



Crystallization of Isomeric Compounds

By Dan Pertig

Shaker Verlag Mai 2013, 2013. Buch. Book Condition: Neu. 21x14.8x cm. Neuware - The carotenoid Astaxanthin is an outstanding colorant, antioxidant and a potent free radical quencher. Therefore, Astaxanthin is especially used as dietary supplement in the food and feed industry. In the industrial salmon production, Astaxanthin is the most expensive feed ingredient. The presented work reveals a fundamental understanding on the crystallization of Astaxanthin. The intension is the analysis and the control of the solvent mediated phase transition with regard to its kinetics. Therefore, innovative procedures (use of additives or protective byproducts) are demonstrated to improve the shelf life of the polymorph with an optimal bioavailability. This is an important key issue since the development of highly active and stable carotenoid formulations is challenging. Additionally, dissolved Astaxanthin leads to different isomers that have different physicochemical properties. For the purpose of fish farming the trans isomer of Astaxanthin is preferred as highly active isomer. However, isomerization of the alltrans Astaxanthin to the respective cis isomers has to be considered. In order to improve the bioavailability of Astaxanthin products, the isomerization has to be controlled. Significant effects of additives on the isomerization of Astaxanthin were found in dichloromethane. Whereas isomerization and...



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Reviews

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