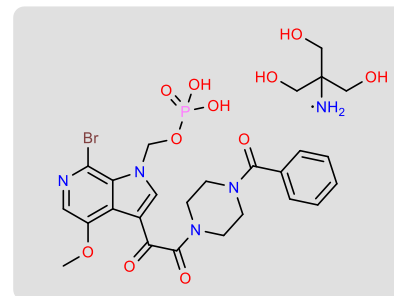


Background info

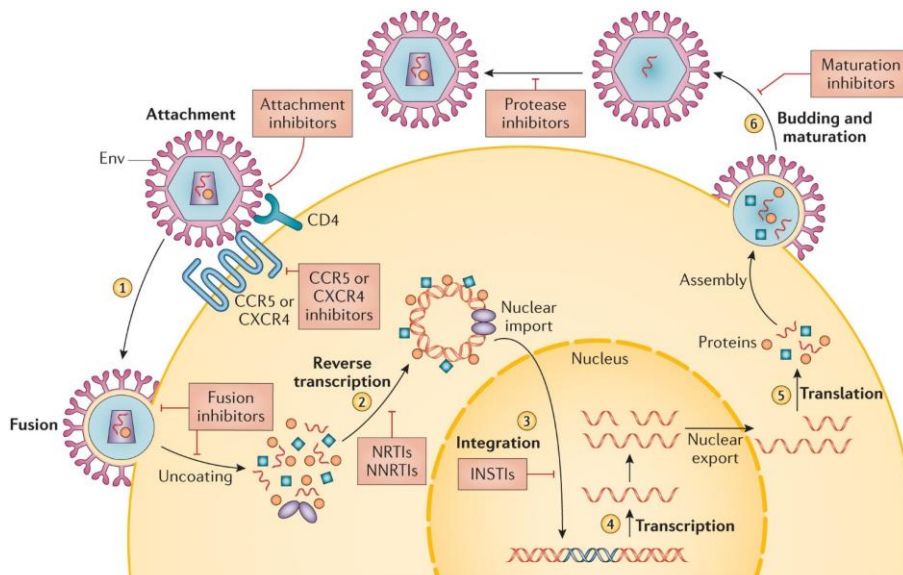
- Estimated 37 million people who are infected, deaths attributable to HIV-1 infection amount to 1.2 million per year worldwide.
- Human immunodeficiency virus-1 (HIV-1) infection currently requires lifelong therapy.
- Existing drug combinations provided effective control of viral replication by slowing the rapid selection of resistant virus.
- Discovered by Bristol-Myers Squibb and developed by ViiV Healthcare.



[Rukobia Website](http://www.viiv.com/rukobia)

Mechanism of HIV Infection

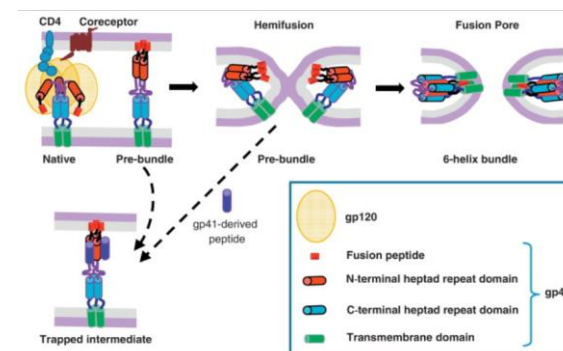
- HIV enters its target cells via CD4 and either CCR5 or CXCR4 through interaction with envelope (Env) glycoprotein.
- The viral RNA is then reverse transcribed into DNA
- The viral DNA is then integrated into the host genome.
- Mediated by host enzymes, HIV DNA is transcribed to viral mRNAs
- These mRNAs are then exported to the cytoplasm where translation occurs to make viral proteins and eventually mature virions



Nat Rev Dis Primers, 2015, 1, 15035. <https://doi.org/10.1038/nrdp.2015.35> Nature Reviews | Disease Primers

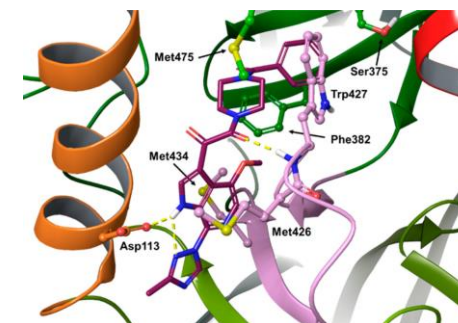
Mechanism of Fostemsavir

- Fostemsavir binds to the glycoprotein 120 (gp120) subunit



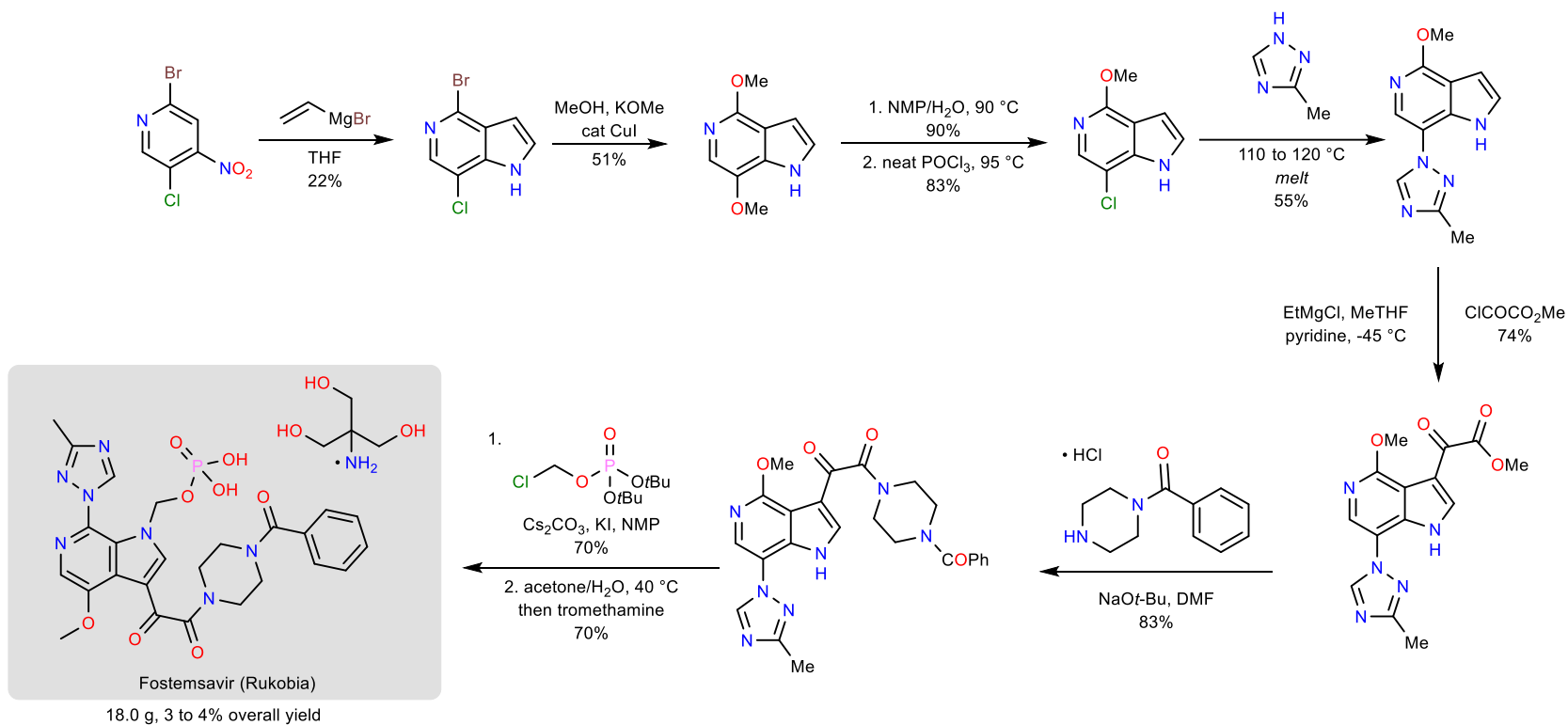
Current Opinion in Virology, 2014, 4, 1. <https://doi.org/10.1016/j.coviro.2013.09.004>

Binding Model



J. Med. Chem. 2018, 61, 62. <https://doi.org/10.1021/acs.jmedchem.7b01337>

Medicinal Chemistry Synthesis



Process Synthesis

