Hydroxychloroquine – An Antimalarial to Fight COVID-19?

Significance: Hydroxychloroquine (HCQ) and chloroquine (CQ) have long been used as treatments for malaria and autoimmune diseases. Surrey and Hammer detailed the synthesis of HCQ, a potent antimalarial in 1950. In an effort to identify available drugs to fight SARS-CoV-2 it has been reported that CQ and HCQ in combination with azithromycin might have the potential to combat COVID-19.

Comment: HCQ is synthesized by reacting a diamine with 4,7-dichloroquinoline in an SNAr reaction. The diamine is synthesized by condensing 5-chloro-2-pentanone with N-ethyl-N-b-hydroxyethylamine, followed by reductive amination with ammonia. HCQ showed good antimalarial activity and recently has been found to inhibit SARS-CoV-2 infection in vitro (Cell Discovery 2020, 6, 16).