

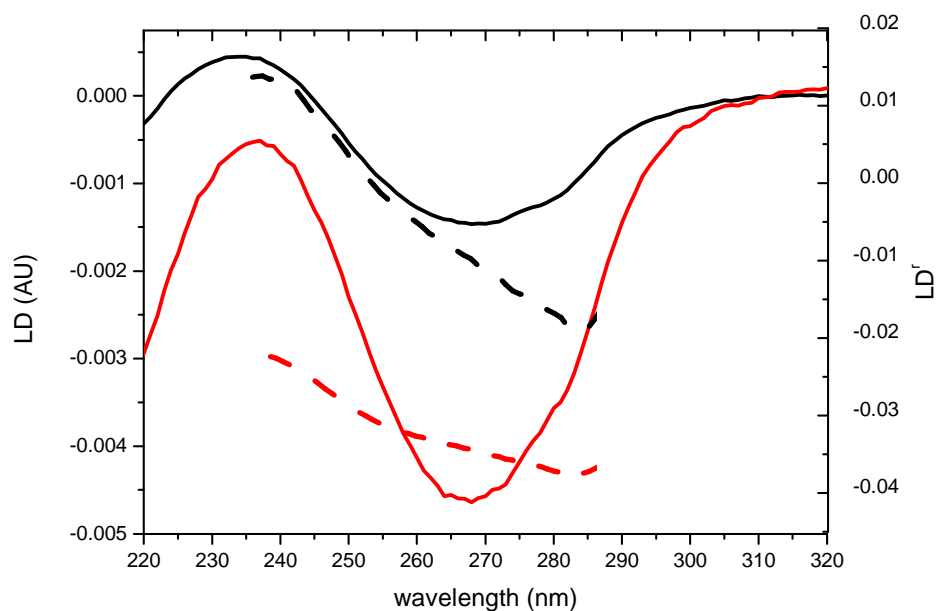
Interactions of Binuclear Ruthenium (II) Complexes with
Oligonucleotides in Hydrogel Matrix: Enantioselective
Threading Intercalation into GC Context

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Supporting information

1. LD spectra and calculated LD^f values of free short oligonucleotides in PVA

A



B

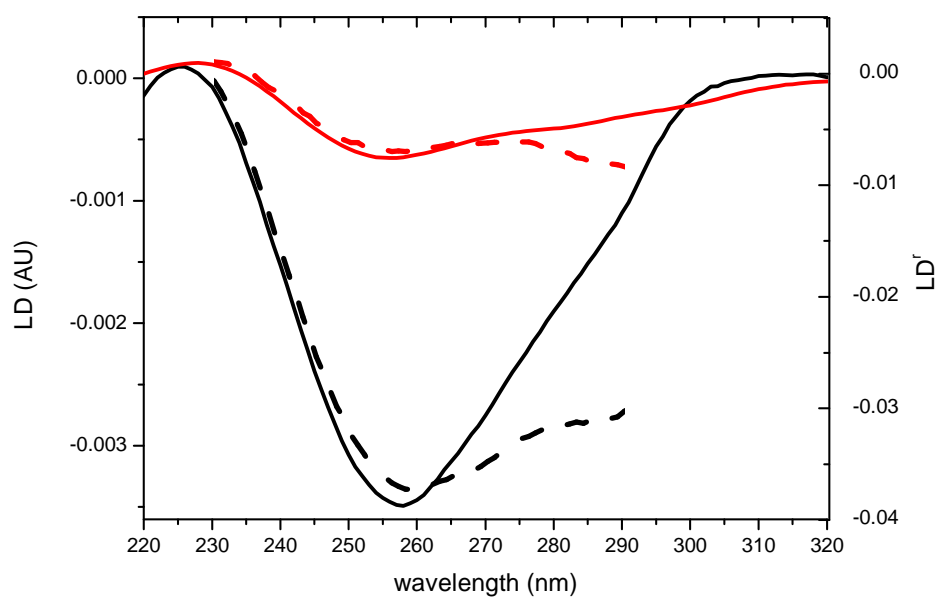
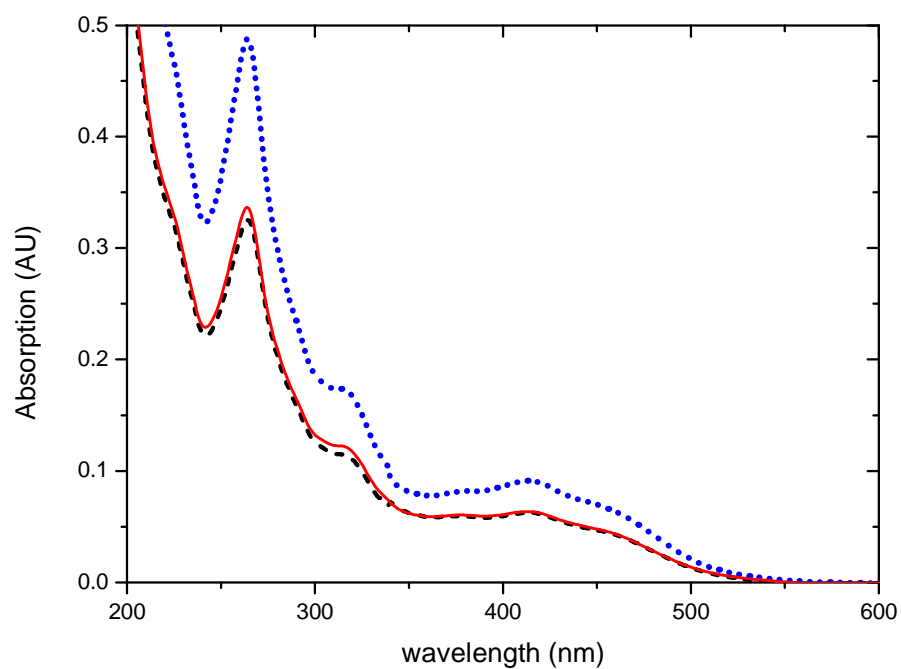


Fig. S1 LD of free HEG-linked oligonucleotides in PVA A) AT-DNA in 75% r.h. (black solid) and LD^f (black dashed) and in 100% r.h. (red solid) and LD^f (red dashed), B) GC-DNA in 75% r.h. (black solid) and LD^f (black dashed) and in 100% r.h. (red solid) and LD^f (red dashed). All samples were stretched 50% $R_s=1,5$

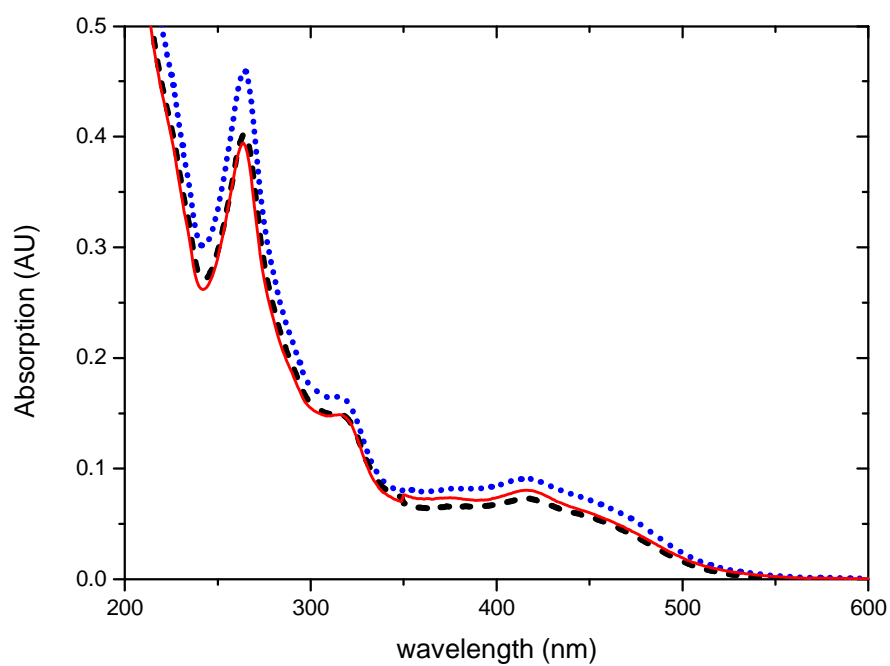
2. Absorption spectra in PVA of oligonucleotides with ruthenium (II) complexes

Standard decrease in absorbance amplitude occurs due to stretching. Absorption spectrum does not change with humidity conditions after stretching.

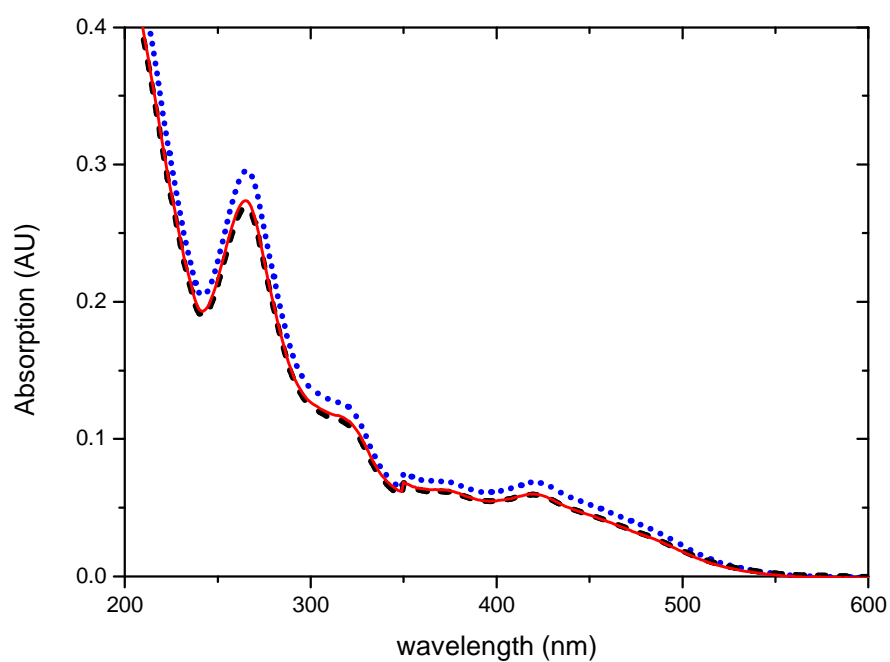
A



B



C



D

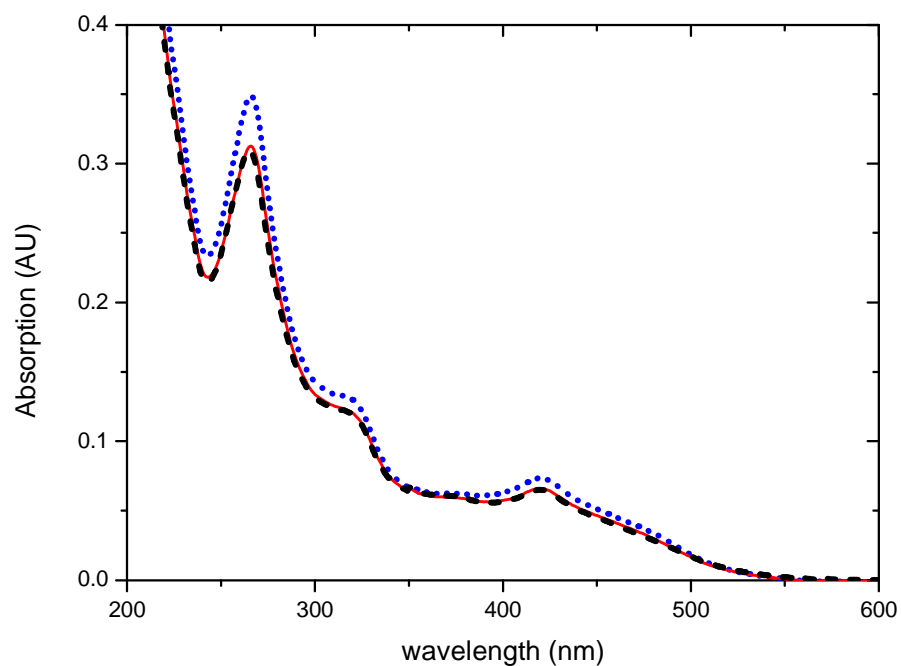


Fig S2. Absorption spectra of DNA-drug complexes in PVA recorded on isotropic samples (before stretching) (blue dotted) and after stretching $R_s = 1,5$ in either 75% r.h. (black dashed) or 100% r.h. (red solid) conditions A) $\Delta\Delta$ -GC-DNA, B) $\Delta\Delta$ -GC-DNA, C) $\Delta\Delta$ -AT-DNA, D) $\Delta\Delta$ -AT-DNA

3. Linear combination of free $\Lambda\Lambda$ in PVA and $\Lambda\Lambda$ with GC-DNA in 75% r.h.

Linear combination showing that around 1/4 of the complex is dissociated and aligned parallel with PVA chains. A free fraction of the complex is affecting LD spectrum as was shown in Fig 2 B in the manuscript.

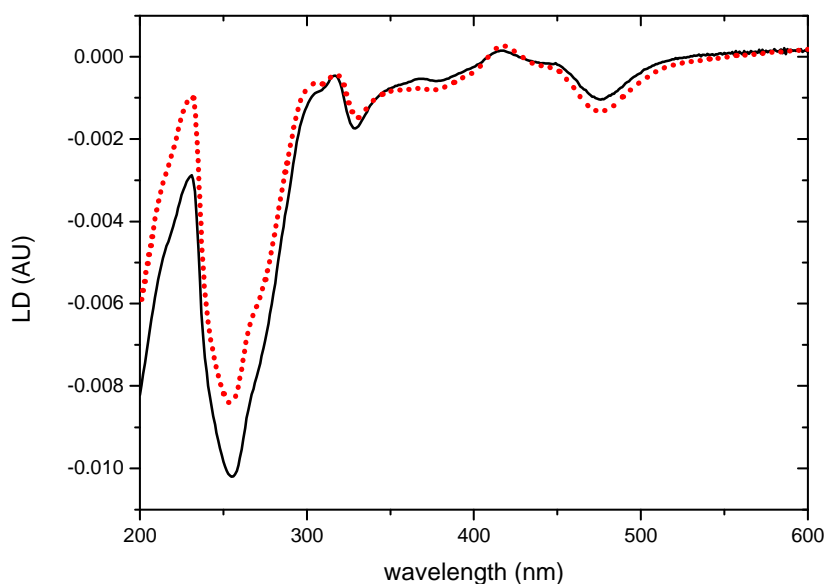
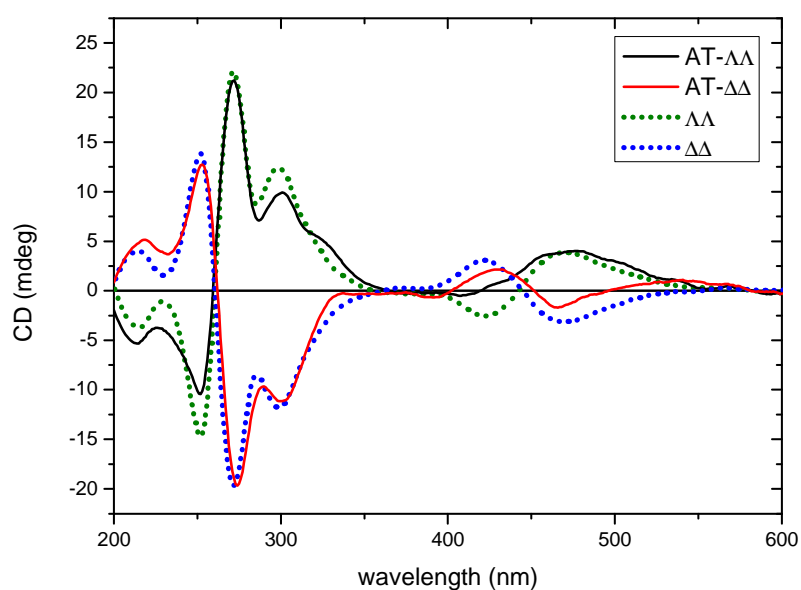


Fig. S3 Linear combination of free $\Lambda\Lambda$ in PVA and $\Lambda\Lambda$ with GC-DNA in 75% r.h. (dotted red) and LD of GC-DNA with $\Lambda\Lambda$ in 100% r.h. for comparison.

4. CD of free $\Delta\Delta$ and $\Lambda\Lambda$ and in mixture with GC-DNA

A



B

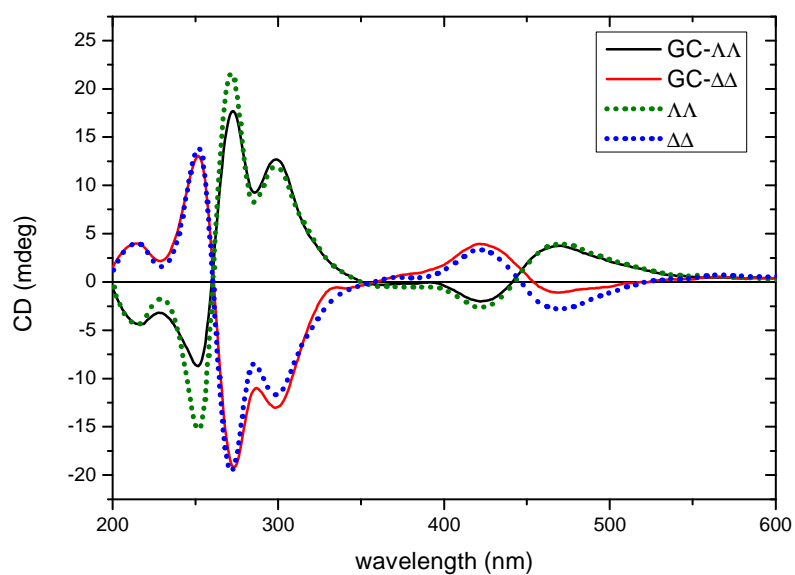


Fig. S4 CD spectra of A) $\Delta\Delta$ in buffer solution (dotted blue) and in presence of GC oligonucleotide (solid red), $\Lambda\Delta$ in buffer solution (dotted green) and in presence of GC DNA (solid black);

5. LD spectrum of stretched PVA in 75% and 100% r.h.

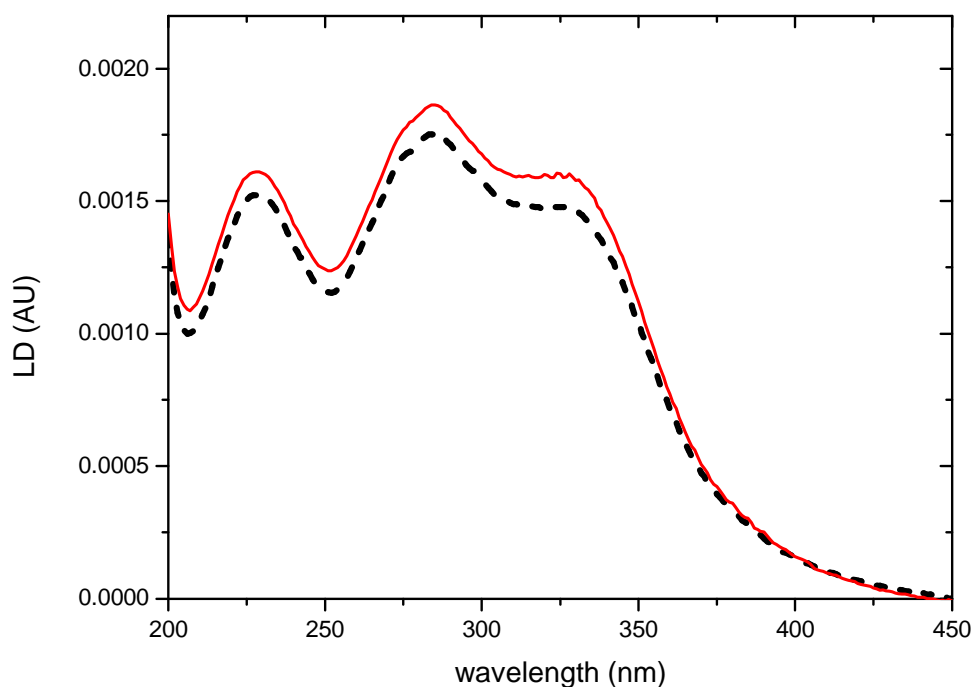


Fig. S5 Change in LD amplitude of PVA comparing 100% r.h. (red solid) and 75% r.h. (black dashed) due to hydration state;