Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

DNA photo-cross-linking using pyranocarbazole modified oligodeoxynucleotide with D-threoninol linker

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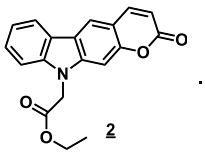
Compound 2



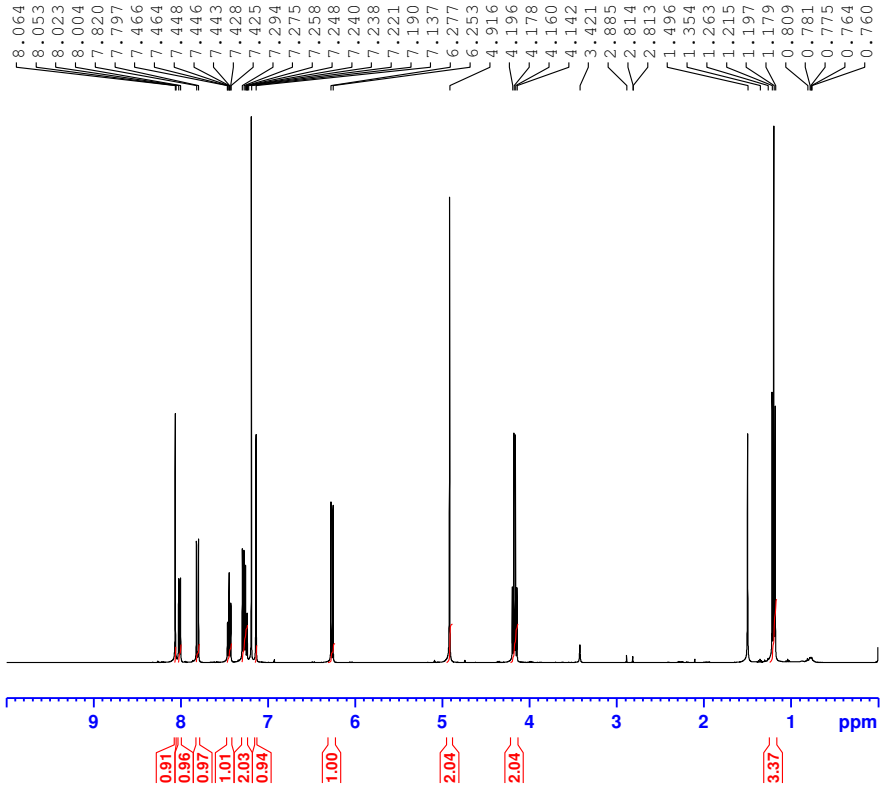
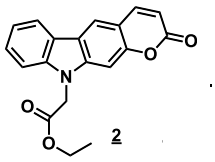


Figure S1. 1H-NMR spectra of Compound 2



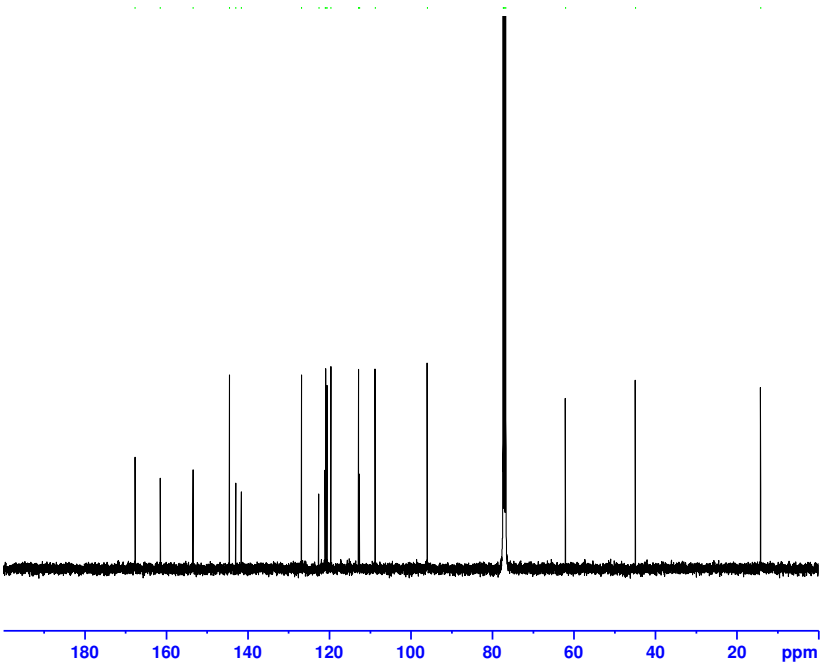
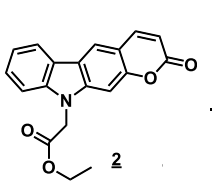


Figure S2. 13C-NMR spectra of Compound 2



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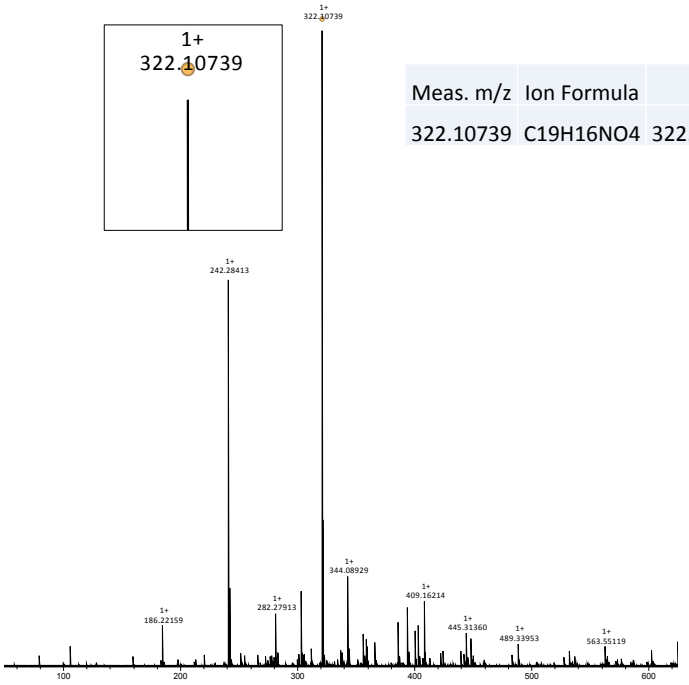
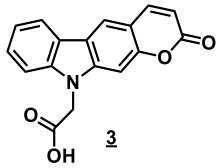


Meas. m/z	Ion Formula	m/z	err [ppm]
322.10739	C19H16NO4	322.107384	0

Figure S3. ESI analysis of Compound 2

Compound 3



3

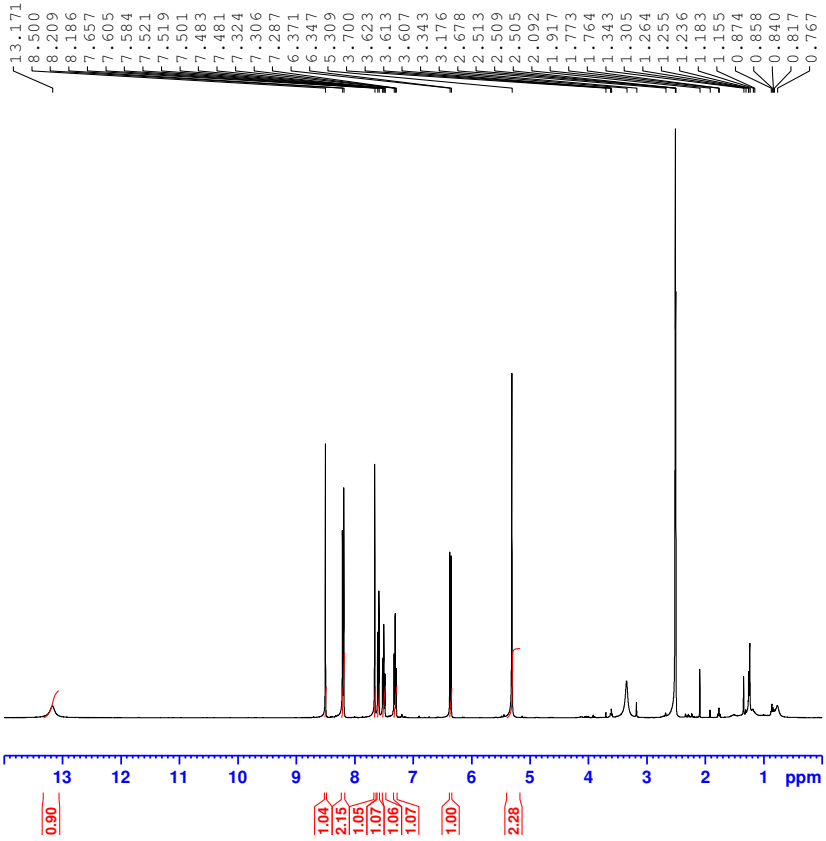


Figure S4. 1H-NMR spectra of Compound 3

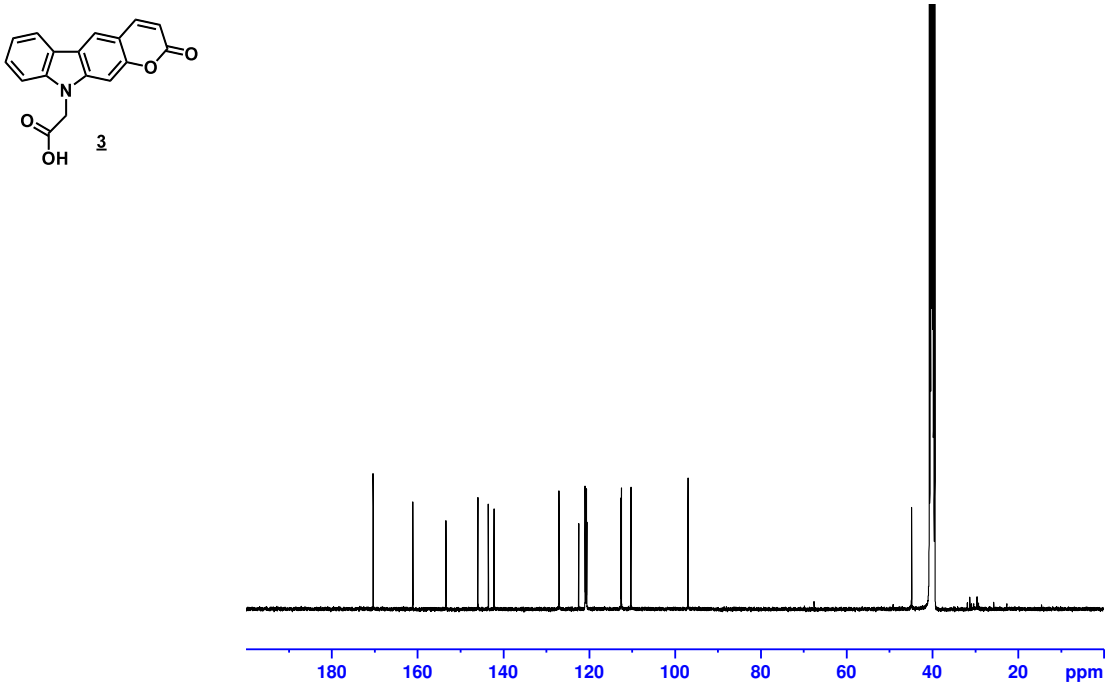


Figure S5. 13C-NMR spectra of Compound 3

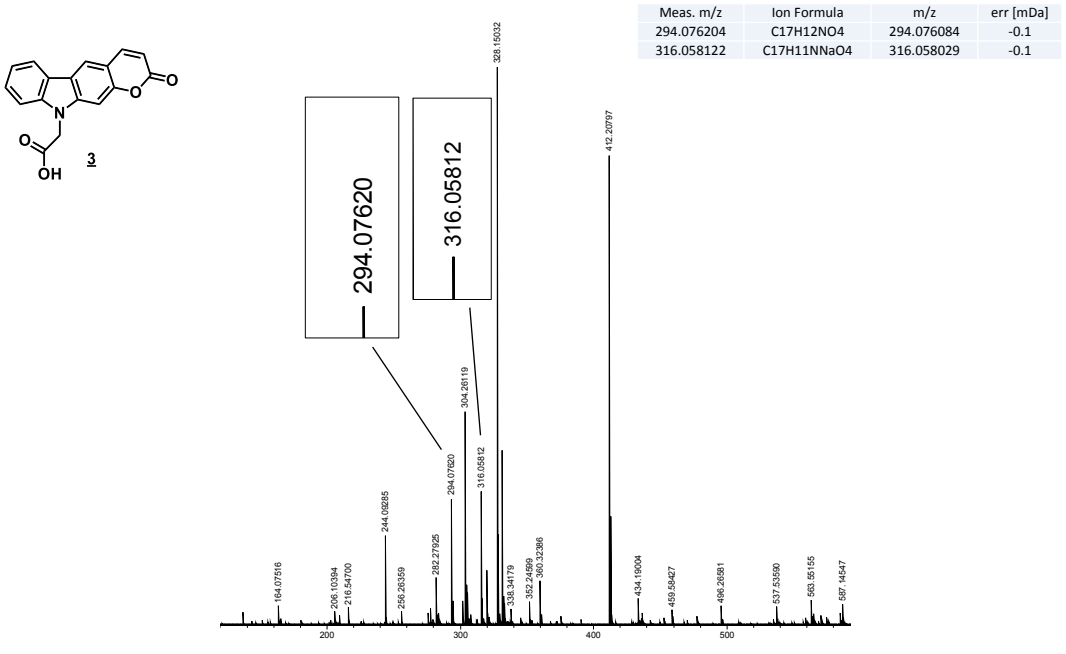
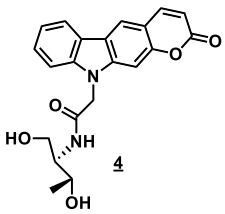


Figure S6. ESI analysis of Compound 3

Compound 4



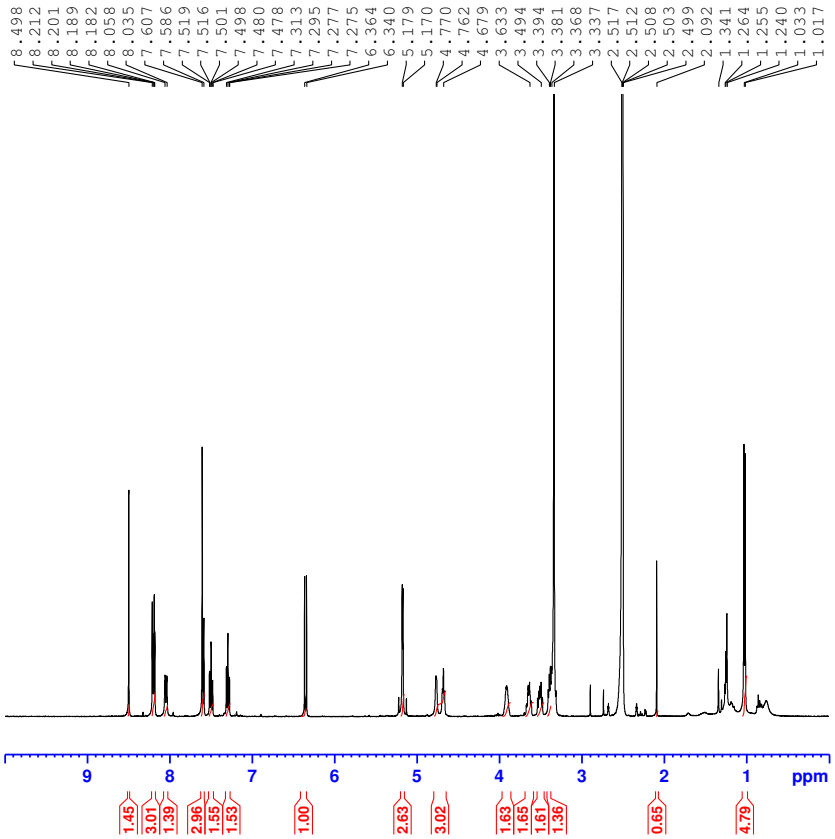
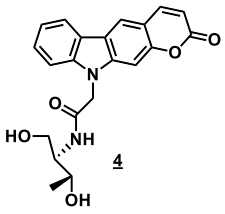


Figure S7. 1H-NMR spectra of Compound 4



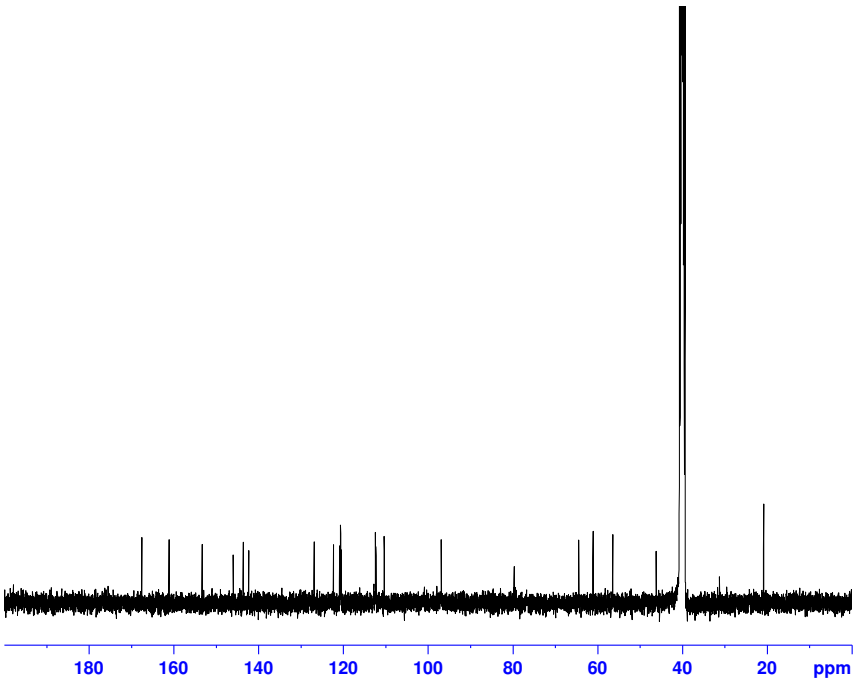
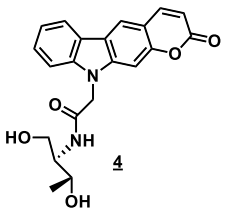


Figure S8. 13C-NMR spectra of Compound 4



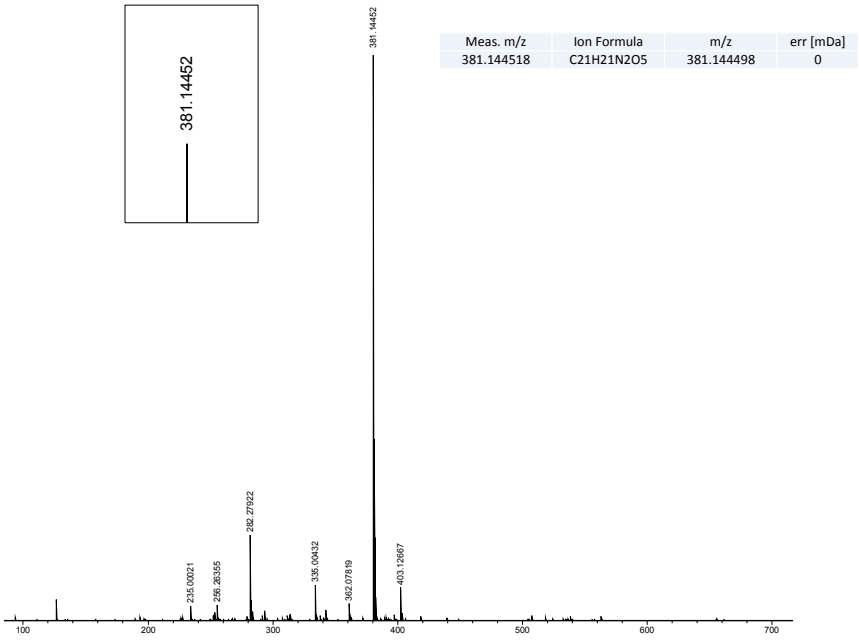
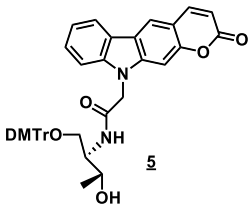


Figure S9. ESI analysis of Compound 4

Compound 5



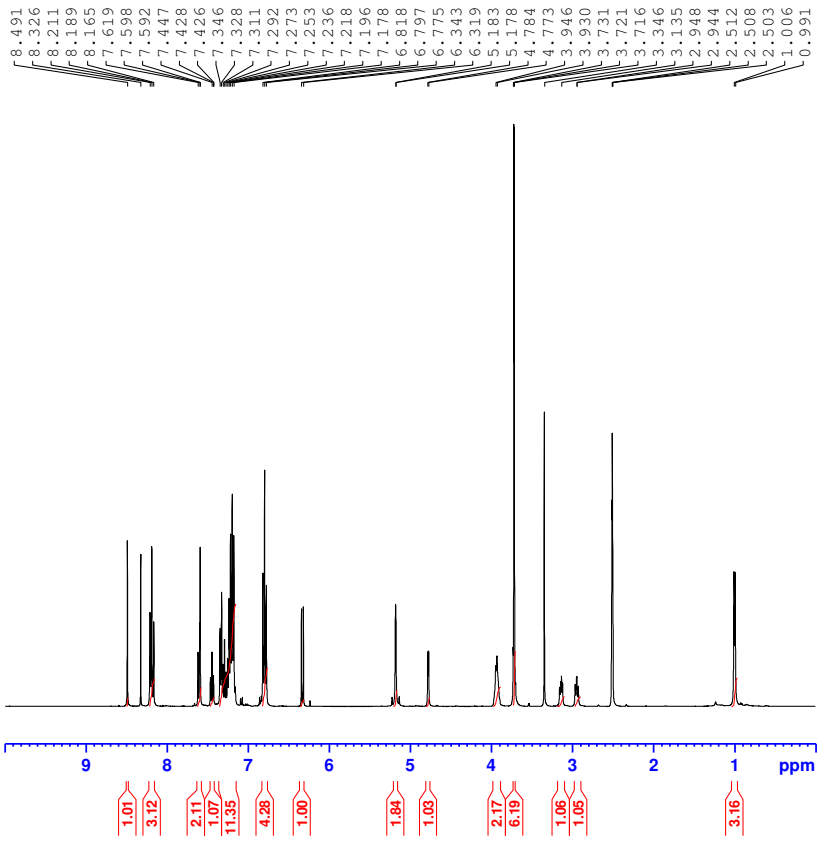


Figure S10. 1H-NMR spectra of Compound 5

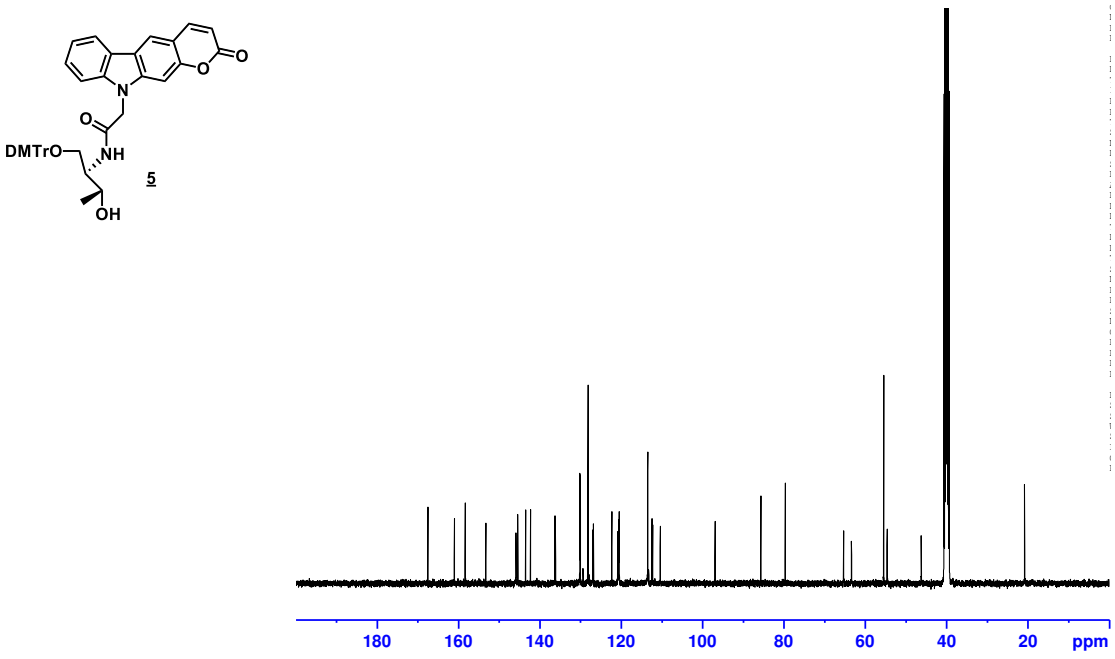
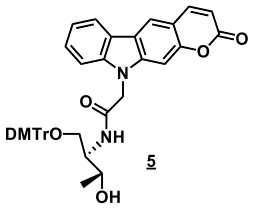


Figure S11. 13C-NMR spectra of Compound 5



Meas. m/z	Ion Formula	m/z	err [ppm]
705.256833	C42H38N2NaO7	705.257122	0.4

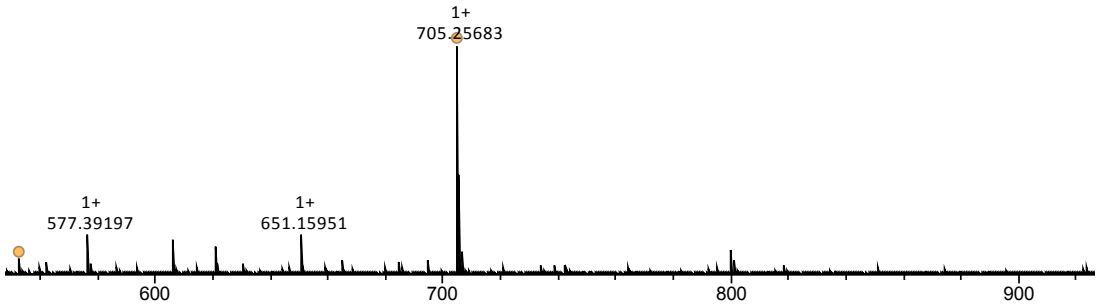


Figure S12. ESI analysis of Compound 5

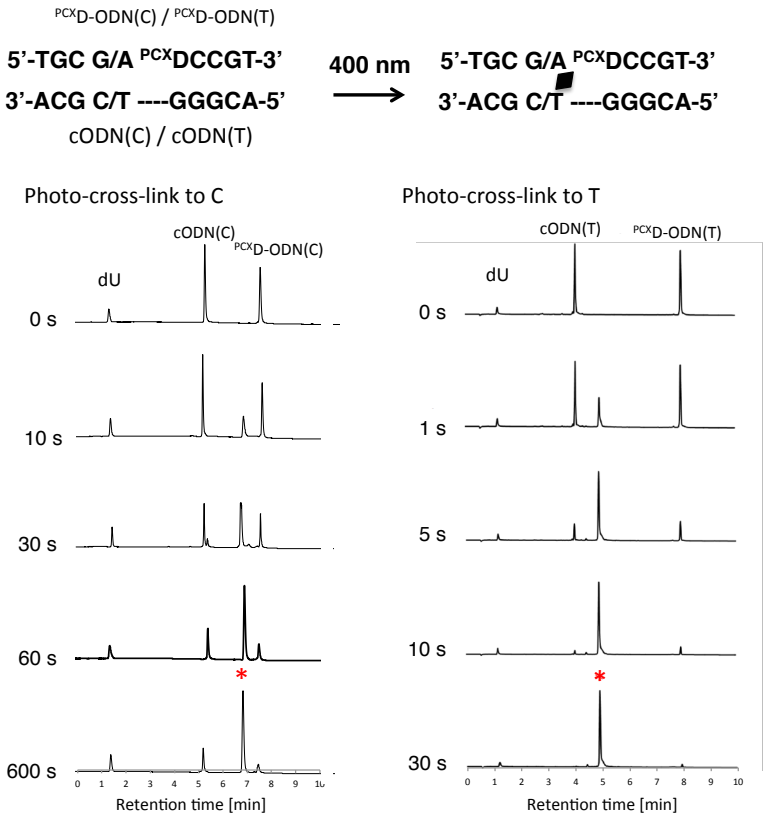


Figure S13 Photo-cross-linking using PCXD. 10 μM ODNs in 50 mM Cacodylate buffer containing 100 mM NaCl was annealed and photoirradaition at 400 nm on ice.

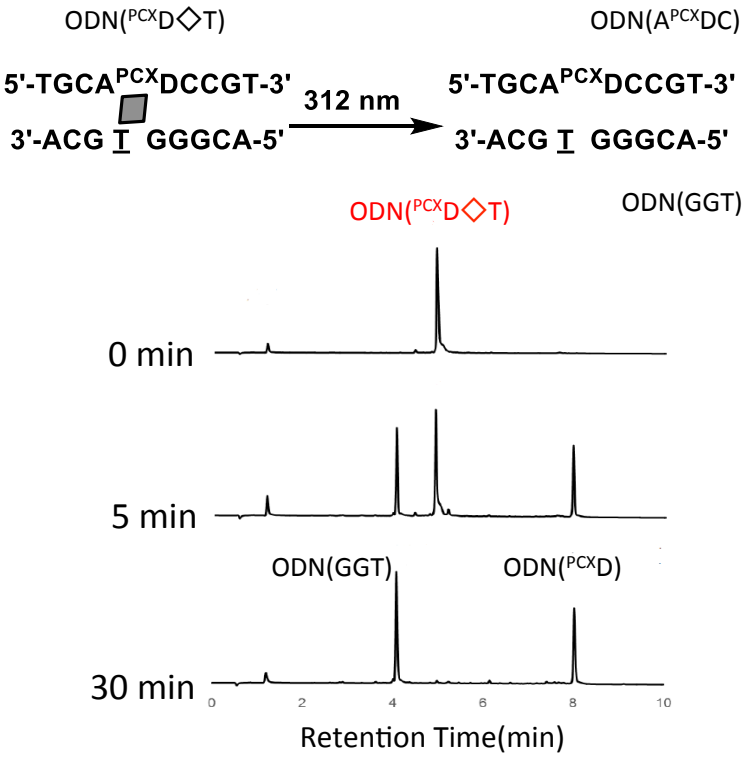


Figure S14 The photo-splitting of PCXD. The 10 μM photoadduct in 50 mM Cacodylate buffer containing 100 mM NaCl was photoirradaited at 312 nm under the 60°C condition.

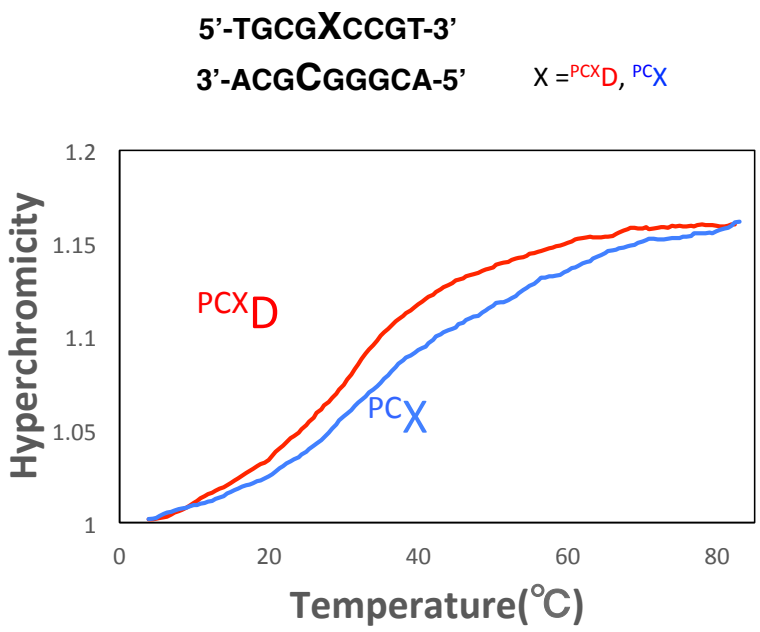
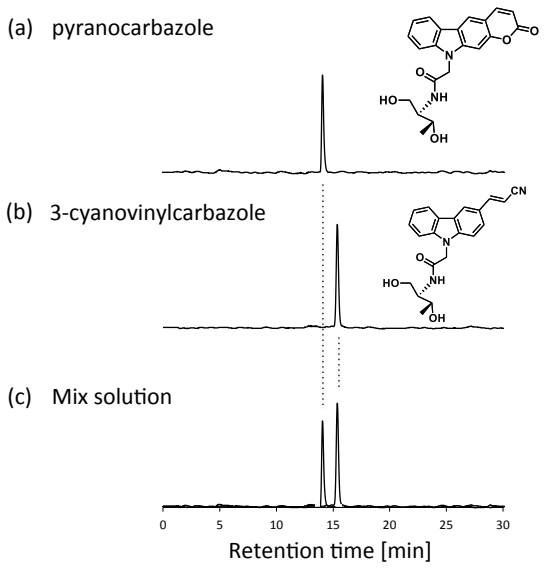


Figure S15 Meitng Curve of duplex cnontaining. Sample solution is duplex in 50 mM Cacodylate buffer containing 100 mM NaCl was measured absorbance at 260 nm from 5°C to 85°C



	Retention time [min]	LogP
^{PCX}D	14.1	1.12
^{CNV}D	15.2	1.35

Figure S16 The HPLC analysis of (a) pyranocarbazole (b) 3-cyanovinylcarbazole, and (c) Both

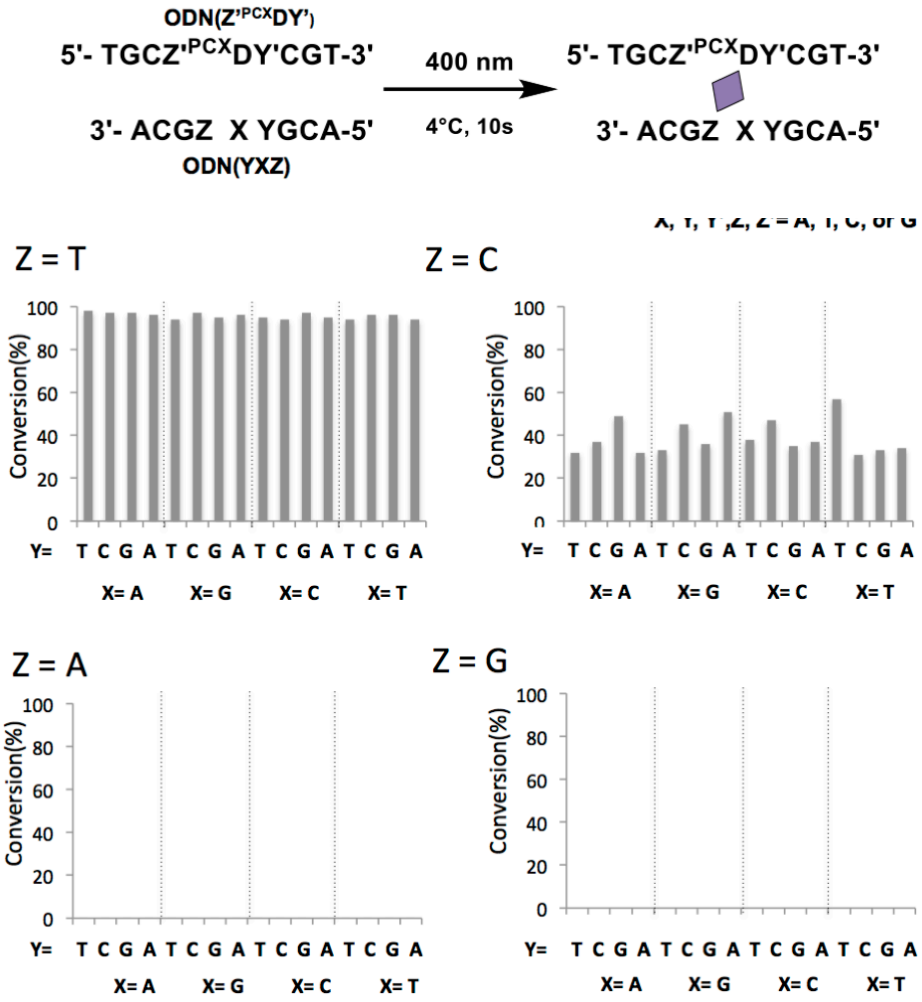


Figure. S17 Effect of surrounding base of ^{PCX}D on its photoreactivity in dsDNA. 10 μM DNA in 50 mM cacodylate buffer (pH 7.4) containing 100 mM NaCl was 400 nm-irradiated for 10 s at 4 °C.

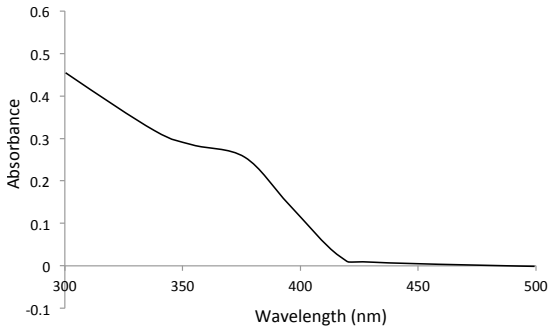


Figure S18 UV spectra of ^{PCX}D

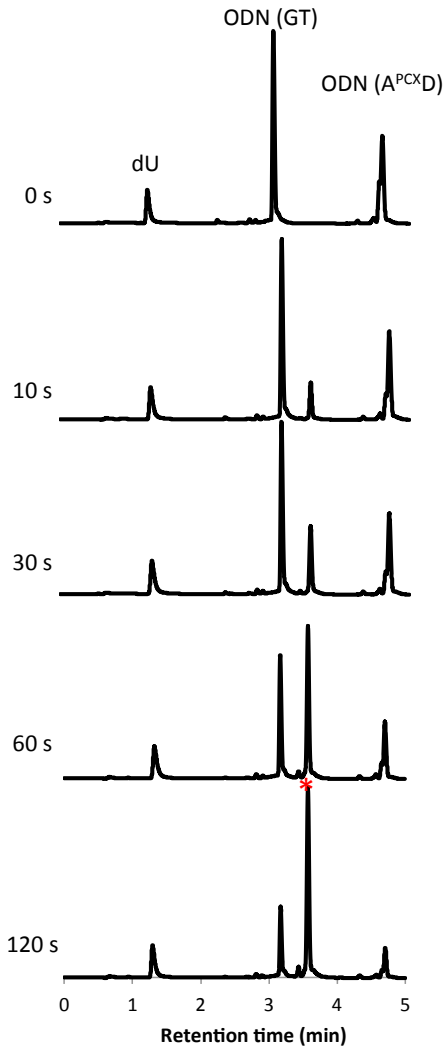


Figure S19 Photo-cross-linking using ^{PCX}D. 10 μM ODNs in 50 mM Cacodylate buffer containing 100 mM NaCl was annealed and photoirradaition at 450 nm on ice.