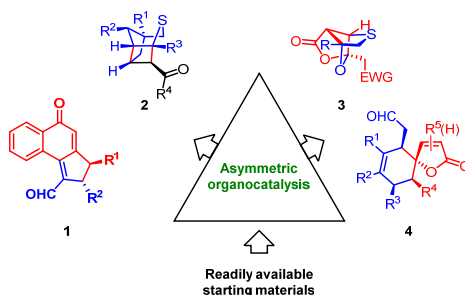


# VINYLOGY CONCEPT IN THE SYNTHESIS OF SELECTED CARBO- AND HETEROCYCLES

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The development of methods for the preparation of biologically relevant compounds in enantiomerically enriched form is of significance for contemporary organic chemistry. Enantioselective reactions where prochiral substrates are converted into enantiomerically enriched products in the presence of chiral catalyst are of great importance [1]. Recently, asymmetric organocatalysis has become a highly useful tool enabling for the efficient asymmetric induction based on diverse activation modes [2]. Within this research area, the application of vinylogy concept created new synthetic possibilities [3]. Herein, we report our studies on organocatalytic, enantioselective vinylogous strategies for the synthesis of biologically relevant molecules such as: carboannulated naphthalen-1(4*H*)-one derivatives **1**, tetrahydrothiopyrans **2**,  $\gamma$ -lactones **3** and **4** [4]. The devised approaches utilize readily available chiral organocatalysts to control stereochemical reaction outcomes.



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