

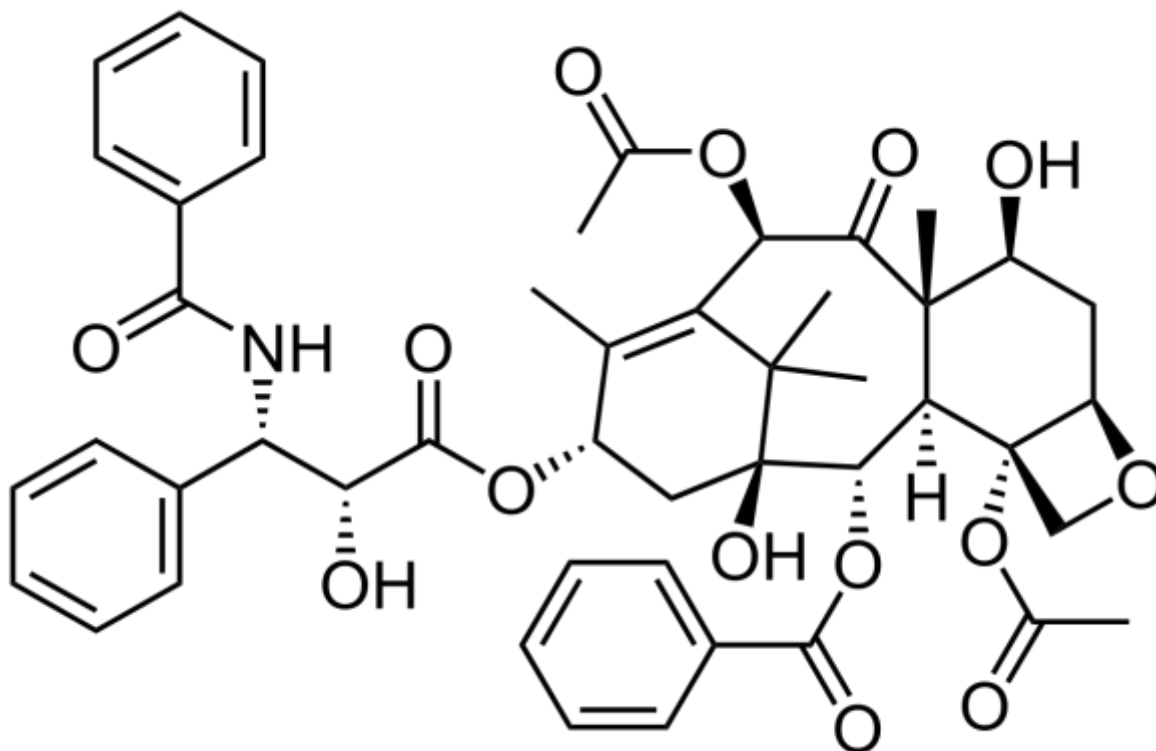
Overview of a couple concepts that were confusing

**PLEASE DO NOT USE THIS AS THE ONLY SOURCE TO STUDY FOR THE EXAM.
THIS IS JUST SOME PRACTICE RELATED TO STEREOCHEMISTRY!**

Please attempt the problems before you look at the solutions. It will help you understand the material better

Please Consider A and B as enantiomers

1. Calculate the **ee** (Enantiomeric Excess) for a mixture of **er** (Enantiomeric Ratio) = 75:25, A:B.
2. Calculate the **er** (Enantiomeric Ratio) for a mixture that has A in 83% **ee** (Enantiomeric Excess).
3. Assign R or S configuration for each Stereo center in Paclitaxel (**Taxol**).



Solutions

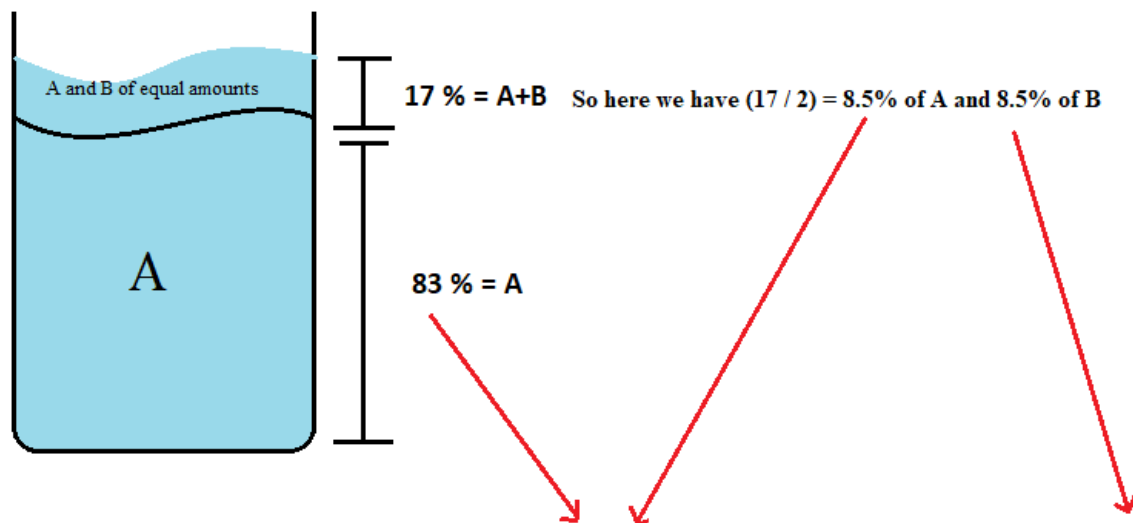
1. Calculate the **ee** (Enantiomeric Excess) for a mixture of **er** (Enantiomeric Ratio) = 75:25, A:B.

To convert **er** to **ee** all you need to do is subtract the larger quantity from the smaller.
So in this case the amount of A is 75 and B is 25. If you subtract these two values (75-25) you get 50 of A in excess. Which is the same thing as A being 50% **ee** (Enantiomeric Excess)

2. Calculate the **er** (Enantiomeric Ratio) for a mixture that has A in 83% **ee** (Enantiomeric Excess).

This conversion seems a bit complicated at first, however once you think about it the right way it becomes straight forward!

So when you have a mixture of in this case A in 83% **ee** (Enantiomeric Excess), the mixture will look something like this.



So to get the **er** (Enantiomeric Ratio) we need to sum the total amounts of A ($83 + 8.5 = 91.5$) and set the ratio to the amounts of B = 8.5

So you get your **er** of A:B to be 91.5 : 8.5

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- The image displays a complex chemical structure, likely a steroid derivative, with multiple stereocenters labeled R and S. The structure includes a fused ring system with various functional groups: an amide group (Ph-C(=O)-NH-), an ester group (Ph-C(=O)-O-), and several hydroxyl groups (OH). The stereochemistry is indicated by wedged and dashed bonds, and the R/S labels are placed near the corresponding chiral centers. The molecule is shown in a perspective view, highlighting its three-dimensional nature.