

References

Journal articles

- Agrawal, Y. K., Bhatt, H. G., raval, H. G., Oza, P. M., Vaidya, H. B., & Manna, K. (2007). Emerging trends in tuberculosis therapy: A review. *Journal of scientific & Industrail Research* 66, 191-208.
- Ali, M. A., & Shaharyar, M. (2007). Discovery of novel phenoxyacetic acid derivatives as antimycobacterial agents. [doi: DOI: 10.1016/j.bmc.2007.01.006]. *Bioorganic & Medicinal Chemistry*, 15(5), 1896-1902.
- Ancizu, S., Moreno, E., Solano, B., Villar, R., Burguete, A., Torres, E., et al. (2010). New 3-methylquinoxaline-2-carboxamide 1,4-di-N-oxide derivatives as anti-Myco**ba**cterium tuberculosis agents. [doi: DOI: 10.1016/j.bmc.2010.02.024]. *Bioorganic & Medicinal Chemistry*, 18(7), 2713-2719.
- Appelt, H. R., Limberger, J. B., Weber, M., Rodrigues, O. E. D., Oliveira, J. S., Lüdtk**e**, D. S., et al. (2008). Carbohydrates in asymmetric synthesis: enantioselective allylation of aldehydes. [doi: DOI: 10.1016/j.tetlet.2008.05.109]. *Tetrahedron Letters*, 49(33), 4956-4957.
- Ariëns, E. J. (1984). Stereochemistry, a basis for sophisticated nonsense in pharmacokinetics and clinical pharmacology. *European Journal of Clinical Pharmacology*, 26(6), 663-668.
- Asselineau, J., & Lederer, E. (1950). Structure of the Mycolic Acids of Mycobacteria. *Nature*, 166(4227), 782-783.
- Azuma, H., Miyasaka, K., Yokotani, T., Tachibana, T., Kojima-Yuasa, A., Matsui-Yuasa, I., et al. (2006). Lipase-catalyzed preparation of optically active 1'-acetoxychavicol acetates and their structure-activity relationships in apoptotic activity against human leukemia HL-60 cells. [doi: DOI: 10.1016/j.bmc.2005.10.029]. *Bioorganic & Medicinal Chemistry*, 14(6), 1811-1818.

- Azuma, H., Miyasaka, K., Yokotani, T., Tachibana, T., Kojima-Yuasa, A., Matsui-Yuasa, I., et al. (2006). Lipase-catalyzed preparation of optically active 1'-acetoxychavicol acetates and their structure-activity relationships in apoptotic activity against human leukemia HL-60 cells. *Bioorg Med Chem*, 14(6), 1811-1818.
- Baclocchi, E., Perucci, P., & Rol, C. (1975). Elimination reactions of 1,2-diaryl-1-chloroethanes promoted by sodium ethoxide in ethanol. The kinetic effects of [small alpha]- and [small beta]-phenyl substituents. *Journal of the Chemical Society, Perkin Transactions 2*(4), 329-333.
- Bakkestuen, A. K., Gundersen, L. L., Langli, G., Liu, F., & Nolsoe, J. M. (2000). 9-Benzylpurines with inhibitory activity against *Mycobacterium tuberculosis*. *Bioorg Med Chem Lett*, 10(11), 1207-1210.
- Barry, C. E., 3rd, Lee, R. E., Mdluli, K., Sampson, A. E., Schroeder, B. G., Slayden, R. A., et al. (1998). Mycolic acids: structure, biosynthesis and physiological functions. *Prog Lipid Res*, 37(2-3), 143-179.
- Biava, M., Fioravanti, R., Porretta, G. C., Sleiter, G., Deidda, D., Lampis, G., et al. (1999). Antimycobacterial activity of new ortho-, meta- and para-toluidine derivatives. [doi: DOI: 10.1016/S0014-827X(99)00084-1]. *Il Farmaco*, 54(11-12), 721-727.
- Bosi, S., Da Ros, T., Castellano, S., Banfi, E., & Prato, M. (2000). Antimycobacterial activity of ionic fullerene derivatives. [doi: DOI: 10.1016/S0960-894X(00)00159-1]. *Bioorganic & Medicinal Chemistry Letters*, 10(10), 1043-1045.
- Brown, J. H., & Marvel, C. S. (1937). Hexaalkylphenylethanes. III. Hexa-p-cyclohexylphenylethane and Hexa-m-tolyethane1. [doi: 10.1021/ja01286a004]. *Journal of the American Chemical Society*, 59(7), 1175-1176.
- Casenghi, M. (2006). *DEVELOPMENT OF NEW DRUGS FOR TB CHEMOTHERAPY Analysis of the current drug pipeline*: Médecins Sans Frontières.

- Chandrasekhar, S., Mohanty, P. K., & Raza, A. (1999). ChemInform Abstract: One-Pot Synthesis of Acetylated Homoallyl Alcohols. *ChemInform*, 30(22), no-no.
- Changsen, C., Franzblau, S. G., & Palittapongarnpim, P. (2003). Improved green fluorescent protein reporter gene-based microplate screening for antituberculosis compounds by utilizing an acetamidase promoter. *Antimicrob Agents Chemother*, 47(12), 3682-3687.
- Costa, M. S., Boechat, N., Rangel, É. A., da Silva, F. d. C., de Souza, A. M. T., Rodrigues, C. R., et al. (2006). Synthesis, tuberculosis inhibitory activity, and SAR study of N-substituted-phenyl-1,2,3-triazole derivatives. [doi: DOI: 10.1016/j.bmc.2006.08.019]. *Bioorganic & Medicinal Chemistry*, 14(24), 8644-8653.
- de Souza, M. V. N., Pais, K. C., Kaiser, C. R., Peralta, M. A., de L. Ferreira, M., & Lourenço, M. C. S. (2009). Synthesis and in vitro antitubercular activity of a series of quinoline derivatives. [doi: DOI: 10.1016/j.bmc.2009.01.013]. *Bioorganic & Medicinal Chemistry*, 17(4), 1474-1480.
- Dinakaran, M., Senthilkumar, P., Yogeewari, P., & Sriram, D. (2009). Antitubercular activities of novel benzothiazolo naphthyridone carboxylic acid derivatives endowed with high activity toward multi-drug resistant tuberculosis. [doi: DOI: 10.1016/j.biopha.2007.10.009]. *Biomedicine & Pharmacotherapy*, 63(1), 11-18.
- Douglas, J. D., Senior, S. J., Morehouse, C., Phetsukiri, B., Campbell, I. B., Besra, G. S., et al. (2002). Analogues of thiolactomycin: potential drugs with enhanced anti-mycobacterial activity. *Microbiology*, 148(Pt 10), 3101-3109.
- Fleury, L. M., & Ashfeld, B. L. (2010). Generation of allyl Grignard reagents via titanocene-catalyzed activation of allyl halides. [doi: DOI: 10.1016/j.tetlet.2010.02.144]. *Tetrahedron Letters*, 51(18), 2427-2430.
- Foroumadi, A., Soltani, F., Jabini, R., Moshafi, M., & Rasnani, F. (2004). Antituberculosis agents x. synthesis and evaluation of <i>In Vitro</i> antituberculosis activity of 2-(5-nitro-2-furyl)- and 2-(1-methyl-5-nitro-1 <i>H</i>-imidazol-2-yl)-1,3,4-thiadiazole derivatives. *Archives of Pharmacal Research*, 27(5), 502-506.

- Güzel, Ö., & Salman, A. (2006). Synthesis, antimycobacterial and antitumor activities of new (1,1-dioxido-3-oxo-1,2-benzisothiazol-2(3H)-yl)methyl N,N-disubstituted dithiocarbamate/O-alkyldithiocarbonate derivatives. [doi: DOI: 10.1016/j.bmc.2006.07.065]. *Bioorganic & Medicinal Chemistry*, *14*(23), 7804-7815.
- Hudson, A., Imamura, T., Gutteridge, W., Kanyok, T., & Nunn, P. (2003). The current anti-TB drug research and development Pipeline
- Hunt, L., Jordan, M., De Jesus, M., & Wurm, F. M. (1999). GFP-expressing mammalian cells for fast, sensitive, noninvasive cell growth assessment in a kinetic mode. *Biotechnol Bioeng*, *65*(2), 201-205.
- Jaju, S., Indurwade, N., Sakarkar, D., Fuloria, N., Ali, M., Das, S., et al. (2009). Galangoflavonoid Isolated from Rhizome of *Alpinia galanga* (L) Sw (Zingiberaceae). *Tropical Journal of Pharmaceutical Research*, *8*(6), 545-550.
- Jaju, S., Indurwade, N., Sakarkar, D., Fuloria, N., Ali, M., Das, S., et al. (2009). Galangoflavonoid isolated from rhizome of *Alpinia galanga* (L) Sw (Zingiberaceae). *Tropical Journal of Pharmaceutical Research*, *8*(6), 545-550
- Janin, Y. L. (2007). Antituberculosis drugs: ten years of research. *Bioorg Med Chem*, *15*(7), 2479-2513.
- Janssen, A. M., & Scheffer, J. J. (1985). Acetoxychavicol Acetate, an Antifungal Component of *Alpinia galanga* L. *Planta Med*, *51*(6), 507-511.
- Jirovetz, L., Buchbauer, G., Shafi, M. P., & Leela, N. K. (2003). Analysis of the essential oils of the leaves, stems, rhizomes and roots of the medicinal plant *Alpinia galanga* from southern India. *Acta Pharm*, *53*(2), 73-81.
- Jollès, P., Migliore, D., & Bonhomme, F. (1968). Wax D, peptido-glycolipid of *Mycobacterium tuberculosis*: further purification and study of an adjuvant arthritis-inhibiting subfraction. *Immunology*, *14*, 159-163.
- Kabalka, G. W., Wu, Z., & Ju, Y. (2001). Alkylation of aromatic aldehydes with alkylboron chloride derivatives. [doi: DOI: 10.1016/S0040-4020(00)01160-1]. *Tetrahedron*, *57*(9), 1663-1670.
- Kremer, L., Douglas, J. D., Baulard, A. R., Morehouse, C., Guy, M. R., Alland, D., et al. (2000). Thiolactomycin and related analogues as novel anti-mycobacterial

- agents targeting KasA and KasB condensing enzymes in *Mycobacterium tuberculosis*. *The Journal of Biological Chemistry*, 275(22), 16857-16864.
- Kwiatkowski, P., Mucha, P., Mloston, G., & Jurczak, J. (2009). Novel Chiral C[2]-Symmetric Bisimidazole-N-Oxides as Promising Organo-catalysts for Enantioselective Allylation of Aromatic Aldehydes. *letter*, 11(4), 1757-1760.
- Lee, S.-J., & Ando, T. (2001). Optically Active 1'-Acetoxychavicol Acetate and Its Positional Isomers: Synthesis and Repellent Effect against Adzuki Bean Weevil. *Journal of Pesticide Science*, 26(1), 76-81.
- Li, S., Wang, J.-X., Wen, X., & Ma, X. (2011). Mild and efficient barbier allylation reaction mediated by magnesium powder under solvent-free conditions. [doi: 10.1016/j.tet.2010.12.035]. *Tetrahedron*, 67(5), 849-855.
- Liu, L.-y., Sun, J., Liu, N., Chang, W.-x., & Li, J. (2007). A structurally simple l-proline derivative promotes the asymmetric allylation of aldehydes with tribromoallyltin. [doi: DOI: 10.1016/j.tetasy.2007.02.025]. *Tetrahedron: Asymmetry*, 18(6), 710-716.
- Mao, J., Wang, Y., Wan, B., Kozikowski, A. P., & Franzblau, S. G. (2007). Design, Synthesis, and Pharmacological Evaluation of Mefloquine-Based Ligands as Novel Antituberculosis Agents. *ChemMedChem*, 2(11), 1624-1630.
- Mao, J., Yuan, H., Wang, Y., Wan, B., Pak, D., He, R., et al. (2010). Synthesis and antituberculosis activity of novel mefloquine-isoxazole carboxylic esters as prodrugs. [doi: DOI: 10.1016/j.bmcl.2009.11.105]. *Bioorganic & Medicinal Chemistry Letters*, 20(3), 1263-1268.
- Matsuda, H., Ando, S., Morikawa, T., Kataoka, S., & Yoshikawa, M. (2005). Structure-activity relationships of 1'S-1'-acetoxychavicol acetate for inhibitory effect on NO production in lipopolysaccharide-activated mouse peritoneal macrophages. [doi: DOI: 10.1016/j.bmcl.2005.01.070]. *Bioorganic & Medicinal Chemistry Letters*, 15(7), 1949-1953.
- Matsuda, H., Morikawa, T., Managi, H., & Yoshikawa, M. (2003). Antiallergic principles from *Alpinia galanga*: structural requirements of phenylpropanoids for inhibition of degranulation and release of TNF-alpha and IL-4 in RBL-2H3 cells. *Bioorg Med Chem Lett*, 13(19), 3197-3202.

- Matsuda, H., Pongpiriyadacha, Y., Morikawa, T., Ochi, M., & Yoshikawa, M. (2003). Gastroprotective effects of phenylpropanoids from the rhizomes of *Alpinia galanga* in rats: structural requirements and mode of action. *Eur J Pharmacol*, 471(1), 59-67.
- Matsumura, Y., Ogura, K., Kouchi, Y., Iwasaki, F., & Onomura, O. (2006). New efficient organic activators for highly enantioselective reduction of aromatic ketones by trichlorosilane. *Org Lett*, 8(17), 3789-3792.
- Minnikin, D. E., Minnikin, S. M., Parlett, J. H., Goodfellow, M., & Magnusson, M. (1984). Mycolic acid patterns of some species of *Mycobacterium*. *Archives of Microbiology*, 139(2), 225-231.
- Murakami, A., Toyota, K., Ohura, S., Koshimizu, K., & Ohigashi, H. (2000). Structure-activity relationships of (1'S)-1'-acetoxychavicol acetate, a major constituent of a southeast Asian condiment plant *Languas galanga*, on the inhibition of tumor-promoter-induced Epstein-Barr virus activation. *J Agric Food Chem*, 48(5), 1518-1523.
- Navarrete-Vázquez, G., Molina-Salinas, G. M. a., Duarte-Fajardo, Z. V., Vargas-Villarreal, J., Estrada-Soto, S., González-Salazar, F., et al. (2007). Synthesis and antimycobacterial activity of 4-(5-substituted-1,3,4-oxadiazol-2-yl)pyridines. [doi: DOI: 10.1016/j.bmc.2007.05.053]. *Bioorganic & Medicinal Chemistry*, 15(16), 5502-5508.
- Parthiban, P., Prabhu, S. S., Muthuraj, M., Elavazhagan, T., & Manupriya, S. (2009). Characterization of PncA Gene Responsible for Pyrazinamidase Enzyme in *Mycobacterium tuberculosis* Clinical Isolate. *American-Eurasian Journal of Scientific Research*, 4(3), 198-203.
- Porter, W. H. (1991). Resolution of chiral drugs. *Pure and Applied Chemistry* 63(8), 1119-1122
- Schuetz, R. D., & Houff, W. H. (1955). Carbonyl Derivatives of Thiophene. II. The Reformatsky Reaction with Bromine Compounds Other Than α -Bromoesters. [doi: 10.1021/ja01612a037]. *Journal of the American Chemical Society*, 77(7), 1839-1841.

- Shih-Ching, O., Hung-Yuan, C., & Chun-Yen, C. (2010). A Biomathematic Models for Tuberculosis Using Lyapunov Stability Functions *6377/2010*, 447-453.
- Singkhonrat, J., Bunthitsakda, W., Kedpokasiri, S., & Nuampipat, T. (2010, 6-8 May 2010). *The study of structure-activity relationship of 1'-acetoxylchavicol acetate analogs and tendency against mycobacterium tuberculosis (MTB)*. Paper presented at the The 1st Current Drug Development International Conference Woraburi Resort & Spa, Phuket, Thailand.
- Sriram, D., Yogeewari, P., Dhakla, P., Senthilkumar, P., & Banerjee, D. (2007). N-Hydroxythiosemicarbazones: Synthesis and in vitro antitubercular activity. [doi: DOI: 10.1016/j.bmcl.2007.01.037]. *Bioorganic & Medicinal Chemistry Letters*, *17*(7), 1888-1891.
- Suling, W. J., Reynolds, R. C., Barrow, E. W., Wilson, L. N., Piper, J. R., & Barrow, W. W. (1998). Susceptibilities of Mycobacterium tuberculosis and Mycobacterium avium complex to lipophilic deazapteridine derivatives, inhibitors of dihydrofolate reductase. *J Antimicrob Chemother*, *42*(6), 811-815.
- Sun, D., Scherman, M. S., Jones, V., Hurdle, J. G., Woolhiser, L. K., Knudson, S. E., et al. (2009). Discovery, synthesis, and biological evaluation of piperidinol analogs with anti-tuberculosis activity. [doi: DOI: 10.1016/j.bmc.2009.04.005]. *Bioorganic & Medicinal Chemistry*, *17*(10), 3588-3594.
- Tapiero, B. F., & Lamarre, V. (2003). Tuberculosis in Canada: Global view and new challenges. *Paediatr Child Health*, *8*(3), 139-140.
- Tewaria, N., Nizara, H., Manea, A., Georgea, V., & Prasad, M. (2006). Deacetylation of Thioacetate using Acetyl Chloride in Methanol *Synthetic Communication*, *36*(13), 1911 - 1914
- Tripathi, R. P., Verma, S. S., Pandey, J., Agarwal, K. C., Chaturvedi, V., Manju, Y. K., et al. (2006). Search of antitubercular activities in tetrahydroacridines: Synthesis and biological evaluation. [doi: DOI: 10.1016/j.bmcl.2006.07.025]. *Bioorganic & Medicinal Chemistry Letters*, *16*(19), 5144-5147.

- van Rensburg, C., Jooné, G., Sirgel, F., Matlola, N., & O'Sullivan, J. (2000). In vitro investigation of the antimicrobial activities of novel tetramethylpiperidine-substituted phenazines against *Mycobacterium tuberculosis*. *Chemotherapy*, 46(1), 43-48.
- Yasuhara, T., Manse, Y., Morimoto, T., Qilong, W., Matsuda, H., Yoshikawa, M., et al. (2009). Acetoxybenzhydrols as highly active and stable analogues of 1'S-1'-acetoxychavicol, a potent antiallergic principal from *Alpinia galanga*. [doi: DOI: 10.1016/j.bmcl.2009.04.065]. *Bioorganic & Medicinal Chemistry Letters*, 19(11), 2944-2946.
- Ye, Y., & Li, B. (2006). 1'S-1'-Acetoxychavicol acetate isolated from *Alpinia galanga* inhibits human immunodeficiency virus type 1 replication by blocking Rev transport *Journal of General Virology*, 87, 2047-2053.
- Yin, Y.-y., Zhao, G., Qian, Z.-s., & Yin, W.-x. (2003). 6,6'-Bisperfluoroalkylated BINOLs promoted asymmetric allylation of aldehydes. [doi: DOI: 10.1016/S0022-1139(02)00319-6]. *Journal of Fluorine Chemistry*, 120(2), 117-120.
- Yoo, D. J., Kim, E. Y., Oelgemoller, M., & Shim, S. C. (2004). Synthesis of cycloalkynes via photochemical decarboxylation of [small omega]-phthalimidoalkynoates. *Photochemical & Photobiological Sciences*, 3(3), 311-316.

Web pages

- Metcalf, A. A. (2011). Alcohol. from <http://en.wikipedia.org/wiki/Alcohol>
- Mycolic acids in *Mycobacterium tuberculosis*, from http://en.wikipedia.org/wiki/Mycolic_acid
- The Mycobacterial cell wall structure (Figure 1), from <http://student.ccbcmd.edu/courses/bio141/lecguide/unit1/prostruct/u1fig11.html>
- Tuberculosis (TB) (2003). *DOTS-Plus and the Green Light Committee*, from http://www.who.int/tb/dots/dotsplus/management_old/en/

Tuberculosis. (2010). *Infection and transmission*, 2010, from

<http://www.who.int/mediacentre/factsheets/fs104/en/>

Tuberculosis. (2011). from

<http://nobelprize.org/educational/medicine/tuberculosis/readmore.html>

Todar, K. (2011). *Mycobacterium tuberculosis and Tuberculosis 2011*, from

<http://www.textbookofbacteriology.net/tuberculosis.html>

<http://student.ccbcmd.edu/courses/bio141/lecguide/unit1/prostruct/u1fig11.html>

http://en.wikipedia.org/wiki/Mycolic_acid

<http://www.celtnet.org.uk/recipes/spice-entry.php?term=Galangal>

Electronic Articles

Alpinia Galanga: Greater Galanga: Kulanjan. (2010). Retrieved from

www.hillgreen.com/pdf/ALPINIA%20GALANGA.pdf

Glaser, R., Groh, B., Poncho, L., Meisenheimer, K., Shaughnessy, K. H., Shipley, P.,

et al. Structure and Synthesis of Alcohols Available from

http://wps.prenhall.com/esm_organic_wade_5/5/1362/348757.cw/index.html

Kannekanti, V. K., Molli, V., & Batthula, V. R. (2011). A Simple and Efficient

Synthesis of Homoallylic Alcohols Catalyzed by Niobium (V) chloride.

Retrieved from www.ijichem.org

McNaught, A. D., & Wilkinson, A. (1997). *Compendium of Chemical Terminology*

Available from <http://goldbook.iupac.org>

Palittapongarnpim, P., Kirdmanee, C., Kittakoop, P., & Ruksaree, K. (2002). 1'-

Acetoxychavicol acetate for tuberculosis treatment Retrieved from

<http://www.freepatentsonline.com/y2002/0192262.html>

Saradee, W. (2009). A Wish List of New Anti-Tuberculous Candidate Agents. *61*, 34-

36. Retrieved from <http://www.sirirajmedj.com>

