Electronic Supplementary Information (ESI)

Molybdenum Disulfide-Based Amplified Fluorescent DNA Detection Using Hybridization Chain Reactions

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Table S1. Hairpin DNA probes and other oligonucleotides used in the experiments.[§]

Name	Sequence (5' to 3')
HP1	FAM-*TTAACC***CACGCCGAATCCTAGACT**CAAAGT**AGTCTAGGATTCGGCGTG**
HP2	**AGTCTAGGATTCGGCGTG**GGTTAA**CACGCCGAATCCTAGACT***ACTTTG*
Target DNA	AGTCTAGGATTCGGCGTGGGTTAA
Single-base mismatched DNA	AGTCTAGGATTC**A**GCGTGGGTTAA
Three-base mismatched DNA	AGTCTA**A**GATTC**A**GCGTG**A**GTTAA
Random DNA	AATTGGAACCATGACATGACATGA

§ The bold letters indicate the stem sequences of the hairpin DNA probes.
The italic letters in HP1 and HP2 show the anchoring ends.
The underlined letters represent the mismatched sites.

Table S2. Comparison of fluorescence quenching performance of different nanomaterials in nanomaterial/DNA-based sensing systems.

nanoquencher	maximum quenching efficiency	quenching time	ref.
gold nanoparticle	95%	~60 min	S1
	97%	~15 min	S2
	90%	—	S3
	100%	—	S4
carbon nanotube	98%	~120 min	S5
	70%	~70 min	S6
	80%	~30 min	S7
	90%	~120 min	S8
graphene	90%	~4 min	S9
	92%	~10 min	S10
	90%	~12 min	S11
	97%	~1 min	S12
MoS_2	98%	~5 min	S13
	94%	~20 min	S14
	95%	1 second	this work

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