
Subject Index

- Absorbance 1
- Acetone 96
- Adlayer thickness 286
- Alkanethiols 271
- Amide phases, enantiomers 325
- Amino acids, recognition 339
- Amplitude detection 294
- Angular interrogation 290
- Anion sensing 179
- Anion sensor arrays 61
- Antibodies/antigens, gold nanoparticles 261
 - immunosensors 214, 261
- Antiprotein A, gold 266
- Antiresonant reflecting optical waveguides (ARROW) 15
- ATR 233
 - fibers 23, 140

- Bacteria, detection 291
- Benzene 153
- 1,1'-Binaphthyl fluorophores 339
- Bioassay, gold nanoparticles 261
- Biochips, nucleic acid diagnostics 227
- Bioluminescence 21
- Biosensing layers 209
- Biosensors 190
 - affinity ligand-based 214
 - enzyme-based 211
 - optical, DNA 227
 - selectivity 231
 - whole-cell 213
- Biotin 79
- Biotinylation 79
- Bulk optodes 8

- Cadmium 39
- Calixarenes 323, 328, 337
- Capillary membrane 152

- Carbon monoxide, cataluminescence 94, 97
- Carboxyfluorescein 239
- Cataluminescence 93, 109
- Cation sensing 175
- Chalcogenide 139
- Chemical vapor deposition 16
- Chemiluminescence 21
 - gases 95
- Chemosensor arrays 45
- Chiral drugs 333
- Chirasil-calix sensors 332
- Chirasil-Val 329
- Chlorobenzene 150
- Chromoionophores 10, 35
- Cigarette smoke 155
- Citrate, imaging 66
- CO₂ lasers, HWGs 159
- Color analysis, digital 343
- COLORTRON 345
- Combinatorial methods, optical sensors 169
- CVD 16
- Cy3/Cy5 241
- Cyan 2 241
- Cyanine dyes 248
- Cyclodextrins, enantiomers 323, 333, 338
- Cystic fibrosis 236

- DABCYL 240
- DAPI 242
- Detection, whole-cell 293
- Differential sensing 170
- Digital color analysis (DCA) 343
- 2,3-Di-O-benzoyltartaric acid 335
- DNA 170
 - luminescent labels 46, 73
- DNA biosensors 219

- DNA hybridization, detection, surfaces 251
– fluorescent dyes 239
DNA microarrays 74
Duplex probes 250
Dyes, indicator 189
- ELISAs 69
Enantiomers 323
Enzymes 69
Ethanol, catalytic oxidation 96, 101
Ethidium bromide 242
Europium(III) tetracycline 69
Evanescent-field detection 279
Excitation energy transfer (EET) 80
- FAM 239
Fiber optic sensors 234
Film optode, NH_4^+ ion sensors 348
FLIM 47
Fluorescein 74
Fluorescence 21
Fluorescence enhancement 194
Fluorescence lifetime imaging 45
Fluorescence microscope, lifetime imaging 48
Fluorescent read out 45
Formaldehyde 101
FRET 80
FTIR 138, 147
- Gas sensors, chiral recognition 330
– cataluminescence 93
Glucose 69
Glucose oxidase 69
Gold nanoparticles 261
GST yeast protein 76
- Halodiether B 334
Hoechst 33258 242
Hollow waveguides (HWGs) 133
HTS 171
– modes 46
Human serum albumin 362
HWGs, IR 133, 140
Hydrogen peroxide 64
- ICCDs 48
Immunoassays 261, 265
Immunosensors 190, 214
- Indicator dyes 189
Indicator photostability 199
Indicators 5
Infrared gas analysis 134
Integrated optical circuits 15
Interfacial target binding 237
Ion etching 25
Ion optode, Li^+ 346
IR fiber materials 139
IR waveguides 139
IWAO 19, 26
– cadmium-selective 39
– potassium-selective 36
- Kinase assays 81
- Langmuir-Blgett membranes 318
Laser, continuous-wave 48
Laser spectroscopy 158
Leaky gaps 142
Least-squares techniques 137
LEDs 75
 Li^+ ion sensors 343, 345
Light coupling 12
Lightpipes, HWGs 143
Lipodex E 333
Lipophilic dyes 343
Liposomes 237
Luminescence nanosensors, gold 261
Luminol 96
- Mandelic acid 339
Matrices 6
Membranes 2
Metal indicators 61
Metal nanoparticles 238
Methyl lactate 331
Microarray techniques 45
Microcontact-printed surface 184
Microwell plate-based arrays 45
Molecular beacons 81, 248
Molecularly imprinted polymers, enantiomers 327, 335
Monolayers, fluorescent 171
- Nanosensors, gold 261
 NH_3 160
 NH_4^+ ion sensors/determination 343, 357
Nondispersive IR (NDIR) 134
Nucleic acid films 227

- Optical waveguide, antiresonant reflecting
1
- Optochemical sensors, waveguide-based
18
- Optodes 189, 191
– core-based 2
– integrated waveguide absorbance (IWAO)
19, 26
– intrinsic core-based 22
- Ormosils 190
- Oxazole yellow (YO) 243
- Oxygen partial pressure 52
- Oxygen sensitivity 303
- Oxygen sensor 54, 57
- Ozone 96
- Paint, pressure-sensitive 303
- PEBBLE 195
- Pellistor 94
- Penetration depth 279
- Peptide nucleic acid 236
- pH, imaging 57
- pH nanosensors, gold nanoparticle 270
- Phase delay imaging 50
- Phase velocity 283
- Phosphorescence 21, 305
- Photodynamic therapy 52
- Photomultiplier tube 75
- Photonic bandgap fibers 142
- Photonic crystals 142
- Photostability 199, 273, 316
- Platinum porphyrin 79
- PMMA 54
- Poly(dimethylsiloxane) 175, 308
- Polymer supports 192
- Polyphenol fluorescence 171
- Polypyridyl complexes 311
- Potassium 36
- Pressure-sensitive paint 303
- Printing, protein/peptides 183
- Propidium iodide 242
- Protein, luminescent labels 46, 73
- Protein A, gold 261, 264
- Protein array technology 74
- Protein microarrays 217
- Protein sensors/determination 343, 361
- Pt/Pd porphyrins 312
- PVC 190
- Pyrene 57, 303, 317
- Pyrocatechol violet 193
- Quantum cascade lasers, HWGs 160
- Quantum yields 53
- Radiation device, non-guided 9
- Radiation transmission medium 2
- Rapid lifetime imaging 50
- Reactive oxygen 64
- Reagents 5
- Recognition element 4, 14
- Recombination radiation 97
- Refractive index 279
- Refractometry 289
- Resonance energy transfer (RET) 52, 80
- Reverse symmetry 279, 288
- Rhodamine-B 96
- Room temperature phosphorescence 194
- Self-assembled monolayers 169, 171
- Semiconductor, complementary metal
oxide 25
- Sensitivity 285
- Sensor arrays, fluorescent read out 45
- Sensors, absorption-type 22
– enantiomers 324
– extrinsic 18
– flow-cell-based 9
– gas, cataluminescence 93
– integrated optochemical 12
– intrinsic 19
– luminescence-based 20
– optochemical 3
– refractive-index-type 20
- Silica, indicator supports 190, 200
- Silicones, supports 7
- Siloxanes 190
- Single-photon counting modules 80–82
- SNPs 73, 250
- Sol-gel 190
- Streptavidin 79
- Supported capillary membrane sampler
152
- Supports 6
- Surface optodes 7
- Surface plasmon resonance 235, 279, 323
- Synthetic target sequences 237
- Thermoluminescence 110
- Thiazole orange 243
- Thoria, cataluminescence 94, 97
- Toluene 153

-
- Total internal reflection 12, 231
 - TOTO 244
 - TPEDA 176
 - Transducer 5
 - TRFIA 71, 77
 - Tristimulus values 345

 - Valinomycin 36
 - VOCs 149

 - Waveguide sensor configuration 284
 - Waveguides, active 19
 - antiresonant reflecting 1
 - design 13
 - extrinsic active 26
 - hollow (HWGs) 133
 - hollow planar 24
 - IR 139
 - microstructured 297
 - nanoporous 288
 - thin-plate 296
 - total internal reflection 12
 - Whole-cell detection 293

 - Xylene 153

 - YOYO 244

 - Zeolites 203