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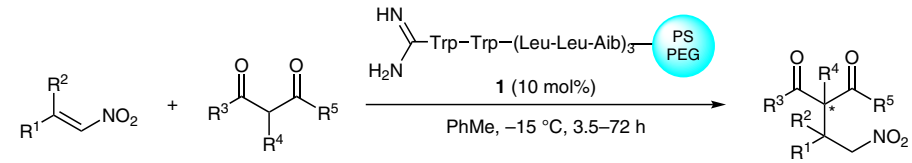
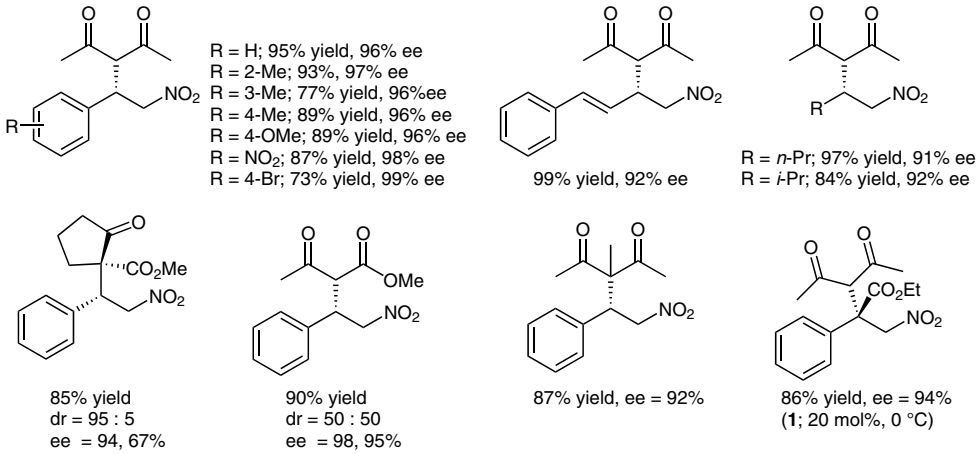
Enantioselective Nitro-Michael Addition Catalyzed by N-Terminal Guanidinylated Helical Peptide
*Adv. Synth. Catal.* **2022**, *364*, 82–86, DOI: 10.1002/adsc.202101152.

# Polymer-Supported Helical Peptide Catalyst for Enantioselective Nitro-Michael Addition




**Results:**




**Significance:** An N-terminal guanidinylated helical peptide supported on PS-PEG resin **1** catalyzed the enantioselective nitro-Michael addition of acetylacetones or β-keto esters to nitroalkenes to afford the corresponding nitro-Michael adducts in up to 99% yield and 99% ee.

**Comment:** In the enantioselective nitro-Michael addition of acetylacetone to β-nitrostyrene, the catalyst was recovered and reused four times without loss of its catalytic performance. The authors have previously reported the synthesis of PS-PEG-supported peptide catalysts and their application in a cyanosilylation of aldehydes (*Tetrahedron Lett.* **2012**, *53*, 5981) and an enantioselective Michael addition (*J. Org. Chem.* **2016**, *81*, 6343).

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Synfacts 2022, 18(04), 0407 Published online: 18.03.2022
**DOI:** 10.1055/s-0041-1737384; **Reg-No.:** Y02122SF



**Category**
Polymer-Supported Synthesis

**Key words**
asymmetric catalysis
nitro-Michael addition
peptide catalysis

Synfact of the Month