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Liquid Column Chromatography

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3c. Sorbents, carriers, column and layer performance, packing procedures

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4. SPECIAL TECHNIQUES

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See also 4691, 4699, 4755, 5089.

4b. Combination of various chromatographic techniques

See 4784, 4796, 4801, 4806, 4951.

4c. Combination with other physico-chemical techniques (MS, IR etc.)

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See also 4860, 4936, 5087, 5112, 5115, 5125, 5129, 5145-5147, 5165, 5178, 5205, 5280, 5298, 5313, 5315.

4f. Trace analysis and preseparation techniques

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See also 5697.

4g. Separation of enantiomers

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5. HYDROCARBONS AND HALOGEN DERIVATIVES

5a. Aliphatic hydrocarbons

See 5381.

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7. PHENOLS

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8. SUBSTANCES CONTAINING HETEROCYCLIC OXYGEN

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See also 4832, 5180.

11. ORGANIC ACIDS AND LIPIDS

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19g. Protamines, histones and other chromosomal proteins

See 5269.

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C.A., 109 (1988) 3242k.

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C.A., 108 (1988) 218550z;

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See also 5047, 5144.

20. ENZYMES AND ENZYME ACTIVITY ESTIMATION

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C.A., 109 (1988) 2791b, 34269d.

20c. *Transferases transferring phosphorus containing groups (E.C. 2.7.-.-)*

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For additional information see:

C.A., 109 (1988) 3054a, 50874c.

See also 4770, 5001, 5692.

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See also 4799.

25. ORGANIC PHOSPHORUS COMPOUNDS (INCLUDING SUGAR PHOSPHATES)

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See also 5004.

26. ORGANOMETALLIC AND RELATED COMPOUNDS

26a. Organometallic compounds

For additional information see:
C.A., 108 (1988) 215500x.

See also 4686.

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C.A., 108 (1988) 210267s, 210276u, 210278w, 226925r, 226939y;
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See also 4827, 5369, 5494, 5667.

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For additional information see:

C.A., 108 (1988) 210269u, 218690v;
109 (1988) 91z, 100b, 5359c, 11806n, 11807p, 43523j, 47618s.

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C.A., 108 (1988) 217656b.

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C.A., 108 (1988) 220429k.

29e. Fungicides

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See also 4821, 4966, 5356.

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See 4888, 5328.

33a. *General papers and reviews*

See 4838, 4927, 4942, 4980, 4989, 5156, 5211, 5226, 5257, 5276, 5322, 5359, 5365, 5407, 5416.

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35c. *Water pollution (complex mixtures; single compounds by cross ref. only)*

See 4811, 5391, 5666, 5689, 5700, 5703.

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Gas Chromatography

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8. SUBSTANCES CONTAINING HETEROCYCLIC OXYGEN

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9. OXO COMPOUNDS, ETHERS, EPOXIDES AND QUINONES

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11. ORGANIC ACIDS AND LIPIDS

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34. FOOD ANALYSIS

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See also 2276, 2617.

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Planar Chromatography

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See 1282.

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See also 1146, 1339.

10b. *Polysaccharides, mucopolysaccharides, lipopolysaccharides*

See 1193.

11. ORGANIC ACIDS AND LIPIDS

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13. STEROIDS

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See also 1400.

15. TERPENES AND OTHER VOLATILE AROMATIC COMPOUNDS

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16. NITRO AND NITROSO COMPOUNDS

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18. AMINO ACIDS AND PEPTIDES; CHEMICAL STRUCTURE OF PROTEINS

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See also 1298.

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See also 1146, 1156.

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See also 1156.

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See also 1136, 1291.

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See also 1202, 1291.

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See also 1354.

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See also 1354.

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See also 1156, 1161, 1362.

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See also 1146.

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See also 1156, 1384, 1385.

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See also 1365, 1370.

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See also 1392, 1414, 1416.

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32i. Plant extracts

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See also 1181, 1182, 1285.

33. CLINICO-CHEMICAL APPLICATIONS

33b. *Complex mixtures and profiling (single compounds by cross ref. only)*

See 1233, 1235, 1243, 1268, 1309, 1375, 1383.

34. FOOD ANALYSIS

34b. *Complex mixtures (single compounds by cross ref. only)*

See 1201, 1288.

35. ENVIRONMENTAL ANALYSIS

35b. *Air pollution (complex mixtures; single compounds by cross ref. only)*

See 1183, 1294, 1349.

35c. *Water pollution (complex mixtures; single compounds by cross ref. only)*

See 1183, 1208, 1403.

35d. *Soil pollution (complex mixtures; single compounds by cross ref. only)*

See 1183.

36. SOME TECHNICAL PRODUCTS AND COMPLEX MIXTURES

36a. *Surfactants*

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13c. Sterols

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20. ENZYMES AND ENZYME ACTIVITY ESTIMATION

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21. PURINES, PYRIMIDINES, NUCLEIC ACIDS AND THEIR CONSTITUENTS

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See 1981.

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BIBLIOGRAPHY SECTION

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INDEXES

INTRODUCTION

As in previous years we present here the Subject Index and the Index of Types of Compounds Chromatographed. Because the methodological part differs substantially in individual techniques, we have retained the subdivision system, using the following abbreviations: C = Liquid column chromatography, E = Electrophoresis, G = Gas chromatography, P = Planar chromatography. In the Index of Types of Compounds Chromatographed all types of methods are indicated in the individual entries by appropriate abbreviations. Entries relevant to supercritical fluid chromatography are to be looked for in the section on Gas chromatography. In entries that are heavily populated by chromatographic papers we made a further subdivision into Techniques and Applications. In the Subject Index a selection was made in such entries and an appropriate note was attached. Reviews are clearly indicated. In the Subject Index materials and procedures in common use are not quoted as special entries.

Prague (Czechoslovakia)

Brno (Czechoslovakia)

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Subject Index

Please note that this Index refers to the entry numbers in the Bibliography section (vol. 460). Individual parts of the Bibliography section (Liquid column chromatography, Gas chromatography, Planar chromatography and Electrophoresis) are numbered separately.

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C: 1533, 1537(review), 1571, 1732,
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C: 377, 459, 1380, 2327, 2342, 2414,
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E: 795, 803, 804, 1170, 1449, 1450,
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- , non-proteinous
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C: 753-779, 1840-1874, 2748-2783,
3832-3873, 4623-4643, 5683-5716
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inorganic; individual types of anions
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- , reviews
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G: 1335
E: 1322
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C: 356, 363, 371, 384, 1227, 1236,
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C: 371, 1230, 1248
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P: 239, 240, 402, 546
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G: 23, 277, 345, 411, 583, 829, 902,
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C: 518, 1394, 2020, 3477, 4382, 4383,
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C: 5486
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P: 52, 385, 758
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- , organic
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—, forming C-S bonds (E.C. 6.2.--)
E: 1235
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C: 3478-3480
E: 1586
—, forming C-C bonds (E.C. 6.4.--)
E: 558
—, other (including E.C. 6.5.--)
C: 5308
E: 1900
- Lignin compounds
C: 749, 750, 2836, 4031
G: 626, 647, 1321, 1775, 2218, 2460,
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P: 1186
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C: 252-270, 1068-1086, 2188-2199,
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G: 238, 239, 713, 718, 1134, 1566,
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P: 80-134, 328-362, 593-632, 831-
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 - C: 4924
 - G: 440, 442, 946
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 - C: 1085, 2191, 4922, 4925, 4956
 - G: 129, 131, 1537, 1566, 1814, 2031, 2037
 - P: 81, 82, 100, 101, 116, 117, 133, 279, 333, 338, 357, 621, 622, 632, 1003, 1046, 1172, 1208, 1234, 1249
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 - C: 2195, 4920
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 - C: 3077, 4111, 4130
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 - P: 85, 93, 332, 353, 608, 609, 611, 618, 631, 837, 850, 1043, 1045, 1063, 1214-1216, 1218, 1245, 1250
- , —, plants
 - C: 1069, 2189, 3075, 3087, 3814, 4103, 4905, 4908, 4919
 - G: 103, 518, 648, 663, 675, 682, 713, 727, 1097, 1106, 1108, 1114, 1115, 1541, 1542, 1545, 1551, 1567, 1716, 2030, 2031, 2038, 2329, 2604
 - P: 80, 88, 96, 118, 122, 129, 260, 330, 349, 501, 625, 851, 858, 860, 1034, 1042, 1212, 1220
- , —, blood
 - C: 1072, 2374, 4102, 4441
 - G: 2031
 - P: 90, 105, 106, 111, 113, 125, 132, 336, 340, 341, 343, 346, 602, 606, 607, 613, 628, 629, 832, 859, 1038, 1054, 1057, 1060, 1209, 1234, 1235, 1237, 1238, 1247-1249
- , —, brain and nerve tissue
 - C: 1084, 3080, 3082, 4910
 - P: 99, 134, 329, 356, 358, 362, 595, 605, 607, 832, 835, 842, 849, 863, 1035, 1058, 1207, 1213, 1233
- , —, milk and food products
 - C: 1075, 1080, 4100, 4103, 4107, 4906, 4908
 - G: 103, 238, 239, 660, 713, 727, 883, 884, 1716, 2166, 2167, 2348
 - P: 110, 114, 118, 121, 127, 337, 350, 382, 833, 841, 854, 856, 1051, 1223
- , —, other animal material
 - C: 210, 3080, 3082, 3088, 3584, 4105, 4106, 4904, 4907
 - G: 652, 656, 683, 698, 715, 716, 1093, 1099, 1526, 1726, 2012, 2031
 - P: 83, 84, 86, 87, 89, 91, 92, 94, 95, 98, 104, 107-109, 113, 115, 119, 120, 128, 130, 131, 315, 331, 334, 335, 338, 342, 345-347, 351, 352, 354, 359-361, 379, 595-601, 603-605, 607, 610, 613, 614, 616, 619, 620, 623, 624, 627, 630-632, 832, 834, 836, 839, 842-849, 852, 853, 859, 862, 1003, 1033, 1036, 1037, 1040, 1041, 1044, 1047-1050, 1052, 1053, 1055, 1056, 1058, 1059, 1061, 1062, 1204, 1206, 1210, 1211, 1219, 1221, 1222, 1224-1226, 1230-1232, 1236, 1239-1244, 1247, 1248, 1251
- , oxidation products
 - C: 1048, 2121, 2178, 2193, 3052, 3076, 4083, 4108, 4867, 4889, 4913, 4915, 4921, 4940
 - P: 320, 601, 606, 817
- Lipopolysaccharides
 - C: 4101, 4113
 - E: 59, 976, 1360, 1361
- , structure studies
 - C: 266
 - G: 201, 202, 1814, 2004, 2428, 2434
 - E: 60
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 - , techniques
 - C: 3092, 3098, 4114
 - P: 1064
 - E: 322, 655, 1374
 - , applications
 - C: 271-276, 1087-1089, 1091, 2200-2202, 3091, 3093-3097, 3099-3101, 4930-4939
 - P: 125, 1064
 - E: 61-73, 323-331, 653, 654, 656-667, 977-998, 1370-1373, 1691-1707
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- , structure studies
 - C: 1090
 - E: 992, 1703
- Local anaesthetics, see Anaesthetics
- Lubricants
 - G: 758, 1662, 1795, 2681, 2683
- Lyases, carbon-carbon (E.C.4.1.-.-)
 - C: 516, 1468, 1470, 2471, 3469, 3470, 3472, 3473, 3476, 4380, 4386, 5307
 - G: 292
 - E: 218, 557, 1233, 1234, 1582, 1583, 1716, 1895-1898
- , —, structural studies
 - C: 2470, 3257
- , carbon-oxygen (E.C.4.2.-.-)
 - C: 517, 1469, 1471, 3474, 4379
 - E: 219, 220, 1581, 1584
- , —, structural studies
 - C: 379
- , carbon-nitrogen (E.C.4.3.-.-)
 - C: 515, 2468, 2472, 3475, 5304, 5306
- , other
 - C: 2469, 2473, 2471, 4378, 4381, 5305
 - E: 556
- , —, structural studies
 - C: 379, 4381

—, activity measurement
C: 2469

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Macrolides

C: 590, 597, 1631, 1633, 2565, 2566,
2568, 2575, 2578, 2587, 3597, 3615,
4479, 4481, 5439

G: 794, 2382

P: 195, 198, 460, 461, 716, 935, 937,
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Magnesium, *see* Alkaline earths

Manganese, *see* Cations, inorganic,
analytical group III

Medicated feeds

G: 852

P: 748

Melamines

C: 1179, 1657

G: 304, 333, 817

Mercury, *see* Cations, inorganic,
analytical group I and IIA

—, organo-compounds

G: 299, 1632, 1633, 2479, 2616

Metal carbonyls

G: 303

Metalloenes

G: 1955

see also Ferrocenes

Mineral oils, hydrocarbons

C: 157, 951, 953, 2098, 2099, 2969-
2971, 4004, 4805

G: 91, 144, 146, 148, 166-169, 398,
401, 413, 557, 602, 608, 615, 905,
1010, 1015, 1038, 1050, 1056, 1069,
1070, 1299, 1308, 1312, 1318, 1375,
1397, 1419, 1421, 1435, 1444, 1451,
1477, 1479, 1482, 1484, 1494, 1778,
1782, 1795, 1903, 1914, 1962, 1964,
1969, 1970, 1980, 1983, 2197, 2205,
2217, 2226, 2227, 2241, 2286, 2314,
2333, 2386, 2390, 2393, 2402, 2403,
2655, 2659, 2666, 2668, 2672, 2685

P: 283, 554

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Hydrocarbons, complex mixtures; Crude
oil and petroleum analysis

Mitogens, mutagens and related compounds

C: 2006

G: 376, 608, 684, 775, 1034, 1207,
1738, 1968, 2163, 2323

see also Growth factors

Molybdenum, *see* Cations, inorganic,
analytical group IIB

Mycolic acids

C: 3038

Mycotoxins

C: 168, 964, 965, 2113, 2116, 2735,
2991-2993, 4022, 4025, 4027-4029,
4815

G: 37, 143, 184, 627, 628, 1078, 1506-
1508, 1991, 1992, 2411, 2413, 2414
P: 46, 47, 243, 286, 287, 564, 566-
568, 570, 802, 804, 805, 1179, 1180

see also Aflatoxins

Myorelaxants

C: 657, 674, 688, 1739, 1910, 2647,
2654, 3712, 3739, 5588

G: 372, 851, 1701, 1704, 2130, 2528,
2667

P: 430, 965, 1373

N

Narcotic analgesics and antagonists

C: 2662, 3733, 3737, 5614

G: 1013, 1240, 1245, 1254, 1702, 1720,
2073, 2118, 2129, 2470

P: 435, 966

Neuroleptics

C: 659, 1741, 1982, 2651, 3756, 4560,
4572

G: 863, 1232, 1238, 1697, 1705, 2135,
2543

P: 225, 480, 493, 742, 743, 1116,
1127, 1378, 1381

Neuromuscular blocking agents, *see*

Myorelaxants; Cholinergic and cholin-
ergic blocking substances

Nickel, *see* Cations, inorganic,
analytical group III

Nicotinic acid and derivatives

C: 585, 1609, 2544, 3588, 3589, 4463,
4465

P: 136, 455

E: 1640

Niobium, *see* Cations, inorganic,
analytical group III

Nitriles

C: 2263, 3904, 3917, 3946

G: 23, 44, 53, 338, 436, 456, 467,
506, 860, 879, 916, 1126, 1606,
1717, 1755, 1905, 2112, 2510, 2688

P: 525, 526, 543

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Nitro compounds

C: 302, 303, 1144-1149, 1151, 1152,
1813, 1949, 2102, 2230, 2253, 2868,
2955, 3142, 3143, 3173, 3826, 3889,
3904, 3943, 3946, 4131, 4845

G: 12, 23, 57, 90, 264, 266, 330, 332,
397, 436, 506, 750-754, 899, 907,
911, 958, 983, 1034, 1159, 1160,
1213, 1299, 1303, 1406, 1568, 1599-
1601, 1608, 1690, 1802, 1809, 2119,
2125, 2177, 2184, 2188, 2196, 2224,
2319, 2375, 2644, 2667

P: 267, 505, 525, 526, 543, 663, 766,
896, 1082, 1287, 1288, 1290, 1291

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Nitrogen

- G: 114, 126, 283, 419, 422, 423, 488, 601, 927, 999, 1002, 1030, 1173, 1331, 1333, 1391, 1402, 1415, 1800, 1806, 1962, 2112, 2234, 2286, 2336, 2657, 2669, 2693

Nitrogen compounds, inorganic

- C: 774-776, 1866, 1869, 2776, 2780, 3840, 3870, 5692, 5695, 5696, 5701, 5706, 5709, 5710

G: 415, 1801, 1802, 1897

P: 253, 1142

E: 1315

see also Ammonia

Nitrogen oxides

- G: 938, 990, 1336, 1807, 1809, 2231, 2236, 2375, 2657

Nitrosamines

C: 1150, 2256, 3143

G: 263, 265, 267-270, 397, 754, 838, 985, 1602, 2095, 2096, 2160

P: 158, 1081

Nitroso compounds

C: 304, 1183, 3173

G: 267, 749, 2060, 2160

P: 1081, 1295

Noble gases

- G: 114, 420, 930, 999, 1002, 1391, 1402, 1415, 1430, 1806, 1962, 2234, 2297, 2669, 2691, 2693

Noble metals, *see* Platinum metals and goldNucleic acids, *see* DNA; RNANucleosides, *see* Purines, pyrimidines, nucleosides, nucleotidesNucleotides, *see* Purines, pyrimidines, nucleosides, nucleotides

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Oestrogens

—, techniques and theory

C: 1119 (review), 2210, 3121, 3894, 4955

G: 2448

P: 32, 269, 1066

—, applications non-biological

C: 284, 1121, 3108, 3117

P: 373, 642, 643, 1266, 1415

—, applications biological

C: 283, 285, 1096, 1111-1115, 1121, 2211, 3116-3120, 3122-3125, 4117, 4118, 4943, 4953, 4954

G: 724, 725, 1575-1577

P: 364, 365, 641, 878-880, 1066, 1267-1271

—, non-steroidal

C: 1116, 1117, 1120

P: 32, 374, 643

Oil additives

G: 2680

Oligonucleotides and polynucleotides

C: 521, 1478, 1479, 1481, 1488-1490, 2489, 3510, 4403, 5325, 5329, 5333

P: 694

E: 560, 562, 847, 1239-1243, 1289, 1953

Oligosaccharides

C: 184, 187-189, 194, 195, 198, 201, 206, 208, 985, 991, 993, 1005, 1006, 1013, 1022, 2126-2130, 2132, 3002-3004, 3010, 3012, 3030, 3447, 4039, 4040, 4042, 4043, 4048, 4049, 4053, 4831, 4835, 4849, 4858

G: 646, 647, 1516, 1519, 1520, 1814, 1921, 2009, 2600

P: 57, 63, 64, 295, 297, 298, 300, 303, 305, 577-579, 614, 810, 812, 1021-1023, 1190-1192

E: 1359, 1362

Opium alkaloids

C: 525, 540, 2056, 2499, 2672, 3516, 3518, 3522, 5353

G: 131, 452, 843, 856, 857, 859, 861-863, 1013, 1026, 1232, 1266, 1618, 1718, 1720, 2073, 2144, 2378, 2470, 2563

P: 428, 434, 435, 493, 756, 980, 1156

Organoleptics, flavours, volatiles, odours

C: 1810, 2733, 4035, 4999, 5001, 5335

G: 61, 94, 116-118, 187, 249, 250, 255-259, 262, 265, 343, 392, 398-400, 406-408, 418, 560, 565, 566, 568, 569, 611, 740, 780, 809, 879, 885-887, 890-892, 896-898, 920, 962, 968, 1031, 1032, 1043, 1146-1148, 1154, 1155, 1183, 1264, 1276, 1278, 1281, 1284-1286, 1288, 1290, 1300, 1304, 1305, 1334, 1335, 1377, 1386, 1387, 1391, 1443, 1445, 1448, 1449, 1455, 1496, 1501, 1592, 1593, 1717, 1728, 1733, 1735-1737, 1743, 1759, 1764, 1765, 1770, 1789, 1859, 1860, 1884, 2053, 2057, 2058, 2171, 2180, 2192, 2198, 2201, 2207, 2278, 2351, 2366, 2367, 2371, 2373, 2375, 2451, 2452, 2458, 2474, 2475, 2512, 2560, 2574, 2594, 2495, 2605, 2606, 2609, 2611, 2613, 2614, 2619, 2622, 2634, 2635

P: 154, 243

Organometallic compounds

C: 2533

G: 298, 781, 1187, 2297, 2480, 2483, 2484

P: 452, 705

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—, reviews

G: 2482

Oxazines

C: 3538

P: 502, 921

Oxazolines

C: 1543

P: 583

- Oxidoreductases, acting on the C-OH group of donors (E.C. 1.1.-.-)
- C: 466, 468, 473, 475, 1389, 1393,
 - 13 1394, 1396, 1399, 1404, 2417-2419, 2427, 2448, 3396, 3401, 3405, 3931, 4316, 4318, 4320, 4321, 4323, 5217-5220, 5226, 5228, 5230, 5234, 5236, 5237
 - E: 189-191, 496, 501, 502, 504-506, 806, 1179, 1182-1184, 1193, 1530, 1533, 1534, 1535, 1844
- , —, structural studies
- C: 1392
 - E: 344, 500
- , acting on aldehyde or keto group of donors (E.C.1.2.-.-)
- C: 468, 478, 1387, 2420, 2428, 3394, 3403, 3405, 3407, 4386, 5223, 5235
 - E: 194, 810, 1187, 1192, 1536, 1843
- , acting on the CH-NH₂ group of donors (E.C.1.4.-.-)
- C: 3931, 4315, 4320
 - E: 289, 1845
- , acting on CH-NH group of donors (E.C.1.5.-.-)
- C: 2421, 3398, 4320, 5216, 5231
 - E: 1188, 1531, 1846
- , acting on reduced NAD or NADP as donor (E.C.1.6.-.-)
- C: 469, 472, 477, 1400, 1402, 1406, 2424, 3931, 4322, 4325, 4326, 5225
 - E: 1180, 1538, 1842
- , —, structural studies
- E: 1186
- , acting on other nitrogenous compounds as donor (E.C.1.7.-.-)
- C: 479
 - G: 149
- , acting on the sulphur group of donors (E.C.1.8.-.-)
- C: 3397, 3406
- , acting on a haem group of donors (E.C.1.9.-.-)
- C: 474, 476, 1391, 1398, 2423, 3931, 5221, 5222, 5232, 5238
 - E: 499, 503, 807, 1532, 1539, 1849
- , acting on H₂O₂ as acceptors (E.C.1.11.-.-)
- C: 471, 2425, 3409, 4320
 - E: 16, 188, 498, 507, 808, 1185, 1537, 1848
- , —, structural studies
- C: 5070
- , acting on single donors with incorporation of oxygen (oxygenases) (E.C.1.13.-.-)
- C: 1390, 3404, 3408, 5227, 5239
 - E: 1178, 1189
- , acting on paired donors with incorporation of oxygen into one donor (hydroxylases) (E.C. 1.14.-.-)
- C: 467, 470, 1388, 1403, 2422, 3123, 3393, 3395, 3400, 3402, 4319, 4324, 5229, 5233
 - E: 83, 1177, 1181, 1847
- , acting on superoxide radicals as acceptor (E.C.1.15.-.-)
- C: 1395, 4317
 - E: 193, 1190
- , activity measurements
- C: 3123, 3536
 - P: 874, 883
- , other and uncompletely identified oxidoreductases (E.C.1.99.-.-)
- C: 1397, 1401, 1405, 2334, 2426, 3399, 5240
 - E: 192, 809, 811, 1191
- , —, structural studies
- C: 3251, 5222
 - E: 497
- Oxo compounds
- , general techniques
- C: 177, 180, 1932
 - G: 21, 23, 78, 141, 456, 507, 525, 956, 958, 1080, 1082, 1358, 1413, 1449, 1827, 1830, 1863, 1893, 1924, 1942, 2261, 2313, 2319, 2360, 2631
- , aliphatic aldehydes and ketones
- C: 178, 180, 818, 973, 975-978, 1813, 1910, 2120, 2998-3000, 3888, 4032, 4033, 4035, 4036, 4682, 4715, 4799, 4825, 4826
 - G: 21, 23, 44, 53, 61, 78, 125, 141, 191, 192, 194-196, 350, 378, 409, 413, 436, 456, 506, 507, 525, 585, 620, 621, 623, 638, 704, 833, 876, 879, 890, 918, 956, 958, 968, 1083, 1085, 1088, 1157, 1229, 1264, 1285, 1313, 1325, 1387, 1391, 1413, 1496, 1511, 1512, 1678, 1717, 1723, 1734, 1736, 1750, 1752, 1755, 1775, 1790, 1797, 1827, 1863, 1924, 1962, 2001, 2003, 2166, 2171, 2176, 2183, 2218, 2223-2225, 2366, 2371, 2375, 2451, 2460, 2494, 2504, 2578, 2595, 2613, 2631, 2658, 2675, 2688
 - P: 29, 53, 65, 575, 766, 808, 1183, 1184
- , cyclic aldehydes and ketones
- C: 226, 820, 981, 1046, 1060, 1813, 1932, 2028, 2055, 2967, 2996, 2997, 3904, 3946, 4035, 4682
 - G: 194, 405, 491, 592, 616, 639, 641, 721, 740, 741, 791, 792, 890, 911, 914, 1028, 1034, 1075, 1148, 1156, 1265, 1313, 1413, 1443, 1445, 1690, 1750, 1757, 1929, 2353, 2632, 2675, 2682
 - P: 54, 241, 498, 557, 761, 766, 795, 809, 1020
- Oxygen
- C: 2812
 - G: 114, 126, 419, 488, 927, 999, 1331, 1333, 1391, 1402, 1415, 1800, 1806, 1866, 1873, 1962, 2234, 2237, 2286, 2669, 2691, 2693

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- Panθοθενic acid and coenzyme A
C: 3583
P: 930
- Papaveraceae alkaloids (excluding opium alkaloids)
C: 537
P: 181, 913, 920
E: 1290
- Penicillins (including carbapenem antibiotics)
C: 595, 1549, 1628, 2581, 2589, 3601, 3603, 3604, 3613, 3614, 3794, 4478, 4485, 4489, 4493, 4495, 4497, 4501, 5446, 5448, 5449, 5464
G: 793, 2494
P: 20, 460, 711, 714, 715
E: 255, 256, 1955
- Peptide (and amino acid) antibiotics
C: 600, 601, 603, 1614, 1615, 1621, 1622, 1625, 1626, 1637, 1638, 2560, 2562, 2563, 2567, 2573, 2574, 2576, 2577, 2582, 2584, 3595, 3596, 3602, 3605 - 3607, 4201, 4483, 4499, 5440, 5447, 5456, 5459 - 5463, 5468, 5472
P: 460, 717, 939, 1344
- Peptides
C: 343 - 370, 1221 - 1257, 2284 - 2321, 3202 - 3245, 4180 - 4204, 5022 - 5060
G: 2069
P: 168 - 172, 419 - 422, 679 - 685, 904 - 908, 1091, 1092, 1302 - 1310
E: 76 - 82, 333 - 339, 671 - 673, 1001 - 1006, 1376 - 1380, 1711, 1712
- , reviews
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