

VISIBLE DETECTION OF THE COMPOUNDS GENERATED BY MAILLARD SYSTEMS IN MILD CONDITIONS

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Abstract

Researches concerning the spectrophotometrical detection for the maximum of visible absorbance of a reaction mixture of methylglyoxal and cysteine in relation with previous results concerning the type of compounds released by this kind of Maillard system were done. Yellow-brownish pigments were generated immediately in the case of cysteine. Other amino acids tested in the presence of methylglyoxal remained colourless. The absorption spectra reached a maximum at 360 nm. The nature of the coloured compound remained unidentified at the moment. In addition, the influence of the solvent used on the variation of optical density by time was studied.

Keywords: cysteine, methylglyoxal, yellow-brown pigment, optical density

Rezumat

Au fost efectuate cercetari cu privire la detectarea spectrofotometrica in domeniul vizibil a maximului de densitate optica a unui amestec de cisteina si metilglioxal in relatie cu rezultatele raportate anterior referitor la natura compusilor produși de acest tip de sistem Maillard. In cazul cisteinei in sistem a fost generata imediat o coloratie portocalie spre brun. Amestecurile de reactie continand alti aminoacizi in prezenta metilglioxalului au ramas incolore. Maximul de absorbtie a fost atins la lungimea de unda de 360 nm. Natura compusului colorat in portocaliu brun nu a fost identificata deocamdata. Totodata, a fost studiata influenta solventului asupra variatiei densitatii optice in timp.