Electronic Supplementary Information (ESI)

Thymidine-functionalized silica nanotubes for selective recognition and separation of oligoadenosine

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Scheme S1. Synthetic routes of organogelators 9 and 10.

(a) 11-bromoundecanoic acid, DCC, DMAP, THF
(b) TMA, THF/DMF

(a) dodecylisocyanate, toluene
(b) DCM
(c) diethylether
Scheme S2. Synthetic routes for compounds 1-3 as guest molecules.
Fig. S1 FT-IR spectrum of SNTs after attachment of the chloropropyl silane group.
Fig. S2 TGA data of the chloropropyl silane group attached SNTs after remove template.
Fig. S3 $^{13}$C CP/MAS of T-SNTs.
Fig. S4 TOF-SIMS spectra of T-SNTs.
**Fig. S5** Fluorescence spectra change of adenosine derivative 1 ($2.5 \times 10^{-6}$M) (a) before and (b) after addition of SNTs (0.25mg) in aqueous solution (pH 7.4).

**Fig. S6** Fluorescence spectra of cytosine derivative 3 ($2.5 \times 10^{-6}$M) (a) before and (b) after addition of T-SNTs (0.25 mg) in aqueous solution (pH 7.4).
**Fig. S7** FT-IR spectra of T-SNTs in (a) the presence and (b) the absence of adenosine.
**Fig. S8** Fluorescence spectra change of adenosine derivative 1 (2.5 × 10^{-6} M) (a) before and (b) after addition of T-SPs (0.25 mg) in aqueous solution (pH 7.4).
Fig. S9 Fluorescence spectra change of guanosine derivative 2 ($2.5 \times 10^{-6}$M) (a) before and (b) after addition of T-SPs (0.25mg) in aqueous solution (pH 7.4).
Fig. S10 Fluorescence intensity change of oligonucleotide 6 ($2.5 \times 10^{-6}$ M) (a) before and (b) after addition of T-SNTs (0.25 mg) in aqueous solution (pH 7.4).
Fig. S11 Fluorescence intensity change of oligonucleotide 7 (2.5 × 10⁻⁶ M) (a) before and (b) after addition of T-SNTs (0.25 mg) in aqueous solution (pH 7.4).
Fig. S12 Fluorescence spectra of oligonucleotide 8 (2.5 × 10^{-6} M) (a) before and (b) after addition of T-SNTs (0.25 mg) in aqueous solution (pH 7.4).