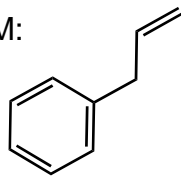


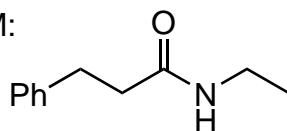
III. (10 pts) Provide a synthesis for the following target molecule (TM). The synthesis must involve the **formation of a new C–C bond**, and use only **alcohol starting materials** (along with any commercially available reagents).

TM:

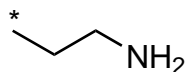


IV. (10 pts) Provide a synthesis for the following target molecule (TM). The synthesis must involve the **formation of a new C–C bond** and may use any commercially available reagents.

TM:



V. (10 pts) Provide a synthesis for the following target molecule (TM) that correctly incorporates the ^{14}C -labeled (*) carbon atoms as shown, using the given starting materials as the only sources of carbon. Any commercially available reagents may also be used.



TM

available starting materials
(sources of carbon):

