

Supplementary information

Effective diagnosis of foot-and-mouth disease virus (FMDV) serotypes O and A based on optical and electrochemical du-al-modal detection

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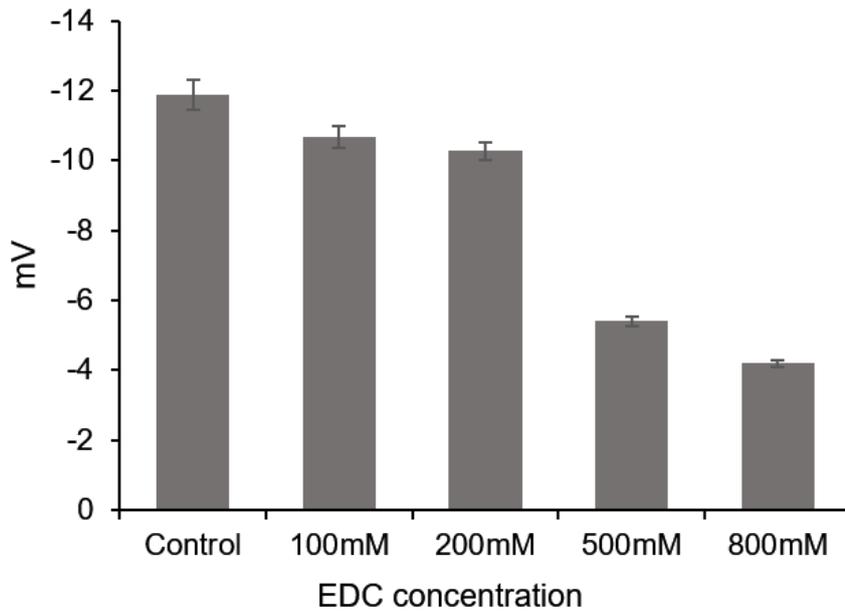


Figure S1. Effect of EDC activation assisted by NHS on the zeta potential of carboxylated MNPs.

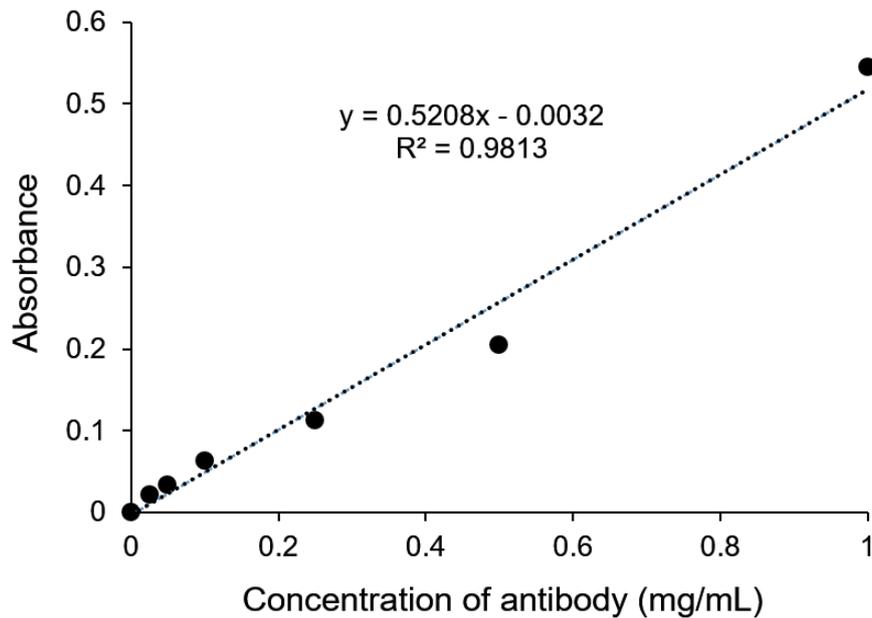


Figure S2. Calibration curve by the Bradford assay measured at 595 nm wavelength.

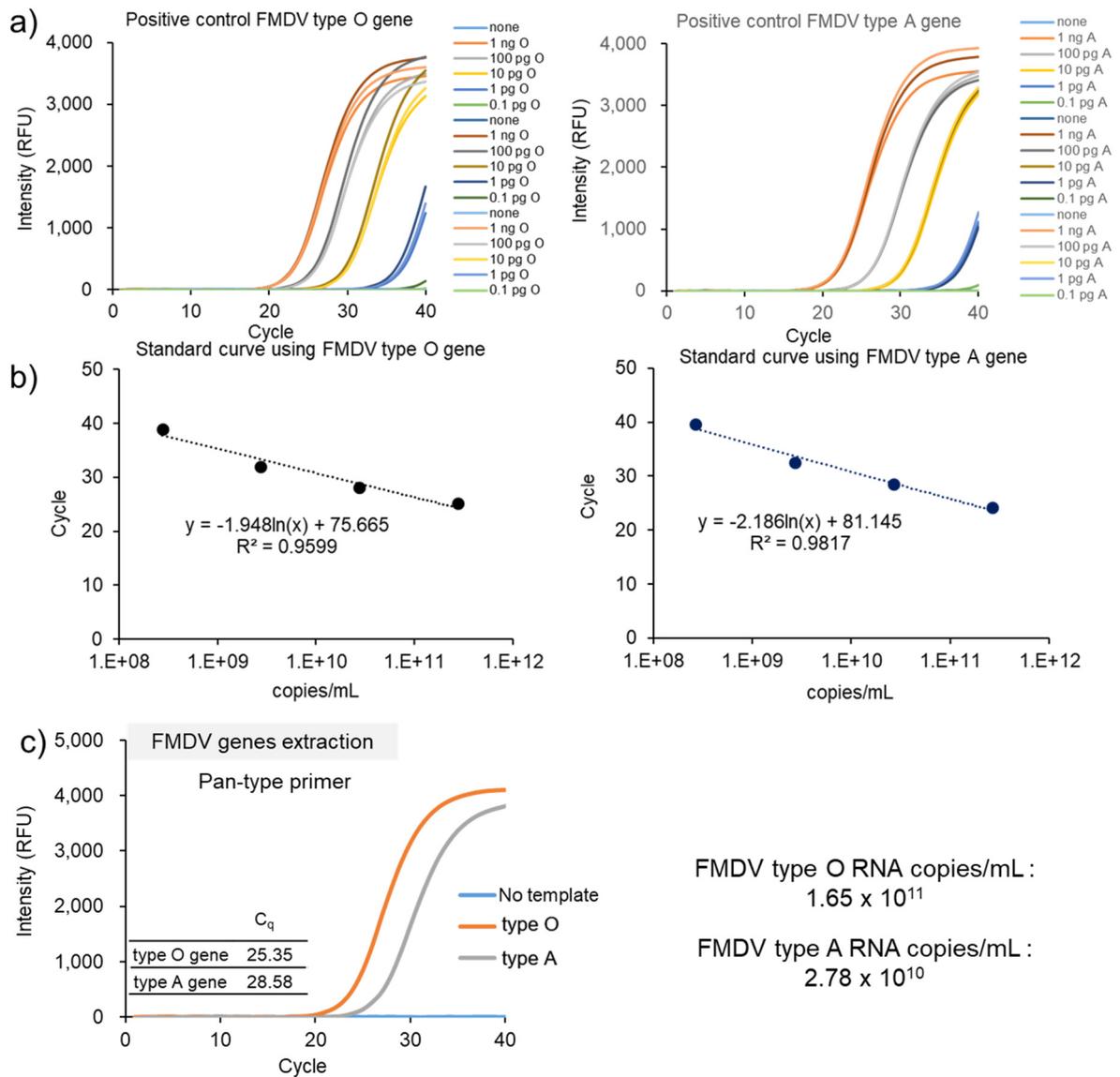


Figure S3. Calibration curve by Bradford assay measured at 595 nm wavelength. The process of obtaining FMDV concentration. (a) FMDV gene RT-qPCR results, (b) standard curve results according to FMDV gene RT-qPCR, (c) FMDV concentration results obtained by standard curve through extracted FMDV RNA.

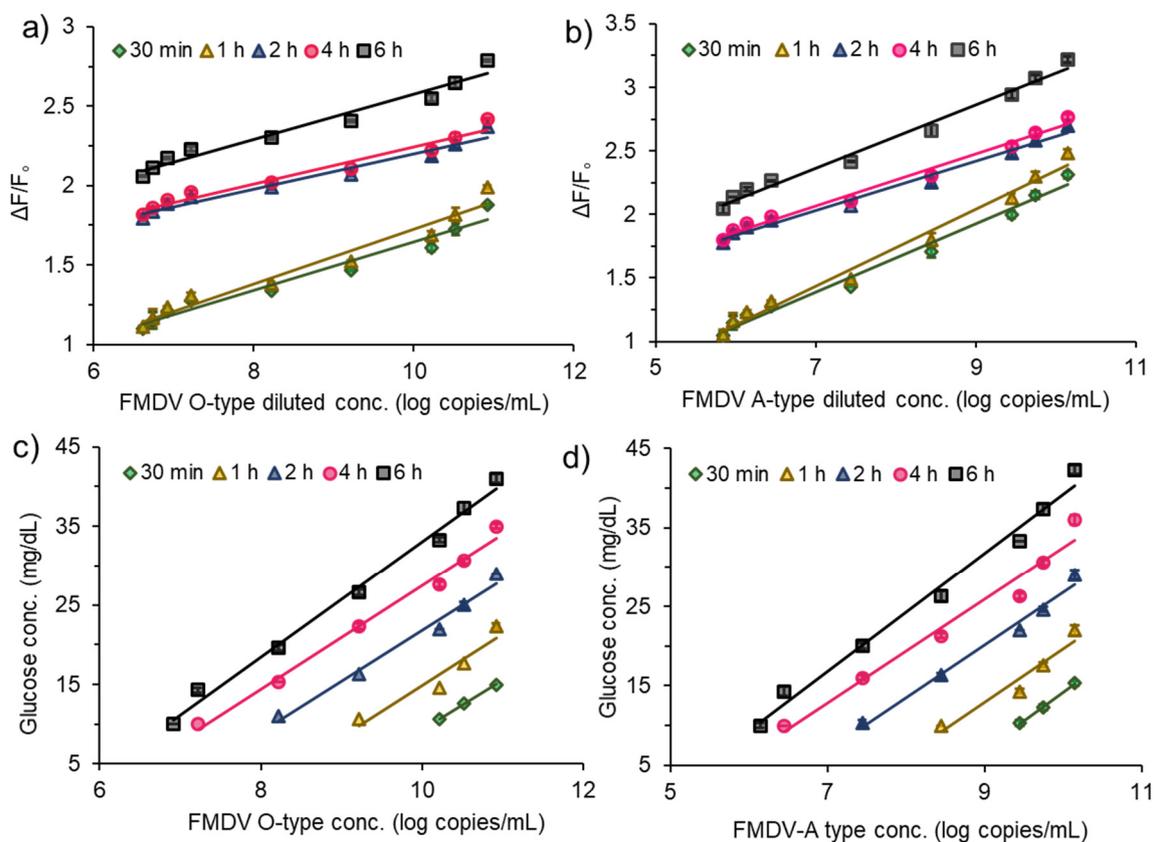


Figure S4. Sensitivity test by the time of the optical and electrochemical multimodal detection of FMDV serotype O and A. (a) The fluorescence measurement result of FMDV serotype O by time, (b) The fluorescence measurement result of FMDV serotype A by time, (c) The electrochemical measurement result of FMDV serotype O using glucometer by time, (d) The electrochemical measurement result of FMDV serotype A using glucometer by time.

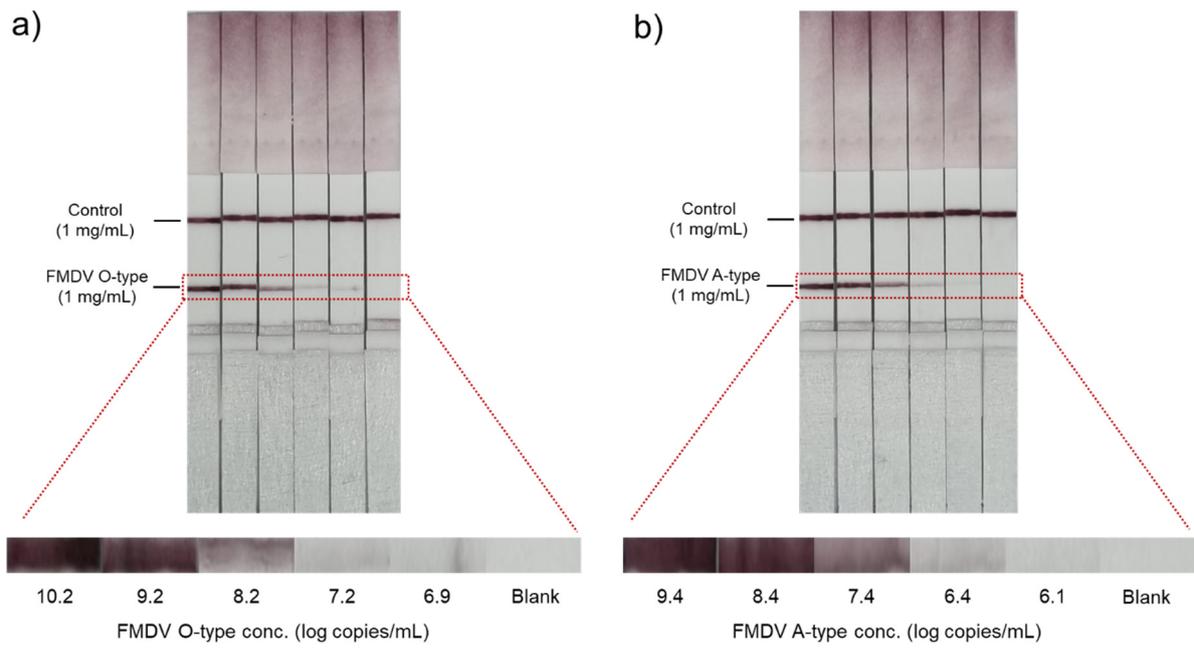


Figure S5. Sensitivity for FMDV O- and A-type using LFA kit. Results were quantified using Image J program. (a) LFA result for FMDV O-type, (b) LFA result for FMDV A-type.