

DAFTAR PUSTAKA

- A'yun, Q., Azzahrani, I. N., Huyst, A., de Neve, L., Martins, J. C., van Troys, M., Hidayat, C., & Van der Meeren, P. (2020). Heat stable whey protein stabilised O/W emulsions: Optimisation of the whey protein concentrate dry heat incubation conditions. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 603(June), 125192. <https://doi.org/10.1016/j.colsurfa.2020.125192>
- Adjonu, R., Doran, G., Torley, P., & Agboola, S. (2014). Whey protein peptides as components of nanoemulsions: A review of emulsifying and biological functionalities. *Journal of Food Engineering*, 122(1), 15–27. <https://doi.org/10.1016/j.jfoodeng.2013.08.034>
- Akhtar, M., & Ding, R. (2017). Covalently cross-linked proteins & polysaccharides: Formation, characterisation and potential applications. *Current Opinion in Colloid and Interface Science*, 28, 31–36. <https://doi.org/10.1016/j.cocis.2017.01.002>
- Álvarez, C., García, V., Rendueles, M., & Díaz, M. (2012). Food Hydrocolloids Functional properties of isolated porcine blood proteins modified by Maillard's reaction. *Food Hydrocolloids*, 28(2), 267–274. <https://doi.org/10.1016/j.foodhyd.2012.01.001>
- Amanlou, Y., & Zomorodian, A. (2010). Applying CFD for designing a new fruit cabinet dryer. *Journal of Food Engineering*, 101(1), 8–15. <https://doi.org/10.1016/j.jfoodeng.2010.06.001>
- Cermeño, M., Felix, M., Connolly, A., Brennan, E., Coffey, B., Ryan, E., & FitzGerald, R. J. (2019). Role of carbohydrate conjugation on the emulsification and antioxidant properties of intact and hydrolysed whey protein concentrate. *Food Hydrocolloids*, 88(September 2018), 170–179. <https://doi.org/10.1016/j.foodhyd.2018.09.030>
- Cha, Y., Shi, X., Wu, F., Zou, H., Chang, C., Guo, Y., Yuan, M., & Yu, C. (2019). Improving the stability of oil-in-water emulsions by using mussel myofibrillar proteins and lecithin as emulsifiers and high-pressure homogenization. *Journal of Food Engineering*, 258(February), 1–8. <https://doi.org/10.1016/j.jfoodeng.2019.04.009>
- Chang, P. (2014). *A NEW METHOD FOR DETERMINING THE EMULSION STABILITY INDEX BY BACKSCATTERING LIGHT DETECTION*. 37, 229–236. <https://doi.org/10.1111/jfpe.12078>

- Chen, W., Lv, R., Wang, W., Ma, X., Muhammad, A. I., Guo, M., & Liu, D. (2019). *Time effect on structural and functional properties of whey protein isolate-gum acacia conjugates prepared via Maillard reaction*. April. <https://doi.org/10.1002/jsfa.9735>
- Chen, W., Ma, X., Wang, W., Lv, R., Guo, M., Ding, T., Ye, X., Miao, S., & Liu, D. (2019). *Food Hydrocolloids Preparation of modified whey protein isolate with gum acacia by ultrasound maillard reaction*. 95(May 2018), 298–307.
- Chen, Yingjia, Chen, X., Guo, T. L., & Zhou, P. (2015). Improving the thermostability of β -lactoglobulin via glycation: The effect of sugar structures. *Food Research International*, 69(1), 106–113. <https://doi.org/10.1016/j.foodres.2014.12.017>
- Chen, Yuan, Tu, Z., Wang, H., Zhang, L., Sha, X., Pang, J., Yang, P., Liu, G., & Yang, W. (2016). Glycation of β -lactoglobulin under dynamic high pressure microfluidization treatment: Effects on IgE-binding capacity and conformation. *Food Research International*, 89, 882–888. <https://doi.org/10.1016/j.foodres.2016.10.020>
- de Castro, R. J. S., Domingues, M. A. F., Ohara, A., Okuro, P. K., dos Santos, J. G., Brexó, R. P., & Sato, H. H. (2017). Whey protein as a key component in food systems: Physicochemical properties, production technologies and applications. *Food Structure*, 14(December 2016), 17–29. <https://doi.org/10.1016/j.foostr.2017.05.004>
- Dong, X., Du, S., Deng, Q., Tang, H., Yang, C., Wei, F., Chen, H., Quek, S. Y., Zhou, A., & Liu, L. (2020). Study on the antioxidant activity and emulsifying properties of flaxseed gum-whey protein isolate conjugates prepared by Maillard reaction. *International Journal of Biological Macromolecules*, 153, 1157–1164. <https://doi.org/10.1016/j.ijbiomac.2019.10.245>
- Evans, M., Ratcliffe, I., & Williams, P. A. (2013). Emulsion stabilisation using polysaccharide-protein complexes. *Current Opinion in Colloid and Interface Science*, 18(4), 272–282. <https://doi.org/10.1016/j.cocis.2013.04.004>
- Felix, M., Connolly, A., Brennan, E., Coffey, B., Ryan, E., & Fitzgerald, R. J. (n.d.). *Role of carbohydrate conjugation on the emulsification and antioxidant properties of intact and hydrolysed whey protein concentrate*. 1–35.
- García-Moreno, P. J., Yang, J., Gregersen, S., Jones, N. C., Berton-Carabin, C. C., Sagis, L. M.



- C., Hoffmann, S. V., Marcatili, P., Overgaard, M. T., Hansen, E. B., & Jacobsen, C. (2021). The structure, viscoelasticity and charge of potato peptides adsorbed at the oil-water interface determine the physicochemical stability of fish oil-in-water emulsions. *Food Hydrocolloids*, *115*(January). <https://doi.org/10.1016/j.foodhyd.2021.106605>
- Guo, X., Guo, X., Meng, H., Chen, X., Zeng, Q., & Yu, S. (2019). Influences of different pectins on the emulsifying performance of conjugates formed between pectin and whey protein isolate. *International Journal of Biological Macromolecules*, *123*, 246–254. <https://doi.org/10.1016/j.ijbiomac.2018.11.040>
- Jiang, B., Wang, X., Wang, L., Wu, S., Li, D., Liu, C., & Feng, Z. (2019). Study on the preparation and conjugation mechanism of the phosvitin-gallic acid complex with an antioxidant and emulsifying capability. *Polymers*, *11*(9), 1–16. <https://doi.org/10.3390/polym11091464>
- Khaire, R. A., & Gogate, P. R. (2019). Whey Proteins. In *Proteins: Sustainable Source, Processing and Applications*. Elsevier Inc. <https://doi.org/10.1016/B978-0-12-816695-6.00007-6>
- Li, C., Huang, X., Peng, Q., Shan, Y., & Xue, F. (2014). Ultrasonics Sonochemistry Physicochemical properties of peanut protein isolate – glucomannan conjugates prepared by ultrasonic treatment. *Ultrasonics - Sonochemistry*, *21*(5), 1722–1727. <https://doi.org/10.1016/j.ultsonch.2014.03.018>
- Li, Y., & Id, D. X. (2019). *Stability of oil-in-water emulsions performed by ultrasound power or high-pressure homogenization*. 1–14.
- Liu, F., Wang, D., Sun, C., Julian, D., & Gao, Y. (2016). Utilization of interfacial engineering to improve physicochemical stability of β -carotene emulsions: Multilayer coatings formed using protein and protein – polyphenol conjugates. *FOOD CHEMISTRY*, *205*, 129–139. <https://doi.org/10.1016/j.foodchem.2016.02.155>
- Liu, G., & Zhong, Q. (2013a). Food Hydrocolloids Thermal aggregation properties of whey protein glycosylated with various saccharides. *Food Hydrocolloids*, *32*(1), 87–96. <https://doi.org/10.1016/j.foodhyd.2012.12.008>
- Liu, G., & Zhong, Q. (2013b). Thermal aggregation properties of whey protein glycosylated with various saccharides. *Food Hydrocolloids*, *32*(1), 87–96. <https://doi.org/10.1016/j.foodhyd.2012.12.008>

- Liu, Jianhua, Ru, Q., & Ding, Y. (2012). Glycation a promising method for food protein modification: Physicochemical properties and structure, a review. *FRIN*, 49(1), 170–183. <https://doi.org/10.1016/j.foodres.2012.07.034>
- Liu, Jianing, Bi, J., McClements, D. J., Liu, X., Yi, J., Lyu, J., Zhou, M., Verkerk, R., Dekker, M., Wu, X., & Liu, D. (2020). Impacts of thermal and non-thermal processing on structure and functionality of pectin in fruit- and vegetable- based products: A review. *Carbohydrate Polymers*, 250(2), 116890. <https://doi.org/10.1016/j.carbpol.2020.116890>
- Liu, Q., Cui, H., Muhoza, B., Hayat, K., Hussain, S., Tahir, M. U., Zhang, X., & Ho, C. T. (2021). Whey protein isolate-dextran conjugates: Decisive role of glycation time dependent conjugation degree in size control and stability improvement of colloidal nanoparticles. *Lwt*, 148(January), 111766. <https://doi.org/10.1016/j.lwt.2021.111766>
- Liu, Q., Li, J., Kong, B., Li, P., & Xia, X. (2014). Physicochemical and antioxidant properties of Maillard reaction products formed by heating whey protein isolate and reducing sugars. *International Journal of Dairy Technology*, 67(2), 220–228. <https://doi.org/10.1111/1471-0307.12110>
- Nooshkam, M., & Varidi, M. (2020). Maillard conjugate-based delivery systems for the encapsulation, protection, and controlled release of nutraceuticals and food bioactive ingredients: A review. *Food Hydrocolloids*, 100(June 2019), 105389. <https://doi.org/10.1016/j.foodhyd.2019.105389>
- O'Mahony, J. A., Drapala, K. P., Mulcahy, E. M., & Mulvihill, D. M. (2018). Whey protein-Carbohydrate conjugates. In *Whey Proteins: From Milk to Medicine*. Elsevier Inc. <https://doi.org/10.1016/B978-0-12-812124-5.00008-4>
- Pirestani, S., Nasirpour, A., Keramat, J., & Desobry, S. (2017). *Preparation of chemically modified canola protein isolate with gum Arabic by means of Maillard reaction under wet-heating conditions*. 155, 201–207.
- Pirestani, S., Nasirpour, A., Keramat, J., Desobry, S., & Jasniewski, J. (2017). Effect of glycosylation with gum Arabic by Maillard reaction in a liquid system on the emulsifying properties of canola protein isolate. *Carbohydrate Polymers*, 157, 1620–1627. <https://doi.org/10.1016/j.carbpol.2016.11.044>

- Qayum, A., Chen, W., Ma, L., Li, T., Hussain, M., Bilawal, A., Jiang, Z., & Hou, J. (2020). Characterization and comparison of α -lactalbumin pre-and post-emulsion. *Journal of Food Engineering*, 269(September 2019), 109743. <https://doi.org/10.1016/j.jfoodeng.2019.109743>
- Qin, Z., Liu, H. M., Cheng, X. C., & Wang, X. De. (2019). Effect of drying pretreatment methods on structure and properties of pectins extracted from Chinese quince fruit. *International Journal of Biological Macromolecules*, 137, 801–808. <https://doi.org/10.1016/j.ijbiomac.2019.06.209>
- Rehman, A., Ahmad, T., Aadil, R. M., Spotti, M. J., Bakry, A. M., Khan, I. M., Zhao, L., Riaz, T., & Tong, Q. (2019). Pectin polymers as wall materials for the nano-encapsulation of bioactive compounds. *Trends in Food Science and Technology*, 90(March), 35–46. <https://doi.org/10.1016/j.tifs.2019.05.015>
- Schong, E., & Famelart, M. H. (2017). Dry heating of whey proteins. *Food Research International*, 100(August), 31–44. <https://doi.org/10.1016/j.foodres.2017.08.057>
- Sedaghat Doost, A., Nikbakht Nasrabadi, M., Wu, J., A'yun, Q., & Van der Meeren, P. (2019). Maillard conjugation as an approach to improve whey proteins functionality: A review of conventional and novel preparation techniques. *Trends in Food Science and Technology*, 91(June), 1–11. <https://doi.org/10.1016/j.tifs.2019.06.011>
- Seo, C. W., & Yoo, B. (2021). Preparation of milk protein isolate / κ -carrageenan conjugates by maillard reaction in wet-heating system and their application to stabilization of oil-in-water emulsions. *LWT*, 139(November 2020), 110542. <https://doi.org/10.1016/j.lwt.2020.110542>
- Setiowati, A. D., Rwigamba, A., & Van der Meeren, P. (2019). The influence of degree of methoxylation on the emulsifying and heat stabilizing activity of whey protein-pectin conjugates. *Food Hydrocolloids*, 96(September 2018), 54–64. <https://doi.org/10.1016/j.foodhyd.2019.05.012>
- Setiowati, A. D., Saeedi, S., Wijaya, W., & Van der Meeren, P. (2017). Improved heat stability of whey protein isolate stabilized emulsions via dry heat treatment of WPI and low methoxyl pectin: Effect of pectin concentration, pH, and ionic strength. *Food Hydrocolloids*, 63, 716–726. <https://doi.org/10.1016/j.foodhyd.2016.10.025>



- Setiowati, A. D., Vermeir, L., Martins, J., De Meulenaer, B., & Van der Meeren, P. (2016). Improved heat stability of protein solutions and O/W emulsions upon dry heat treatment of whey protein isolate in the presence of low-methoxyl pectin. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 510, 93–103. <https://doi.org/10.1016/j.colsurfa.2016.05.034>
- Setiowati, A. D., Wijaya, W., & Van der Meeren, P. (2020). Whey protein-polysaccharide conjugates obtained via dry heat treatment to improve the heat stability of whey protein stabilized emulsions. *Trends in Food Science and Technology*, 98(August 2019), 150–161. <https://doi.org/10.1016/j.tifs.2020.02.011>
- Song, H., Chung, H., & Nam, K. (2021). Response surface modeling with Box-Behnken design for strontium removal from soil by calcium-based solution *. *Environmental Pollution*, 274, 116577. <https://doi.org/10.1016/j.envpol.2021.116577>
- Thaiphanit, S., & Anprung, P. (2016). Physicochemical and emulsion properties of edible protein concentrate from coconut (*Cocos nucifera* L.) processing by-products and the influence of heat treatment. *Food Hydrocolloids*, 52, 756–765. <https://doi.org/10.1016/j.foodhyd.2015.08.017>
- Wang, H. Y., Qian, H., & Yao, W. R. (2011). Melanoidins produced by the Maillard reaction: Structure and biological activity. *Food Chemistry*, 128(3), 573–584. <https://doi.org/10.1016/j.foodchem.2011.03.075>
- Wang, W. D., Li, C., Bin, Z., Huang, Q., You, L. J., Chen, C., Fu, X., & Liu, R. H. (2020). Physicochemical properties and bioactivity of whey protein isolate-inulin conjugates obtained by Maillard reaction. *International Journal of Biological Macromolecules*, 150, 326–335. <https://doi.org/10.1016/j.ijbiomac.2020.02.086>
- Wang, W., Li, C., Bin, Z., Huang, Q., You, L., Chen, C., Fu, X., & Hai, R. (2020). International Journal of Biological Macromolecules Physicochemical properties and bioactivity of whey protein isolate-inulin conjugates obtained by Maillard reaction. *International Journal of Biological Macromolecules*, 150, 326–335. <https://doi.org/10.1016/j.ijbiomac.2020.02.086>
- Wefers, D., Bindereif, B., Karbstein, H. P., & van der Schaaf, U. S. (2018). Whey protein-pectin conjugates: Linking the improved emulsifying properties to molecular and physico-chemical characteristics. *Food Hydrocolloids*, 85(June), 257–266. <https://doi.org/10.1016/j.foodhyd.2018.06.030>

- Xiao, Y., Qi, P. X., & Wickham, E. D. (2018). Interactions, induced by heating, of whey protein isolate (WPI) with sugar beet pectin (SBP) in solution: Comparisons with a dry-state Maillard reaction. *Food Hydrocolloids*, 83, 61–71. <https://doi.org/10.1016/j.foodhyd.2018.04.048>
- Xiong, W., Ren, C., Tian, M., Yang, X., Li, J., & Li, B. (2018). Emulsion stability and dilatational viscoelasticity of ovalbumin/chitosan complexes at the oil-in-water interface. *Food Chemistry*, 252(September 2017), 181–188. <https://doi.org/10.1016/j.foodchem.2018.01.067>
- Xue, F., Li, C., Zhu, X., Wang, L., & Pan, S. (2013). Comparative studies on the physicochemical properties of soy protein isolate-maltodextrin and soy protein isolate-gum acacia conjugate prepared through Maillard reaction. *FRIN*, 51(2), 490–495. <https://doi.org/10.1016/j.foodres.2013.01.012>
- Yang, J. S., Mu, T. H., & Ma, M. M. (2019). Optimization of ultrasound-microwave assisted acid extraction of pectin from potato pulp by response surface methodology and its characterization. *Food Chemistry*, 289(March), 351–359. <https://doi.org/10.1016/j.foodchem.2019.03.027>
- Zhang, Q., Zhou, Y., Yue, W., Qin, W., & Dong, H. (2021). Trends in Food Science & Technology Nanostructures of protein-polysaccharide complexes or conjugates for encapsulation of bioactive compounds. *Trends in Food Science & Technology*, 109(May 2020), 169–196. <https://doi.org/10.1016/j.tifs.2021.01.026>