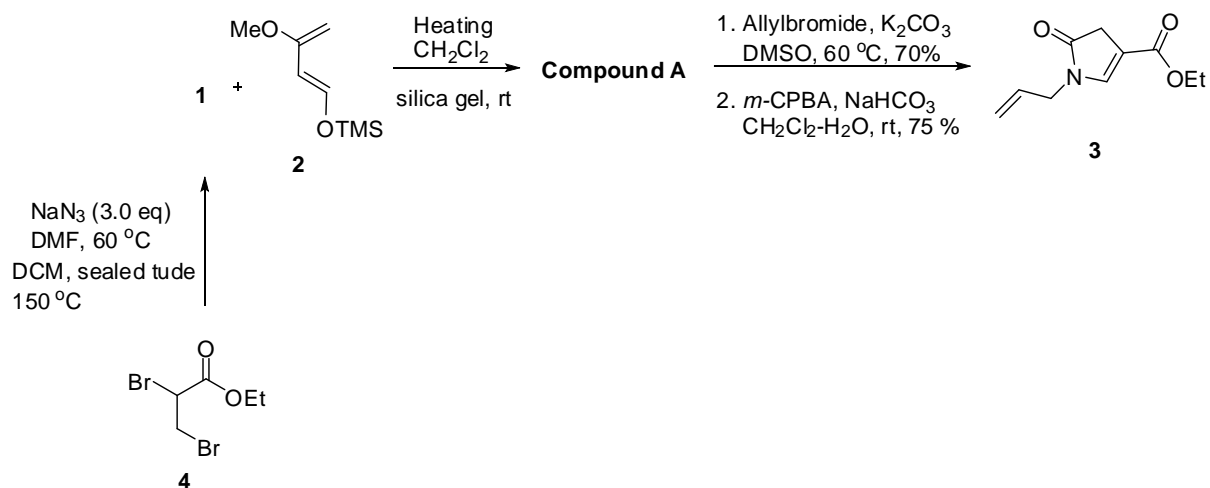


## Problem



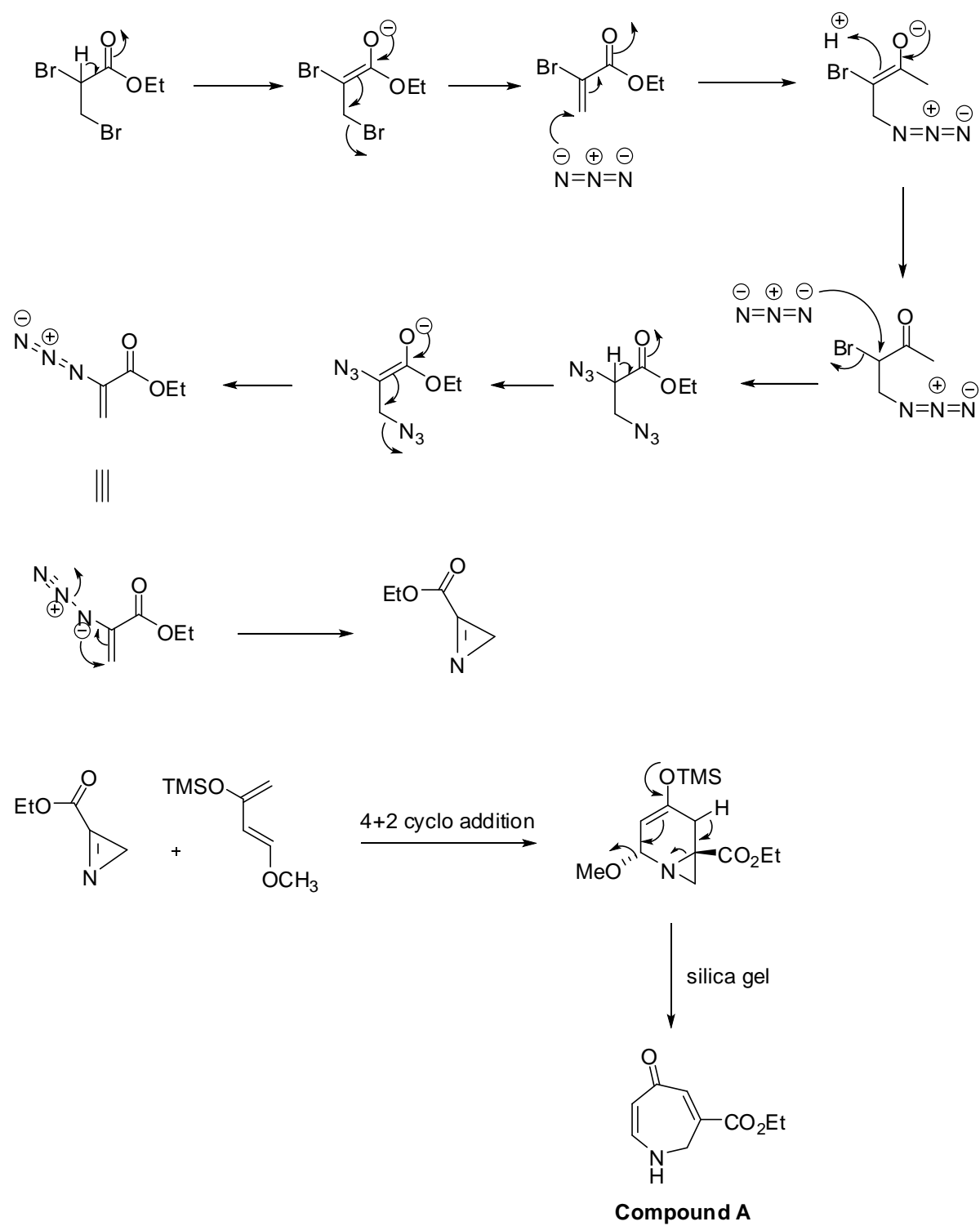
1. What is the structure of **1** in the above sequence and write a plausible mechanism to obtain Compound A
2. Write the mechanism of formation of **3** from compound A

## References:

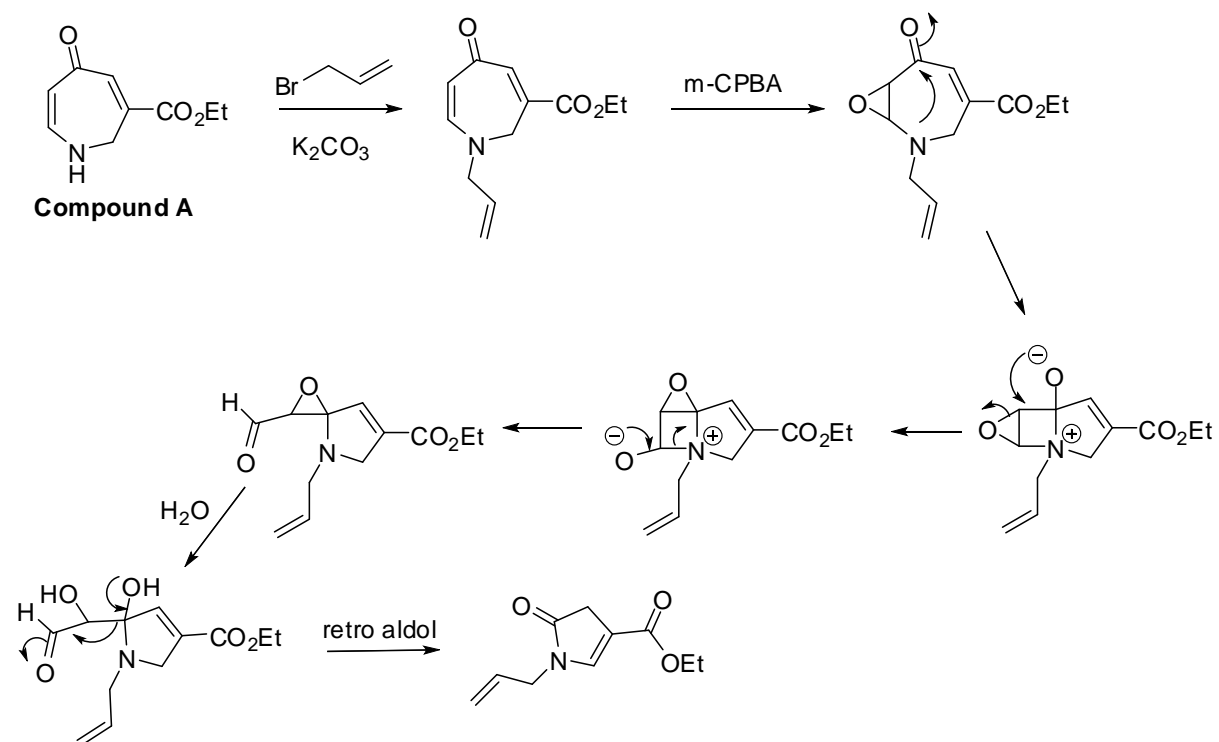
W. J. Chain *et al.*, *Tetrahedron Lett.*, **2011**, 52, 939

K. Kondo *et al.*, *Chem. Lett.*, **1982**, 525

### Solution for problem 1



## Solution for problem 2



### Key reactions in the mechanisms

Diels-Alder reaction, epoxidation of electron rich double bond with *m*-CPBA and retro Aldol reactions