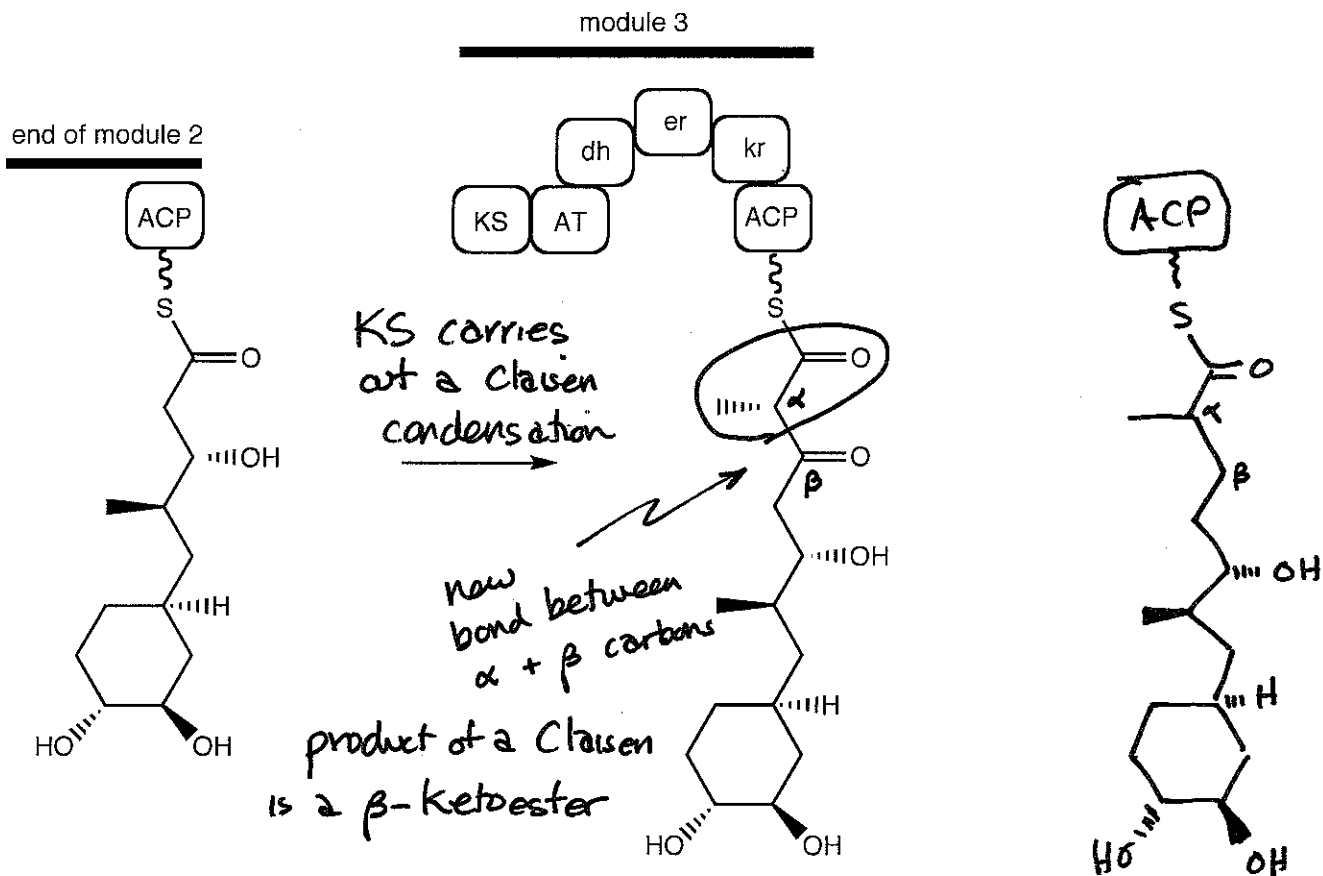


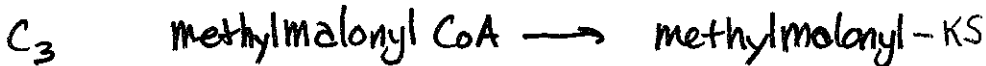
Quiz #7

The diagram below shows modules 2 and 3 in the biosynthesis of the antibiotic rapamycin, a polyketide. In module 3, the 3 genes shown in lower case are present, but deactivated (DH, ER & KR).



1. On the molecule given on module 3, circle the piece that was added by KS of module 3.

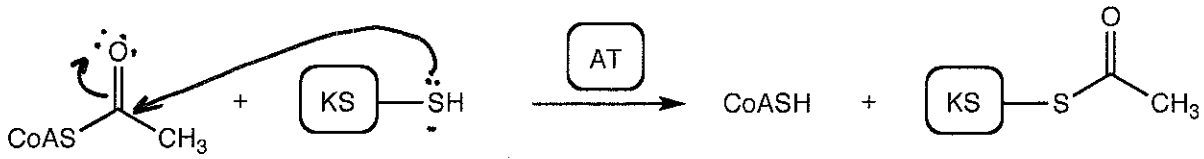
2. What is the name of the precursor that KS used to add the piece you circled in question 1?



3. Draw the structure of the molecule that would be on the ACP when module 3 was finished with its work if these genes were active. Don't worry about stereochemistry. Put your answer to the right of the existing structure above.

it has been reduced by KR
 eliminated by DH
 & reduced again by ER

4. On any PKS, AT catalyzes a trans(thio)esterification similar to the one shown below:



Draw a mechanism for this (as if it were not occurring at the active site of an enzyme).

