Supporting Information for manuscript:

Functional self-assembled DNA nanostructures for molecular recognition

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	Strand name	Sequence
3-point star	C3	5′-AGG CAC CAT CGT AGG TTT TCT TGC CAG GCA CCA TCG TAG GTT TTC TTG CCA GGC ACC ATC GTA GGT TTT CTT GCC-3′
	S1	5′-ACT ATG CAA CCT GCC TGG CAA GCC TAC GAT GGA CAC GGT AAC G-3′
	S2	5′-CGT TAC CGT GTG GTT GCA TAG T-3′
	S2Va	5′-CGT TAC CGT GTG GTT GCA TAG TTT **CCG TCT TCC AGA CAA GAG TGC AGG G**-3′
	S2Ta	5′-CGT TAC CGT GTG GTT GCA TAG T **TTA GTC CGT GGT AGG GCA GGT TGG GGT GAC T**-3′
4-point star	C4	5′-AGG CAC CAT CGT AGG TTT TCT TGC CAG GCA CCA TCG TAG GTT TTC TTG CCA GGC ACC ATC GTA GGT TTT CTT GCC AGG CAC CAT CGT AGG TTT TCT TGC C-3′
	S1b	5′-GAC TGA GCC CTG CCT GGC AAG CCT ACG ATG GAC TAC TCA TCC-3′
	S2b	5′-GGA TGA GTA GTG GGC TCA GTC-3′
	S2bTa	5′-GGA TGA GTA GTG GGC TCA GTC **TTA GTC CGT GGT AGG GCA GGT TGG GGT GAC T**-3′

Table S1. Sequences used to construct the DNA nanostructures reported in this study. The letters C and S are used to represent the center and side strand, respectively. Aptamers are coupled to

the side strands by means of a TT linker (green). Red letters denote the sequences of the aptamers used in this study (DNA aptamer to VEGF (Va) and DNA aptamer to thrombin (Ta))

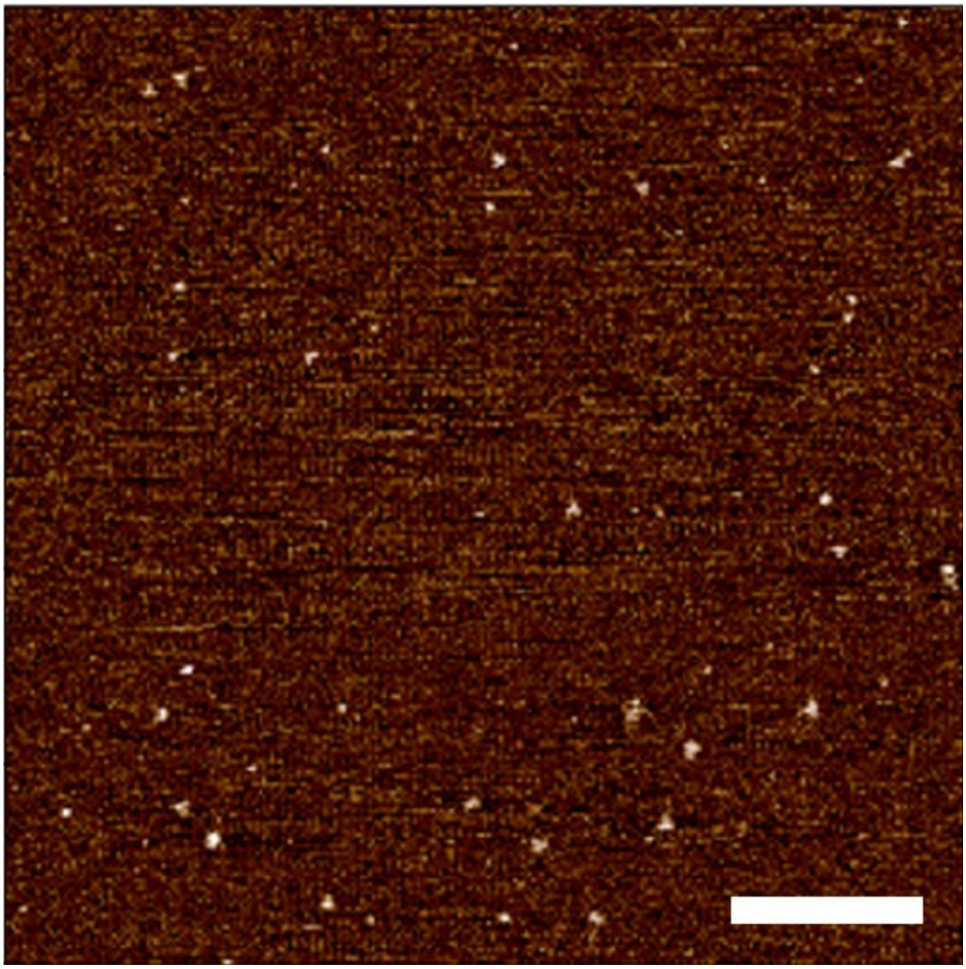

Figure S1. 1 μm^2 AFM scan of the 3-PS DNA assembly on mica surface in buffer condition (scale bar = 200 nm). A lower concentration is shown for clarity.

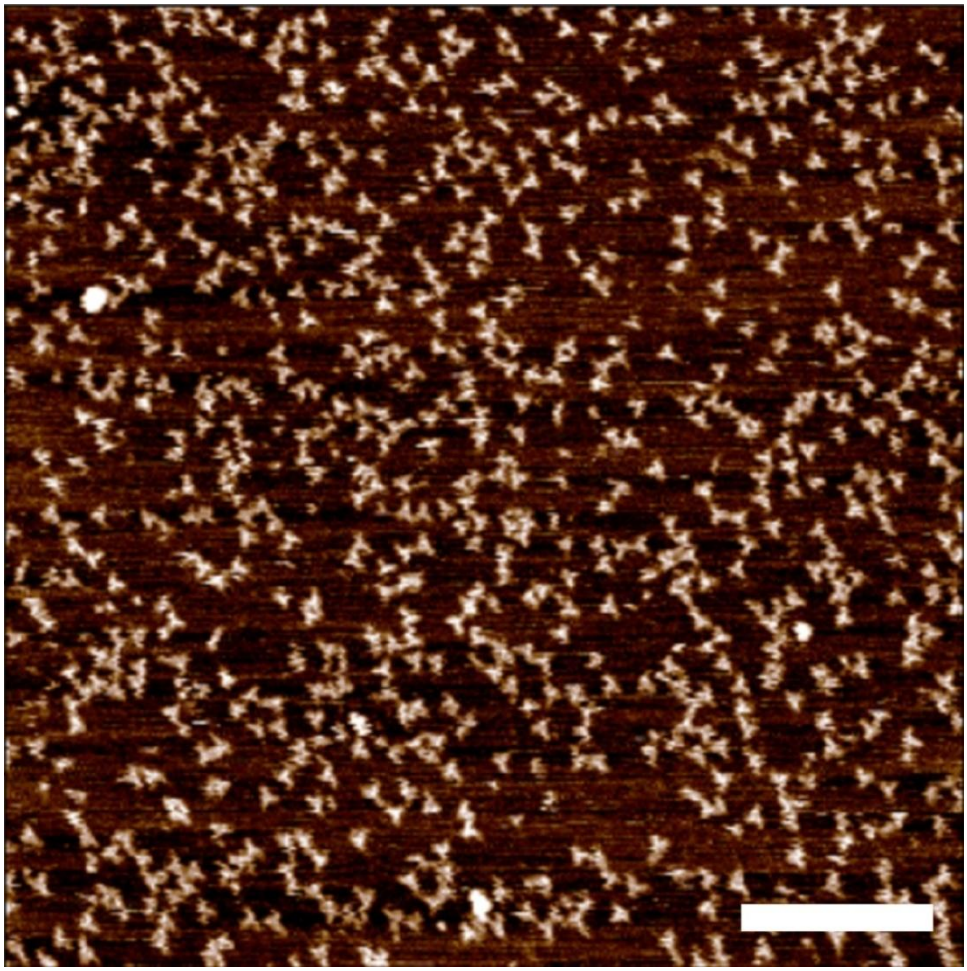

Figure S2. 1 μm^2 AFM scan of the VEGF aptamer-tagged 3-PS - 3-PSVa DNA assembly on mica surface in buffer condition (scale bar = 200 nm)

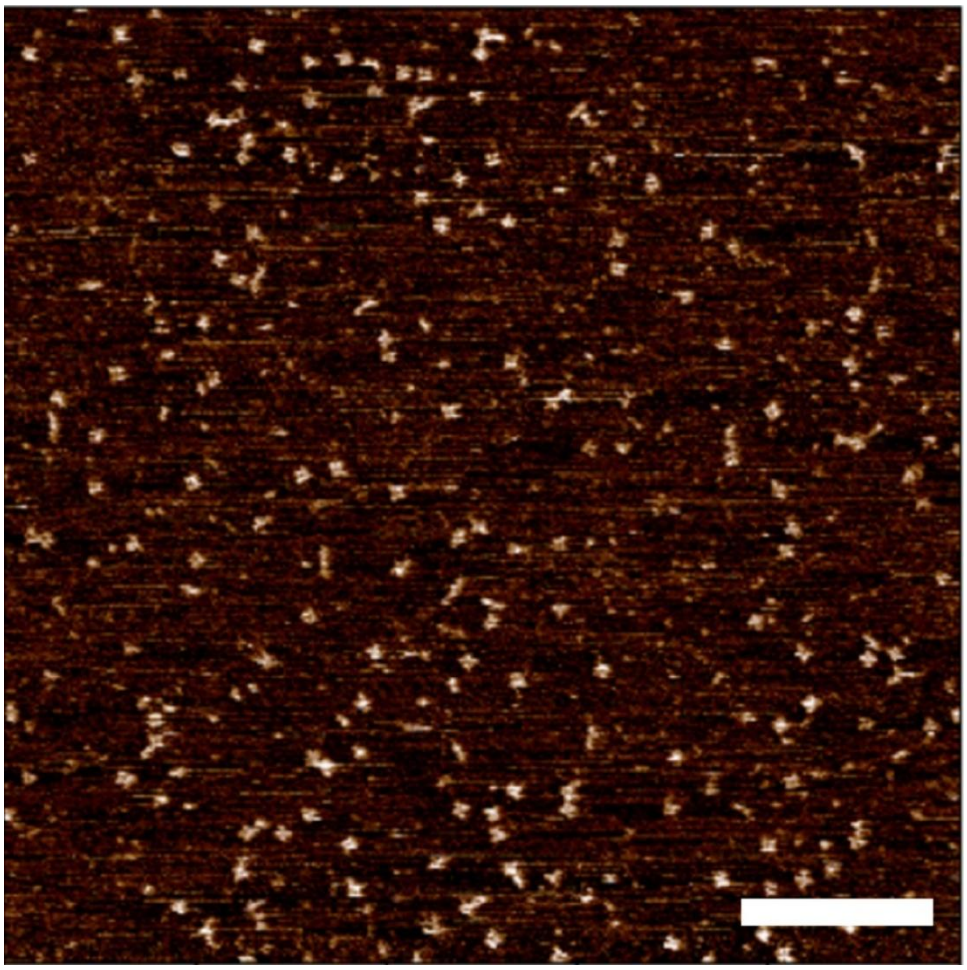

Figure S3. 1 μm^2 AFM scan of the 4-PS DNA assembly on mica surface in buffer condition (scale bar = 200 nm)

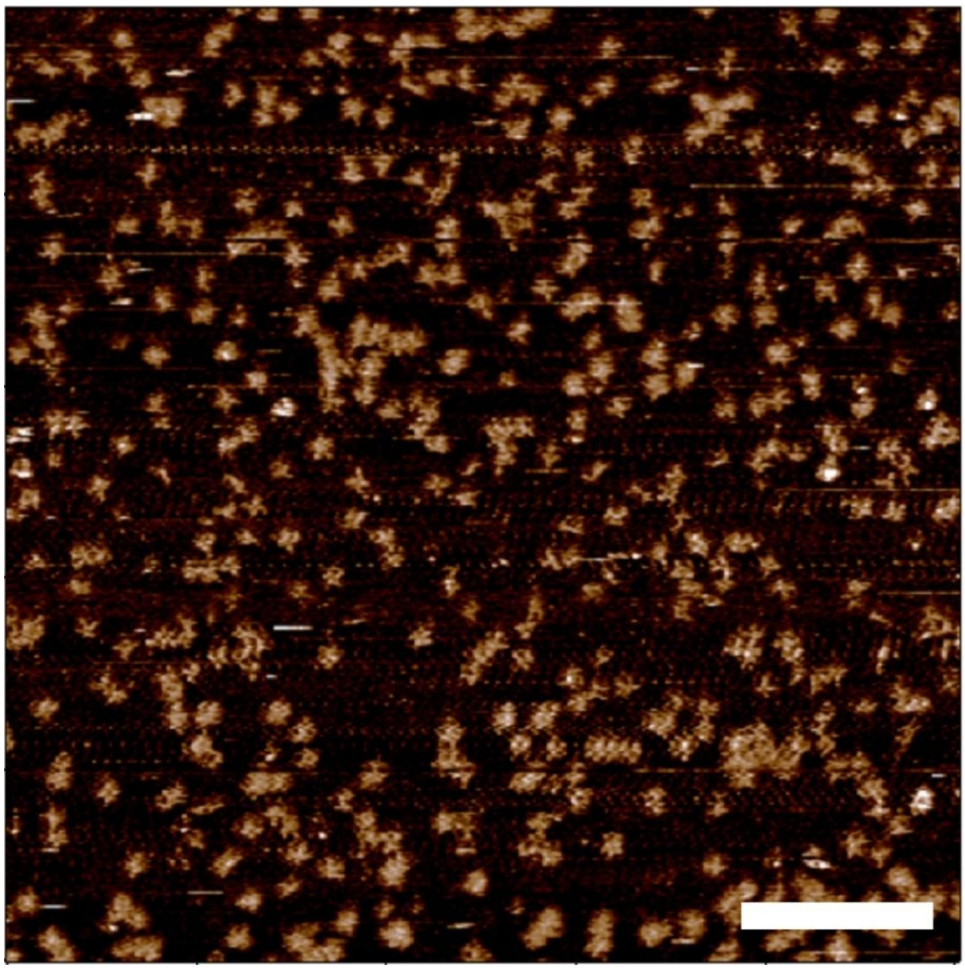

Figure S4. 1 μm^2 AFM scan of the thrombin aptamer-tagged 4-PS - 4-PSTa DNA assembly on mica surface in buffer condition (scale bar = 200 nm)

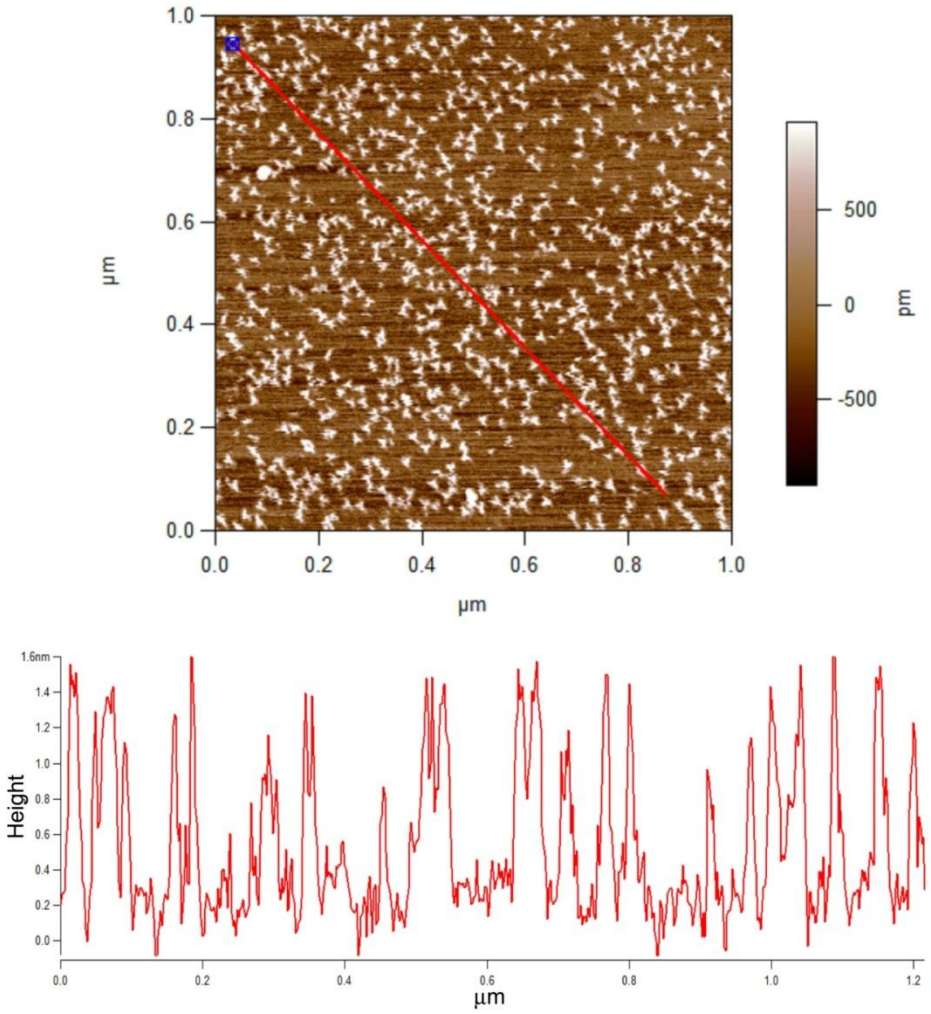

Figure S5. Height analysis of AFM scan of 3-PSVa assembly as an example. As expected from the design of the nanostructures, the heights are uniform and consistent at ~ 1.5 nm.

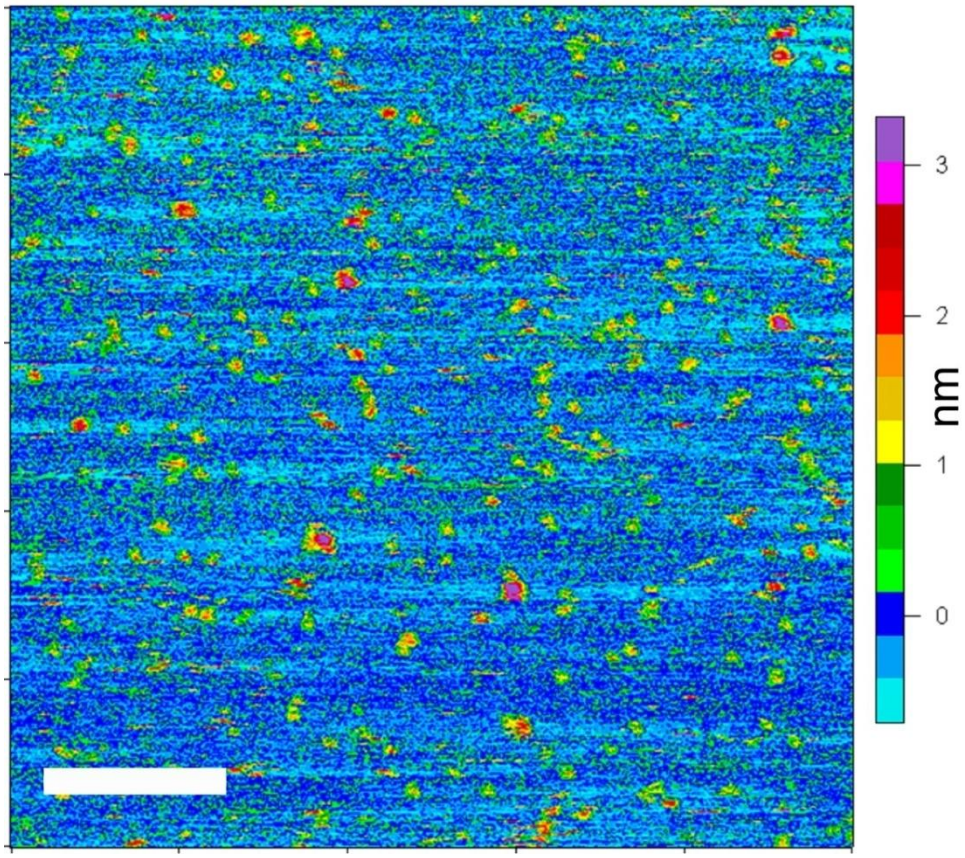

Figure S6. Visualization of binding of assembly and protein. 1 μm^2 AFM scan of the 4-PSTa DNA assembly with protein on a mica surface in buffer condition (scale bar 200 nm). The assemblies are seen in green and yellow (1.5 nm) and the proteins attached are in red (3-4 nm).

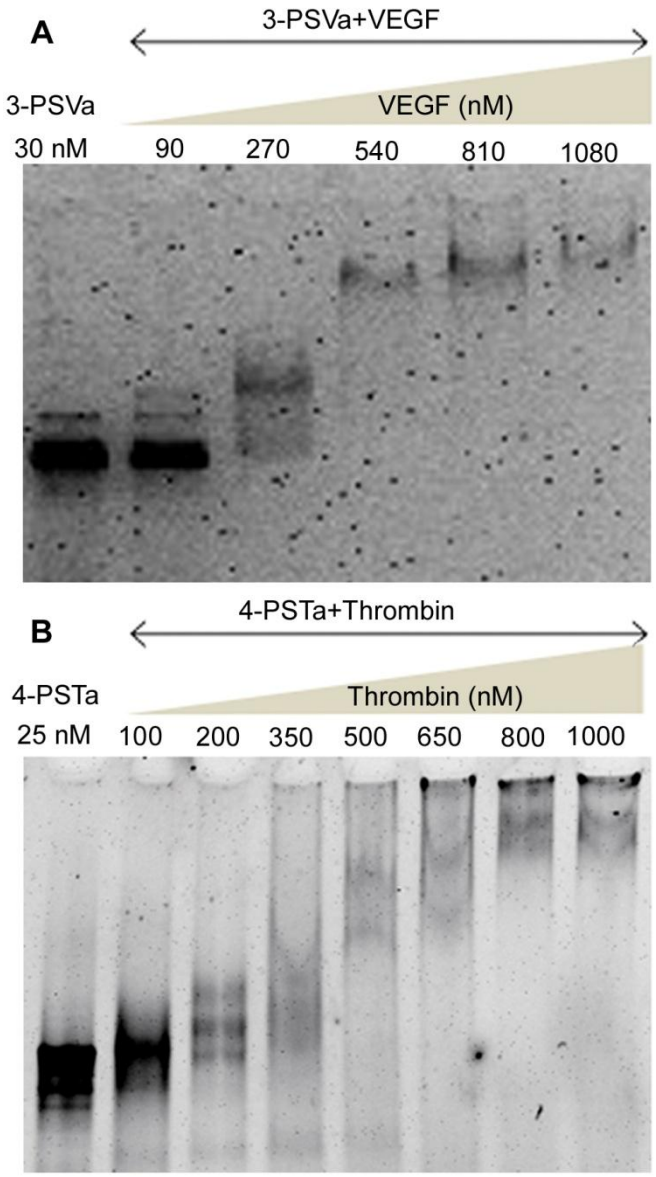

Figure S7. EMSA assay confirming the binding between 3-PSVa DNA assembly and VEGF and 4-PSTa DNA assembly and thrombin. The concentration of sample loaded in each lane is indicated above the gel.