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.

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