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Application of a glutamate microsensor to brain tissue

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Preface

This thesis describes the construction, evaluation and practical application of a microsensor suitable to detect extracellular glutamate in brain tissue. The research presented in this thesis is divided into three main subjects. At first, the construction of the glutamate microsensor is described (Chapters 2-4). Secondly, a detailed evaluation of the performance of the microsensor is given (Chapter 5) and third, the practical application of the microsensor is investigated (Chapters 6 and 7). The experimental section is preceded by a general introduction (Chapter 1) and closed with a final general discussion and conclusion (Chapter 8). Most experiments were performed at the department of Biomonitoring and Sensing, University Center of Pharmacy, Groningen, The Netherlands. The work was carried out under supervision of Prof. Dr. B.H.C. Westerink. The project was performed in the framework of the Graduate School GUIDE (Groninger University Institute of Drug Exploration) and additional financial support was obtained from the Nicolaas Mulerius Fonds.