A General Strategy for Synthesis of Cyclophane-Braced Peptide Macrocycles via Palladium-Catalysed Intramolecular sp³ C–H Arylation


Synthesis of Cyclophane-Braced Peptide Macrocycles

**Significance:** New efficient methods for the intramolecular cyclization of peptides are important in terms of the development of drugs based on cyclic peptides. The authors report a powerful method for constructing new types of peptide macrocycles through palladium-catalyzed, aminoquinoline-directed, intramolecular C(sp³)–H arylation reactions.

**Comment:** The cyclization of readily accessible linear peptide precursors selectively proceeds at side chains of either aromatic or modified non-aromatic amino acids units to provide a variety of cyclophane-braced peptide macrocycles containing small-sized cyclophanes.

**Macrocyclization of peptides at iodinated aromatic amino acids:**

**Macrocyclization of peptides at modifiable nonaromatic amino acids:**

**Synthesis of small-sized cyclophanes:**

**Category**
Peptide Chemistry

**Key words**
palladium catalysis
C–H arylation
cyclophanes
macrocycles
peptide macrocycles