Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Studies on DNA-binding and anti-cancer activity of Ru(II) polypyridyl complexes by using (2-(4-(diethoxymethyl)-^{1}H-imidazo[4,5-f] [1,10] phenanthroline)) intercalative ligand

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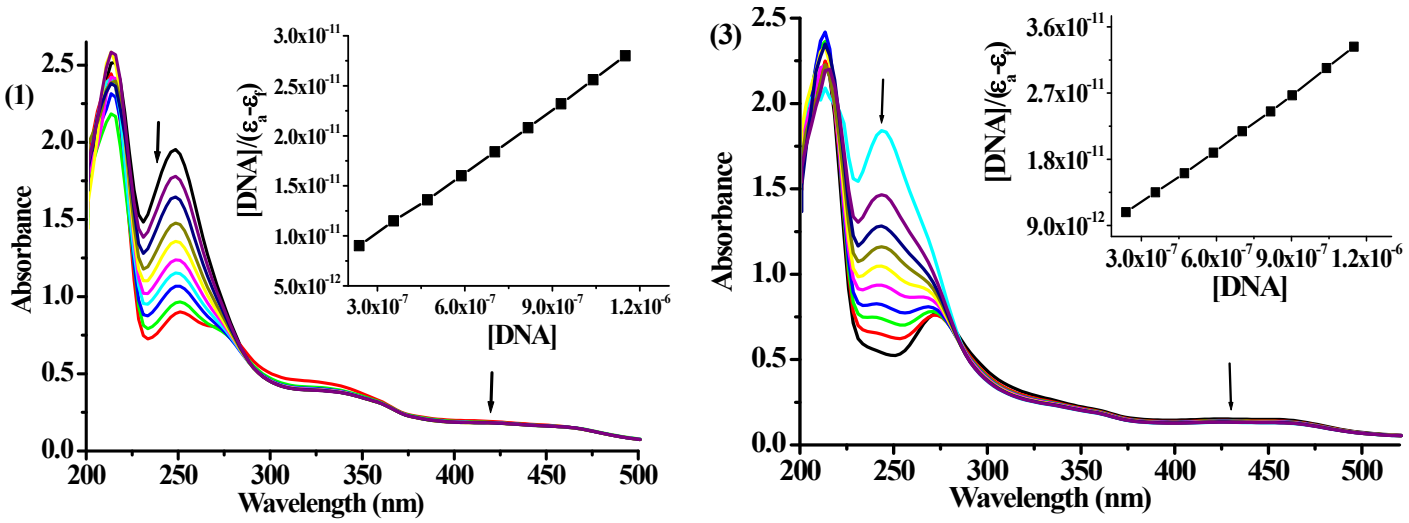

Figure S1. Absorption spectra of complexes **1&3** in Tris–HCl buffer upon addition of CT-DNA. Arrow shows hypochromic and bathochromic shifts upon increase of DNA concentration. Inserted plot, $[DNA]/(\varepsilon_b-\varepsilon_f)$ versus [DNA] for the titration of DNA with Ru(II) complexes, which gives intrinsic binding constant (K_b)

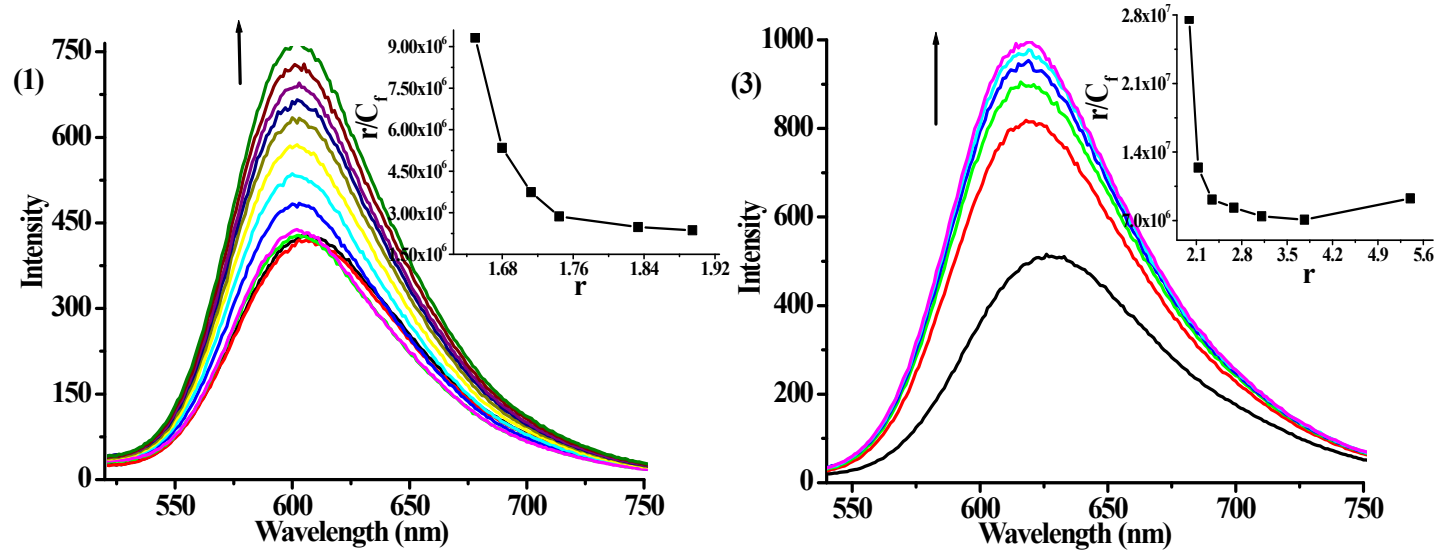

Figure S2. Fluoroscence of complexes **1&3** in Tris–HCl buffer upon addition of CT-DNA. Arrow shows the intensity change upon the increase of DNA concentration. Inset: Scatchard plot of above complex, which gives binding constant (K_b)

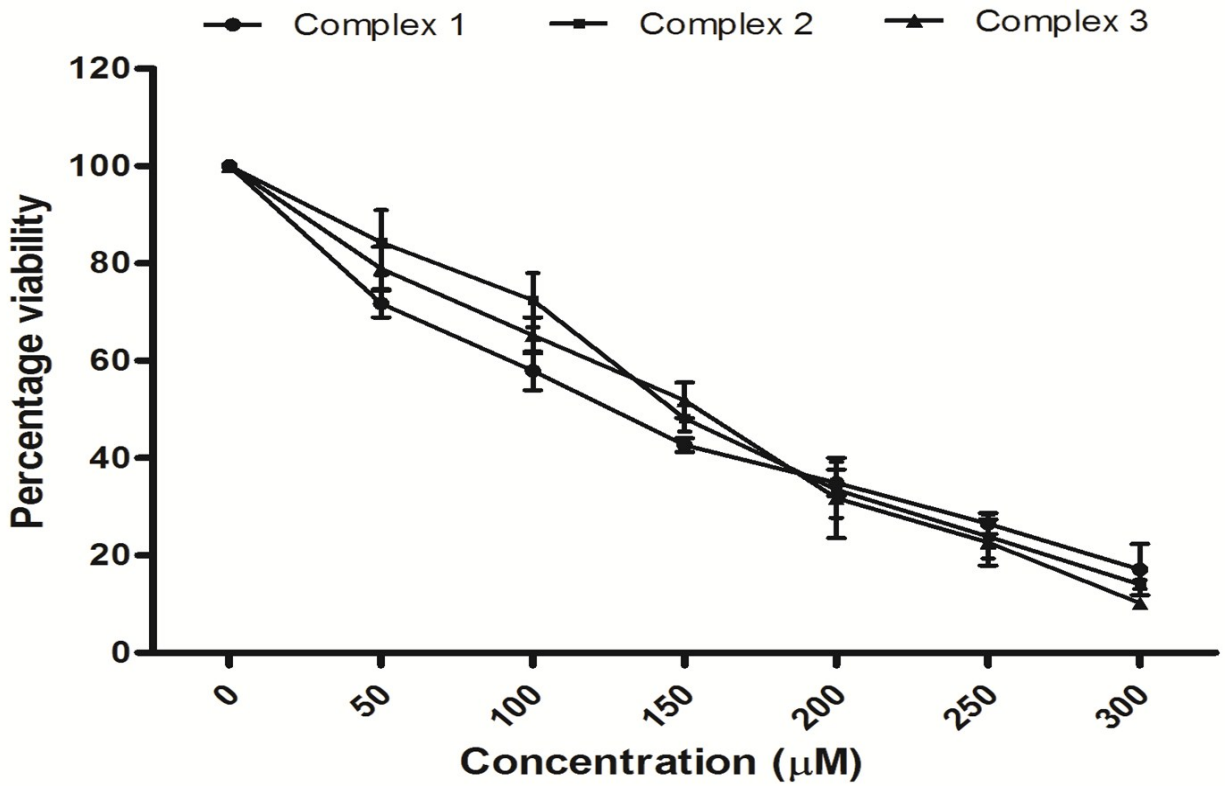

Figure S3. HEK 293 cells were treated with complexes **1**, **2** and **3** with different concentrations for 48h and untreated cells were used as control and then cell viability was evaluated by MTT assay. IC_{50} value for complex **1,2** and **3** are 124±8.5 μM, 145±3 μM and 157±9 μM respectively.

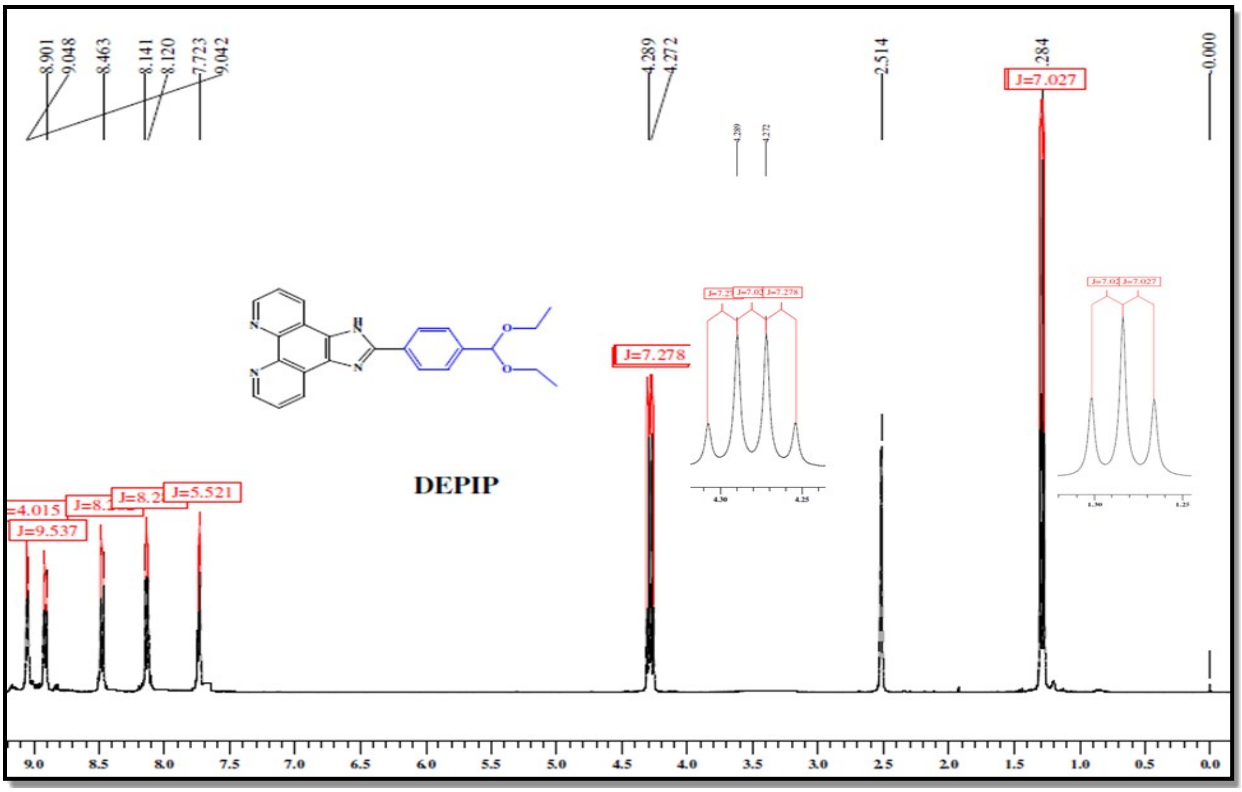

Figure S4. H- NMR Spectra of Ligand (DEPIP)

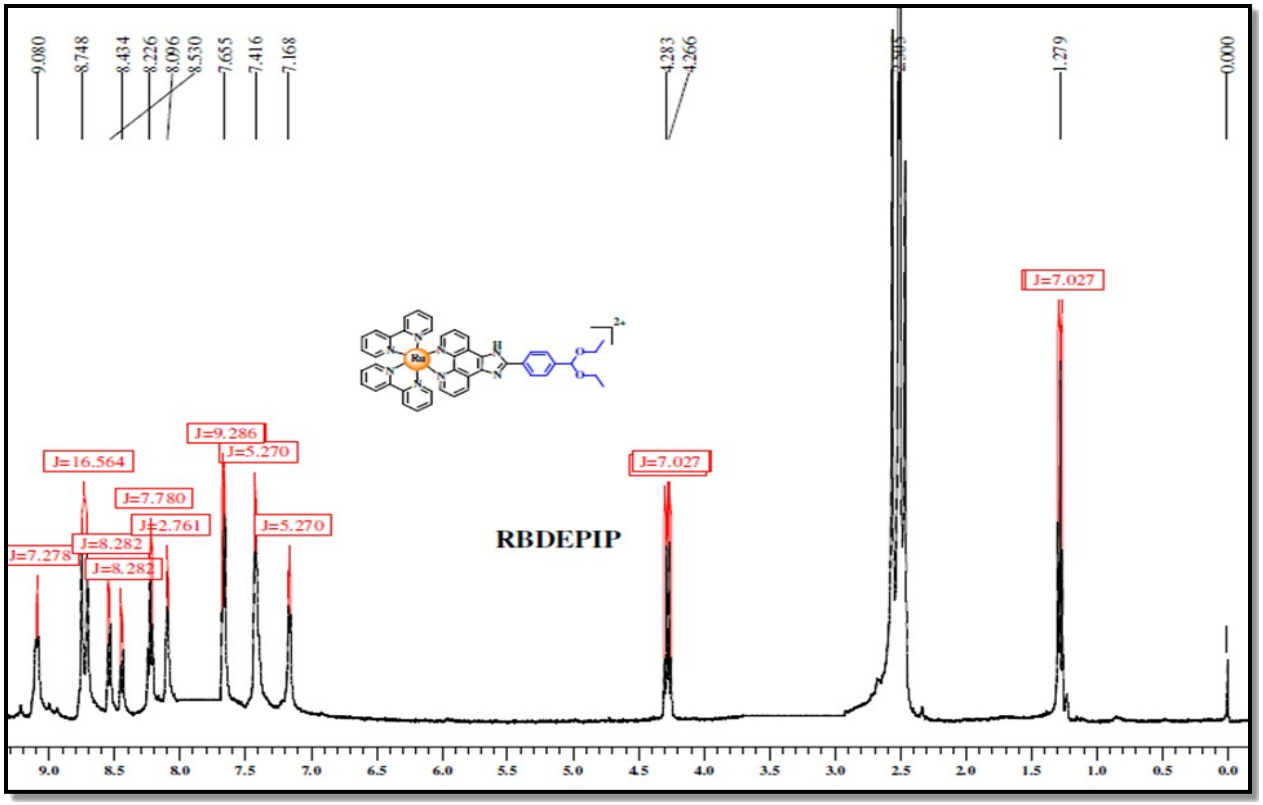

Figure S5. H-NMR Spectra of Complex-**2** (RBDEPIP)

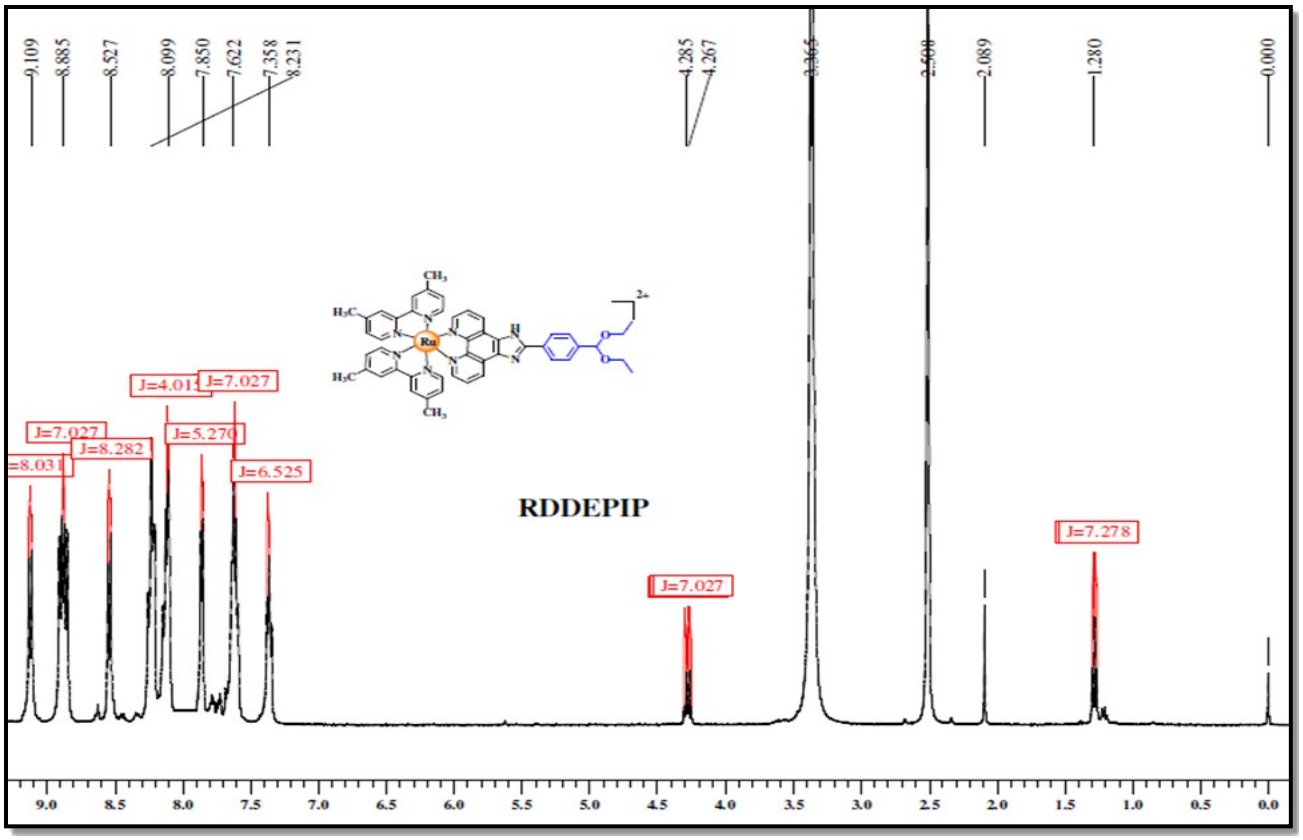

Figure S6. H-NMR Spectra of Complex-**3** (RDDEPIP)

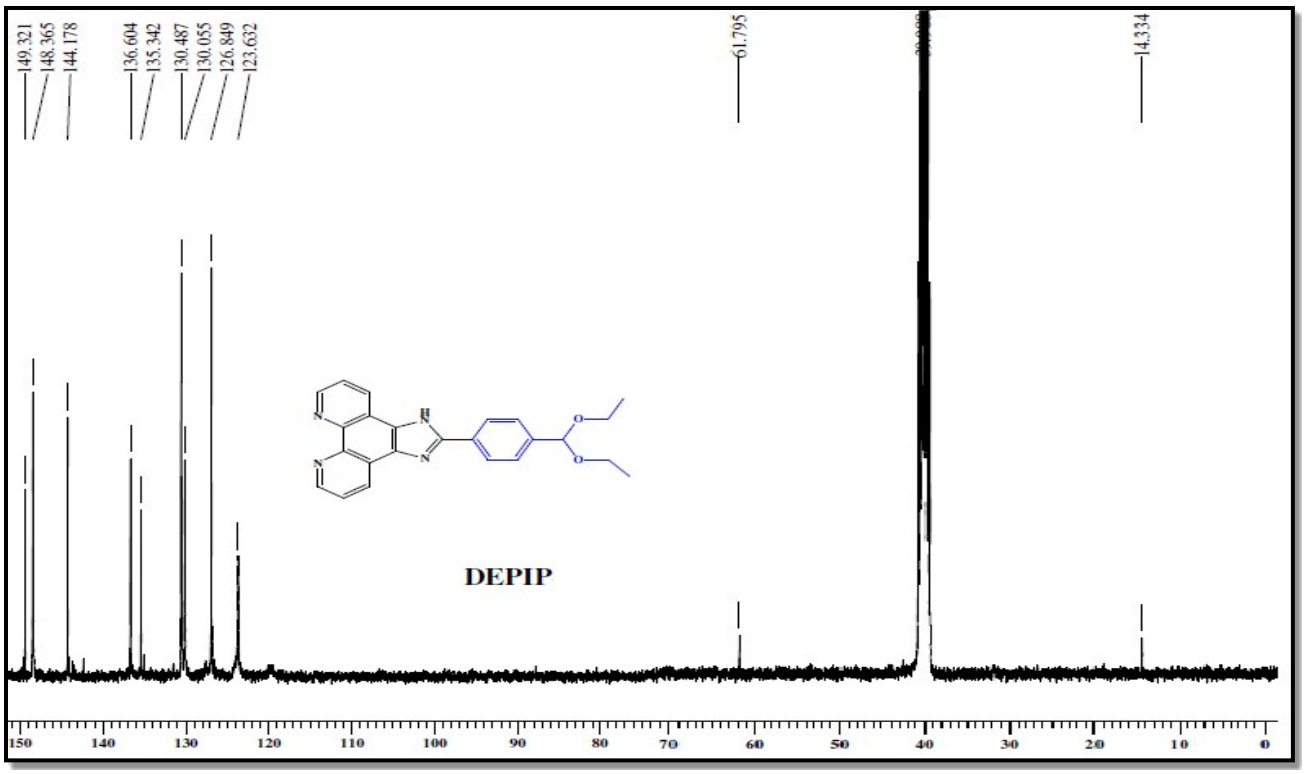

Figure S7. ^{13}C -NMR Spectra of Ligand (DEPIP)

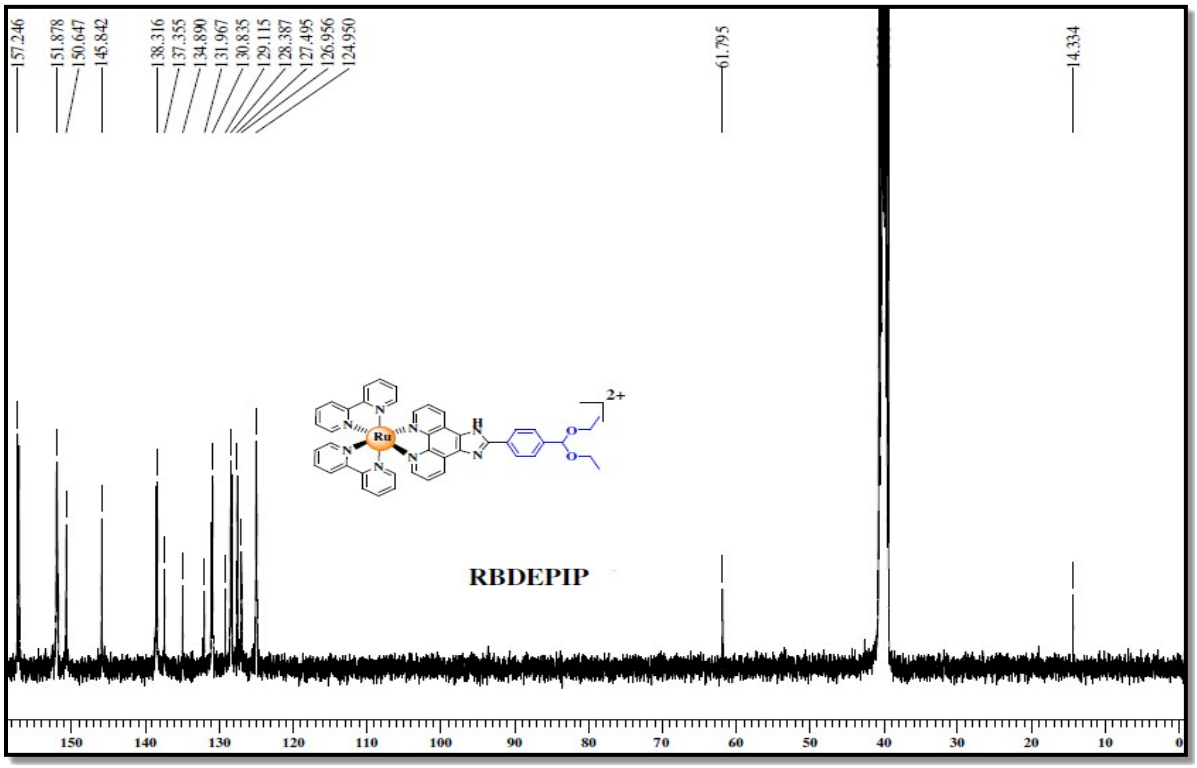

Figure S8. ^{13}C -NMR Spectra of Complex-2 (RBDEPIP)

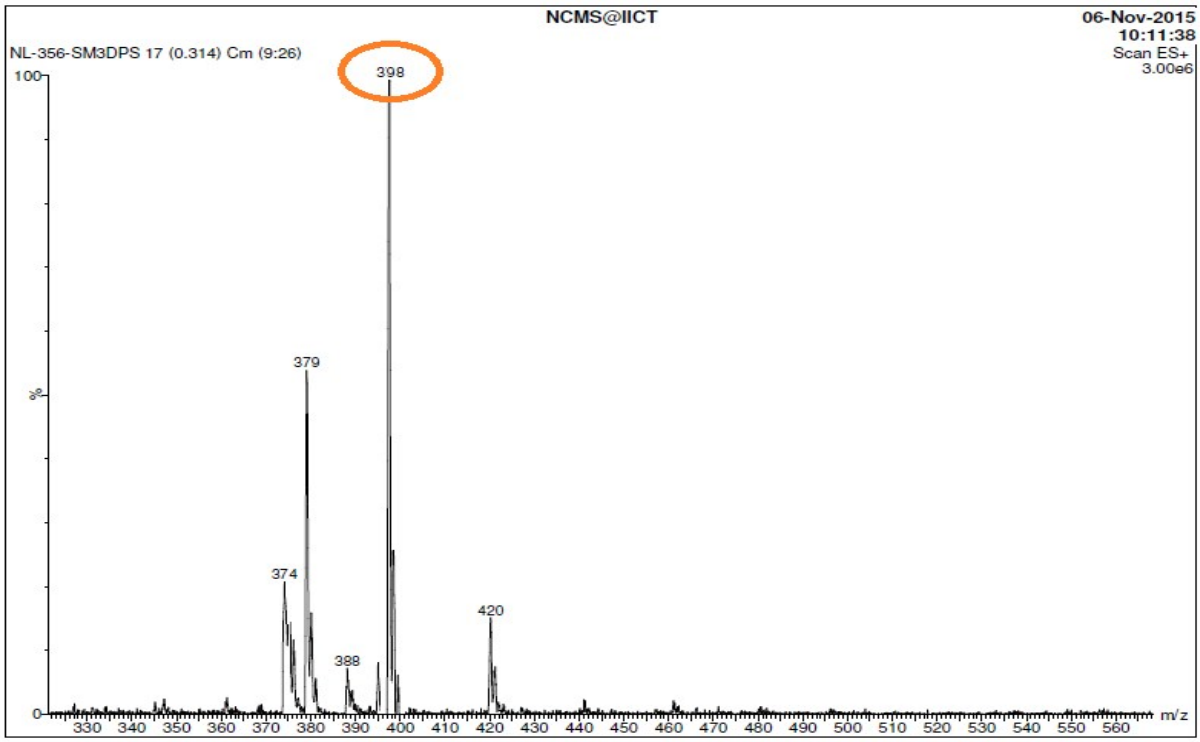

Figure S9. Mass Spectra of Ligand (DEPIP)

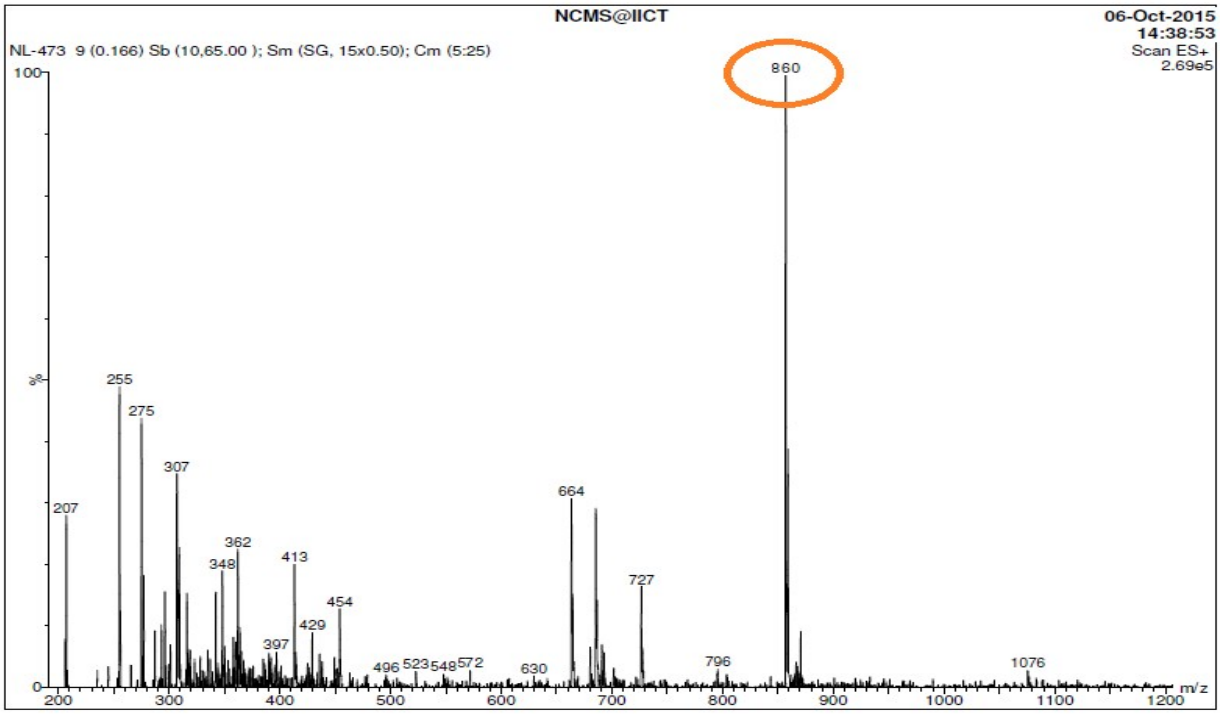

Figure S10. Mass Spectra of Complex-**1** ($[Ru(phen)_2depip]^{2+}$)

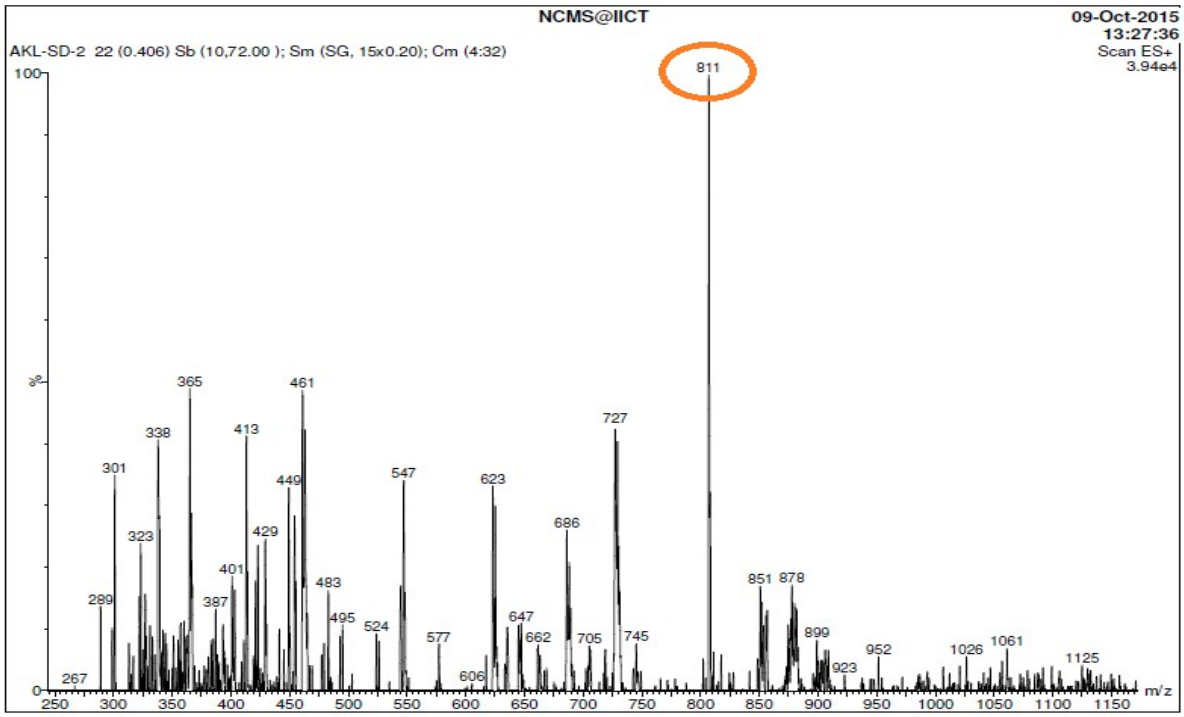

Figure S11. Mass Spectra of Complex-**2** ($[Ru(bpy)_2depip]^{2+}$)

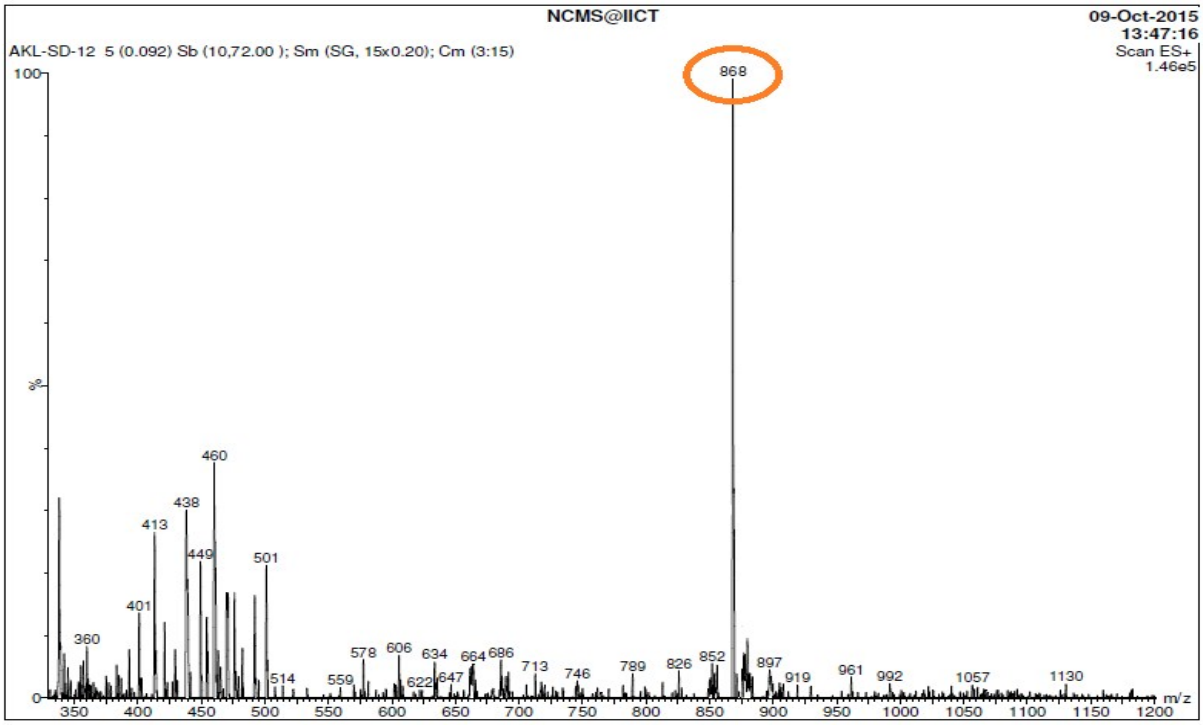

Figure S12. Mass Spectra of Complex-**3** ($[Ru(dmb)_2depip]^{2+}$)

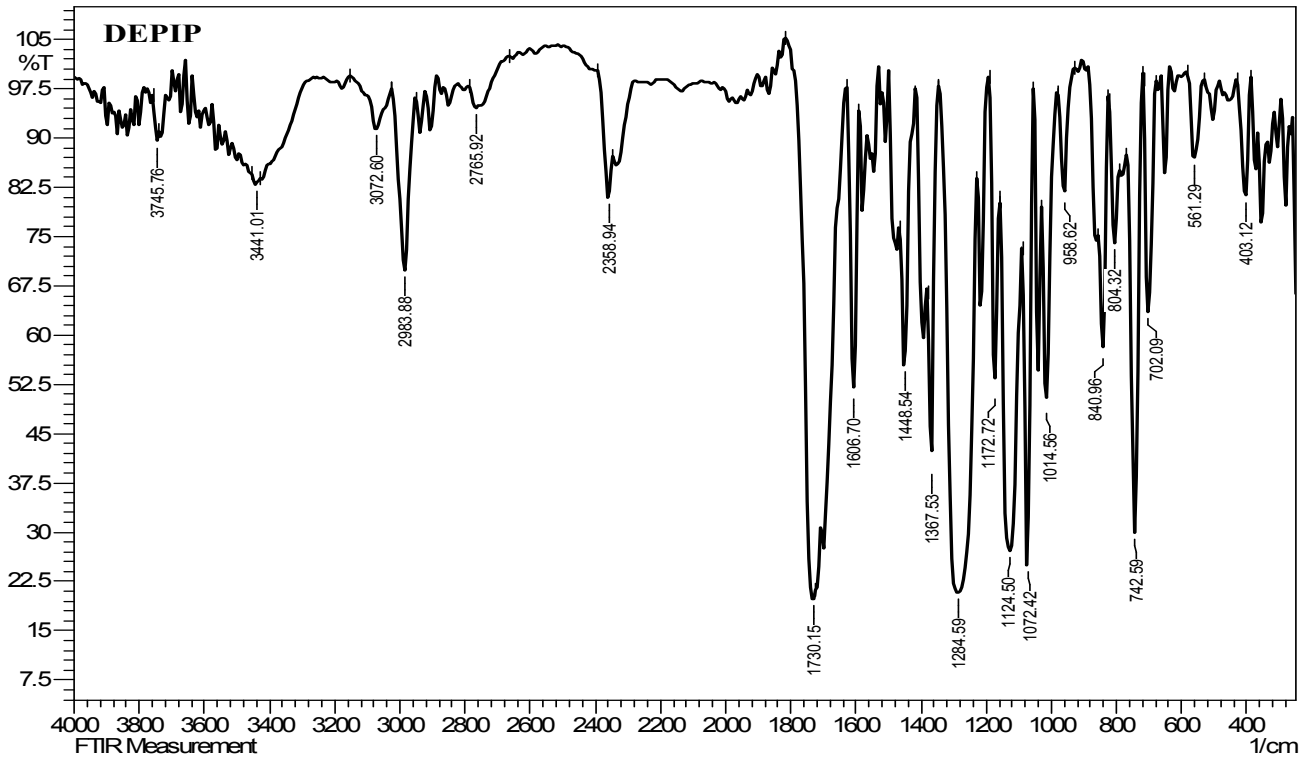

Figure S13. IR Spectra of Ligand (DEPIP)

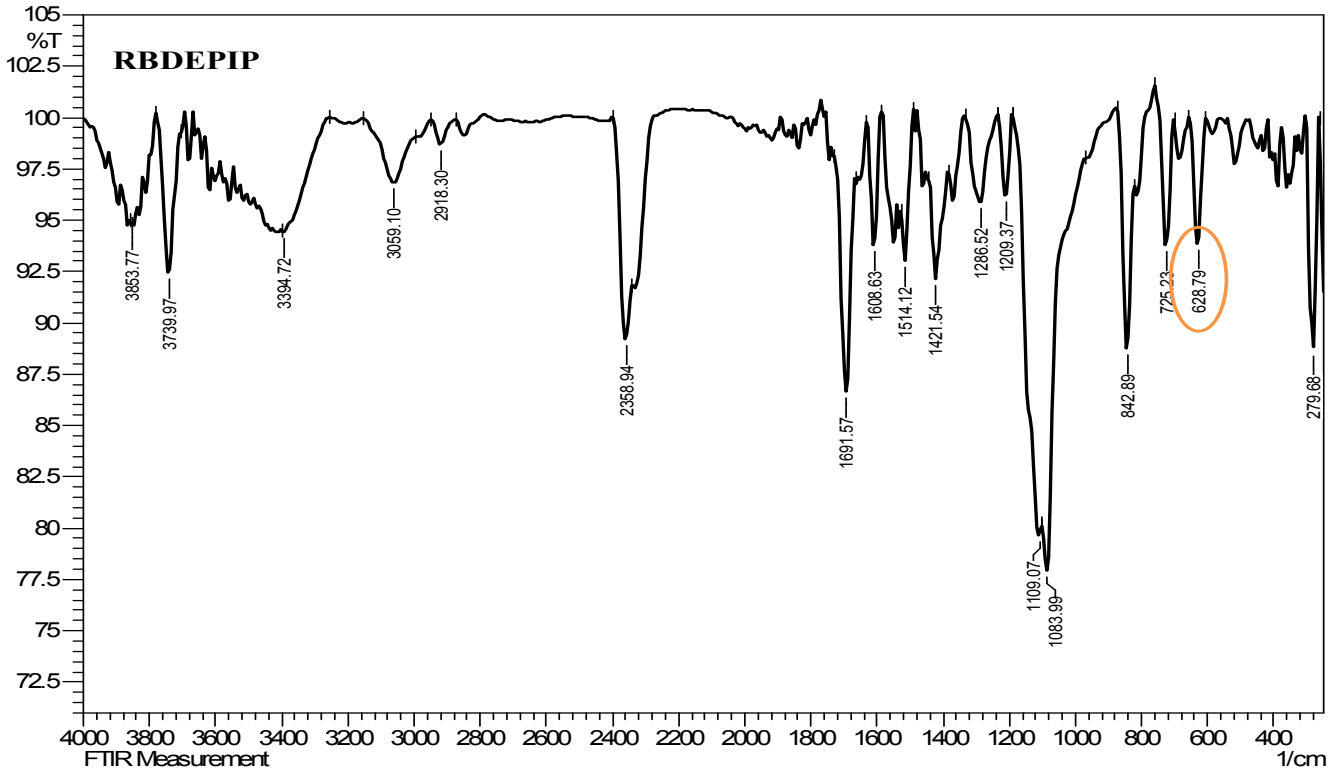

Figure S14. IR Spectra of Complex-**2** ($[Ru(bpy)_2depip]^{2+}$)