

(9) Chiral Separation of an Amino Acids : Basis of an A Novel Electrochemical Sensing Technology

Dr. Bhavana A. Deore

Introduction

Over the last three decades development in sensing technology has grown at an ever-increasing rate due to their need in various spheres of life, particularly in the analytical, biological and clinical areas. Molecular/analyte recognition principles are being increasingly used as the basis for analytical technologies. The combination of a molecular/analyte recognition approach with conducting polymer materials has been beneficial, mostly in the field of electrochemical sensing. The goal of this research is to design a new electrochemical sensing device by using conducting polymers for enantioselective separation of amino acids. Our studies have centered on understanding the fundamentals of how these processes work.

Results

In this study we report a new method for treating polypyrrole films to produce analytically useful films. It involves irreversibly oxidizing the films, which changes their characteristics, according to the supporting electrolyte used in the treatment. This new treatment has been produced enantio-selective polypyrrole films, the effect of which on pH sensitive responses of an amino acids can be controlled by the method of preparation of the film. (Manuscript is under preparation)

Future Work

To design a electrochemically and chemically modified conducting polymer sensor for different analytical purposes and also we do this to emphasize again on understanding of fundamentals of this process.

Acknowledgement

One of the authors, Ms. Bhavana Deore, is grateful to VBL for providing financial assistance.

連絡先

E-mail : bhavana@po.cc.yamaguchi-u.ac.jp