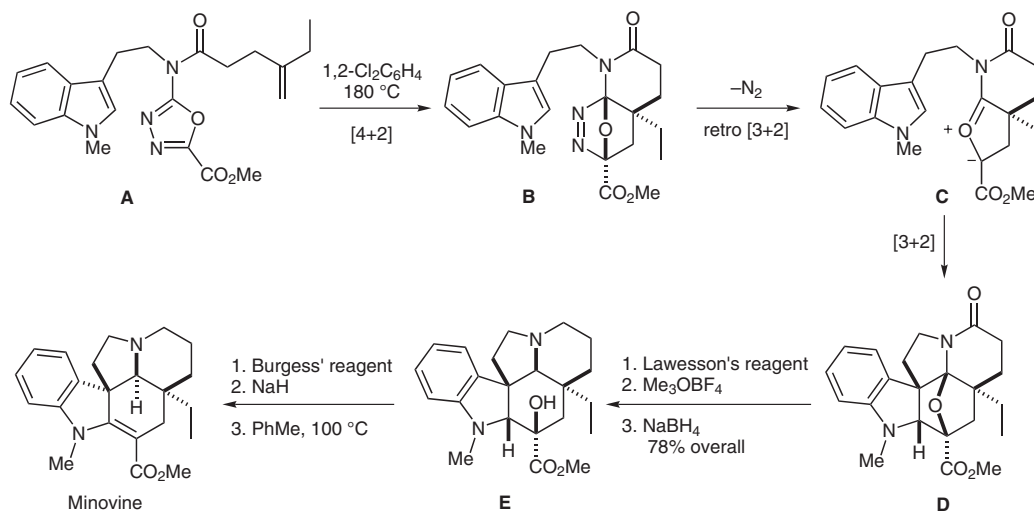


## Total Synthesis of (–)-Minovine



**Significance:** Three rings in the target molecule together with five stereogenic centers were created in a single operation by heating the 1,3,4-oxadiazole **A** in 1,2-dichlorobenzene. Three tandem pericyclic processes were involved: a Diels–Alder reaction to form **B**, a retro [3+2] reaction to form dipole **C**, and a dipolar cycloaddition to form **D** in 74% yield.

**Comment:** Natural Minovine was reported to have an  $[\alpha]_D = 0$ . Minovine prepared from enantiopure (+)-**D** (chromatographic resolution) displayed remarkable solvent-dependent but concentration-independent optical rotations accounting for the observed rotation. These studies established that natural Minovine is a single enantiomer which does not racemize on heating.