

## **6 Literatur**

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- [1] Ludwig, C.; Schmidt, A., *Arb. a. d. Physiolog. Anstalt z. Leipzig* **1868**, 3, 1.
- [2] (a) Rapport, M.M.; Green, A.A.; Page, I.H., *J. Biol. Chem.* **1948**, 174, 735 – 741. (b) *J. Biol. Chem.* **1948**, 176, 1243 – 1251. (c) *Science* **1948**, 108, 329 – 330. (d) Rapport, M.M., *J. Biol. Chem.* **1949**, 180, 961 – 969.
- [3] (a) Hamlin, K.E.; Fischer, F.E., *J. Am. Chem. Soc.* **1951**, 73, 5007 – 5008. (b) Speeter, M.E.; Heinzelmann, R.V.; Weisblat, D.I., *J. Am. Chem. Soc.* **1951**, 73, 5514 – 5515.
- [4] (a) Vialli, M.; Erspamer, V., *Z. Zellforsch. Mikroskop. Anat.* **1933**, 19, 743. (b) *Boll. Soc. Med. Chir. Pavia* **1933**, 51, 1111 – 1116.
- [5] (a) Asero, B.; Colò, V.; Erspamer, V.; Versollone, A., *Justus Liebigs Ann. Chem.* **1952**, 576, 69 – 74. (b) Erspamer, V.; Asero, B., *Nature (London)* **1952**, 169, 800 – 801. (c) Erspamer, V., *Pharmacol. Rev.* **1954**, 6, 425 – 487.
- [6] (a) Reid, G.; Bick, M., *Aust. J. Exp. Biol. Med. Sci.* **1942**, 20, 33 – 46. (b) Reid, G.; Bick, M., *Nature (London)* **1952**, 169, 801 – 802.
- [7] Bacq, Z.M., *Arch. Int. Physiol.* **1952**, 60, 165 – 171.
- [8] Teuscher, E.; Lindequist, U., *Biogene Gifte: Biologie – Chemie – Pharmakologie*; 2.Aufl., Stuttgart, Jena, New York : G. Fischer Verl. **1994**.
- [9] Forth, W.; Henschler, D.; Rummel, W.; Förstermann, U.; Starke, K., *Allgemeine und spezielle Pharmakologie und Toxikologie*; 8. Aufl., München, Jena : Urban & Fischer Verl., **2001**, S. 219 – 227.
- [10] Vanhoutte, P.M., *Trends Pharmacol. Sci.* **1982**, 3, 370 – 373.
- [11] Forth, W.; Henschler, D.; Rummel, W.; Förstermann, U.; Starke, K., *Allgemeine und spezielle Pharmakologie und Toxikologie*; 8. Aufl., München, Jena : Urban & Fischer. Verl., **2001**, S. 131 – 132.
- [12] Voet, D.; Voet, J.G., *Biochemie*; Weinheim : VCH **1992**, S. 711 – 712.
- [13] Mutschler, E.; Geisslinger, G.; Kroemer, H.K.; Schäfer-Korting, M., *Arzneimittelwirkungen: Lehrbuch der Pharmakologie und Toxikologie*; Stuttgart : Wiss. Verl. Ges., **2001**, S. 462 – 466.
- [14] Verbeuren, T.J., in *Cardiovascular Pharmacology of 5-Hydroxytryptamine: Prospective Therapeutic Applications*; Saxena, P.R.; Wallis, D.I.; Wouters, W.; Bevan, P., Eds., Dordrecht : Kluwer Academic Publishers **1990**, S. 4 – 5.
- [15] *The IUPHAR Compendium of Receptor Characterization and Classification*, IUPHAR Media, London, **1998**, 169 – 185.
- [16] Martin, G.R.; Eglén, R.M., *Trends Pharmacol. Sci.* **1998**, 19, Posterbeilage.
- [17] Peroutka, S.J., *Neurochem.* **1993**, 60, 408 – 416.
- [18] Boess, F.G.; Martin, I.L., *Neuropharmacology* **1994**, 33, 275 – 317.
- [19] Feniuk, W.; Humphrey, P.P.A., in *Cardiovascular Pharmacology of 5-Hydroxytryptamine: Prospective Therapeutic Applications*; Saxena, P.R.; Wallis, D.I.; Wouters, W.; Bevan, P., Eds., Dordrecht : Kluwer Academic Publishers **1990**, S. 69 – 80.
- [20] Frazer, A.; Maayani, S.; Wolfe, B.B., *Ann. Rev. Pharmacol. Toxicol.* **1990**, 30, 307 – 348.
- [21] Hoyer, D.; Clarke, D.E.; Fozard, J.R.; Hartig, P.R.; Martin, G.R.; Mylecharane, E.J.; Saxena, P.R.; Humphrey P.P.A., *Pharmacol. Rev.* **1994**, 46, 157 – 203.
- [22] Humphrey, P.P.A.; Hartig, P.; Hoyer, D., *Trends Pharmacol. Sci.* **1993**, 14, 233 – 236.

- [23] (a) Nelson, D.L., *Med. Chem. Res.* **1993**, *3*, 306 – 316. (b) Baxter, G.; Kennett, G.A.; Blaney, F.; Blackburn, T., *Trends Pharmacol. Sci.* **1995**, *16*, 105 – 110. (c) Bonhaus, D.W.; Bach, C.; DeSouza, A.; Salazar, F.H.R.; Matsuoka, B.D.; Zuppan, P.; Chan, H.W.; Eglen, R.M., *Br. J. Pharmacol.* **1995**, *115*, 622 – 628.
- [24] (a) Fletcher, S.; Barnes, N.M., *Br. J. Pharmacol.* **1997**, *122*, 655 – 662. (b) Fletcher, S.; Barnes, N.M., *Trends Pharmacol. Sci.* **1998**, *19*, 212 – 215. (c) Barnes, N.M.; Sharp, T.; *Neuropharmacology* **1999**, *38*, 1083 – 1152. (d) Davies, P.A.; Pistis, M.; Hanna, M.C.; Peters, J.A.; Lambert, J.J.; Hales, T.G.; Kirkness, E.F., *Nature (London)* **1999**, *397*, 359 – 363.
- [25] (a) Peters, J.A.; Malone, H.M.; Lambert, J.J., *Trends Pharmacol. Sci.* **1992**, *13*, 391 – 397. (b) Jackson, M.B.; Yakel, J.L., *Ann. Rev. Physiol.* **1995**, *57*, 447 – 468.
- [26] Hargreaves, A.C.; Lummis, S.C.R.; Taylor, C.W., *Mol. Pharmacol.* **1994**, *46*, 1120 – 1128.
- [27] Gerald, C.; Adham, N.; Kao, H.-T.; Olsen, M.A.; Laz, T.M.; Schechter, L.E.; Bard, J.A.; Vaysse, P.J.-V.; Hartig, P.R.; Branchek, T.A.; Weinshank, R.L., *EMBO J.* **1995**, *14*, 2806 – 2815.
- [28] (a) Claeysen, S.; Sebben, M.; Journot, L.; Bockaert, J.; Dumuis, A., *FEBS Lett.* **1996**, *398*, 19 – 25. (b) Claeysen, S.; Faye, P.; Sebben, M.; Lemaire, S.; Bockaert, J.; Dumuis, A., *Neuro Report* **1997**, *8*, 3189 – 3196. (c) Blondel, O.; Vandecasteele, G.; Gastineau, M.; Leclerc, S.; Dahmoune, Y.; Langlois, M.; Fischmeister, R., *FEBS Lett.* **1997**, *412*, 465 – 474. (d) Blondel, O.; Gastineau, M.; Dahmoune, Y.; Langlois, M.; Fischmeister, R., *J. Neurochem.* **1998**, *70*, 2252 – 2261.
- [29] (a) Craig, D.A.; Eglen, R.M.; Walsh, L.K.M.; Perkins, L.A.; Whiting, R.L.; Clarke, D.E., *Naunyn-Schmiedeberg's Arch. Pharmacol.* **1990**, *342*, 9 – 16. (b) Eglen, R.M.; Swank, S.R.; Walsh, L.K.M.; Whiting, R.L., *Br. J. Pharmacol.* **1990**, *101*, 513 – 520. (c) Craig, D.A.; Clarke, D.E., *J. Pharmacol. Exp. Ther.* **1990**, *252*, 1378 – 1386. (d) Craig, D.A.; Clarke, D.E., *Br. J. Pharmacol.* **1991**, *102*, 563 – 564. (e) Borman, R.A.; Burleigh, D.E., *Br. J. Pharmacol.* **1993**, *110*, 927 – 928.
- [30] Taniyama, K.; Nakayama, S.; Takeda, K.; Matsuyama, S.; Shirakawa, J.; Sano, I.; Tanaka, C., *J. Pharmacol. Exp. Ther.* **1991**, *258*, 1098 – 1104.
- [31] (a) Kilbinger, H.; Wolf, D., *Naunyn-Schmiedeberg's Arch. Pharmacol.* **1992**, *345*, 270 – 275. (b) Kilbinger, H.; Gebauer, A.; Haas, J.; Ladinsky, H.; Rizzi, C.A., *Naunyn-Schmiedeberg's Arch. Pharmacol.* **1995**, *351*, 229 – 236.
- [32] Erlander, M.G.; Lovenberg, T.W.; Baron, B.M.; de Lecea, L.; Danielson, P.E.; Racke, M.; Slone, A.L.; Siegel, B.W.; Foye, P.E.; Cannon, K.; Burns, J.E.; Sutcliffe, J.G., *Proc. Natl. Acad. Sci. USA* **1993**, *90*, 3452 – 3456.
- [33] Matthes, H.; Boschert, U.; Amlaiky, N.; Grailhe, R.; Plassat, J.L.; Muscatelli, F.; Mattei, M.G.; Hen, R., *Mol. Pharmacol.* **1993**, *43*, 313 – 319.
- [34] Monsma, F.J.; Shen, Y.; Ward, R.P.; Hamblin, M.W.; Sibley, D.R., *Mol. Pharmacol.* **1993**, *43*, 320 – 327.
- [35] Ruat, M.; Traiffort, E.; Arrang, J.-M.; Tardivel-Lacombe, J.; Diaz, J.; Leurs, R.; Schwartz, J.C., *Biochem. Biophys. Res. Commun.* **1993**, *193*, 269 – 276.
- [36] Kohen, R.; Metcalf, M.A.; Druck, T.; Huebner, K.; Sibley, D.R.; Hamblin, M.W., *Soc. Neurosci. Abstr.* **1994**, *20*, 476.8.
- [37] (a) Schoeffter, P.; Waeber, C., *Naunyn-Schmiedeberg's Arch. Pharmacol.* **1994**, *350*, 356 – 360. (b) Ward, R.P.; Hamblin, M.W.; Lachowicz, J.E.; Hoffman, B.J.; Sibley, D.R.; Dorsa, D.M., *Neuroscience* **1995**, *64*, 1105 – 1111.

- [38] (a) Shen, Y.; Monsma, F.J.; Metcalf, M.A.; Jose, P.A.; Hamblin, M.W.; Sibley, D.R., *J. Biol. Chem.* **1993**, *268*, 18200 – 18204. (b) Lovenberg, T.W.; Baron, B.M.; de Lecea, L.; Miller, J.O.; Prosser, R.A.; Rea, M.A.; Foye, P.E.; Rucke, M.; Slone, A.L.; Siegel, B.W.; Danielson, P.E.; Sutcliffe, J.G.; Erlander, M.G., *Neuron* **1993**, *11*, 449 – 458. (c) Ruat, M.; Traiffort, E.; Leurs, R.; Tardivel-Lacombe, J.; Diaz, J.; Arrang, L.M.; Schwartz, J.-C., *Proc. Natl. Acad. Sci. USA* **1993**, *90*, 8547 – 8551.
- [39] Plassat, J.-L.; Amlaiky, N.; Hen, R., *Mol. Pharmacol.* **1993**, *44*, 229 – 236.
- [40] Bard, J.A.; Zgombick, J.; Adham, N.; Vaysse, P.; Branchek, T.A.; Weinshank, R.L., *J. Biol. Chem.* **1993**, *268*, 23422 – 23426.
- [41] (a) Tsou, A.-P.; Kosaka, A.; Bach, C.; Zuppan, P.; Yee, C.; Tom, L.; Alvarez, R.; Ramsey, S.; Bonhaus, D.W.; Stefanich, E.; Jakeman, L.; Eglen, R.M.; Chan, H.W., *J. Neurochem.* **1994**, *63*, 456 – 464. (b) Eglen, R.M.; Alvarez, R.; Carter, D.; Leung, E.; Jakeman, L.; To, Z.; Tsou, A.P., *Ann. N. Y. Acad. Sci.* **1997**, *812*, 216 – 217.
- [42] (a) Heidmann, D.E.; Metcalf, M.A.; Kohen, R.; Hamblin, M.W., *J. Neurochem.* **1997**, *68*, 1372 – 1381. (b) Jasper, J.R.; Kosaka, A.; To, Z.P.; Chang, D.J.; Eglen, R.M., *Br. J. Pharmacol.* **1997**, *122*, 126 – 132. (c) Stam, N.J.; Roesink, C.; Dijcks, F.; Garritsen, A.; van Herpen, A.; Olijve, W., *FEBS Lett.* **1997**, *413*, 489 – 494.
- [43] Sleight, A.J.; Carolo, C.; Petit, N.; Zwingelstein, C.; Bourson, A., *Mol. Pharmacol.* **1995**, *47*, 99 – 103.
- [44] Hoyer, D.; Martin, G., *Neuropharmacology* **1997**, *36*, 419 – 428.
- [45] Kennett, G.A., *Serotonin Receptors and their Function*, TOCRIS, **1997**, 1 – 12.
- [46] (a) Pritchett, D.B.; Bach, A.W.J.; Wozny, M.; Taleb, O.; Dal Toso, R.; Shih, J.C.; Seeburg, P.H., *EMBO J.* **1988**, *7*, 4135 – 4140. (b) Chambard, J.C.; van Obberghen-Schilling, E.; Haslam, R.J.; Vouret, V.; Pouyssegur, J., *Nucleic Acids Res.* **1990**, *18*, 5282. (c) Yang, W.; Chen, K.; Grimsby, J.; Shih, J.C., *Soc. Neurosci. Abstr.* **1991**, *17*, 405.
- [47] Saltzman, A.G.; Morse, B.; Whitman, M.M.; Ivanshchenko, Y.; Jaye, M.; Felder, S., *Biochem. Biophys. Res. Commun.* **1991**, *181*, 1469 – 1478.
- [48] Johnson, M.P.; Baez, M.; Kursar, J.D.; Nelson, D.L., *Biochim. Biophys. Acta* **1995**, *1236*, 201 – 206.
- [49] (a) Pazos, A.; Cortes, R.; Palacios, J.M., *Brain Res.* **1985**, *346*, 231 – 249. (b) Pazos, A.; Probst, A.; Palacios, J.M., *Neuroscience* **1987**, *21*, 123 – 139.
- [50] Roth, B.L.; McLean, S.; Zhu, X.-Z.; Chuang, D.-M., *J. Neurochem.* **1987**, *49*, 1833 – 1838.
- [51] De Chaffoy de Courcelles, D.; Leysen, J.E.; de Clerck, F.; van Belle, H.; Janssen, P.A., *J. Biol. Chem.* **1985**, *260*, 7603 – 7608.
- [52] Cohen, M.L.; Fuller, R.W.; Wiley, K.S., *J. Pharmacol. Exp. Ther.* **1981**, *218*, 421 – 425.
- [53] Wilcox, B.D.; Rydelek-Fitzgerald, L.; Jeffrey, J.J., *J. Biol. Chem.* **1992**, *267*, 20752 – 20757.
- [54] (a) Malick, J.B.; Doren, E.; Barnett, A., *Pharmacol. Biochem. Behav.* **1977**, *6*, 325 – 329. (b) Willins, D.L.; Meltzer, H.Y., *J. Pharmacol. Exp. Ther.* **1997**, *282*, 699 – 706. (c) Colpaert, F.C.; Janssen, P.A., *Neuropharmacology* **1983**, *22*, 993 – 1000. (d) Schreiber, R.; Brocco, M.; Audinot, V.; Gobert, A.; Veiga, S.; Millan, M., *J. Pharmacol. Exp. Ther.* **1995**, *273*, 101 – 112. (e) Zifa, E.; Fillion, G., *Pharmacol. Rev.* **1992**, *44*, 401 – 457.
- [55] Yap, C.Y.; Taylor, D.A., *Neuropharmacology* **1983**, *22*, 801 – 804.
- [56] (a) Reiche, R.; Frey, H.-H., *Arch. Int. Pharmacodyn. Ther.* **1983**, *263*, 139 – 145. (b) Cohen, M.L.; Schenck, K.W.; Colbert, W.; Wittenauer, L., *J. Pharmacol. Exp. Ther.* **1985**, *232*, 770 – 774.

- (c) Watts, S.W.; Cohen, M.L., *J. Pharmacol. Exp. Ther.* **1992**, *260*, 1101 – 1106.
- [57] Ichida, S.; Hayashi, T.; Terao, M., *Eur. J. Pharmacol.* **1983**, *96*, 155 – 158.
- [58] Engel, G.; Hoyer, D.; Kalkman, H.O.; Wick, M.B., *J. Recept. Res.* **1984**, *4*, 113 – 126.
- [59] Cohen, M.L.; Mason, N.; Wiley, K.S., *Biochem. Pharmacol.* **1983**, *32*, 567 – 570.
- [60] De Clerck, F.; Xhonneux, B., *Agents Actions* **1985**, *17*, 515 – 526.
- [61] Hara, H.; Osakabe, M.; Kitajima, A.; Tamao, Y.; Kikumoto, R., *Thromb. Haemostasis* **1991**, *65*, 415 – 420.
- [62] Vanhoutte, P.M., *J. Cardiovasc. Pharmacol.* **1990**, *16*, S15 – S19.
- [63] Van Nueten, J.M.; Janssen, P.A.J.; van Beek, J.; Xhonneux, R.; Verbeuren, T.J.; Vanhoutte, P.M., *J. Pharmacol. Exp. Ther.* **1981**, *218*, 217 – 230.
- [64] Bradley, P.B.; Humphrey, P.P.A.; Williams, R.H., *Br. J. Pharmacol.* **1985**, *84*, 919 – 925.
- [65] Cohen, M.L.; Schenk, K.W.; Kurz, K.D., *J. Cardiovasc. Pharmacol.* **1988**, *11 (Suppl. 1)*, S25 – S27.
- [66] Glennon, R.A.; Dukat, M., *Curr. Drugs* **1993**, *1* – 45.
- [67] Roth, B.L.; Hyde, E.G., in *Handb. Exp. Pharmacol.: Serotonergic Neurons and 5-HT Receptors in CNS*, Vol. 129; Baumgarten, H.G.; Göthert, M., Eds.; Berlin, Heidelberg, New York : Springer, **1997**, S. 367 – 394.
- [68] Nichols, D.E.; Lloyd, D.H.; Johnson, M.P.; Hoffman, A.J., *J. Med. Chem.* **1988**, *31*, 1406 – 1412.
- [69] Ismaiel, A.M.; Titeler, M.; Miller, K.J.; Smith, T.S.; Glennon, R.A., *J. Med. Chem.* **1990**, *33*, 755 – 758.
- [70] Richardson, B.P.; Engel, G.; Donatsch, P.; Stadler, P.A., *Nature (London)* **1985**, *316*, 126 – 131.
- [71] Glennon, R.A.; Westkaemper, R.B.; Bartyzel, P., in *Receptor Biochemistry and Methodology – Serotonin Receptor Subtypes: Basic and Clinical Aspects*; Vol. 15; Venter C.J.; Harrison, L.C.; Peroutka, S.J., Eds., New York : Wiley-Liss, **1991**, S. 19 – 64.
- [72] Giger, R., *Actual. Chim. Ther.* **1989**, *16*, 151 – 186.
- [73] Macor, J.E.; Blake, J.; Fox, C.B.; Johnson, C.; Koe, B.K.; Lebel, L.A.; Morrone, J.M.; Ryan, K.; Schmidt, A.W.; Schulz, D.W.; Zorn, S.H., *J. Med. Chem.* **1992**, *35*, 4503 – 4505.
- [74] (a) Macor, J.E.; Newman, M.E., *Tetrahedron Lett.* **1991**, *32*, 3345.  
(b) Macor, J.E.; Ryan, K.; Newman, M.E., *Tetrahedron* **1991**, *48*, 1039 – 1052.
- [75] Macor, J.E.; Fox, C.B.; Johnson, C.; Koe, B.K.; Lebel, L.A.; Zorn, S.H., *J. Med. Chem.* **1992**, *35*, 3625 – 3632.
- [76] (a) Hamon, G.; Cherqui, C.; Worcel, M., *Br. J. Pharmacol.* **1988**, *93*, 265P.
- [77] (a) Sills, M.A.; Wolfe, B.B.; Frazer, A., *J. Pharmacol. Exp. Ther.* **1984**, *231*, 480 – 487.  
(b) Pertz, H., *Naunyn-Schmiedeberg's Arch. Pharmacol.* **1993**, *348*, 358 – 365.  
(c) Elz, S.; Heim, R.; Heil, W.L.; Pertz, H.H., *Arch. Pharm. Pharm. Med. Chem.* **1999**, *332 (Suppl. 2)*, 10.
- [78] Nichols, D.E.; Glennon, R.A., in *Hallucinogens: neurochemical behavioral and clinical perspectives*; Jacobs, B.L., Ed.; New York : Raven **1984**, S. 95 – 142.
- [79] Smith, R.L.; Canton, H.; Barrett, R.J.; Sanders-Bush, E., *Pharmacol. Biochem. Behav.* **1998**, *61*, 323 – 330.
- [80] Roth und Kahn, unveröffentlichte Ergebnisse.
- [81] Smith, A.L.; Stevenson, G.I.; Lewis, S.; Patel, S.; Castro, J.L., *Bioorg. Med. Chem. Lett.* **2000**, *10*, 2693 – 2696.

- [82] Stevenson, G.I.; Smith, A.L.; Lewis, S.; Michie, S.G.; Neduvellil, J.G.; Marwood, R.; Patel, S.; Castro, J.L., *Bioorg. Med. Chem. Lett.* **2000**, *10*, 2697 – 2699.
- [83] Castro Pineiro, J.L.; Hutchins, S.M.; Lewis, S.J.; Rowley, M.; Smith, A.L.; Stevenson, G.I. (Merck Sharp & Dohme) WO 9911619 (01.09.1998/11.03.1999).
- [84] Rowley, M.; Hallett, D.J.; Goodacre, S.; Moyes, C.; Crawforth, J.; Sparey, T.J.; Patel, S.; Marwood, R.; Patel, S.; Thomas, S.; Hitzel, L.; O'Conner, D.; Szeto, N.; Castro, J.L.; Hutson, P.H.; MacLeod, A.M., *J. Med. Chem.* **2001**, *44*, 1603 – 1614.
- [85] (a) Pierce, P.A.; Peroutka, S.J., *Neuropsychopharmacology* **1990**, *3*, 503 – 508.  
(b) Pierce, P.A.; Peroutka, S.J., *J. Pharmacol. Exp. Ther.* **1988**, *247*, 918 – 925.
- [86] (a) Glennon, R.A.; Young, R.; Rosecrans, J.A., *Eur. J. Pharmacol.* **1983**, *91*, 189 – 196. (b) Glennon, R.A.; Titeler, M.; McKenney, J.D., *Life Sci.* **1984**, *35*, 2505 – 2511. (c) Glennon, R.A.; Titeler, M.; Young, R., *Psychopharmacol. Bull.* **1986**, *22*, 953 – 958. (d) Jakobs, B.L., *Am. Sci.* **1987**, *75*, 386 – 392. (e) Titeler, M.; Lyon, R.A.; Glennon, R.A., *Psychopharmacology* **1988**, *94*, 213 – 216.
- [87] Glennon, R.A., *Neuropsychopharmacology* **1990**, *3*, 509 – 517.
- [88] (a) Isbell, H.; Miner, E.J.; Logan, C.R., *Psychopharmacologia* **1959**, *1*, 20 – 28.  
(b) Rothlin, E., *J. Pharm. Pharmacol.* **1957**, *9*, 569 – 587.
- [89] (a) Marek, G.J.; Aghajanian, G.K., *J. Pharmacol. Exp. Ther.* **1996**, *278*, 1373 – 1382.  
(b) Aghajanian, G.K.; Marek, G.J., *Neuropsychopharmacology* **1999**, *21*, 16S – 23S.
- [90] Hoffman, A.J.; Nichols, D.E., *J. Med. Chem.* **1985**, *28*, 1252 – 1255.
- [91] (a) Votava, Z.; Podvalova, I.; Semonsky, M., *Arch. Int. Pharmacodyn. Ther.* **1958**, *115*, 114 – 130.  
(b) Hofmann, A., *Acta Physiol. Pharmacol. Neerlandica* **1959**, *8*, 240 – 258.  
(c) Abramson, H.A., *J. Psychol.* **1959**, *48*, 65 – 78.
- [92] (a) Oberlender, R.A.; Pfaff, R.C.; Johnson, M.P.; Huang, X.; Nichols, D.E., *J. Med. Chem.* **1992**, *35*, 203 – 211. (b) Monte, A.P.; Marona-Lewicka, D.; Kanthasamy, A.; Sanders-Bush, E.; Nichols, D.E., *J. Med. Chem.* **1995**, *38*, 958 – 966.
- [93] (a) Cohen, M.L.; Fuller, R.W.; Wiley, K.S., *J. Pharmacol. Exp. Ther.* **1981**, *218*, 421 – 425.  
(b) Cohen, M.L.; Fuller, R.W.; Kurz, K.D., *J. Pharmacol. Exp. Ther.* **1983**, *227*, 327 – 332.  
(c) Cohen, M.L.; Fuller, R.W.; Kurz, K.D.; Parli, C.J.; Mason, N.R.; Meyers, D.B.; Smallwood, J.K.; Toomey, R.E., *J. Pharmacol. Exp. Ther.* **1988**, *244*, 106 – 112.
- [94] Garbrecht, W.L.; Marzoni, G.; Whitten, K.R.; Cohen, M.L., *J. Med. Chem.* **1988**, *31*, 444 – 448.
- [95] Roth, B.L.; Craigo, S.C.; Choudhary, M.S.; Monsma, F.J.; Shen, Y.; Meltzer, H.Y.; Sibley, D.R., *J. Pharmacol. Exp. Ther.* **1994**, *256*, 1403 – 1410.
- [96] (a) Nelson, D.L.; Lucaites, V.L.; Audia, J.E.; Nissen, J.S.; Wainscott, D.B., *J. Pharmacol. Exp. Ther.* **1993**, *265*, 1272 – 1279. (b) Johnson, M.P.; Audia, J.E.; Nissen, J.S.; Nelson, D.L., *Eur. J. Pharmacol.* **1993**, *239*, 111 – 118. (c) Pertz, H.H.; Brown, A.M.; Gager, T.L.; Kaumann, A.J., *J. Pharm. Pharmacol.* **1999**, *51*, 319 – 330. (d) Hoyer, D.; Pazos, A.; Probst, A.; Palacios, J.M., *Brain Res.* **1986**, *376*, 97 – 107. (e) Pazos, A.; Hoyer, D.; Palacios, J.M., *Eur. J. Pharmacol.* **1984**, *106*, 531 – 538. (f) Hagen, J.D.; Pierce, P.A.; Peroutka, S.J., *Biol. Signals* **1994**, *3*, 223 – 229.
- [97] (a) Kao, H.-T.; Adham, N.; Olsen, M.A.; Weinshank, R.L.; Branchek, T.A.; Hartig, P.R., *FEBS Lett.* **1992**, *307*, 324 – 328. (b) Johnson, M.P.; Loncharich, R.; Baez, M.; Nelson, D.L., *Mol. Pharmacol.* **1994**, *45*, 277 – 286.

- [98] Glennon, R.A., *J. Med. Chem.* **1987**, *30*, 1 – 12.
- [99] Glennon, R.A.; Raghupathi, R.; Bartyzel, P.; Teitler, M.; Leonhardt, S., *J. Med. Chem.* **1992**, *35*, 734 – 740.
- [100] (a) Shannon, M.; Battaglia, G.; Glennon, R.A.; Titeler, M., *Eur. J. Pharmacol.* **1984**, *102*, 23 – 29.  
(b) Glennon, R.A.; Titeler, M.; McKenney, J.D., *Life Sci.* **1984**, *35*, 2505 – 2511.
- [101] Glennon, R.A.; Liebowitz, S.M.; Anderson, G.M., *J. Med. Chem.* **1980**, *23*, 294 – 299.
- [102] Pertz, H.H.; Heim, R.; Elz, S., *Arch. Pharm. Pharm. Med. Chem.* **2000**, *333 (Suppl. 2)*, 30.
- [103] Elz, S.; Kläß, T.; Heim, R.; Warnke, U.; Pertz, H.H., *Naunyn-Schmiedeberg's Arch. Pharmacol.* **2002**, *365 (Suppl. 1)*, R29.
- [104] Seggel, M.R.; Yousif, M.Y.; Lyon, R.A.; Titeler, M.; Roth, B.L.; Suba, E.A.; Glennon, R.A., *J. Med. Chem.* **1990**, *33*, 1032 – 1036.
- [105] Glennon, R.A.; McKenney, J.D.; Lyon, R.A.; Titeler, M., *J. Med. Chem.* **1986**, *29*, 194 – 199.
- [106] (a) Roth, B.L.; Nakaki, T.; Chuang, D.M.; Costa, E., *Neuropharmacology* **1984**, *23*, 1223 – 1225.  
(b) Roth, B.L.; Nakaki, T.; Chuang, D.M.; Costa, E., *J. Pharmacol. Exp. Ther.* **1986**, *238*, 480 – 485.  
(c) Suba, E.A.; Roth, B.L., *Eur. J. Pharmacol.* **1987**, *136*, 325 – 332.
- [107] Johnson, M.P.; Hoffman, A.; Nichols, D.E.; Mathis, C.A., *Neuropharmacology* **1987**, *26*, 1803 – 1806.
- [108] Glennon, R.A.; Titeler, M.; Seggel, M.R.; Lyon, R.A., *J. Med. Chem.* **1987**, *30*, 930 – 932.
- [109] (a) Brancheck, T.; Adham, N.; Macchi, M.; Kao, H.-T.; Hartig, P.R., *Mol. Pharmacol.* **1990**, *38*, 604 – 609.  
(b) Teitler, M.; Leonhardt, S.; Weisberg, E.L.; Hoffman, B.J., *Mol. Pharmacol.* **1990**, *38*, 594 – 598.
- [110] Nelson, D.L.; Lucaites, V.L.; Wainscott, D.B.; Glennon, R.A., *Naunyn-Schmiedeberg's Arch. Pharmacol.* **1999**, *359*, 1 – 6.
- [111] Shulgin, A.T.; Shulgin, A., *PIHKAL: A chemical love story*; Berkeley, CA : Transform Press **1995**, S. 650 – 654.
- [112] Monte, A.P.; Waldman, S.R.; Marona-Lewicka, D.; Wainscott, D.B.; Nelson, D.L.; Sanders-Bush, E.; Nichols, D.E., *J. Med. Chem.* **1997**, *40*, 2997 – 3008.
- [113] Pertz, H.H.; Rheineck, A.; Elz, S., *Naunyn-Schmiedeberg's Arch. Pharmacol.* **1999**, *359*, R29.
- [114] Glennon, R.A., in *Pharmacological aspects of drug dependence*; Schuster, C.R.; Kuhar, M.J., Eds.; Berlin, Heidelberg, New York : Springer, **1996**, S. 343 – 371.
- [115] Marek, G.J.; Aghajanian, G.K., *Drug and Alcohol Dependence* **1998**, *51*, 189 – 198.
- [116] Nichols, D.E., in *Handb. Exp. Pharmacol.: Serotonergic Neurons and 5-HT Receptors in CNS*, Vol. 129; Baumgarten, H.G.; Göthert, M., Eds.; Berlin, Heidelberg, New York : Springer, **1997**, S. 563 – 585.
- [117] Ismaiel, A.M.; De Los Angeles, J.; Teitler, M.; Ingher, S.; Glennon, R.A., *J. Med. Chem.* **1993**, *36*, 2519 – 2525.
- [118] Ismaiel, A.M.; Dukat, M.; Nelson, D.L.; Lucaites, V.L.; Glennon, R.A., *Med. Chem. Res.* **1996**, *6*, 197 – 211.
- [119] Schreiber, R.; Brocco, M.; Millan, M.J., *Eur. J. Pharmacol.* **1994**, *264*, 99 – 102.
- [120] Kennett, G.A.; Wood, M.D.; Glen, A.; Grewal, S.; Forbes, I.; Gadre, A.; Blackburn, T.P., *Br. J. Pharmacol.* **1994**, *111*, 797 – 802.
- [121] Schreiber, R.; Brocco, M.; Audinot, V.; Gobert, A.; Veiga, S.; Millan, M.J., *J. Pharmacol. Exp. Ther.* **1995**, *273*, 101 – 112.

- [122] Ishida, M.; Otani, K.; Kaneko, S.; Ohkubo, T.; Osanai, T.; Yasui, N.; Mihara, K.; Higuchi, H.; Sugawara, K., *Int. Clin. Psychopharmacol. Sep.* **1995**, *10*, 143 – 146.
- [123] Nelson, D.L. unveröffentlicht.
- [124] Cohen, M.L.; Fuller, R.W., *Life Sci.* **1983**, *32*, 711 – 718.
- [125] Germine, M.; Goddard, A.W.; Sholomskas, D.E.; Woods, S.W.; Charney, D.S.; Heninger, D.E., *Psychiatr. Res. Nov.* **1994**, *54*, 15 – 133.
- [126] (a) Arnt, J.; Hyttel, J., *Eur. J. Pharmacol.* **1989**, *161*, 45 – 51. (b) Darmani, N.R.; Martin, B.R.; Pandey, U.; Glennon, R.A., *Pharmacol. Biochem. Behav.* **1990**, *36*, 901 – 906.
- [127] Grotewiel, M.S.; Chu, H.; Sanders-Bush, E., *J. Pharmacol. Exp. Ther.* **1994**, *271*, 1122 – 1126.
- [128] Glennon, R.A.; Slusher, R.M.; Lyon, R.A.; Titeler, M.; McKenney, J.D., *J. Med. Chem.* **1986**, *29*, 2375 – 2380.
- [129] Fatemi, S.H.; Meltzer, H.Y.; Roth, B.L., in *Handb. Exp. Pharmacol.: Antipsychotic drugs*, Vol. 120; Csernansky, J.G., Ed.; Berlin, Heidelberg, New York : Springer, **1996**, S. 77 – 115.
- [130] Brogden, R.N.; Heel, R.C.; Speight, T.M.; Avery, G.S., *Drugs* **1981**, *21*, 401 – 429.
- [131] (a) Baran, L.; Maj, J.; Rogoz, G.; Skuza, G., *Polish J. Pharmacol.* **1979**, *31*, 25 – 33.  
(b) Clements Jewery, S.; Robson, P.A.; Chidley, L.J., *Neuropharmacology* **1980**, *19*, 1165 – 1173.
- [132] Roth, B.L. and Kahn, N. unveröffentlichte Beobachtungen.
- [133] Giannangeli, M.; Cazzolla, N.; Luparini, M.R.; Magnani, M.; Mabilia, M.; Picconi, G.; Tomaselli, M.; Baiocchi, L., *J. Med. Chem.* **1999**, *42*, 336 – 345.
- [134] (a) Caccia, S.; Ballabio, M.; Samarin, R.; Zanini, M.G.; Garattini, S., *J. Pharm. Pharmacol.* **1981**, *33*, 477 – 478. (b) Li, A.A.; Mareck, G.I.; Hand, T.H.; Seiden, L.S., *Eur. J. Pharmacol.* **1990**, *177*, 137 – 144.
- [135] Hayo, S.; Havera, J.H.; Strycker, W.G.; Leipzig, T.J.; Kulp, R.A.; Hartzler, H.E., *J. Med. Chem.* **1965**, *8*, 807 – 811.
- [136] Hong, E. (Miles Labs., Inc.) US 3.726.979.
- [137] Hong, E.; Schut, R.N., *Drugs Fut.* **1985**, *10*, 929 – 930.
- [138] Elz, S., *5-HT<sub>2A</sub>-Rezeptor-Liganden: Synthese, Pharmakologie und Struktur-Wirkungsbeziehung, Habilitationsschrift*, Freie Universität Berlin, **1995**, S. 84.
- [139] Kläß, T., *Synthese und Struktur-Aktivitäts-Beziehungen chiraler 5-HT<sub>2A</sub>-Rezeptorliganden vom Ketanserintyp, Dissertation*, Freie Universität Berlin, **2001**, S. 131 – 146.
- [140] (a) Vandenberk, J.; Kennis, L.E.J.; Van der Aa, M.J.M.C.; van Heertum, A.H.M.T. (Janssen Pharmaceutica N.V.) E.P. 13.612 (07.01.1980/23.07.1980); *Chem. Abstr.* **1981**, *94*, 65718a.  
(b) Kennis, L.E.J.; Mertens, J.C. (Janssen Pharmaceutica N.V.) E.P. 37.265 (28.03.1980/07.10.1981); *Chem. Abstr.* **1982**, *96*, 122814w.
- [141] Paton, D.M.; *Drugs Fut.* **1981**, *11*, 684 – 685.
- [142] Jerman, J.C.; Brough, S.J.; Gager, T.; Wood, M.; Coldwell, M.C.; Smart, D.; Middlemiss, D.N., *Eur. J. Pharmacol.* **2001**, *414*, 23 – 30.
- [143] McCall, R.B.; Clement, M.E., *Pharmacol. Rev.* **1994**, *46*, 231 – 243.
- [144] Elz, S., *5-HT<sub>2A</sub>-Rezeptor-Liganden: Synthese, Pharmakologie und Struktur-Wirkungsbeziehung, Habilitationsschrift*, Freie Universität Berlin, **1995**, S. 86 – 92.
- [145] Kläß, T.; Elz, S., *Arch. Pharm. Pharm. Med. Chem.* **1999**, *331 (Suppl. 2)*, 22.



- [146] (a) Van Dyck, C.H.; Tan, P.Z.; Baldwin, R.M.; Amici, L.A.; Garg, P.K.; Soufer, R.; Charney, D.S.; Innis, R.B., *J. Nucl. Med.* **2000**, *41*, 234 – 241. (b) Lemaire, C.; Cantineau, R.; Guillaume, M.; Plenevaux, A.; Christiaens, L., *J. Nucl. Med.* **1991**, *32*, 2266 – 2272.
- [147] Sorbera, L.A.; Silvestre, J.; Castañer, J., *Drugs Fut.* **1998**, *23*, 955 – 965.
- [148] Herndon, J.L.; Ismaiel, A.; Ingher, S.P.; Teitler, M.; Glennon, R.A., *J. Med. Chem.* **1992**, *35*, 4903 – 4910.
- [149] Ismaiel, A.M.; Arruda, K.; Teitler, M.; Glennon, R.A., *J. Med. Chem.* **1995**, *38*, 1196 – 2202.
- [150] Talvik-Lotfi, M.; Nyberg, S.; Nordstrom, A.L.; Ito, H.; Halldin, C.; Brunner, F.; Farde, L., *Psychopharmacology* **2000**, *148*, 400 – 403.
- [151] Rowley, M.; Bristow, L.J.; Hutson, P.H., *J. Med. Chem.* **2001**, *44*, 477 – 501.
- [152] (a) Lopez-Gimenez, J.F.; Vilaro, M.T.; Palacios, J.M.; Mengod, G., *J. Comp. Neurol.* **2001**, *429*, 571 – 589. (b) Lopez-Gimenez, J.F.; Mengod, G.; Palacios, J.M.; Vilaro, M.T., *Eur. J. Neurosci.* **1999**, *11*, 3761 – 3765.
- [153] (a) Ullrich, T.; Rice, K.C., *Bioorg. Med. Chem.* **2000**, *8*, 2427 – 2432. (b) Mathis, C.A.; Mahmood, K.; Huang, Y.; Simpson, N.R.; Gerdes, J.M.; Price J.C., *Med. Chem. Res.* **1996**, *6*, 1 – 10.
- [154] Roth, B.L.; Ciaranello, R.D.; Meltzer, H.Y., *J. Pharmacol. Exp. Ther.* **1992**, *260*, 1361 – 1365.
- [155] (a) Meltzer, H.Y.; Matsubara, S.; Lee, J.-C., *J. Pharmacol. Exp. Ther.* **1989**, *251*, 238 – 246. (b) Stockmeier, C.A.; DiCarlo, J.J.; Zhang, Y.; Thompson, P.; Meltzer, H.Y., *J. Pharmacol. Exp. Ther.* **1993**, *266*, 1374 – 1384.
- [156] Bodem, S.H.; Morck, H.; Schulz, M.; Thesen, R.; Zagermann-Muncke, P., *Pharm. Ztg.* **1999**, *45*, [www.pharmazeutische-zeitung.de](http://www.pharmazeutische-zeitung.de).
- [157] Wikström, H.V.; Mensonides-Harsema, M.M.; Cremers, T.I.F.H.; Moltzen, E.K.; Arnt, J., *J. Med. Chem.* **2002**, *45*, 3280 – 3285.
- [158] (a) Nickolson, V.J.; Wieringa, J.H., *J. Pharm. Pharmacol.* **1981**, *33*, 760 – 766. (b) Wood, M.D.; Thomas, D.R.; Watkins, C.J.; Newberry, N.R., *J. Pharm. Pharmacol.* **1993**, *45*, 711 – 714. (c) Pinder, R.M.; Van Delft, A.L.M., *Br. J. Clin. Pharmacol.* **1983**, *15*, 269S – 276S.
- [159] (a) De Boer, T.; Nefkens, F.; Van Helvoirt, A., *Eur. J. Pharmacol.* **1994**, *253*, R5 – R6. (b) De Boer, T.; Nefkens, F.; Van Helvoirt, A.; Van Delft, A.M.L., *J. Pharmacol. Exp. Ther.* **1996**, *277*, 852 – 860. (c) Haddjeri, N.; Blier, P.; De Montigny, C., *J. Pharmacol. Exp. Ther.* **1996**, *277*, 861 – 871. (d) De Boer, T., *J. Clin. Psychiatry* **1996**, *57*, 19 – 25.
- [160] (a) De Boer, T.; Maura, G.; Raiteri, M.; De Vos, C.J.; Wieringa, J.; Pinder, R.M., *Neuropharmacology* **1988**, *27*, 399 – 408. (b) Kooyman, A.R.; Zwart, R.; Vanderheyden, P.M.L., *Neuropharmacology* **1994**, *33*, 501 – 510.
- [161] (a) Blackburn, T.P.; Cox, B.; Pearce, R.J.; Thornber, C.W., *Br. J. Pharmacol.* **1987**, *90*, 277P. (b) Blackburn, T.P.; Cox, B.; Guildford, A.J.; Le Count, D.J.; Middlemiss, D.N.; Pearce, R.J.; Thornber, C.W., *J. Med. Chem.* **1987**, *30*, 2252 – 2259.
- [162] Kaumann, A.J.; Frenken, M., *J. Pharmacol. Exp. Ther.* **1988**, *245*, 1010 – 1014.
- [163] Tanaka, N.; Goto, R.; Ito, R.; Hayakawa, M.; Ogawa, T.; Fujimoto, K., *Chem. Pharm. Bull.* **1998**, *46*, 639 – 646.
- [164] Rinaldi-Carmona, M.; Congy, C.; Santucci, V.; Simiand, J.; Gautret, B.; Neliat, G.; Labeeuw, B.; Le Fur, G.; Soubrie, P.; Breliere, J.C., *J. Pharmacol. Exp. Ther.* **1992**, *262*, 759 – 767.

- [165] Elz, S., *5-HT<sub>2A</sub>-Rezeptor-Liganden: Synthese, Pharmakologie und Struktur-Wirkungsbeziehung, Habilitationsschrift*; Freie Universität Berlin, **1995**, S. 74 – 78.
- [166] Pertz, H.; Elz, S., *Naunyn-Schmiedeberg's Arch. Pharmacol.* **1996**, *353*, R90.
- [167] (a) Jendretzki, U.K.; Elz, S.; Höltje, H.-D., *Pharm. Pharmacol. Lett.* **1994**, *3*, 260 – 263.  
(b) Höltje, H.-D.; Jendretzki, U.K., *Arch. Pharm. (Weinheim)* **1995**, *328*, 577 – 584.
- [168] (a) McCall, R.B.; Clement, M.E., *Pharmacol. Rev.* **1994**, *46*, 231 – 243. (b) Leysen, J.E.; de Chaffoy de Courcelles, D.; de Clerck, F.; Niemegeers, C.J.E.; Van Nueten, J.M., *Neuropharmacology* **1986**, *88*, 1493 – 1501. (c) Janssen, P.A.J., *J. Cardiovasc. Pharmacol.* **1985**, *7 (Suppl. 7)*, S2 – S11.
- [169] Kennis, L.E.J.; Vandenberk, J.; Mertens, J.C. (Janssen Pharmaceutica N.V.) E.P. 110435 (29.09.1983/13.06.1984); *Chem. Abstr.* **1985**, *102*, 6522t.
- [170] Elz, S., *5-HT<sub>2A</sub>-Rezeptor-Liganden: Synthese, Pharmakologie und Struktur-Wirkungsbeziehung, Habilitationsschrift*; Freie Universität Berlin, **1995**, S. 58 – 66.
- [171] Kläß, T., *Synthese und Struktur-Aktivitäts-Beziehungen chiraler 5-HT<sub>2A</sub>-Rezeptorliganden vom Ketanserintyp*, Dissertation; Freie Universität Berlin, **2001**, S. 73.
- [172] Steiner, G.; Bach, A.; Bialojan, S.; Greger, S.; Hege, H.G.; Höger, T.; Jochims, K.; Munschauer, R.; Neumann, B.; Teschendorf, H.J.; Traut, M.; Unger, L.; Gross, G., *Drugs Fut.* **1998**, *23*, 191 – 204.
- [173] Grout, R.J.; Partridge, M.W., *J. Chem. Soc.* **1960**, 3551 – 3557.
- [174] Elz, S., *5-HT<sub>2A</sub>-Rezeptor-Liganden: Synthese, Pharmakologie und Struktur-Wirkungsbeziehung, Habilitationsschrift*; Freie Universität Berlin, **1995**, S. 99 – 103.
- [175] Elz, S., *5-HT<sub>2A</sub>-Rezeptor-Liganden: Synthese, Pharmakologie und Struktur-Wirkungsbeziehung, Habilitationsschrift*; Freie Universität Berlin, **1995**, S. 123 – 124.
- [176] Herndon, J.L.; Ismaiel, A.; Ingher, S.P.; Teitler, M.; Glennon, R.A., *J. Med. Chem.* **1992**, *35*, 4903 – 4910.
- [177] Elz, S., *5-HT<sub>2A</sub>-Rezeptor-Liganden: Synthese, Pharmakologie und Struktur-Wirkungsbeziehung, Habilitationsschrift*; Freie Universität Berlin, **1995**, S. 98.
- [178] (a) Eckert, H.; Forster, B., *Angew. Chem.* **1987**, *99*, 922 – 923. (b) Cortez, R.; Rivero, I.A.; Somanathan, R.; Aguirre, G.; Ramirez, F.; Hong, E., *Synth. Commun.* **1991**, *21*, 285 – 292. (c) Bracher F.; Litz, T., *J. Prakt. Chem./Chem. Ztg.* **1995**, *337*, 516 – 518.
- [179] Staab, H.A., *Angew. Chem.* **1962**, *74*, 407 – 423.
- [180] Jakobs, R.L., *J. Heterocycl. Chem.* **1970**, *7*, 1337 – 1345.
- [181] Clark, R.H.; Wagner, R.C., *J. Org. Chem.* **1944**, *9*, 55 – 67.
- [182] Russell, R.K.; Press, J.B.; Rampulla, R.A.; McNally, J.J.; Falotico, R.; Keiser, J.A.; Bright, D.A.; Tobia, A., *J. Med. Chem.* **1988**, *31*, 1786 – 1793.
- [183] Cossent Aguinaco, I.; Arin Abad, M.J.; Fernandez Martin, J.A.; Tito Lloret, A. (D.P. Farmacotecnia S.A.) E.S. 545.360 (18.07.1985/01.12.1985); *Chem. Abstr.* **1987**, *106*, 33092s.
- [184] Elz, S., *5-HT<sub>2A</sub>-Rezeptor-Liganden: Synthese, Pharmakologie und Struktur-Wirkungsbeziehung, Habilitationsschrift*; Freie Universität Berlin, **1995**, S. 94 – 97.
- [185] Gabriel, S., *Ber. Dtsch. Chem. Ges.* **1887**, *20*, 2224 – 2236.
- [186] Gibson, M.S.; Bradshaw, R.W., *Angew. Chem.* **1968**, *80*, 986 – 996.
- [187] Elz, S., *5-HT<sub>2A</sub>-Rezeptor-Liganden: Synthese, Pharmakologie und Struktur-Wirkungsbeziehung, Habilitationsschrift*; Freie Universität Berlin, **1995**, S. 48 – 51.

- [188] Die intramolekulare Beteiligung eines räumlich nahen, nucleophilen Substituenten bei einer Substitutionsreaktion wird als Nachbargruppeneffekt bezeichnet. (a) Capon, B., *Q. Rev. Chem. Soc.* **1964**, *18*, 45. (b) Capon, B.; McManus, S.P., *Neighboring Group Participation*; New York : Plenum Press **1976**.
- [189] Brückner, R., *Reaktionsmechanismen: Organische Reaktionen, Stereochemie, moderne Synthesemethoden*; Heidelberg, Berlin, Oxford : Spektrum Akad. Verl. **1996**, S. 64 – 70.
- [190] Carey, F.A.; Sundberg, R.J., *Organische Chemie: Ein weiterführendes Lehrbuch*; Weinheim : VCH **1995**, S. 293 – 301.
- [191] Ing, H.R.; Manske, R.H.F., *J. Chem. Soc.* **1926**, 2348 – 2351.
- [192] Albert, A.; Phillips, J.N., *J. Chem. Soc.* **1956**, 1294 – 1304.
- [193] Signorini, R.; Verga, A. (Ravizza S.p.A.) E.P. 98.499 (27.06.1983/18.01.1984); *Chem. Abstr.* **1984**, *100*, 174849g.
- [194] Elz, S., *5-HT<sub>2A</sub>-Rezeptor-Liganden: Synthese, Pharmakologie und Struktur-Wirkungsbeziehung, Habilitationsschrift*; Freie Universität Berlin, **1995**, S. 125 – 152.
- [195] Papadopoulos, E.P., *J. Heterocycl. Chem.* **1980**, *17*, 1553 – 1558.
- [196] Becker, H.G.O., *Organikum*; 20. Aufl., Heidelberg, Leipzig : Barth, **1996**, S. 224.
- [197] Tronow, B.W.; Ladigina, L.W., *Ber. Dtsch. Chem. Ges.* **1929**, *62*, 2844 – 2850.
- [198] Benton, F.L.; Dielon, T.E.; *J. Am. Chem. Soc.* **1942**, *64*, 1128 – 1129.
- [199] McOmie, J.F.W.; Watts, M.L.; West, D.E., *Tetrahedron* **1967**, *24*, 2289 – 2292.
- [200] Guindon, Y.; Therien, M.; Girard, Y.; Yoakim, C., *J. Org. Chem.* **1987**, *52*, 1680 – 1686.
- [201] Jung, M.E.; Lyster, M.A., *J. Org. Chem.* **1977**, *42*, 3761 – 3767.
- [202] Node, M.; Hori, H.; Fujita, E., *J. Chem. Soc. Perkin Trans. 1*, **1976**, 2237 – 2241.
- [203] Fuji, K.; Ichikawa, K.; Node, M.; Fujita, E., *J. Org. Chem.* **1979**, *44*, 1661 – 1664.
- [204] McOmie, J.F.W.; West, D.E., *Org. Synth.*, Vol. V, **1973**, 412.
- [205] Williard, P.G.; Fryhle, C.R., *Tetrahedron Lett.* **1980**, *21*, 3731 – 3738.
- [206] Forth, W.; Henschler, D.; Rummel, W.; Förstermann, U.; Starke, K., *Allgemeine und spezielle Pharmakologie und Toxikologie*; 8. Aufl., München, Jena : Urban & Fischer. Verl., **2001**, S. 525 – 527.
- [207] Silverman, R.B., *Medizinische Chemie für Organiker, Biochemiker und pharmazeutische Chemiker*; Weinheim : VCH, **1995**, S. 59.
- [208] Glennon, R.A.; Dukat, M.; El-Bermawy, M.; Law, H.; De Los Angeles, J.; Teitler, M.; King, A.; Herrick-Davis, K., *J. Med. Chem.* **1994**, *37*, 1929 – 1935.
- [209] Hine, J.; Yeh, C.Y., *J. Am. Chem. Soc.* **1967**, *89*, 2669 – 2676.
- [210] Carey, F.A.; Sundberg, R.J., *Organische Chemie: Ein weiterführendes Lehrbuch*; Weinheim : VCH, **1995**, S. 432 – 438.
- [211] (a) Sayer, J.M.; Peskin, M.; Jencks, W.P., *J. Am. Chem. Soc.* **1973**, *95*, 4277 – 4287.  
(b) Jencks, W.P., *Prog. Phys. Org. Chem.* **1964**, *2*, 63.
- [212] (a) Borch, F.R.; Bernstein, M.D.; Durst, H.D., *J. Am. Chem. Soc.* **1971**, *93*, 2897 – 2904. (b) Hutchins, R.O.; Hutchins, M.K., in *Handbook of Reagents for Organic Synthesis: Oxidizing and Reducing Agents*; Burke, S.D.; Danheiser, R.L., Eds.; Chichester : John Wiley & Sons, **1999**, S. 401 – 405.  
(c) Seyden-Penne J., *Reductions by the alumino- and borohydrides in organic synthesis*; 2<sup>nd</sup> Edition, New York : Wiley-VCH, **1997**, S. 122 – 130.

- [213] Imine oder Iminium-Ionen wurden als mögliche Intermediate bei reduktiven Aminierungen *via* katalytischer Hydrierung (a) und unter Verwendung von Metall-Hydriden (b) postuliert, siehe: (a) Emerson, W.S., *Org. React.* **1948**, *4*, 174 – 255. (b) Schellenberg, K.A., *J. Org. Chem.* **1963**, *28*, 3259– 3261.
- [214] (a) Abdel-Magid, A.F.; Carson, K.G.; Harris, B.D.; Maryanoff, C.A.; Shah, R.D., *J. Org. Chem.* **1996**, *61*, 3849 – 3862. (b) Gribble, G.W., in *Handbook of Reagents for Organic Synthesis: Oxidizing and Reducing Agents*; Burke, S.D.; Danheiser, R.L., Eds.; Chichester : John Wiley & Sons, **1999**, S. 429 – 432.
- [215] Tadanier, J.; Hallas, R.; Martin, J.R.; Stanaszek, R.S., *Tetrahedron* **1981**, *37*, 1309 – 1316.
- [216] (a) Emerson, W.S.; Ura-neck, C.A., *J. Am. Chem. Soc.* **1941**, *63*, 749 – 751.  
(b) Johnson, H.E.; Crosby, D.G.; *J. Org. Chem.* **1962**, *27*, 2205 – 2207.  
(c) Klyuev, M.V.; Khidekel, M.L., *Russ. Chem. Rev.* **1980**, *49*, 14 – 27.
- [217] Hutchins, R.O.; Hutchins, M.K., *Reduction of C=N to CHNH by Metal Hydrides*, in *Comprehensive Organic Synthesis*; Trost, B.N.; Fleming, I., Eds.; New York : Pergamon Press, **1991**; Vol. 8, S. 25.
- [218] Banfi, L.; Narisano, E.; Riva, R., in *Handbook of Reagents for Organic Synthesis: Oxidizing and Reducing Agents*; Burke, S.D.; Danheiser, R.L., Ed.; Chichester : John Wiley & Sons, **1999**, S. 394 – 400.
- [219] (a) Pelter, A.; Rosser, R.M.; Mills, S., *J. Chem. Soc. Perkin Trans. 1*, **1984**, 717.  
(b) Bomann, M.D.; Guch, I.C.; DiMare, M., *J. Org. Chem.* **1995**, *60*, 5995 – 5996.
- [220] Mattson, R.J.; Pham, K.M.; Leuck, D.J.; Cowen, K.A., *J. Org. Chem.* **1990**, *55*, 2552 – 2554.
- [221] Bhattacharyya, S.; Chatterjee, A.; Duttachowdhury, S.K., *J. Chem. Soc. Perkin Trans. 1*, **1994**, 1 – 2.
- [222] Yoon, N.M.; Kim, E.G.; Son, H.S.; Joi, J., *Synth. Commun.* **1993**, *23*, 1595.
- [223] Taylor, M.E.; Fletcher, T.L., *J. Org. Chem.* **1961**, *26*, 940 – 942.
- [224] Billman, J.H.; Tai, K.M., *J. Org. Chem.* **1958**, *23*, 535 – 539.
- [225] (a) Weingarten, H.; Chupp, J.P.; White, W.A., *J. Org. Chem.* **1967**, *32*, 3246 – 3249.  
(b) Carlson, R.; Larsson, U.; Hansson, L., *Acta Chem. Scand.* **1992**, *46*, 1211 – 1214.  
(c) Moss, N.; Gauthier, J.; Ferland, J.M., *Synlett* **1995**, *2*, 142 – 144.  
(d) Whitesell, J.K., in *Comprehensive Organic Synthesis*; Winterfeld, E., Ed.; Oxford : Pergamon Press, **1991**; Vol. 6, S. 705.
- [226] Love, B.E.; Ren, J., *J. Org. Chem.* **1993**, *58*, 5556 – 5557.
- [227] Vollhard, K.P.C.; Schore, N.E., *Organische Chemie*; 2. Aufl., Weinheim : VCH, **1995**, S. 947 – 948.
- [228] Gribble, G.W.; Nutaitis, C.F., *Org. Prep. Proced. Int.* **1985**, *17*, 317 – 384.
- [229] (a) Gribble, G.W.; Ferguson, D.C., *J. Chem. Soc. Chem. Commun.* **1975**, 535 – 536.  
(b) Nutaitis, C.F.; Gribble, G.W., *Tetrahedron Lett.* **1983**, *24*, 4287 – 4290.
- [230] Skita, A.; Keil, F., *Chem. Ber.* **1928**, *61B*, 1452 – 1459.
- [231] (a) Krause, M., *Synthese, Röntgenstrukturanalyse und Pharmakologie neuer Prodrugs des Agonisten (R)- $\alpha$ -Methylhistamin sowie von Antagonisten des Histamin-H<sub>3</sub>-Rezeptors*, Dissertation; Freie Universität Berlin, **1996**, S. 33 – 46. (b) Krause, M.; Roleau, A.; Stark, H.; Luger, P.; Lipp, R.; Garbarg, M.; Schwartz, J.-C.; Schunack, W., *J. Med. Chem.* **1995**, *38*, 4070 – 4079. (c) Krause, M.; Roleau, A.; Stark, H.; Luger, R.; Garbarg, M.; Schwartz, J.-C.; Schunack, W., *Arch. Pharm. Pharm. Med. Chem.* **1996**, *329*, 209 – 215.

- [232] Titeler, M.; Herrick, K.; Lyon, R.A.; McKenney, J.D.; Glennon, R.A., *Eur. J. Pharmacol.* **1985**, *117*, 145 – 146.
- [233] Mathis, C.A.; Hoffman, A.J.; Nichols, D.E.; Shulgin, A.T., *J. Labelled Comp. Radiopharmaceut.* **1988**, *25*, 1255 – 1265.
- [234] Nichols, D.E.; Frescas, S.; Marona-Lewicka, D.; Huang, X.; Roth, B.L.; Gudelsky, G.A.; Nash, J.F., *J. Med. Chem.* **1994**, *37*, 4346 – 4351.
- [235] Johnson, M.P.; Mathis, C.A.; Shulgin, A.T.; Hoffman, A.J.; Nichols, D.E., *Pharmacol. Biochem. Behav.* **1990**, *35*, 211 – 217.
- [236] (a) Knoevenagel, E., *Ber. Dtsch. Chem. Ges.* **1896**, *29*, 172 – 174.  
(b) Knoevenagel, Walter, *Ber. Dtsch. Chem. Ges.* **1904**, *37*, 4502 – 4510.
- [237] Jones, G., *Org. React.* **1967**, *15*, 204 – 599.
- [238] Henry, L., *Compt. rend.* **1895**, *121*, 211.
- [239] Hassner, A.; Stumer, C., *Organic syntheses based on name reactions and unnamed reactions*; Oxford : Elsevier Science Ltd., **1995**, S. 165.
- [240] Ho, B.T.; Mclsaac, W.M.; An, R.; Wayne Tansey, L.; Walker, K.E.; Englert, L.F.; Noel, M.B., *J. Med. Chem.* **1970**, *13*, 26 – 30.
- [241] Gairaud, C.B.; Lappin, G.R., *J. Org. Chem.* **1953**, *18*, 1 – 3.
- [242] Raiford, L.C.; Fox, D.E., *J. Org. Chem.* **1944**, *9*, 170 – 174.
- [243] Carey, F.A.; Sundberg, R.J., *Organische Chemie: Ein weiterführendes Lehrbuch*; Weinheim : VCH, **1995**, S. 830 – 832.
- [244] Barfknecht, C.F.; Nichols, D.E., *J. Med. Chem.* **1971**, *14*, 370 – 372.
- [245] Ramirez, F.A.; Burger A., *J. Am. Chem. Soc.* **1950**, *72*, 2781 – 2782.
- [246] Benington, F.; Morin, R.D.; Clark, L.C., *J. Org. Chem.* **1954**, *19*, 11 – 16.
- [247] Giannis, A.; Sandhoff, K., *Angew. Chem.* **1989**, *101*, 220 – 222.
- [248] Gugelchuk, M., in *Handbook of Reagents for Organic Synthesis: Oxidizing and Reducing Agents*; Burke, S.D.; Danheiser, R.L., Ed.; Chichester : John Wiley & Sons, **1999**, S. 392 – 394.
- [249] Seyden-Penne J., *Reductions by the alumino- and borohydrides in organic synthesis*; 2<sup>nd</sup> Edition, New York : Wiley-VCH, **1997**, S. 3 – 4.
- [250] Butterick, J.R.; Unrau, A.M., *J. Chem. Soc. Chem. Commun.* **1974**, 307 – 308.
- [251] Mourad, M.S.; Varma, R.S.; Kabalka, G.W., *Synth. Commun.* **1984**, *14*, 1099 – 1104.
- [252] Varma, R.S.; Kabalka, G.W., *Synth. Commun.* **1985**, *15*, 843 – 847.
- [253] (a) Stock, L.M.; Brown, H.C., *Adv. Phys. Org. Chem.* **1963**, *1*, 35 – 37.  
(b) Brown, H.C.; Stock, L.M., *J. Am. Chem. Soc.* **1957**, *79*, 1421 – 1425.  
(c) Caille, S.Y.; Corriu, R.J.P., *Tetrahedron* **1969**, *25*, 2005 – 2022.
- [254] Merkushev, E.B., *Synthesis* **1988**, 923 – 937.
- [255] (a) Wirth, H.O.; Königstein, O.; Kern, W., *Liebigs Ann. Chem.* **1960**, 634, 84.  
(b) Ahmad, S.; Razaq, S., *Tetrahedron* **1976**, *32*, 503 – 506.  
(c) Suzuki, H.; Nakamura, K.; Goto, R., *Bull. Chem. Soc. Jpn.* **1966**, *39*, 128.  
(d) Suzuki, H., *Bull. Chem. Soc. Jpn.* **1970**, *43*, 481.  
(e) Suzuki, H., *Org. Synth.* **1971**, *51*, 94 – 95.
- [256] (a) Merkushev, E.B., *Russian Chem. Rev.* **1984**, *53*, 343 – 350.

- (b) Merkushev, E.B., *Usp. Khim.* **1984**, *53*, 583.
- [257] (a) Ogata, Y.; Nakajima, K., *Tetrahedron* **1964**, *20*, 43 – 47.  
(b) Ogata, Y.; Nakajima, K., *Tetrahedron* **1964**, *20*, 2751 – 2754.  
(c) Ogata, Y.; Urasaki, I.; Ishibashi, T., *J. Chem. Soc., Perkin Trans. 1*, **1972**, 180 – 184.
- [258] Keefer, R.M.; Andrews, L.J., *J. Am. Chem. Soc.* **1956**, *78*, 5623 – 5627.
- [259] (a) Henne, A.L.; Zimmer, W.F., *J. Am. Chem. Soc.* **1951**, *73*, 1362 – 1363.  
(b) Hazeldine, R.N.; Sharpe, A.G., *J. Chem. Soc.* **1952**, 993 – 1001.  
(c) Chen, E.M.; Keefer, R.M.; Andrews, L.J., *J. Am. Chem. Soc.* **1967**, *89*, 428 – 430.
- [260] Brown, E.; Robin, J.-P., *Tetrahedron Lett.* **1977**, *18*, 2015 – 2018.
- [261] Fridman, A.L., *Zh. Vses. Khim. Obshchest.* **1977**, *22*, 110; *C.A.* **1977**, *86*, 189070.
- [262] Barnett, J.R.; Andrews, L.J.; Keefer, R.M., *J. Am. Chem. Soc.* **1972**, *94*, 6129 – 6134.
- [263] Glennon, R.A.; Young, R.; Benington, F.; Morin, R.D., *J. Med. Chem.* **1982**, *25*, 1163 – 1168.
- [264] Berliner, E., *Org. React.* **1949**, *5*, 229 – 289.
- [265] Nordlander, J.E.; Payne, M.J.; Njoroge, F.G.; Balk, M.A.; Laikos, G.D.; Vishwanath, V.M., *J. Org. Chem.* **1984**, *49*, 4107 – 4111.
- [266] Chambers, J.J.; Kurrasch-Orbaugh, D.M.; Parker, M.A.; Nichols, D.E., *J. Med. Chem.* **2001**, *44*, 1003 – 1010.
- [267] Kamatani, A.; Overman, L.E., *J. Org. Chem.* **1999**, *111*, 314 – 321.
- [268] (a) Curtius, T., *Ber. Dtsch. Chem. Ges.* **1890**, *23*, 3023 – 3041.  
(b) Smith, P.A.S., *Org. React.* **1946**, *3*, 337 – 449.
- [269] (a) Wolfrom, M.L.; Mc Fadden, G.H.; Chaney, A., *J. Org. Chem.* **1961**, *26*, 2597 – 2599. (b) Hart, D.; von Dornat, A.E., *Bull. Soc. Chim. Belg.* **1956**, *65*, 291. (c) Wieber, G.M.; Hegedus, L.S.; Åkermark, B.; Michalson, E.T., *J. Org. Chem.* **1989**, *54*, 4649 – 4653.
- [270] (a) Shioiri, T.; Ninomiya, K.; Yamada, S., *J. Am. Chem. Soc.* **1972**, *94*, 6203 – 6205.  
(b) Ninomiya, K.; Shioiri, T.; Yamada, S., *Chem. Pharm. Bull.* **1974**, *22*, 1398 – 1404.  
(c) Ninomiya, K.; Shioiri, T.; Yamada, S., *Tetrahedron* **1974**, *30*, 2151 – 2157.
- [271] (a) Kim, D.; Weinreb, M., *J. Org. Chem.* **1978**, *43*, 125 – 131.  
(b) Eaton, P.E.; Ravi Shankar, B.K., *J. Org. Chem.* **1984**, *49*, 185 – 186.  
(c) Mylari, B.L.; Beyer, T.A.; Siegel, T.W., *J. Med. Chem.* **1991**, *34*, 1011 – 1018.
- [272] Ritter, K., *Synthesis*, **1993**, 735 – 762.
- [273] (a) Oh-e, T.; Miyaura, N.; Suzuki, A., *Synlett* **1990**, 221 – 223.  
(b) Huth, A.; Beez, I.; Schumann, I., *Tetrahedron* **1989**, *45*, 6679 – 6682.  
(c) Shieh, W.-C.; Carlson, J.A., *J. Org. Chem.* **1992**, *57*, 379 – 381.
- [274] (a) Ziegler, F.E.; Schwartz, J.A., *J. Org. Chem.* **1978**, *43*, 985 – 991.
- [275] (a) Matsumoto, T.; Hosoya, T.; Suzuki, K., *J. Am. Chem. Soc.* **1992**, *114*, 3568 – 3570. (b) Hosoya, T.; Takashiro, E.; Matsumoto, T.; Suzuki, K., *J. Am. Chem. Soc.* **1994**, *116*, 1004 – 1015.
- [276] Hoye, T.R.; Martin, S.J.; Peck, D.R., *J. Org. Chem.* **1982**, *47*, 331 – 337.
- [277] (a) Parham, W.E.; Jones, L.D., *J. Org. Chem.* **1976**, *41*, 1187 – 1191.  
(b) Parham, W.E.; Piccirilli, R.M., *J. Org. Chem.* **1977**, *42*, 257 – 260.

- [278] (a) Brown, H.C.; Knights, E.F.; Scouten, C.G., *J. Am. Chem. Soc.* **1974**, *96*, 7765 – 7770. (b) Zweifel, G.; Brown, H.C., *Org. React.* **1963**, 1 – 54. (c) Brown, H.C., *Organic Synthesis via Boranes*; New York: Wiley, **1975**.
- [279] Oh-e, T.; Miyaura, N.; Suzuki, A., *J. Org. Chem.* **1993**, *58*, 2201 – 2208.
- [280] Der gleiche Autor berichtet an anderer Stelle von einer relativen Reaktivität: I > OTf > Br >> Cl. Miyaura, N.; Suzuki, A., *Chem. Rev.* **1995**, *95*, 2457 – 2483.
- [281] Snieckus *et al.* publizierten für Arylhalogenide *resp.* -triflate eine relative Reaktivität in der Reihenfolge: I > Br > OTf. Fu, J.-M.; Snieckus, V., *Tetrahedron Lett.* **1990**, *31*, 1665 – 1668.
- [282] Kawada, K.; Arimura, A.; Tsuru, T.; Fujii, M.; Komurasaki, T.; Yonezawa, S.; Kugimiya, A.; Haga, N.; Mitsumori, S.; Inagaki, M.; Nakatani, T.; Tamura, Y.; Takechi, S.; Taishi, T.; Kishino, J.; Ohtani, M., *Angew. Chem.* **1998**, *110*, 1015 – 1017.
- [283] Stanforth, S.P., *Tetrahedron* **1998**, *54*, 263 – 303.
- [284] (a) Kalinowski, H.-O.; Berger, S.; Braun, S., <sup>13</sup>C-NMR-Spektroskopie; Stuttgart, New York : Thieme, **1984**, S. 149 – 150. (b) Friebolin, H., *Ein- und zweidimensionale NMR-Spektroskopie: Eine Einführung*, 3. Aufl., Weinheim, New York : Wiley-VCH, **1999**, S. 62.
- [285] Hesse, M.; Meier, M.; Zeeh, B., *Spektroskopische Methoden in der organischen Chemie*; 5. Aufl., Stuttgart, New York : Thieme, **1995**, S. 304.
- [286] Ben-Ishai, D.; Berger, A., *J. Org. Chem.* **1952**, *17*, 1564 – 1570.
- [287] (a) Hayashi, T.; Konishi, M.; Kumada, M., *Tetrahedron Lett.* **1979**, *21*, 1871 – 1874. (b) Hayashi, T.; Konishi, M.; Kobori, Y.; Kumada, M.; Higuchi, T.; Hirotsu, K., *J. Am. Chem. Soc.* **1984**, *106*, 158 – 163.
- [288] (a) Tamao, K.; Kiso, Y.; Sumitani, K.; Kumada, M., *J. Am. Chem. Soc.* **1972**, *94*, 9268 – 9269. (b) Kiso, Y.; Tamao, K.; Kumada, M., *J. Organomet. Chem.* **1973**, *50*, C12 – C14. (c) Bergstrom, D.E.; Ogawa, M.K., *J. Am. Chem. Soc.* **1978**, *100*, 8106 – 8112.
- [289] Castle, P.L.; Widdowson, D.A., *Tetrahedron Lett.* **1986**, *27*, 6013 – 6016.
- [290] (a) Miyaura, N.; Ishiyama, T.; Ishikawa, M.; Suzuki, A., *Tetrahedron Lett.* **1986**, *27*, 6369 – 6376. (b) Miyaura, N.; Ishiyama, T.; Sasaki, H.; Ishikawa, M.; Satoh, M.; Suzuki, A., *J. Am. Chem. Soc.* **1989**, *111*, 314 – 321.
- [291] (a) Whitesides, G.M.; Gaash, J.F.; Stedronsky, E.R., *J. Am. Chem. Soc.* **1972**, *94*, 5258. (b) Reger, D.L.; Culbertson, E.C.; *J. Am. Chem. Soc.* **1976**, *98*, 2789 – 2794. (c) Grubbs, R.H.; Miyashita, A.; Liu, M.; Burk, P., *J. Am. Chem. Soc.* **1978**, *100*, 2418 – 2425.
- [292] Bradsmas, L.; Vasilevsky, S.F.; Verkruijsse, H.D., *Application of Transition Metal Catalysts in Organic Synthesis*; Berlin, Heidelberg : Springer, **1999**, S. 228 – 231.
- [293] (a) Negishi, E., *Acc. Chem. Res.* **1982**, *15*, 340 – 348. (b) Kumada, M., *Pure Appl. Chem.* **1980**, *52*, 669 – 679. (c) Heck, R.F., *Palladium Reagents in Organic Syntheses*; New York : Academic Press, **1985**.
- [294] (a) Bradsmas, L.; Vasilevsky, S.F.; Verkruijsse, H.D., *Application of Transition Metal Catalysts in Organic Synthesis*; Berlin, Heidelberg : Springer, **1999**, S. 242 – 244. (b) Farina, V.; Krishnamurthy, V.; Scott, W., *Org. React.* **1997**, *50*, 1 – 652.
- [295] Suzuki, A., *Pure Appl. Chem.* **1991**, *63*, 419 – 422.
- [296] Negishi, E.; Takahashi, T.; Baba, S.; van Horn, D.E.; Okukado, N., *J. Am. Chem. Soc.* **1987**, *109*, 2293 – 2401.

- [297] Wadman, S.; Whitby, R.; Yeates, C.; Kocienski, P.; Cooper, K., *J. Chem. Soc. Chem. Commun.* **1987**, 241 – 243.
- [298] (a) Suzuki, A., *J. Organomet. Chem.* **1999**, 576, 147 – 168.  
(b) Miyaura, N.; Suzuki, A., *Chem. Rev.* **1995**, 95, 2457 – 2483.
- [299] (a) Bumagin, N.A.; Bykov, V.V., *Tetrahedron* **1997**, 53, 14437 – 14450. (b) Wallow, T.I.; Novak, B.M., *J. Org. Chem.* **1994**, 59, 5034 – 5037. (c) Moreno-Mañas, M.; Pajuelo, F.; Pleixats, R., *J. Org. Chem.* **1995**, 60, 2396 – 2397. (d) Badone, D.; Baroni, M.; Cardamone, R.; Iellini, A.; Guzzi, U., *J. Org. Chem.* **1997**, 62, 7170 – 7173. (e) Goodson, F.E.; Wallow, T.I.; Novak, B.M., *Org. Synth.* **1997**, 75, 61 – 68.
- [300] (a) Reetz, M.T.; Westermann, E., *Angew. Chem.* **2000**, 112, 170 – 173.  
(b) Reetz, M.T.; Breinbauer, R.; Wanninger, K., *Tetrahedron Lett.* **1996**, 37, 4499 – 4502.
- [301] (a) Amatore, C.; Broeker, G.; Jutand, A.; Khalil, F., *J. Am. Chem. Soc.* **1997**, 119, 5176 – 5185.  
(b) Amatore, C.; Jutand, A.; Suarez, A., *J. Am. Chem. Soc.* **1993**, 115, 9531 – 9541.  
(c) Amatore, C.; Pflüger, F., *Organometallics* **1990**, 9, 2276 – 2282.
- [302] Casado, A.L.; Espinet, P., *Organometallics* **1998**, 17, 954 – 959.
- [303] Aliprantis, A.O.; Canary, J.W., *J. Am. Chem. Soc.* **1994**, 116, 6985 – 6986.
- [304] Minniti, D., *Inorg. Chem.* **1994**, 33, 2631 – 2634.
- [305] (a) Tatsumi, K.; Hoffmann, R.; Yamamoto, A.; Stille, J.K., *Bull. Chem. Soc. Jpn.* **1981**, 54, 1857 – 1867. (b) Ozawa, F.; Ito, T.; Nakamura, Y.; Yamamoto, A., *Bull. Chem. Soc. Jpn.* **1981**, 54, 1868 – 1880. (c) Komiya, S.; Albright, T.A.; Hoffmann, R.; Kochi, J.K., *J. Am. Chem. Soc.* **1976**, 98, 7255 – 7265.
- [306] Matos, K.; Sonderquist, J.A., *J. Org. Chem.* **1998**, 63, 461 – 470.
- [307] Ridgway, B.H.; Woerpel, K.A., *J. Org. Chem.* **1998**, 63, 458 – 460.
- [308] Labinger, J.A.; Hart, D.W.; Seibert, W.E.; Schwartz, J., *J. Am. Chem. Soc.* **1975**, 97, 3851 – 3852.
- [309] Miyaura, N.; Yanagi, T.; Suzuki, A., *Synth. Commun.* **1981**, 11, 513 – 519.
- [310] Gillie, A.; Stille, J.K., *J. Am. Chem. Soc.* **1980**, 102, 4933 – 4941.
- [311] (a) Ozawa, F.; Ito, T.; Yamamoto, A., *J. Am. Chem. Soc.* **1980**, 102, 6457 – 6463.  
(b) Ozawa, F.; Kurihara, K.; Yamamoto, T.; Yamamoto, A., *Bull. Chem. Soc. Jpn.* **1985**, 58, 399 – 400.  
(c) Ozawa, F.; Hidaka, T.; Yamamoto, T.; Yamamoto, A., *J. Organomet. Chem.* **1987**, 330, 253 – 255.  
(d) Ozawa, F.; Kurihara, K.; Fujimori, M.; Hidaka, T.; Toyoshima, T.; Yamamoto, A., *Organometallics* **1989**, 8, 180 – 188.
- [312] Ozawa, F.; Yamamoto, A., *Chem. Soc. Jpn.* **1987**, 773 – 774.
- [313] (a) Driver, M.S.; Hartwig, J.F., *J. Am. Chem. Soc.* **1996**, 118, 7217 – 7218.  
(b) Driver, M.S.; Hartwig, J.F., *J. Am. Chem. Soc.* **1997**, 119, 8232 – 8245.  
(c) Hartwig, J.F., *Angew. Chem.* **1998**, 110, 2154 – 2177.
- [314] Analoge Platin(IV)-Spezies wurden durch Addition von Alkylhalogeniden an Diorgano-Pt<sup>II</sup>-Komplexe erhalten, die anschließend reduktive Eliminierungsreaktionen eingingen.  
(a) Chatt, J.; Shaw, B.L., *J. Chem. Soc.* **1959**, 705, 4020 – 4033.  
(b) Clark, H.C.; Manzer, L.E., *Inorg. Chem.* **1973**, 12, 362 – 368.  
(c) Brown, M.P.; Puddephatt, R.J.; Upton, C.E.E., *J. Organomet. Chem.* **1973**, 49, C61.  
(d) Usón, R.; Royo, P.; Forniés, J.; Martínez, F., *J. Organomet. Chem.* **1975**, 90, 367 – 374.  
(e) Young, G.B.; Whitesides, G.M., *J. Am. Chem. Soc.* **1978**, 100, 5808 – 5815.



- [315] (a) Milstein, D.; Stille, J.K., *J. Am. Chem. Soc.* **1979**, *101*, 4981 – 4991.  
(b) Milstein, D.; Stille, J.K., *J. Am. Chem. Soc.* **1979**, *101*, 4992 – 4998.
- [316] (a) Glennon, R.A.; Seggel, M.R. In *Probing Bioactive Mechanisms*; Magee, P.S.; Henry, D.; Block, J., Eds.; Washington, DC : American Chemical Society, **1989**, S. 264 – 280.
- [317] (a) Shulgin, A.T., *Handb. Psychopharmacol.* **1978**, *11*, 243. (b) Shulgin, A.T.; Dyer, D.C., *J. Med. Chem.* **1975**, *18*, 1201 – 1204. (c) Aldous, F.A.B.; Barrass, B.C.; Brewster, K.; Buxton, D.A.; Green, D.M.; Pinder, R.M.; Rich, P.; Skeels, M.; Tutt, K.J., *J. Med. Chem.* **1974**, *17*, 1100 – 1111.  
(d) Geyer, M.A.; Petersen, L.R.; Rose, G.J.; Horwitt, D.D.; Light, R.K.; Adams, L.M.; Zook, J.A.; Hawkins, R.L.; Mandell, A.J., *J. Pharmacol. Exp. Ther.* **1978**, *207*, 837 – 847.
- [318] (a) Domelsmith, L.N.; Eaton, T.A.; Houk, K.N.; Anderson, G.A.; Glennon, R.A.; Shulgin, A.T.; Castagnoli, N., Jr.; Kollman, P.A., *J. Med. Chem.* **1981**, *24*, 1414 – 1421.  
(b) Clare, B.W., *J. Med. Chem.* **1990**, *33*, 687 – 702.
- [319] (a) Pauling, L., in *The Nature of the Chemical Bond*; 3<sup>rd</sup> Ed.; Ithaca, New York : Cornell University Press, **1960**, S. 96. (b) Huheey, J.E., *J. Phys. Chem.* **1965**, *69*, 3284 – 3291.
- [320] McClinton, M.A.; McClinton, D.A., *Tetrahedron* **1992**, *48*, 6555 – 6666.
- [321] (a) Mann, J., *Chem. Soc. Rev.* **1987**, *16*, 381 – 436.  
(b) Welch, J.T., *Tetrahedron* **1987**, *43*, 3123 – 3197.
- [322] Krishnamurti, R.; Bellew, D.R.; Surya Prakash, G.K., *J. Org. Chem.* **1991**, *56*, 984 – 989.
- [323] Gerstenberger, M.R.C.; Haas, A., *Angew. Chem. Int. Ed. Engl.* **1981**, *20*, 647.
- [324] Wiemers, D.M.; Burton, D.J., *J. Am. Chem. Soc.* **1986**, *108*, 832 – 834.
- [325] Su, D.B.; Duan, J.-X.; Chen, Q.-Y., *Tetrahedron Lett.* **1991**, *32*, 7689 – 7690.
- [326] (a) Cohen, T.; Wood, J.; Dietz, A.G., *Tetrahedron Lett.* **1974**, 3555 – 3558.  
(b) Lindley, J., *Tetrahedron* **1984**, *48*, 1433 – 1456. (c) Jenkins, P.R., *Metallorganische Reagentien in der Organischen Synthese, Basistext Chemie*; Davies, G.S.; Compton, R.G.; Evans, J., Hrsg.; Weinheim : VCH, **1995**, Bd. 7, S. 21 – 25. (d) Carey, F.A.; Sundberg, R.J., *Organische Chemie: Ein weiterführendes Lehrbuch*; Weinheim : VCH, **1995**, S. 1354 – 1355. (e) Brückner R., *Reaktionsmechanismen: Organische Reaktionen, Stereochemie, moderne Synthesemethoden*; Heidelberg, Berlin, Oxford : Spektrum Akad. Verl. **1996**, S. 464 – 466.
- [327] (a) Wheaton, G.A.; Burton, D.J., *J. Fluorine Chem.* **1976**, *8*, 97 – 100.  
(b) Wheaton, G.A.; Burton, D.J., *J. Org. Chem.* **1978**, *43*, 2643 – 2651.
- [328] (a) Bergeron, R.J., McManis, J.S., *J. Org. Chem.* **1988**, *53*, 3108 – 3111.  
(b) Boger, D.L.; Yohannes, D., *J. Org. Chem.* **1989**, *54*, 2498 – 2502.  
(c) Newman, H., *J. Org. Chem.* **1965**, *30*, 1287 – 1288.  
(d) O'Sullivan, M.C.; Dalrymple, D.M., *Tetrahedron Lett.* **1995**, *36*, 3451 – 3452.  
(e) Quick, J.; Meltz, C., *J. Org. Chem.* **1979**, *44*, 573 – 578.
- [329] Monte, A.P.; Marona-Lewicka, D.; Parker, M.A.; Wainscott, D.B.; Nelson, D.L.; Nichols, D.E., *J. Med. Chem.* **1996**, *39*, 2953 – 2961.
- [330] Nichols, D.E., in *Amphetamine and its Analogs: Psychopharmacology, Toxicology and Abuse*; Cho, A.K.; Segal, D.S., Eds.; San Diego : Academic Press, Inc., **1994**, S. 3 – 41.
- [331] (a) Trumpp-Kallmeyer, S.; Hoflack, J.; Bruinvels, A.; Hibert, M., *J. Med. Chem.* **1992**, *35*, 3448 – 3462.  
(b) Westkaemper, R.B.; Glennon, R.A., *Molecular Modelling for the Interaction of LSD and other*

- Hallucinogens with 5-HT<sub>2</sub>-Receptors*; in *NIDA Research Monograph 146, Hallucinogens: An Update*; Lin, G.C.; Glennon, R.A., Eds.; NIH Publication No. 94-3872; Rockville : NIDA **1994**, S. 263 – 283.
- [332] Monte, A.P.; Marona-Lewicka, D.; Cozzi, N.V.; Nichols, D.E., *J. Med. Chem.* **1993**, *36*, 3700 – 3706.
- [333] Monte, A.P.; Marona-Lewicka, D.; Cozzi, N.V.; Nelson, D.L.; Nichols, D.E., *Med. Chem. Res.* **1995**, *5*, 651 – 663.
- [334] (a) Nichols, D.E.; Hoffman, A.J.; Oberlender, R.A.; Riggs, R.M., *J. Med. Chem.* **1986**, *29*, 302 – 304.  
(b) Nichols, D.E.; Snyder, S.E.; Oberlender R.; Johnson, M.P.; Huang, X., *J. Med. Chem.* **1991**, *34*, 276 – 281.
- [335] Bladé-Font, A.; Rocabayera, T.M., *J. Chem. Soc. Perkin Trans. 1* **1982**, 841 – 848.
- [336] Caldwell, W.T.; Thompson, T.R., *J. Am. Chem. Soc.* **1939**, *61*, 765.
- [337] Beyer, H.; Walter, W., *Lehrbuch der organischen Chemie*; 19. Aufl., Stuttgart : Hirzel **1981**, S. 483 – 485.
- [338] Lee, J.C.; Yuk, J.Y.; Cho, S.H., *Synth. Commun.* **1995**, *25*, 1367 – 1370.
- [339] Sijbesma, R.P.; Nolte, R.J.M., *Recl. Trav. Chim. Pays-Bas* **1993**, *112*, 643 – 647.
- [340] Parham, W.E.; Jones, L.D.; Sayed, Y.A., *J. Org. Chem.* **1976**, *41*, 1184 – 1186.
- [341] Chambers, J.J.; Kurrasch-Orbaugh, D.M.; Parker, M.A.; Nichols, D.E., *J. Med. Chem.* **2001**, *44*, 1003 – 1010.
- [342] (a) Rieche, A.; Gross, H.; Höft, E., *Chem. Ber.* **1960**, *93*, 88 – 94.  
(b) Gross, H.; Rieche, A.; Matthey, G., *Chem. Ber.* **1963**, *96*, 308 – 313.  
(c) Rieche, A.; Gross, H.; Höft, E., *Org. Synth.* **1967**, *47*, 1 – 3.  
(d) DeHaan, F.P.; Delker, G.L.; Covey, W.D.; Bellomo, A.F.; Brown, J.A.; Ferrara, D.M.; Haubrich, R.H.; Lander, E.B.; MacArthur, C.J.; Meinhold, R.W.; Neddenriep, D.; Schubert, D.M.; Stewart, R.G., *J. Org. Chem.* **1984**, *49*, 3963 – 3966.
- [343] Gattermann, L.; Koch, J.A., *Ber. Dtsch. Chem. Ges.* **1897**, *30*, 1622 – 1624.
- [344] Wightman, R.H.; Laycock, D.E.; Avdovich, H.W., *J. Org. Chem.* **1978**, *43*, 2167 – 2170.
- [345] Baker, R.; Castro, J.L., *J. Chem. Soc. Perkin Trans. 1* **1990**, 47 – 65.
- [346] Parker, M.A.; Marona-Lewicka, D.; Lucaites, V.L.; Nelson, D.L.; Nichols, D.E., *J. Med. Chem.* **1998**, *41*, 5148 – 5149.
- [347] (a) Stanetty, P.; Pürstinger G., *J. Chem. Res.* **1991**, Synopses, (3), 78.  
(b) Haefliger, W.; Klöppner, E., *Helv. Chim. Acta* **1982**, *65*, 1837 – 1852.  
(c) Piozzi, F.; Venturella, P.; Bellino, A., *Org. Prep. Proc. Int.* **1971**, *3*, 223 – 226.  
(d) Godard, A.; Jacquelin, J.M.; Queguiner, G., *J. Heterocycl. Chem.* **1988**, *25*, 1053 – 1054.  
(e) Liu, Y.-Y.; Thom, E.; Liebman, A.A., *J. Heterocycl. Chem.* **1979**, *16*, 799 – 801.  
(f) Moron, J.; Bisagni, E., *J. Heterocycl. Chem.* **1986**, *23*, 1637 – 1639.
- [348] (a) Buckle, D.R., in *Handbook of Reagents for Organic Synthesis: Oxidizing and Reducing Agents*; Burke, S.D.; Danheiser, R.L., Ed.; John Wiley & Sons: Chichester, **1999**, S. 137 – 141. (b) Walker, D.; Hiebert, J.D., *Chem. Rev.* **1967**, *67*, 153 – 195.
- [349] Giardinà, D.; Marrazzo, A.; Marucci, G.; Piloni, M.G.; Quaglia, W., *Il Farmaco* **1991**, *46*, 861 – 872.
- [350] Kinbara, K.; Sakai, K.; Hashimoto, Y.; Nohira, H.; Saigo, K., *Tetrahedron : Asymmetry* **1996**, *7*, 1539 – 1542.

- [351] Eliel, E.L.; Wilen, S.H., *Organische Stereochemie*; Hopf, H.; Mulzer, J., Hrsg., Weinheim, New York : Wiley-VCH, **1998**, S. 232 – 239.
- [352] Kagan, H.B.; Fiaud, J.C., *Kinetic Resolution*; in *Topics in Stereochemistry*; Vol. 18, John Wiley & Sons, **1988**, S. 249 – 330.
- [353] Eliel, E.L.; Wilen, S.H., *Organische Stereochemie*; Hopf, H.; Mulzer, J., Hrsg., Weinheim, New York : Wiley-VCH, **1998**, S. 232 – 255.
- [354] (a) Whitesides, G.M.; Wong, C.-H., *Angew. Chem.* **1985**, *97*, 617 – 638.  
(b) Wong, C.H.; Whitesides, G.M., *Enzymes in Synthetic Organic Chemistry*; 1<sup>st</sup> Ed.; New York, Oxford, Tokyo : Elsevier Science **1994**. (c) Santaniello, E.; Ferraboshi, P.; Grisenti P.; Manzocchi, A., *Chem. Rev.* **1992**, *92*, 1071 – 1140. (d) Boland, W.; Fröbl, C.; Lohrenz, M., *Synthesis* **1991**, 1049 – 1072. (e) Ohno, M.; Otsuka, M., *Org. React.* **1989**, *37*, 1.
- [355] Gais, H.-J.; Hemmerle, H., *Chemie in unserer Zeit* **1990**, *24*, 239 – 248.
- [356] Chen, C.-S.; Sih, C.J., *Angew. Chem.* **1989**, *101*, 711 – 724.
- [357] Desnuelle, P.; Sarda, L.; Aihard, G., *Biochim. Biophys. Acta* **1960**, *37*, 570 – 571.
- [358] (a) Winkler, F.K.; D'Arcy, A.; Hunziker, W., *Nature (London)* **1990**, *343*, 771 – 774.  
(b) van Tilbeurgh, H.; Sarda, L.; Verger, R.; Cambillau, C., *Nature (London)* **1992**, *359*, 159 – 162.
- [359] (a) Brady, L.; Brzozowski, A.M.; Derewenda, Z.S.; Dodson, E.; Dodson, G.; Tolley, S.; Turkenburg, J.P.; Christiansen, L.; Hüge-Jensen, B.; Norskov, L.; Thim, L.; Menge, U., *Nature (London)* **1990**, *343*, 767 – 770. (b) Brzozowski, A.M.; Derewenda, U.; Derewenda, Z.S.; Dodson, G.; Lawson, D.M.; Turkenburg, J.P.; Bjorkling, F.; Hüge-Jensen, B.; Patkar, S.A.; Thim, L., *Nature (London)* **1991**, *351*, 491 – 494. (c) Derewenda, U.; Brzozowski, A.M.; Lawson, D.M.; Derewenda, Z.S., *Biochemistry* **1992**, *31*, 1532 – 1541. (d) Blow, D., *Nature (London)* **1991**, *351*, 444 – 445.
- [360] (a) Dijkstra, B.W.; Kalk, K.H.; Hol, W.G.; Drenth, J., *J. Mol. Biol.* **1981**, *147*, 97 – 123. (b) Brunie, S.; Bolin, J.; Gehwirt, D.; Sigler, P.B., *J. Biol. Chem.* **1985**, *260*, 9742 – 9749. (c) Thunnissen, M.M.; Ab, E.; Kalk, K.H.; Drenth, J.; Dijkstra, B.W.; Kuipers, O.P.; Dijkman, R.; de Haas, G.H.; Verheij, H.M., *Nature (London)* **1990**, *343*, 689 – 691. (d) Scott, D.L.; White, S.P.; Otwinowski, Z.; Yuan, W.; Gelb, M.H.; Sigler, P.B., *Science* **1990**, *250*, 1541 – 1546.
- [361] Singer, P.T.; Smalas, A.; Carty, P.; Mangel, W.F.; Sweet, R.M., *Science* **1993**, *259*, 669 – 673.
- [362] (a) Homandberg, G.A.; Mattis, J.A.; Laskowski, M., *Biochemistry* **1978**, *17*, 5220 – 5227.  
(b) Martinek, K.; Semenov, A.; Berezin, I.V., *Biochim. Biophys. Acta* **1981**, *658*, 76 – 89.  
(c) Luthi, P.; Luisi, P.L., *J. Am. Chem. Soc.* **1984**, *106*, 7285 – 7286.
- [363] (a) Eyring, H., *J. Chem. Phys.* **1935**, *3*, 107.  
(b) Eyring, H., *Chem. Rev.* **1935**, *17*, 65 – 77.
- [364] Chen, C.-S.; Fujimoto, Y.; Girdaukas, G.; Sih, C.J., *J. Am. Chem. Soc.* **1982**, *104*, 7294 – 7299.
- [365] (a) Wong, C.H.; Whitesides, G.M., *Enzymes in Synthetic Organic Chemistry*; 1<sup>st</sup> Ed.; New York, Oxford, Tokyo : Elsevier Science **1994**, S. 9 – 13. (b) Eliel, E.L.; Wilen, S.H., *Organische Stereochemie*; Hopf, H.; Mulzer, J., Hrsg., Weinheim, New York : Wiley-VCH **1998**, S. 248 – 256. (c) Sih, J.S.; Chen, C.-S., *Angew. Chem.* **1984**, *96*, 556 – 565.
- [366] Kagan, H.B.; Fiaud, J.C., *Kinetic Resolution*; in *Topics in Stereochemistry*; Vol. 18, John Wiley & Sons **1988**, S. 253 – 261.

- [367] Chapman, D.T.; Crout, D.H.G.; Mahmoudian, M.; Scopes, D.I.C.; Smith, P.W., *Chem. Commun.* **1996**, 2415 – 2416.
- [368] Frank, G.; Caro, W., *Ber. Dtsch. Chem. Ges.* **1930**, *63*, 1532 – 1543.
- [369] (a) Dale, J.A.; Dull, D.L.; Mosher, H.S., *J. Org. Chem.* **1969**, *34*, 2543 – 2549.  
(b) Dale, J.A.; Mosher, H.S., *J. Am. Chem. Soc.* **1973**, *95*, 512 – 519.
- [370] (a) *Comprehensive Organic Synthesis*; Trost, B.M.; Fleming, I., Eds.; Vol. 8, Oxford : Pergamon Press **1991**. (b) Harada, K.; Munegumi, T., in [370a], S. 139 – 158. (c) Nishizawa, M.; Noyori, R., in [370a], S. 159 – 182. (d) Takaya, H.; Noyori, R. in [370a], S. 443 – 469.
- [371] (a) Koenig, K.E., in *Asymmetric Synthesis*; Morrison, J.D., Ed.; Vol. 5, Chapter 3, New York : Academic Press **1985**. (b) Brunner, H., *J. Organomet. Chem.* **1986**, *300*, 39 – 56.
- [372] (a) Noyori, R.; Takaya, H., *Acc. Chem. Res.* **1990**, *23*, 345. (b) Takahashi, H.; Sakuraba, S.; Takeda, H.; Achiwa, K., *J. Am. Chem. Soc.* **1990**, *112*, 5876. (c) Kawano, H.; Ishii, Y.; Saburi, M.; Uchida, Y., *J. Chem. Soc. Chem. Commun.* **1988**, 87. (d) Spindler, F.; Pittelkow, U.; Blaser, H.-U., *Chirality* **1991**, *3*, 370. (e) Chiba, T.; Miyashita, A.; Nohira, H.; Takaya, H., *Tetrahedron Lett.* **1993**, *34*, 2351. (f) Zhang, X.; Taketomi, T.; Yoshizuma, T.; Kumobayashi, H.; Akutagawa, S.; Mashima, K.; Takaya, H., *J. Am. Chem. Soc.* **1993**, *115*, 3318.
- [373] (a) Kang, G.-J.; Cullen, W.R.; Fryzuk, M.D.; James, B.R.; Kutney, J.P., *J. Chem. Soc. Chem. Commun.* **1988**, 1466. (b) Cullen, W.R.; Fryzuk, M.D.; James, B.R.; Kutney, J.P.; Kang, G.-J.; Herb, G.; Thorburn, I.S.; Spogiliarich, R., *J. Mol. Cat.* **1990**, *62*, 243. (c) Becalski, A.G.; Cullen, W.R.; Fryzuk, M.D.; James, B.R.; Kang, G.-J.; Rettig, S.J., *Inorg. Chem.* **1991**, *30*, 5002. (d) Bakos, J.; Orosz, A.; Heil, B.; Laghmari, M.; Lhoste, P.; Sinou, D., *J. Chem. Soc. Chem. Commun.* **1991**, 1684. (e) Lensink, C.; de Vries, J.G., *Tetrahedron : Asymmetry* **1992**, *3*, 215. (f) Ng Cheong Chan, Y.; Osborn, J.A., *J. Am. Chem. Soc.* **1990**, *112*, 9400. (g) Spindler, F.; Pugin, B.; Blaser, H.-U., *Angew. Chem. Int. Ed. Engl.* **1990**, *29*, 558. (h) Becker, R.; Brunner, H.; Mahboobi, S.; Wiegrebe, W., *Angew. Chem. Int. Ed. Engl.* **1985**, *24*, 995. (i) Kagan, H.; Langlois, N.; Dang, T.P.; *J. Organomet. Chem.* **1975**, *90*, 353.
- [374] (a) Blaser, H.-U., *Chem. Rev.* **1992**, *92*, 935. (b) Brunner H.; Zettlmeier, W., *Handbook of Enantioselective Catalysis*; Weinheim : VCH **1993**. (c) Schwink, L.; Knochel, P., *Chem. Eur. J.* **1998**, *4*, 950. (d) Richards, C.J.; Locke, A.J., *Tetrahedron : Asymmetry* **1998**, *9*, 2377.
- [375] Lucet, D.; Le Gall, T.; Mioskowski, C., *Angew. Chem. Int. Ed. Engl.* **1998**, *37*, 2580 – 2627.
- [376] Ohkuma, T.; Kitamura, M.; Noyori, R., *Asymmetric Hydrogenation in Catalytic Asymmetric Synthesis*; 2<sup>nd</sup> Ed.; Ojima, I., Ed.; New York, Weinheim : Wiley-VCH **2000**, S. 1 – 110.
- [377] (a) Burk, M.J.; Feaster, J.E., *J. Am. Chem. Soc.* **1992**, *114*, 6266 – 6267. (b) Burk, M.J.; Martinez, J.P.; Feaster, J.E.; Cosford, N., *Tetrahedron* **1994**, *50*, 4399 – 4428.
- [378] Bolm, C., *Angew. Chem.* **1993**, *105*, 245 – 246.
- [379] (a) Willoughby, C.A.; Buchwald, S.L., *J. Am. Chem. Soc.* **1992**, *114*, 7562 – 7564.  
(b) Willoughby, C.A.; Buchwald, S.L., *J. Am. Chem. Soc.* **1994**, *116*, 11703 – 11714.
- [380] Izumi, Y.; Tai, A., *Stereodifferentiating Reactions*; New York : Academic Press **1977**.
- [381] Helmchen, G., *Stereoselective Synthesis: Part A.1. Nomenclature and Vocabulary of Organic Stereochemistry in Methoden der organischen Chemie (Houben-Weyl)*; Helmchen, G.; Hoffmann, R.W.; Mulzer, J.; Schaumann, E., Eds.; Vol. E 21a, Stuttgart, New York : Thieme **1995**, S. 1 – 74.

- [382] Mulzer, J., *Stereoselective Synthesis: Part A.2. Basic Principles of EPC Synthesis in Methoden der organischen Chemie (Houben-Weyl)*; Helmchen, G.; Hoffmann, R.W.; Mulzer, J.; Schaumann, E., Eds.; Vol. E 21a, Stuttgart, New York : Thieme **1995**, S. 75 – 140.
- [383] Seyden-Penne, J., *Chiral auxiliaries and ligands in asymmetric synthesis*; New York : Wiley & Sons **1995**.
- [384] Nógrádi, M., *Stereoselective Syntheses: A practical approach*; 2<sup>nd</sup> Ed; Weinheim : VCH **1995**, S. 27 – 36.
- [385] Procter, G., *Asymmetric Synthesis*; Oxford : Oxford University Press **1996**, S. 4 – 13.
- [386] Seyden-Penne, J., *Chiral auxiliaries and ligands in asymmetric synthesis*; New York : Wiley & Sons **1995**, S. 57 – 58 und dort zitierte Literatur.
- [387] Martens, J., *Stereoselective Synthesis: Part D.2.4. Reduction of Imino Groups (C=N) in Methoden der organischen Chemie (Houben-Weyl)*; Helmchen, G.; Hoffmann, R.W.; Mulzer, J.; Schaumann, E., Eds.; Vol. E 21d, Stuttgart, New York : Thieme **1995**, S. 4199 – 4231.
- [388] (a) Bringmann, G.; Geisler, J.-P., *Tetrahedron Lett.* **1989**, 30, 317 – 320.  
(b) Bringmann, G.; Geisler, J.-P., *J. Fluor. Chem.* **1990**, 49, 67 – 73.  
(c) Bringmann, G.; Geisler, J.-P., *Liebigs Ann. Chem.* **1990**, 795 – 805.
- [389] (a) Staab, H.A.; Vögtle, F.; Mannschreck, A., *Tetrahedron Lett.* **1965**, 12, 697 – 702.  
(b) Wurmb-Gerlich, D.; Vögtle, F.; Mannschreck, A., *Liebigs Ann. Chem.* **1967**, 708, 36 – 50.
- [390] Landsiedel-Maier, D.; Frahm, A.W., *Arch. Pharm. Pharm. Med. Chem.* **1998**, 331, 59 – 71.
- [391] (a) Nichols, D.E.; Barfknecht, C.F.; Rusterholz, D.B., *J. Med. Chem.* **1973**, 16, 480 – 483.  
(b) Standridge, R.T.; Howell, H.G.; Gylys, J.A.; Partyka, R.A.; Shulgin, A.T., *J. Med. Chem.* **1976**, 19, 1400 – 1404.
- [392] Eleveld, M.B.; Hogeveen, H.; Schudde, E.P., *J. Org. Chem.* **1986**, 51, 3635 – 3642.
- [393] Yoshida, T.; Harada, K., *Bull. Chem. Soc. Japan* **1972**, 45, 3706 – 3710.
- [394] Dahn, H.; Garbarino, J.A.; O'Murchu, C., *Helv. Chim. Acta* **1970**, 53, 1370 – 1378.
- [395] (a) Ram, S.; Spicer, L.D., *Synth. Commun.* **1987**, 17, 415 – 418.  
(b) Adger, B.M.; O'Farrell, C.; Lewis, N.J.; Mitchell, M.B., *Synthesis* **1987**, 53 – 55.  
(c) Ram, S.; Ehrenkaufner, R.E., *Synthesis* **1988**, 91 – 95.
- [396] (a) Cahn, R.S.; Ingold, C.K., *J. Chem. Soc.* **1951**, 612 – 622.  
(b) Cahn, R.S.; Ingold, C.K.; Prelog, V., *Experientia* **1956**, 12, 81 – 94.  
(c) Cahn, R.S.; Ingold, C.K.; Prelog, V., *Angew. Chem.* **1966**, 78, 413 – 443.
- [397] Yamazaki, N.; Atobe, M.; Kibayashi, C., *Tetrahedron Lett.* **2001**, 42, 5029 – 5032.
- [398] Prelog, V.; Helmchen, G., *Angew. Chem.* **1982**, 94, 614 – 631.
- [399] Brückner R., *Reaktionsmechanismen: Organische Reaktionen, Stereochemie, moderne Synthesemethoden*; Heidelberg, Berlin, Oxford : Spektrum Akad. Verl. **1996**, S. 236 – 237 und S. 526 – 527.
- [400] Carey, F.A.; Sundberg, R.J., *Organische Chemie: Ein weiterführendes Lehrbuch*; Weinheim: VCH **1995**, S. 981 – 982.
- [401] (a) Winterfeld, E., *Synthesis* **1975**, 617 – 630.  
(b) Yoon, N.M.; Gyong, Y.S., *J. Org. Chem.* **1985**, 50, 2443 – 2450.
- [402] Skuballa, W., Persönliche Mitteilung im Rahmen der Vorlesung: *Moderne Methoden der Natur- und Wirkstoffsynthese*, Freie Universität Berlin/Schering AG, Berlin.
- [403] Borch, R.F.; Hassid, A.I., *J. Org. Chem.* **1972**, 37, 1673 – 1674.

- 
- [404] (a) Habermann, E.R., *Pharmakologie und Gesellschaft*, in *Futura*, **1994**, 1/94, S. 26 – 37.  
(b) Habermann, E., *Pharm. Unserer Zeit* **1995**, 24, 273 – 280.
- [405] Jenkinson, D.H.; Barnard, E.A.; Hoyer, D.; Humphrey, P.P.A.; Leff, P.; Shankley, N.P., *Pharmacol. Rev.* **1995**, 47, 255 – 266.
- [406] Nickerson, M., *Nature (London)* **1956**, 178, 697 – 698.
- [407] Arunlakshana, O.; Schild, H.O., *Br. J. Pharmacol. Chemother.* **1959**, 14, 48 – 58.
- [408] (a) Van Rossum, J.M., *Arch. Int. Pharmacodyn. Ther.* **1963**, 143, 299 – 330.  
(b) Ariëns, E.J.; van Rossum, J.M., *Arch. Int. Pharmacodyn. Ther.* **1957**, 110, 275 – 299.
- [409] Elz, S.; Keller, A., *Arch. Pharm. Pharm. Med. Chem.* **1995**, 328, 585 – 594.
- [410] Pertz, H.H.; Elz, S., *J. Pharm. Pharmacol.* **1995**, 47, 310 – 316.
- [411] Marano, M.; Kaumann, A.J., *J. Pharmacol. Exp. Ther.* **1976**, 198, 518 – 525.
- [412] (a) Autorenkollektiv, *Organikum*, Deutscher Verlag der Wissenschaften, Berlin, **1977**, 784 – 810.  
(b) Leonard, J.; Lygo, B.; Procter, G., *Praxis der Organischen Chemie*, Verlag Chemie, Weinheim, **1996**.
- [413] Hesse, M.; Meier, M.; Zeeh, B., *Spektroskopische Methoden in der organischen Chemie*; 5. Aufl., Stuttgart, New York : Thieme, **1995**, S. 71 – 218 .
- [414] Still, W.C.; Khan, M.; Mitra, A., *J. Org. Chem.* **1978**, 43, 2923 – 2925.