

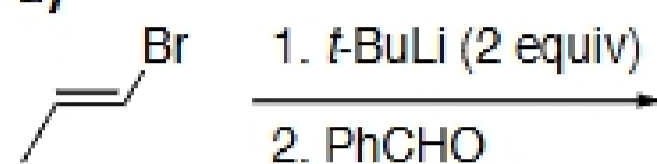
*NAME:**SID:***Sample Exam**

I	(20 pts)	_____
II	(15 pts)	_____
III	(25 pts)	_____
IV	(10 pts)	_____
V	(16 pts)	_____
VI	(14 pts)	_____
VII	(Bonus)	_____
TOTAL	(100 pts)	_____

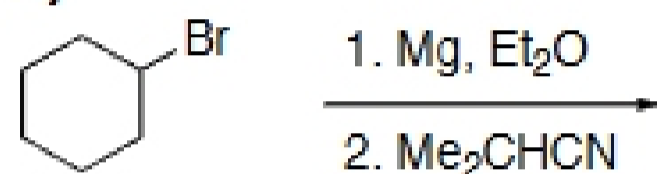
This Exam has 8 pages.

Problem 1. (20 pts) Predict the major products for the following reactions. Draw all products in the 3D conformations and make it clear what the product configuration is.

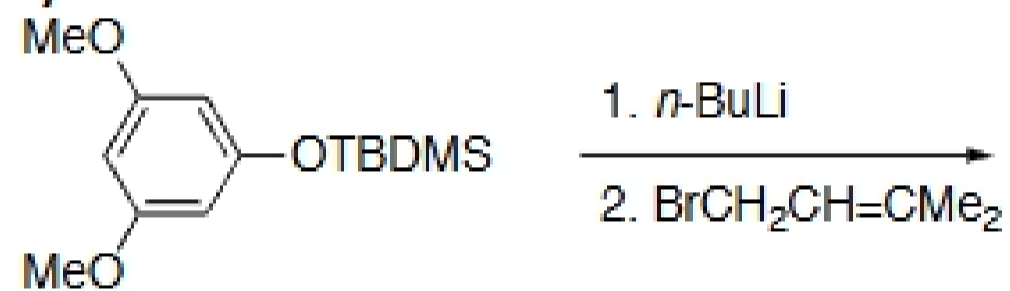
a)



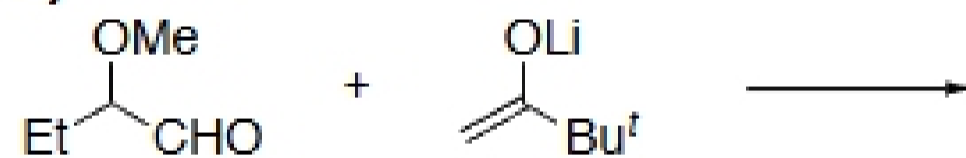
b)



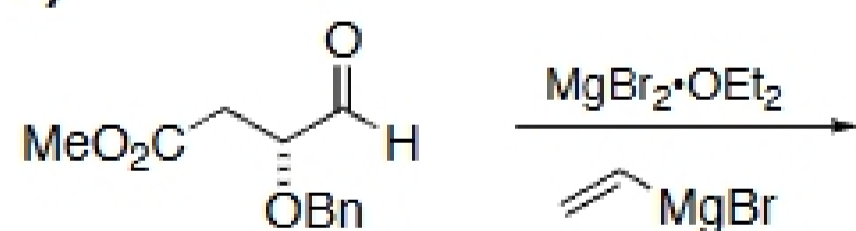
c)



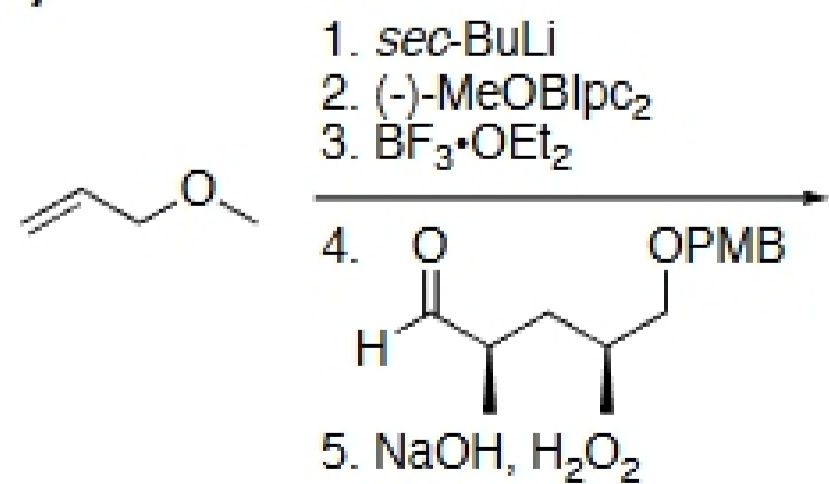
d)



e)



f)



Problem II. (15 pts) Suggest reagents for the following transformation. Explain the stereoselectivity of the reaction (draw an appropriate transition state model). Suggest how you would obtain the other *syn*-aldol product and explain the difference in the stereoselectivity.

