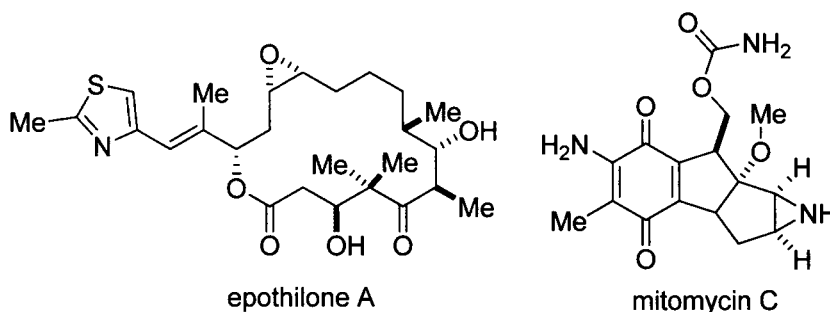
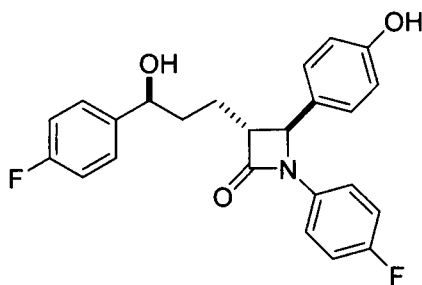


drugs such as epothilone and mitomycin are exceptions rather than the rules. The epothilones have shown their eminent cytotoxic activity against tumor cells, taxol-like mitose inhibition and toxicity against multiple drug-resistant tumor cell lines. On the other hand, mitomycin C is isolated from a strain of bacteria called *Streptomyces lavendulae*. It is a chemotherapy agent because of its anti-tumor properties. It is indicated as a useful therapeutic agent in combination with other anticancer drugs for the treatment of disseminated adenocarcinoma of the pancreas and the stomach.



Not many drugs contain four-membered heterocycles either. The best-known drug containing an azetidine-ring is Schering-Plough's ezetimibe (Zetia). Launched in 2002 as a cholesterol absorption inhibitor, its mechanism of action is the inhibition of the Nieman–Pick C1-like 1 (NPC1L1) protein.



ezetimibe (Zetia), NPC1L1 inhibitor

Just as in life, five-membered heterocycles are of utmost importance to drug discovery. The most conspicuous of all is probably atorvastatin (Lipitor), an HMG-CoA inhibitor. Another bioactive pyrrole shown below is an antipsychotic agent.