# D-glucosamine-derived amino-thiol as ligand for enantioselective addition of organozinc compounds to aldehydes

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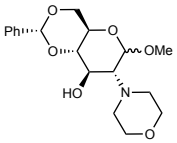
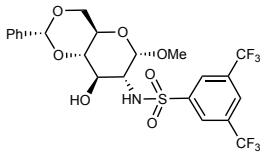
## BACKGROUND

- Growing need for the alternative and efficient chiral catalyst based on natural resources for the asymmetric synthesis
- D-glucosamine as modular ligand possesing several sites that can be altered during the synthesis

### Example of ligand derived from D-glucosamine

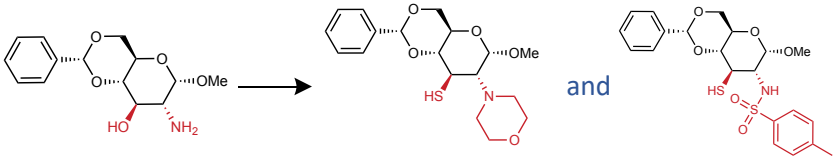


*D. Emmerson et al. Org. Lett., 8, (2006)*



*T. Bauer et al. Tetrahedron Letters 52 (2011)*

## THIS WORK

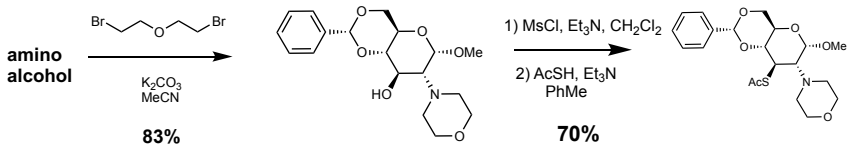



**amino alcohol of D-glucosamine** | **morpholine analogue** | **sulfonamides analogue**

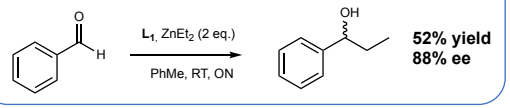
- Thiol as soft base donor -> expecting better enantioselectivity

## CURRENT RESULTS

### Synthesis of L1 (morpholine analogue)

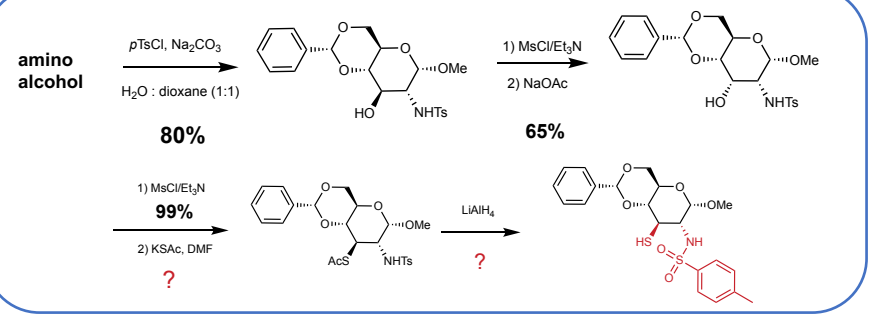



#### Preliminary diethylzinc addition




- Thioacetate nucleophilic reaction as key main steps[1]

### Synthesis of L2 (sulfonamides analogue)




## FUTURE PLAN

- Completing the synthesis of L2
- Catalysis study with variation of catalyst amount, solvent, temperature

## REFERENCE

[1] Tseng, S.L., Yang, T.L., Tetrahedron : *Asymmetry* 16 (2005) 773 - 782