CATALYTIC ASYMMETRIC EPOXIDATION BY MEANS OF POLYAMINOACIDS IN A TRIPHASE SYSTEM

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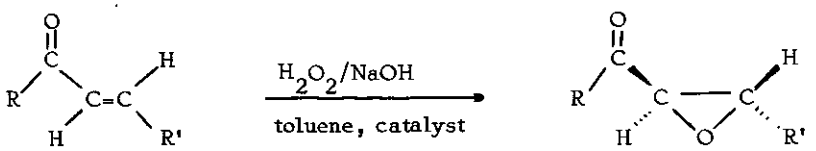
Summary.

Growing interest has been devoted in the last few years[1,2] to the use of natural and synthetic polypeptides in synthetic reactions as models of enzymatic systems. Nevertheless many of the examples reported show considerable drawbacks such as low optical yields and too long reaction times.

The asymmetric epoxidation of several chalcones and other electronpoor olefins in the presence of catalytic amounts of poly-amino acids gives optically active oxiranes (enantiomeric excess up to 96%).[3] The effect on asymmetric synthesis of a number of variables namely i) structural variation within the catalyst; ii) the temperature; iii) the solvent and the nature of the oxidizing will be discussed in detail.



References.

1) S. Inoue, Adv. Polym. Sci., 21, 78 (1976).

2) T. Sugimoto, N. Baba, Isr. J. Chem., 18, 214 (1979).

3) S. Colonna, H. Molinari, S. Banfi, S. Julia, J. Masana, A. Alvarez, Tetrahedron, in press and references therein.