Supplementary electronic information

Amplified Fluorescence by ZnO Nanoparticles *vs.* Quantum Dots for Bovine Mastitis Acute Phase Response Evaluation in Milk

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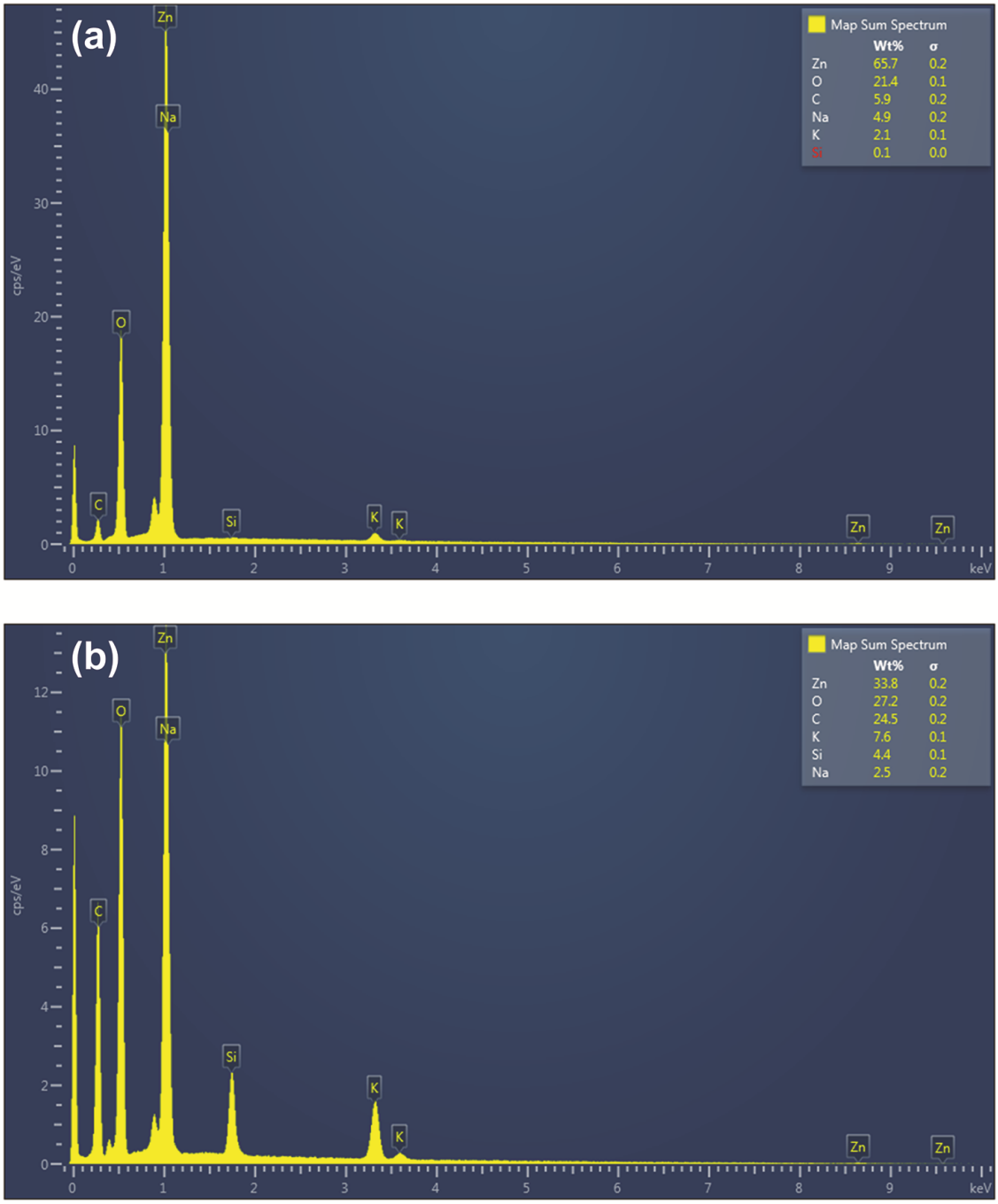

Figure S1. EDX elemental analysis of (**a**) ZnO-QDs and (**b**) ZnO-QDs-SiO_2.

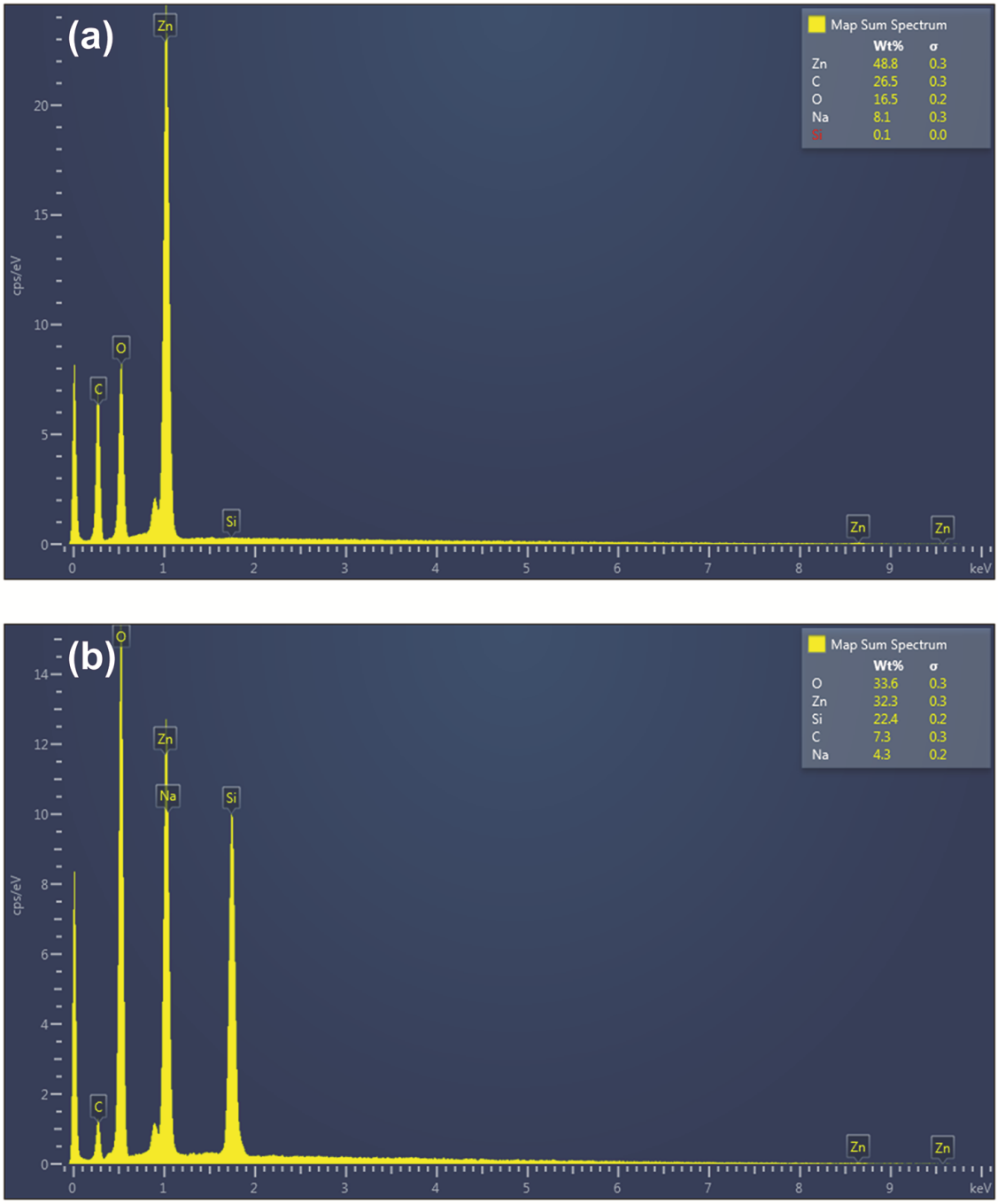

Figure S2. EDX elemental analysis of (**a**) ZnO-NPs and (**b**) ZnO-NPs-SiO_2.

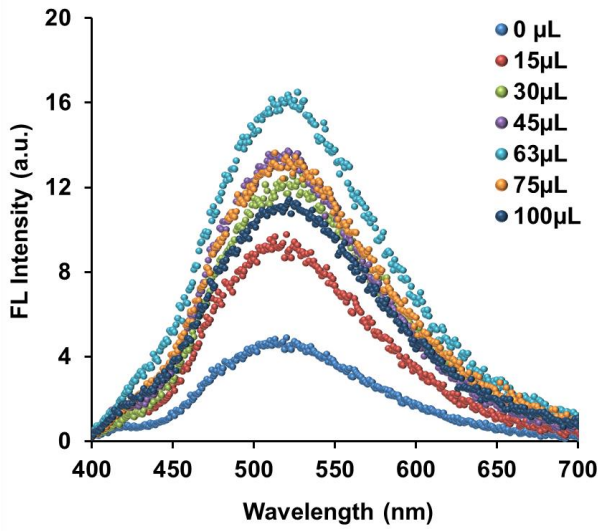

Figure S3. Emission spectra of different TEOS amounts (0, 15, 30, 45, 63, 75 and 100 µL) added to coat ZnO-NPs, according to the noted synthesis protocol of ZnO-NPs-SiO_2, under NAGase activity experimental conditions.

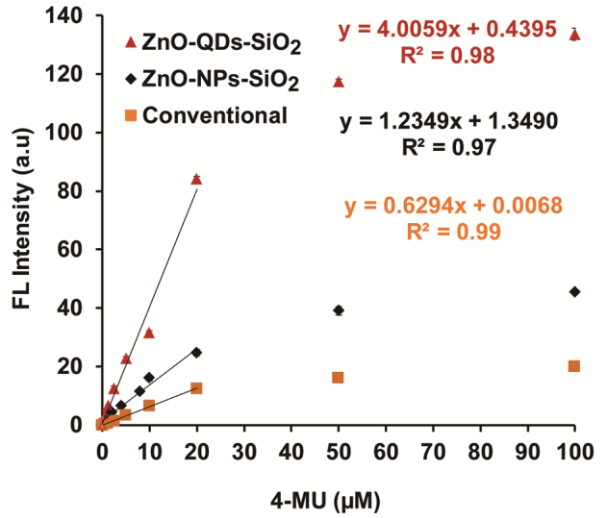

Figure S4. Calibration curves of NAGase enzymatic activity product (4-MU) emission intensities within control milk samples with and without TEOS coated ZnO nanomaterials addition to the reaction solution. Data are reported as mean ± S.D. ($n \geq 3$).

Table S1. NAGase enzymatic activity product (4-MU) recovery studies within control milk samples with and without TEOS coated ZnO nanomaterials addition.

Assay	Spiked 4-MU (µM)	Detected 4-MU (µM)	Recovery (%)
Conventional	15	15.5 ± 0.4	103
ZnO-NPs-SiO_2	15	15.7 ± 0.6	105
ZnO-QDs-SiO_2	15	16.4 ± 0.4	109