

Supporting Information

Simultaneous determination of sixteen fluoroquinolone antibiotics in cosmetics by ultra-performance liquid chromatography/triple quadrupole mass spectrometry with ultrasound-assisted extraction and solid-phase extraction

Xianshuang Meng,^a Qiang Ma,^{*a,b} Qing Zhang,^a Qing Lv,^a Yunxia Chen,^a Hua Bai^a and Chao Wang^a

^a *Chinese Academy of Inspection and Quarantine, No. A3, Gaobeidian North Road, Chaoyang District, Beijing 100123, China*

^b *Weldon School of Biomedical Engineering, Purdue University, 206 South Martin Jischke Drive, West Lafayette, IN 47907, USA.*

* Corresponding Author

Prof. Qiang Ma

Chinese Academy of Inspection and Quarantine

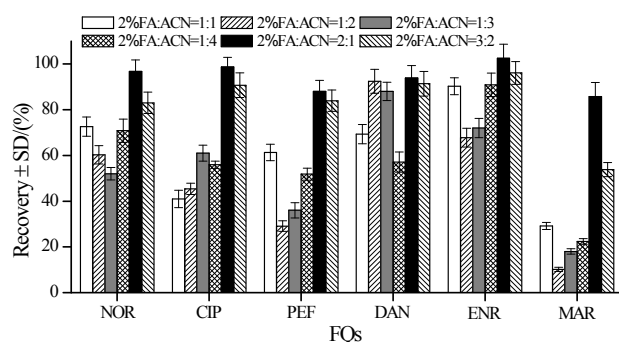
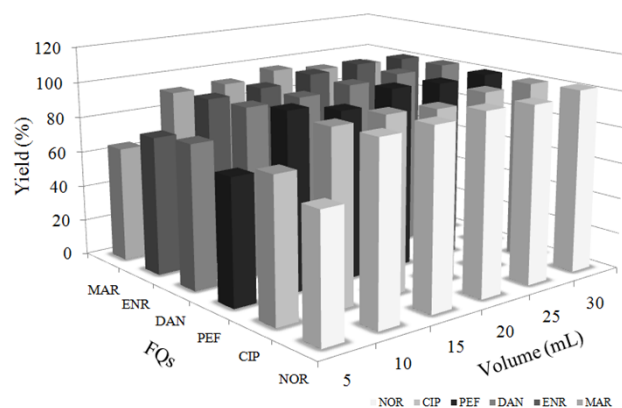
No. A3, Gaobeidian North Road, Chaoyang District, Beijing 100123, China

E-mail: maqiang@caiq.gov.cn

Table S1 Basic information about the 16 FQs involved in this study

| Fluoroquinolones | Abbreviation | Formula | Mw | CAS No. | Supplier |
|------------------|--------------|--|--------|-------------|--------------------|
| Marbofloxacin | MAR | C ₁₇ H ₁₉ FN ₄ O ₄ | 362.36 | 11150-35-1 | Dr. Ehrenstorfer |
| Fleroxacin | FLE | C ₁₇ H ₁₈ F ₃ N ₃ O ₃ | 369.34 | 79660-72-3 | NIFDC ^a |
| Enoxacin | ENO | C ₁₅ H ₁₇ FN ₄ O ₃ | 320.32 | 74011-58-8 | NIFDC ^a |
| Pazufloxacin | PAZ | C ₁₆ H ₁₅ FN ₂ O ₄ | 318.30 | 127045-41-4 | Sigma-Aldrich |
| Ofloxacin | OFL | C ₁₈ H ₂₀ FN ₃ O ₄ | 361.37 | 82419-36-1 | NIFDC ^a |
| Pefloxacin | PEF | C ₁₇ H ₂₀ FN ₃ O ₃ | 333.36 | 70458-92-3 | NIFDC ^a |
| Norfloxacin | NOR | C ₁₆ H ₁₈ FN ₃ O ₃ | 319.24 | 70458-96-7 | Dr. Ehrenstorfer |
| Ciprofloxacin | CIP | C ₁₇ H ₁₈ FN ₃ O ₃ | 331.35 | 85721-33-1 | Dr. Ehrenstorfer |
| Danofloxacin | DAN | C ₁₉ H ₂₀ FN ₃ O ₃ | 357.38 | 112398-08-0 | Dr. Ehrenstorfer |
| Lomefloxacin | LOM | C ₁₇ H ₁₉ F ₂ N ₃ O ₃ | 353.36 | 98079-51-7 | Dr. Ehrenstorfer |
| Enrofloxacin | ENR | C ₁₉ H ₂₂ FN ₃ O ₃ | 359.40 | 93106-60-6 | Dr. Ehrenstorfer |
| Difloxain | DIF | C ₁₂ H ₁₉ F ₂ N ₃ O ₃ | 399.39 | 98106-17-3 | Dr. Ehrenstorfer |
| Sarafloxacin | SAR | C ₂₀ H ₁₇ F ₂ N ₃ O ₃ | 385.36 | 98105-99-8 | Dr. Ehrenstorfer |
| Gatifloxacin | GAT | C ₁₉ H ₂₂ FN ₃ O ₄ | 375.39 | 112811-59-3 | NIFDC ^a |
| Sparfloxacin | SPA | C ₁₉ H ₂₂ F ₂ N ₄ O ₃ | 392.40 | 111542-93-9 | Dr. Ehrenstorfer |
| Moxifloxacin | MOX | C ₂₁ H ₂₄ FN ₃ O ₄ | 401.43 | 151096-09-2 | Sigma-Aldrich |

^a NIFDC - National Institute for Food and Drug Control

**Fig. S1** Extraction yield of six selected FQs obtained when mixtures of 2% aqueous formic acid solution and acetonitrile in different proportions ($n=3$) were used as extraction solvent.**Fig. S2** Influence of liquid-to-solid ratio on the extraction yield of six selected FQs.

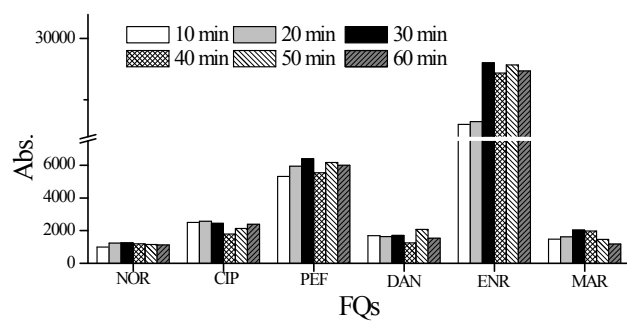


Fig. S3 Influence of extraction duration on the signal responses of six selected FQs when 2% aqueous formic acid solution-acetonitrile (2:1) was used as the extraction solvent.