

Unusual product formation in tungsten(0)-catalysed reactions of propargylic alcohols and secondary amines : hydroamination and the construction of the tetrahydrofuran ring.

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Streszczenie

In reactions of propargylic alcohols, $\text{RH}(\text{HO})\text{CCCH}$ (prop-2-yn-1-ol, *meso*-but-3-yn-2-ol), with secondary cyclic amines (piperidine, pyrrolidine, morpholine, 1-methylpiperazine, 4-methylpiperidine and *meso*-3,5-dimethylpiperidine), catalysed by *cis*- $[\text{W}(\text{CO})_4(\text{pip})_2]$, previously unknown diamines containing the tetrahydrofuran ring were isolated in relatively good yield, up to 80%, identified by GC–MS, and characterized by NMR spectroscopy. The new structures were studied by DFT: the ^1H and ^{13}C chemical shifts were calculated and compared with those observed experimentally.

Słowa kluczowe

Alkynol, Hydroamination, Cyclization, Secondary amine, Tungsten catalyst

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