Synthesis of Diarylethynyl Methanes via a Multicomponent Coupling

Significance: A straightforward synthesis of diarylethynyl methanes via a titanocene-catalyzed multicomponent coupling has been disclosed. This rapid and divergent reaction furnishes the corresponding products in good to almost quantitative yield.

Comment: The reported reaction shows a high degree of modularity and convergency in the rapid assembly of complex target molecules. Furthermore, the authors could apply the new protocol to the synthesis of a natural product.

Selected examples:

- R = Ar, n-Bu, BrOCH₂, TIPS
  - 90% yield
  - 68% yield
  - 68% yield
  - 96% yield
  - 83% yield
  - 83% yield
  - 80% yield
  - 58% yield
  - 67% yield

Cp₂TiCl₂ (5 mol%) Zn (3 equiv) Ac₂O (1 equiv) t-Bu₃P (0.8 equiv) Cs₂CO₃ (1 equiv) DCE, 25 °C, 11 h

Key words: diarylethynyl arenes multicomponent coupling titanocene