Massachusetts Institute of Technology

Organic Chemistry 5.512

April 4, 2005
Prof. Rick L. Danheiser

Problem Set 4
Practice Problems for First Exam

Design a highly stereoselective synthesis of the following target molecules beginning with commercially available materials. Be sure to explicitly identify all reagents necessary for each transformation. Enantiomerically enriched reagents may be used if they are commercially available; however, each stereogenic center in the target molecule must be generated in your synthetic route. In other words, the stereogenic carbons in the chiral reagents you employ cannot be directly incorporated in the final product.

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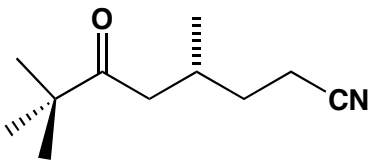
(1)



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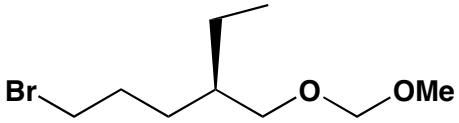

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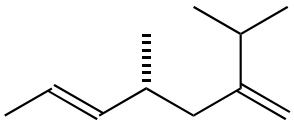

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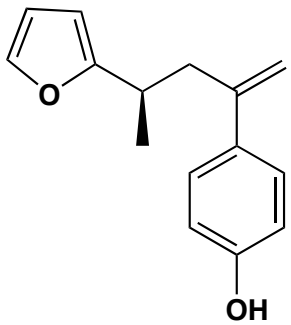

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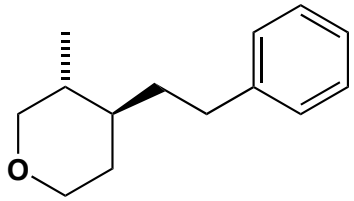

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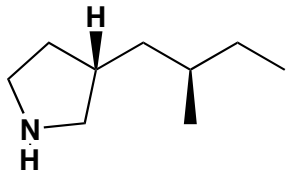

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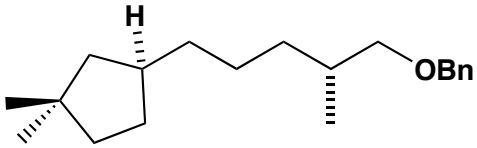

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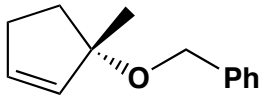

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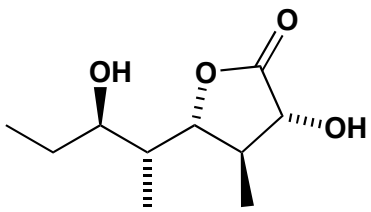

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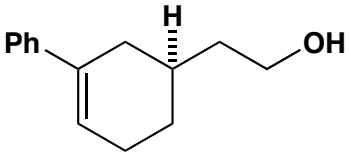

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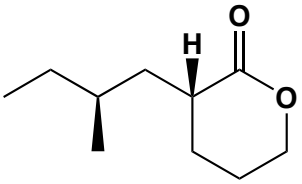

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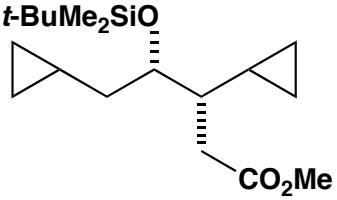
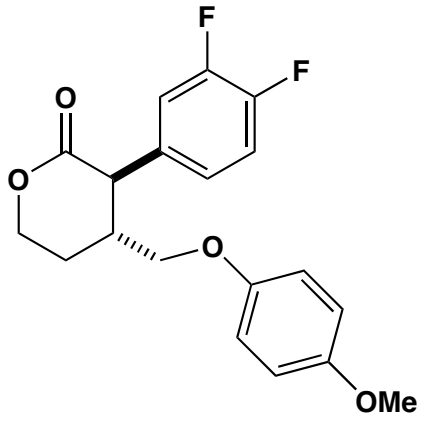
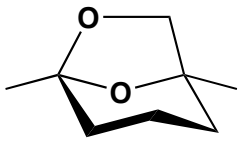
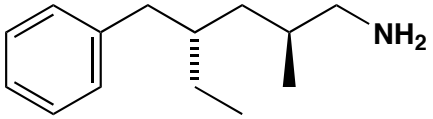
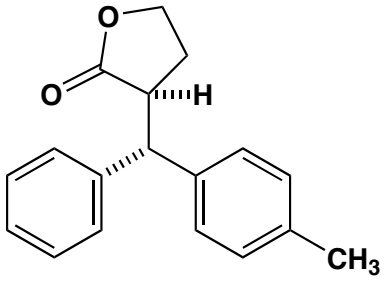
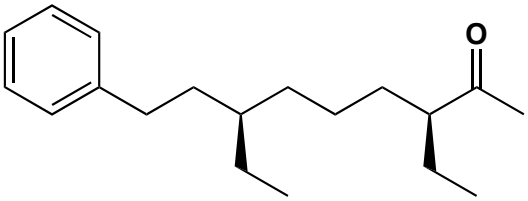


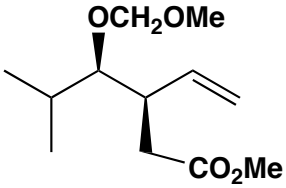
(13) 

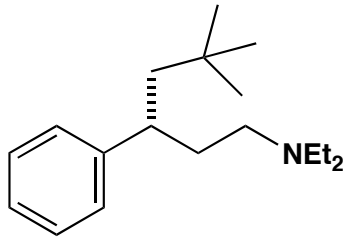
(14) 

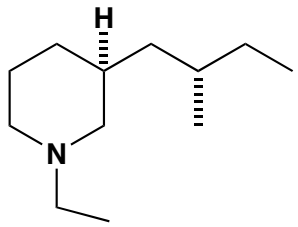
(15) 

(16) 

(17) 

(18) 

(19) 

(20) 

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