Corey–Fuchs Alkyne Synthesis

Significance: In 1972, Corey and Fuchs reported a convenient transformation of aldehydes to the corresponding one-carbon chain-extended alkynes using carbon tetrabromide and triphenylphosphine and subsequently n-BuLi. The method provides the desired alkynes in good yields.

Comment: The procedure comprises two steps. The synthesis of the dibromoolefin can be conducted in two ways in a Wittig-type reaction. In the second step, treatment of the prepared dibromoolefins with two equivalents n-BuLi furnishes the desired terminal alkynes. Remarkably, the intermediate lithium acetylide can also be treated with a variety of electrophiles.