# Exercises KJ 5230: Dec. 8th – 2004

Exersises 4b, 5a, and 5b from Nov. 24th

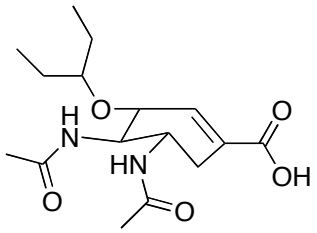
**1.**

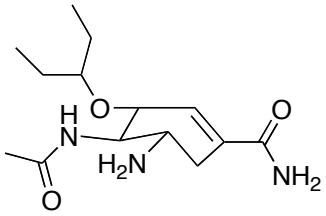
Discuss replication of different classes of DNA and RNA viruses.

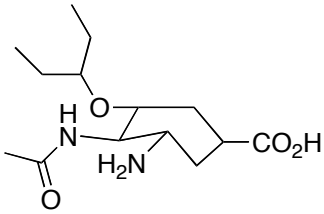
**2**.

a) Explain the mode of action for neuraminidase inhibitors

b) Would you expect the following compounds to be good neuraminidase inhibitors? Explain.



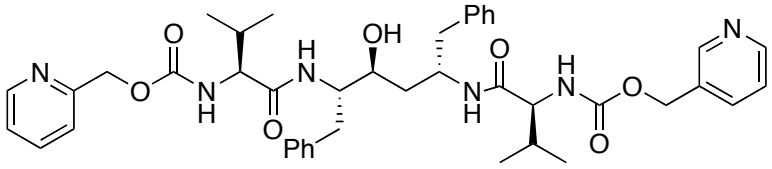




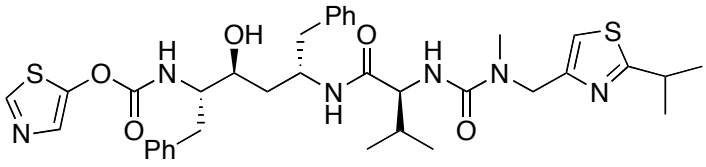
**3.**

a) Explain the mode of action for HIV-protease inhibitors.

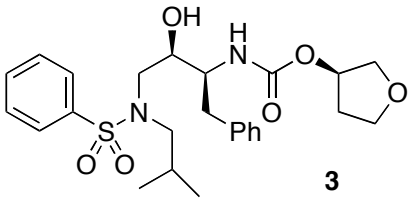
b) How does the HIV-protease inhibitors below apply with "Lipinski rule of five"? (see Exercisees No. 2).



**1**



**2**



**3**

c) The pyridine rings in comp. **1** makes this comp. readily metabolized (oxidation). Suggest mechanism / enzyme system / metabolic product(s).

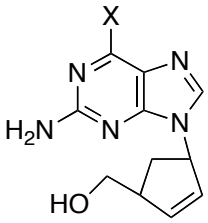
**4.**

a) Why are essentially all antiviral nucleoside analogs pro-drugs?

b) Discuss structural relationship(s) between NRTIs

c) Suggest more lipophilic pro-drugs of carbovir (exept abacavir) and enzymes nessecary for activation

d) Abacavir may be regarded as a more lipophilic prodrug of carbovir. Suggest metabolic pathway




X=--OH, Carbovir
X= -NHCyclopropyl: Abacavir