nanomaterials

MDPI

Supplementary Materials

Facilitation of Dye-Based Quantitative Real-Time Polymerase Chain Reaction with Poly(ethylene glycol)-Engrafted Graphene Oxide

Khushbu Chauhan, Dong-Min Kim, Eunbin Cho and Dong-Eun Kim *

Department of Bioscience and Biotechnology, Konkuk University, 120 Neundong-ro, Gwangjin-gu, Seoul 05029, Republic of Korea
* Correspondence: kimde@konkuk.ac.kr

Table S1. Oligonucleotides used in the study.

Primer		Amplicon size (bp)	Sequence (5'-3')
Influenza B (IFZ B)	F	391	CTC CAT AGA GGT TCT TCA TTT GGG T
Influenza B (IFZ B)	R	391	ACA CCT TCT GCG AAA GCT TCA ATA C
Influenza A (IFZ A)	F	193	TTC AGA CAA TGG AAC GTG TTA CCC
Influenza A (IFZ A)	R	193	AGA AGC TTT TTG CTC CAG CAT GAG

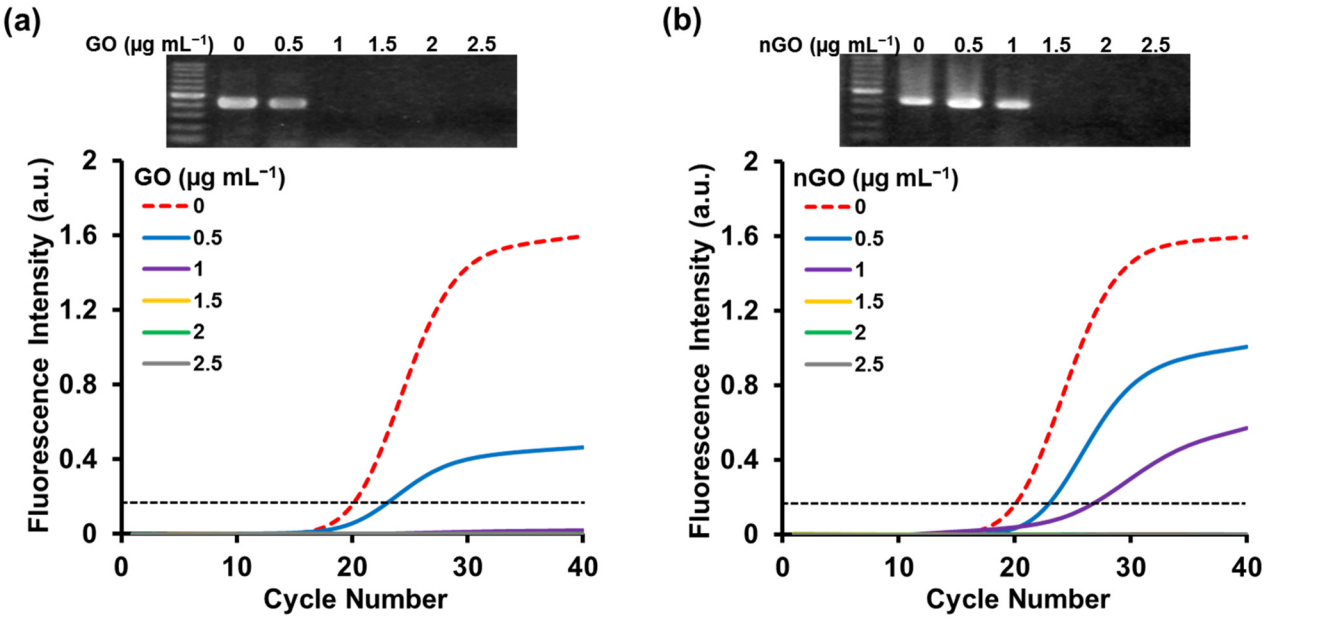

Figure S1. Real-time fluorescence monitoring of target RNA (IFZ B) amplification with GO and nGO. **(a)** Agarose gel electrophoretic analysis (top panel) and fluorescent amplification signals with various concentrations of GO (0, 0.5, 1, 1.5, 2, and 2.5 μg mL^{-1}). **(b)** Agarose gel electrophoretic analysis (top panel) and fluorescent amplification signals with various concentrations of nGO (0, 0.5, 1, 1.5, 2, and 2.5 μg mL^{-1}).

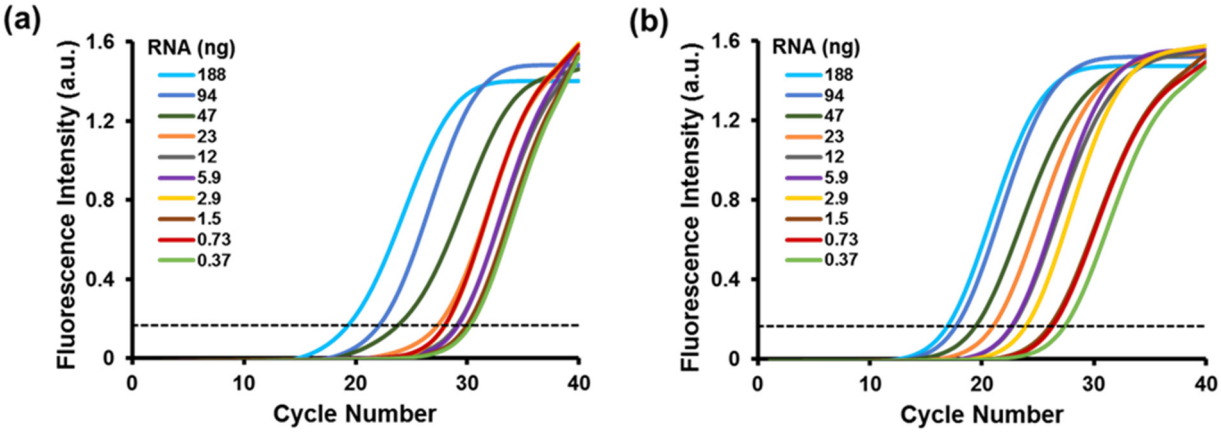

Figure S2. Real-time fluorescence monitoring of qPCR-amplified products with serially diluted (188 ng to 0.37 ng) target (IFZ B) RNA **(a)** in the absence of PEG-nGO and **(b)** in the presence of PEG-nGO.

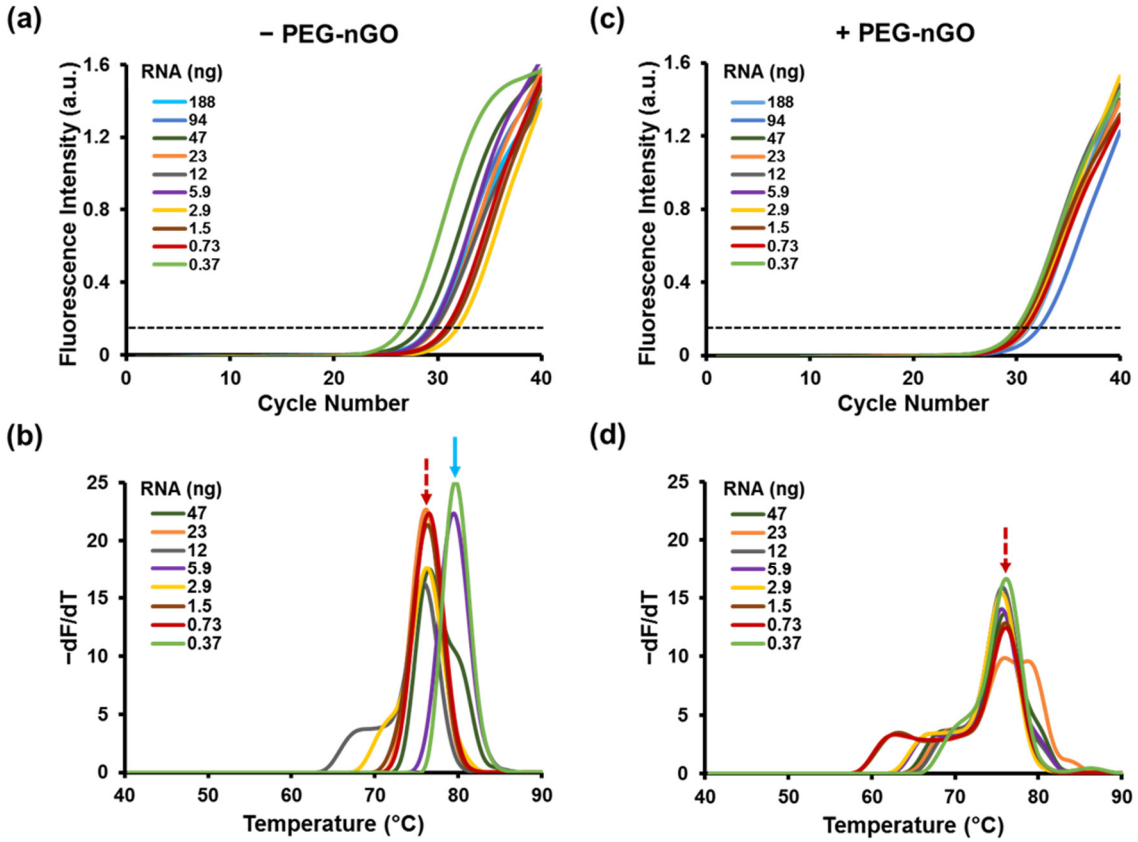

Figure S3. Analysis of qPCR-amplified products with non-target (IFZ A) RNA in the presence or absence of PEG-nGO**. (a)** Real-time fluorescence monitoring of qPCR-amplified products with serially diluted (188 ng to 0.37 ng) non-target RNA in the absence of PEG-nGO. **(b)** Melting curve analysis of qPCR-amplified products with serially diluted (47 ng to 0.37 ng) non-target RNA in the absence of PEG-nGO. **(c)** Real-time fluorescence monitoring of qPCR-amplified products with serially diluted (188 ng to 0.37 ng) non-target RNA in the presence of PEG-nGO. **(d)** Melting curve analysis of qPCR-amplified products with serially diluted (47 ng to 0.37 ng) non-target RNA in the presence of PEG-nGO. Red dotted arrow and cyan arrow represents nonspecific and specific amplicon dsDNA peak, respectively.