Effects of pH, ions, and thermal treatments on physical stability of astaxanthin nanodispersions

ABSTRACT

In this work, astaxanthin nanodispersions were prepared using selected three component stabilizer system through a solvent-diffusion technique, with the particle size of 98.3 nm. The stability of produced nanodispersions against pH, salts, and heating were then evaluated. The produced nanodispersions exhibited good physical stability under wide ranges of pH (except around isoelectric point), sodium ion concentrations, and relatively high-temperature treatments (up to 60°C). However, formation of large particles was observed in either presence of calcium ions or higher thermal treatments (more than 60°C).

Keyword: Astaxanthin; Nanodispersions; Physical stability