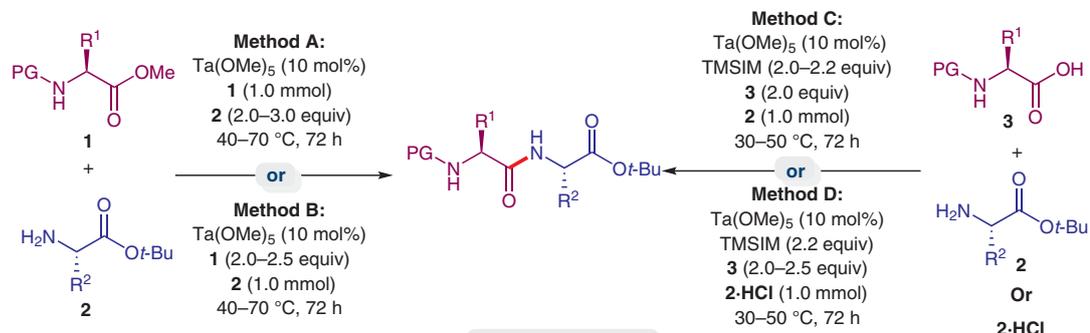
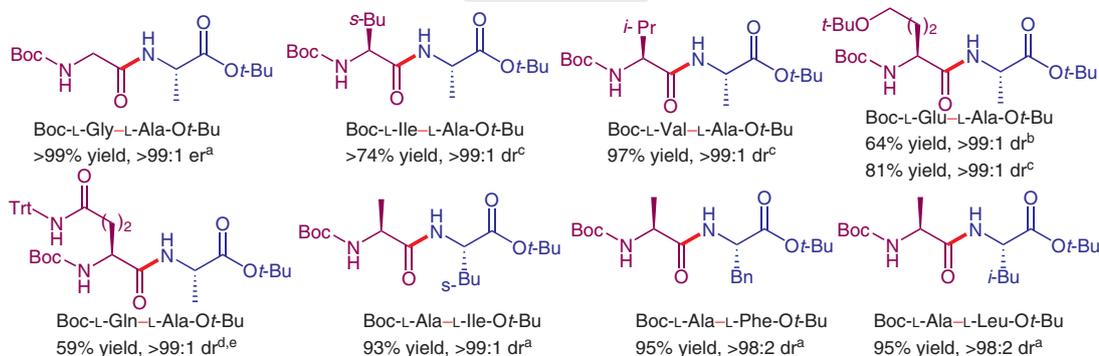


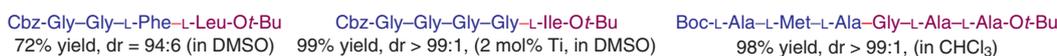
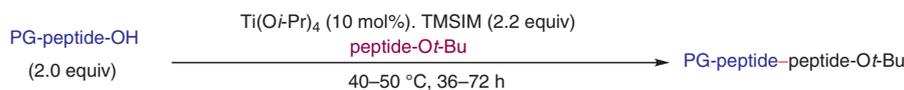
## Tantalum-or Titanium-Catalyzed Peptide Synthesis



### Selected examples



### Titanium-catalyzed peptide coupling reaction



<sup>a</sup> Prepared by following method A. <sup>b</sup> Prepared by following method B. <sup>c</sup> Prepared by following method C.

<sup>d</sup> Prepared by following method D. <sup>e</sup> 0.5 mL CHCl<sub>3</sub> solvent used. TMSIM = 1-(Trimethylsilyl)imidazole.

**Significance:** The development of elegant synthetic methodologies for peptide-bond formation is a highly demanding task in organic synthesis. A substrate-directed, Lewis acid-catalyzed, racemization-free amidation method has been developed to access various peptides.

**Comment:** The tantalum-catalyzed substrate-directed peptide-bond-formation reaction proceeds with various amino acids under solvent-free conditions and delivers peptides in high yields without racemization. This method further extends titanium-catalyzed oligopeptide synthesis.

Category

Peptide Chemistry

Key words

tantalum catalysis

titanium catalysis

substrate-directed reaction

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