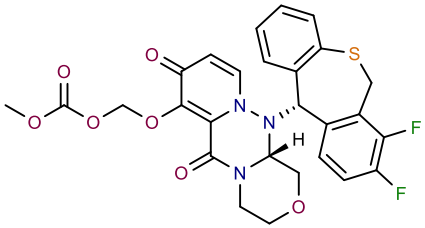
Baloxivir Marboxil (Xofluza)



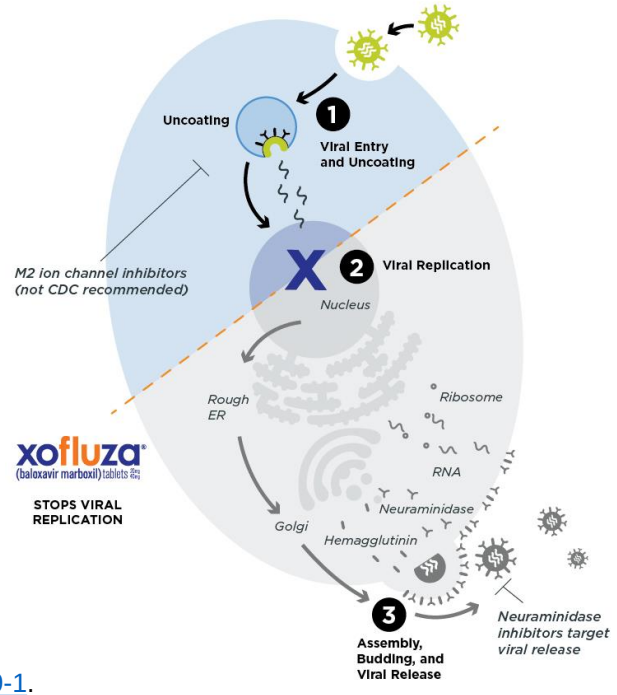
Baloxavir Marboxil

Fast Facts

- Treatment of acute influenza – approved in 2018 for use in the US and Japan
  - 3 to 5 million severe cases, 650,000 deaths annually
  - Effective against a wide range of influenza viruses including Tamiflu resistant and avian strains
- Only single-dose oral medicine approved to treat the flu
  - Post-exposure preventative treatment and reduces average duration of the flu by about 1.5 days
- Polymerase acidic (PA) endonuclease inhibitor
- Demonstrates similar efficacy to oseltamivir (Tamiflu)
  - Shortens viral shedding (contagious) to 48hr (96 hours with placebo or Tamiflu)
- Utilizes a prodrug strategy
  - Baloxivir acid is the active compound

Mechanism of Action

- Targets and inhibits influenza virus' cap-dependent endonuclease activity
  - Inhibits cap snatching – removing the first 10-20 residues of host cell RNA to be used as the 5' end and initiate viral mRNA synthesis
  - Virus can't begin the replication process
  - Part 2 in figure
- Tamiflu is a neuraminidase inhibitor
  - Competitive inhibitor for neuramidinases – which cleave sialic acid found on glycoproteins which allow virions to detach from the cell
  - Part 3 in figure



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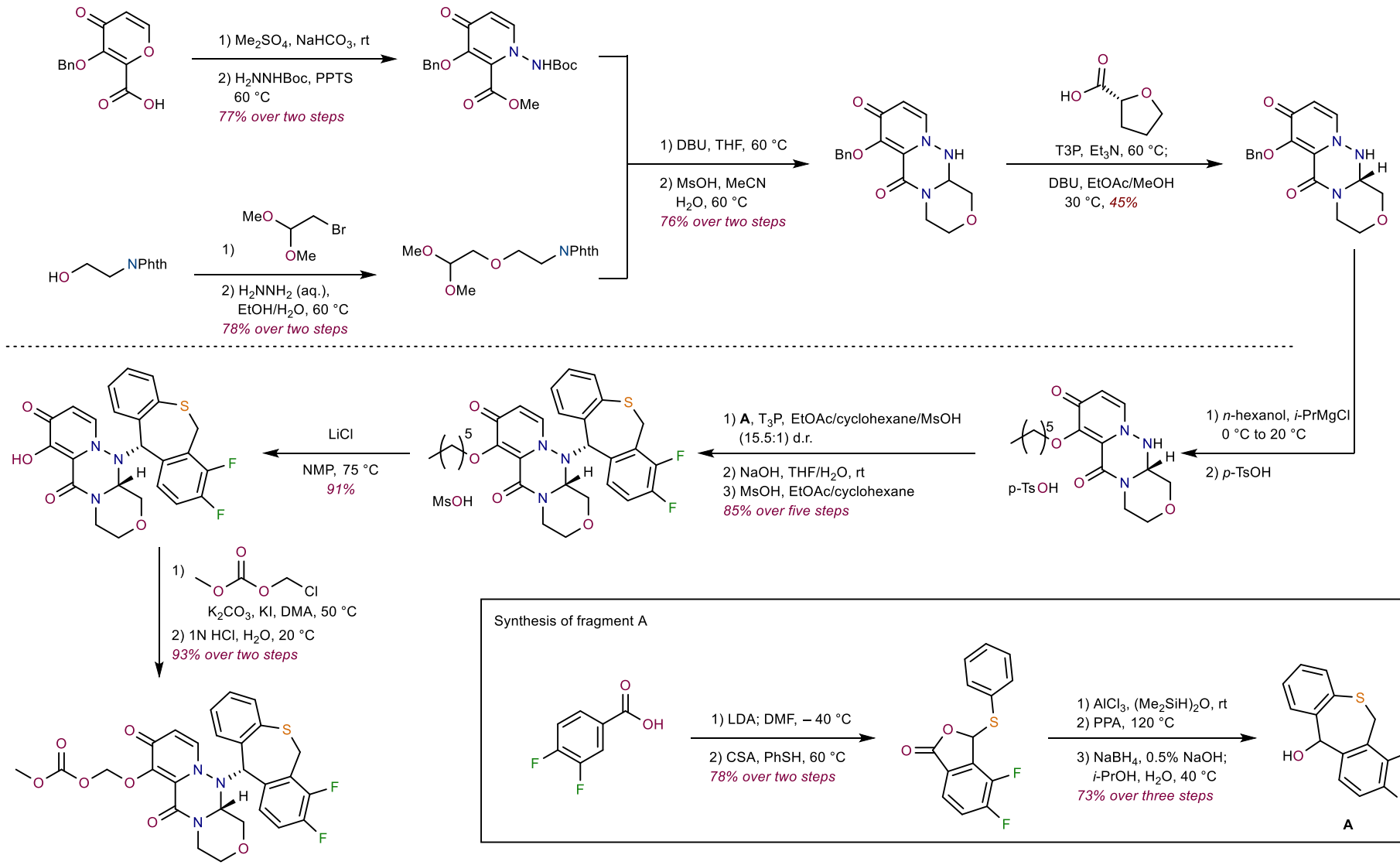

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