Aziridination and Retro-Aldol Fragmentation of Dioxenones: Application in the Synthesis of α-Amino Acids

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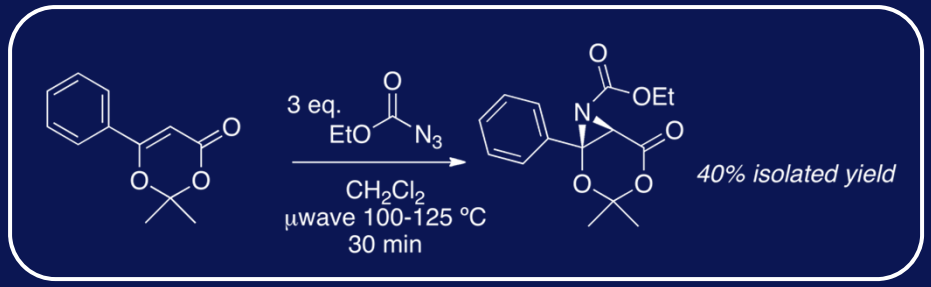

Despite a multitude of examples of aziridines in synthetic chemistry, there are only a few reports of aziridination of enol ethers and α,β-unsaturated esters and even fewer examples involving both the enol and ester functionalities in the same molecule, such as the 1,3-dioxen-4-one with which we are working. We are able to isolate the aziridination product of the phenyl substituted dioxenone shown above using an atom economical aziridination with ethylazidoformate. We are still investigating the mechanistic pathway by which the open-ring adduct is formed (pictured right). This information will be useful in optimizing aziridinations of other dioxenone derivatives.