Synthesis of DZ-2384

Significance: Diazonamide A, a metabolite of the ascidian **Diazona angulata**, displays potent in vitro activity against human colon cancer. DZ-2384 is a truncated analogue of diazonamide A that is 10- to 50-fold more efficacious than diazonamide A as an anti-mitotic agent in rodents. The synthesis of DZ-2384 proceeded in 13 total operations and 5.7% overall yield from L-\textit{tert}-leucine.

Comment: The key step of the synthesis depicted is a macrocyclization initiated by an anodic oxidation of \textit{A} at a graphite surface. Anodic oxidation of 60 grams of \textit{A} gave 21 grams of a mixture of \textit{B} (major) and its \textit{epi}-\textit{C10,C11} diastereoisomer \textit{C} (minor, \textit{dr} = 2.7:1), which was separated from unreacted \textit{A} (11.0 g) by silica gel chromatography. Separation of the diastereoisomers was achieved after hydrogenolysis of the Cbz group.