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Two-Component Redox Organocatalyst for Peptide Bond Formation
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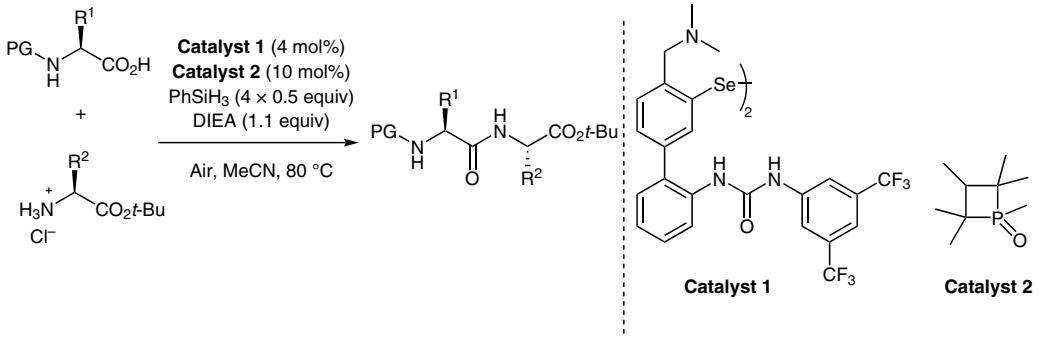
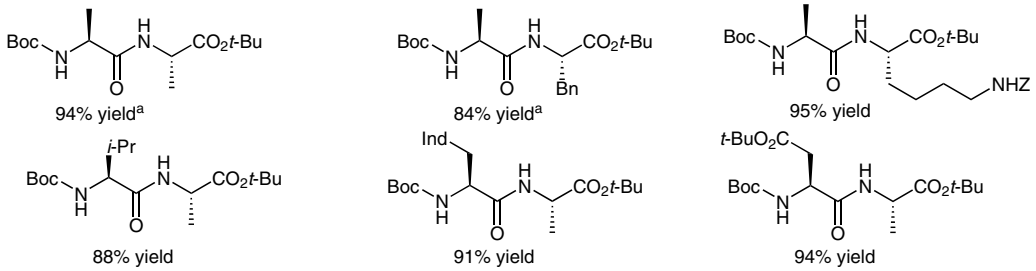
Dipeptide Synthesis by Two-Component Organocatalysis

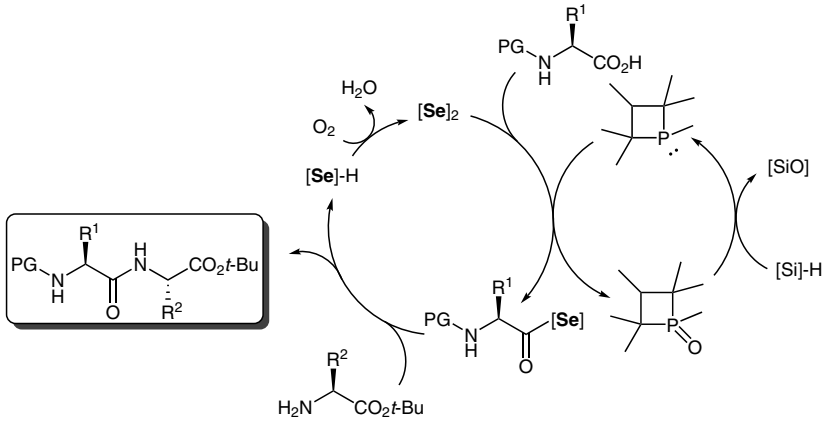


Selected examples:



[a]3 × 0.5 equiv of $PhSiH_3$ was used.

Proposed mechanism:



Significance: Catalytic peptide-bond formation is an important process in providing effective and economical systems for use in the industrial and pharmaceutical fields. The authors have developed a redox organocatalyst system for the formation of peptide bonds.

Comment: The two-component catalytic process provides versatility in dipeptide syntheses. The authors propose a mechanism consisting of a reductant-driven phosphine cycle and an oxidant-driven selenium cycle.

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Category
Peptide Chemistry

Key words
organocatalysis
redox catalysis
peptide bond formation
seleno esters

Synfact of the Month