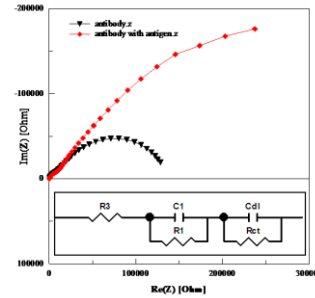
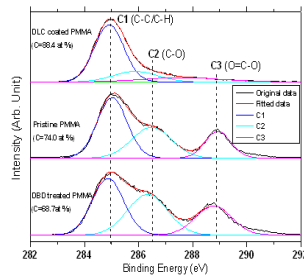
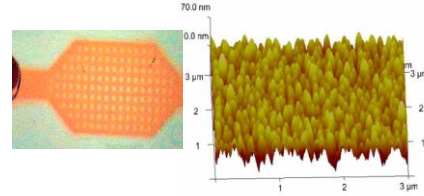


I: Microfluidic device

fabrication/characterisation

- ☑ PMMA, SU8, PDMS micro/nano channels by lithographic, printing, hot embossing and moulding techniques
- ☑ Fabrication of Interdigitated electrodes (IDEs)
- ☑ Impedance analysis using saline water, several antibodies such as Myoglobin, Troponin, CKMB
- ☑ Self assembled monolayer formation mechanism (immobilisation)
- ☑ Direct/indirect bonding to ensure leakage/blockage free fluid flow
- ☑ Physics of fluid flow phenomena through micro-channel surfaces.



II: CNTs/ Graphene/ZnO/Thin film analysis

- ☑ Control growth of nanostructures
- ☑ Patterned growth of nanostructures
- ☑ Large area growth of nanostructures
- ☑ Optimisation of deposition conditions
- ☑ Functionalisation of nanostructures
- ☑ Detail SEM and TEM analysis
- ☑ XPS and NEXAFS
- ☑ XRD and Raman spectroscopy
- ☑ Contact angle and hydrophobicity
- ☑ Hardness and barrier test
- ☑ Tribology of the channel surfaces

