

## S39-3 Unique Acid-Base Catalyses of Chiral Tetraaminophosphonium Salts

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Tetraaminophosphonium salts possessing four primary amino groups have been used as precursors of P-1 phosphazenes in organic chemistry. They are generally insusceptible to the P-N bond cleavage by a nucleophilic anion, and thus are relatively stable. Deprotonation from a nitrogen of the aminophosphonium salt generates triaminoiminophosphorane, which is known as a strongly basic reagent. In addition, the anion recognition ability of the aminophosphonium cation via double hydrogen-bonding has been implicated. With these characteristic features in mind, we have been interested in the design and exploitation of chiral aminophosphonium salts as a catalyst for valuable stereoselective transformations. In this presentation, I would like to show the realization of this possibility through the molecular design of chiral tetraaminophosphonium salts of type **1** and **2**, demonstrating their inherent potential of exerting asymmetric acid-base catalyses.

