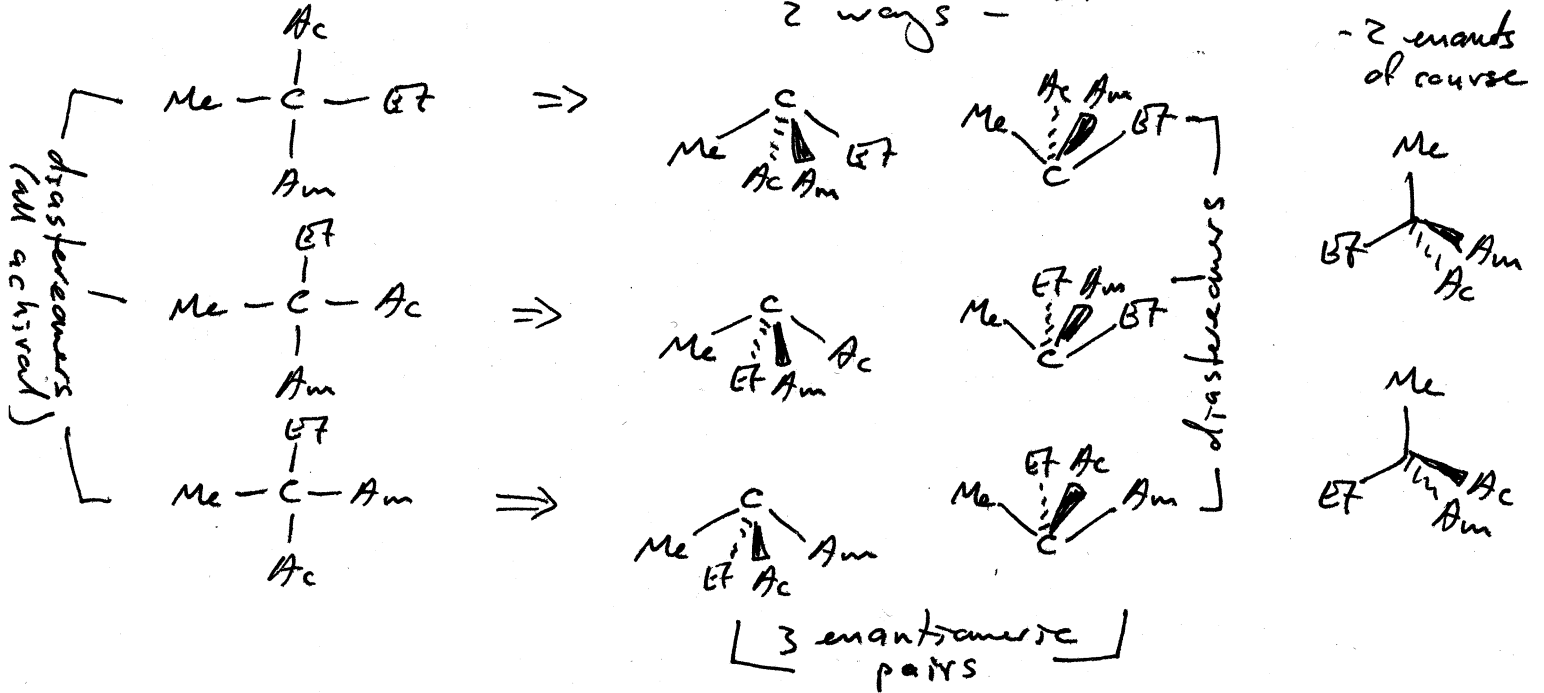


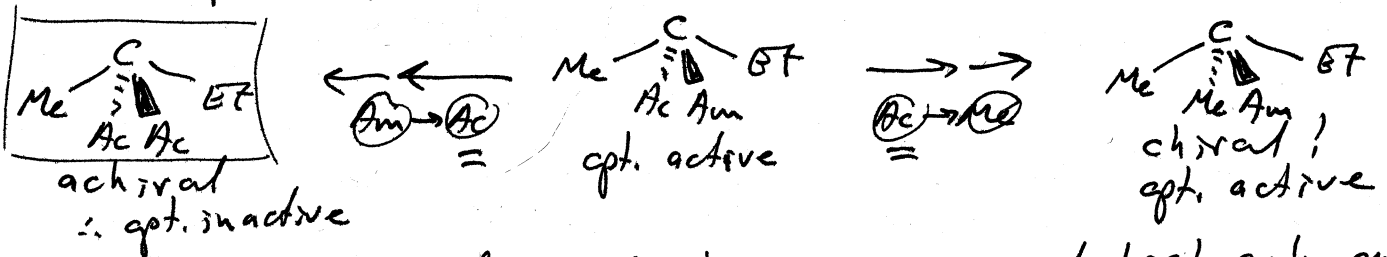
(a) square planar - 3 isomers

sq. pyram - just distort the sq. pl. 2 ways -

tetrahedral - 2 enantiomers of course



(b) That the starting compound was optically active rules out square planar. If it had been square pyramidal, let's say the first one, one transformation gives an achiral product, but the other doesn't.



Try it with any of the 6 stereoisomers - at best only one of the transformations can give an optically inactive product. The key is that making the group in the "Ac" position equivalent to one other gives an achiral product only if these newly equiv. groups are across from each other - If that works in one direction, it can't work in the other, since the group in the "Ac" position becomes equiv. to one next to it, thus it's still chiral. Making any two groups equiv. on a tetrahedral C yields achiral prod.