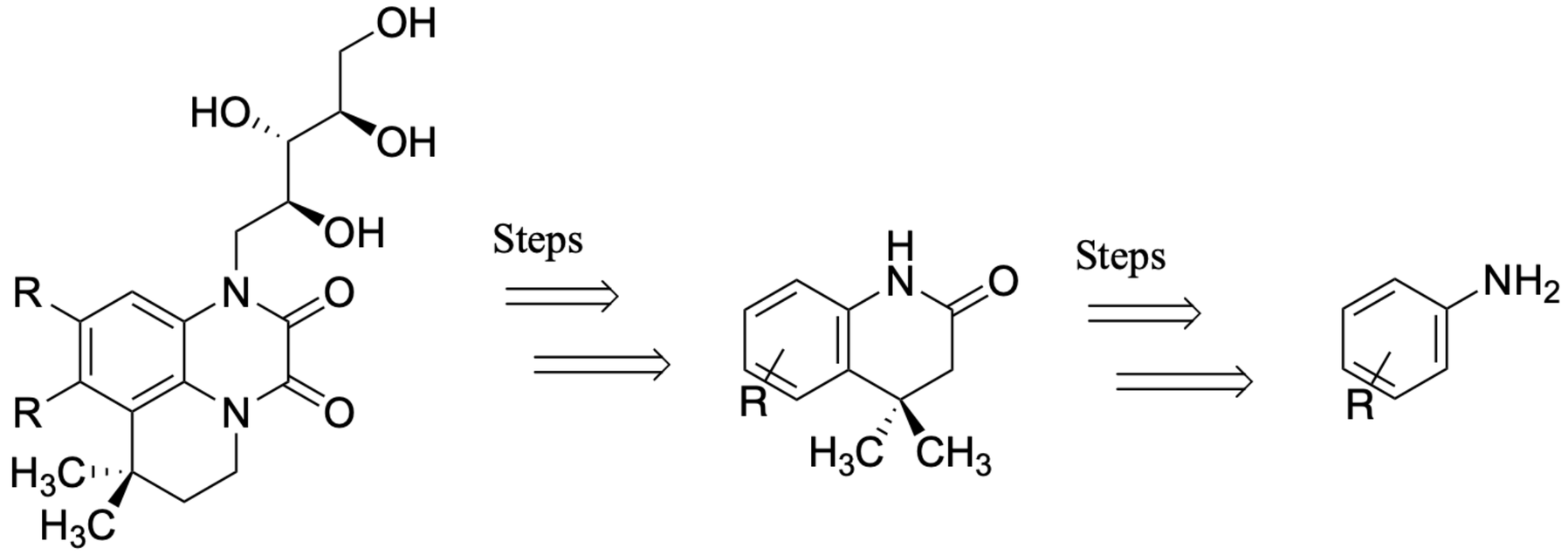
Studies toward 3,4-Dihydro-2(H)-quinolinone derivatives



R = H, CH_3, Br, Cl, NO_2, NH_2, $NHCOCH_3$

Hunanamycin A (HA), isolated from *Bacillus hunanensis* by MacMillan and co-workers, exhibits antibacterial activity against Gram-negative pathogens such as *Salmonella* and *Escherichia coli*. Demand for antibacterial compounds is increasing as bacteria become more resistant to available antibiotics. To further explore HA and structurally related compounds, our project aims to optimize the synthesis of 3,4-Dihydro-2(1H)-quinolinone derivatives. Through preparing α,β-unsaturated amides as starting material for Lewis acid catalyzed cyclization, the quinoline core structures of 8-Bromo-4,4-dimethyl-3,4-dihydroquinolin-2(1H)-one and 4,4-Dimethyl-3,4-dihydroquinolin-2(1H)-one were synthesized in 72.3 and 68 % yield, respectively. This route provides access to a variety of quinoline core structures.

Senior Seminar/Thesis Presentation by Yongyu (Rose) Ou

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