

# ORGANIC ANALYTICAL REAGENTS FOR THE DETERMINATION OF INORGANIC SUBSTANCES

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Determination	Reagents	Ref.
Aluminium	Alizarin Red S Aluminon  Aluminon + Cetyltrimethylammonium bromide Chrome Azurol S Chrome Azurol S + Cetyltrimethylammonium bromide Chromazol KS + Cetylpyridinium bromide Eriochrome Cyanine R  Eriochrome Cyanine R + Cetyltrimethylammonium bromide 8-Hydroxyquinoline	Onishi, Part II a, p 28. (5), Snell, <i>Metals I</i> , p 587. (7) Fries/Getrost, p 16. (2), Onishi, IIa, p 21. (5), Snell, <i>Metals I</i> , p 590. (7) Huaxue Shiji, 8, 85, (1986) Onishi, Part IIa, p 26. (5), Snell, <i>Metals I</i> , p 605. (7) Marczenko, p 133. (3), Snell, <i>Metals I</i> , p 606. (7) <i>Analyst</i> , 107, 428, (1982). Fries/Getrost, p 19. (2), Onishi, Part IIa, p 25. (5), Snell, <i>Metals I</i> , p 611. (7) Snell, <i>Metals I</i> , p 613. (7), <i>Analyst</i> , 107, 1431, (1982).  Fries/Getrost, p 22. (2), Marczenko, p 131. (3), Onishi, Part IIa, p 31. (5), Snell, <i>Metals I</i> , p 622. (7)
Ammonia	Phenol + Sodium hypochlorite	Boltz, p 210 (1), Marczenko, p 413. (3), Snell, <i>Nonmetals</i> , p 604. (9)
Antimony	Brilliant Green Bromopyrogallol Red Rhodamine B	Onishi, Part IIa, p 102. (5), Snell, <i>Metals I</i> , p 384. (7) <i>Talanta</i> , 13, 507, (1966). Fries/Getrost, p 32. (2), Marczenko, p 141. (3), Onishi, Part IIa, p 93. (5), Snell, <i>Metals I</i> , p 404. (7)
Arsenic	Silver diethyldithiocarbamate Silver diethyldithiocarbamate	Fries/Getrost, p 36. (2) Fries/Getrost, p 41. (2), Marczenko, p 153. (3), Onishi, Part IIa, p 153. (5), Snell, <i>Metals I</i> , p 370. (7)
Barium	Sulfonazo III	Fries/Getrost, p 46. (2), Snell, <i>Metals II</i> , p 1782. (8), Onishi, Part IIa, p 202. (5)
Beryllium	Beryllon II Chrome Azurol S Chrome Azurol S + Cetyltrimethylammonium bromide Eriochrome Cyanine R Eriochrome Cyanine R + Cetyltrimethylammonium bromide	Snell, <i>Metals I</i> , p 667. (7) Marczenko, p 163. (3), Snell, <i>Metals I</i> , p 672. (7) Marczenko, p 164. (3), Snell, <i>Metals I</i> , p 673. (7) Snell, <i>Metals I</i> , p 675. (7), <i>Talanta</i> , 31, 249, (1984). <i>Zh. Anal. Khim.</i> , 33, 1298, (1978).
Bismuth	Dithizone Pyrocatechol Violet Pyrocatechol Violet + Cetyltrimethylammonium bromide Thiourea Xylenol Orange	Onishi, Part IIa, p 262. (5), Snell, <i>Metals I</i> , p 303. (7) <i>Fres. Z. Anal. Chem.</i> , 186, 418, (1962). <i>Zh. Anal. Khim.</i> , 38, 216, (1983). Onishi, Part IIa, p 260. (5), Snell, <i>Metals I</i> , p 317. (7) Fries/Getrost, p 57. (2), Marczenko, p 172. (3), Snell, <i>Metals I</i> , p 320. (7)
Boron	Azomethine H Carminic acid  Curcumin  Methylene Blue	Snell, <i>Nonmetals</i> , p 165. (9) Boltz, p 14. (1), Fries/Getrost, p 65. (2), Snell, <i>Nonmetals</i> , p 170. (9), Williams, p 35. (11) Boltz, p 8. (1), Fries/Getrost, p 68. (2), Marczenko, p 180. (3), Snell, <i>Nonmetals</i> , p 180. (9), <i>Fres. Z. Anal. Chem.</i> , 323, 266, (1986). Boltz, p 21. (1), Marczenko, p 183. (3), Snell, <i>Nonmetals</i> , p 205. (9), <i>Talanta</i> , 31, 547, (1984). Boltz, p 48. (1), Snell, <i>Nonmetals</i> , p 276., <i>Fres. Z. Anal. Chem.</i> , 301, 28 (1980).
Bromide	Fluorescein	Boltz, p 44. (1), Marczenko, p 190. (3), Snell, <i>Nonmetals</i> , p 28. (9)
Cadmium	Phenol Red 2-(5-Bromo-2-pyridylazo)-5-diethylaminophenol Cation Dithizone	Marczenko, p 197. (3) Onishi, Part IIa, p 323. (5) Fries/Getrost, p 78. (2), Onishi, Part IIa, p 315. (5), Snell, <i>Metals I</i> , p 279. (7), West, p 25. (10).
Calcium	4-(2-Pyridylazo)resorcinol Chlorophosphonazo III Glyoxal-bis(2-hydroxyanil)	<i>Fres. Z. Anal. Chem.</i> , 310, 51, (1982). Marczenko, p 207. (3), Snell, <i>Metals II</i> , p 1744. (8) Fries/Getrost, p 86. (2), Onishi, Part IIa, p 352. (5), Snell, <i>Metals I</i> , p 1762. (8)
Cerium	Murexide Phthalein Purple <i>N</i> -benzoyl- <i>N</i> -phenylhydroxylamine	Onishi, Part IIa, p 357. (5), Snell, <i>Metals II</i> , p 1769. (8) <i>Anal. Chim. Acta</i> , 34, 71 (1966). <i>Anal. Chim. Acta</i> , 48, 155, (1969).

Determination	Reagents	Ref.
	8-Hydroxyquinoline	Fries/Getrost, p 93. (2), Marczenko, p 220. (3), Onishi, Part IIa, p 383. (7)
Chlorine	N,N-Diethyl-1,4-phenylenediamine	Boltz, p 92. (1), Fries/Getrost, p 101. (2), Snell, Nonmetals, p 225. (9), <i>Analyst</i> , 90, 187, (1965).
Chromium	1,5-Diphenylcarbazide	Fries/Getrost, p 105. (2), Onishi, Part IIa, p 412. (5), Snell, <i>Metals I</i> , p 714. (7), West, p 12. (10)
	4-(2-Pyridylazo)resorcinol	Snell, <i>Metals I</i> , p 736. (7), West, p 17. (10)
	4-(2-Pyridylazo)resorcinol + Tetradecyldimethylbenzylammonium chloride	West, p 17. (10), <i>Anal. Chim. Acta</i> , 67, 297, (1973).
	4-(2-Pyridylazo)resorcinol + Hydrogen peroxide	Fres. Z. Anal. Chem., 304, 382, (1980).
Cobalt	Nitroso-R salt	Fries/Getrost, p 118. (2), Onishi, Part IIa, p 454. (5), Snell, <i>Metals I</i> , p 953. (7)
	1-Nitroso-2-naphthol	Fries/Getrost, p 111. (2), Marczenko, p 246. (3), Snell, <i>Metals I</i> , p 947. (5)
	2-Nitroso-1-naphthol	Fries/Getrost, p 113. (2), Onishi, Part IIa, p 459. (5), Snell, <i>Metals I</i> , p 949. (7), West, p 45. (10)
	4-(2-Pyridylazo)resorcinol	Snell, <i>Metals I</i> , p 969. (7), West, p 44. (10)
	4-(2-Pyridylazo)resorcinol + Diphenylguanidine	Zh. Anal. Khim., 35, 1306, (1980).
Copper	Bathocuproine	Fries/Getrost, p 135. (2), Snell, <i>Metals I</i> , p 148. (7)
	Bathocuproine disulfonic acid	Fries/Getrost, p 137. (2), West, p 52. (10)
	Dithizone	Marczenko, p 258. (3), Onishi, Part IIa, p 529. (5), Snell, <i>Metals I</i> , p 199. (7)
	Neocuproine	Snell, <i>Metals I</i> , p 217. (5), West, p 51. (10)
	Cuprizone	Onishi, Part IIa, p 534. (5), Snell, <i>Metals I</i> , p 157. (7), West, p 53. (10)
	4-(2-pyridylazo)resorcinol + Tetradecyldimethylbenzylammonium chloride	<i>Anal. Chim. Acta</i> , 138, 321, (1982).
Cyanide	Barbituric Acid + Pyridine	Fries/Getrost, p 153. (2), Snell, <i>Nonmetals</i> , p 653. (9)
	Barbituric Acid + Pyridine-4-carboxylic acid	<i>Anal. Chim. Acta</i> , 99, 197, (1978).
Fluoride	Alizarin Fluorine blue + Lanthanum(III) ion	Boltz, p 129. (1), Fries/Getrost, p 158. (2), Snell, <i>Nonmetals</i> , p 333. (9), Williams, p 354. (11)
Gallium	Eriochrome Cyanine R + Zirconium(IV) ion	Boltz, p 119. (1), Snell, <i>Nonmetals</i> , p 359. (2), Williams, p 357. (11)
	Pyrocatechol violet + Diphenylguanidine	Snell, <i>Metals I</i> , p 500. (7)
	8-Hydroxyquinoline	Onishi Pt IIa, p 582. (5), Snell, <i>Metals I</i> , p 505. (7)
	1-(2-Pyridylazo)-2-naphthol	Snell, <i>Metals I</i> , p 512. (7)
	4-(2-Pyridylazo)resorcinol	Snell, <i>Metals I</i> , p 513. (7)
	Rhodamine B	Marczenko, p 284. (3), Onishi, Part IIa, p 578. (5), Snell, <i>Metals I</i> , p 515. (7)
	Xylenol Orange	Fries/Getrost, p 166. (2), Snell, <i>Metals I</i> , p 523. (7)
	Xylenol Orange + 8-Hydroxyquinoline	Zh. Anal. Khim., 26, 75, (1971).
Germanium	Brilliant Green + Molybdate	Snell, <i>Metals I</i> , p 562. (7)
	Phenylfluorone	Fries/Getrost, p 168. (2), Marczenko, p 292. (3), Onishi, Part IIa, p 607. (5), Snell, <i>Metals I</i> , p 570. (7)
Gold	5-(4-Diethylaminobenzylidene) rhodanine	Fries/Getrost, p 173. (2), Onishi, Part IIa, p 631. (5), Snell, <i>Metals II</i> , p 1516. (8)
	Rhodamine B	Fries/Getrost, p 175. (2), Marczenko, p 301. (3), Onishi, Part IIa, p 637. (5), Snell, <i>Metals II</i> , p 513. (8)
Hafnium	Arsenazo III	Snell, <i>Metals II</i> , p 1184. (8), <i>Talanta</i> , 19, 807, (1972).
Indium	Bromopyrogallol Red	Snell, <i>Metals I</i> , p 469. (7)
	Chrome Azurol S	Snell, <i>Metals I</i> , p 474. (7)
	Chrome Azurol S + Cetyltrimethylammonium bromide	<i>Anal. Chim. Acta</i> , 67, 107, (1973).
	Dithizone	Fries/Getrost, p 179. (2), Onishi, Part IIa, p 672. (5), Snell, <i>Metals I</i> , p 474. (7)
	8-Hydroxyquinoline	Onishi, Part IIa, p 670. (5), Snell, <i>Metals I</i> , p 475. (7)
	1-(2-Pyridylazo)-2-naphthol	Snell, <i>Metals I</i> , p 480. (7)
	4-(2-Pyridylazo)resorcinol	Marczenko, p 309. (3), Snell, <i>Metals I</i> , p 480. (7)
Iodide	Neocuproine + Copper(II)	<i>Anal. Chim. Acta</i> , 69, 321, (1974).
Iodine	Starch	Boltz, p 162. (1), Marczenko, p 316. (3), Snell, <i>Nonmetals</i> , p 307. (9)
Iridium	Rhodamine 6G + Tin(II)	Marczenko, p 323. (3)
	N,N-Dimethyl-4-nitrosoaniline	<i>Anal. Chem.</i> , 27, 1776, (1955).
Iron	Bathophenanthroline	Fries/Getrost, p 189. (2), Onishi, Part IIa, p 729. (5), Snell, <i>Metals I</i> , p 763. (7)
	Bathophenanthroline disulfonic acid	Fries/Getrost, p 191. (2), Snell, <i>Metals I</i> , p 772. (7)

Determination	Reagents	Ref.
	2,2'-Bipyridyl	Snell, <i>Metals I</i> , p 750. (7)
	Chrome Azurol S + Cetyltrimethylammonium bromide	Snell, <i>Metals I</i> , p 757. (7), <i>Coll. Czech. Chem. Comm.</i> , 45, 2656, (1980).
	1,10-Phenanthroline	Fries/Getrost, p 199. (2), Marczenko, p 331. (3), Onishi, Part IIa, p 725. (5), Snell, <i>Metals I</i> , p 795. (7)
	1,10-Phenanthroline + Bromothymol Blue	<i>Zh. Anal. Khim.</i> , 25, 1348, (1970).
Lanthanum	Ferrozine	Onishi, Part IIa, p 730. (5), Snell, <i>Metals I</i> , p 783. (7)
Lead	Arsenazo III	Marczenko, p 468. (3), Snell, <i>Metals II</i> , p 1910. (8)
	Dithizone	Fries/Getrost, p 207. (2), Onishi, Part IIa, p 824. (5), Snell, <i>Metals I</i> , p 2. (7), West, p 34. (10)
	Sodium diethyldithiocarbamate	Fries/Getrost, p 214. (2), Snell, <i>Metals I</i> , p 27. (7)
	4-(2-Pyridylazo)resorcinol	Fries/Getrost, p 220. (2), Marczenko, p 347. (3), Snell, <i>Metals I</i> , p 34. (7)
Lithium	Thoron	Onishi, Part IIa, p 863. (5), Snell, <i>Metals II</i> , p 1726. (8), <i>Talanta</i> , 30, 587, (1983).
Magnesium	Eriochrome Black T	Fries/Getrost, p 226. (2), Marczenko, p 355. (3), Onishi, Part IIb, p 13. (6), Snell, <i>Metals II</i> , p 1932. (8)
	8-Hydroxyquinoline	Onishi, Part IIb, p 11. (6), Snell, <i>Metals II</i> , p 1938. (8)
	8-Hydroxyquinoline + Butylamine	Fries/Getrost, p 228. (2), Snell, <i>Metals II</i> , p 1938. (8)
	Titan Yellow	Fries/Getrost, p 234. (2), Marczenko, p 352. (3), Snell, <i>Metals II</i> , p 1945. (8)
	Xylylidyl Blue	Fries/Getrost, p 231. (2), Onishi, Part IIb, p 14. (6), Snell, <i>Metals II</i> , p 1950. (8)
Manganese	Formaldoxime	Fries/Getrost, p 236. (2), Marczenko, p 364. (3), Onishi Part IIb, p 38. (6), Snell, <i>Metals II</i> , 1010. (8)
Mercury	Dithizone	Fries/Getrost, p 243. (2), Marczenko, p 373. (3), Onishi, Part IIb, p 66. (6), Snell, <i>Metals I</i> , p 107. (7), West, p 29. (10)
	Michler's thioketone	Marczenko, p 375. (3), Snell, <i>Metals I</i> , p 126. (7)
	Xylenol Orange	<i>Talanta</i> , 16, 1023, (1969)
Molybdenum	Bromopyrogallol Red + Cetylpyridium chloride	West, p 58. (10)
	Phenylfluorone	Snell, <i>Metals II</i> , p 1311. (8), <i>Microchem. J.</i> , 31, 56, (1985).
	Toluene-3,4-dithiol	Fries/Getrost, p 251. (2), Marczenko, p 384. (3), Onishi, Part IIb, p 96. (6), Snell, <i>Metals II</i> , p 1301. (8)
Nickel	2-(5-Bromo-2-pyridylazo)-5-diethylaminophenol	Marczenko, p 397. (3), <i>Talanta</i> 28, 189, (1981).
	Dimethylglyoxime	Fries/Getrost, p 263. (2), Marczenko, p 393. (3), Onishi, Part IIb, p 125. (6), Snell, <i>Metals I</i> , p 887. (7)
	Dimethylglyoxime + Oxidant	Fries/Getrost, p 263. (2), Onishi, Part IIb, p 125. (6), Snell, <i>Metals I</i> , p 887. (7)
	2,2'-Furildioxime	Marczenko, p 396. (3), Snell, <i>Metals I</i> , p 904. (7)
	2-(2-Pyridylazo)-2-naphthol	Snell, <i>Metals I</i> , p 910. (7)
	4-(2-Pyridylazo)resorcinol	Snell, <i>Metals I</i> , p 911. (7), West, p 39. (10), <i>Anal. Chim. Acta</i> , 82, 431, (1976).
Niobium	<i>N</i> -Benzoyl- <i>N</i> -phenylhydroxylamine	Snell, <i>Metals II</i> , p 1425. (8)
	Pyrocatechol + EDTA or 2,2'-Bipyridyl or 1-(2-thenoyl)-3,3,3-trifluoroacetone	Snell, <i>Metals II</i> , p 1427. (8)
	Bromopyrogallol red	Marczenko, p 407. (3), Snell, <i>Metals II</i> , p 1426. (8)
	Bromopyrogallol red + Cetylpyridinium chloride	<i>Talanta</i> , 32, 189, (1985).
	4-(2-Pyridylazo)resorcinol	Fries/Getrost, p 274. (2), Marczenko, p 406. (3), Onishi, Part IIb, p 160. (7), Snell, <i>Metals II</i> , p 1447. (8)
	Sulfochlorophenol S	Onishi, Part IIb, p 161. (7), Snell, <i>Metals II</i> , p 1430. (8)
	Xylenol Orange	Onishi, Part IIb, p 164. (7)
Nitrate	Brucine	Boltz, p 227. (1), Fries/Getrost, p 280. (2), Snell, <i>Nonmetals</i> , p 546. (9)
	Chromotropic acid	Boltz, p 229. (1), Fries/Getrost, p 281. (2), Snell, <i>Nonmetals</i> , p 548. (9), Williams, p 132. (11), <i>Fres. Z. Anal. Chem.</i> , 320, 490, (1985).
	Sulfanilamide + <i>N</i> -(1-Naphthyl)ethylenediamine dihydrochloride	Fries/Getrost, p 279. (2), Snell, <i>Nonmetals</i> , p 559. (9)
Nitrite	Sulfanilamide + <i>N</i> -(1-Naphthyl)ethylenediamine dihydrochlorine	Boltz, p 241. (1), Snell, <i>Nonmetals</i> , p 585. (8), <i>Analyst</i> , 109, 1281, (1984).
	Sulfanilic acid + 1-Naphthylamine	Boltz, p 237. (1), Fries/Getrost, p 285. (2), Marczenko, p 419. (3), Snell, <i>Nonmetals</i> , p 586. (9)
Osmium	1,5-Diphenylcarbazide	Marczenko, p 428. (3)
Palladium	2-(5-Bromo-2-pyridylazo)-5-diethylaminophenol	<i>Talanta</i> , 33, 939, (1986).

Determination	Reagents	Ref.
	Dithizone	Marczenko, p 440. (3), Onishi, Part IIb, p 227. (6), Snell, <i>Metals II</i> , p 1577. (8)
	2-Nitroso-1-naphthol	Fries/Getrost, p 294. (2), Onishi, Part IIb, p 226. (6), Snell, <i>Metals II</i> , p 1581. (8)
	4-(2-Pyridylazo)resorcinol	Snell, <i>Metals II</i> , p 1583. (8) <i>Analyst</i> , 107, 708, (1982).
Phosphate	Rhodamine B + Molybdate	Snell, <i>Nonmetals</i> , p 103. (9)
	Malachite Green + Molybdate	Snell, <i>Nonmetals</i> , p 12. (9), <i>Analyst</i> , 108, 361, (1983).
Platinum	Sulfochlorophenolazorhodamine	Onishi, Part IIb, p 253. (6), <i>Talanta</i> , 34, 87, (1987).
	Dithizone	Fries/Getrost, p 300. (2), Onishi, Part IIb, p 253. (6), Snell, <i>Metals II</i> , p 1534. (8)
	2-Mercaptobenzothiazole	Fries/Getrost, p 302. (2), <i>Zh. Anal. Khim.</i> , 24, 1172, (1969).
Rare Earths	Arsenazo I	Marczenko, p 470. (3), Onishi, Part IIa, p 785. (5), Snell, <i>Metals II</i> , p 1857. (8)
	Arsenazo III	Fries/Getrost, p 309. (2), Marczenko, p 468. (3), Onishi, Part IIa, p 786. (5), Snell, <i>Metals II</i> , p 1862. (8)
	Xylenol Orange	Onishi, Part IIa, p 787. (5), Snell, <i>Metals II</i> , p 1874. (8)
Rhenium	2,2'-Furildioxime	Fries/Getrost, p 310. (2), Marczenko, p 481. (3), Onishi, Part IIb, p 288. (6), Snell, <i>Metals II</i> , p 1659. (8)
Rhodium	1-(2-Pyridylazo)-2-naphthol	Fries/Getrost, p 311. (2), Snell, <i>Metals II</i> , p 1553. (8)
Ruthenium	1,10-Phenanthroline	Onishi, Part IIb, p 331. (6), Snell, <i>Metals II</i> , p 1623. (8)
	Thiourea	Fries/Getrost, p 318. (2), Onishi, Part IIb, 329. (6), Snell, <i>Metals II</i> , p 1626. (8)
	1,4-Diphenylthiosemicarbazide	Marczenko, p 493. (3), Onishi, Part IIb, p 330. (8)
Scandium	Alizarin red S	Fries/Getrost, p 319. (2), Onishi, Part IIb, p 360. (6), Snell, <i>Metals I</i> , p 536. (7)
	Arsenazo III	Onishi, Part IIb, p 359. (6), Snell, <i>Metals I</i> , p 539. (7)
	Chrome Azurol S	Snell, <i>Metals I</i> , p 551. (7), <i>Anal. Chim. Acta</i> , 159, 309, (1984).
	Xylenol Orange	Marczenko, p 501. (3), Onishi, Part IIb, p 357. (6), Snell, <i>Metals I</i> , p 547. (7)
Selenium	3,3'-Diaminobenzidine	Boltz, p 391. (1), Fries/Getrost, p 323. (2), Marczenko, p 508. (3), Snell, <i>Nonmetals</i> , p 490. (9), West, p 4. (10).
	2,3-Diaminonaphthaline	Snell, <i>Nonmetals</i> , p 501. (9)
Silver	Dithizone	Fries/Getrost, p 328. (2), Marczenko, p 524. (3), Onishi, Part IIb, p 379. (6), Snell, <i>Metals I</i> , p 82. (7)
	Eosin + 1,10-Phenanthroline	Snell, <i>Metals I</i> , p 93. (7)
Sulfate	Methylthymol blue + Barium (II)	Snell, <i>Nonmetals</i> , p 457. (9)
Sulfide	N,N,-Dimethyl-1,4-phenylenediamine	Boltz, p 483. (1), Fries/Getrost, p 344. (2), Snell, <i>Nonmetals</i> , p 400. (9), Williams, p 578. (11)
Sulfite	Pararosaniline + Formaldehyde	Boltz, p 478. (1), Marczenko, p 540. (3), Snell, <i>Nonmetals</i> , p 430. (9), Williams, p 591. (11)
Tantalum	Methyl Violet	Marczenko, p 551. (3), Snell, <i>Metals II</i> , p 1485. (8)
	4-(2-Pyridylazo)resorcinol	Snell, <i>Metals II</i> , p 1488. (8)
	Phenylfluorone	Onishi, Part IIb, p 166. (6), Snell, <i>Metals II</i> , p 1486. (8)
Tellurium	Diethyldithiocarbamate	Boltz, p 402. (1), Fries/Getrost, p 348. (2), Snell, <i>Nonmetals</i> , p 533. (9), Williams, p 220. (10)
	Bismuthiol II	Boltz, p 401. (1), Marczenko, p 557. (3), Snell, <i>Nonmetals</i> , p 524. (9)
Thallium	Brilliant green	Fries/Getrost, p 352. (2), Marczenko, p 567. (3), Onishi, Part IIb, p 426. (6), Snell, <i>Metals I</i> , p 45. (7)
	Dithizone	Fries/Getrost, p 355. (2), Onishi, Part IIb, p 426. (6), Snell, <i>Metals I</i> , p 54. (7)
	Rhodamine B	Fries/Getrost, p 354. (2), Marczenko, p 566. (3), Onishi, Part IIb, p 424. (6), Snell, <i>Metals I</i> , p 63. (7)
Thorium	Arsenazo III	Fries/Getrost, p 360. (2), Marczenko, p 575. (3), Onishi, Part IIb, p 460. (6), Snell, <i>Metals II</i> , p 1820. (8)
	Thoron	Marczenko, p 574. (3), Onishi, Part IIb, p 463. (6), Snell, <i>Metals I</i> , p 1835. (7)
	Xylenol Orange	Snell, <i>Metals I</i> , p 1852. (7)
	Xylenol Orange + Cetyltrimethylammonium bromide	<i>Talanta</i> , 26, 499, (1979).
Tin	Pyrocatechol violet (and + Cetyltrimethylammonium bromide)	Marczenko, p 585. (3), Onishi, Part IIb, p 501. (6), Snell, <i>Metals I</i> , p 422. (7)
	Gallein	Onishi, Part IIb, p 507, 510. (6), Snell, <i>Metals I</i> , p 432. (7)
	Phenylfluorone	Fries/Getrost, p 368. (2), Marczenko, p 582. (3), Onishi, Part IIb, p 497. (6), Snell, <i>Metals I</i> , p 444. (7)

Determination	Reagents	Ref.
Titanium	Toluene-3,4-dithiol + Dispersant	Fries/Getrost, p 366. (2), Onishi, Part IIb, p 502. (6), Snell, <i>Metals I</i> , p 427. (7)
	Chromotropic acid	Marczenko, p 593. (3), Onishi, Part IIb, p 551. (6), Snell, <i>Metals II</i> , p 1080. (8)
	Diantipyrylmethane	Onishi, Part IIb, p 545. (6), Snell, <i>Metals II</i> , 1085. (8)
	Tiron	Fries/Getrost, p 376. (2), Onishi, Part IIb, p 549. (6), Snell, <i>Metals II</i> , p 1114. (8)
Tungsten	Pyrocatechol Violet	Snell, <i>Metals II</i> , p 1265. (8)
	Tetraphenylarsonium chloride + Thiocyanate	Onishi, Part IIb, p 596. (6), Snell, <i>Metals II</i> , p 1278. (8)
	Toluene-3,5-dithiol	Marczenko, p 605. (3), Onishi, Part IIb, p 590. (6), Snell, <i>Metals II</i> , p 1267. (8)
Uranium	Arsenazo III	Marczenko, p 611. (3), Onishi, Part IIb, p 627. (6), Snell, <i>Metals II</i> , p 1356. (8)
	2-(5-Bromo-2-pyridylazo)diethylaminophenol	Fries/Getrost, p 388. (2), Onishi, Part IIb, p 625. (6)
	Chlorophosphonazo III	Snell, <i>Metals II</i> , p 1367. (8), <i>Fres. Z. Anal. Chem.</i> , 306, 110, (1981).
	1-(2-Pyridylazo)-2-naphthol	Fries/Getrost, p 386. (2), Onishi, Part IIb, p 625. (6), Snell, <i>Metals II</i> , p 1387. (8)
Vanadium	N-Benzoyl-N-phenylhydroxylamine	Fries/Getrost, p 395. (2), Marczenko, p 625. (3), Snell, <i>Metals II</i> , p 1196. (8)
	8-Hydroxyquinoline	Marczenko, p 623. (3), Snell, <i>Metals II</i> , p 1209. (8)
	4-(2-pyridylazo)resorcinol	Fries/Getrost, p 404. (2), Marczenko, p 628. (3), Onishi, Part IIb, p 625. (6), Snell, <i>Metals II</i> , p 1226. (8)
Yttrium	Alizarin Red S	Fries/Getrost, p 406. (2), Onishi, Part IIa, p 784. (5), Snell, <i>Metals II</i> , p 1919. (8)
	Arsenazo III	Marczenko, p 468. (3), Onishi, Part IIa, p 786. (5), Snell, <i>Metals II</i> , p 1921. (8)
	Xylenol Orange	Fries/Getrost, p 406. (2), Onishi, Part IIa, p 787. (5), Snell, <i>Metals II</i> , p 1923. (8)
Zinc	Dithizone	Fries/Getrost, p 408. (2), Marczenko, p 637. (3), Onishi, Part IIb, p 708. (6), Snell, <i>Metals II</i> , p 1042. (8)
	1-(2-Pyridylazo)-2-naphthol	Marczenko, p 639. (3), Onishi, Part IIb, p 719. (6), Snell, <i>Metals II</i> , p 1056. (8)
	Xylenol Orange	Fries/Getrost, p 417. (2), Snell, <i>Metals II</i> , p 1062. (8), <i>Talanta</i> , 26, 693, (1979).
	Zircon	Fries/Getrost, p 412. (2), Onishi, Part IIb, p 719. (6), Snell, <i>Metals II</i> , p 1063. (8), West, p 23. (10)
Zirconium	Alizarin Red S	Fries/Getrost, p 421. (2), Marczenko, p 647. (3), Onishi, Part IIb, p 763. (6), Snell, <i>Metals II</i> , p 1136. (8)
	Arsenazo III	Fries/Getrost, p 421. (2), Onishi, Part IIb, p 770. (6), Snell, <i>Metals II</i> , p 1143. (8)
	Pyrocatechol Violet	Onishi, Part IIb, p 771. (6), Snell, <i>Metals II</i> , p 1149. (8)
	Morin	Fries/Getrost, p 424. (2), Onishi, Part IIb, p 765. (6), Snell, <i>Metals II</i> , p 1158. (8)
	Xylenol Orange	Fries/Getrost, p 419. (2), Marczenko, p 648. (3), Onishi, Part IIb, p 767. (6), Snell, <i>Metals II</i> , p 1167. (8)

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