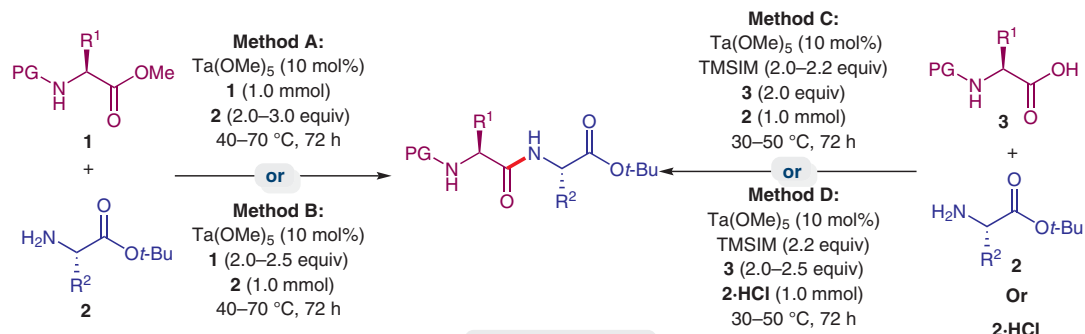
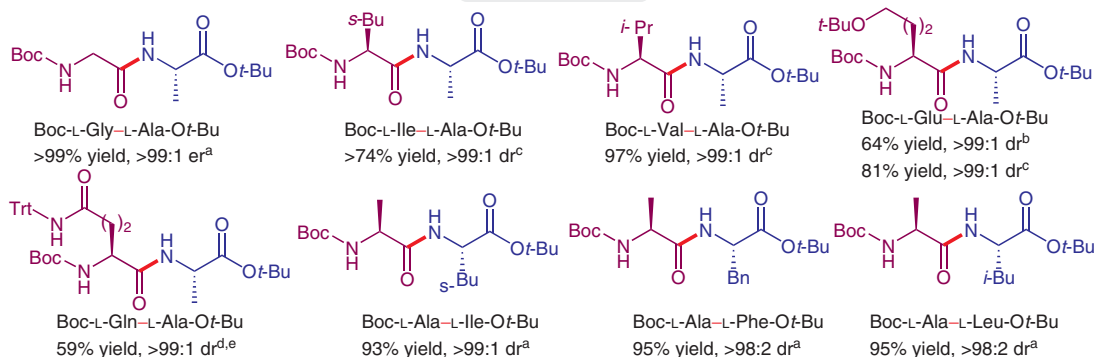


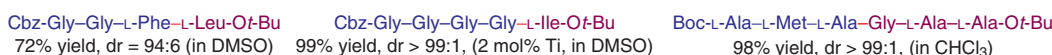
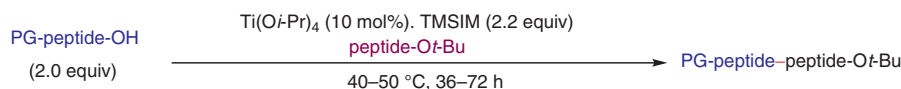
Tantalum-or Titanium-Catalyzed Peptide Synthesis



Selected examples



Titanium-catalyzed peptide coupling reaction



^a Prepared by following method A. ^b Prepared by following method B. ^c Prepared by following method C.

^d Prepared by following method D. ^e 0.5 mL CHCl_3 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

Synfact
of the
Month