The asymmetric catalytic Strecker reaction of a series of achiral N-phosphonyl imines with metal cyanide sources that are non-toxic and non-volatile has been established. Metal species formed from BINOLs and amino alcohols derivatives have been proven to be effective catalysts to afford excellent enantioselectivities (up to >99%ee) and yields (up to 96%). N-phosphonyl group can be readily cleaved under mild conditions and enable purification of crude products simply by washing with hexane. The cleaved N,N-dialkyl diamine auxiliary can be recovered quantitatively via n-BuOH extraction. Extensive scope for both N-phosphonyl imines and catalysts was seen for this new catalytic system.

**CBC SEMINAR ANNOUNCEMENT**

**Professor Guigen Li**  
Department of Chemistry and Biochemistry  
Texas Tech University

**Asymmetric N-Phosphonyl and N-Phosphinyl Imine Chemistry (Part I & II)**

The asymmetric catalytic Strecker reaction of a series of achiral N-phosphonyl imines with metal cyanide sources that are non-toxic and non-volatile has been established. Metal species formed from BINOLs and amino alcohols derivatives have been proven to be effective catalysts to afford excellent enantioselectivities (up to >99%ee) and yields (up to 96%). N-phosphonyl group can be readily cleaved under mild conditions and enable purification of crude products simply by washing with hexane. The cleaved N,N-dialkyl diamine auxiliary can be recovered quantitatively via n-BuOH extraction. Extensive scope for both N-phosphonyl imines and catalysts was seen for this new catalytic system.

\[
\text{NH}_2\text{Cl} + \text{CN} 
\xrightarrow{\text{aq.HCl, MeOH, rt, 2 h}} 
R-NH\text{NH}_2 + \text{N} \rightarrow \text{N} + \text{N} + \text{R}
\]

1) Catalyst, 10 mol%  
2) $\text{H}_3\text{O}^+$  

(Quantitatively Recovered for Re-use)

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**Date:** Part I: 29th November 2010 (Mon)  
**Time:** 11am – 12.30pm  
**Venue:** NTU SPMS CBC Building Level 2, Conference Room  
**Host:** Assoc. Professor Li Tianhu

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**Date:** Part II: 01st December 2010 (Wed)  
**Time:** 2.30pm – 4pm  
**Venue:** NTU SPMS CBC Building Level 2, Conference Room  
**Host:** Asst. Professor Robin Chi Yonggui