

Synthesis of long, palladium end-capped polyynes through the use of asymmetric 1-iodopolyynes.

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Streszczenie

The synthesis of a unique series of long, asymmetric 1-iodopolyynes (**1-C_nI** and **2-C_nI**) with the sp-hybridized carbon chain up to a decapentayne is reported. These compounds were then used as substrates in reactions with Pd(PPh₃)₄ leading to another series of palladium end-capped polyynes, which were unstable in solution. Organometallic octatetraynes **1-C₈[Pd]I**, **2-C₈[Pd]I**, and decapentayne **1-C₁₀[Pd]I** are palladium end-capped polyyne compounds with the longest carbon chains reported so far. All the complexes as well as their organic precursors were fully characterized by NMR, HRMS(ESI), IR, TGA-DTA, and UV/Vis techniques, and the X-ray crystal structures of two silyl-protected precursors and one palladium complex are presented. The synthetic approach for palladium species is envisioned as a general route for the synthesis of labile organometallic polyynes.

Słowa kluczowe

Alkynes, Cross-coupling, hyperconjugation, iodine, palladium

Adres publiczny

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