Statement regarding new facts:

This thesis presents electrochemical study of cytochrome P450cam (CYP101). The following points describes the new findings in this thesis

1. Site specific covalent linkage of CYP101 to pyrene maleimide is achieved so that vectorial electron transfer from electrode to heme of protein takes place. This conjugate is used for electrocatalysis.

2. Site specific linkage of pyrene maleimide CYP101 was confirmed by trypsin digestion of pyrene maleimide conjugated protein. Trypsin digested protein was studied by ESI-mass spectrometry.

3. Covalent linkage of CYP101 to SWCNT through maleimide is achieved. This conjugate was immobilized on Glassy carbon electrode for electrochemical study. In this the most exposed cysteine i.e. Cys 136 binds to the maleimide thus linkage is site specific.

4. Direct covalent linkage of CYP101 to gold electrode was achieved by modifying gold electrode with maleimide linker. Most exposed cysteine binds to maleimide thus site specific linkage takes place.

Signature of guide

Signature of researcher