

Supplementary Information

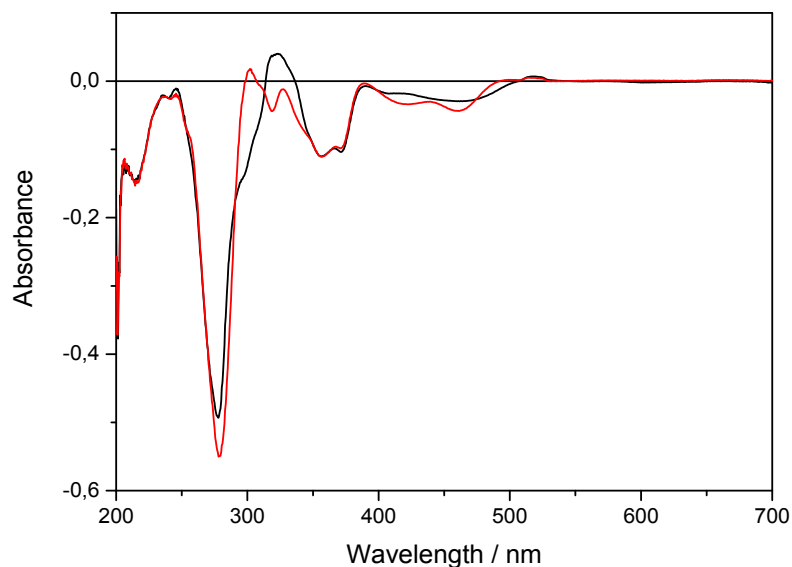


Fig. S 1 Difference spectrum ($Ru_{\text{bound}} - (Ru_{\text{free}} + \text{DNA})$) of Ru-tpy (black) and ΔRu -bpy (red) in 150 mM NaCl solution at 25°C.

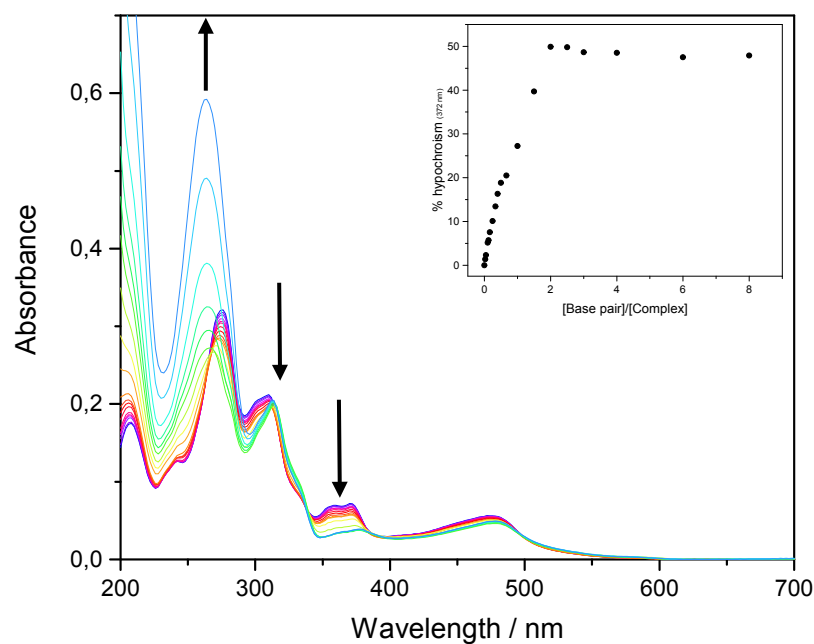


Fig. S 2 Reverse absorption spectral titration carried out for Ru-tpy (5 μM) by addition of AT-DNA in a 150 mM NaCl solution at 25°C. The spectra follows the addition of 0-8 [base pairs] / [Ru]. The arrows indicate the course of reaction as increasing amounts of AT-DNA is added to the solution. To avoid dilution equal amounts of 5 μM Ru-tpy was added simultaneously. The increasing hypochromism at 372 nm upon addition of AT-DNA is depicted in the inset of Fig. S 2.

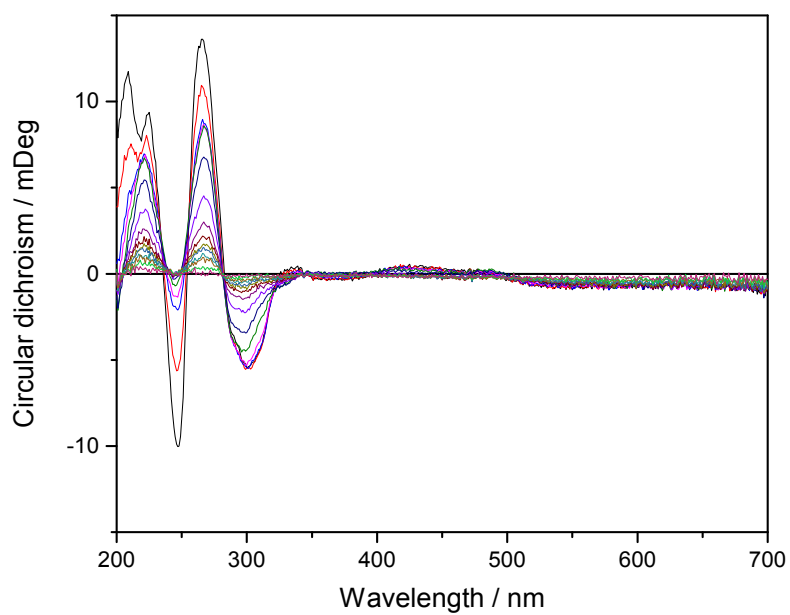


Fig. S 3 Reverse circular dichroism titration of Ru-tpy (5 μM) with AT-DNA in a 150 mM NaCl aqueous solution. The spectra follows the addition of 0-7 base pairs per complex.

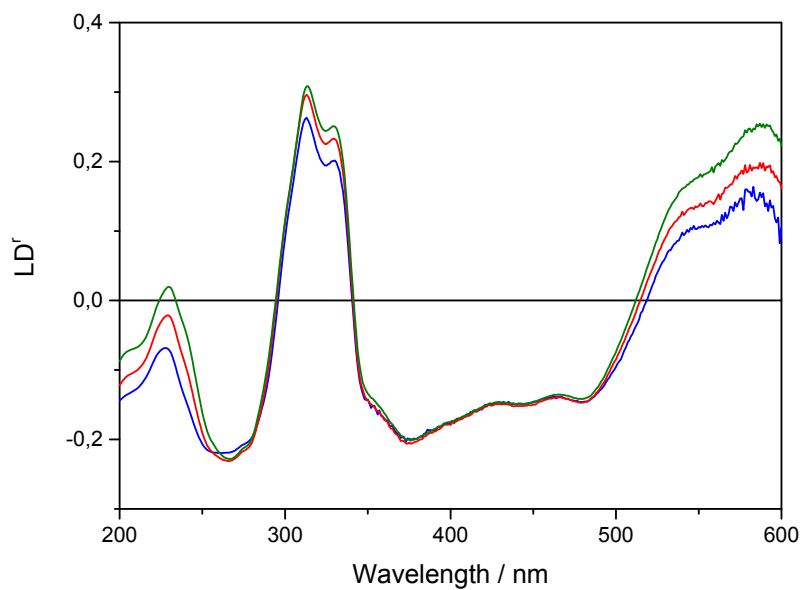


Fig. S 4 Reduced Linear dichroism spectra of Ru-tpy in the presence of ctDNA in a 150 mM NaCl aqueous solution at [base pairs] / [Ru] ratios of 8 (blue), 4 (red) and 2 (green) in 10 mM NaCl solution. The concentration of ctDNA is 270 μM nucleotides.

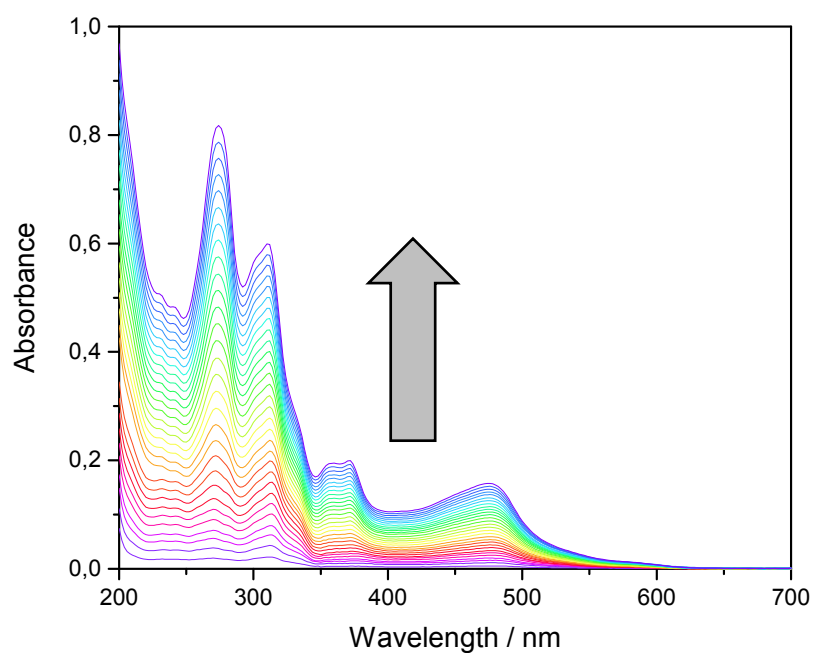


Fig. S 5 Absorption spectral titration carried out for AT-DNA (12 μM nucleotides) by addition of Ru-tpy in a 150 mM NaCl solution at 25°C. The spectra follows the addition of 0-2 [Ru] / [complex]. The arrow indicate the course of reaction as increasing amounts of Ru-tpy is added to the solution. To avoid dilution equal amounts of 12 μM AT-DNA was added simultaneously.

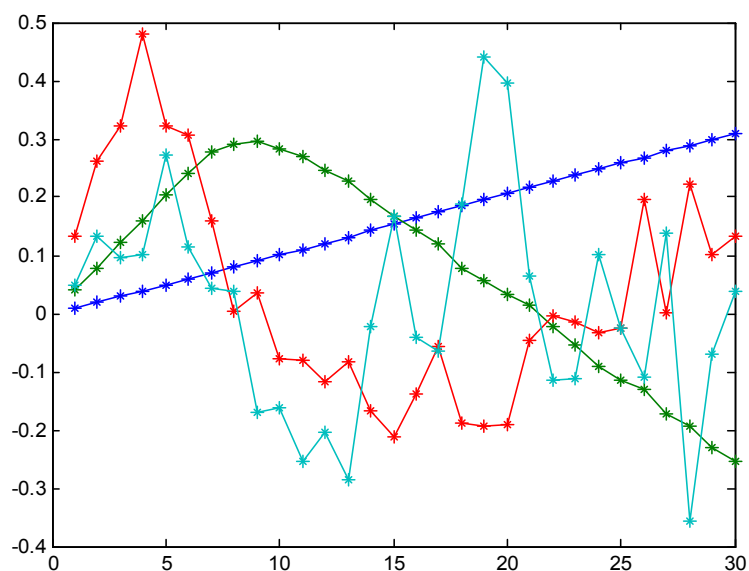


Fig. S 6 The first 4 columns of V plotted against row number. Blue: v1 (s1=100); green: v2 (s2=2.45); red: v3 (s3=0.23); light blue: v4 (s4=0.18).

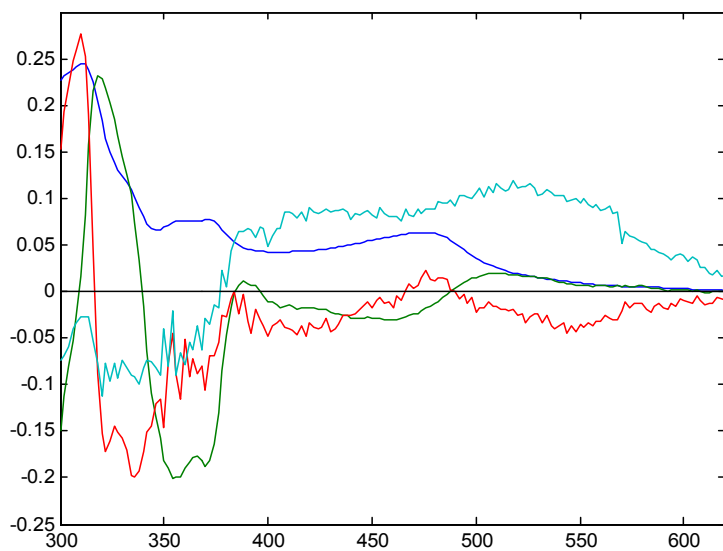


Fig. S 7 The first 4 columns of U plotted against wavelength. Blue: u1 ($s_1=100$); green: u2 ($s_2=2.45$); red: u3 ($s_3=0.23$); light blue: u4 ($s_4=0.18$)

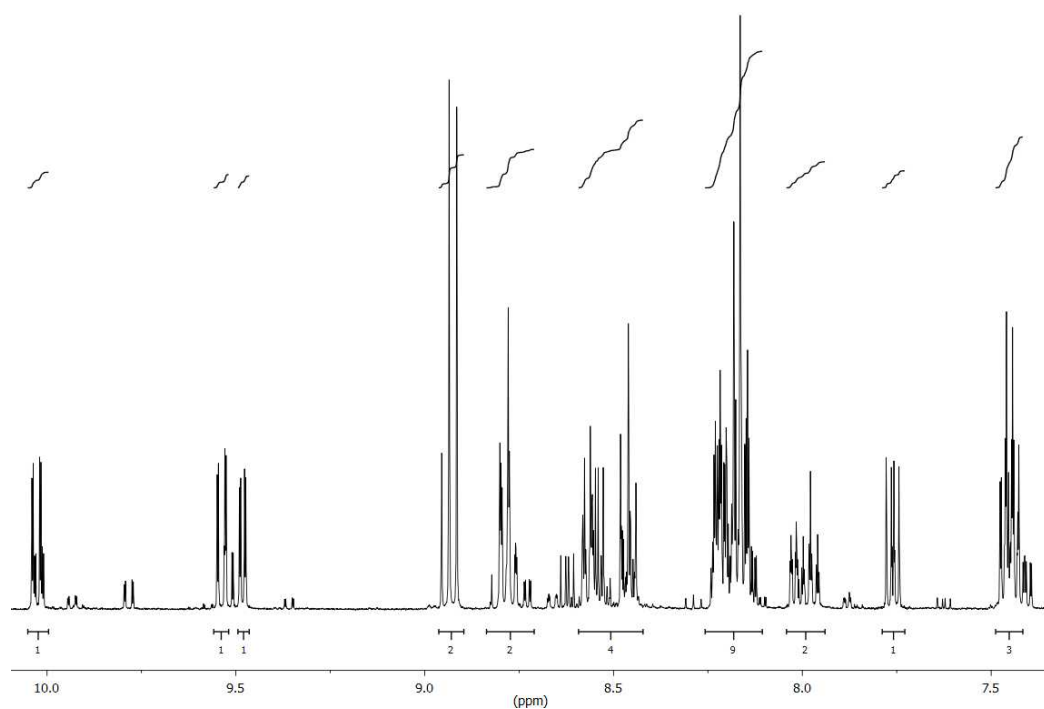


Fig. S 8 ^1H NMR spectrum of $[\text{Ru}(\text{tpy})(\text{py})\text{dppz}](\text{PF}_6)_2$ dissolved in acetone- d_6 .