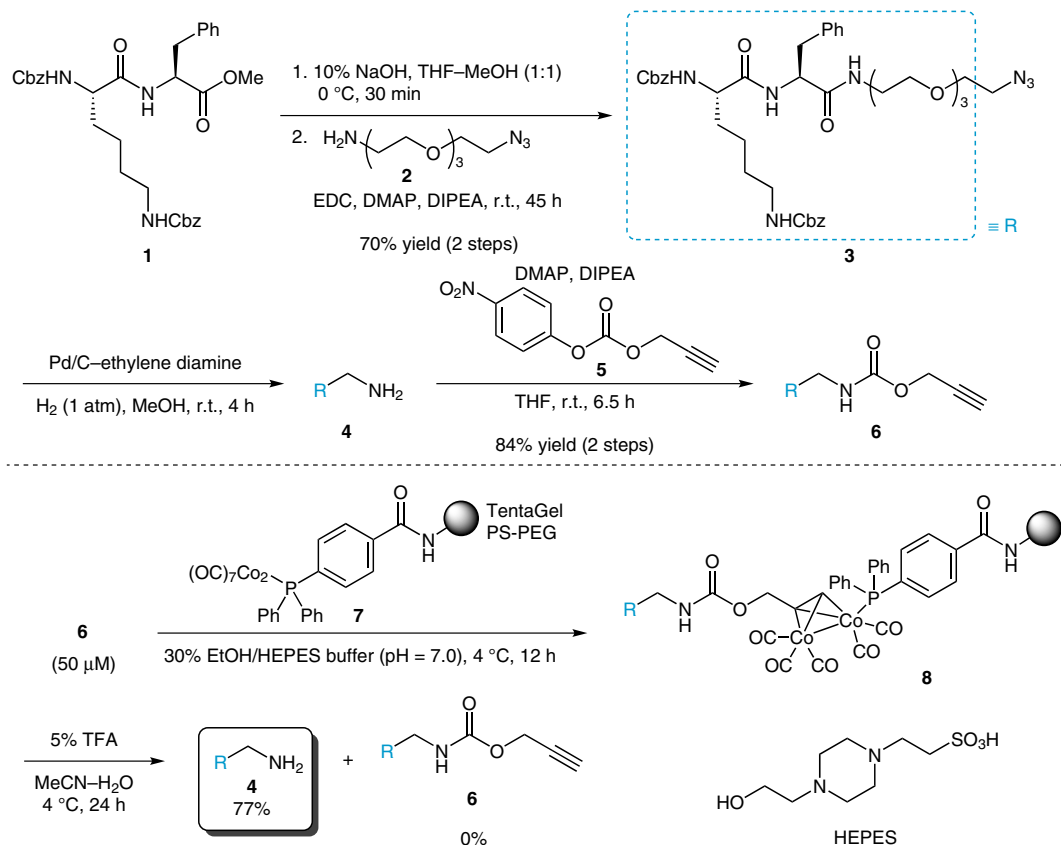


A. MIYAZAKI, M. ASANUMA, K. DODO, H. EGAMI, M. SODEOKA* (ERATO, JAPAN SCIENCE AND TECHNOLOGY AGENCY, WAKO AND RIKEN CENTER FOR SUSTAINABLE RESOURCE SCIENCE, WAKO, JAPAN)

A 'Catch-and-Release' Protocol for Alkyne-Tagged Molecules Based on a Resin-Bound Cobalt Complex for Peptide Enrichment in Aqueous Media

Chem. Eur. J. **2014**, *20*, 8116–8128.

An Immobilized Cobalt Complex for Alkyne-Tagged Peptide Enrichment



Significance: A 'catch-and-release' protocol for the enrichment of alkyne-tagged biomolecules using a resin-supported phosphine cobalt carbonyl complex in aqueous media was developed. The reaction of a PS-PEG resin (TentaGel) supported cobalt complex **7** with a propargyloxycarbonyl-functionalized peptide **6** (prepared from a dipeptide **1** over four steps) proceeded in 30% EtOH/HEPES buffer solution to give the corresponding dicobalt alkyne complex **8**. The following Nicholas-type reaction–decarboxylation sequence of **8** afforded the free amine **4** in 77% yield.

Comment: The reaction of the alkyne-tagged dipeptide **6** with the solid-supported cobalt complex **7** was performed under high-dilution conditions (50 μM of **6**). After the complexation of **6** with **7**, the resulting polymeric peptide complex was treated with 5% TFA to release the free amine **4** as a single product, where an alkyne **6** was not detected in the solution by mass spectrometry.

SYNFACTS Contributors: Yasuhiro Uozumi, Yoichi M. A. Yamada, Takuma Sato
Synfacts 2014, 10(9), 0989 Published online: 18.08.2014
DOI: 10.1055/s-0034-1378995; Reg-No.: Y09314SF