Cyclopeptide Synthesis by Ring-Closing Metathesis

Selected examples:

**A:**
- Boc-Leu$_3$N
- Boc$_2$N
- CO$_2$Me
- conditions A: 96% yield, $E/Z = 24:1$
- conditions B: 76% yield, $E/Z = 6:1$

**B:**
- Boc$_2$N
- Boc$_2$N
- CO$_2$Me
- conditions A: 53% yield, $E/Z = 1:2.2$
- conditions B: 73% yield, $E/Z = 1:1.1$

**C:**
- Boc$_2$N
- Boc$_2$N
- CO$_2$Me
- conditions A: 75% yield, $E/Z = 26:1$
- conditions B: 98% yield, $E/Z = 40:1$
- $^4$CH$_2$Cl$_2$ was used as solvent.

**D:**
- Boc$_2$N
- Boc$_2$N
- CO$_2$Me
- conditions A: 94% yield, $E/Z = 1:1$
- conditions B: 99% yield, $E/Z = 1:3.1$

**E:**
- Boc$_2$N
- Boc$_2$N
- Val$_3$N
- CO$_2$Me
- conditions A: 95% yield, $E/Z = 16:1$
- conditions B: 95% yield, $E/Z = 1:1.1$

**Significance:** Cyclopeptides are key moieties widely present in a number of bioactive products, including some with clinical applications. The authors developed ring-closing metathesis in $\alpha$-helical stapled peptides.

**Comment:** The ring-closing metatheses of $\alpha$-helical stapled peptides containing leucine or valine residues proceeded in moderate to high yields, generally in an $E$-selective manner.