

DAFTAR PUSTAKA

- Amanatie, A., Jumina, J., Mustofa, M., Hanafi, M., La Ode, K., and Sahidin, I., 2017, Synthesis of 2-Hydroxyxanthone from Xanthone as a Basic Material for New Antimalarial Drugs, *Asian J. Pharm. Clin. Res.*, 10, 242–246.
- Ammerman, N.C., Beier-Sexton, M., and Azad, A.F., 2008, Growth and Maintenance of Vero Cell Lines, *Curr. Protoc. Microbiol.*, 1–7.
- Andrade, C.H., Pasqualoto, K.F.M., Ferreira, E.I., and Hopfinger, A.J., 2010, 4D QSAR: Perspectives in Drug Design, *Molecules*, 15, 3281–3294.
- Badisa, R.B., Darling-Reed, S.F., Joseph, P., Cooperwood, J.S., Latinwo, L.M., and Goodman, C.B., 2009, Selective Cytotoxic Activities of Two Novel Synthetic Drugs on Human Breast Carcinoma MCF-7 Cells, *Anticancer Res.*, 29, 2993–2996.
- Capes-Davis, A., Bairoch, A., Barrett, T., Burnett, E.C., Dirks, W.G., Hall, E.M., Healy, L., Kniss, D.A., Korch, C., Liu, Y., Neve, R.M., Nims, R.W., Parodi, B., Schweppe, R.E., Storts, D.R., and Tian, F., 2019, Cell Lines as Biological Models: Practical Steps for More Reliable Research, *Chem. Res. Toxicol.*, 32, 1733–1736.
- Cardenas, M., Marder, M., Blank, V.C., and Roguin, L.P., 2006, Antitumor Activity of Some Natural Flavonoids and Synthetic Derivatives on Various Human and Murine Cancer Cell Lines, *Bioorg. Med. Chem.*, 14, 2966–2971.
- Castanheiro, R.A.P., Pinto, M.M.M., Silva, A.M.S., Cravo, S.M.M., Gales, L., Damas, A.M., Nazareth, N., Nascimento, M.S.J., and Eaton, G., 2007, Dihydroxyxanthenes Prenylated Derivatives: Synthesis, Structure Elucidation, and Growth Inhibitory Activity on Human Tumor Cell Lines with Improvement of Selectivity for MCF-7, *Bioorg. Med. Chem.*, 15, 6080–6088.
- Chen, T.R., Drabkowski, D., Hay, R.J., Macy, M., and Peterson, W., 1987, WiDr is a Derivative of Another Colon Adenocarcinoma Cell Line, HT-29, *Cancer Genet. Cytogenet.*, 27, 125–134.
- Chen, X., Leng, J., Rakesh, K.P., Darshini, N., Shubhavathi, T., Vivek, H.K., Mallesha, N., and Qin, H.L., 2017, Synthesis and Molecular Docking Studies of Xanthone Attached Amino Acids as Potential Antimicrobial and Anti-Inflammatory Agents, *Med. Chem. Commun.*, 8, 1706–1719.
- Corrie, P.G., 2007, Cytotoxic Chemotherapy: Clinical Aspects, *Medicine*, 36, 24–28.
- Cosconati, S., Forli, S., Perryman, A.L., Harris, R., Goodsell, D.S., and Olson, A.J., 2010, Virtual Screening with AutoDock: Theory and Practice, *Expert Opin. Drug Discov.*, 5, 597–607.
- Cruz, I., Puthongking, P., Cravo, S., Palmeira, A., Cidade, H., Pinto, M., and Sousa,

- E., 2017, Xanthone and Flavone Derivatives as Dual Agents with Acetylcholinesterase Inhibition and Antioxidant Activity as Potential Anti-Alzheimer Agents, *J. Chem.*, 1–16.
- Da Cunha Santos, G., Shepherd, F.A., and Tsao, M.S., 2011, EGFR Mutations and Lung Cancer, *Annu. Rev. Pathol. Mech. Dis.*, 6, 49–69.
- Das, A., Shaikh, M.M., and Jana, S., 2014, Design, Synthesis, and In Vitro Antibacterial Screening of Some Novel 3-Pentyloxy-1-hydroxyxanthone Derivatives, *Med. Chem. Res.*, 23, 436–444.
- De, P., Baltas, M., and Bedos-Belval, F., 2011, Cinnamic Acid Derivatives as Anticancer Agents-A Review, *Curr. Med. Chem.*, 18, 1672–1703.
- Eaton, E., Carlson, G.R., and Lee, J.T., 1973, Phosphorus Pentoxide-Methanesulfonic Acid, A convenient Alternative to Polyphosphoric Acid, *J. Org. Chem.*, 1014, 1946–1948.
- Fatmasari, N., Kurniawan, Y.S., Jumina, J., and Anwar, C., 2022, Synthesis and In Vitro Assay of Hydroxyxanthenes as Antioxidant and Anticancer Agents, *Sci. Rep.*, 12, 1535.
- Ferreira, L.G., dos Santos, R.N., Oliva, G., and Andricopulo, A.D., 2015, Molecular Docking and Structure-Based Drug Design Strategies, *Molecules*, 20, 13384–13421.
- Foloppe, N. and Hubbard, R., 2006, Towards Predictive Ligand Design With Free-Energy Based Computational Methods?, *Curr. Med. Chem.*, 13, 3583–3608.
- Fong, W., Shen, X., Globisch, C., Wiese, M., Chen, G., Zhu, G., Yu, Z., Tse, A.K., and Hu, Y., 2008, Methoxylation of 3',4'-Aromatic Side Chains Improves P-Glycoprotein Inhibitory and Multidrug Resistance Reversal Activities of 7,8-Pyranocoumarin Against Cancer Cells, *Bioorg. Med. Chem.*, 16, 3694–3703.
- Forli, S., Huey, R., Pique, M.E., Sanner, M., Goodsell, D.S., and Olson, A.J., 2016, Computational Protein-Ligand Docking and Virtual Drug Screening with The AutoDock Suite, *Nat. Protoc.*, 11, 905–919.
- Fouche, G., Cragg, G.M., Pillay, P., Kolesnikova, N., Maharaj, V.J., and Senabe, J., 2008, In vitro Anticancer Screening of South African Plants, *J. Ethnopharmacol.*, 119, 455–461.
- Fraga, C.A.M., 2009, Drug Hybridization Strategies: Before or After Lead Identification?, *Expert Opin. Drug Discov.*, 4, 605–609.
- Ge, Y.X., Wang, Y.H., Zhang, J., Yu, Z.P., Mu, X., Song, J.L., Wang, Y., Yang, F., Meng, N., Jiang, C., and Zhang, H., 2019, New Cinnamic Acid-Pregnenolone Hybrids as Potential Antiproliferative Agents: Design, Synthesis and Biological Evaluation, *Steroids*, 152, 108499.
- Ghasemi, M., Turnbull, T., Sebastian, S., and Kempson, I., 2021, The MTT Assay: Utility, Limitations, Pitfalls, and Interpretation in Bulk and Single-Cell

Analysis, *Int. J. Mol. Sci.*, 22, 12827.

- Giard, D.J., Aaronson, S.A., Todaro, G.J., Arnstein, P., Kersey, J.H., Dosik, H., and Parks, W.P., 1973, In Vitro Cultivation of Human Tumors: Establishment of Cell Lines Derived from a Series of Solid Tumors, *J. Natl. Cancer Inst.*, 51, 1417–1423.
- Gobbi, S., Hu, Q., Negri, M., Zimmer, C., Belluti, F., Rampa, A., Hartmann, R.W., and Bisi, A., 2013, Modulation of Cytochromes P450 with Xanthone-Based Molecules: From Aromatase to Aldosterone Synthase and Steroid 11 β -Hydroxylase Inhibition, *J. Med. Chem.*, 56, 1723–1729.
- Goodwin, E.C. and DiMaio, D., 2000, Repression of Human Papillomavirus Oncogenes in HeLa Cervical Carcinoma Cells Causes the Orderly Reactivation of Dormant Tumor Suppressor Pathways, *Proc. Natl. Acad. Sci.*, 97, 12513–12518.
- Guo, W., Yan, M., Xu, B., Chu, F., Wang, W., Zhang, C., Jia, X., Han, Y., Xiang, H., Zhang, Y., Wang, P., and Lei, H., 2016, Design, Synthesis, and Biological Evaluation of The Novel Glycyrrhetic Acid-Cinnamoyl Hybrids as Anti-tumor Agents, *Chem. Cent. J.*, 10, 1–11.
- Hermawan, F., Jumina, J., and Pranowo, H.D., 2020, Design of Thioxanthone Derivatives as Potential Tyrosine Kinase Inhibitor: A Molecular Docking Study, *Rasayan J. Chem.*, 13, 2626–2632.
- Huang, S.Y., Grinter, S.Z., and Zou, X., 2010, Scoring Functions and Their Evaluation Methods for Protein-Ligand Docking: Recent Advances and Future Directions, *Phys. Chem. Chem. Phys.*, 12, 12899–12908.
- Huey, R., Morris, G.M., Olson, A.J., and Goodsell, D.S., 2007, Software News and Update a Semiempirical Free Energy Force Field with Charge-Based Desolvation, *J. Comput. Chem.*, 28, 1145–1152.
- Iranshahi, M., Sahebkar, A., Hosseini, S.T., Takasaki, M., Konoshima, T., and Tokuda, H., 2010, Cancer Chemopreventive Activity of Diversin from *Ferula Diversivitta* In Vitro and In Vivo, *Phytomedicine*, 17, 269–273.
- Jain, A.N. and Nicholls, A., 2008, Recommendations for Evaluation of Computational Methods, *J. Comput. Aided Mol. Des.*, 22, 133–139.
- Jorissen, R., Walker, F., Pouliot, N., Garrett, T.P., Ward, C., and Burgess, A., 2003, Epidermal Growth Factor Receptor: Mechanisms of Activation and Signalling, *Exp. Cell Res.*, 284, 31–53.
- Jung, K., Lee, E.J., Park, J.W., Lee, J.H., Moon, S.H., Cho, Y.S., and Lee, K., 2019, EGF Receptor Stimulation Shifts Breast Cancer Cell Glucose Metabolism Toward Glycolytic Flux Through PI3 Kinase Signaling, *PLoS One*, 14, e0221294.
- Keawsa-ard, S., Natakankitkul, S., Liawruangrath, S., Teerawutgulrag, A., Trisuwan, K., Charoenying, P., Pyne, S.G., and Liawruangrath, B., 2012, Anticancer and Antibacterial Activities of the Isolated Compounds from

- Solanum spirale Roxb. Leaves, *Chiang Mai J. Sci.*, 39, 445–454.
- Khonkarn, R., Mankhetkorn, S., Talelli, M., Hennink, E.W., and Okonogi, S., 2012, Cytostatic Effect of Xanthone-Loaded mPEG-b-p(HPMAm-Lac2) Micelles Towards Doxorubicin Sensitive and Resistant Cancer Cells, *Colloids Surfaces B.*, 94, 266–273.
- Kitchen, D.B., Decornez, H., Furr, J.R., and Bajorath, J., 2004, Docking and Scoring in Virtual Screening in Drug Discovery, Methods and Applications, *Nat. Rev. Drug Discov.*, 3, 935–949.
- Koch, A., Tamez, P., Pezzuto, J., and Soejarto, D., 2005, Evaluation of Plants Used for Antimalarial Treatment by The Maasai of Kenya, *J. Ethnopharmacol.*, 101, 95–99.
- Kolb, P. and Irwin, J.J., 2009, Docking Screens: Right for the Right Reasons?, *Curr. Top Med. Chem.*, 9, 755–770.
- Kosaka, T., Yatabe, Y., Endoh, H., Yoshida, K., Hida, T., Tsuboi, M., Tada, H., Kuwano, H., and Mitsudomi, T., 2006, Analysis of Epidermal Growth Factor Receptor Gene Mutation in Patients with Non-Small Cell Lung Cancer and Acquired Resistance to Gefitinib, *Clin. Cancer Res.*, 12, 5764–5770.
- Kumar, V., Yadavilli, S., and Kannan, R., 2020, A Review on RNAi Therapy for NSCLC: Opportunities and Challenges, *Wiley Interdiscip. Rev. Nanomed. Nanobiotechnol.*, 13, e1677.
- Kurniawan, Y.S., Priyanga, K.T.A., Jumina, J., Pranowo, H.D., Sholikhah, E.N., Zulkarnain, A.K., Fatimi, H.A., and Julianus, J., 2021, An Update on the Anticancer Activity of Xanthone Derivatives: A Review, *Pharmaceuticals*, 14, 1144.
- Kuwai, T., Kitadai, Y., Tanaka, S., Onogawa, S., Matsutani, N., Kaio, E., Masanori, I., and Chayama, K., 2003, Expression of Hypoxia-Inducible Factor-1 α is Associated with Tumor Vascularization in Human Colorectal Carcinoma, *Int. J. Cancer*, 105, 176–181.
- Lee, B.W., Lee, J.H., Lee, S.T., Lee, H.S., Lee, W.S., Jeong, T.S., and Park, K.H., 2005, Antioxidant and Cytotoxic Activities of Xanthenes from *Cudrania tricuspidata*, *Bioorg. Med. Chem. Lett.*, 15, 5548–5552.
- Li, D., Lv, P., Zhang, H., Zhang, H., Hou, Y., Liu, K., Ye, Y., and Zhu, H., 2011, The Combination of 4-Anilinoquinazoline and Cinnamic Acid: A Novel Mode of Binding to The Epidermal Growth Factor Receptor Tyrosine Kinase, *Bioorg. Med. Chem.*, 19, 5012–5022.
- Li, Q.B., Zhou, F.T., Liu, Z.G., Li, X.F., Zhu, W.D., and Xie, J.W., 2011, K₂CO₃-Promoted Domino Reactions: Construction of Functionalized 2,3-Dihydrobenzofurans and Clofibrate Analogues, *J. Org. Chem.*, 76, 7222–7228.
- Li, X., An, Y., Jin, J., Zhu, Z., Hao, L., Liu, L., Shi, Y., Fan, D., Ji, T., and Yang,

- C.J., 2015, Evolution of DNA Aptamers through In Vitro Metastatic-Cell Based Systematic Evolution of Ligands by Exponential Enrichment for Metastatic Cancer Recognition and Imaging, *Anal. Chem.*, 87, 4941–4948.
- Liang, C., Pei, S., Ju, W., Jia, M., Tian, D., Tang, Y., and Mao, G., 2017, European Journal of Medicinal Chemistry Synthesis and in vitro and in vivo antitumour activity study of 11- hydroxyl esterified bergenin / cinnamic acid hybrids, *Eur. J. Med. Chem.*, 133, 319–328.
- Liu, B., Bernard, B., and Wu, J.H., 2006, Impact of EGFR Point Mutations on the Sensitivity to Gefitinib : Insights From Comparative Structural Analyses and Molecular Dynamics Simulations, *Proteins*, 65, 331–346.
- Liu, J., Zhou, F., Zhang, L., Wang, H., Zhang, J., Zhang, C., Jiang, Z., Li, Y., Liu, Z., and Chen, H., 2018, DMXAA-Pyranoxanthone Hybrids Enhance Inhibition Activities Against Human Cancer Cells with Multi-Target Functions, *Eur. J. Med. Chem.*, 143, 1768–1778.
- Liu, L., Hudgins, W.R., Shack, S., Yin, M., and Samid, D., 1995, Cinnamic Acid: A Natural Product with Potential Use in Cancer Intervention, *Int. J. Cancer*, 62, 345–350.
- Liu, Y., Ma, L., Chen, W.H., Wang, B., and Xu, Z.L., 2007, Synthesis of Xanthone Derivatives with Extended π -Systems as α -Glucosidase Inhibitors: Insight into The Probable Binding Mode, *Bioorg. Med. Chem.*, 15, 2810–2814.
- Lococo, F., Paci, M., Rapietta, C., Rossi, T., Sancisi, V., Braglia, L., Cavuto, S., Bisagni, A., Bongarzone, I., Noonan, D.M., Albini, A., and Maramotti, S., 2015, Preliminary Evidence on The Diagnostic and Molecular Role of Circulating Soluble EGFR in Non-Small Cell Lung Cancer, *Int. J. Mol. Sci.*, 16, 19612–19630.
- Luo, Y., Qiu, K., Lu, X., Liu, K., Fu, J., and Zhu, H., 2011, Synthesis, Biological Evaluation, and Molecular Modeling of Cinnamic Acyl Sulfonamide Derivatives as Novel Antitubulin Agents, *Bioorg. Med. Chem.*, 19, 4730–4738.
- Macalino, S.J.Y., Gosu, V., Hong, S., and Choi, S., 2015, Role of Computer-Aided Drug Design in Modern Drug Discovery, *Arch. Pharm. Res.*, 38, 1686–1701.
- McGaffin, K.R., Acktinson, L., and Chrysogelos, S.A., 2004, Growth and EGFR Regulation in Breast Cancer Cells by Vitamin D and Retinoid Compounds, *Breast Cancer Res. Treat.*, 86, 55–73.
- Miladiyah, I., Jumina, J., Haryana, S.M., and Mustofa, M., 2018, Biological Activity, Quantitative Structure-Activity Relationship Analysis, and Molecular Docking of Xanthone Derivatives as Anticancer Drugs, *Drug Des. Devel. Ther.*, 12, 149–158.
- Moreau, S., Varache-Lembege, M., Larroure, S., Fall, D., Neveu, A., Deffieux, G., Vercauteren, J., and Nuhrich, A., 2002, (2-Arylhydrazonomethyl)-

- substituted Xanthenes as Antimycotics: Synthesis and Fungistatic Activity Against *Candida* species, *Eur. J. Med. Chem.*, 37, 237–253.
- Morphy, R., Kay, C., and Rankovic, Z., 2004, From Magic Bullets to Designed Multiple Ligands, *Drug Discov. Today*, 9, 641–651.
- Morphy, R. and Rankovic, Z., 2005, Designed Multiple Ligands. An Emerging Drug Discovery Paradigm, *J. Med. Chem.*, 48, 6523–6543.
- Mosesson, Y. and Yarden, Y., 2004, Oncogenic Growth Factor Receptors: Implications for Signal Transduction Therapy, *Semin. Cancer Biol.*, 14, 262–270.
- Nguyen, N.T., Nguyen, T.H., Pham, N.H., Huy, N.T., Bay, M.V., Pham, M.Q., Nam, P.C., Vu, V.V., and Ngo, S.T., 2020, Autodock Vina Adopt More Accurate Binding Poses but Autodock4 Forms Better Binding Affinity, *J. Chem. Inf. Model.*, 60, 204–211.
- Niero, E.L.D.O. and Machado-santelli, G.M., 2013, Cinnamic Acid Induces Apoptotic Cell Death and Cytoskeleton Disruption in Human Melanoma Cells, *J. Exp. Clin. Res.*, 32, 1–14.
- Noguchi, P., Wallace, R., Johnson, J., Earley, E.M., O'Brien, S., Ferrone, S., Pellegrino, M.A., Milstien, J., Needy, C., Browne, W., and Petricciani, J., 1979, Characterization of WiDR: A Human Colon Carcinoma Cell Line, *In Vitro*, 15, 401–408.
- Osada, N., Kohara, A., Yamaji, T., Hirayama, N., Kasai, F., Sekizuka, S., Kuroda, M., and Hanada, K., 2014, The Genome Landscape of The African Green Monkey Kidney-Derived Vero Cell Line, *DNA Res.*, 21, 673–683.
- Pagadala, N.S., Syed, K., and Tuszynski, J., 2017, Software for Molecular Docking: A Review, *Biophys. Rev.*, 9, 91–102.
- Palozza, P., Serini, S., Maggiano, N., Tringali, G., Navarra, P., Ranelletti, F.O., and Calviello, G., 2005, β -Carotene Downregulates The Steady-State and Heregulin- α - Induced COX-2 Pathways in Colon Cancer Cells, *J. Nutr.*, 135, 129–136.
- Patil, R., Das, S., Stanley, A., Yadav, L., Sudhakar, A., and Varma, A.K., 2010, Optimized Hydrophobic Interactions and Hydrogen Bonding at The Target-Ligand Interface Leads the Pathways of Drug-Designing, *PLoS One*, 5, e12029.
- Pedro, M., Cerqueira, F., Sousa, M.E., Nascimento, M.S.J., and Pinto, M., 2002, Xanthenes as Inhibitors of Growth of Human Cancer Cell Lines and Their Effects on the Proliferation of Human Lymphocytes In Vitro, *Biorg. Med. Chem.*, 10, 3725–3730.
- Phanstiel, O., Price, H.L., Wang, L., Juusola, J., Kline, M., and Shah, S.M., 2000, The Effect of Polyamine Homologation on the Transport and Cytotoxicity Properties of Polyamine-(DNA-Intercalator) Conjugates, *J. Org. Chem.*, 65, 5590–5599.

- Qian, Y., Qiu, M., Wu, Q., Tian, Y., Zhang, Y., Gu, N., Li, S., Xu, L., and Yin, R., 2014, Enhanced Cytotoxic Activity of Cetuximab in EGFR-positive Lung Cancer by Conjugating with Gold Nanoparticles, *Sci. Rep.*, 4, 7490.
- Qian, Y., Zhang, H., Zhang, H., Xu, C., Zhao, J., and Zhu, H., 2010, Synthesis, Molecular Modeling, and Biological Evaluation of Cinnamic Acid Metronidazole Ester Derivatives as Novel Anticancer Agents, *Bioorg. Med. Chem.*, 18, 4991–4996.
- Reddy, P.B., Reddy, M.B.M., Reddy, R., Chhajed, S., and Gupta, P.P., 2020, Molecular Docking, PKPD, and Assessment of Toxicity of Few Chalcone Analogues as EGFR Inhibitor in Search of Anticancer Agents, *Struct. Chem.*, 31, 2249–2255.
- Rohman, A., Rafi, M., Alam, G., Muchtaridi, M., and Windarsih, A., 2019, Chemical Composition and Antioxidant Studies of Underutilized Part of Mangosteen (*Garcinia mangostana* L.) Fruit, *J. Appl. Pharm. Sci.*, 9, 47–52.
- Ruswanto, R., Miftah, A.M., Tjahjono, D.H., and Siswandono, S., 2021, In Silico Study of 1-Benzoyl-3-methylthiourea Derivatives Activity as Epidermal Growth Factor Receptor (EGFR) Tyrosine Kinase Inhibitor Candidates, *Chem. Data Collect.*, 34, 100741.
- Saeki, T., Takashima, S., Tachibana, M., Koga, M., Hiyama, E., Salomon, D.S., Holland, J.F., and Ohnuma, T., 1999, Inhibitory Effect of Telomere-Mimic Phosphorothioate Oligodeoxy Nucleotides (S-ODNS) on Human Tumor Cell Lines, *Oncology*, 57, 27–35.
- Sever, R. and Brugge, J.S., 2015, Signal Transduction in Cancer, *Cold Spring Harb. Perspect. Med.*, 5, a006098.
- Shan, T., Ma, Q., Guo, K., Liu, J., Li, W., Wang, F., and Wu, E., 2011, Xanthenes from Mangosteen Extracts as Natural Chemopreventive Agents: Potential Anticancer Drugs, *Curr. Mol. Med.*, 11, 666–677.
- Shang, H., Li, L., Ma, L., Tian, Y., Jia, H., Zhang, T., Yu, M., and Zou, Z., 2020, Design and Synthesis of Molecular Hybrids of Sophora Alkaloids and Cinnamic Acids as Potential Antitumor Agents, *Molecules*, 25, 1168.
- Shigeta, K., Hayashida, T., Hoshino, Y., Okabayashi, K., Endo, T., Ishii, Y., Hasegawa, H., and Kitagawa, Y., 2013, Expression of Epidermal Growth Factor Receptor Detected by Cetuximab Indicates Its Efficacy to Inhibit In Vitro and In Vivo Proliferation of Colorectal Cancer Cells, *PLoS One*, 8, e66302.
- Silva, A.M.S. and Pinto, D.C.G.A., 2005, Structure Elucidation of Xanthone Derivatives: Studies of Nuclear Magnetic Resonance Spectroscopy, *Curr. Med. Chem.*, 12, 2481–2497.
- Sousa, M.E. and Pinto, M.M.M., 2005, Synthesis of Xanthenes: An Overview, *Curr. Med. Chem.*, 12, 2447–2479.
- Stamos, J., Sliwkowski, M.X., and Eigenbrot, C., 2002, Structure of the Epidermal

- Growth Factor Receptor Kinase Domain Alone and in Complex with a 4-Anilinoquinazoline Inhibitor, *J. Biol. Chem.*, 277, 46265–46272.
- Su, Q.G., Liu, Y., Cai, Y.C., Sun, Y.L., Wang, B., and Xian, L.J., 2011, Antitumour Effects of Xanthone Derivatives and The Possible Mechanisms of Action, *Invest. New Drugs*, 29, 1230–1240.
- Sudta, P., Jiarawapi, P., Suksamrarn, A., Hongmanee, P., and Suksamrarn, S., 2013, Potent Activity Against Multidrug-resistant Mycobacterium tuberculosis of α -Mangostin Analogs, *Chem. Pharm. Bull.*, 61, 194–203.
- Sung, H., Ferlay, J., Siegel, R.L., Laversanne, M., Soerjomataram, I., Jemal, A., and Bray, F., 2021, Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries, *CA Cancer J. Clin.*, 71, 209–249.
- Swiatek-Machado, K., Mieczkowski, J., Ellert-Miklaszewska, A., Swierk, P., Fokt, I., Szymanski, S., Skora, S., Szeja, W., Gryniewicz, G., Lesyng, B., Priebe, W., and Kaminska, B., 2012, Novel Small Molecular Inhibitors Disrupt the JAK/STAT3 and FAK Signaling Pathways and Exhibit a Potent Antitumor Activity in Glioma Cells, *Cancer Biol. Ther.*, 13, 657–670.
- Takahashi, T. and Miyazawa, M., 2010, Tyrosinase Inhibitory Activities of Cinnamic Acid Analogues, *Pharmazie*, 65, 913–918.
- Talaei, F., Azizi, E., Dinarvand, R., and Atyabi, F., 2011, Thiolated Chitosan Nanoparticles as a Delivery System for Antisense Therapy: Evaluation Against EGFR in T47D Breast Cancer Cells, *Int. J. Nanomedicine*, 6, 1963–1975.
- Tao, X., Huang, Y., Chen, X., Wang, C., Chen, F., Yang, L., Ling, L., and Che, Z., 2019, Recent Developments in Molecular Docking Technology Applied in Food Science: A Review, *Int. J. Food Sci. Technol.*, 55, 33–45.
- Viegas-Junior, C., Danuello, A., Bolzani, V. da S., Barreiro, E.J., and Fraga, C.A.M., 2007, Molecular Hybridization: A Useful Tool in the Design of New Drug Prototypes, *Curr. Med. Chem.*, 14, 1829–1852.
- Waldman, S.A., 2002, Does Potency Predict Clinical Efficacy? Illustration Through an Antihistamine Model, *Ann. Allergy Asthma Immunol.*, 89, 7–12.
- Wang, C., Wang, W., Wang, C., Tang, Y., and Tian, H., 2015, Combined Therapy with EGFR TKI and Gambogic Acid for Overcoming Resistance in EGFR-T790M Mutant Lung Cancer, *Oncol. Lett.*, 10, 2063–2066.
- Wang, P., Jiang, L., Cao, Y., Ye, D., and Zhou, L., 2018, The Design and Synthesis of N-Xanthone Benzenesulfonamides as Novel Phosphoglycerate Mutase 1 (PGAM1) Inhibitors, *Molecules*, 23, 1396.
- Wang, Z., Kolb, H.C., and Sharpless, K.B., 1994, Large-Scale and Highly Enantioselective Synthesis of The Taxol C-13 Side Chain through Asymmetric Dihydroxylation, *J. Org. Chem.*, 59, 5104–5105.

- Woo, S., Jung, J., Lee, C., Kwon, Y., and Na, Y., 2007, Synthesis of New Xanthone Analogues and Their Biological Activity Test-Cytotoxicity, Topoisomerase II Inhibition, and DNA Cross-Linking Study, *Bioorg. Med. Chem. Lett.*, 17, 1163–1166.
- Woo, S., Jung, J., Lee, C., Kwon, Y., and Na, Y., 2007, Synthesis of New Xanthone Analogues and Their Biological Activity Test-Cytotoxicity, Topoisomerase II Inhibition, and DNA Cross-Linking Study, *Bioorg. Med. Chem. Lett.*, 17, 1163–1166.
- Xiong, Y. and Zhang, X., 2011, Significant Heterogenous Carbonate Salt Catalyzed Acetylation of Alcohols via A Transesterification Process with Carbonate Salt-Activated Alcohol 1H NMR Evidence, *Chin. J. Chem.*, 29, 1143–1148.
- Xu, C., Deng, T., Fan, M., Lv, W., Liu, J., and Yu, B., 2016, Synthesis and In Vitro Antitumor Evaluation of Dihydroartemisinin-Cinnamic Acid Ester Derivatives, *Eur. J. Med. Chem.*, 107, 192–203.
- Ye, G., Lan, T., Huang, Z., Cheng, X., Cai, C., Ding, S., Xie, M., and Wang, B., 2019, Design and Synthesis of Novel Xanthone-Triazole Derivatives as Potential Antidiabetic Agents: α -Glucosidase Inhibition and Glucose Uptake Promotion, *Eur. J. Med. Chem.*, 177, 362–373.
- Yuanita, E., Pranowo, H.D., Jumina, J., and Mustofa, M., 2016, Design of Hydroxy Xanthenes Derivatives as Anticancer Using Quantitative Structure-Activity Relationship, *Asian J. Pharm. Clin. Res.*, 9, 180–185.
- Yun, C., Mengwasser, K.E., Toms, A. V, Woo, M.S., Greulich, H., Wong, K., Meyerson, M., and Eck, M.J., 2008, The T790M Mutation in EGFR Kinase Causes Drug Resistance by Increasing The Affinity for ATP, *PNAS*, 105, 2070–2075.
- Zhang, Y.S., Duchamp, M., Oklu, R., Ellisen, L.W., Langer, R., and Khademhosseini, A., 2016, Bioprinting the Cancer Microenvironment, *ACS Biomater. Sci. Eng.*, 2, 1710–1721.
- Zhou, T., Shi, Q., Bastow, K.F., and Lee, K., 2010, Antitumor Agents 286. Design, Synthesis, and Structure-Activity Relationships of 3'R, 4'R-disubstituted-2',2'-dimethyldihydropyrano[2,3-f]chromone (DSP) Analogues as Potent Chemosensitizers to Overcome Multidrug Resistance, *J. Med. Chem.*, 53, 8700–8708.
- Żołek, T., Trzeciak, A., and Maciejewska, D., 2022, Theoretical Evaluation of EGFR Kinase Inhibition and Toxicity of Di-indol-3-yl Disulphides with Anti-Cancer Potency, *J. Biomol. Struct. Dyn.*, 40, 622–634.
- Zou, H., Wu, H., Zhang, X., Zhao, Y., Stöckigt, J., Lou, Y., and Yu, Y., 2010, Synthesis, Biological Evaluation, and Structure–Activity Relationship Study of Novel Cytotoxic Aza-Caffeic Acid Derivatives, *Bioorg. Med. Chem.*, 18, 6351–6359.
- Zou, Y., Zhao, Q., Hu, H., Hu, L., Yu, S., Xu, M., and Wu, Q., 2012, Synthesis and

In Vitro Antitumor Activities of Xanthone Derivatives Containing 1,4-Disubstituted-1,2,3-triazole Moiety, *Arch. Pharm. Res.*, 35, 2093–2104.