Industrial Production of Artemisinin

Significance: Artemisinin is an antimalarial agent extracted from the leaves of *Artemisia annua*. The quest for a more reliable and economic supply of the drug resulted in the large-scale synthesis depicted, which is based on two key steps: (1) the diastereoselective hydrogenation of artemisinic acid (A) and (2) the photooxidation of dihydroartemisinic acid derivative D.

Comment: A major breakthrough was the discovery of a highly efficient biosynthetic route to artemisinic acid (A) in engineered *Saccharomyces cerevisiae* (C. J. Paddon et al. *Nature* 2013, 496, 528). This commercial synthesis delivers 365 kg batches of artemisinin starting from 600 kg of A (55% overall) and is expected to produce 60 tons per annum.