Asymmetric Synthesis of Ferrocenes via Palladium-Catalyzed C–H Bond Activation

**Significance:** The authors report a highly enantioselective route to the synthesis of 2-acyl-1-dimethylaminomethylferrocene derivatives with planar chirality via a palladium-catalyzed asymmetric C–H bond activation using monoprotected amino acids as chiral ligands.

**Comment:** Due to their important role in promoting various asymmetric catalyzed reactions, 2-acyl-1-dimethylaminomethylferrocene derivatives with planar chirality were provided under one-pot reaction conditions in moderate to good yields and with excellent enantioselectivities via a palladium-catalyzed direct acylation of ferrocene.

**Selected examples:**
- 75% yield, 97% ee
- 72% yield, 93% ee
- 69% yield, 86% ee
- 49% yield, 80% ee

**Proposed mechanism:**

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