

NAME:

SID:

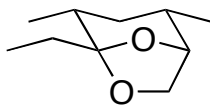
Sample Exam

I	(30 pts)	_____
II	(20 pts)	_____
III	(30 pts)	_____
IV	(20 pts)	_____
TOTAL	(100 pts)	_____

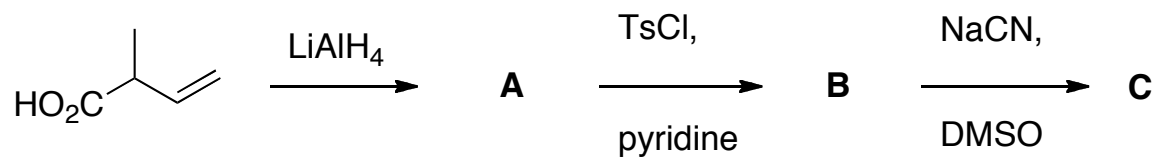
This Exam has 6 pages.

Good luck!

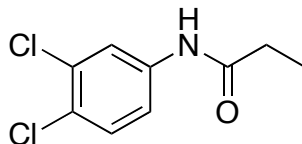
Problem I. (30 pts) Multistriatin has 4 chiral centers; draw 6 different stereoisomers of the shown structure in unambiguous and correct chair conformations:



Problem II. (20 pts) Propose **intermediates A** and **B**, and **product C** in the following synthetic sequence:



Problem III. (30 pts) Provide a retrosynthetic analysis of the following TM. Your ultimate starting material should be 1,2-dichlorobenzene. You do not need to show reagents, but all the retrosynthetic steps should be clearly indicated.



Problem IV. (20 pts) Give short definitions, structures, or examples for the following expressions or reaction types:

a) a Ritter reaction

b) an acetal

c) a cyanohydrin

d) a triflate group

e) a nucleophilic aromatic substitution

f) a Williamson ether synthesis