

Volatile Organic Compound Detection Using Insect Odorant-Receptor Functionalised Field-Effect Transistors

by

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Acknowledgements

Thanks for all the fish.

Abstract

This is a thesis skeleton written with quarto. Make a copy of this thesis repo and start to write!

Make a new paragraph by leaving a blank line.

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1 Introduction

This is a book created from markdown and executable code.

See **knuth84?** for additional discussion of literate programming.

[1] 2

2 Carbon Nanotube and Graphene Field-Effect Transistors

2.1 Device Functionalisation

2.2 Insect Odorant Receptors

3 Carbon Nanotube and Graphene Field-Effect Transistor as Biosensing Platforms

4 Fabrication

Stuff I did to get the results.

5 Functionalisation of Carbon Nanotubes and Graphene with Odorant Receptors

5.1 Linker molecules

5.1.1 1-Pyrenebutanoic acid N-hydroxysuccinimide ester (PBASE)

1-Pyrenebutanoic acid N-hydroxysuccinimide ester (also known as 1-Pyrenebutyric acid N-hydroxysuccinimide ester, PBSE, PBASE, PANHS) is an aromatic molecule commonly used for tethering biomolecules to the carbon rings of graphene and carbon nanotubes. The use of this bifunctional molecule for noncovalent functionalisation of proteins onto a carbon nanotube was first reported by Chen *et al.* in 2001 [1]. Prior to this, only direct interactions between carbon nanotubes and biomolecules had been reported.

6 Results

What I found out.

See for more detailed results

7 Results

What I found out.

See for more detailed results

8 Summary

In summary, this book has no content whatsoever.

[1] 2

References

- [1] R. J. Chen, “Noncovalent sidewall functionalization of single-walled carbon nanotubes for protein immobilization,” *J. Am. Chem. Soc.*, vol. 123, pp. 3838–3839, Jan. 2001, doi: 10.1021/ja010172b.

