

Supplementary information

Colorimetric detection of penicillin antibiotic residues in pork
using hybrid magnetic nanoparticles and penicillin class-
selective, antibody-functionalized platinum nanoparticles

Donghoon Kwon^a, Wonjae Lee^a, Wuseok Kim^a, Hojin Yoo^a, Ho-Chul Shin^b and Sangmin
Jeon^{*, a}

^aDepartment of Chemical Engineering, Pohang University of Science and Technology
(POSTECH), Pohang, Republic of Korea

^bDepartment of Veterinary Pharmacology and Toxicology, College of Veterinary Medicine,
Konkuk University, Seoul 143-701

*E-mail to corresponding author: jeons@postech.ac.kr.

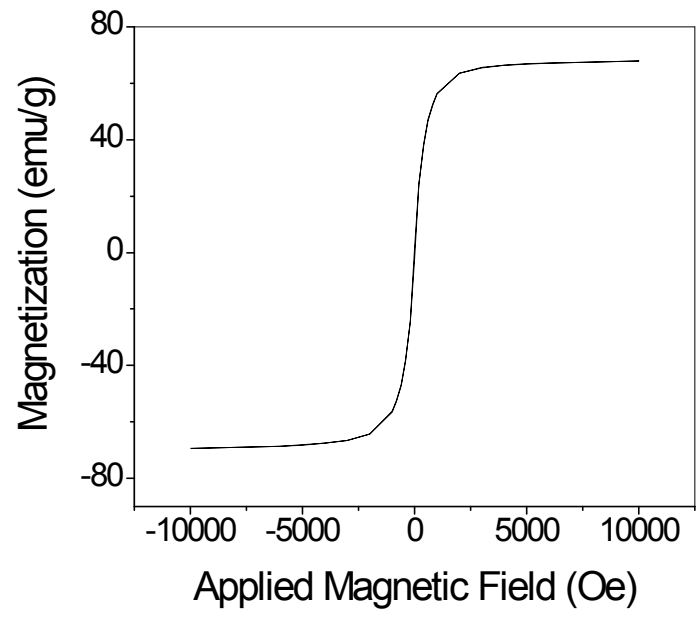


Figure S1. Magnetization curve of magnetic nanoparticle clusters (MNCs)

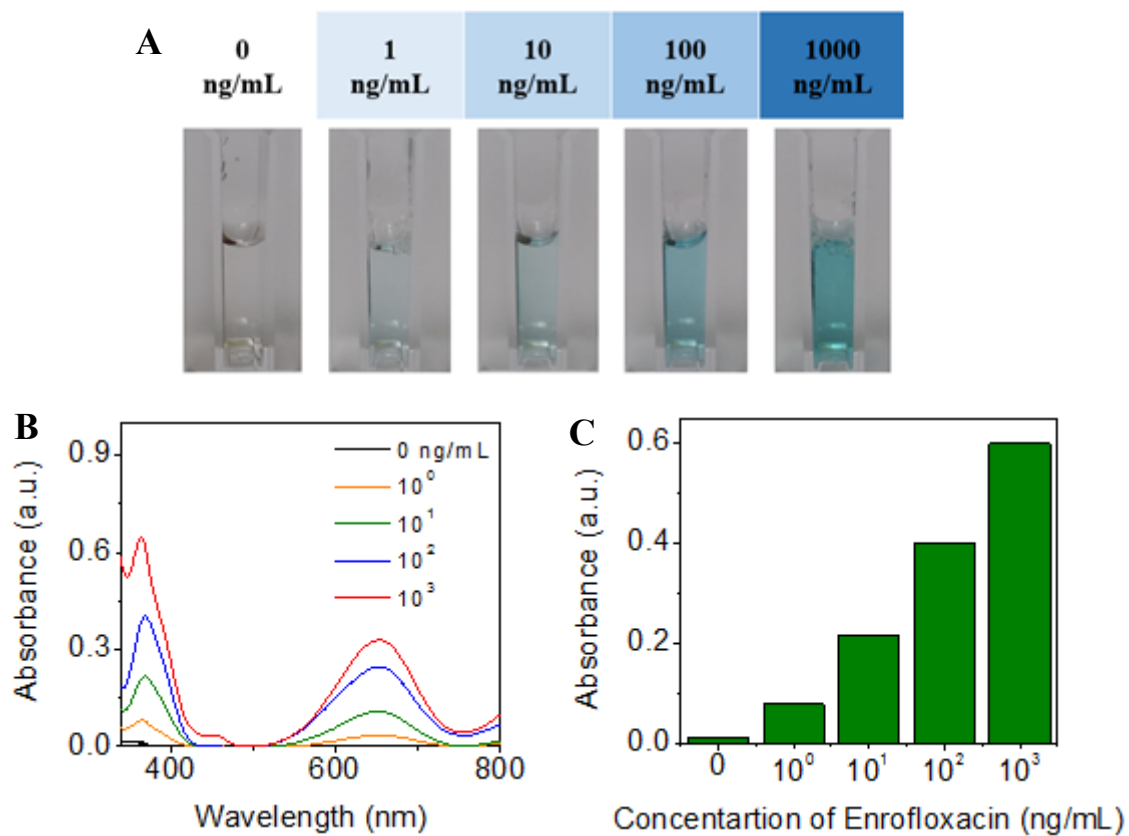


Figure S2. (A) Optical images of TMB oxidation and (B) corresponding absorbance spectra as a function of Enrofloxacin, (C) absorbance peak value at 370 nm.

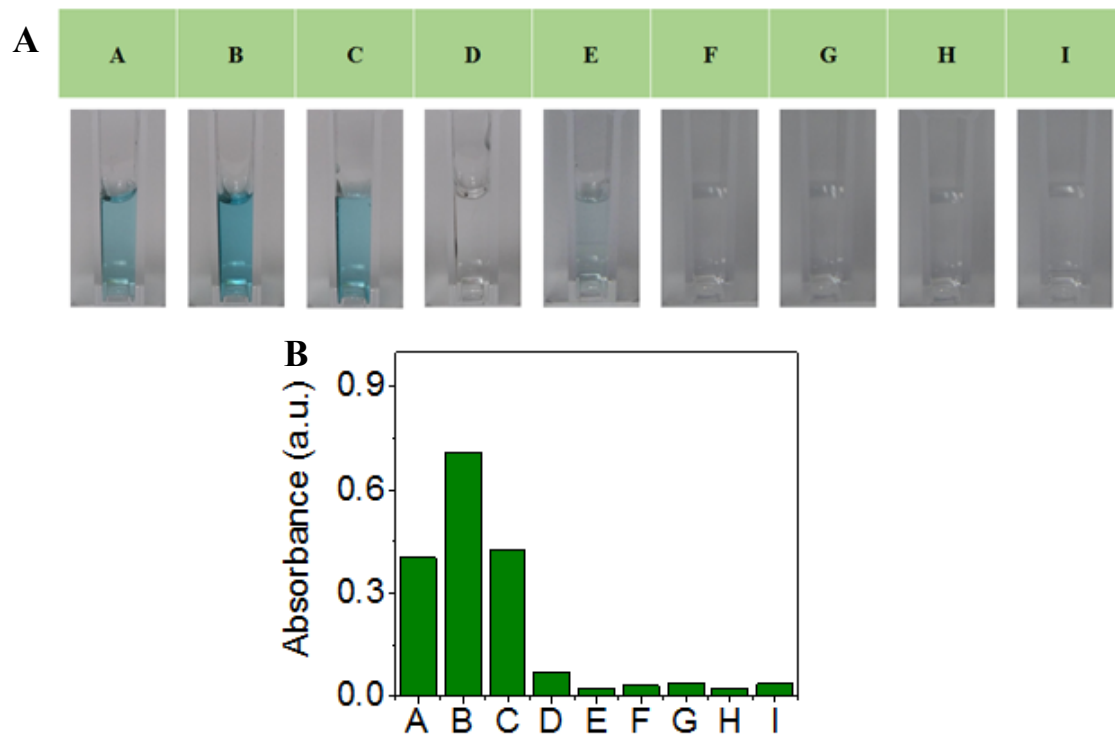


Figure S3. Selectivity test of anti-quinolone antibody; (A) optical images of TMB oxidation and (B) absorbance peak value at 370 nm. A: Enrofloxacin, B: Norfloxacin, C: Ciprofloxacin, D: Oxolinic acid, E: Nalidixic acid, F: Penicillin G, G: Sulfamethazine, H: Maduramicin, and I: Bacitracin

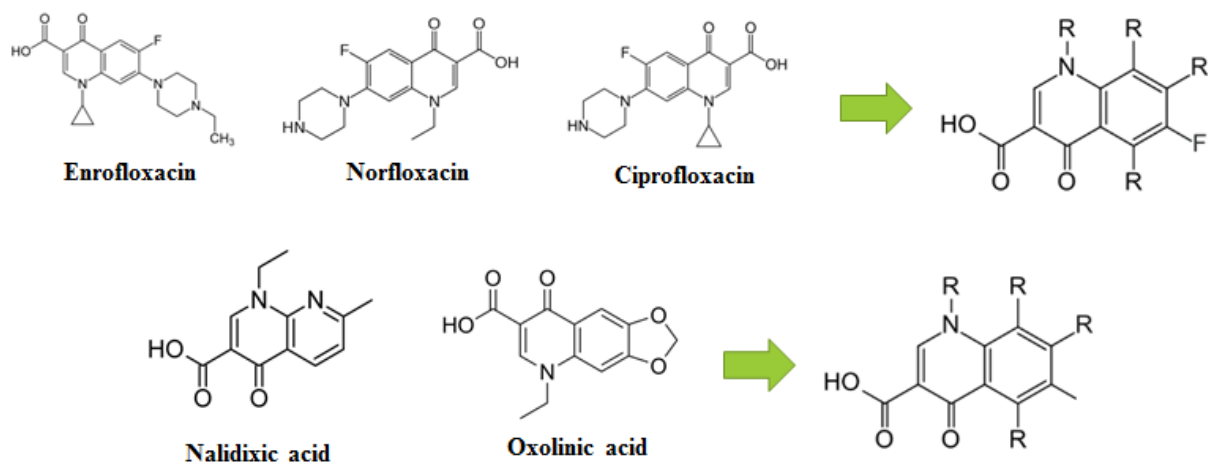


Figure S4. Quinolone class antibiotics and their common structure