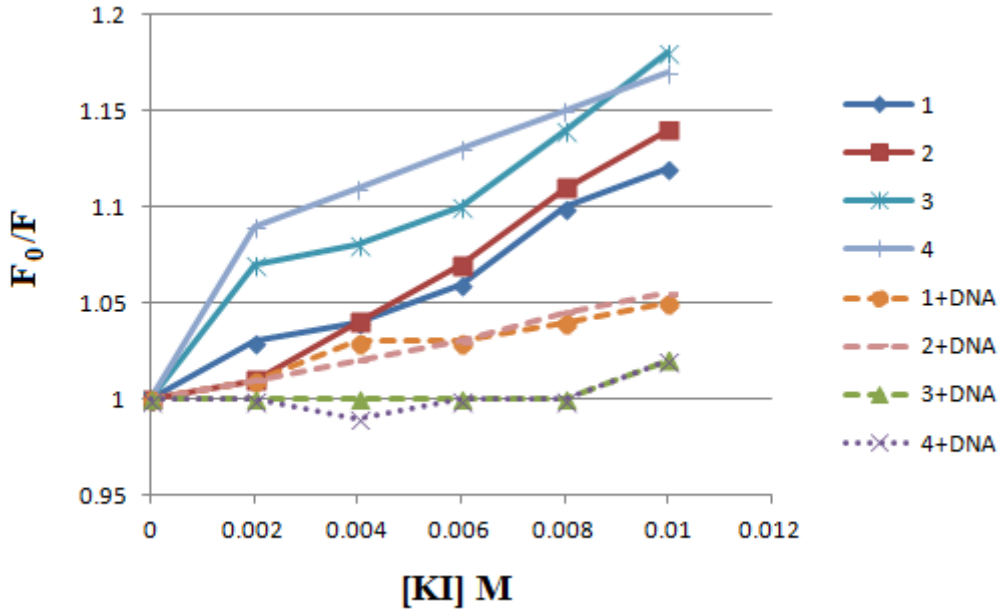

**Fig S21.** Cleavage of pBR322 DNA in the presence of increasing concentration of complexes **1** in (a), **2** in (b), **3** in (c) and**4** in (d). Lane 1, DNA alone; lanes 2–7, DNA was incubated for 1 h with increasing concentrations (30, 60, 90, 120, 150 and 180 μM) of the complexes.