

SURFACE PLASMON IMAGING (iSPR)

We offer to measure real-time surface chemical changes with SPR enhanced ellipsometry. The method offers imaging of label free molecular layers, transparent organic films and SAMs.



REAL TIME IMAGING

- Receptor – ligand interaction;
- Antibody – antigen reaction;
- Peptide – protein interaction;
- Protein – DNA interaction;
- Binding of lipids and membranes;
- Micro-array quality control

iSPR specifications

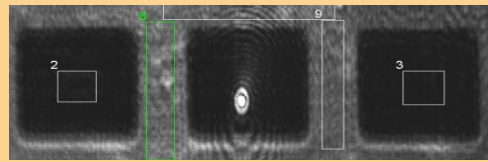
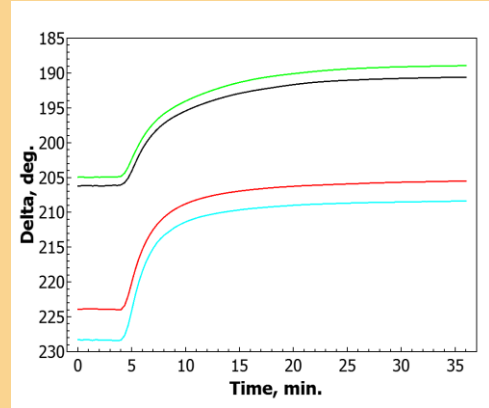
Thickness resolution	1Å
Sensitivity	typically 2 pm ≈ 2 pg/mm²
Min sample volume	0,25 ml
Flow rate	0,015 to 2,0 ml/min.
Dispensing liquids	Aqueous and EtOH solutions

Ellipsometric iSPR measures changes of the surface refractive index occurring during chemical reactions and models the surface layer thickness. Therefore iSPR is especially useful to measure the kinetics of label free bio-molecular interactions.

BALTFAB – YOUR ACCESS TO ALTERNATIVE FABRICATION

iSPR POSSIBILITIES

- Up to 300 microarray spots simultaneously
- Non-labeled reagents
- Molecular monolayers: better than 1 Å thickness resolution ($\approx 0,1 \text{ ng/mm}^2$) for analysis molecular monolayers
- Liquid handling: $\sim 100 \mu\text{l}$ fluid cell with peristaltic pump and temperature control
- Real-time reaction kinetics on functionalized surfaces with 1 s temporal resolution
- Video imaging to resolve active reaction zones



	Proteins	Antibodies	Nanoparticles	SAMs & Monolayers	Transparent layers
Binding specificity	✓	✓	✓	✓	✓
Thickness maps	✓	✓	✓	✓	✓
Reaction kinetic plots	✓	✓	✓	✓	✓
Affinity constants	✓	✓	✓	✓	✓
Selectivity-specificity images	✓	✓	✓	✓	✓
Multi-stage reaction kinetic plots	✓	✓	✓	✓	✓

Specialized gold coated slides are used for iSPR. A dedicated technical engineer runs these measurements upon demand. For measurements in liquid, the preparation and measurement cycle takes 1 day.

BALTFAB – YOUR ACCESS TO ALTERNATIVE FABRICATION