

## Planar Chromatography

- Alumina (selected references only) 121, 524, 536  
 Amino bonded silica gel 216, 284, 641, 690  
 Aminoplast 129, 142  
 Argentation TLC *see* Impregnation with silver salts  
 Automation 24, 219, 221, 285  
 Books on planar chromatography 6  
 Calibration in chromatography, general 701  
 Cellulose as sorbent 1(review), 113, 129, 142, 200, 203, 375, 382, 474, 519, 522, 524, 759  
 —, PEI 224, 312, 457, 459, 523, 652  
 —, triacetyl 382  
 Centrifugal TLC 167  
 Cerium(III) silicate as ion-exchanger 550  
 Chamber(s) for TLC, horizontal 11, 12  
 —, miniaturized 213  
 —, UV transparent 380  
 Charge transfer chromatography 166  
 Chemometrics 210, 548  
 Chondroitin sulfate, immobilized 765  
 Chromarods 557  
 Clean up 9, 78(review), 683(review)  
 Computerization 88, 150, 188, 221, 367, 526(review), 539, 540, 542  
 Continuous chromatographic separation 758  
 Cyclodextrin as eluents 102, 474  
 — — sorbent 210  
 Database 88  
 Derivatization 37, 343  
 —, fluorescence 192  
 Detection and detectors, autoradiography 40, 45, 56, 61, 71, 113, 136, 313, 425, 443, 450, 451, 455, 459, 478, 491, 589, 594, 601, 652  
 — — —, chemiluminescence 375  
 — — —, colour reactions *see* Detection and detectors, reagents;  
 Detection and detectors, visualization  
 — — —, densitometric 40, 41, 129, 137, 184, 201, 203, 293, 347, 353, 446, 466, 468, 473, 488, 496, 504, 517, 552, 570, 572, 573, 576, 699, 742  
 — — —, enzymatic 682(review)  
 — — —, FID (flame ionization) 28, 72, 81, 225, 231, 384, 555, 557  
 — — —, fluorescence 13, 80, 192, 196, 284, 373, 376, 397, 444, 548, 705  
 — — —, —, densitometry 80, 129, 137  
 — — —, fluorography 264, 619  
 — — —, FTIR 344, 381, 657  
 — — —, immunostaining 264, 603, 614  
 — — —, IR 222  
 — — —, laser radiation 546  
 — — —, photometric *see* Detection and detectors, densitometric  
 — — —, radioactivity 63, 85, 172, 259  
 — — —, reagents 73, 192, 283, 372, 374, 425, 429, 748, 759  
*see also* Detection and detectors, visualization  
 — — —, reviews, general 2, 261, 682  
 — — —, scanning 40, 43, 80, 178, 180, 201, 203, 259, 323, 353, 473, 485, 493, 496, 501, 506, 517, 547, 552, 588, 604, 628, 699  
 Detection and detectors, scanning spectra 435  
 — — —, videodensitometric 642  
 — — —, visualization 38, 40, 71, 73, 160, 261(review), 266, 279, 314, 348, 429, 462, 478, 598, 705, 748, 759  
*see also* Detection and detectors, reagents  
 Development, gradient 367, 570  
 —, —, optimization 367  
 —, —, stepwise 286, 293, 540  
 —, instrument *see* Instrumentation for TLC  
 —, multiple 12, 26, 367, 580, 705  
 —, —, automated 392, 472, 511, 517, 684  
 —, two-dimensional *see* Multidimensional TLC  
 Diastereoisomeric separation *see* Enantiomers and diastereomers, separation  
 Dipping detection layer with paraffin 284  
 Displacement TLC 461  
 Documentation of chromatography 88, 207  
 Electrotransfer 275  
 Enantiomers and diastereomers, separation 104, 295, 311, 382, 527(review), 640  
 Fingerprinting *see* structural studies in individual entries in the List of Types of Compounds Chromatographed  
 Florisil 79, 121, 519  
 Good laboratory practice (GLP) 219  
 Gradient elution *see* Development, gradient  
 Heulandite as adsorbent 21  
 High performance TLC, instrumentation *see* individual types of equipments  
 — — —, quantitation *see* Quantitation  
 — — —, sorbents *see* individual sorbent types  
 History of chromatography 206, 363(review)  
 Immunoaffinity chromatography, thin-layer 110  
 Immunostaining *see* Detection and detectors, immunostaining  
 Impregnation, review 1  
 —, systematic studies 18, 294  
 — with AgNO *see* Impregnation with silver salts  
 — — alkylamines 521  
 — — arginine 336  
 — — copper(II) 697  
 — — ion pair reagents 18  
 — — iron(II) 697  
 — — manganese(II) 697  
 — — nickel(II) 697  
 — — octylamine, tri 521  
 — — oxalate 419, 625  
 — — paraffin oil 155  
 — — silicone 338, 464  
 — — silver salts 292, 402, 509, 589  
 — — thorium(IV) salts 361  
 — — transition metal ions 697  
 — — urea 402  
 Instrumentation for TLC 213  
*see also* Detection and detectors, Chamber(s)  
 Ion-exchange layers 457, 519, 550

- Ion and ion-pair chromatography 18, 204(review)  
ion pairing modifiers 551  
Laser induced fluorescence see Detection and detectors, fluorescence  
Liquid-liquid extraction 683(review), 687  
Method validation 333  
Mobile phase, chiral 104, 640  
— —, micellar 331  
— —, modifier 551  
— —, optimization 8(review), 221, 334, 365  
  see also Optimization  
— —, pH gradient, self-generating 554  
— — with surfactants 101  
— — — urea 457  
Modelling 26, 209, 220, 538, 542  
Multidimensional TLC (two-dimensional) 10, 16, 82, 114, 174,  
  261(review), 279, 312, 402, 457, 601, 719, 750  
  see also Development, two-dimensional  
Optimization 8(review), 24, 25, 221, 334, 365, 367, 531(review), 539,  
  576, 577, 659  
  see also Mobile phase, optimization  
Overpressured layer chromatography (OPLC) 564, 638  
Paper chromatography, applications 456, 462, 762  
Peptide mapping see structural studies in individual entries in the List  
  of Types of Compounds Chromatographed  
PhosphorImager analysis 625  
Photodocumentation 207  
Preparative TLC 23, 116, 120, 158, 167, 252, 261(review), 315, 342,  
  559, 565, 707, 711  
Quantitation 68, 76(review), 81, 149, 156, 184, 201, 203, 227, 228,  
  327, 333, 388, 407, 435, 440, 465, 473, 476, 511, 512, 528(re-  
  view), 534(review), 547, 552, 573, 575, 578, 580, 642, 658, 689,  
  696, 701, 708, 716, 734, 752  
—, densitometry 184, 201  
—, fluorimetry *in situ* 389, 710  
Quantitative structure-activity relationships (QSAR) 155, 226, 497  
— — — retention relationships 627  
Radioactive labelled compounds, techniques for <sup>14</sup>C 696  
Radiochromatography 768  
  see also Detection and detectors, radioactivity  
Reagents for detection see Detection and detectors, reagents  
Relation between mobility ( $R_F$ ,  $R_M$ ) and mobile phase composition 25,  
  102, 318  
— — — — and structure in TLC 155, 208, 210-212, 294, 518,  
  542-545, 745  
Retention mechanism 296, 368, 536-538, 690  
— prediction 26, 208, 209, 220, 226  
Reversed phase(s) 29, 80, 155, 185, 318, 382, 386, 400, 464, 475,  
  482, 538, 551  
Review(s), application to various fields of science and technology 3-5,  
  7, 27, 60, 69, 76, 78, 91, 145-147, 186, 261, 363, 364, 383, 529,  
  530, 532-535, 680, 682, 683, 744  
—, cellulose as sorbent 1  
—, clean up 78, 683  
—, computerization 526  
—, detection 2, 261, 682  
—, enantiomers and diastereomers separation 527  
—, history of chromatography 363  
—, impregnation 1  
—, ion-pair chromatography 204  
  Review(s), liquid-liquid extraction 683  
  —, mobile phase optimization 8  
  —, multidimensional 261  
  —, optimization 8, 531  
  —, preparative TLC 261  
  —, quantitation 76, 528, 534  
  —, solid-phase extraction 78, 683  
  —, sorbents 204  
  —, TLC/MS combination 530, 535  
  —, TLC combination with GC 69  
  —, — — — HPLC 69  
  —, — coupling 205  
Salting-out chromatography 541  
Sample application 285  
Scanners see Detection and detectors, scanning  
Solid-phase extraction 9, 78(review), 174, 281, 519, 683(review), 705  
Sorbents, activation see individual types of sorbents  
—, AIO see Alumina  
—, binder 377  
—, bonded phases see Silica gel sorbents; Reversed phase(s)  
—, comparison 121, 142, 200, 536, 760  
—, cyanopropyl bonded silica 537  
—, diol-bonded silica 537  
—, general aspects see individual types of sorbents  
—, grafted 16  
—, mixed bed 759, 760  
—, new types 215, 378  
—, polystyrene bonded 19  
—, preparation 215, 217, 218, 549  
—, silica gel, modified see individual types of modification  
—, — —, review 204  
—, volcanic tuff based 19  
Spot overlap 13  
Staining procedures see Detection and detectors, visualization  
Statistical theory 10  
Structure-activity relationships 107, 109, 370  
Theory of chromatography 209, 366, 368, 371  
Thermal activation 284  
Thermodynamic of chromatography 368  
TLC, combination with AAS (atomic absorption spectrometry) 520  
—, — — electrophoresis 650  
—, — — FTIR see Detection and detectors, FTIR  
—, — — FT Raman 553, 688  
—, — — FT SERS microscopy 553, 688  
—, — — GC 69(review), 509, 716  
—, — — HPLC 67, 69(review), 654  
—, — — MALDI (matrix assisted laser desorption) 223  
—, — — mass spectrometry 223, 379, 415, 530(review), 535(re-  
  view), 747  
—, — — Raman scattering 22  
—, comparison with LCC (HPLC) 31, 137, 156, 371, 463, 491, 698  
—, instrumentation see Instrumentation for TLC  
—, coupling 205(review)  
Topological indexes 543-545  
Trinitrotoluene-containing polymer gel 14  
Trypsin immobilized 224  
Two-dimensional HPTLC see Multidimensional TLC (two-dimensional)  
Validation 119, 333  
Zirconia as sorbent 15