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Catalytic Enantioselective Synthesis of Tertiary Thiols from 5*H*-Thiazol-4-ones: Bifunctional Ureidopeptide-Based Brønsted Base Catalyst

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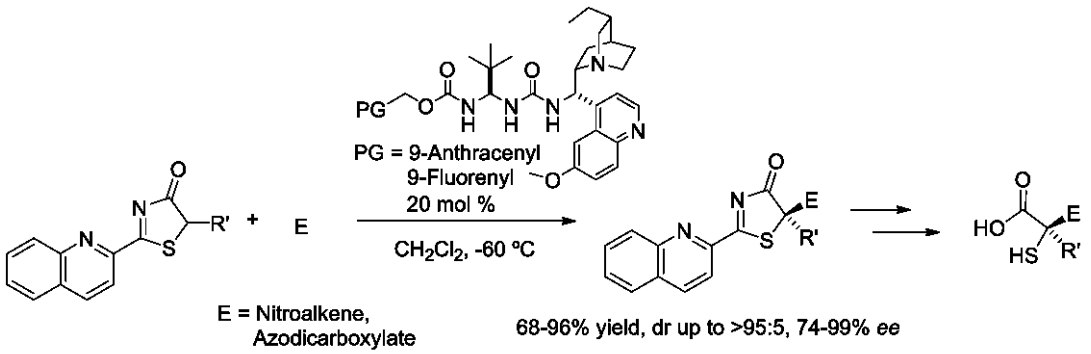
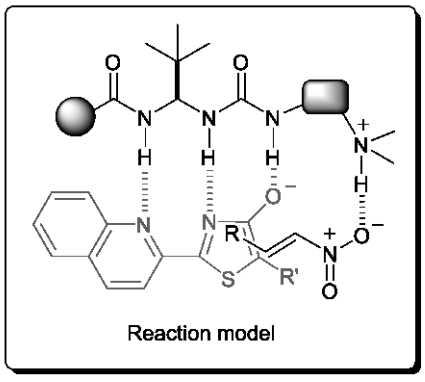
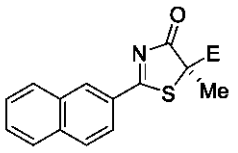
An efficient organocatalytic route to tertiary thiols is reported based on conjugate additions to nitro olefins of 5*H*-thiazol-4-ones as new sulfur based carbon pronucleophiles. Key for that realization is the development of ureidopeptide-based Brønsted bases, a new subclass of Brønsted base catalysts.







Success in this transformation is presumably due to the reaction model outlined above. This model nicely accounts for the best behavior of quinolyl thiazolone substrates for this reaction, in comparison to that of naphthyl based thiazolones which provided adducts with significantly lower levels of stereoselectivity, both diastereo- and enantioselectivity.