

DAFTAR PUSTAKA

- Andriyani, L., 2012, Isolasi dan Uji Antioksidan Flavonoid Terprenilasi dari Daun *Erythrina crista-galli*, skripsi, Universitas Airlangga, Surabaya.
- Anggreini, N., 2014, Isolasi dan Identifikasi Senyawa Pterokarpan dari Kulit Batang *Erythrina fusca* L. sebagai Antikanker terhadap Sel Murin Leukemia P-388, skripsi, Fakultas Sains dan Teknologi, Universitas Airlangga, Surabaya.
- Chacha, M., Bojase-Moleta, G., and Runner R.T. Majinda, 2005. Antimicrobial and radical scavenging flavonoids from the stem wood of *Erythrina latissima*, *Phytochem.*, **Vol 16**, 99–104.
- Cui, L., Ndinteh, D.T., Na, M., Thuong, P.T., Muruumu, J.S., Njamen, D., Mbafor, J.T., Fomum, Z.T., Ahn, J.S., and Won Keun Oh, 2007, Isoprenylated flavonoids from the stem bark of *Erythrina abyssinica*, *J. Nat. Prod.*, **Vol 70**, 1039-1042.
- Cui, L., Thuong, P.T., Lee, H.S., Nditeh, D.T., Mbafor, J.T., Fomum, Z.T., and Won Keun Oh, 2008, Flavanones from the stem bark of *Erythrina abyssinica*, *Bioorg. & Med. Chem.*, **Vol 16**, 10356–10362.
- Da-Cunha, E.V.L., Dias, C., Barbosa-Filho, J.M., and Alexander I. Gray, 1996, Eryvellutinone, An Isoflavanone from the stem bark of *Erythrina vellutina*, *Phytochem.*, **Vol 43**, 1371-1373.
- Dao, T.T., Nguyen, P.H., Thuong, P.T., Kang, K.W., Na, M., Ndinteh, D.T., Mbafor, J.T., and Won Keun Oh, 2009, Pterocarpan with inhibitory effects on protein tyrosine phosphatase 1B from *Erythrina lysistemon* Hutch, *Phytochem.*, **Vol 70**, 2053–2057.
- Diallo, D., Maiga, A., Diakite, C., and Merlin, W., 2004, *Malarial-5 : Development of an Antimalarial Phytomedicine in Mali*, CRC Press LLC, 1-14.
- Djiogue, S., Halabalaki, M., Alexi, X., Njamen, D., Fomum, Z.T., Alexis, M.N., and Alexios-Leandros Skaltsounis, 2009, Isoflavonoids from *Erythrina poeppigiana*: Evaluation of their binding affinity for the estrogen receptor, *J. Nat. Prod.*, **Vol 72**, 1603–1607.
- El-Masry, S., Amer, M.E., Abdel-Kader, M.S., and Hala H. Zaatout, 2002, Prenylated flavonoids of *Erythrina lysistemon* Grown in Egypt, *Phytochem.*, **Vol 60**, 783–787.
- Faggion, S.A., Cunha, A.O.S., Fachim, H.A., Gavin, A.S., Santos, W.F.D., Pereira, A.M.S., and Renê Oliveira Belebony, 2011, Anticonvulsant profile of the alkaloids (+)-erythravine and (+)-11- α -hydroxy-erythravine isolated from the flowers of *Erythrina mulungu* mart ex benth (Leguminosae–Papilionaceae), *Epilep. & Behav.*, **Vol 20**, 441–446.
- Fatmawati, N., 2014, Isolasi dan Identifikasi Senyawa Flavonoid dari Kulit Batang *Erythrina fusca* L. dan Uji Aktivitas Antimalaria terhadap *Plasmodium falciparum*, skripsi, Fakultas Sains dan Teknologi, Universitas Airlangga, Surabaya.

- Firmansyah, M.Y., 2014, Isolasi dan Identifikasi Senyawa Fenolik dari Akar *Erythrina ovalifolia* Roxb serta Uji Aktivitas Antimalaria terhadap *Plasmodium falciparum*, skripsi, Fakultas Sains dan Teknologi, Universitas Airlangga, Surabaya.
- Flausino, O., Santos, L.D.AA.V., Pereira, A.M., Bolzani, V.D.S., Nunes-de-Souza, R.L., 2007, Anxiolytic effects of erythrinian alkaloids from *Erythrina mulungu*, *J. Nat. Prod.*, **Vol 70**, 48-53.
- Hegde, V.R., Dai, P., Patel, M.S., Puar, M.S., Das, P., Pai, J., Bryant, R., and P.A. Cox, 1997, Phospholipase A2 inhibitors from an *Erythrina* species from samoa, *J. Nat. Prod.*, **Vol 60**, 6.
- Heyne, K. 1987, *Tumbuhan Berguna Indonesia*, terjemahan Badan Litbang Kehutanan, Jilid III, Cetakan kesatu, Badan Penelitian dan Pengembangan Kehutanan, Departemen Kesehatan.
- Ichimaru, M., Moriyasu, M., Nishiyama, Y., and Atsushi Kato, 1996, Structural elucidation of new flavanones isolated from *Erythrina abyssinica*, *J. Nat. Prod.*, **Vol 59**, 1113-1116.
- Innok, P., Rukachaisirikul, T., and Apichart Suksamrarn, 2009, Flavanoids and pterocarpan from the bark of *Erythrina fusca*, *Chem. Pharm. Bull.*, **Vol 57**, 993—996.
- Innok, P., Rukachaisirikul, T., Phongpaichit, S., and Apichart Suksamrarn 2010, Fuscacarpan A–C, New pterocarpan from the stems of *Erythrina fusca*, *J. Fito.*, **Vol 81**, 518–523.
- Jang, J., Na, M., Thuong, P.T., Njamen, D., Mbafor, J.T., Fomum, Z.T., Woo, E.R., and Won Keun Oh, 2008, Prenylated flavonoids with PTP1B inhibitory activity from the root bark of *Erythrina mildbraedii*, *Chem. Pharm. Bull.*, **Vol 56**, 85—88.
- Juma, B.F., Majinda, R.R.T., 2004, Erythrinaline alkaloids from the flowers and pods of *Erythrina lysistemon* and Their DPPH Radical Scavenging Properties, *Phytochem.*, **Vol 65**, 1397–1404.
- Kohler, I and Siems, K., 2002, In vitro Antiplasmodial Investigation of Medicinal Plants from El Salvador. *Z. Naturforsch*, 57c, 277-278.
- Manitto, P., 1992, *Biosintesis Produk Alami*, terjemahan Koensoemardiyah, Semarang, Semarang Press.
- Maier, U.H., Rodl, W., Deus-Neumann, B., and Meinhardt H. Zenk, 1999, Biosynthesis of *Erythrina* alkaloids in *Erythrina crista-galli*, *Phytochem.*, **Vol 52**, 373-382.
- Mbafor, J.T., Ndom, J-C., and Z. Taneé Fomum, 1996, Triterpenoid saponins from *Erythrina Sigmoidea*, PII S0031-9422(96)00655-3.
- McKee, T.C., Bokesch, H.R., McCornick, J.L., Rashid, M.A., Spielvogel, D., Gustafson, K.R., Alavanja, M.M., Cardeliina, J.H., and Boyd, M.R., 1997, Isolation and

characterization of new anti-HIV and cytotoxic leads from plants, marine, and microbial organisms, *J. Nat. Prod.*, **Vol 60**.

- Moriyasu, M., Ichimaru, M., Nishiyama, Y., Kato, A., Mathenge, S.G., Juma, F.D., Joseph N. Nganga, 1998, Minor flavanones from *Erythrina abyssinica*, *J. Nat. Prod.*, **Vol 61**, 185-188.
- Na, M., Jang, J., Njamen, D., Mbafor, J.T., Fomum, Z.T., Kim, B.Y., Oh, W.K., and Ahn, J.S., 2006, Protein tyrosine phosphatase-1B inhibitory activity of isoprenylated flavonoids isolated from *Erythrina mildbraedii*, *J. Nat. Prod.*, **Vol 69**, 1572-1576.
- Na, M., Hoang, D.M., Njamen, D., Mbafor, J.T., Fomum, Z.T., Thuong, P.T., Ahna, J.S., and Won Keun Oh, 2007, Inhibitory effect of 2-Arylbenzofurans from *Erythrina addisoniae* on protein tyrosine phosphatase-1Bq, *Bioorg. & Med. Chem. Lett.*, **Vol 17**, 3868–3871.
- Nde, C.B.M., Njamen, D., Fomum, S.T., Wandji, J., Simpson, E., Clyne, C., Günter Vollmer, 2011, In vitro estrogenic activity of two major compounds from the stem bark of *Erythrina lysistemon* (Fabaceae), *Europe. J. Pharm.*
- Nkengfack, A., Vardamides, J.C., Fomijm, T., and Michele Meyers, 1995, Prenylated isoflavanone from *Erythrina eriotricha*, *Phytochem.*, **Vol. 40**, 1803-1808.
- Nkengfack, A., Vouffo, T.W., Vardamides, V.J., Kouam, J., Fomum, Z.T., Meyer, T.M., and Olov Sterner, 1997, Phenolic metabolites from *Erythrina* Species, *Phytochem.*, **Vol 46**, 573 -578.
- Nkengfack, A. E., Waffo, A.K., Azebaze, G. A., Fomum, Z. T., Meyer, M., Bodo, B., and Fanie R. van Heerden, 2000, Indicanine A, a New 3-phenylcoumarin from root bark of *Erythrina indica*, *J. Nat. Prod.*, **Vol 63**, 855-856.
- Nkengfack, A.E., Azebazea, A.G.B., Waffo, A.K., Fomum, Z.T., Meyer, M., and Fanie R. van Heerden, 2001, Cytotoxic isoflavones from *Erythrina indica*, *Phytochem.*, **Vol 58**, 1113–1120.
- Nguyen, P.H., Le, T.V.T., Thuong, P.T., Dao, T.T., Nditeh, D.T., Mbafor, J.T., Kang, K.W., and Won Keun Oh, 2009, Cytotoxic and PTP1B inhibitory activities from *Erythrina abyssinica*, *Bioorg. & Med. Chem. Lett.*, **Vol 19**, 6745–6749.
- Nguyen, P.H., Nguyen, T.N.A., Dao, T.T., Kang, H.W., Ndinteh, D.J., Mbafor, and Won-Keun Oh, 2010a, AMP-Activated Protein Kinase (AMPK) activation by benzofurans and coumestans isolated from *Erythrina abyssinica*, *J. Nat. Prod.*, **Vol 73**, 598–602.
- Nguyen, P.H., Nguyen, T.N.A., Kang, K.W., Ndinteh, D.T., Mbafor, J.T., Kim, Y.R., Won Keun Oh, 2010b, Prenylated pterocarpanes as bacterial neuraminidase inhibitors, *Bioorg. & Med. Chem.*, **Vol 18**, 3335–3344.
- Nguyen, P.H., Na, M., Dao, T.T., Nditeh, D.T., Mbafor, J.T., Park, J., Cheong, H., and Won Keun Oh, 2010, New stilbenoid with inhibitory activity on viral neuraminidases from *Erythrina addisoniae*, *Bioorg. & Medicinal Chem. Lett.*, **Vol 20**, 6430-6434.

- Nguyen, P.H., Dao, T.D., Kim, J., Phong, D.T., Nditeh, D.T., Mbafor, J.T., and Won Keun Oh, 2011, New 5-deoxyflavonoids and their inhibitory effects on protein tyrosine phosphatase 1B (PTP1B) activity, *Bioorg. & Med. Chem.*, **Vol 19**, 3378–3383.
- Njamen, D., Tallab, E., Mbafor, J.T., Fomum, Z.T., Kamanyi, A., Mbanya, J.C., Cerda-Nicola's, M., Ginerf, R.M., Reciof, C., and Jose' Luis Ri'os, 2003, Anti-inflammatory activity of erycristagallin, a pterocarpene from *Erythrina mildbraedii*, *Europe. J. Pharm.*, **Vol 468**, 67– 74.
- Olivares, E.M., Lwande, W., Monache, F.D., and G. B. Marini Bettolo, 1982, A Pyrano-Isoflavone From Seeds Of *Milletia Thonningii*, *Phyrochem.*, **Vol. 21**, No. 7, pp. 1763-1765
- Omar, V., 2007, In Vitro and In Vivo Antiplasmodial Properties of Some Malaysian Plant Used in Traditional Medicine, *Infectious Disease Journal of Pakistan*, **Vol 16**, Issue 04.
- Ozawa, M., Etoh, T., Hayashi, M., Komiyama, K., Kishida, A., and Ayumi Ohsaki, 2009, TRAIL-enhancing Activity of erythrinan alkaloids from *Erythrina velutina*, *Bioorg. & Med. Chem. Lett.*, **Vol 19**, 234–236.
- Ozawa, M., Kawamata, S., Etoh, T., Hayashi, M., Komiyama, K., Kishida, A., Kuroda, C., and Ayumi Ohsaki, 2010, Structures of new erythrinan alkaloids and nitric oxide production inhibitors from *Erythrina crista-galli*, *Chem. Pharm. Bull.*, **Vol 58**, 1119-1122.
- Pillay, C.C.N., Jager, A.K., Mulholland, D.A., and J. van Staden, 2001, Cyclooxygenase inhibiting and anti-bacterial activities of aouth african *Erythrina* Species, *J. Ethnopharm.*, **Vol 74**, 231–237.
- Queiroz, E.F., Atindehou, K.K., Terreux, C., Antus, S., and Kurt Hostettmann, 2002, Prenylated isoflavonoids from the root bark of *Erythrina vogelii*, *J. Nat. Prod.*, **Vol 65**, 403-406.
- Rukachaisirikul, T., Innok, P., Aroonrerk, N., Boonamnuaylap, W., Limrangsun, S., Boonyon, C., Woonjina, U., and Apichart Suksamrarn 2007. Antibacterial pterocarpan from *Erythrina subumbrans*, *J. Ethnopharm.*, **Vol 110**, 171-175.
- Rukachaisirikul, T., Innok, P., and Apichart Suksamrarn, 2008, Erythrina alkaloids and a pterocarpan from the bark of *Erythrina subumbrans*, *J. Nat. Prod.*, **Vol 71**, 156-158.
- Saputri, R.D., 2013, Hubungan Struktur Senyawa Fenolik dari Kulit Batang *Bauhinia aculeate* L terhadap Sifat Antioksidan dan Antimalaria, *thesis*, Fakultas Sains dan Teknologi, Universitas Airlangga, Surabaya.
- Sato, M., Tanaka, H., Fujiwara, S., Hirata, M., Yamaguchi, R., Etoh, H., and C. Tokuda, 2001, Antibacterial property of isoflavonoids isolated from *Erythrina variegata* against cariogenic oral bacteria, *Phytomed.*, **Vol 9**, 427–433.
- Schlesinger *et al.*, 1988, Antimalarial Agents: Mechanims of Action. *J. Antimicrob Agents and Chemotherapy*, pp.793-798.

- Talla, E., Njamen, D., Mbafor, J.T., Fomum, Z.T., Kamanyi, A., Mbanya, J-C., Giner, R.M., Recio, C., Mañez, S., and José Luis Ríos, 2003, Warangalone, the isoflavonoid anti-inflammatory principle of *Erythrina addisoniae* Stem Bark, *J. Nat. Prod.*, **Vol 66**, 891-893.
- Tanaka, H., Tanaka, T., and Hideo Etoh, 1996, A Pterocarpan from *Erythrina orientalis*, *Phytochem.*, **Vol 42**, 1473-1475.
- Tanaka, H., Tanaka, T., and Hideo Etoh, 1997, A Pterocarpan from *Erythrina orientalis*, *Phytochem.*, **Vol 45**, 205-207.
- Tanaka, H., Tanaka, T., and Hideo Etoh, 1998. Erythrinan alkaloid from *Erythrina X Bid Willii*, **PII: S0031-9422(98)00132-0**.
- Tanaka, H., Tanaka, T., and Hideo Etoh, 1998a, Two pterocarpan from *Erythrina orientalis*, *Phytochem.*, **Vol 47**, 475-477.
- Tanaka, H., Tanaka, T., Hosoya, A., Kitade, Y., and Hideo Etoh, 1998b, A Three isoflavanones from *Erythrina orientalis*, *Phytochem.*, **Vol 48**, 355-357.
- Tanaka, H., Doi, M., Etoh, H., Watanabe, N., Shimizu, H., Hirata, M., Ahmad, M., Qurashi, I., and Mohammad Rehan Khan, 2001, Revised structures for senegalensin and euchrenone b10, *J. Nat. Prod.*, **Vol 64**, 1336-1340.
- Tanaka, H., Etoh, H., Watanabe, N., Shimizu, H., Ahmad, N., and Ghazala Hafeez Rizwani, 2001, Erysubins C-F, Four isoflavonoids from *Erythrina suberosa* var. *glabrescences*, *Phytochem.*, **Vol 56**, 769-773.
- Tanaka, H., Oh-Uchi, T., Etoh, H., Shimizu, H., and Yoichi Tateishi, 2002, Isoflavonoids from the roots of *Erythrina poeppigiana*, *Phytochem.*, **Vol 60**, 789-794.
- Tanaka, H., Hirata, M., Etoh, H., Watanabe, N., Shimizu, H., Ahmad, M., Terada, Y., and Toshio Fukai, 2002, Two Diphenylpropan-1,2-diol syringates from the roots of *Erythrina variegata*, *J. Nat. Prod.*, **Vol 65**, 1933-1935.
- Tanaka, H., Oh-Uchia, T., Etoh, H., Sako, M., Sato, M., Fukaie, T., and Yoichi Tateishif, 2003, An arylbenzofuran and four isoflavonoids from the roots of *Erythrina poeppigiana*, *Phytochem.*, **Vol 63**, 597-602.
- Tanaka, H., Hirata, M., Etoh, H., Shimizu, H., Sako, M., Murate, J., Murata, H., Darnaedig, D., and Toshio Fukaih, 2003, Eryvarins F and G, two 3-phenoxychromones from the roots of *Erythrina variegata*, *Phytochem.*, **Vol 62**, 1243-1246.
- Tanaka, H., Oh-Uchia, T., Etoh, H., Sako, M., Asai, F., Fukai, T., Sato, M., Murata, J., and Yoichi Tateishi, 2003, Isoflavonoids from roots of *Erythrina zeyheri*, *Phytochem.*, **Vol 64**, 753-758.
- Tanaka, H., Sato, M., Oh-Uchi, T., Yamaguchi, R., Etoh, H., Shimizu, H., Sako, M., and Takeuchi, H., 2004, Antibacterial properties of a new isoflavonoid from *Erythrina*

- poepigiana* against methicillin-resistant *Staphylococcus aureus*, *Phytomed.*, **Vol 11**, 331–337.
- Tjahjandarie, T.S., Saputri, R.D., and Tanjung, M., 2014, Isoprenylated pterocarpan and flavanone from the tree bark of *Erythrina crista-galli* with their antiplasmodial activity, *Asian Pac. J. Trop. Bio.*, **6(4)**, 786-790.
- Tjahjandarie, T.S., Saputri, R.D., and Tanjung, M., 2015, Phenolic compounds from the stem bark of *Erythrina orientalis* and their cytotoxic and antioxidant activities, *Der Pharm. Chem.*, 2015, **7(1)**, 206-211
- Waffo, A.K., Azebazea, G.A., Nkengfack, A.E., Fomum, Z.T., Meyer, M., Bodo, B., Indicanines B and C, 2000, Two isoflavonoid derivatives from the root bark of *Erythrina indica*, *Phytochem.*, **Vol 53**, 981-985.
- Waffo, A.F.K., Coombes, P.H., Mulholland, D.A., Nkengfack, A.E., and Zacharias T. Fomum, 2006, Flavones and isoflavones from the west african fabaceae *Erythrina vogelii*, *Phytochemistry*, **Vol 67**, 459–463.
- Wanjala, C.C.W., Majindau, R.R.T., 2000, A New isoflavanone from the stem bark of *Erythrina latissima*, *J. Fito.*, **Vol 71**, 400-405.
- Wandji, J., Awanchiri, S.S., Fomum, Z.T., Tillequin, F., and Francine Libot, 1995, Isoflavones and alkaloids from the stem bark and seeds of *Erythrina senegalensis*, *Phytochem.*, **Vol 39**, 677-681.
- Wandji, J., Awanchiri, S.S., Fomum, Z.T., Tillequin, F., Libot, F., and S. Michel-Daniwicz, 1995, Prenylated isoflavonoids from *Erythrina senegalensis*, *Phytochem.*, **Vol 38**, 1309- 1313.
- Watjen, W., Kulawik, A., Suckow-Schnitker, A.K., Chovolou, Y., Rohrig, R., Ruhl, S., Kampkötter, A., Addae-Kyereme, J., Wright, C.W., and C.M. Passreiter, 2007, Pterocarpan phaseollin and neorautenol isolated from *Erythrina addisoniae* induce apoptotic cell death accompanied by inhibition of ERK phosphorylation, *Toxic.*, **Vol 242**, 71–79.
- Watjen, W., Suckow-Schnitker, A.K., Rohrig, R., Kulawik, A., Addae-Kyereme, J., Wright, C.W., and C. M. Passreiter, 2008, Prenylated flavonoid derivatives from the bark of *Erythrina addisoniae*, *J. Nat. Prod.*, **Vol 71**, 735–738.
- Widoyono, *et al.*, 2008, Penyakit tropis: epidemiologi, penularan, pencegahan & pemberantasannya, Erlangga.
- Wright, C.W., 2004, *Laboratory Research : Pharmacological Properties of The Active Constituents of Some Traditional Herbal Antimalarials*, CRC Press, Part 4, Chapter 15.

- Xiaoli, L., Naili, W., Sau, W.M., Chen, A.S.C., and Yao Xinsheng, 2006, Four new isoflavonoids from the stem bark of *Erythrina variegata*, *Chem. Pharm. Bull.*, **Vol 54**, 570—573.
- Yadava, R.N., Reddy, K.I.S., 1999, A novel prenylated flavone glycoside from the seeds of *Erythrina indica*, *J. Fito.*, **Vol 70**, 357-360.
- Yenesew, A., Midiwo, J.O., Heydenreich, M., and Martin G. Peter, 1998, Four isoflavones from the stem sark of *Erythrina sacleuxii*, *Phytochem.*, **Vol 49**, 247-249.
- Yenesew, A., Midiwo ,J.O., Guchu, S.M., Heydenreich, M., and Peter, M.G., 2002. Three isoflav-3-enes and a 2-arylbenzofuran from the root bark of *Erythrina burttii*, *Phytochem.*, **Vol 59**, 337–341.
- Yenesew, A., Irungu, B., Derese, S., Midiwo, J.O., Heydenreich, M., and Martin G. Peter, 2003, Two prenylated flavonoids from the stem bark of *Erythrina burttii*, *Phytochem.*, **Vol 63**, 445–448.
- Yenesew, A., Induli , M., Derese , S., Midiwo , J.O., Heydenreich, M., Peter, M.G., Akala , H., Wangui, J., Liyala , P., and Waters, N.C., 2004, anti-plasmodial flavonoids from the stem bark of *Erythrina abyssinica*, *Phytochem.*, **Vol 65**, 3029–3032.
- Yenesew, A., Derese, S., Midiwo, J.O., Bii, C.C., Heydenreich, M., and Martin G. Peter, 2005, Antimicrobial flavonoids from the stem bark of *Erythrina burttii*, *J. Fitoterapia.*, **Vol 76**, 469– 472.