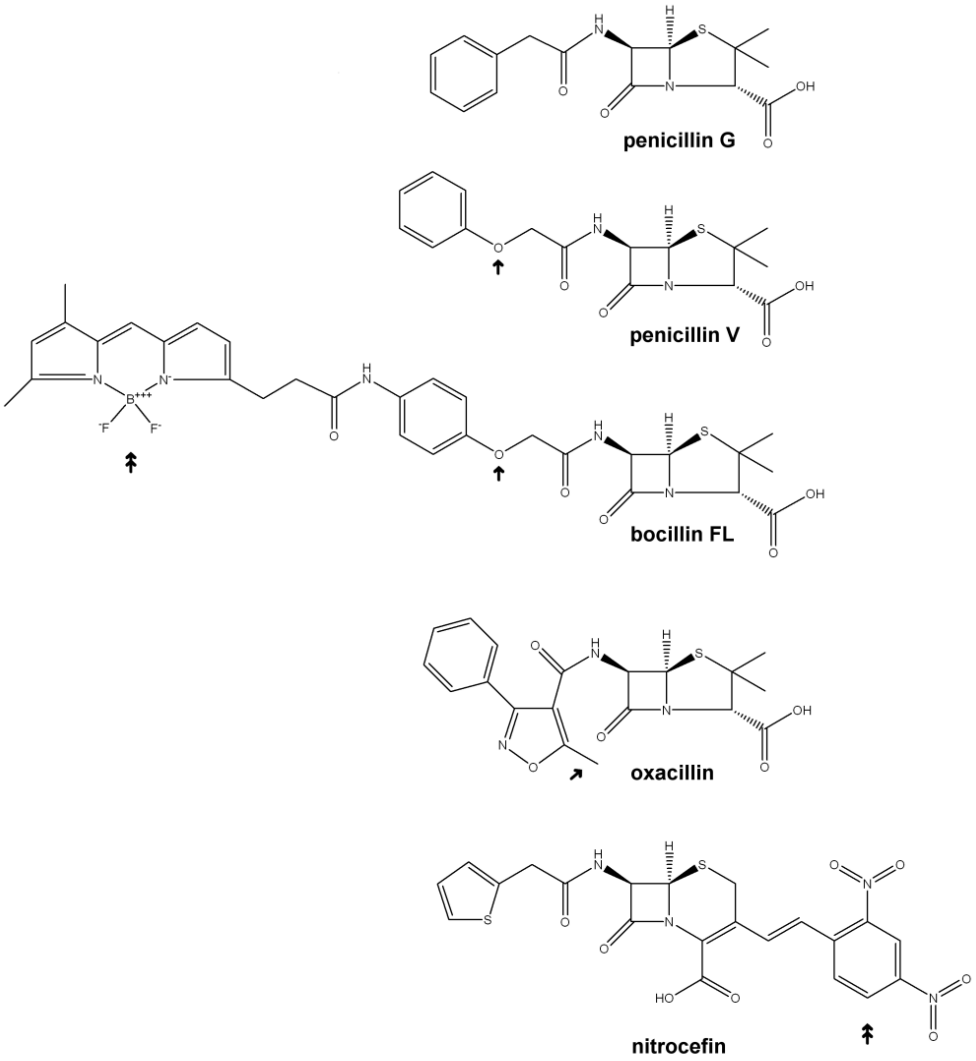
M8:00079 - RESTORATION OF SUSCEPTIBILITY OF METHICILLIN-RESISTANT *Staphylococcus aureus* (MRSA) TO β-LACTAM ANTIBIOTICS BY ACIDIC pH: ROLE OF PENICILLIN-BINDING PROTEIN 2A (PBP 2A)

Sandrine Lemaire, Cosimo Fuda, Françoise Van Bambeke, Paul M. Tulkens, and Shahriar Mobashery

Supplemental Material

Figure SP1: Structures of the β-lactams used in this study



Single arrows:

- for penicllin V and bocillin FL, the arrow points to the oxygen atom in the phenoxymethyl moiety common to the two compounds (and which is not present in penicllin G), underlining that the pharmacophore of bocillin FL, as far as its binding to PBPs is concerned, is that of penicillin V

- for oxacillin, the arrow points to the methyl group appended to the isoxazolyl moiety and which, together with this group, protects the molecule against *S. aureus* β-lactamase.

Doubles arrows:

- for bocillin FL, the arrow points to the bodipy (borate difluoro-dipyrrole) group that makes it fluorescent;
- for nitrocefin, the arrow points to the dinitrophenyl moiety that makes the molecule chromogenic (absorption at 386 nm; note that nitrocephin is also known for detection of β-lactamase production, based on the shift in absorption from 386 to 482 nm associated with the formation of the corresponding cephalosporanoic acid (see O'Callaghan et al. Antimicrob Agents Chemother. 1972, 1:283-8).