Abstract

Antibiotics revolutionised medicine, by treating infections, which were considered to be fatal once. As a natural consequence of continuous use of antibiotics, bacteria started developing resistance. Indeed bacteria develop the resistance at a faster rate for almost all type of existing antibiotics. If this scenario continues, it is inevitable to come back to the same old situation, where bacteria will once again become life threatening pathogen to human population. This situation compels to develop novel methods for tackling those pathogens. In this regard, inhibition of bacterial fatty acid biosynthetic (FAB) pathway could be a viable strategy, which is relatively underexplored. Although there is cascade of processes and many enzymes are involved in FAB, our primary interest is to target Enoyl ACP Reductase enzyme, which reduces the olefinic group in the α,β-unsaturated ester. This enzyme is an attractive target as different drug molecules have been developed. To enhance and broadening of the activity spectrum, we considered a recent drug molecule (AFN-1252, currently in the clinical stage) as our lead, and designed few candidates based on pyridine derivative of acrylic acid/amide. The synthesis of new pyridine derivative of acrylic acid/amide will be presented in this work.