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The First Total Synthesis of Kynapcin-24 by Palladium Catalysis

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Abstract

The synthesis of kynapcin-24, which can be isolated from the Korean mushroom Polyozellus multiflex Murr, is achieved in 12% overall yield from commercially available 3,4-dihydroxybenzaldehyde by a route in which the longest linear sequence is only 14 steps. The key transformations in the synthesis are copper-mediated and palladium-catalyzed coupling reactions of the iodide 3-iodo-5,6-diisopropoxy-2-[(tetrahydropyran-2-yloxy)methyl]benzofuran with the corresponding stannane 5,6-diisopropoxy-2-[(tetrahydropyran-2-yloxy)methyl]-3-(tributylstannyl) benzofuran, and a 5-endo-dig iodocyclization of a (hydroxyphenyl)propargyl ether.