Supplementary Table S3: Quinolone´s spectrum of activity and therapeutic indications.

Quinolone	Activity against Gram-negative	Activity against Gram-positive	Indication	Ref.
First generation				
Nalidixic acid	*Enterobacteriaceae (Escherichia coli, Klebsiella spp., Proteus spp.).*	Insignificant.	Uncomplicated lower urinary tract infections.	[1, 2]
Second generation				
Ciprofloxacin	*Pseudo*monas aeruginosa, Enterobacteriaceae (*E. coli* - including many resistant strains), *K. pneumoniae, Enterobacter, Salmonella, Shigella, Citrobacter, Haemophilus influenza,* Legionella, *Neisseria gonorrhoeae*, *Campylobacter, Proteus mirabilis, Moraxella catarrhalis.*	*Staphylococcus aureus* (including some methicillin-susceptible strains), *Streptococcus pneumoniae.*	Urinary tract infections, sexually transmitted infections (gonorrhea and chancroid), skin and soft tissue infection, bone and joint infections, prostatitis, pneumonia, typhoid fever, gastrointestinal infections, lower respiratory tract infections, inhalation anthrax (post-exposure prophylaxis), plague, and salmonellosis, acute bacterial exacerbation of chronic bronchitis.	[3-12]
Ofloxacin	*Enterobacteriaceae* (*E. coli, K. pneumoniae, Serratia marcescens*, *Providencia* spp.), *P. mirabilis H. influenzae, N. gonorrhoeae, C. trachomatis.*	*S. aureus* (including methicillin-resistant strains); *Streptococci* and *Enterococci* (limited for both).	Acute bacterial exacerbations of chronic bronchitis, community-acquired pneumonia, uncomplicated skin and skin structure infections, acute uncomplicated urethral/cervical gonorrhea and nongonococcal urethritis/cervicitis, acute pelvic inflammatory disease.	[13-15]

			Topic usage for: bacterial conjunctivitis and corneal ulcers caused by susceptible strains of gram-positive and gram-negative bacteria, otitis externa, chronic suppurative otitis media, acute otitis media.	
Norfloxacin	E*nterobacteriaceae (E. coli, K. pneumoniae) P. mirabilis*, *P. aeruginosa*, Enterobacter spp. *N. gonorrhoeae.*	*S. aureus* (including some resistant strains).	Uncomplicated and complicated urinary tract infections such as cystitis, pyelonephritis, prostatitis, bacterial gastroenteritis and traveller's diarrhea, gonorrhea.	[16-20]
Third generation				
Levofloxacin	*Enterobacteriaceae (E. coli, Klebsiella* spp., *Proteus spp.*), *Haemophilus influenzae*, *M. catarrhalis*, *P. aeruginosa*.	*S. pneumoniae* (including penicillin-resistant and macrolide-resistant strains), methicillin-susceptible *S. aureus* (MSSA), *Enterococcus* spp.	Respiratory tract infections (community-acquired pneumonia - including multi-drug resistant), nosocomial (hospital-acquired) pneumonia, acute bacterial exacerbation of chronic bronchitis, and acute sinusitis, urinary tract infections complicated and uncomplicated, as well as acute pyelonephritis, complicated and uncomplicated skin and skin structure infections (abscesses, cellulitis),	[3, 21-25]

			chronic bacterial prostatitis, plague (including pneumonic and septicemic) and prophylaxis/treatment of inhalational anthrax.	
Fourth generation				
Moxifloxacin**	*H. influenzae, M. catarrhalis, E. coli, K. pneumoniae, P. mirabilis, Bacteroides* spp., Clostridium* spp., C. pneumoniae.*	*S. pneumoniae* (including penicillin/macrolide-resistant), *S. aureus* (methicillin-susceptible only), *Streptococcus pyogenes, Mycobacterium* spp.	Respiratory infections like community-acquired pneumonia (including multi-drug-resistant strains), acute bacterial sinusitis, and acute exacerbations of chronic bronchitis, uncomplicated and complicated skin and skin structure infections (cellulitis, abscesses), complicated intra-abdominal infections, including polymicrobial abscesses, plague (pneumonic and septicemic), mild to moderate pelvic inflammatory disease (without tubo-ovarian abscess).	[26-33]
Gemifloxacin	*H. influenzae, M. catarrhalis, K. pneumoniae, E. coli, Enterobacter cloacae*, *Proteus spp.*, *Chlamydia pneumoniae*	*Streptococcus pneumoniae* (including penicillin-resistant strains), *Staphylococcus aureus* (methicillin-susceptible), *Streptococcus pyogenes*, *Streptococcus viridans*, *Legionella pneumophila*	Acute bacterial exacerbation of chronic bronchitis and mild-to-moderate community-acquired pneumonia. It is generally reserved for patients with no alternative treatment options due to	[28, 34-37]

			potential, serious side effects.	
Pazufloxacin	*E. coli, H influenzae, K. pneumoniae, M. catharralis, P. mirabilis, Serratia marcescens*, Citrobacter sp., Shigella sp., Salmonella sp., Aeromonas sp., *P. aeruginosa, Aeromonas sp. and Yersinia.*	*S. aureus* (including MRSA), *S. epidermidis* (including MRSE), *S. pneumoniae*.	Respiratory tract infections like pneumonia and chronic respiratory disease infections, urinary tract infections like complicated or severe pyelonephritis and cystitis, peritonitis, cholecystitis, ophthalmic preparations for conjunctivitis	[38-44]
Tosufloxacin	*H. influenza, Salmonella spp., Shigella spp., Campylobacter spp., Vibrio spp., P. aeruginosa*	*S. aureus, S. epidermidis, Streptococci (including penicillin-resistant S. pneumoniae (PRSP) and intermediate strains (PISP), Enterococcus*	Respiratory infections such as pneumonia, chronic bronchitis, pharyngitis/laryngitis, and tonsillitis; urinary tract infections as pyelonephritis, prostatitis, urethritis, and bartholinitis, deep-seated skin infections, acne, lymphangitis, mastitis, and abscesses; otitis media and sinusitis, cholera, salmonella,	[45-52]

			and sometimes for anthrax; otitis media and other infections in children.	
Lascufloxacin*	*H influenzae, M. catarrhalis, Bacteroides fragilis**	*S. aureus* (including MRSA), *S. epidermidis*, *S. pneumoniae* (including penicillin-resistant strains), *Clostridium difficile*, Clostridium perfringens**	Community-acquired pneumonia, acute exacerbation of chronic bronchitis, and various ear, nose and throat infections (sinusitis, otitis media, tonsillitis, pharyngolaryngitis).	[53, 54]
Sitafloxacin	*Enterobacteriaceae* (*E. coli*, Klebsiella spp., *Enterobacter* spp.), *H. influenzae*, *M. catarrhalis*, *P. aeruginosa, B. fragilis*, Prevotella spp., Fusobacterium** spp., *Mycoplasma pneumoniae*, *C. trachomatis*	*S. pneumoniae* (including resistant strains), *S. aureus* (MSSA), and *Enterococcus faecalis*.	Respiratory tract infections such as community-acquired pneumonia, acute bronchitis, chronic respiratory disease, and sinusitis, complicated and uncomplicated urinary tract infections (cystitis, pyelonephritis), prostatitis, and cervicitis/urethritis, pericoronitis, periodontitis, and inflammation of the jaw (osteitis of the jaw), otorhinological infections: otitis media.	[55-59]

Gatifloxacin**	*H. influenzae, M. catarrhalis*, *Neisseria* spp., *Enterobacteriaceae* (*E. coli*), *B. fragilis*, Legionella spp., Chlamydia spp*	*S. pneumoniae* (including PRSP), *S. aureus* (MSSA), *S. epidermidis*.	Bacterial conjunctivitis For the treatment of bronchitis, sinusitis, community-acquired pneumonia, and skin infections (abscesses, wounds)	[33, 60-63]
Besifloxacin	*H. influenzae, M. catarrhalis, P. aeruginosa*.	*S. aureus* (including MRSA), methicillin-resistant *S. epidermidis*, *Staphylococcus hominis, S. pneumoniae, Streptococcus oralis. Corynebacterium spp. (C. striatum, C. pseudodiphtheriticum)*	Bacterial conjunctivitis	[64-67]

**Active against *Mycoplasma pneumoniae*

**Anaerobic bacteria*

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