

REFERENCES

1. Miller, A.L., (1996). "Antioxidant Flavonoids: Structure, Function and Clinical Usage", *Alternative Medicine Review.*, 1(2), 103 - 111.
2. Jassbi, A.R., Singh, P., Krishna, V., Gupta, P.K., Tahara, S., (2004). "Antioxidant study and assignments of NMR spectral data for 3',4',7-trihydroxyflavanone 3',7-di-O-b-D-glucopyranoside (Butrin) and its hydrolyzed product", *Chemistry of Natural Compounds.*, 40(3), 250 - 253.
3. Lavhale, M.S., Mishra, S., (2007). "Evaluation of free radical scavenging activity of *Butea monosperma* Lam", *Indian journal of experimental biology.*, 45(4), 376.
4. Chokchaisiri, R., Suaisom, C., Sriphota, S., Chindaduang, A., Chuprajob, T., Suksamrarn, A., (2009). "Bioactive Flavonoids of the Flowers of *Butea monosperma*", *Chemical & pharmaceutical bulletin.*, 57(4), 428-432.
5. Maurya, R., Yadav, D.K., Singh, G., Bhargavan, B., Narayana, Murthy, P.S., Sahai, M., et al., (2009). "Osteogenic activity of constituents from *Butea monosperma*", *Bioorganic & Medicinal Chemistry Letters.*, 19(3), 610-613.
6. Gurav, S.H.S., Gulkari, V.D., Duragkar, N.J., Patil, A.T., (2008). "Antimicrobial activity of *Butea monosperma* Lam. Gum", *IRANIAN JOURNAL OF PHARMACOLOGY AND THERAPEUTICS (IJPT).*, 7(1), 21-24.
7. Prashanth, D., Asha, M.K., Amit, A., Padmaja, R., (2001). "Anthelmintic activity of *Butea monosperma*", *Fitoterapia.*, 72(4), 421-422.
8. Sumitra, M., Manikandan, P., Suguna, L., (2005). "Efficacy of *Butea monosperma* on dermal wound healing in rats", *The International Journal of Biochemistry & Cell Biology.*, 37(3), 566-573.
9. Soman, I., Mengi, S.A., Kasture, S.B., (2004). "Effect of leaves of *Butea frondosa* on stress, anxiety, and cognition in rats", *Pharmacology Biochemistry and Behavior.*, 79(1), 11-16.

10. Acharyya, S., Patra, A., Bag, P.K., (2009). "Evaluation of the Antimicrobial Activity of Some Medicinal Plants against Enteric Bacteria with Particular Reference to Multi-Drug Resistant *Vibrio cholerae*", *Tropical Journal of Pharmaceutical Research.*, 8(3), 231-237.
11. Sehrawat, A., Khan, T.H., Prasad, L., Sultana, S., (2006). "*Butea monosperma* and chemomodulation: Protective role against thioacetamide-mediated hepatic alterations in Wistar rats", *Phytomedicine.*, 13(3), 157-163.
12. Somani, R., Kasture, S., Singhai, A.K., (2006). "Antidiabetic potential of *Butea monosperma* in rats", *Fitoterapia.*, 77(2), 86-90.
13. Shahavi, V.M., Desai, S.K., (2008). "Anti-inflammatory activity of *Butea monosperma* flowers", *Fitoterapia.*, 79(2), 82-85.
14. Choedon, T., Shukla, S.K., Kumar, V., (2010). "Chemopreventive and anti-cancer properties of the aqueous extract of flowers of *Butea monosperma*", *Journal of Ethnopharmacology.*, 129(2), 208-213.
15. Kasture, V.S., Chopde, C.T., Deshmukh, V.K., (2000). "Anticonvulsive activity of *Albizia lebbek*, *Hibiscus rosa sinesis* and *Butea monosperma* in experimental Animals", *Journal of Ethnopharmacology.*, 71(1-2), 65-75.
16. Kasture, V.S., Kasture, S.B., Chopde, C.T., (2002). "Anticonvulsive activity of *Butea monosperma* flowers in laboratory animals", *Pharmacology Biochemistry and Behavior.*, 72(4), 965-972.
17. Mukherjee, S., Ray, S., Thakur, R., (2009). "Solid lipid nanoparticles: A modern formulation approach in drug delivery system", *Indian journal of pharmaceutical sciences*, 71(4), 349.
18. Cowen, D., (1952). "Flowering trees and shrubs in India", Thacker.
19. *Butea Superba*, Bastard Tea, Flame of Forest (*Butea Monosperma*) [Online]. Available: <http://www.naturalcosmeticsupplies.com/butea-superba.html>. [2011, October 17]
20. *Butea monosperma* [Online]. Available: http://en.wikipedia.org/wiki/Butea_monosperma. [2011, October 17]
21. PROJECTBRAHMA Documenting India's Biodiversity [Online]. Available: http://www.projectbrahma.org/index.php?title=Butea_monosperma#tab=Bino mial_Classification. [2011, October 17]

22. Orwa C. *Butea monosperma*, (2009) [Online]. Available:
http://www.worldagroforestry.org/treedb2/AFTPDFS/Butea_monosperma.pdf.
 [2011, October 17]
23. Maisuthisakul, P., Suttajit, M., Pongsawatmanit, R., (2007). "Assessment of phenolic content and free radical-scavenging capacity of some Thai indigenous plants", *Food Chemistry*, 100(4), 1409-1418.
24. Leach, M.R., (1999 – 2009). "Radical Chemistry", [Online].
 Available: http://www.meta-synthesis.com/webbook/14_radical/radical.html.
 [2011, October 17]
25. Naczki, M., Shahidi, F., (2006). "Phenolics in cereals, fruits and vegetables: Occurrence, extraction and analysis", *Journal of Pharmaceutical and Biomedical Analysis*, 41(5), 1523-1542.
26. Maisuthisakul, P., Pasuk, S., Ritthiruangdej, P., (2008). "Relationship between antioxidant properties and chemical composition of some Thai plants", *J of Food Composition and Analysis*, 21, 229-240.
27. Vlerken, L.E.V., Amiji, M.M., (2006), "Multi-functional polymeric nanoparticles for tumour-targeted drug delivery", *Expert Opin Drug Deliv.*, 3(2), 205 - 16.
28. Zhang, N., Chittasupho, C., Duangrat, C., Siahaan, T.J., Berkland, C., (2007). "PLGA Nanoparticle- Peptide Conjugate Effectively Targets Intercellular Cell-Adhesion Molecule-1", *Bioconjugate chemistry*, 19(1), 145-152.
29. Soppimath, K.S., Aminabhavi, T.M., Kulkarni, A.R., Rudzinski, W.E., (2001). "Biodegradable polymeric nanoparticles as drug delivery devices", *Journal of Controlled Release*, 70(1-2), 1-20.
30. Synthesis of aqueous Gold Nanoparticles [Online]. Available:
<http://chem553project.wikispaces.com/Synthesis+of+aqueous+Gold+Nanoparticles>. [2011, October 17]
31. Sakkinen, M., (2003). "Biopharmaceutical Evaluation of Microcrystalline Chitosan as Release-Rate Controlling Hydrophilic Polymer in Granules for Gastro-Retentive Drug Delivery".
32. Chitosan [Online]. Available: <http://en.wikipedia.org/wiki/Chitosan>.
 [2011, October 17]

33. George, M., Abraham, T.E., (2006). "Polyionic hydrocolloids for the intestinal delivery of protein drugs: Alginate and chitosan — a review", *Journal of Controlled Release.*, 114(1), 1-14.
34. Rosca, C., Popa, M.I., Lisa, G., Chitanu, G.C., (2005). "Interaction of chitosan with natural or synthetic anionic polyelectrolytes", *The chitosan-carboxymethylcellulose complex. Carbohydrate Polymers.*, 62(1), 35-41.
35. Zhu, A., Jin, W., Yuan, L., Yang, G., Yu, H., Wu, H., (2007). "O-Carboxymethylchitosan-based novel gatifloxacin delivery system", *Carbohydrate Polymers.*, 68(4), 693-700.
36. Dyer, A.M., Hinchcliffe, M., Watts, P., Castile, J., Jabbal-Gill, I., Nankervis, R., et al., (2002). "Nasal Delivery of Insulin Using Novel Chitosan Based Formulations: A Comparative Study in Two Animal Models Between Simple Chitosan-Formulations and Chitosan Nanoparticles", *Pharmaceutical Research.*, 19(7), 998-1008.
37. De Campos, A.M., Sánchez, A., Alonso, Ma.J., (2001). "Chitosan nanoparticles: a new vehicle for the improvement of the delivery of drugs to the ocular surface. Application to cyclosporin A. *International Journal of Pharmaceutics.*, 224(1-2), 159-168.
38. Boonsongrit, Y., Mitrevej, A., Mueller, B.W., (2006). "Chitosan drug binding by ionic interaction", *European Journal of Pharmaceutics and Biopharmaceutics.*, 62(3), 267-274.
39. Ichikawa, S., Iwamoto, S., Watanabe., (2005). "Formation of biocompatible nanoparticles by self-assembly of enzymatic hydrolysates of chitosan and carboxymethyl cellulose", *J. Bioscience, biotechnology, and biochemistry.*, 69(9), 1637-1642.
40. Raymond, C.R., Paul, J.S., Paul, J.W., editors. (2004). *Handbook of pharmaceutical excipients.* 4th
41. Sodium carboxymethylcellulose [Online].
Available: <http://www.hbzc.cn/doec/cp2.htm>. [2011, October 17]
42. Khvan, A.M., Madzhidova, V.E., Turaev, A.S., (2005). "Ionic Linking of Carboxymethylcellulose", *Chemistry of Natural Compounds.*, 41(1), 88-90.

43. Sriamornsak, P., Sungthongjeen, S., (2007). "Modification of Theophylline Release With Alginate Gel Formed in Hard Capsules", Article 51. AAPS PharmSciTech., 8(3).
44. Dinarvand, R., Sepehri, N., Manoochehri, S., Rouhani, H., Atyabi, F., (2011). "Polylactide-co-glycolide nanoparticles for controlled delivery of anticancer agents", International Journal of Nanomedicine., 6, 877 - 895.
45. Muthu, M.S., Rawat, M.K., Mishra, A., Singh, S., (2009). "PLGA nanoparticle formulations of risperidone: preparation and neuropharmacological evaluation", Nanomedicine: Nanotechnology, Biology and Medicine., 5(3), 323-333.
46. Alexis, F., Rhee, J-W., Richie, J.P., Radovic-Moreno, A.F., Langer, R., Farokhzad, O.C., 'New frontiers in nanotechnology for cancer treatment', Urologic Oncology: Seminars and Original Investigations., 26(1), 74-85.
47. Müller, R.H., Mäder, K., Gohla, S., (2000). "Solid lipid nanoparticles (SLN) for controlled drug delivery – a review of the state of the art", European Journal of Pharmaceutics and Biopharmaceutics., 50(1), 161-177.
48. Mehnert, W., Mäder, K., (2001). "Solid lipid nanoparticles: Production, characterization and applications", Advanced Drug Delivery Reviews., 47(2-3), 165-196.
49. Jennings, V., Schafer-Korting, M., Gohla, S., (2000). "Vitamin A-loaded solid lipid nanoparticles for topical use: drug release properties", Journal of Controlled Release., 66(2-3), 115-126.
50. Radtke, M., Souto, E.B., Müller, R.H., (2005). "Nanostructured Lipid Carriers: A Novel Generation of Solid Lipid Drug Carriers", PHARMACEUTICAL TECHNOLOGY EUROPE., 17(4), 45-50.
51. Müller, R.H., Petersen, R.D., Hommoss, A., Pardeike., (2007). "Nanostructured lipid carriers (NLC) in cosmetic dermal products", J. Advanced Drug Delivery Reviews., 59(6), 522-530.
52. Wissing, S.A., Kayser, O., Müller, R.H., (2004). "Solid lipid nanoparticles for parenteral drug delivery", Advanced Drug Delivery Reviews., 56(9), 1257-1272.

53. Li, X., Nie, S., Kong, J., Li, N., Ju, C., Pan, W., (2008). "A controlled-release ocular delivery system for ibuprofen based on nanostructured lipid carriers", *International Journal of Pharmaceutics.*, 363(1-2), 177-182.
54. GUIDELINE ICHHT. Validation of analytical procedures: text and methodology Q2 (R1). IFPMA: Geneva. 2005.
55. Tachakittirungrod, S., Okonogi, S., Chowwanapoonpohn, S., (2007). "Study on antioxidant activity of certain plants in Thailand: Mechanism of antioxidant action of guava leaf extract", *Food Chemistry.*, 103(2), 381-388.
56. Trease, G., Evans, W., Balliere, T., (1983). London. Textbook of Pharmacognosy. 12 ed
57. Reuben, K.D., Ganye, G., Nigeria, Abdulrahman, F.I., J.C.Akan, Usman, H., O.A.Sodipo, et al., (2008). "Phytochemical Screening and In Vitro Antimicrobial Investigation of the Methanolic Extract of *Croton Zambesicus* Muell ARG. Stem Bark", *European Journal of Scientific Research.*, 23(1), 134-140.
58. Okonogi, S., Duangrat, C., Anuchpreeda, S., Tachakittirungrod, S., Chowwanapoonpohn, S., (2007). "Comparison of antioxidant capacities and cytotoxicities of certain fruit peels", *Food Chemistry.*, 103, 839 -846.
59. Zulueta, A., Esteve, M.J., Frígola, A., (2009). "ORAC and TEAC assays comparison to measure the antioxidant capacity of food products", *Food Chemistry.*, 114(1), 310-316.
60. Firuzi, O., Lacanna, A., Petrucci, R., Marrosu, G., Saso, L., (2005). "Evaluation of the antioxidant activity of flavonoids by "ferric reducing antioxidant power" assay and cyclic voltammetry", *Biochimica et Biophysica Acta (BBA) - General Subjects.*, 1721(1-3), 174-184.
61. Schmidt, B.M., Erdman, J.J., Lila, M.A., (2005). "Effects of food processing on blueberry antiproliferation and antioxidant activity", *J Food Sci.*, 70, 389-394.
62. Okonogi, S., Saengsitthisak, B., Duangrat, C., (2007). "Nano – Size Encapsulation of Bioactive Compound of Green Tea", XV th International Workshop on Bioencapsulation.

63. Sarmento, B., Ferreira, D., Veiga, F., Ribeiro, A., (2006). Characterization of insulin-loaded alginate nanoparticles produced by ionotropic pre-gelation through DSC and FTIR studies", *Carbohydrate Polymers.*, 66(1), 1-7.
64. Fang, J.Y., Fang, C.L., Liu, C.H., Su, Y.H., (2008). "Lipid nanoparticles as vehicles for topical psoralen delivery: Solid lipid nanoparticles (SLN) versus nanostructured lipid carriers (NLC)", *European Journal of Pharmaceutics and Biopharmaceutics.*, 70(2), 633-640.
65. Junyaprasert, V.B., Teeranachaideekul, V., Souto, E.B., Boonme, P., Muller, R.H., (2009). "Q10-loaded NLC versus nanoemulsions: Stability, rheology and in vitro skin permeation", *International Journal of Pharmaceutics.*, 377(1-2), 207-214.
66. Govender, T., Stolnik, S., Garnett, M.C., Illum, L., Davis, S.S., (1999). "PLGA nanoparticles prepared by nanoprecipitation: drug loading and release studies of a water soluble drug", *Journal of Controlled Release.*, 57(2), 171-185.
67. Nantitanon, W., Yotsawimonwat, S., Okonogi, S., (2010). "Factors influencing antioxidant activities and total phenolic content of guava leaf extract", *LWT – Food Science and Technology.*, 43(7), 1 -9.
68. *Butea monosperma* [Online].
Available: <http://www.pangfan.org/Butea/index.html>. [2011, October 17]
69. Seijas, J.A., Tato, M.P.V., Reboredo, M.R.C., (2006). "Prediction of Flavone UV-Vis spectrum: semiempirical versus ab-initio methods", 10 th International Electronic Conference on Synthetic Organic Chemistry.
70. Agnihotri, S.A., Mallikarjuna, N.N., Aminabhavi, T.M., (2004). "Recent advances on chitosan-based micro- and nanoparticles in drug delivery", *Journal of Controlled Release.*, 100(1), 5-28.
71. Watanabe, J., Iwamoto, S., Ichikawa, S., (2005). "Entrapment of some compounds into biocompatible nano-sized particles and their releasing properties", *Colloids and Surfaces B: Biointerfaces.*, 42(2), 141-146.
72. Wang, P.F., Wu, S.K., Shi, X.Y., Deng, B.M., Sun, C., (1998). "The aggregation behaviour of chitosan bioelectret in aqueous solution using a fluorescence probe", *Journal of Materials Science.*, 33(7), 1753-1757.

73. Hamilton, V., Yuan, Y., Rigney, D., Puckett, A., Ong, J., Yang, Y., et al., (2006).
“Characterization of chitosan films and effects on fibroblast cell attachment
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