SYNFACTS

Highlights in Current
Synthetic Organic
Chemistry

REPRINT

Thieme

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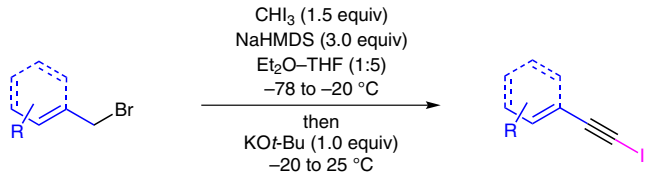
One-Pot Synthesis of 1-Iodoalkynes and Trisubstituted Alkenes from Benzylic and Allylic Bromides
Org. Lett. **2012**, *14*, 5464–5467.

Category
Metal-Mediated Synthesis

Key words
iodoform
benzylic bromides
allylic bromides
1-iodoalkynes

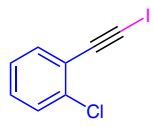
One-Pot Synthesis of 1-Iodoalkynes from Benzylic and Allylic Bromides



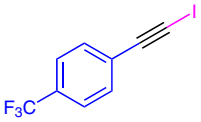
up to 95% yield

R = Cl, CF_3, Me, OMe, Ph, F, OBn, thienyl, *t*-Bu, 1,3-dioxole, Alk

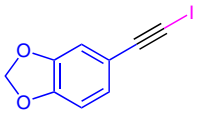
Selected examples:



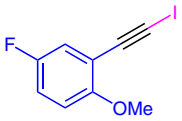
69% yield



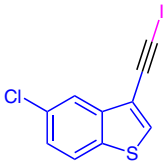
67% yield



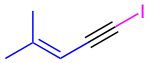
63% yield



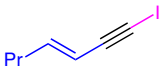
80% yield



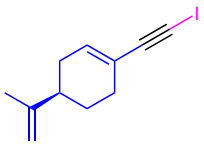
69% yield



67% yield



65% yield



66% yield

Significance: The one-pot synthesis of various 1-iodoalkynes starting from easily available benzylic and allylic bromides via homologation–double elimination with iodoform is described. The corresponding 1-iodoalkynes are obtained in good yield.

Comment: This methodology displays a valuable alternative to the classical Corey–Fuchs iodoalkynylation, where an excess of triphenylphosphine has to be used. Furthermore, it shows an excellent compatibility with various functionalities and the appropriate iodoalkynes are easily isolated by filtration workup. Noteworthy, this strategy may also be applied to the synthesis of *gem*-(*Z*)-chloro-(*E*)-iodoalkenes, if iodoform is replaced by CHI_2Cl.

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