

Electronic Supplementary Material (ESI) for Nanoscale.

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Electronic Supplementary Information

Elaborately Designed Diblock Nanoprobes for Simultaneous Multicolor Detection of microRNAs

Chenguang Wang,^{‡a} Huan Zhang,^{‡a} Dongdong Zeng,^{‡a} Wenliang Sun,^b Honglu Zhang,^b Ali Aldalbahi,^c Yunsheng Wang,^a Lili San,^a Chunhai Fan,^b Xiaolei Zuo,^{*b} Xianqiang Mi^{*a}

a, Laboratory of System Biology, Shanghai Advanced Research Institute, Chinese Academy of Sciences, Shanghai 201210, China

b, Division of Physical Biology and Bioimaging Center, Shanghai Synchrotron Radiation Facility, Shanghai Institute of Applied Physics, Chinese Academy of Sciences, Shanghai 201800, China

c, Chemistry Department, King Saud University, P. O. Box 2455, Riyadh 11451, Saudi Arabia

*Email: mixq@sari.ac.cn; zuoxiaolei@sinap.ac.cn

Table S1. Sequences for oligonucleotides used for this work.

Oligonucleotide	Sequence(5'to3')
p-MB1	FAM- <u>ACCCC</u> TATCA CGATT AGCAT TAA <u>GGGGT</u> AAAAAAAAAAAAAAAAAAAAA
p-MB2	ROX- <u>CCCAA</u> CAACA TGAAA CTACC TA <u>TTGGG</u> AAAAAAAAAAAAAAAAAAAAA
p-MB3	Cy5- <u>CAGTG</u> TGC GG TGGGC AGGGG CT <u>CACTG</u> AAAAAAAAAAAAAAAAAAAAA
DNA155	TTAAT GCTAA TCGTG ATAGG GGT
DNA196a	TAGGT AGTTT CATGT TGTTG GG
DNA210	AGCCC CTGCC CACCG CACAC TG
miR155	UUA AU GCUAA UCGUG AUAGG GGU
miR196a	UAGGU AGUUU CAUGU UGUUG GG
miR210	AGCCC CUGCC CACCG CACAC UG
miR21	UAGCU UAUCA GACUG AUGUU GA
DNA155'(single-base mismatched)	TTAAT GCTAA T ^A GTG ATAGG GGT
DNA196a'(single-base mismatched)	TAGGT AGTTT ^G ATGT TGTTG GG
DNA210'(single-base mismatched)	AGCCC CTGCC ^T ACCG CACAC TG
A ₅	AAAAA
ori-MB	CGCTGCACCCC TATCA CGATT AGCAT TAA GCAGCG AAAAAAAAAAAAAAAAAAAAA

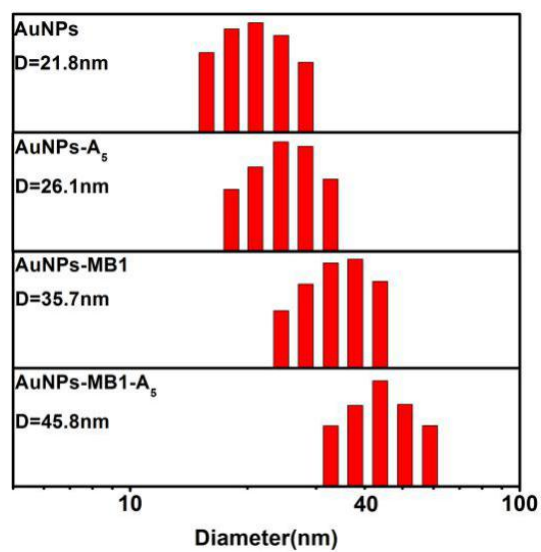


Fig. S1 DLS measurements for hydrodynamic diameters of AuNPs, AuNPs-A₅, AuNPs-MB1 and AuNPs-MB1-A₅.

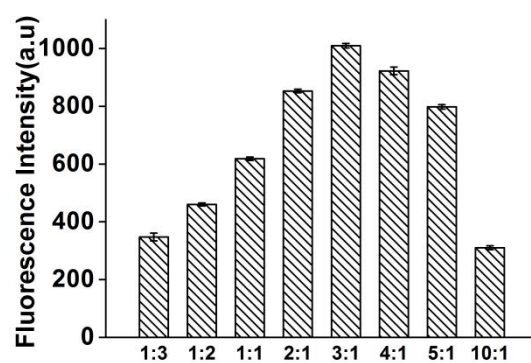


Fig. S2 Fluorescent signal intensity with different ratios between p-MBs and A5 oligonucleotides. The concentration of assembled P-nanoMBs (complementary to target DNA155) was 1nM, the target DNA155 was added to the solution with a final concentration of 200nM.

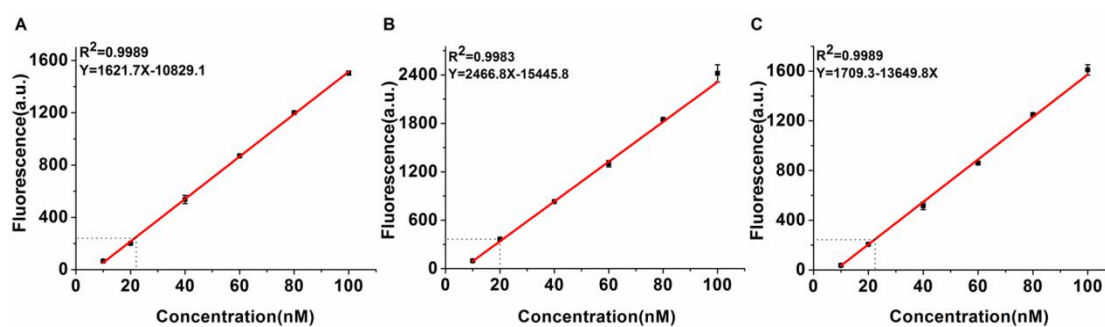


Fig. S3 Standard linear calibration curves of p-nanoMBs. A: FAM. B: ROX. C: Cy5.

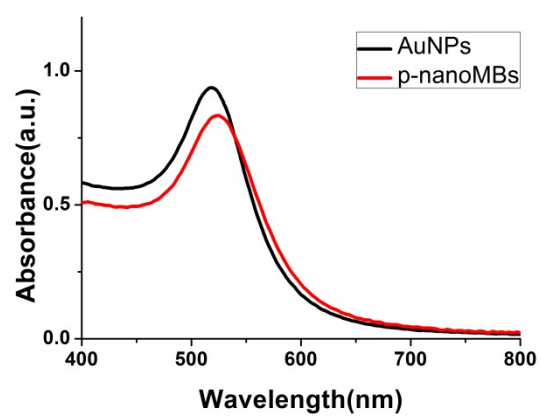


Fig. S4 UV-Vis spectra for naked AuNPs and our prepared probe based on Au NPs.