Synthesis, DNA binding and photocleavage study of novel anthracene-appended macrocyclic polyamines

Yu Huang^a, Yu Zhang^a, Ji Zhang^a, Da-Wei Zhang^b, Qiao-Sen Lu^a,

Jun-Liang Liu^a, Shan-Yong Chen^a, Hong-Hui Lin^{b*}, Xiao-Qi Yu^{a*}

a Key Laboratory of Green Chemistry and Technology (Ministry of Education), College of

Chemistry, Sichuan University, Chengdu, 610064, P. R. China

b Key Laboratory of Bio-resources and Eco-environment (Ministry of Education), College of Life Sciences, Sichuan University, Chengdu, Sichuan 610064, China.

Table of content

Figure S1: Absorption titration of compound 1. •••••••\$3
Figure S2: Fluorescence titration of compound 1. ••••••S4
Figure S3: Histogram representing the percent photocleavage of pUC 19
plasmid DNA. •••••S5
Figure S4 : ¹ H NMR and ¹³ C NMR of 1 . ••••••S7
Figure S5 : ¹ H NMR and ¹³ C NMR of 2 . • • • • • • • S8
Figure S6 : ¹ H NMR and ¹³ C NMR of 3 . • • • • • • • • • • • • • • • • • • •
Figure S7: ¹ H NMR and ¹³ C NMR of 4. · · · · · · · · · · · · · · · · · ·
Figure S8 : ¹ H NMR and ¹³ C NMR of 5 . · · · · · · · · · · · · · · · · · · ·
Figure S9 : ¹ H NMR and ¹³ C NMR of 6 . · · · · · · · · · · · · · · · · · · ·

Supporting information

Figure S10 : ¹ H NMR and ¹³ C NMR of 7 . ••••••S13
Figure S11 : ¹ H NMR and ¹³ C NMR of 8 . • • • • • • • • • • • • • • • • • • •
Figure S12: ¹ H NMR and ¹³ C NMR of 9. · · · · · · · · · · · · · · · S1:

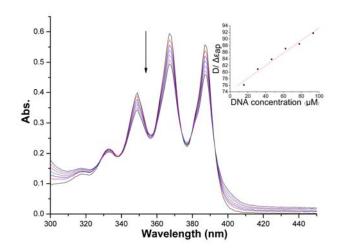


Figure S1. Absorption spectra of 1 (100 $\mu M)$ with increasing concentrations of CT DNA (0-100 $\mu M)$

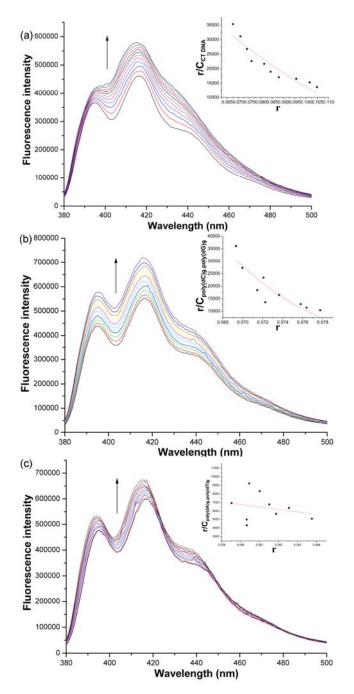
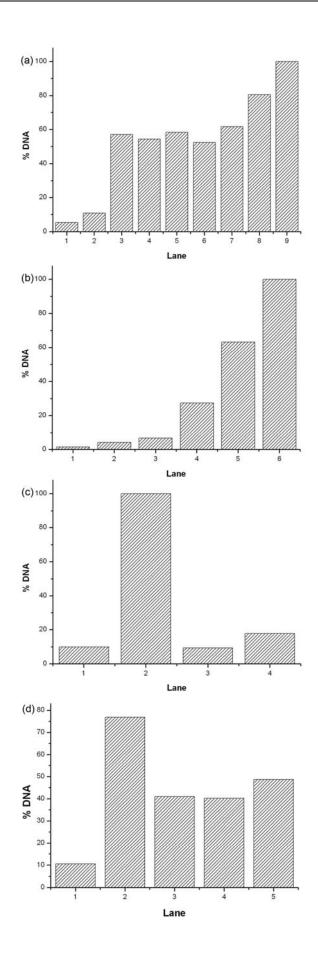


Figure S2. Fluorescence titration of compound 1 with (a) CT DNA, (b) poly $(dC-dG)_9$ and (c) poly $(dA-dT)_9$



Supporting information

Figure S3. Histogram representing the percent photocleavage of pUC 19 plasmid DNA. (a) Different irriation time in the presence of compound 2; (b) Different concentration of compound 2; (c) Comparing the photocleavage activity of compound 2 and 1; (d) Inhibition experiments in the presence of compound 2.

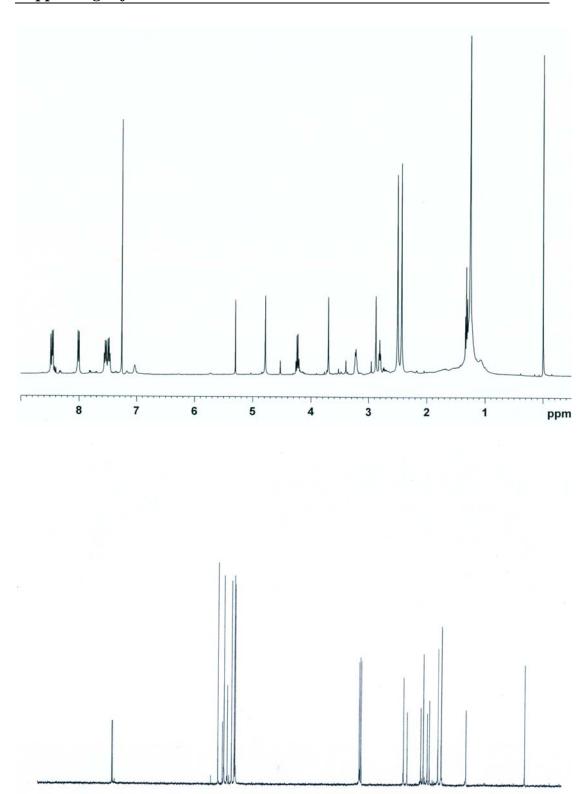


Figure S4: ¹H NMR and ¹³C NMR of **1**.

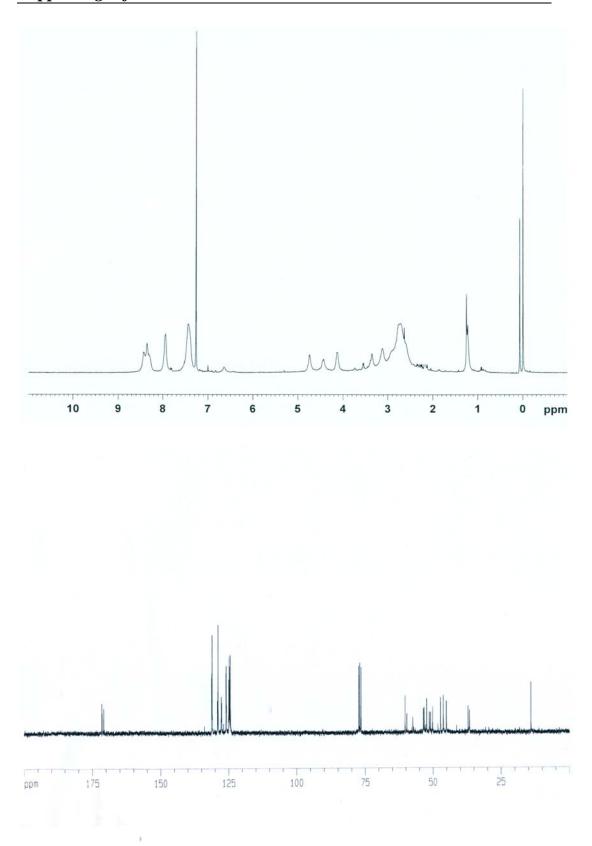


Figure S5: ¹H NMR and ¹³C NMR of **2**.

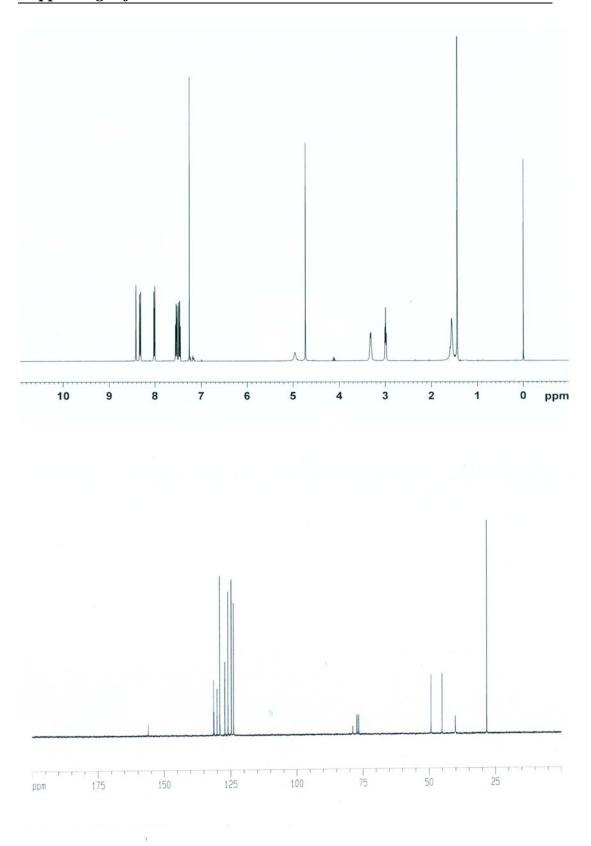
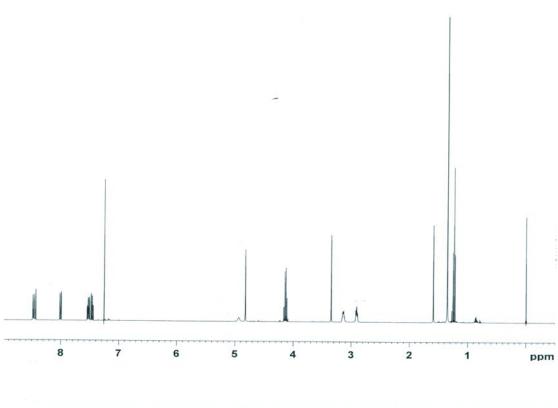


Figure S6: ¹H NMR and ¹³C NMR of **3**.



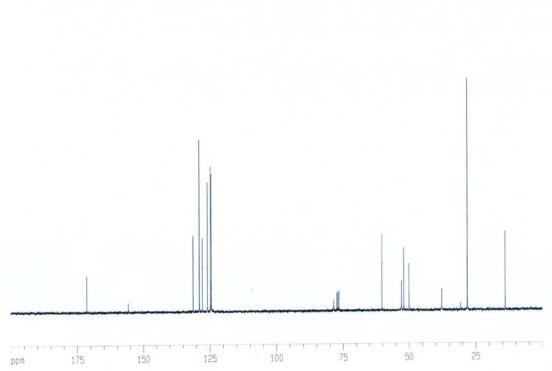


Figure S7: ¹H NMR and ¹³C NMR of **4**.

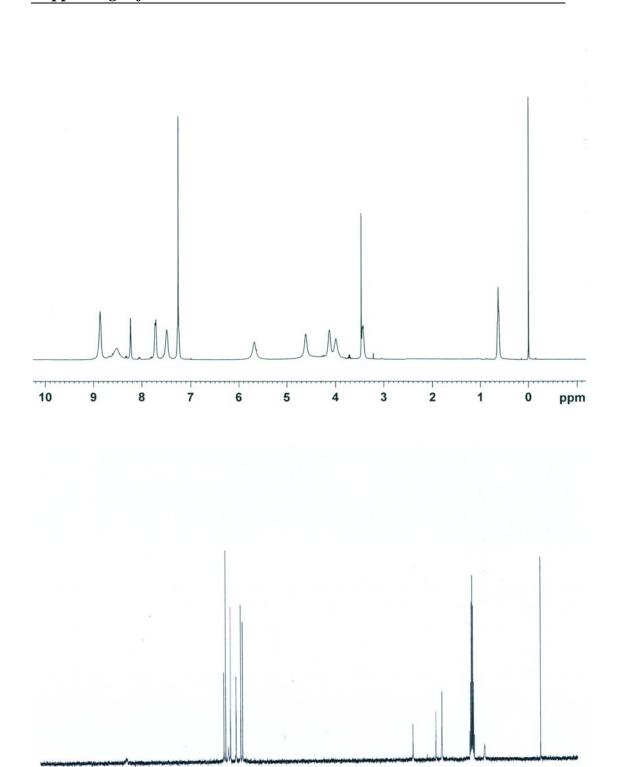


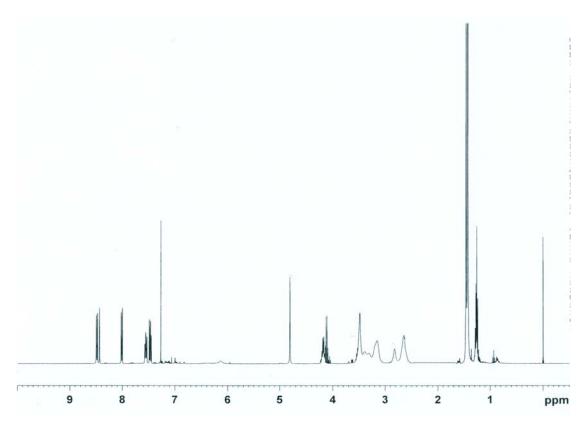
Figure S8: ¹H NMR and ¹³C NMR of **5**.

100

125

25

50



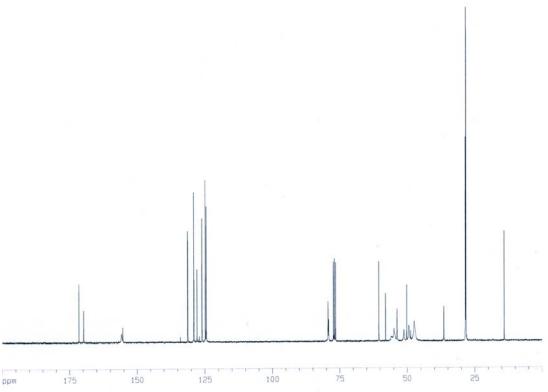


Figure S9: ¹H NMR and ¹³C NMR of **6**.

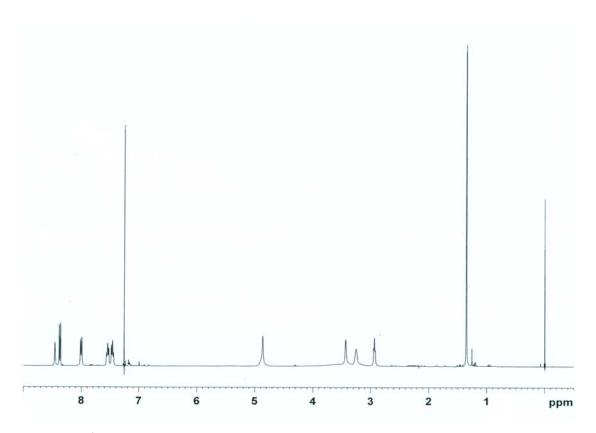


Figure S10: ¹H NMR NMR of **7**.

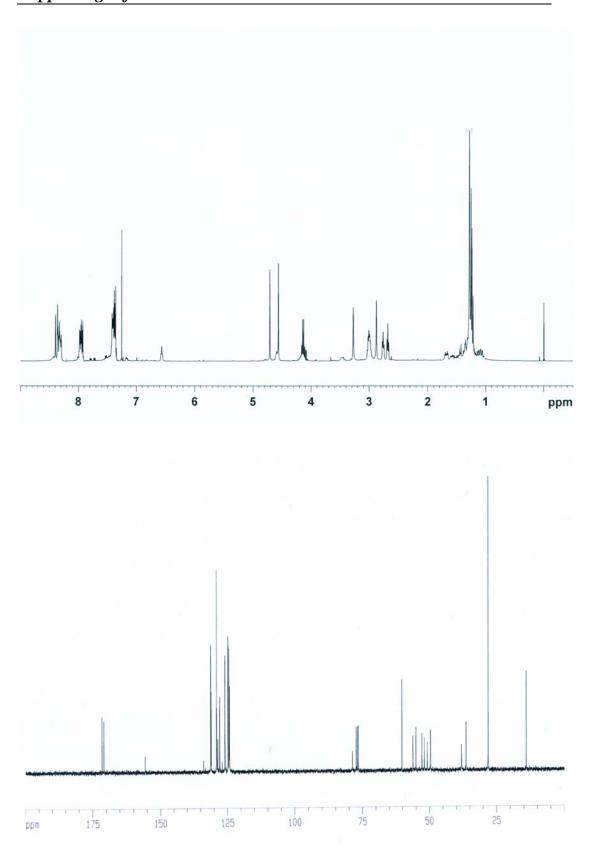


Figure S11: ¹H NMR and ¹³C NMR of **8**.

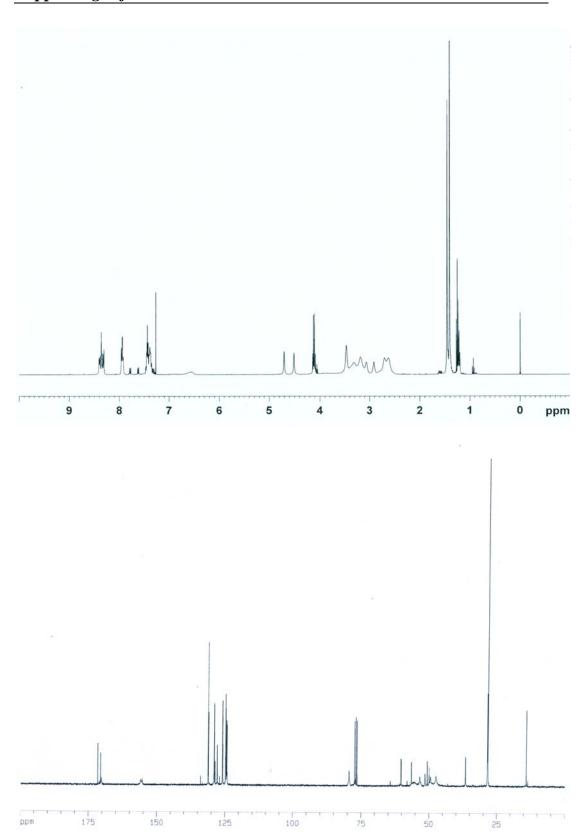


Figure S12: ¹H NMR and ¹³C NMR of **9**.