Palladium-Catalyzed Generation of C1 Ammonium Enolates

**Significance:** The authors disclose a palladium-catalyzed generation of C1 ammonium enolates from readily available halides, carbon monoxide, and catalytic chiral Lewis base. The intermediate participated in asymmetric reactions with ketimines.

**Comment:** The chiral dihydropyridone and β-lactam products were obtained in high yields, high diastereoselectivities, and excellent enantioselectivities. This methodology was employed in the asymmetric synthesis of an antiproliferative agent.

**Selected examples:**

- **C1-ammonium enolate generation:**
  - 86% yield, dr = 13:1, 99% ee
  - 93% yield, dr = 9:1, 94% ee
  - >99% yield, dr = 14:1, 93% ee
  - 83% yield, dr = 10:1, 93% ee

- **Derivatization:**
  - 68% yield, dr > 20:1, 95% ee
  - 86% yield, dr > 20:1
  - Antiproliferative agent: 63% yield, 96% ee, dr > 20:1

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