

Custom Amino Acids Utilizing Ni(II) Technology



**Oakwood
Chemical**

Enabling Discovery

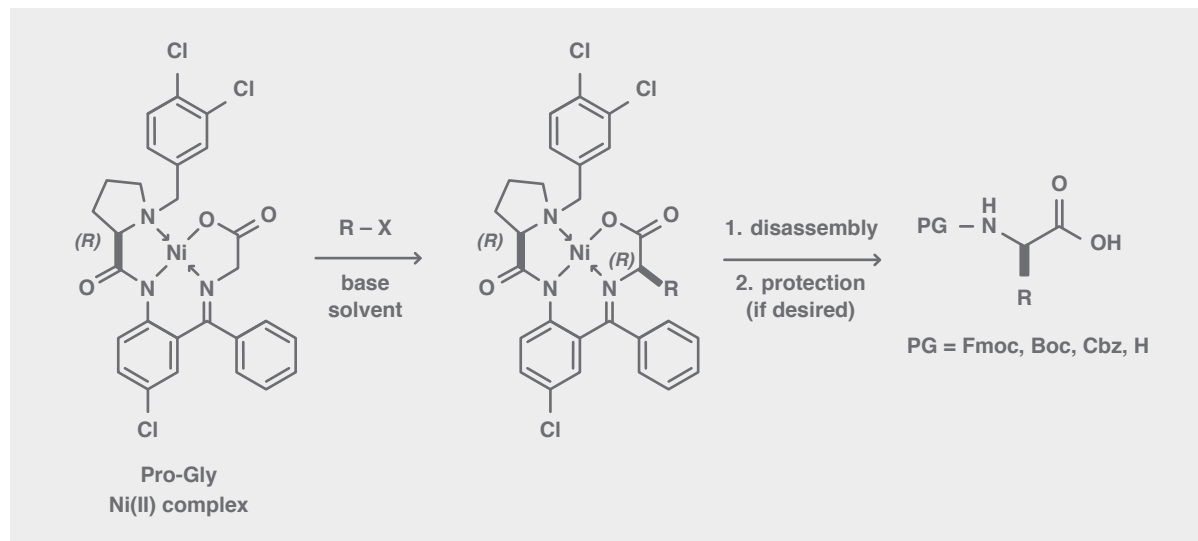
Features

When alkylated with an electrophile, the product equilibrates so that the new chiral center matches that of the proline. Disassembly releases the free amino acid, which can then be isolated or protected.

Scope of Technology

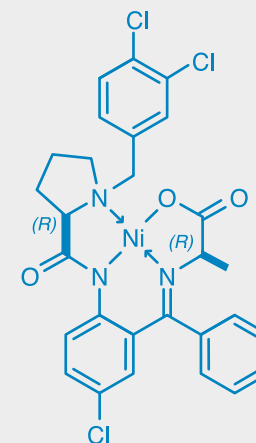
- Virtually any side chain can be created, if the electrophile can be synthesized (Halides, Tosylates, Mesylates, etc.)
- D-amino acids are made as easily as L-amino acids
- α -Methyl and α,α -dialkyl amino acids can be prepared
- Deracemization of DL-amino acids can be achieved

Ni(II) Technology



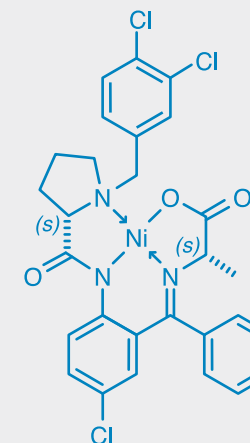
107030

D-Pro-D-Ala Ni(II) complex



107031

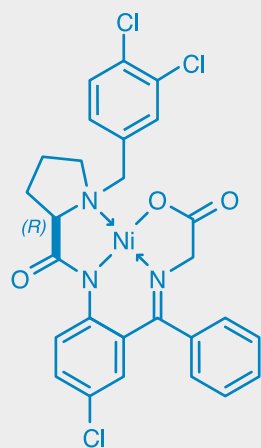
L-Pro-L-Ala Ni(II) complex



Customized Amino Acids

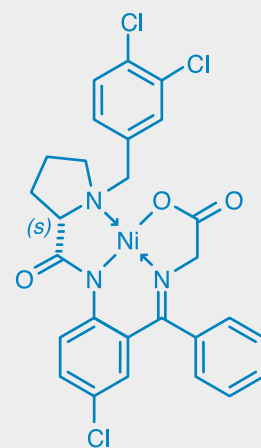
106939

D-Pro-Gly Ni(II) complex



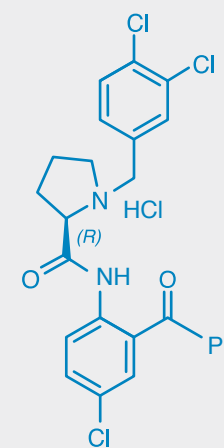
106938

L-Pro-Gly Ni(II) complex



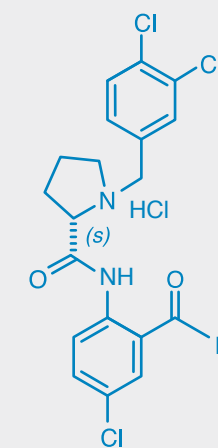
099874

D-Proline ligand



099873

L-Proline ligand



References

Synthesis:

Romoff, Todd T.; Ignacio, Bernardo G.; Mansour, Noel; Palmer, Andrew B.; Creighton, Christopher J.; Abe, Hidenori; Moriwaki, Hiroki; Han, Jianlin; Konno, Hiroyuki; Soloshonok, Vadim A.

Organic Process Research & Development **2020**, 24(2), 294-300.

Romoff, Todd T.; Palmer, Andrew B.; Mansour, Noel; Creighton, Christopher J.; Miwa, Toshio; Ejima, Yuki; Moriwaki, Hiroki; Soloshonok, Vadim A.

Organic Process Research & Development **2017**, 21(5), 732-739.

Utility:

Han, Jianlin; Romoff, Todd T.; Moriwaki, Hiroki; Konno, Hiroyuki; Soloshonok, Vadim A.

ACS Omega **2019**, 4(21), 18942-18947.

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