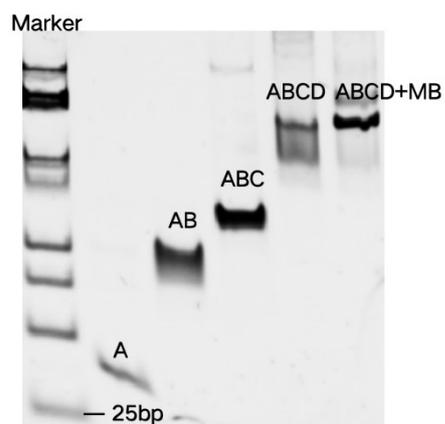


### Supporting Information:

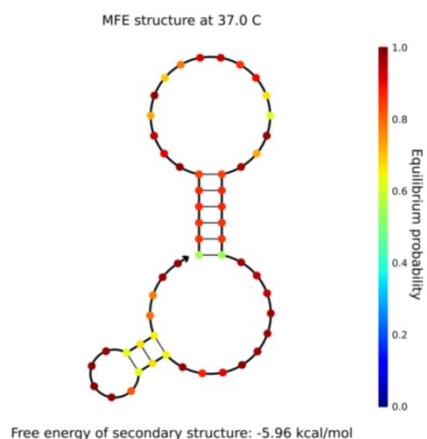
**Table S1.** Nucleotide sequences for forming TDFM nanoprobes.

Name	Sequence (5'-3')
S1	ACATTCCTAAGTCTGAAACATTACAGCTTGCTACACGAGAAGAGCCGCCATAGTACTGAGGAC GAGCTCCATTAC
S2	TATCACCAGGCAGTTGACAGTGTAGCAAGCTGTAATAGATGCGAGGGTCCAATAC
S3	TCAACTGCCTGGTGATAAAACGACACTACGTGGGAATGTACTATGGCGGCTCTTC
S4	TTCAGACTTAGGAATGTGCTTCCCACGTAGTGTGTTTTGTATTGGACCCTCGCAT
MB	CY5-ACTGCCTGTCTGTGCCTGCTGTGGCAGT/iDabcylIdT/TTTT-GTAATGGAGCTCGTCCTCAG

**Figure S1.** Analysis of some possible self-assembled products by 8% N-PAGE.



**Figure S2.** Schematic diagram of MB structure.



**Figure S3.** Mean grayscale intensity under different incubation times.

