Electronic Supplementary Material (ESI) for Materials Advances.

Supporting Information

Competitive Induction of Circularly Polarized Luminescence of CdSe/ZnS Quantum Dots in Nucleotide-amino acid Hydrogel

Xin Wen[a,b], Huahua Fan[a], Lihong Jing[a], Ming Deng[a], Xiaodan Huang[a], Tifeng Jiao[b], Li Zhang[*a], and Minghua Liu[*a]

Supplementary Figures

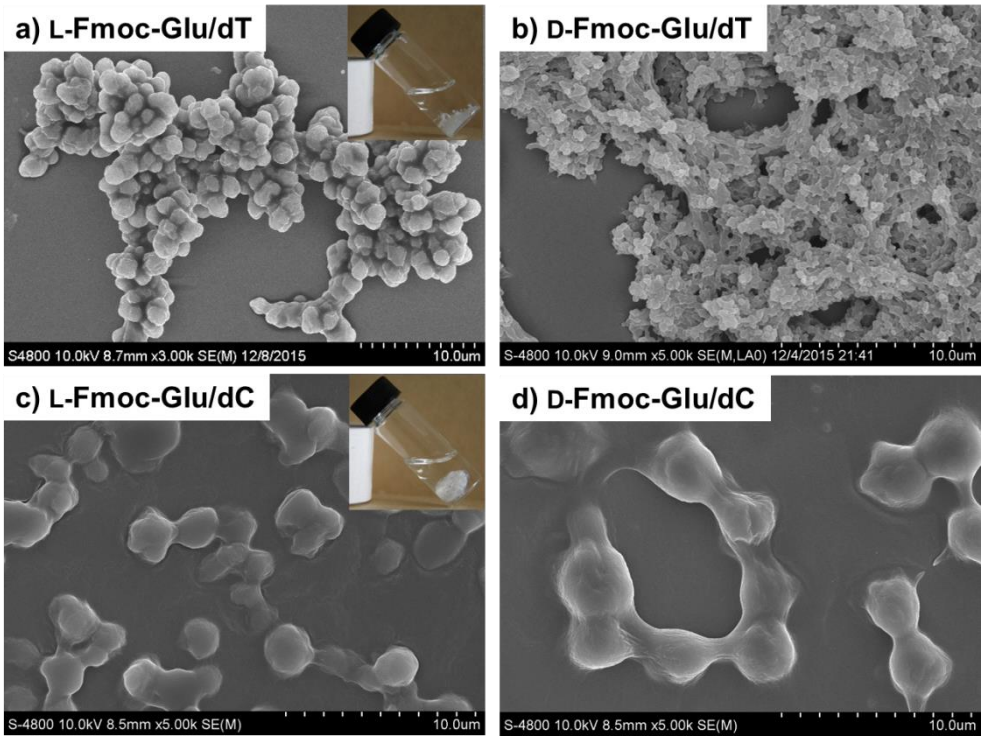

Fig. S1 a, b) SEM images of L(D)-Fmoc-Glu/dT. c, d) SEM images of L(D)-Fmoc-Glu/dC.

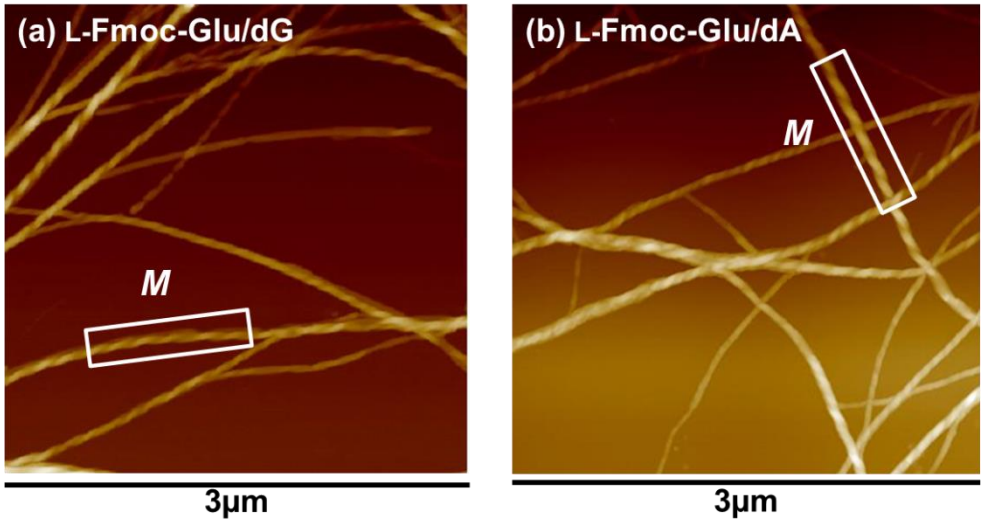

Fig. S2 AFM images of L-Fmoc-Glu/dG (a) and L-Fmoc-Glu/dA (b).

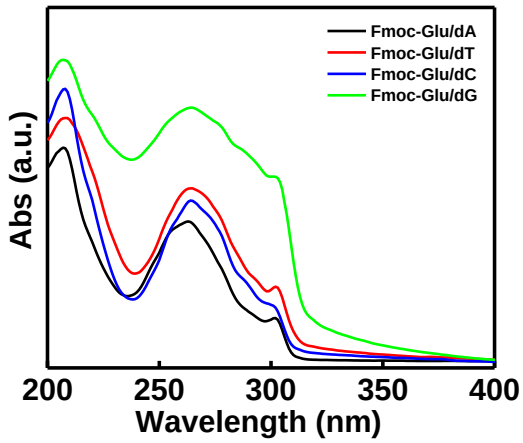

Fig. S3 UV-Vis spectra of hydrogels of Fmoc-Glu with four deoxynucleotides: dA, dT, dC, dG, respectively.

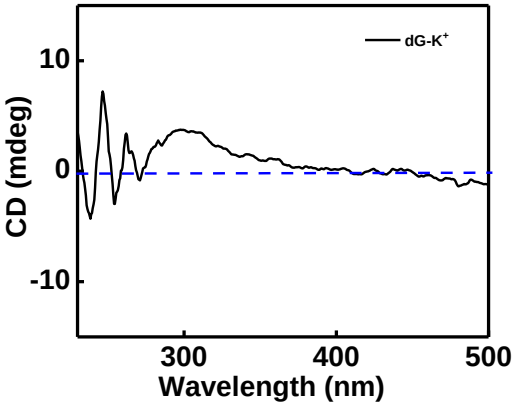

Fig. S4 CD spectrum of dG/K^+ (4mM/1mM) assembly.

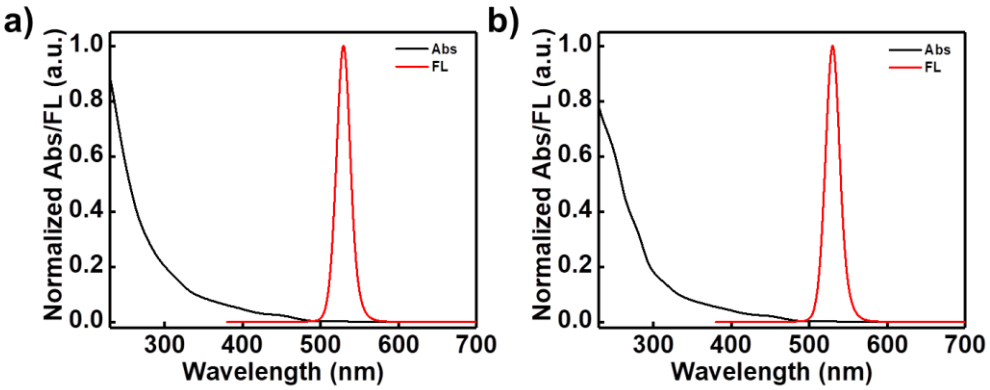

Fig. S5 The normalized absorption and fluorescence spectra of the CdSe/ZnS QDs with ligand of thioglycollic acid (a, COOH-protected) and cysteamine (b, NH_2-protected).

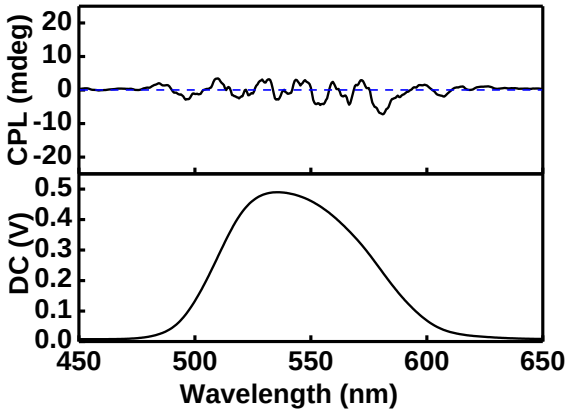

Fig. S6 CPL spectrum of the Fmoc-Glu (8mM) dispersion mixed with QDs (the ligand of TGA, 20nm).

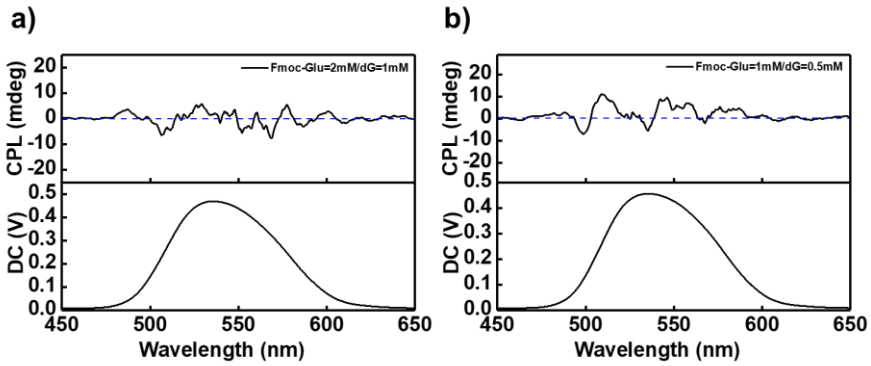

Fig. S7. CPL spectra of the lower concentration Fmoc-Glu/dG solution mixed with

QDs. a). Fmoc-Glu: 2mM, dG: 1mM, QD: 20nM b). Fmoc-Glu: 1mM, dG: 0.5mM, QD: 20nM.

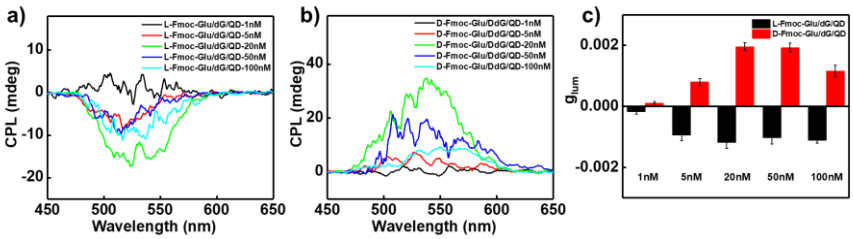

Fig. S8 CPL spectra of hydrogels doped different concentration CdSe/ZnS QDs. a) L-Fmoc-Glu/dG/QD. b) D-Fmoc-Glu/dG/QD. c) g_{lum} of QDs-doped hydrogels according to Fig. S8a and b.

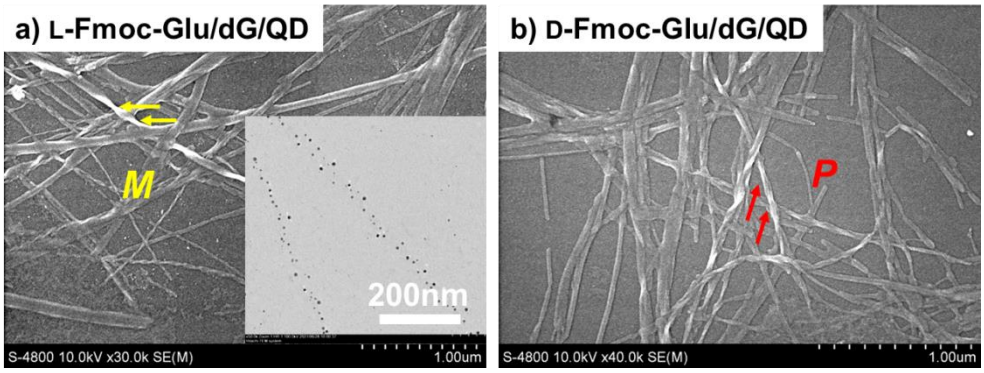

Fig. S9 a, b) SEM images of QDs-doped hydrogel of L(D)-Fmoc-Glu/dG. Insert: TEM image of QDs-doped hydrogel of L-Fmoc-Glu/dG.

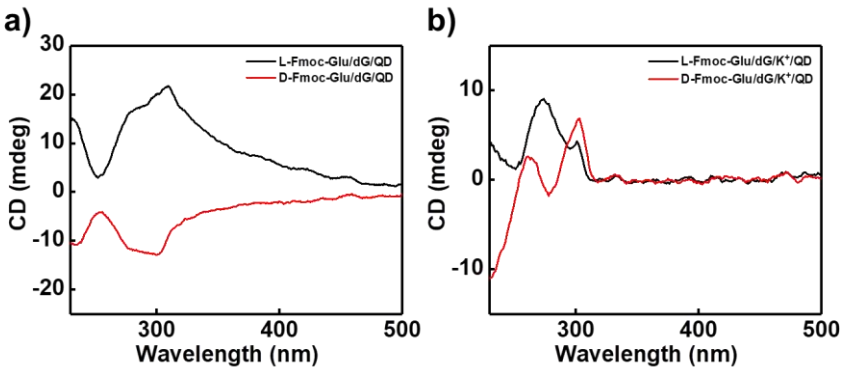

Fig. S10 CD spectra of QDs (the ligand of TGA, 20nM) doped hydrogels of (a) L(D)-Fmoc-Glu/dG and (b) L(D)-Fmoc-Glu/dG/K^+.

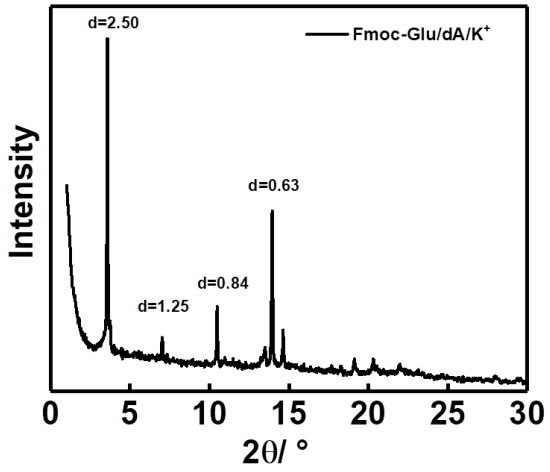

Fig. S11 XRD pattern of assembly of Fmoc-Glu/dA/K^+ (8:4:1, molar ratio).

Supplementary Table

Table S1 Optical properties of diluted CdSe/ZnS QDs and QDs-doped hydrogels.

	λ_{em} (nm)	QY (%)
CdSe/ZnS QD solution	529	39.97
Fmoc-Glu/dG hydrogel	533	43.05
Fmoc-Glu/dG/K^+ hydrogel	533	43.68
Fmoc-Glu/dA hydrogel	533	34.09
Fmoc-Glu/dA/K^+ hydrogel	533	34.26

Table S2 The fluorescence lifetime of diluted CdSe/ZnS QD solution and co-assembled hydrogels.

	Fluorescence lifetime τ (ns)
CdSe/ZnS QD solution	31.81
Fmoc-L-Glu/dG hydrogel	20.01
Fmoc-L-Glu/dG/K+ hydrogel	17.69