Near-infrared spectroscopic study of self-association of octanoic acid.

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Streszczenie

Temperature-dependent changes in self-association of pure liquid octanoic acid were studied by Fourier-transform (FT) near-infrared (NIR) spectroscopy combined with two-dimensional (2D) correlation analysis. The resolution enhancement in 2D correlation spectra made possible to identify four peaks associated with vibrations of the free and bonded OH groups. The sign of the asynchronous peaks reveals that population of the monomers varies faster than that of the other species. This report provides spectroscopic evidence for presence of the open dimers and indicates that the thermal dissociation of the cyclic dimers of octanoic acid into the monomers proceeds through the intermediate species.

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