

Supporting Information

Induced chiroptical properties of helical Eu(III) complex by electrostatic interaction with DNA

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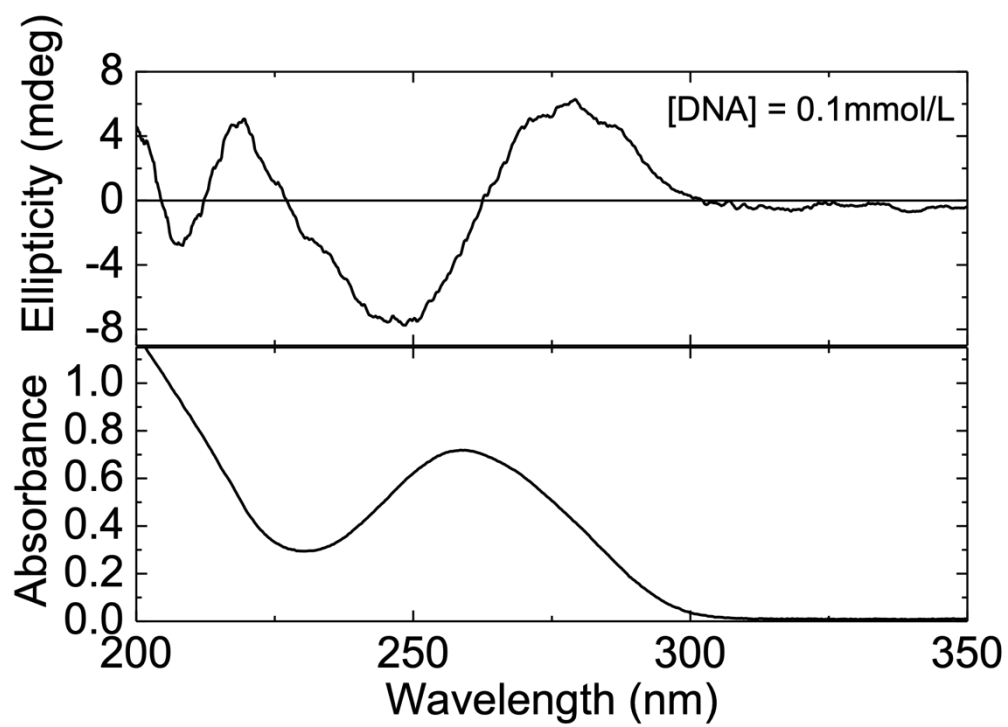


Fig. S1 Absorption (bottom) and CD (top) spectra of DNA. The concentration is 0.1 mmol/L.

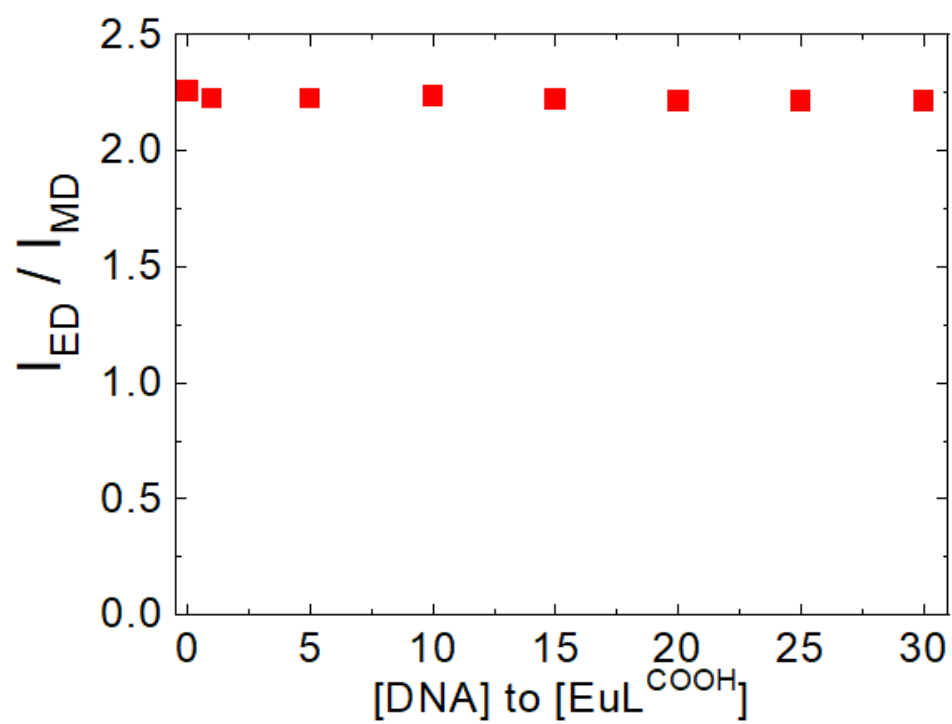


Fig. S2 I_{rel} of EuL^{COOH} and the DNA/ EuL^{COOH} hybrid solutions.

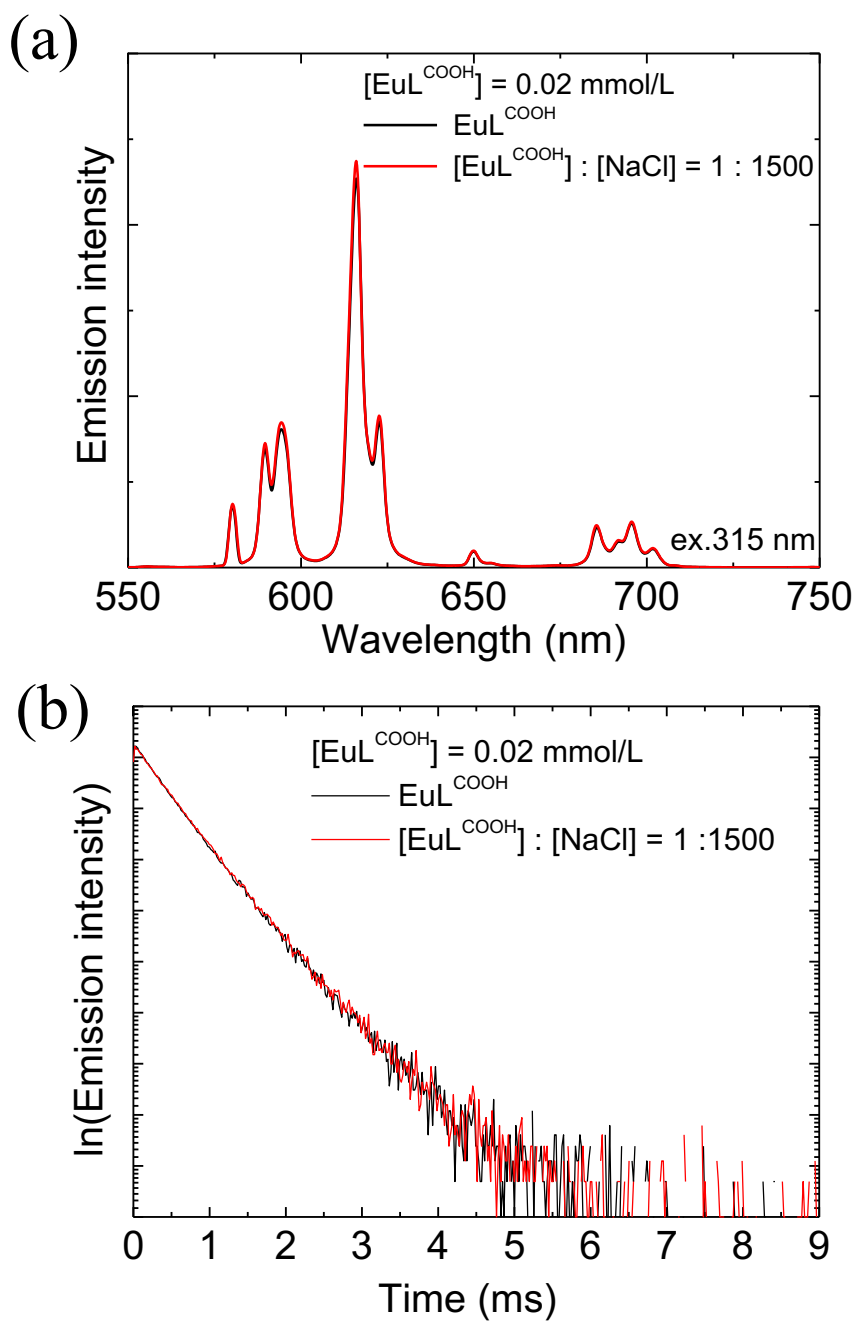


Fig. S3 (a) Emission spectra and (b) emission decay profile of EuL^{COOH} without and with the addition of the excess amount of NaCl (1500 eq. to EuL^{COOH}).

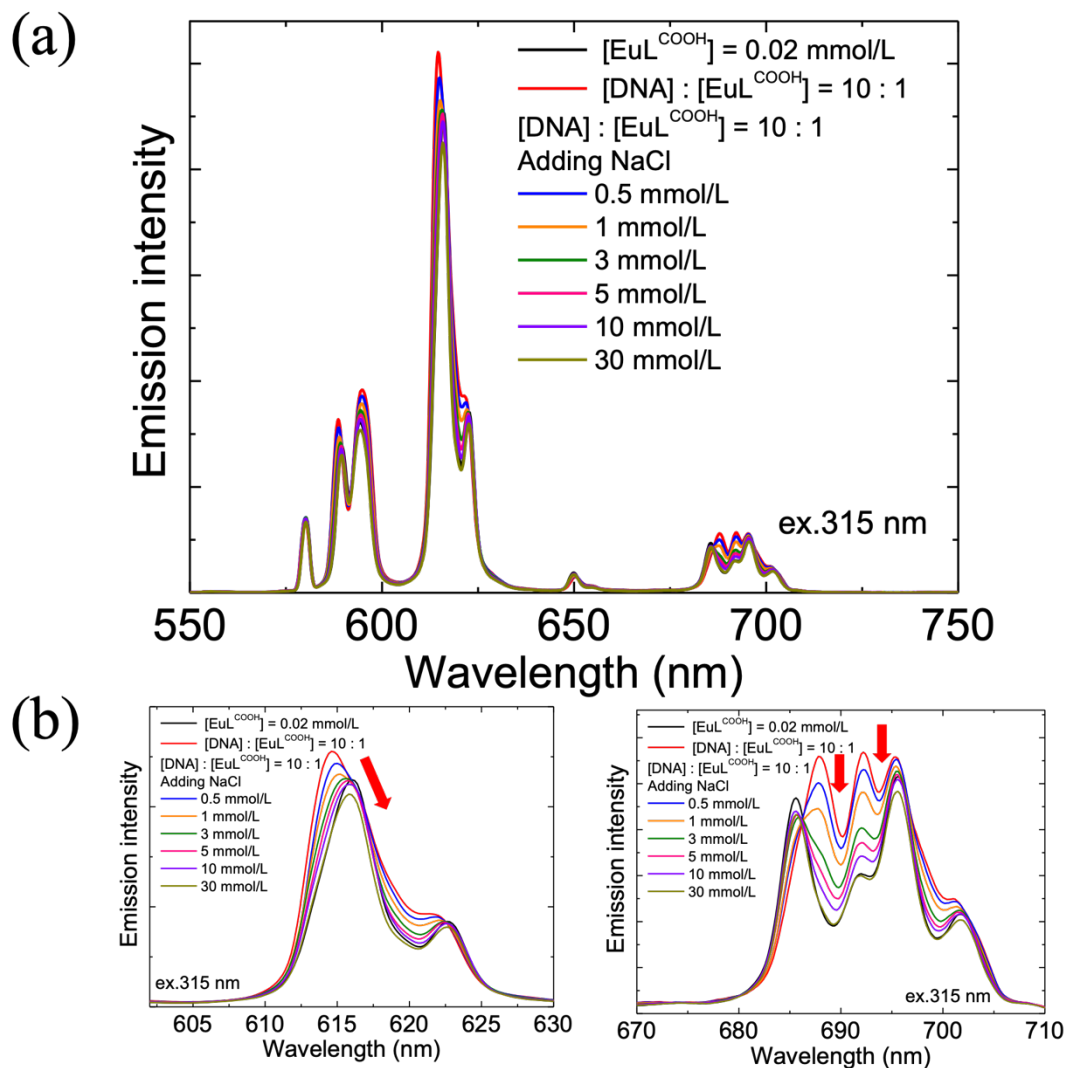


Fig. S4 (a) Emission spectra of EuL^{COOH} and the $\text{DNA}/\text{EuL}^{\text{COOH}}$ hybrid solutions without and with the addition of NaCl. (b) Emission spectra of the $\text{DNA}/\text{EuL}^{\text{COOH}}$ hybrid solutions for ${}^5\text{D}_0 \rightarrow {}^7\text{F}_2$ (left) and ${}^5\text{D}_0 \rightarrow {}^7\text{F}_4$ (right) without and with the addition of NaCl. The excitation wavelength was 315nm.

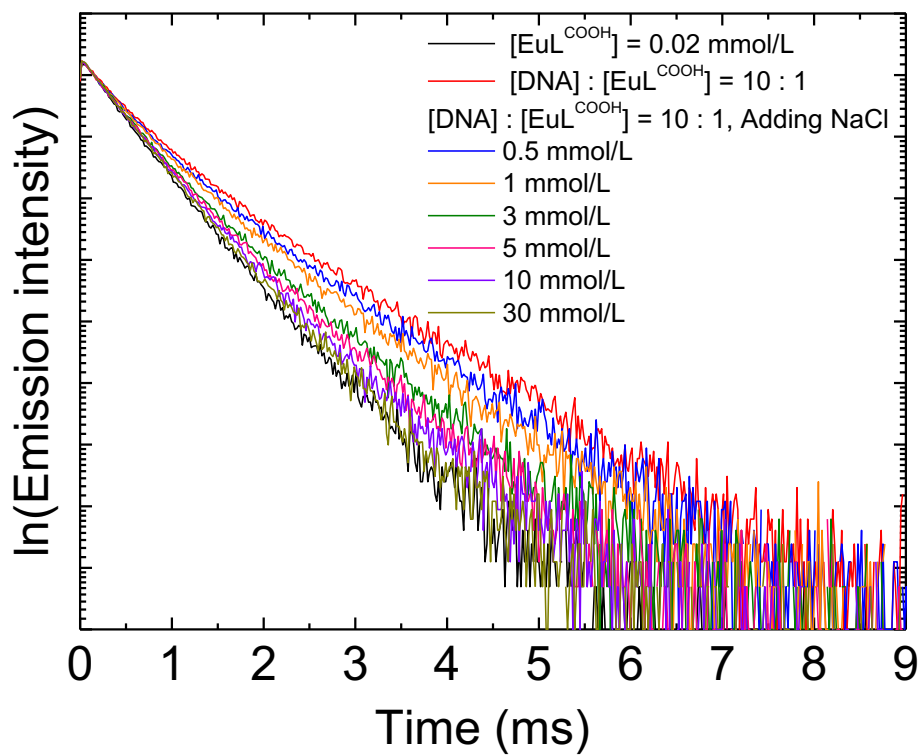


Fig. 5 Emission decay profiles of EuL^{COOH} and the $\text{DNA}/\text{EuL}^{\text{COOH}}$ hybrid solutions without and with the addition of NaCl.

[DNA] : [EuL ^{COOH}] =10:1	τ_{ave} (ms)	τ_1 (ms)	τ_2 (ms)
[NaCl] (mmol/L)		0.50	1.1
0	0.88	45.6%	54.5%
0.5	0.78	53.5%	46.5%
1	0.73	61.6%	38.5%
3	0.65	75.4%	24.7%
5	0.62	79.9%	20.1%
10	0.59	85.0%	15.0%
30	0.56	89.8%	10.2%
[EuL ^{COOH}]	0.53		

Table S6 Average emission lifetime (τ_{ave}) and contribution (%) of τ_1 , τ_2 components of EuL^{COOH} and the DNA/EuL^{COOH} hybrid solution without and with the addition of NaCl.

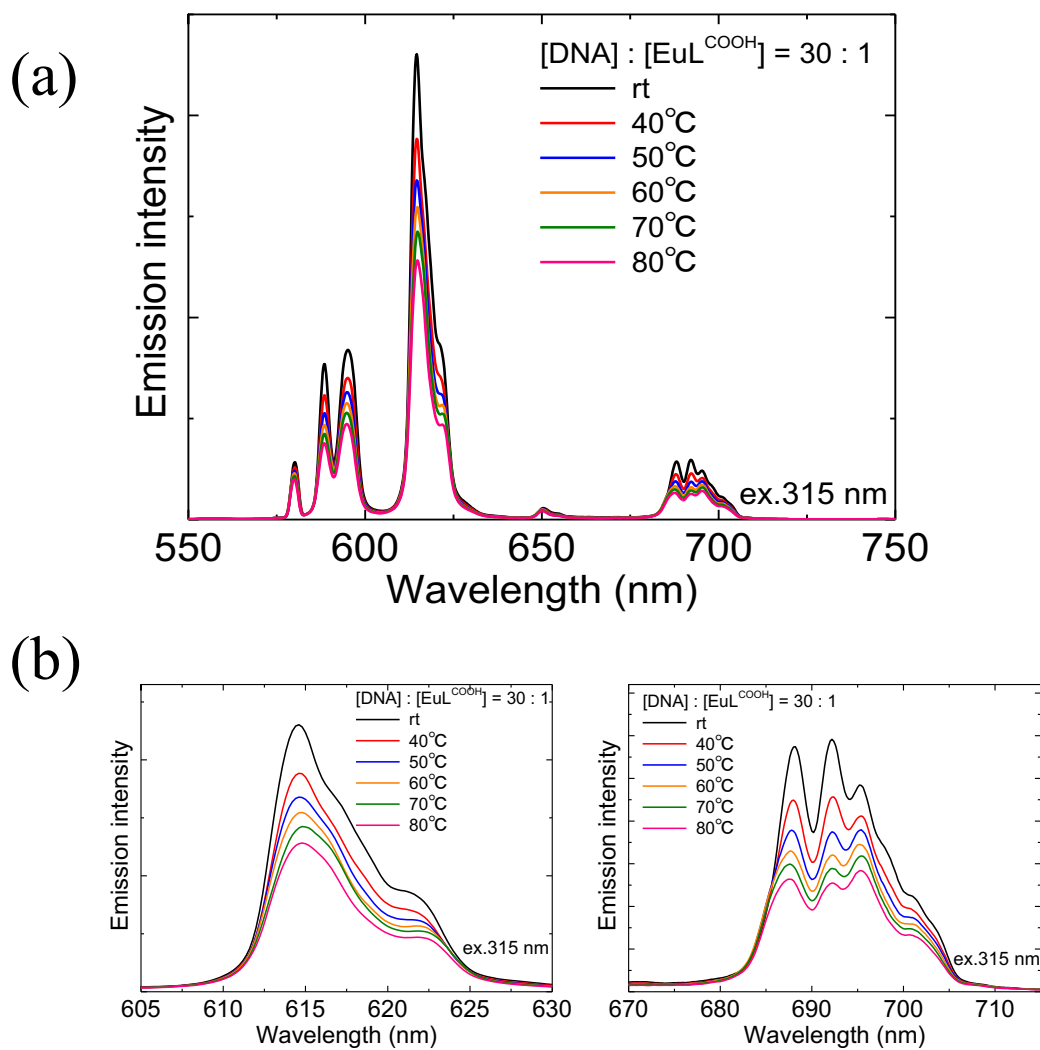


Fig. S7 (a) Emission spectra of EuL^{COOH} and the DNA/EuL^{COOH} hybrid solution at various temperatures. (b) Emission spectra of the DNA/EuL^{COOH} hybrid solution for $^5D_0 \rightarrow ^7F_2$ (left) and $^5D_0 \rightarrow ^7F_4$ (right) at various temperatures. The excitation wavelength was 315 nm.

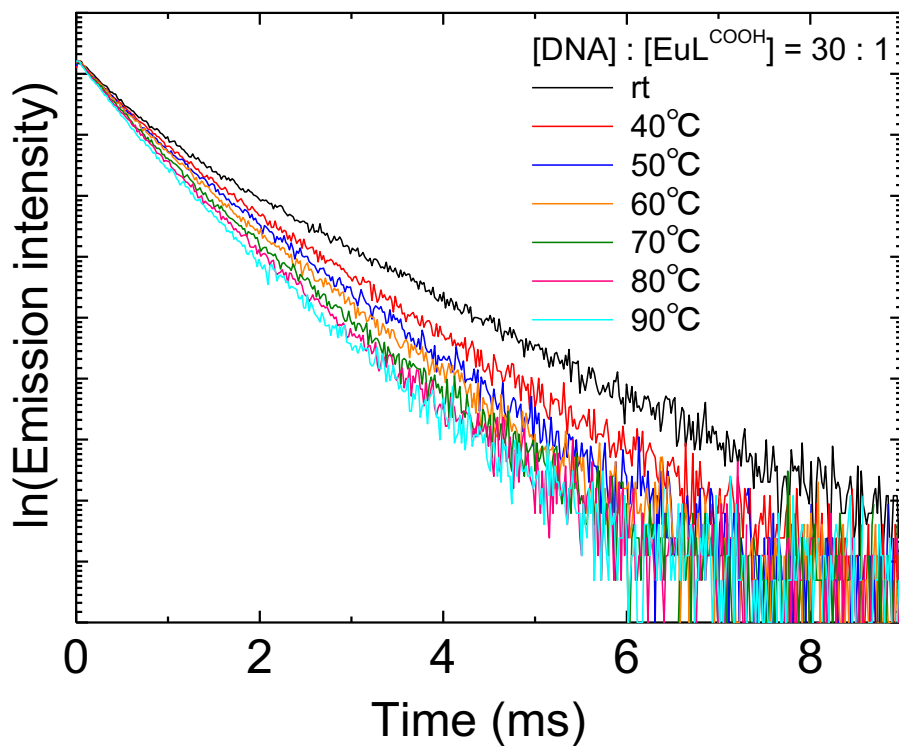


Fig. S8 Emission decay profiles of the DNA/EuL^{COOH} hybrid solution at various temperatures.

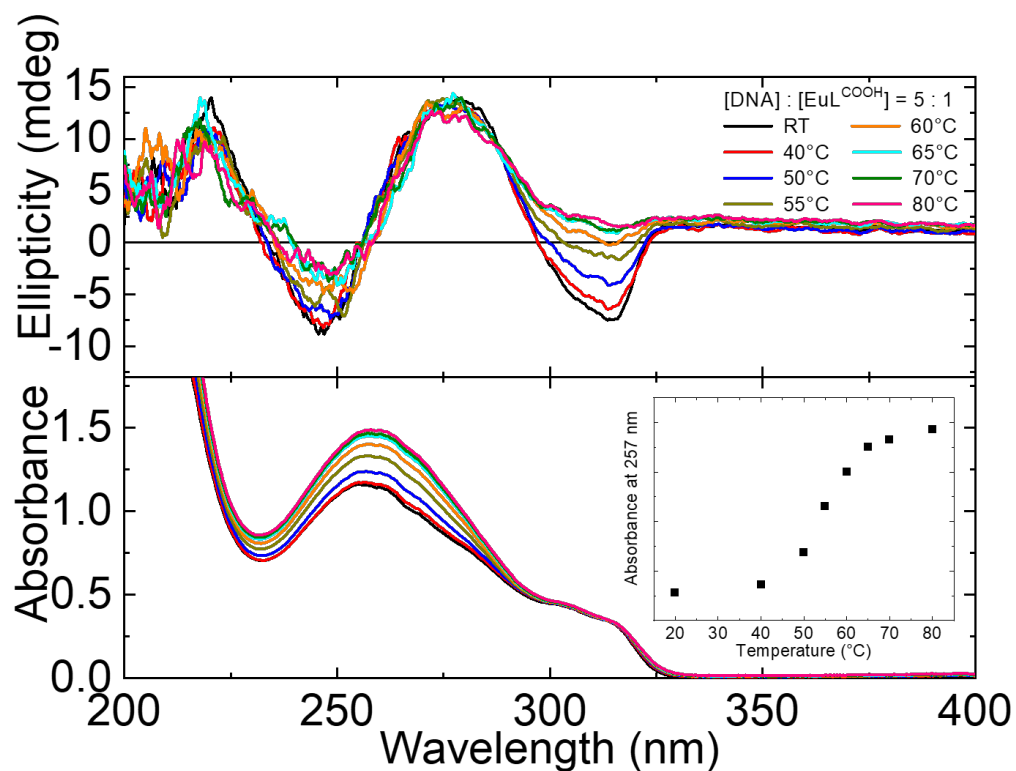


Fig. S9 Absorption (bottom) and CD (top) spectra of the DNA/EuL^{COOH} hybrid solution at various temperatures. Insert: the relationship between the temperature and absorbance (257 nm) of DNA.